NORTH CAROLINA DEPARTMENT OF CONSERVATION
AND DEVELOPMENT
WADE H. PHILLIPS, Director

BULLETIN No. 34

DISCHARGE RECORDS
OF
NORTH CAROLINA STREAMS
1889-1923

PREPARED BY THE WATER RESOURCES DIVISION, STATE DEPARTMENT
OF CONSERVATION AND DEVELOPMENT

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RALEIGH
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STATE OF NORTH CAROLINA

DEPARTMENT OF

CONSERVATION AND DEVELOPMENT

RALEIGH, N. C., NOVEMBER 16, 1925.

To His Excellency, HON. A. W. MCLEAN,
Governor of North Carolina.

SIR:—There has been prepared in coöperation with the United States Geological Survey a report of the Discharge Records of North Carolina Streams which is presented herewith and recommended for publication as Bulletin No. 34 of the publications of the North Carolina Department of Conservation and Development.

This report was begun at the time Col. Joseph Hyde Pratt was director of the North Carolina Geological and Economic Survey, continued under the directorship of Mr. Brent S. Drane and completed during the first few months of the Survey's successor, The North Carolina Department of Conservation and Development, with Mr. W. D. Harris as acting director.

There is a very large demand for information regarding stream flow for water supply and water power, and it is believed that this report will be of unusual economic value.

Very respectfully,

Wade H. Phillips

Director.

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INTRODUCTION

The compilation of stream flow records contained in this Bulletin was begun in 1922 at the time when Col. Joseph Hyde Pratt was Director of the N. C. Geological and Economic Survey. It was continued under the directorship of Brent Drane, and completed during the first few months of the Survey's successor, the present Department of Conservation and Development, with William D. Harris as Acting Director.

Every effort has been made to include in this Bulletin all records of stream flow ever made in North Carolina prior to December 31, 1923. All old records or long term records have been carefully reviewed and corrected by J. H. Morgan, of the U. S. Geological Survey. This Bulletin, therefore, succeeds and renders obsolete the stream flow data in Bulletins 8 and 20 issued by the N. C. Geological and Economic Survey. By far the majority of the data in the present Bulletin have been taken from official and corrected records of the U. S. Geological Survey.

In general the procedure followed in preparing the Bulletin has been for the District Office of the U. S. Geological Survey at Asheville, N. C. to prepare a description of each station where stream flow records have been made and to furnish corrected tables of daily and monthly discharge. This information has been sent to the Water Resources Division of the State Department of Conservation and Development. This Division has then prepared tables of weekly stream flow, rearranged the monthly records from the climatic to the calendar year, prepared duration tables and curves of weekly stream flow for long term records, checked all data, and prepared the manuscript for publication. The entire work was inaugurated and has been carried to completion by the Water Resources Division.

All stream gaging work now carried on in the state is performed by the forces of the U. S. Geological Survey with district headquarters at Asheville and under the immediate supervision of E. D. Burchard, District Engineer. The Water Resources Division of the State Department of Conservation and Development indicates in general where gaging stations are desired, arranges for municipal and private coöperation in obtaining funds for stream gaging, publishes compilations of stream flow records, maintains about two-thirds of the cost of the Asheville Office of the U. S. Geological Survey, and in general works in the closest coöperation with the Survey in carrying on stream gaging in the state.

The present Bulletin is unique in several ways. It is the first publication of the kind to present tables of weekly stream flow and to give duration curves of weekly stream flow for all long term records. This departure will mean a great saving of time to engineers and others concerned with investigating stream flow for water supply, waterpower, or other purposes. Heretofore the engineer has had to rely

either on tables of monthly stream flow which are usually not of sufficient accuracy for detailed studies, or has had to use tables of daily stream flow from many isolated publications which imposed a great burden of time and effort. In general this Bulletin is believed to be the most comprehensive and useful compilation of stream flow data ever issued by any state east of the Rocky Mountains.

It is intended each year hereafter to issue tables of weekly and monthly stream flow for each gaging station in operation, and to have these available as soon as possible after the end of the calendar year. Every ten years the data will be reviewed, corrected, and bound as a supplement to the present Bulletin.

Especial attention is called to Plate II, showing graphically the location of, and length of record at, each station where stream flow measurements have been collected. It will be observed that there are a number of long term records which are of great value. A stream flow record is of little use in presenting information as to what may be counted on for water supply or water-power purposes unless it has been kept for at least ten years continuously, or can be correctly related to a long term record at some other station. A number of new stream-flow stations were established in 1924 and 1925 which are shown on Plate II, but no records appear in the Bulletin for stations established after December 31, 1923. Persons desiring information on stream flow at points for which data is not presented in this Bulletin are advised to write to the Water Resources Division, State Department of Conservation and Development, Chapel Hill, N. C. It is possible that new stations have been or will be established in the area for which information is desired.

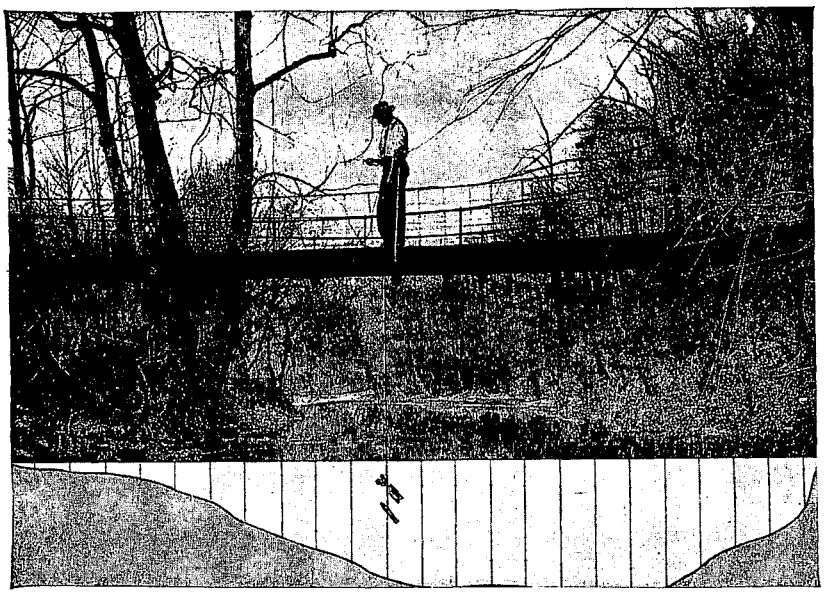
The Water Resources Division makes intensive investigations of water-power, water supply, and other hydrological subjects, the result of which are published from time to time. A list of such investigations is given on the last page of this Bulletin.

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, miners' inches, and discharge in second-feet per square mile, and (2) those that represent the actual quantity of water, as run-off in inches, acre-feet, and millions of cubic feet. The principal terms used in this series of reports are second-feet, second-feet per square mile, run-off in inches, acre-feet, and millions of cubic feet. They may be defined as follows:

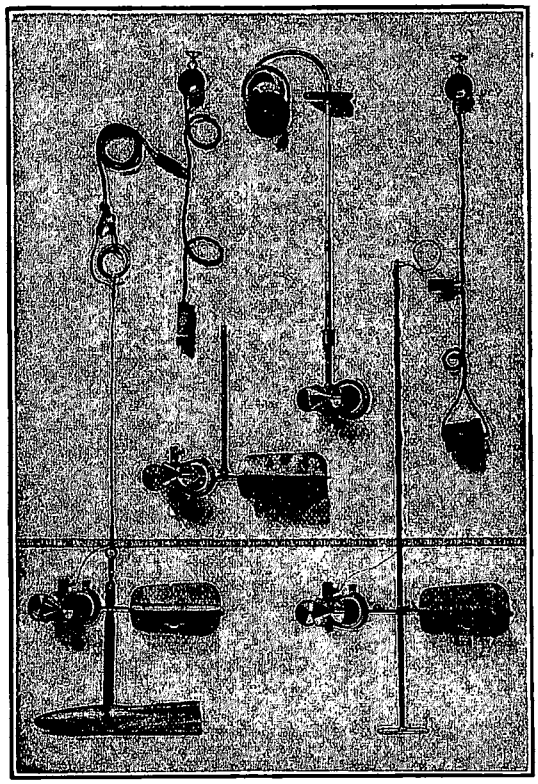
"Second-feet" is an abbreviation for "cubic feet per second." A second-foot is the rate of discharge of water flowing in a channel of rectangular cross-section 1 foot wide and 1 foot deep at an average velocity of 1 foot per second. It is generallly used as a fundamental unit from which others are computed.

A. TYPICAL GAGING STATION FOR WADING MEASUREMENT

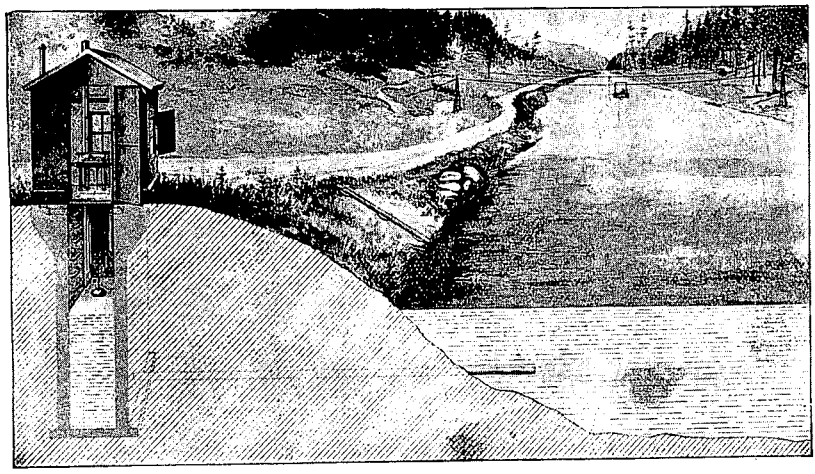


B. TYPICAL GAGING STATION FOR BRIDGE MEASUREMENT

PLATE III



A. PRICE CURRENT METER



B. TYPICAL CABLE GAGING STATION WITH AUTOMATIC WATER STAGE RECORDER

PLATE IV

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

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

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

The following terms not in common use are here defined:

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

"Control," a term used to designate the section or sections of the stream channel 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.

Tables for converting discharge in cubic feet per second into other units of discharge, and tables of convenient equivalents used in hydraulic computations, will be found at the end of the Bulletin, in Table 6.

EXPLANATION OF DATA

Collection of Basic Data

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 from a water-stage recorder that gives a continuous record of fluctuations. Measurements of discharge are made with a current meter by the general methods outlined in standard textbooks on the measurement of river discharge. See Plates III and IV.

From the discharge measurements rating tables are prepared that give the discharge for any stage, and these rating tables, when applied to the gage heights, give the discharge from which the daily, weekly, monthly, and yearly means of discharge are determined.

The data presented for each gaging station in an area covered by this report comprise a description of the station, a table showing the weekly discharge of the stream, and a table of monthly and yearly discharge and run-off. These tables contain data for the entire period of record at each station.

If the base data are insufficient to determine the weekly discharge, tables giving daily discharge are published.

LOCATION OF STATIONS

Plate I at the end of the Bulletin shows a map of North Carolina and parts of adjoining states. On this map are indicated the

TABLE 1

Data Relating to River Stage Stations of the United States Weather Bureau on North Carolina Streams

Station	Established	River	Distance Above Mouth of River (Miles)	Drainage Area Above Station (Square Miles)
Richmond, Va.	October 25, 1892	James	104	7,357
*Randolph, Va.	January 1, 1905	Roanoke	222	3,076
Weldon, N. C.	November 1, 1890	Roanoke	129	8,180
Danville, Va.	November 1, 1890	Dan	55	1,900
Clarksville, Va.	November 1, 1890	Dan	0.3	3,328
Rocky Mount, N. C.	July 1, 1910	Tar	86	775
*Tarboro, N. C.	January 1, 1905	Tar	46	2,100
Greenville, N. C.	January 1, 1905	Tar	21	2,678
*Enfield, N. C.	July 1, 1910	Fishing Creek	40	462
Neuse, N. C.	July 1, 1911	Neuse	140	735
Smithfield, N. C.	July 1, 1911	Neuse	105	1,255
*Fayetteville, N. C.	November 1, 1890	Cape Fear	112	4,290
Elizabethtown, N. C.	October 16, 1910	Cape Fear	73	5,087
*Moncure, N. C.	January 1, 1905	Haw	2	1,800
Conway, S. C.	December 1, 1893	Waccamaw	44	1,360
Cheraw, S. C.	April 1, 1891	Peedee	164	7,400
*Ferguson, S. C.	September 21, 1907	Santee	82	14,800
Mount Holly, N. C.	August 16, 1904	Catawba	143	1,774
Catawba, S. C.	July 1, 1906	Catawba	107	3,492
Camden, S. C.	March 1, 1891	Wateree	54	5,319
Columbia, S. C.	October 1, 1891	Congaree	52	7,972
Penrose, N. C.	December 1, 1917	French Broad	181	----------
*Asheville, N. C.	March 19, 1903	French Broad	144	949
Marshall, N. C.	December 1, 1917	French Broad	113	----------
*Dandridge, Tenn.	December 1, 1904	French Broad	42	4,450
*Newport, Tenn.	November 1, 1906	Big Pigeon	6	655
*Greeneville, Tenn.	January 1, 1916	Nolichucky	40	1,100
*Elizabethton, Tenn.	December 1, 1909	Watauga	52	475
*McGhee, Tenn.	September 1, 1904	Little Tennessee	17	2,470
Charleston, Tenn.	February 1, 1883	Hiwassee	20	2,297

[1] And other dates.
[2] Date unknown.
[3] About.
[4] Estimated.
* Also gaging station of United States Geological Survey.

TABLE 1

Data Relating to River Stage Stations of the United States Weather Bureau on North Carolina Streams

Flood Stage (Feet)	Highest Stage (Feet)	Date	Lowest Stage (Feet)	Date	Width of River at Low Water (Feet)	Bank-ful Stage (Feet)	Width of River at Bankful Stage (Feet)	Elevation of Zero of Gage Above Mean Sea Level (Feet)
10	23.2	December 31, 1901	−2.8	[1] September 29, 1899	1,470	8	1,520	2.0
21	30.9	February 5, 1920	3.0	[1] September 5, 1909	250	16	300	303.7
30	51.6	November 26, 1877	6.7	[1] September 14, 1900	400	31	660	17.0
8	17.0	March 15, 1912	−0.6	[1] October 20, 1904	600	8	800	379.3
12	[4] 27.0	November 27, 1877	−0.7	[1] October 9, 1905	450	8	472	259.2
9	19.0	August —, 1908	0.3	[1] August 22, 1921	120	8	146	53.7
18	[5] 33.2	July 27, 1919	−0.5	[1] September 11, 1921	200	12	225	11.2
14	24.5	July 28, 1919	1.8	November 15, 1921	265	12	275	1.4
15	21.0	April 19, 1910	0.2	[1] July 28, 1921	100	14	140	[3] 54.0
15	24.8	July 24, 1919	0.0	[1] September 20, 1916	100	13	120	----
14	26.3	July 24, 1919	1.0	November 1, 1910	100	13	150	99.6
35	68.7	August 29, 1908	0.2	[1] October 8, 1897	200	35	440	20.2
22	41.0	August 29, 1908	−2.1	June 9, 1890	290	20	425	11.8
22	34.3	August 26, 1908	0.2	September 2, 1907	260	19	350	[3] 154.8
7	10.2	September 7, 1908	−0.7	January 18, 1920	150	5	200	1.6
27	44.3	August 27, 1908	0.0	[1] August 2, 1866	315	27	500	60.7
12	24.7	July 22, 1916	−0.6	([2])	360	12	13,000	42.9
15	41.5	July 17, 1916	0.0	[1] August —, 1885	425	9	500	558.8
12	40.4	July 17, 1916	0.9	([2])	510	11	650	437.6
24	40.4	July 18, 1916	0.0	June —, 1884	540	23	800	131.9
15	35.8	August 27, 1908	−3.0	[1] October 5, 1904	1,000	15	1,330	117.7
13	26.8	July 16, 1916	1.8	[1] October 13, 1918	81	14	108	2,066.1
4	23.6	July 16, 1916	−2.0	[1] November 1, 1904	353	4	381	1,961.8
10	24.8	July 16, 1916	−0.4	[1] November 26, 1922	300	16	320	1,624.0
12	28.0	May 21, 1901	−0.7	[1] December 3, 1910	475	12	500	----
6	17.0	April 2, 1920	0.4	October 3, 1919	150	6	160	1,040.8
16	16.0	July 16, 1916	1.8	January 6, 1918	235	16	280	----
14	22.0	Feb. 27 or 28, 1902	0.5	([2])	170	14	280	1,486.0
20	39.0	March —, 1867	1.0	November 29, 1904	580	18	625	751.1
22	32.5	March 31, 1886	−0.5	November 26, 1922	274	17	490	674.5

location of all gaging stations from which records of discharge are given in the Bulletin. There are also indicated the location of the U. S. Weather Bureau stations at which river stage is measured. A few of these river stage stations are also used as stream gaging stations. Table 1 gives the fundamental data collected at these U. S. Weather Bureau stations.

DESCRIPTION OF STATIONS

The descriptions of the stations given in this Bulletin contain in addition to statements regarding location and equipment, information in regard to any conditions that may affect the permanence of the stage-discharge relation, covering such subjects as the occurence 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 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 or footnotes added to the tables give information regarding the (1) permanence of the stage-discharge relation, (2) precision with which the discharge rating curve is defined, (3) refinement of gage readings, (4) frequency of gage readings, and (5) methods of applying daily gage heights to the rating table to obtain the daily discharge. [1]

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 refer to the plotting of individual measurements with relation to the mean rating curve.

DISCHARGE MEASUREMENTS

Tables of individual measurements of discharge at the gaging stations for which records are given in this Bulletin are not included herein. These measurements are used to determine the rating curves from which daily discharge is obtained. The construction and use of such curves require special skill and experience. Records of the individual discharge measurements may be found for most stations in the Water Supply Papers of the U. S. Geological Survey listed in Table 2. Copies of rating curves may be obtained at cost from the U. S. Geological Survey, Jackson Building, Asheville.

Table 4 presents a series of miscellaneous measurements of discharge not made at regular gaging stations. Table 5 gives discharge measurements made during the 1925 drought.

DAILY DISCHARGE

This Bulletin contains no tables of daily discharge or of daily gage height at the various stations. The Bulletin is a compilation of complete station records, and the inclusion of daily data would have

[1] For a more detailed discussion of the accuracy of stream-flow data see Grover, N. C., and Hoyt, J. C., Accuracy of stream-flow data. U. S. Geol Survey Water Supply Paper 400, pp. 53-59, 1916.

produced a volume of excessive bulk. In analyzing stream flow records for a period of years it is rarely necessary to use daily flow, and computations involving daily flow are usually regarded as an unnecessary refinement. However, tables of daily discharge and gage height form the basic data from which the weekly and monthly tables contained herein have been computed, and the tables of daily data for any single year or for the entire period of record can be furnished any one desiring them by application either to the U. S. Geological Survey, Jackson Building, Asheville, or to the Water Resources Division of the State Department of Conservation and Development at Chapel Hill. Blue prints of the daily data will be furnished at cost.

Tables of daily discharge, and in earlier years tables of daily gage heights also, at stations operated by the U. S. Geological Survey may be found for single climatic years in the Water Supply Papers of the Survey. A list of these publications containing daily discharge data for stations contained in this Bulletin is given in Table 2. The table of daily discharge gives the discharge in second-feet corresponding to the mean of the gage heights read each day. At stations on streams subject to sudden or rapid diurnal fluctuation the discharge obtained from the rating table and the mean daily gage heights 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 weighting discharge for parts of the day or by use of the discharge integrator, an instrument operating on the principle of the planimeter and containing as an essential element the rating curve of the station.

WEEKLY DISCHARGE

Tables of Weekly Discharge. These tables are given for the entire period of record at each station where the record is sufficiently complete to enable weekly discharge to be computed. Computations of weekly discharge have been made by averaging the daily discharge for consecutive seven-day periods. When leap years intervene the extra day has been included in the eight-day period covering the last of January and first of March. In non-leap years one eight-day period has been used, the same for each year. The seven-day periods used have also been the same for each year. Consequently the average weekly discharges in different years are strictly comparable.*

Duration Curves of Weekly Discharge. Fifteen diagrams are presented showing duration curves of weekly stream flow for the average and minimum years at those stations where the record is of sufficient length to enable representative average curves to be prepared. In preparing the duration curves duration tables of weekly stream flow have been made, but are not published. The tables give the weekly discharge each year in order of magnitude irrespective of occurence. To plot the average duration curve the average of the highest weekly discharge for each year for the total period is the first point, the average of the second highest the second point, and so on. The duration curve for the minimum year is plotted from the weekly discharges, arranged in order of magnitude, for that year having the greatest number of weekly

*Table 3 indicates in detail how the weeks of every year are arranged for computing weekly discharge.

TABLE 2

List of Water Supply Papers of the U. S. Geological Survey which contain data on discharge measurements, daily gage height, and daily discharge of stations for which records of discharge are given in this Bulletin.

Number of Water Supply Paper	Year for which data is given†
11	1896
15	1897
27	1898
36	1899
48	1900
65 and 75	1901
83	1902
97 and 98	1903
126 and 127 and 128	1904
168 and 169	1905
203 and 204 and 205	1906
242 and 243	1907 and 1908*
262 and 263	1909
282 and 283	1910
302 and 303	1911
322 and 323	1912
352 and 353	1913
382 and 383	1914
402 and 403	1915
432 and 433	1916
452 and 453	1917
472 and 473	1918
502 and 503	1919 and 1920
522 and 523	1921
542 and 543	1922
562 and 563	1923

Complete files of these publications may be consulted at all U. S. Government depository libraries in the State, or at the Office of the U. S. Geological Survey, Jackson Building, Asheville, N. C., or at the Engineering School Library, University of North Carolina, Chapel Hill, N. C. Copies may be obtained for a nominal sum from the Superintendent of Documents, Government Printing Office, Washington, D. C.

* Beginning in 1907, Water Supply Papers having numbers ending in "2" contain data for streams flowing east into the Atlantic Ocean, while those having numbers ending in "3" contain data for streams flowing west to the Ohio River.

† "Year" refers to the climatic year, ending in September of the calender year stated.

TABLE 3
Arrangement of Weeks Used in Computing Weekly Discharges

Week	Through	
1	January 1	January 7
2	January 8	January 14
3	January 15	January 21
4	January 22	January 28
5	January 29	February 4
6	February 5	February 11
7	February 12	February 18
8	February 19	February 25
9	February 26	March 4
10	March 5	March 11
11	March 12	March 18
12	March 19	March 25
13	March 26	April 1
14	April 2	April 8
15	April 9	April 15
16	April 16	April 22
17	April 23	April 29
18	April 30	May 6
19	May 7	May 13
20	May 14	May 20
21	May 21	May 27
22	May 28	June 3
23	June 4	June 10
24	June 11	June 17
25	June 18	June 24
26	June 25	July 1
27	July 2	July 8
28	July 9	July 15
29	July 16	July 22
30	July 23	July 29
31	July 30	August 5
32	August 6	August 12
33	August 13	August 19
34	August 20	August 26
35	August 27	September 2
36	September 3	September 9
37	September 10	September 16
38	September 17	September 23
39	September 24	September 30
40	October 1	October 7
41	October 8	October 14
42	October 15	October 21
43	October 22	October 28
44	October 29	November 4
45	November 5	November 11
46	November 12	November 18
47	November 19	November 25
48	November 26	December 2
49	December 3	December 9
50	December 10	December 16
51	December 17	December 23
52	December 24	December 31

flows lower than the average flow for the entire period of record. In some instances, where there are two low years of somewhat varying characteristics, the duration curves for each low year have been plotted.

MONTHLY DISCHARGE

Mean Monthly Discharge. Tables of mean daily discharge for each month are given for the entire period of record at each station. The monthly means are obtained by averaging the mean daily discharge for each month.

Minimum Monthly Discharge. In the tables of monthly discharge the column headed "Minimum," gives the mean flow for the day of the month when the mean gage height was lowest. On streams having artificial regulation this term is subject to considerable error. The minimum discharge for the period of record at each station is given in the station description under "extremes of discharge." This is taken from the minimum observed gage height, and represents momentary discharge and not average daily discharge.

Maximum Monthly Discharge. In the tables of monthly discharge the column headed "Maximum" gives the mean flow for the day of the month when the mean gage height was highest. As the gage height is the mean for the day, and not the maximum reached during crest of a flood, the resulting discharge given does not indicate crest discharge, but only average discharge for the entire day when the mean gage height was greatest. The station descriptions give under "extremes of discharge" the maximum discharge for the period of record. This is taken from the maximum observed gage height and represents estimated discharge at the crest of the greatest observed flood.

Discharge in Second-feet per Square Mile. While the monthly means for any station may show with high accuracy the quantity of water flowing past the gage, the figures showing discharge per square mile and depth in inches may be subject to gross errors caused by the inclusion of large non-contributing districts in the measured drainage area, by lack of information concerning water diverted, or by inability to interpret the effect of artificial regulation of the flow of the river above the station as explained under the heading "Daily Discharge." Consequently the application of the discharge per square mile to drainage areas differing much from that at the station may lead to serious error.

Use of Discharge Data

The tables of monthly and annual mean discharge give only a general idea of the flow at the station, and this data should not be used for other than preliminary estimates. The tables of weekly discharge allow more detailed studies of the variation in flow and are sufficient for most purposes. For studies requiring great refinement tables of daily discharge should be obtained as indicated under the heading "daily discharge."

In making storage investigations, use of the monthly means will be found to indicate appreciably less storage than will actually be required. Hazen states* "If the matter of securing run-off data were to be taken up again, there would be much to be said in favor of weekly averages. The probable discrepancy between the required storage calculated from the weekly averages and the daily results would be so small that it could be overlooked. The weekly averages would be easier of analysis than the daily results, and would serve all practical purposes. The weeks are also all of the same length, and the slight errors introduced by the fact that the months are not of the same length would be avoided."

* Storage to be provided in Impounding Reservoirs, Trans. Am. Soc. C. E., 1914, p. 1573.

ROANOKE RIVER BASIN

ROANOKE RIVER AT ROANOKE, VA.

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

DRAINAGE AREA. 388 square miles.

RECORDS AVAILABLE. July 10, 1896 to July 15, 1906; May 7, 1907 to December 31, 1923.

GAGE. Chain on downstream side of Walnut Street bridge; read once daily by employee of Roanoke Railway and Electric Co.

DISCHARGE MEASUREMENTS. Made from downstream side of Walnut Street bridge or by wading or from Jefferson Street bridge about one-third mile above. Measurement of overflow from Crystal Spring, which enters river between the two bridges, added when discharge measurements are made at Jefferson Street bridge.

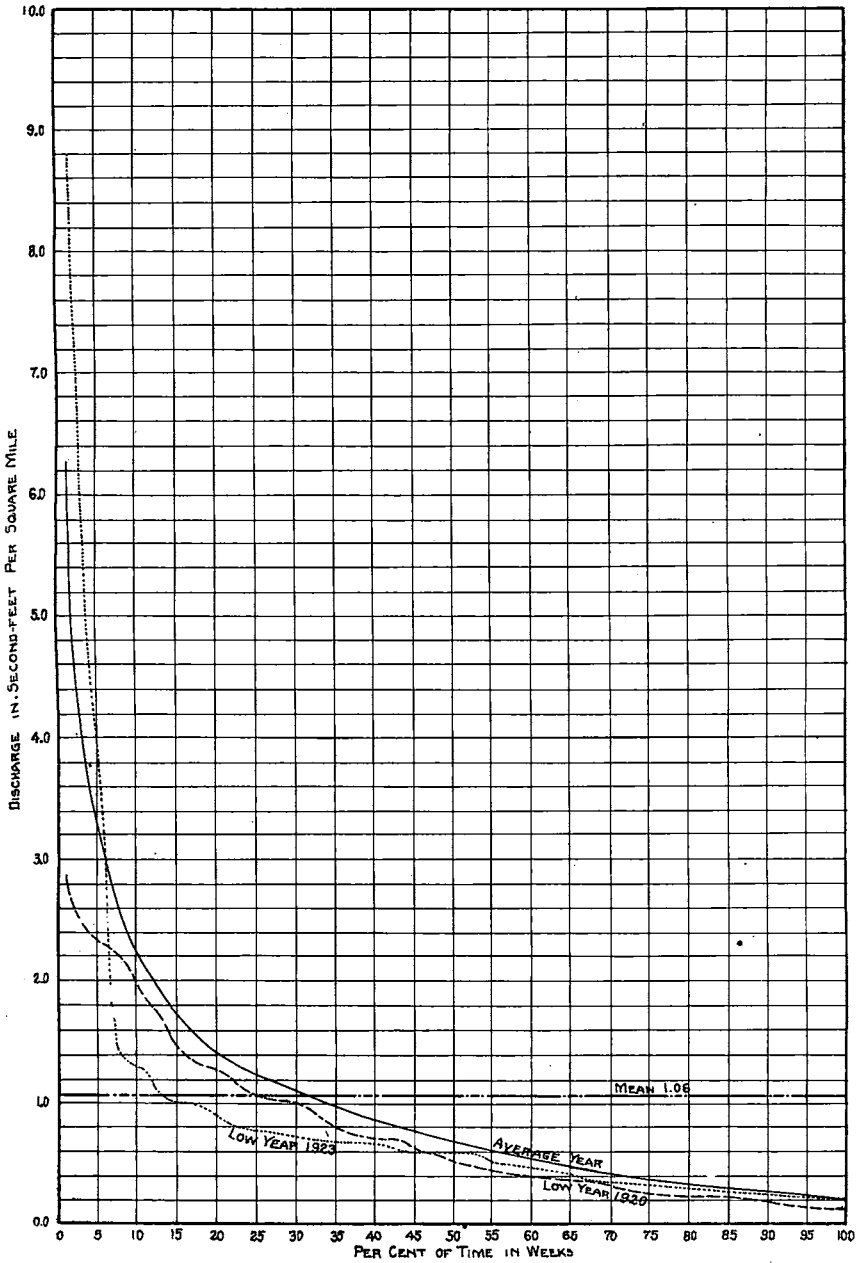
CHANNEL AND CONTROL. Bed composed of coarse gravel and small boulders. Banks may be overflowed at extreme flood stages. Control, loose boulders; shifts slightly.

EXTREMES OF DISCHARGE. Maximum stage recorded, 14.34 feet August 6, 1901 (discharge 16,900 second-feet.) Minimum stage recorded, 0.0 on morning of December 23, 1909, when flow was retarded by freezing; reported that practically no water was flowing.

ICE. Ice seldom forms at station, but flow is sometimes retarded by freezing of headwaters.

ACCURACY. Stage-discharge relation changes occasionally. Rating curves fairly well defined for medium and low stages. Records fair.

COOPERATION. Records collected in coöperation with Roanoke Railway and Electric Co.



WEEKLY DURATION CURVES
FOR
ROANOKE RIVER AT ROANOKE, VA.
1908-1923

MEAN WEEKLY DISCHARGE, IN SECOND-

Week	Year												
	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908
1	------	81	186	1,406	375	240	1,497	1,078	129	161	1,806	------	1,349
2	------	67	120	1,355	196	1,094	432	422	134	333	432	------	2,533
3	------	77	339	1,004	748	479	352	315	132	248	377	------	1,076
4	------	78	1,013	844	391	311	638	549	207	147	1,028	------	393
5	------	68	720	1,000	184	226	1,075	742	135	114	609	------	169
6	------	1,830	505	2,571	180	325	598	671	265	119	351	------	385
7	------	1,023	316	1,437	1,125	266	270	2,290	182	133	258	------	487
8	------	2,863	157	2,602	904	180	1,998	845	282	385	213	------	582
9	------	498	136	2,691	1,147	178	3,443	981	369	833	257	------	545
10	------	219	134	3,008	605	560	951	959	709	1,122	319	------	467
11	------	1,711	87	2,671	556	608	927	1,076	310	563	439	------	455
12	------	1,036	126	3,127	1,489	304	643	2,291	237	320	755	------	539
13	------	423	1,112	915	800	844	1,120	2,034	247	290	777	------	551
14	------	513	523	581	457	2,146	614	1,234	196	333	490	------	856
15	------	417	380	533	338	882	615	1,317	232	376	445	------	435
16	------	393	339	377	1,286	3,010	486	621	178	341	513	------	359
17	------	315	250	416	714	1,101	399	1,220	196	236	331	------	321
18	------	1,638	478	340	364	511	337	679	203	174	295	------	402
19	------	752	1,366	563	245	619	281	433	243	1,147	255	852	626
20	------	475	328	448	175	412	249	335	384	1,570	176	436	355
21	------	393	888	257	443	3,940	218	276	338	425	295	322	600
22	------	351	331	223	343	1,439	177	284	688	402	187	592	308
23	------	451	168	143	189	775	159	447	371	205	115	603	631
24	------	368	204	487	436	978	180	366	361	218	227	1,319	598
25	------	475	426	183	432	1,082	170	276	310	491	163	491	282
26	------	178	258	296	716	695	271	651	327	324	122	521	229
27	------	87	107	157	406	439	155	329	223	870	103	318	757
28	1,051	114	70	114	164	1,155	180	521	208	3,005	91	221	276
29	381	228	219	113	123	1,580	90	235	106	609	------	192	179
30	282	428	361	130	163	468	96	159	447	535	------	195	268
31	112	160	815	109	111	319	152	450	363	581	------	178	160
32	96	277	719	104	86	3,792	92	202	1,136	402	------	195	155
33	89	87	775	130	78	2,549	83	208	299	391	------	190	152
34	105	133	208	81	82	1,331	79	152	180	313	------	197	293
35	86	91	177	108	81	808	76	267	159	890	------	167	266
36	88	79	437	99	80	480	76	231	167	689	------	149	538
37	73	68	164	79	182	399	77	211	131	268	------	158	223
38	73	140	495	259	145	350	77	1,477	113	206	------	1,099	154
39	400	501	492	93	96	533	82	216	103	155	------	529	156
40	305	301	832	79	163	442	224	149	86	150	------	190	125
41	102	275	548	102	196	255	118	313	92	173	------	162	309
42	92	332	906	90	174	240	94	220	91	140	------	162	177
43	91	147	1,980	82	991	202	95	164	94	166	------	167	1,480
44	91	112	611	183	417	187	121	151	92	146	------	190	1,123
45	743	90	509	140	236	183	106	201	110	122	------	171	364
46	430	77	417	97	157	168	156	156	126	121	------	174	329
47	147	73	648	90	149	210	235	156	115	123	------	516	666
48	626	70	384	104	1,870	158	692	121	103	127	------	786	344
49	179	167	949	93	1,403	310	890	112	148	314	------	271	388
50	92	110	388	242	404	1,106	384	103	108	183	------	369	550
51	115	111	608	117	273	510	654	140	100	819	------	169	375
52	98	153	765	251	301	3,799	310	155	122	465	------	1,213	1,206

FEET, OF ROANOKE RIVER AT ROANOKE, VA.

Year															Week
1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	
1,271	346	1,053	362	334	303	1,737	574	425	30	2,522	86	324	320	274	1
93	269	280	245	212	832	1,616	731	286	356	604	94	348	298	230	2
73	209	168	293	164	378	1,035	428	190	571	469	89	617	475	285	3
783	418	436	289	288	529	608	322	338	400	581	506	1,123	1,457	308	4
7	202	618	456	390	627	1,774	998	485	306	400	939	773	631	296	5
40	274	480	229	239	970	868	721	245	738	329	872	847	551	674	6
530	777	413	206	173	419	541	418	216	1,647	617	278	754	834	492	7
489	667	340	788	164	1,494	694	861	601	444	609	278	598	975	390	8
705	660	235	1,293	624	584	660	750	1,369	257	925	276	598	1,384	505	9
773	507	1,067	641	272	422	660	478	1,860	483	796	492	396	2,334	3,408	10
468	269	889	3,400	2,198	1,026	569	348	1,007	454	565	389	505	1,277	2,179	11
348	208	463	1,054	452	811	469	278	767	785	371	668	389	600	373	12
429	153	450	2,634	1,109	619	317	295	621	469	374	389	350	589	230	13
311	184	1,787	1,180	366	727	290	287	662	222	304	900	308	444	198	14
1,593	181	1,074	512	557	442	290	578	481	1,473	463	313	253	316	225	15
693	346	786	340	460	614	266	325	328	1,409	415	227	267	292	391	16
439	275	433	271	259	377	252	263	273	996	321	223	271	278	309	17
873	216	325	433	182	282	221	222	284	777	658	186	280	572	263	18
502	219	246	1,988	160	260	213	184	449	371	391	228	291	533	203	19
334	172	193	2,684	180	197	182	153	253	346	463	267	231	1,600	248	20
3,086	223	162	504	1,677	164	159	200	188	972	672	240	162	657	261	21
859	203	162	295	666	139	560	140	229	434	361	195	203	640	168	22
666	189	299	232	317	135	421	195	146	208	294	362	169	1,627	114	23
368	3,456	188	206	233	115	305	235	118	162	606	167	129	403	1,469	24
261	842	151	229	311	89	188	248	97	763	333	232	153	273	261	25
299	569	164	635	350	89	109	301	97	1,958	1,502	122	130	276	152	26
313	441	323	356	658	247	152	159	87	422	297	180	95	366	128	27
225	560	254	388	241	522	122	641	113	227	222	137	247	264	145	28
172	1,022	131	334	148	589	125	1,875	147	408	856	115	240	473	119	29
134	286	91	349	126	179	131	569	460	320	539	77	196	205	100	30
253	213	102	215	108	131	111	464	113	828	459	65	227	146	337	31
449	172	111	167	235	123	134	652	84	232	218	100	107	133	261	32
239	141	95	141	141	97	146	432	74	380	183	701	126	111	146	33
124	142	69	135	159	99	125	285	68	297	133	551	73	138	150	34
107	201	176	123	87	132	242	220	58	470	116	167	84	122	96	35
107	279	107	115	108	117	1,218	133	67	397	112	92	119	112	274	36
174	150	126	115	57	85	377	123	70	322	94	84	96	100	155	37
129	121	96	157	148	97	209	100	57	548	90	75	107	93	125	38
109	115	86	718	116	82	159	136	54	253	84	323	92	76	142	39
100	107	80	172	87	99	1,796	107	55	161	79	138	69	89	108	40
306	252	102	115	176	100	442	99	60	155	105	86	53	127	108	41
144	139	522	115	198	434	369	245	58	144	141	60	49	94	97	42
107	148	184	115	267	127	271	140	66	653	113	61	49	70	86	43
109	120	117	115	154	96	192	131	113	954	107	58	2,481	57	82	44
103	98	270	294	516	89	171	109	63	307	90	62	312	52	93	45
100	91	243	192	261	226	169	122	56	231	135	396	260	48	80	46
103	87	216	156	197	161	333	118	60	265	106	196	217	47	80	47
103	100	162	143	225	447	178	110	69	344	106	1,085	266	62	132	48
120	131	136	225	338	2,497	164	108	80	252	173	527	414	112	404	49
40	129	140	211	202	524	146	103	45	783	462	878	286	103	184	50
40	102	555	173	156	721	1,492	148	45	2,569	177	442	196	105	125	51
40	197	1,295	217	408	724	895	194	45	912	130	418	310	115	130	52

MONTHLY DISCHARGE OF ROANOKE RIVER AT ROANOKE, VA.
[Drainage area, 388 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1896					
July 10-31	2,302	91	506	1.30	1.06
August	162	76	98	.254	.294
September	2,140	67	154	.397	.443
October	673	91	142	.366	.422
November	1,435	91	422	1.09	1.22
December	707	91	156	.402	.464
1897					
January	91	67	75	.194	.224
February	8,710	67	1,514	3.90	4.06
March	2,710	121	796	2.05	2.36
April	610	237	404	1.04	1.16
May	2,905	318	771	1.99	2.29
June	550	87	378	.974	1.09
July	673	78	203	.523	.603
August	550	80	157	.405	.467
September	610	61	190	.490	.547
October	673	109	250	.644	.742
November	109	70	82	.210	.234
December	290	70	132	.340	.392
The year	8,710	61	413	1.06	14.17
1898					
January	1,135	109	454	1.17	1.35
February	707	121	350	.902	.939
March	1,720	76	318	.820	.945
April	910	290	466	1.20	.848
May	4,120	85	747	1.93	2.22
June	521	121	270	.696	.776
July	550	67	203	.523	.603
August	1,780	135	570	1.47	1.70
September	2,327	135	381	.982	1.10
October	4,255	290	1,028	2.65	3.06
November	865	347	510	1.31	1.46
December	2,140	318	659	1.70	1.96
The year	4,255	67	496	1.28	16.96
1899					
January	5,403	550	1,124	2.90	3.34
February	4,255	745	2,098	5.41	5.63
March	8,508	785	2,521	6.50	7.49
April	785	312	482	1.24	1.38
May	730	189	377	.972	1.12
June	910	121	278	.717	.800
July	212	91	130	.335	.386
August	165	76	105	.271	.312
September	745	74	133	.343	.383
October	121	76	88	.227	.262
November	290	85	128	.330	.368
December	463	91	173	.446	.514
The year	8,508	74	636	1.64	21.98

MONTHLY DISCHARGE OF ROANOKE RIVER AT ROANOKE, VA.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1900					
January	3,040	91	403	1.04	1.20
February	3,377	58	639	1.65	1.72
March	3,512	521	964	2.48	2.86
April	2,580	263	687	1.77	1.98
May	1,045	162	320	.825	.951
June	1,230	162	422	1.09	1.22
July	610	114	214	.552	.636
August	121	76	86	.222	.256
September	707	76	123	.317	.354
October	3,918	99	381	.982	1.13
November	8,575	135	593	1.53	1.71
December	3,486	237	576	1.48	1.71
The year	8,575	58	451	1.16	15.73
1901					
January	2,972	109	501	1.29	1.49
February	393	116	247	.637	.663
March	2,840	151	531	1.37	1.58
April	11,610	463	1,702	4.39	4.90
May	13,600	376	1,466	3.78	4.36
June	1,804	463	885	2.28	2.54
July	3,985	189	859	2.21	2.55
August	16,860	232	1,929	4.96	5.72
September	1,045	263	454	1.17	1.30
October	745	181	267	.688	.793
November	296	151	183	.472	.527
December	13,570	151	1,425	3.67	4.23
The year	16,860	116	870	2.24	30.65
1902					
January	4,525	263	781	2.01	2.32
February	11,090	212	1,423	3.67	3.82
March	2,775	347	1,047	2.69	3.10
April	1,090	376	543	1.40	1.56
May	376	181	256	.660	.761
June	318	129	187	.484	.540
July	463	85	143	.369	.425
August	158	76	89	.229	.264
September	85	76	78	.201	.224
October	673	83	134	.345	.398
November	1,045	91	239	.616	.687
December	1,545	189	567	1.46	1.68
The year	11,090	76	457	1.18	15.78

MONTHLY DISCHARGE OF ROANOKE RIVER AT ROANOKE, VA.—*Contin ued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1903					
January	3,040	237	606	1.56	1.68
February	8,980	463	1,154	2.97	2.87
March	6,550	580	1,528	3.94	4.54
April	2,972	580	1,190	3.07	3.43
May	785	237	391	1.01	1.16
June	1,545	189	422	1.09	1.22
July	1,000	135	306	.79	.91
August	1,230	109	247	.64	.74
September	6,617	121	531	1.37	1.53
October	785	145	206	.53	.61
November	263	99	162	.42	.47
December	237	73	127	.33	.38
The year	8,980	73	573	1.48	19.54
1904					
January	355	43	150	.387	.446
February	550	103	229	.590	.636
March	1,380	212	395	1.02	1.18
April	355	115	202	.521	.581
May	985	196	292	.753	.868
June	1,960	181	417	1.07	1.19
July	1,380	103	264	.680	.784
August	2,390	140	453	1.17	1.35
September	286	103	133	.343	.383
October	103	82	91	.235	.271
November	153	92	111	.286	.319
December	181	92	118	.304	.350
The year	2,390	43	238	.613	8.36
1905					
January	800	74	213	.549	.633
February	880	85	259	.668	.696
March	2,390	224	620	1.60	1.84
April	500	186	316	.814	.908
May	3,877	152	802	2.07	2.39
June	1,390	122	317	.817	.912
July	8,170	152	1,190	3.07	3.54
August	725	205	374	.964	1.11
September	4,633	152	469	1.21	1.35
October	278	122	157	.405	.467
November	152	101	126	.325	.363
December	3,310	122	425	1.10	1.27
The year	8,170	74	439	1.13	15.48
1906					
January	3,980	310	808	2.08	2.40
February	590	186	299	.771	.80
March	880	186	524	1.35	1.56
April	960	244	459	1.18	1.32
May	360	152	243	.626	.72
June	360	96	161	.415	.46
July 1-15	122	85	99	.255	.14

MONTHLY DISCHARGE OF ROANOKE RIVER AT ROANOKE, VA.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
May 7-13	1,320	251	494	1.27	1.18
June	3,310	404	768	1.98	2.21
July	539	178	244	.629	.73
August	251	162	187	.482	.56
September	6,550	132	462	1.19	1.33
October	213	162	173	.446	.51
November	1,370	162	384	.990	1.10
December	1,620	251	632	1.63	1.88
1908					
January	9,380	152	1,230	3.17	3.66
February	655	152	448	1.15	1.24
March	590	415	506	1.30	1.50
April	2,260	224	494	1.27	1.42
May	1,050	264	478	1.23	1.42
June	1,600	179	421	1.09	1.22
July	1,660	169	358	.923	1.06
August	1,100	117	207	.534	.62
September	1,660	134	262	.675	.75
October	6,550	109	647	1.67	1.92
November	1,140	287	459	1.18	1.32
December	2,450	244	627	1.62	1.87
The year	9,380	109	511	1.32	18.00
1909					
January	1,720	376	838	2.16	2.49
February	1,780	317	531	1.37	1.43
March	895	279	542	1.40	1.61
April	7,630	237	737	1.90	2.12
May	6,480	279	1,210	3.12	3.60
June	940	218	413	1.06	1.18
July	690	110	210	.541	.62
August	895	86	248	.639	.74
September	351	86	128	.330	.37
October	519	75	158	.407	.47
November	123	86	103	.265	.30
December	376	----------	108	.278	.32
The year	7,630	----------	436	1.12	15.25
1910					
January	770	60	250	.644	.74
February	3,720	136	506	1.30	1.35
March	1,490	151	361	.930	1.07
April	488	136	242	.624	.70
May	326	136	210	.541	.62
June	7,970	123	1,190	3.07	3.42
July	3,240	205	546	1.41	1.63
August	224	122	163	.420	.48
September	415	102	175	.451	.50
October	500	96	158	.407	.47
November	122	74	96.7	.249	.28
December	360	85	139	.358	.41
The year	7,970	60	334	.861	11.67

MONTHLY DISCHARGE OF ROANOKE RIVER AT ROANOKE, VA.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1911					
January	1,900	166	512	1.32	1.52
February	1,230	237	408	1.05	1.09
March	1,780	200	659	1.70	1.96
April	2,900	376	982	2.53	2.82
May	403	151	217	.559	.64
June	488	136	199	.513	.57
July	1,030	86	191	.492	.57
August	376	65	107	.276	.32
September	237	82	110	.284	.32
October	2,580	76	213	.549	.63
November	550	110	212	.546	.61
December	1,660	98	535	1.38	1.59
The year	2,580	65	362	.933	12.64
1912					
January	770	173	326	0.840	.97
February	3,180	206	622	1.60	1.73
March	7,760	430	1,740	4.48	5.16
April	2,640	242	640	1.65	1.84
May	8,980	282	1,290	3.32	3.83
June	1,230	206	316	.814	.91
July	550	206	354	.912	1.05
August	242	115	153	.394	.45
September	2,020	115	266	.686	.77
October	206	115	128	.330	.38
November	550	115	189	.487	.54
December	490	115	203	.523	.60
The year	8,980	115	520	1.34	18.23
1913					
January	1,130	143	271	0.698	0.80
February	1,540	143	266	.686	.71
March	7,900	242	965	2.49	2.87
April	1,230	206	408	1.05	1.17
May	5,200	143	604	1.56	1.80
June	850	143	312	.804	.90
July	1,440	102	281	.724	.83
August	620	89	151	.389	.45
September	300	50	106	.273	.30
October	490	77	181	.466	.54
November	1,660	115	277	.714	.80
December	940	143	290	.747	.86
The year	7,900	50	344	.887	12.03

MONTHLY DISCHARGE OF ROANOKE RIVER AT ROANOKE, VA.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1914					
January	1,900	242	505	1.30	1.50
February	2,520	282	900	2.32	2.42
March	1,330	375	674	1.74	2.01
April	1,330	282	558	1.44	1.61
May	282	143	213	.549	.63
June	143	89	110	.283	.31
July	1,660	89	358	.923	1.06
August	173	43	117	.302	.35
September	173	65	95.2	.245	.27
October	1,330	65	182	.469	.54
November	490	89	145	.374	.42
December	10,200	282	1,110	2.86	3.30
The year	10,200	43	412	1.06	14.42
1915					
January	8,300	450	1,180	3.04	3.51
February	5,880	392	1,000	2.58	2.69
March	793	290	512	1.32	1.52
April	290	211	269	.693	.77
May	512	146	210	.541	.62
June	1,250	85	324	.835	.93
July	248	85	128	.330	.38
August	381	70	149	.384	.44
September	2,290	146	475	1.22	1.36
October	6,820	204	669	1.72	1.98
November	512	155	212	.546	.61
December	4,660	61	649	1.67	1.92
The year	8,300	61	481	1.24	16.73
1916					
January	870	269	504	1.30	1.50
February	4,120	290	812	2.09	2.25
March	578	256	378	.974	1.12
April	756	237	355	.915	1.02
May	290	137	183	.472	.54
June	545	123	236	.608	.68
July	4,660	112	759	1.96	2.26
August	1,130	158	433	1.12	1.29
September	235	86	125	.322	.36
October	618	93	147	.379	.44
November	142	98	117	.302	.34
December	326	48	138	.356	.41
The year	4,660	48	349	.900	12.21

MONTHLY DISCHARGE OF ROANOKE RIVER AT ROANOKE, VA.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1917					
January	850	158	334	0.861	.99
February	1,230	75	396	1.02	1.06
March	5,870	459	1,240	3.19	3.68
April	1,440	248	432	1.11	1.24
May	584	151	291	.750	.86
June	227	82	120	.309	.34
July	690	71	194	.500	.58
August	106	46	76.6	.197	.23
September	82	53	62.5	.161	.18
October	184	52	66.8	.172	.20
November	142	49	65.3	.168	.19
December	148	----------	55.2	.142	.16
The year	5,870	46	278	.715	9.71
1918					
January	----------	----------	345	.889	1.02
February	2,900	142	772	1.99	2.07
March	1,360	206	514	1.32	1.52
April	3,180	172	990	2.55	2.84
May	3,440	289	607	1.56	1.80
June	7,630	130	677	1.74	1.94
July	2,130	156	400	1.03	1.19
August	2,770	172	442	1.14	1.31
September	1,100	192	391	1.01	1.13
October	2,510	124	373	.961	1.11
November	1,050	195	340	.876	.98
December	6,960	188	1,070	2.76	3.18
The year	7,630	124	577	1.49	20.09
1919					
January	8,170	389	986	2.54	2.93
February	1,650	281	572	1.47	1.53
March	1,310	314	556	1.43	1.65
April	860	265	372	.959	1.07
May	1,420	293	534	1.38	1.59
June	3,180	242	655	1.69	1.89
July	1,590	202	464	1.20	1.38
August	1,150	116	227	.585	.67
September	119	77	96.3	.248	.28
October	159	67	109	.281	.32
November	156	87	110	.284	.32
December	1,050	89	223	.575	.66
The year	8,170	67	409	1.05	14.29

MONTHLY DISCHARGE OF ROANOKE RIVER AT ROANOKE, VA.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
January	1,200	----------	203	.523	.60
February	5,060	198	584	1.51	1.63
March	1,310	223	439	1.13	1.30
April	1,420	192	426	1.10	1.23
May	339	162	230	.593	.68
June	690	101	219	.564	.63
July	242	55	122	.314	.36
August	3,580	55	346	.892	1.03
September	507	62	142	.366	.41
October	169	58	83.6	.215	.25
November	2,250	56	322	.830	.93
December	1,650	335	614	1.58	1.82
The year	5,060	55	311	.801	10.87
1921					
January	1,530	281	623	1.61	1.86
February	1,650	445	726	1.87	1.95
March	860	322	432	1.11	1.28
April	389	206	276	.711	.79
May	445	156	238	.613	.71
June	223	106	150	.387	.43
July	541	87	203	.523	.60
August	242	66	107	.276	.32
September	206	66	104	.268	.30
October	1,890	48	117	.302	.35
November	12,500	177	725	1.87	2.09
December	522	162	290	.747	.86
The year	12,500	48	333	.857	11.54
1922					
January	2,770	228	609	1.57	1.81
February	1,310	491	755	1.95	2.03
March	5,200	433	1,300	3.35	3.86
April	554	247	326	.840	.94
May	3,980	267	780	2.01	2.32
June	4,930	228	682	1.76	1.96
July	624	120	304	.784	.90
August	210	97	126	.325	.37
September	120	77	96.3	.248	.28
October	162	61	91	.235	.27
November	59	48	52.4	.135	.15
December	247	87	106	.273	.31
The year	5,200	48	436	1.12	15.20

MONTHLY DISCHARGE OF ROANOKE RIVER AT ROANOKE, VA.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1923					
January	310	210	263	.678	.78
February	789	267	469	1.21	1.26
March	6,680	210	1,450	3.74	4.31
April	433	177	267	.688	.77
May	332	156	223	.575	.66
June	3,040	97	468	1.21	1.35
July	177	97	121	.312	.36
August	522	87	199	.513	.59
September	462	87	162	.418	.47
October	108	83	98.3	.253	.29
November	177	77	90.6	.234	.26
December	837	113	200	.515	.59
The year	6,680	77	334	.863	11.69

ROANOKE RIVER AT RANDOLPH, VA.

LOCATION. At railroad bridge five-eighths mile southwest of Southern Railway station at Randolph, Charlotte County.

DRAINAGE AREA. 3,076 square miles.

RECORDS AVAILABLE. August 27, 1900 to August 11, 1906, when station was discontinued.

GAGE. Wire gage used to May 20, 1903, chain gage thereafter; read once daily by J. E. Figg. Datum changed during summer 1902, and on October 13, 1902.

DISCHARGE MEASUREMENTS.—Made from bridge.

CHANNEL AND CONTROL. Channel straight for considerable distance above and below station. Bed mainly of firm material. Control changed occasionally.

EXTREMES OF DISCHARGE. Maximum stage recorded, 32.0 feet December 30, 1901 (discharge, 75,100 second-feet); minimum stage recorded, 2.5 feet October 18, 1904 (discharge, 590 second-feet).

ICE. River frozen over January 28 to February 21, 1905. No correction made in estimates.

ACCURACY. Stage-discharge relation changed several times. Rating curves fairly well defined for medium and low stages. Records fair.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF ROANOKE RIVER AT RANDOLPH, VA.

Week	Year						
	1900	1901	1902	1903	1904	1905	1906
1	----	2,810	8,760	11,013	2,100	2,371	12,909
2	----	12,150	3,584	4,296	1,952	5,404	3,836
3	----	4,371	3,057	3,196	2,035	2,634	3,103
4	----	3,174	5,586	5,233	2,461	1,363	3,487
5	----	2,963	10,591	6,300	1,816	----	7,509
6	----	3,454	4,084	6,356	4,023	----	3,387
7	----	2,961	3,124	15,894	2,721	----	2,917
8	----	2,574	8,801	6,870	5,549	----	2,274
9	----	2,480	31,276	8,293	2,889	6,793	2,497
10	----	2,631	7,198	5,574	3,070	5,415	2,880
11	----	4,111	6,861	5,614	3,210	6,604	3,193
12	----	3,079	4,680	22,545	2,667	2,914	5,991
13	----	7,030	6,378	10,983	2,171	23,139	6,030
14	----	14,449	4,881	7,494	2,054	3,189	3,609
15	----	6,005	5,497	8,411	2,066	2,992	4,954
16	----	12,877	3,623	5,692	1,941	2,589	4,266
17	----	6,759	3,419	5,764	3,436	2,734	2,927
18	----	3,735	3,972	4,354	2,544	1,813	1,966
19	----	4,282	3,592	3,424	3,169	4,207	2,576
20	----	3,151	2,954	2,933	3,695	6,015	1,949
21	----	20,003	3,063	2,910	2,609	3,084	1,537
22	----	7,563	2,456	3,654	4,904	4,328	3,540
23	----	4,361	2,278	5,021	2,913	1,848	2,434
24	----	4,227	6,701	3,634	2,508	1,321	2,223
25	----	5,329	3,399	2,590	2,727	2,494	3,401
26	----	5,076	2,899	5,691	3,354	5,775	3,636
27	----	3,850	2,699	3,209	2,274	8,021	2,113
28	----	6,889	2,338	2,396	1,371	10,947	2,413
29	----	11,796	1,748	2,293	1,094	4,194	1,980
30	----	3,704	1,702	1,709	3,084	4,168	2,246
31	----	2,834	2,376	2,259	3,794	2,368	4,136
32	----	18,316	2,293	2,087	4,704	4,059	----
33	----	18,680	2,665	2,430	1,621	4,335	----
34	----	7,620	1,670	2,510	2,033	2,255	----
35	----	12,504	1,736	5,217	2,375	2,322	----
36	1,349	3,899	1,997	2,213	2,069	8,203	----
37	2,244	3,231	1,766	2,460	2,714	1,921	----
38	2,396	4,654	1,664	5,377	1,465	1,602	----
39	1,675	3,892	2,038	1,997	825	1,137	----
40	1,616	3,748	11,904	1,766	865	1,185	----
41	1,620	3,918	4,373	3,181	755	1,930	----
42	1,751	3,135	1,977	2,259	748	1,703	----
43	5,417	2,820	2,002	1,792	795	1,379	----
44	2,598	2,795	2,167	1,806	775	1,255	----
45	2,818	2,765	1,659	2,134	1,117	1,250	----
46	2,150	2,770	1,454	1,675	1,910	1,285	----
47	2,050	3,389	2,544	1,784	1,018	1,295	----
48	4,904	3,076	6,420	1,654	1,124	1,497	----
49	7,062	3,913	9,477	1,772	1,609	2,634	----
50	3,034	7,625	3,396	1,749	2,044	2,237	----
51	2,688	5,049	5,279	2,133	1,793	2,810	----
52	3,367	22,061	2,999	2,170	2,189	11,203	----

MONTHLY DISCHARGE OF ROANOKE RIVER AT RANDOLPH, VA.
[Drainage area, 3,076 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1900					
September	8,625	1,120	1,878	0.61	0.68
October	17,900	1,350	2,597	.84	.97
November	13,100	2,025	2,938	.96	1.07
December	18,600	2,550	3,944	1.28	1.48
1901					
January	35,980	2,550	5,362	1.74	2.01
February	3,860	2,410	2,948	.98	1.02
March	14,850	2,340	4,000	1.30	1.50
April	36,910	3,580	9,620	3.13	3.49
May	37,940	2,980	8,148	2.65	3.16
June	9,750	3,140	4,759	1.55	1.73
July	30,980	2,690	6,259	2 03	2.34
August	45,100	2,620	13,185	4.29	4.94
September	6,955	2,620	3,998	1.30	1.45
October	6,725	2,795	3,346	1.09	1.26
November	5,260	2,725	2,984	.97	1.08
December	75,100	2,830	9,621	3.13	3.61
The year	75,100	2,340	6,186	2.01	27.59
1902					
January	26,200	2,800	5,388	1.75	2.02
February	51,050	2,880	10,290	3.35	3.49
March	40,500	3,600	8,616	2.80	3.23
April	10,120	3,040	4,398	1.43	1.60
May	4,950	2,400	3,250	1.06	1.22
June	24,450	2,070	3,656	1.19	1.33
July	3,440	1,580	2,149	.70	.81
August	5,370	1,580	2,198	.71	.82
September	2,720	1,535	1,844	.60	.67
October	38,150	1,435	4,845	1.58	1.82
November	8,600	1,370	2,551	.83	.92
December	14,550	2,270	5,349	1.74	2.01
The year	51,050	1,370	4,545	1.48	19.94
1903					
January	23,850	2,590	6,123	1.99	2.29
February	44,200	3,710	8,575	2.79	2.90
March	44,550	3,915	11,010	3.58	4.13
April	14,050	4,320	7,041	2.29	2.55
May	4,500	2,590	3,370	1.10	1.27
June	9,200	2,430	4,147	1.35	1.51
July	4,950	1,500	2,445	.79	.91
August	9,680	1,310	2,712	.88	1.01
September	13,420	1,570	3,273	1.06	1.18
October	4,410	1,500	2,191	.71	.82
November	2,510	1,500	1,841	.60	.67
December	2,430	1,570	1,940	.63	.73
The year	44,550	1,310	4,556	1.48	19.97

MONTHLY DISCHARGE OF ROANOKE RIVER AT RANDOLPH, VA.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1904					
January	2,860	1,540	2,087	0.678	0.782
February	7,810	1,620	3,667	1.19	1.28
March	3,770	2,020	2,787	.906	1.04
April	4,435	1,540	2,224	.723	.807
May	5,720	1,540	2,939	.955	1.10
June	9,750	2,265	3,397	1.10	1.23
July	5,420	725	2,117	.668	.793
August	6,760	1,305	2,899	.942	1.09
September	3,770	725	1,801	.586	.654
October	1,230	560	787	.256	.295
November	2,435	725	889	.289	.322
December	2,690	1,230	1,881	.612	.706
The year	9,750	560	2,290	.744	10.10
1905					
January	10,530	1,050	2,773	0.901	1.04
February (22-28)	9,585	7,470	8.497	2.76	.718
March	9,010	1,950	4,601	1.50	1.73
April	5,380	1,555	2,576	.837	.934
May	9,470	1,630	3,974	1.29	1.49
June	9,470	1,260	2,891	.940	1.05
July	28,960	2,508	6,485	2.11	2.43
August	5,750	1,710	3,083	1.00	1.15
September	23,940	1,030	3,213	1.04	1.16
October	3,335	1,120	1,528	.497	.573
November	1,518	1,155	1,292	.420	.469
December	29,740	1,592	4,733	1.54	1.78
1906					
January	35,200	2,440	6,200	2.01	2.32
February	8,860	2,000	3,220	1.05	1.09
March	14,000	2,620	4,210	1.37	1.58
April	6,910	2,120	3,980	1.29	1.44
May	5,860	1,300	2,300	.747	.86
June	6,360	2,080	2,880	.935	1.04
July	4,650	1,540	2,360	.766	.88
August 1-11	5,420	3,320	4,020	1.31	.54

ROANOKE RIVER AT OLD GASTON, N. C.

LOCATION. At bridge of Roanoke Railway Co., at Old Gaston, Northampton County, about three-fourths mile below mouth of Indian Creek, 1¼ miles north of Thelma, 2½ miles above mouth of Deep Creek, and 5½ miles above mouth of Roanoke Rapids Canal.

DRAINAGE AREA. 8,350 square miles.

RECORDS AVAILABLE. December 7, 1911 to December 31, 1923.

GAGE. Prior to November 21, 1921, R. A. Howell read a chain gage attached to outside guard timber on downstream side of second span from right end of deck railroad bridge. On November 21, 1921 a Friez automatic recording gage was installed in a timber well and shelter, attached to downstream end of second masonry pier from right end of railroad bridge, near chain gage. Recorder set to read with chain gage. No change in gage datum.

DISCHARGE MEASUREMENTS. Made from downstream side of bridge to which gage is attached. Measuring section broken by 11 bridge piers.

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

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

ICE. Ice formed to considerable thickness at this station during winter of 1917-18, and the stage-discharge relation was seriously affected.

TION. Recorder hydrographs show slight daily fluctuations, probably caused by operation of power plants many miles upstream.

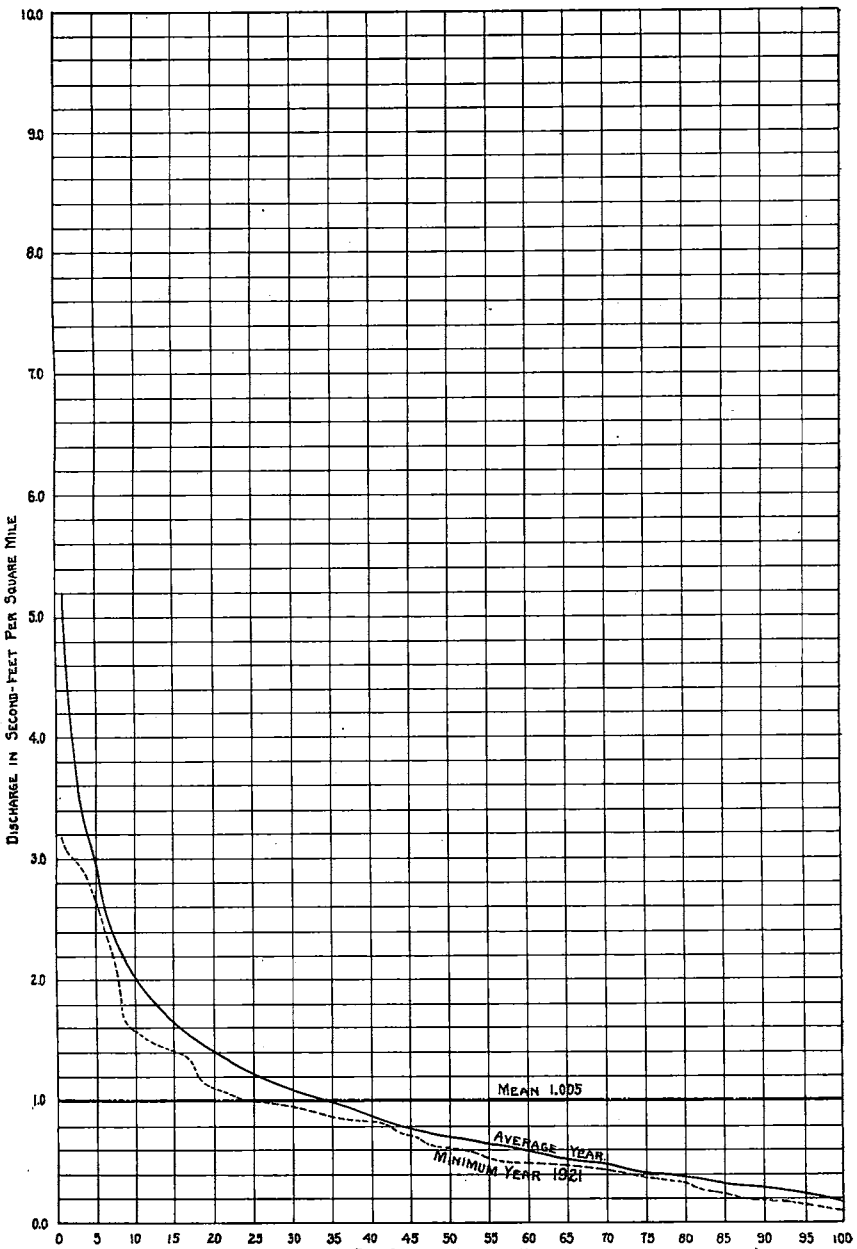
ACCURACY. Stage-discharge relation permanent. Rating curve well defined below 100,000 second-feet and fairly well defined to 200,000 second-feet. Operation of water-stage recorder fairly satisfactory. Prior to November 21, 1921, gage read to tenths once daily.*

COOPERATION. November 21, 1921 to 1923, this station was operated for Federal Power Commission Project No. 7. The permittees, the Roanoke Development Company, paid all field expenses attached to installation and operation of the recorder equipment and also for field expenses of engineers making discharge measurements. The Virginia Railway and Power Company has continued paying observer for one daily reading of chain gage.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF ROANOKE RIVER AT OLD GASTON, N. C.

Week	Year												
	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
1	------	9,494	6,416	21,629	14,654	14,096	7,010	933	40,604	1,439	6,946	3,059	11,306
2	------	4,854	4,726	8,549	46,371	9,231	7,651	6,964	8,651	3,733	22,600	6,841	8,337
3	------	5,609	3,747	5,406	25,086	7,789	9,311	13,320	10,326	4,123	24,809	5,465	4,714
4	------	7,500	8,997	5,903	13,309	5,607	8,521	5,270	12,876	6,190	13,600	9,703	7,914
5	------	12,796	12,687	9,461	24,026	21,076	11,986	24,714	9,040	16,201	11,757	16,117	14,086
6	------	5,143	5,710	15,963	17,580	20,951	5,720	15,743	7,021	36,460	11,929	32,286	16,386
7	------	6,211	4,210	9,053	8,853	7,727	4,647	11,604	8,899	9,524	25,514	21,586	17,329
8	------	18,312	3,719	25,409	8,943	6,483	8,713	7,139	13,033	6,359	19,214	14,600	7,131
9	------	25,025	10,109	11,080	16,404	11,148	25,009	5,781	20,129	6,266	9,571	21,871	13,734
10	------	14,717	5,563	8,909	13,089	6,870	47,243	8,111	22,929	9,224	7,903	40,157	19,563
11	------	77,643	54,449	13,371	9,211	5,407	11,746	6,311	14,110	12,876	9,071	26,029	32,514
12	------	33,444	12,204	12,386	7,814	5,801	20,614	6,189	7,410	16,976	7,066	12,571	33,786
13	------	44,287	11,994	8,966	5,571	5,831	17,647	8,023	8,067	8,480	8,820	10,483	10,106
14	------	14,380	8,450	9,024	9,831	6,060	16,560	5,457	6,753	19,530	8,311	10,549	9,443
15	------	9,046	18,104	7,594	8,576	11,486	12,019	30,587	10,293	12,046	6,917	6,883	15,509
16	------	8,634	12,013	11,801	6,424	4,524	6,599	16,964	9,784	7,254	12,180	7,431	12,477
17	------	10,267	5,883	8,031	4,859	4,416	4,899	34,429	7,343	9,659	7,177	6,423	6,960
18	------	8,901	4,744	5,486	4,480	4,296	6,659	12,294	9,267	6,306	6,254	8,257	10,383
19	------	12,953	3,697	6,736	5,381	5,429	8,946	6,541	12,109	5,791	8,297	12,186	5,509
20	------	41,643	4,216	5,290	4,619	3,960	4,689	12,430	10,150	5,007	13,023	19,029	5,529
21	------	8,916	21,484	3,484	2,989	14,723	2,701	7,417	11,990	4,791	5,263	15,486	4,763
22	------	5,823	12,996	3,520	12,660	8,830	4,546	6,419	10,191	3,426	7,403	7,014	4,471
23	------	5,571	6,970	2,900	24,099	10,686	6,491	3,654	14,894	11,484	7,937	16,714	3,410
24	------	5,126	6,251	2,557	4,766	13,923	16,824	3,191	10,650	3,854	3,814	6,503	6,431
25	------	5,859	4,628	2,429	4,221	13,423	3,626	3,173	4,603	6,924	3,977	12,563	4,010
26	------	8,826	9,827	4,064	2,494	6,020	4,456	8,623	23,254	7,447	4,360	5,320	2,894
27	------	9,229	9,429	7,049	3,346	6,333	4,936	3,433	7,197	3,053	5,036	13,434	2,466
28	------	5,101	4,893	4,890	3,540	5,001	4,160	3,410	5,374	6,324	4,539	6,849	4,806
29	------	4,069	3,833	12,801	3,073	11,747	7,740	5,490	55,404	7,796	5,946	16,857	4,460
30	------	3,417	2,904	2,643	3,640	21,790	20,171	4,129	41,291	4,733	2,851	7,757	3,157
31	------	2,520	5,677	3,784	5,766	9,584	5,954	6,513	11,636	2,127	5,367	4,857	14,594
32	------	2,559	4,549	2,859	5,807	10,281	3,280	2,279	5,637	5,899	2,247	4,329	7,374
33	------	2,083	5,399	1,977	15,584	7,310	2,309	3,953	8,516	9,837	1,907	7,366	5,214
34	------	1,907	3,246	1,551	8,029	6,064	2,299	5,859	4,696	18,136	1,484	4,099	6,697
35	------	1,890	4,034	2,310	17,324	3,636	4,191	4,363	2,473	5,890	921	5,873	3,846
36	------	1,510	15,004	1,884	17,923	2,977	8,994	4,071	2,776	3,414	1,147	4,404	7,070
37	------	1,687	2,721	1,259	6,429	1,783	4,933	4,163	1,866	3,743	3,809	3,476	7,249
38	------	3,409	3,156	1,034	3,376	2,544	1,823	4,290	1,900	1,813	1,584	2,626	5,330
39	------	12,020	4,654	1,339	2,643	2,121	1,949	3,907	2,371	5,103	3,009	2,109	14,220
40	------	2,960	2,054	956	17,817	3,100	1,716	2,216	1,514	6,774	2,211	1,929	3,047
41	------	2,181	4,280	2,586	12,350	2,810	2,621	1,240	1,591	2,224	1,573	9,577	2,400
42	------	2,754	3,323	8,436	4,764	4,254	2,269	1,490	5,266	1,833	1,413	5,654	2,300
43	------	2,643	14,754	2,621	5,906	5,916	2,531	1,773	4,241	1,911	1,177	3,519	2,933
44	------	2,520	5,384	2,104	3,433	2,454	6,454	7,936	2,870	2,256	8,157	2,931	2,703
45	------	11,589	14,324	2,186	2,883	2,553	2,620	4,053	2,380	2,290	4,066	2,761	4,983
46	------	4,537	11,880	5,469	2,869	3,070	1,947	2,927	4,010	10,290	3,449	2,954	3,406
47	------	3,067	5,350	4,517	7,141	2,261	2,379	6,801	3,284	11,880	4,133	3,037	3,016
48	------	2,796	3,656	2,577	2,769	2,266	3,516	6,397	3,340	30,371	3,746	2,620	3,429
49	------	3,709	11,116	17,794	3,516	2,610	3,966	5,746	3,287	20,900	4,866	3,134	10,690
50	3,536	3,709	4,991	10,291	2,724	4,130	1,187	3,680	8,053	21,100	3,169	4,091	5,374
51	16,471	3,046	3,650	8,857	14,946	3,067	2,121	16,716	3,493	10,803	3,237	7,151	4,741
52	21,585	3,963	11,200	20,150	11,079	5,694	1,075	20,266	2,285	11,675	3,972	5,800	4,820

* Revised rating from 1925 low water measurements, increases minimun flow slighty.



WEEKLY DURATION CURVES
FOR
ROANOKE RIVER AT OLD GASTON, N.C.
1912—1929

MONTHLY DISCHARGE OF ROANOKE RIVER AT OLD GASTON, N. C.
[Drainage area, 8,350 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1912					
January	21,400	4,000	7,380	.884	1.02
February	50,300	3,740	14,600	1.75	1.89
March	210,000	8,420	38,000	4.55	5.25
April	68,700	7,010	12,400	1.49	1.66
May	78,000	5,500	16,900	2.02	2.33
June	15,000	3,910	6,110	.732	.82
July	16,200	2,020	5,440	.651	.75
August	3,580	1,250	2,200	.263	.30
r	27,400	790	4,460	.534	.60
Ooober	3,580	1,500	2,610	.313	.36
r	36,000	2,160	5,290	.634	.71
December	5,140	2,620	3,590	.430	.50
The year	210,000	790	9,920	1.19	16.19
1913					
January	25,100	3,410	7,240	.867	1.00
February	9,960	3,410	5,010	.600	.62
March	117,000	4,080	20,300	2.43	2.80
April	53,300	4,430	11,200	1.34	1.50
May	49,300	3,250	9,700	1.16	1.34
June	13,000	3,410	6,890	.825	.92
July	18,500	2,160	5,230	.626	.72
August	10,900	2,020	4,320	.517	.60
September	29,000	1,620	6,390	.765	.85
October	22,100	1,250	6,150	.737	.85
November	51,300	2,770	8,310	.995	1.11
December	22,100	3,410	7,620	.913	1.05
The year	117,000	1,250	8,220	.984	13.36
1914					
January	45,400	4,430	10,100	1.21	1.40
February	44,400	7,400	15,300	1.83	1.91
March	16,600	8,210	11,000	1.32	1.52
April	16,600	5,870	9,010	1.08	1.20
May	9,500	2,930	4,930	.590	.68
June	7.0 0	1,750	2,980	.357	.40
July	27,400	1,370	6,640	.795	.92
August	4,960	1,250	2,370	.284	.33
September	3,090	900	1,480	.177	.20
October	21,400	790	3,540	.424	.49
November	11,900	1,250	3,540	.424	.47
December	40,600	2,020	13,700	1.64	1.89
The year	45,400	790	7,049	0.844	11.41

MONTHLY DISCHARGE OF ROANOKE RIVER AT OLD GASTON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1915					
January	72,300	9,060	23,400	2.80	3.23
February	57,500	4,780	16,500	1.98	2.06
March	17,900	4,080	9,140	1.09	1.26
April	13,000	4,430	7,260	.870	.97
May	7,400	900	4,400	.527	.61
June	60,800	1,750	10,500	1.26	1.41
July	6,240	2,020	3,300	.395	.46
August	38,800	2,160	10,500	1.26	1.45
September	28,200	2,160	8,120	.973	1.09
October	40,600	3,000	9,600	1.15	1.33
November	14,700	1,240	3,810	.456	.51
December	40,600	1,600	7,880	.944	1.09
The year	72,300	900	9,534	1.14	15.47
1916					
January	38,800	3,470	8,890	1.06	1.22
February	68,000	5,340	14,800	1.77	1.91
March	9,960	3,160	6,100	.731	.84
April	14,700	3,160	6,560	.786	.88
May	41,600	2,110	7,400	.886	1.02
June	53,300	3,160	11,000	1.32	1.47
July	36,900	1,850	11,100	1.33	1.53
August	15,900	3,310	7,470	.895	1.03
September	3,470	900	2,440	.292	.33
October	14,700	1,360	3,890	.466	.54
November	3,630	1,360	2,490	.298	.33
December	6,470	1,480	3,870	.463	.53
The year	68,000	900	7,168	.857	11.63
1917					
January	15,300	4,460	8,530	1.02	1.18
February	16,600	3,470	7,760	.929	.97
March	77,100	7,280	26,200	3.14	3.62
April	39,700	3,470	9,790	1.17	1.30
May	10,400	1,600	5,680	.680	.78
June	35,100	2,390	7,590	.909	1.01
July	25,100	3,310	8,970	1.07	1.23
August	9,490	1,360	3,050	.365	.42
September	14,200	900	4,710	.564	.63
October	8,210	900	2,530	.303	.35
November	11,900	1,370	3,180	.381	.43
December	6,620	900	2,190	.262	.30
The year	77,100	900	7,515	.899	12.22

MONTHLY DISCHARGE OF ROANOKE RIVER AT OLD GASTON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1918					
January	38,800	900	9,070	1.090	1.26
February	32,400	5,140	12,100	1.450	1.51
March	10,400	4,430	6,930	.830	.96
April	72,300	4,430	21,100	2.530	2.82
May	24,300	3,740	9,280	1.110	1.28
June	13,000	1,880	4,660	.558	.62
July	11,400	2,160	4,210	.504	.58
August	9,500	1,370	4,560	.546	.63
September	9,960	1,370	4,150	.497	.55
October	10,400	900	2,250	.269	.31
November	14,700	2,160	5,110	.612	.68
December	42,500	2,770	11,800	1.410	1.63
The year	72,300	900	7,935	.951	12.83
1919					
January	91,700	4,780	17,500	2.10	2.42
February	23,600	5,500	10,200	1.22	1.27
March	47,300	5,500	14,400	1.72	1.98
April	19,900	3,740	8,420	1.01	1.13
May	26,600	4,780	11,300	1.35	1.56
June	45,400	3,410	12,700	1.52	1.70
July	110,000	3,090	25,500	3.05	3.52
August	22,800	1,370	6,750	.808	.93
September	4,080	1,370	2,340	.380	.31
October	7,010	1,370	3,180	.381	.44
November	7,800	1,880	3,140	.376	.42
December	13,600	1,880	4,160	498	.57
The year	110,000	1,370	8,966	1.201	16.25
1920					
January	13,600	1,370	4,710	.564	.65
February	75,400	5,500	16,200	1.940	2.09
March	28,200	4,430	11,200	1.340	1.54
April	34,200	6,240	12,000	1.440	1.61
May	9,060	3,410	5,110	.612	.71
June	25,100	2,460	7,100	.850	.95
July	12,500	2,160	5,220	.625	.72
August	37,800	1,880	9,020	1.080	1.24
September	7,010	1,370	3,570	.428	.48
October	11,000	1,340	3,089	.369	.43
November	52,100	1,830	9,560	1.140	1.27
December	59,700	7,080	18,400	2.200	2.54
The year	75,400	1,340	8,765	1.049	14.23

MONTHLY DISCHARGE OF ROANOKE RIVER AT OLD GASTON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1921					
January	51,100	5,560	16,300	1.950	2.25
February	55,300	8,000	17,200	2.060	2.14
March	12,500	6,280	8,310	.995	1.15
April	23,500	5,200	8,570	1.030	1.15
May	32,200	4,520	8,300	.994	1.15
June	11,500	2,930	5,110	.612	.68
July	9,000	2,090	4,500	.539	.62
August	11,000	890	2,430	.291	.34
September	9,500	890	2,290	.274	.31
October	2,930	890	1,570	.188	.22
November	31,300	1,580	5,060	.606	.68
December	5,920	2,780	3,860	.462	.53
The year	55,300	890	6,954	.833	11.27
1922					
January	15,900	2,360	6,140	.735	.85
February	49,100	7,540	21,800	2.61	2.72
March	69,400	7,540	23,700	2.84	3.27
April	14,700	5,560	7,930	.95	1.06
May	46,100	5,920	13,200	1.58	1.82
June	26,500	4,180	10,000	1.20	1.34
July	37,400	5,200	10,500	1.26	1.45
August	11,500	2,930	5,340	.64	.74
September	6,660	1,960	3,160	.378	.42
October	22,000	1,580	4,950	.593	.68
November	3,380	2,360	2,880	.345	.38
December	9,500	2,500	4,900	.587	.68
The year	69,400	1,580	9,540	1.14	15.41
1923					
January	19,200	4,180	8,930	1.07	1.23
February	25,000	5,560	13,000	1.56	1.62
March	113,000	7,540	26,800	3.21	3.70
April	35,600	5,920	11,200	1.34	1.50
May	15,300	4,180	5,920	.709	.82
June	10,000	2,640	4,300	.515	.57
July	7,540	2,090	3,890	.466	.54
August	29,700	3,230	7,850	.940	1.08
September	29,700	2,360	8,150	.976	1.09
October	3,860	2,220	2,680	.321	.37
November	8,000	2,500	3,570	.428	.48
December	27,300	3,380	6,180	.740	.85
The year	113,000	2,090	8.540	1.02	13.85

ROANOKE RIVER AT NEAL, N. C.

LOCATION. At the Norfolk and Carolina Railroad bridge at Neal, Bertie County, near Kelford, N. C.

DRAINAGE AREA. 8,717 square miles.

RECORDS AVAILABLE. July 27, 1896 to May 31, 1903, when station was discontinued.

GAGE. Wire gage fastened to railroad bridge; read by W. M. Adams.

DISCHARGE MEASURMENTS. Made from bridge to which gage is attached.

CHANNEL AND CONTROL. Bed of stream muddy; shifting. Channel straight for a long distance above and 600 feet below station. Control not known. Both banks subject to overflow.

EXTREMES OF DISCHARGE. Maximum stage recorded, 30.4 feet May 26, 1901 (discharge, 85,200 second-feet); minimum stage recorded, 0.0 foot September 21 and 22, 1897 (discharge, 2,000 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. Slight regulation at Roanoke Rapids and power plants on Dan River.

ACCURACY. Stage-discharge relation affected by variation in slope with rate of change in stage; otherwise fairly permanent. Rating curves fairly well defined for medium and low stages. Records for those stages, fair; high water records, poor.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF ROANOKE RIVER AT NEAL, N. C.

Week	Year							
	1896	1897	1898	1899	1900	1901	1902	1903
1	----------	3,550	4,201	10,106	3,020	6,122	53,026	27,697
2	----------	3,293	3,466	38,881	8,064	7,885	13,959	30,806
3	----------	3,414	3,453	19,487	14,586	21,715	7,376	11,679
4	----------	8,255	5,253	10,457	23,032	6,648	14,151	14,119
5	----------	6,899	6,772	8,855	7,296	5,034	20,236	17,021
6	----------	33,940	3,378	37,187	9,116	5,627	27,971	29,631
7	----------	24,872	3,358	19,796	24,317	6,275	9,681	30,464
8	----------	25,075	3,243	45,350	19,182	4,315	12,831	54,787
9	----------	38,946	3,099	28,357	23,192	3,755	54,286	26,901
10	----------	21,514	5,154	38,623	24,437	3,530	35,219	21,181
11	----------	33,113	3,629	26,866	14,679	5,992	14,828	19,902
12	----------	23,036	3,134	61,999	14,238	4,559	17,867	30,907
13	----------	9,275	3,968	26,880	13,025	28,577	14,451	61,868
14	----------	7,556	11,105	16,647	8,999	39,625	15,074	38,199
15	----------	15,306	7,081	24,606	7,384	19,170	19,168	35,795
16	----------	6,953	4,984	12,214	17,789	17,260	10,350	33,059
17	----------	4,727	4,687	9,583	31,646	25,606	7,568	27,139
18	----------	8,404	3,768	8,986	10,222	8,791	9,608	20,390
19	----------	6,494	20,269	9,351	6,227	9,586	9,138	10,885
20	----------	14,589	9,551	9,526	4,807	7,453	7,313	8,175
21	----------	6,084	15,272	6,320	7,305	41,469	6,980	6,995
22	----------	5,398	12,899	7,376	7,355	36,328	5,159	----------
23	----------	4,369	3,387	7,247	4,280	10,244	3,950	----------
24	----------	3,765	2,948	19,436	5,179	6,270	3,700	----------
25	----------	5,282	10,849	10,809	11,382	12,927	18,028	----------
26	----------	3,494	3,315	5,629	10,601	10,043	5,341	----------
27	----------	3,581	2,845	5,363	5,196	7,576	4,956	----------
28	----------	3,769	3,702	7,291	3,300	6,969	5,019	----------
29	----------	3,997	4,225	4,220	2,634	38,544	3,130	----------
30	----------	4,786	4,129	6,136	7,091	14,187	2,705	----------
31	----------	2,811	4,637	6,866	6,232	5,255	3,774	----------
32	2,940	2,584	3,712	5,052	2,253	30,449	3,590	----------
33	3,340	2,651	7,634	6,730	1,671	46,239	----------	----------
34	3,103	2,857	4,251	4,333	1,774	34,113	4,032	----------
35	2,822	2,669	3,548	7,367	2,380	30,186	3,270	----------
36	3,239	2,603	3,713	4,863	1,764	12,214	4,268	----------
37	3,290	2,064	3,672	4,710	1,543	5,810	4,494	----------
38	3,214	2,006	2,147	5,694	5,226	14,062	2,861	----------
39	3,309	2,126	23,579	6,014	2,519	7,031	3,379	----------
40	26,760	2,071	6,156	3,790	2,358	10,768	7,526	----------
41	6,149	2,017	6,545	7,326	3,022	5,475	25,219	----------
42	3,231	3,003	3,221	4,070	3,111	6,524	11,861	----------
43	2,950	2,970	17,709	3,510	5,807	4,491	4,249	----------
44	2,951	3,135	12,479	6,856	4,560	4,245	7,103	----------
45	12,614	3,860	5,221	9,306	6,106	4,235	4,718	----------
46	5,062	2,465	3,906	4,550	3,285	4,165	4,362	----------
47	3,563	2,366	6,409	4,020	2,805	4,214	8,434	----------
48	5,068	5,019	5,470	4,330	6,427	6,156	11,189	----------
49	12,416	5,225	14,164	4,285	11,834	6,413	30,409	----------
50	5,384	3,633	7,725	6,226	6,749	6,616	14,961	----------
51	7,990	4,484	4,524	5,744	4,095	21,893	16,352	----------
52	3,832	7,703	10,274	6,236	6,025	25,874	13,959	----------

MONTHLY DISCHARGE OF ROANOKE RIVER AT NEAL, N. C.
[Drainage area, 8,717 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1896					
August	4,105	2,750	3,154	0.36	0.41
September	6,510	2,400	3,217	0.37	0.41
October	39,720	2,890	9,117	1.05	1.21
November	23,220	2,890	5,896	0.68	0.75
December	21,820	3,415	7,423	0.85	0.98
1897					
January	12,010	2,790	4,501	0.52	0.60
February	64,300	2,915	28,178	3.23	3.36
March	37,700	7,320	22,824	2.62	3.02
April	22,270	4,525	8,440	0.97	1.08
May	21,160	4,410	8,707	1.00	1.15
June	9,040	3,005	4,252	0.49	0.55
July	7,410	2,790	3,956	0.45	0.52
August	3,650	2,240	2,673	0.31	0.36
September	3,150	2,000	2,217	0.25	0.28
October	4,465	2,010	2,561	0.29	0.33
November	8,710	2,340	3,095	0.36	0.40
December	10,190	3,250	5,520	0.63	0.72
The year	64,300	2,000	8,077	0.93	12.37
1898					
January	11,300	3,200	4,597	0.53	0.61
February	5,910	2,935	3,544	0.41	0.43
March	6,900	2,935	3,736	0.43	0.49
April	14,120	3,568	6,903	0.79	0.88
May	29,859	3,200	13,100	1.50	1.73
June	14,755	2,445	5,399	0.62	0.69
July	5,910	2,347	3,766	0.43	0.49
August	14,595	2,895	4,815	0.55	0.63
September	34,274	2,060	7,980	0.92	1.02
October	28,762	2,855	8,582	0.98	1.13
November	17,204	3,810	6,437	0.74	0.82
December	24,735	3,910	8,958	1.03	1.19
The year	34,274	2,060	6,485	0.74	10.11
1899					
January	62,750	6,880	18,585	2.13	2.46
February	58,300	8,440	29,967	3.44	3.58
March	83,000	18,030	37,777	4.33	4.99
April	31,500	8,440	15,863	1.82	2.03
May	12,340	5,490	8,106	0.93	1.07
June	27,640	4,580	10,759	1.23	1.37
July	11,240	3,740	6,095	0.70	0.81
August	13,110	2,690	5,626	0.65	0.75
September	13,440	2,970	5,564	0.63	0.70
October	9,240	3,180	4,563	0.52	0.60
November	13,620	3,915	6,132	0.70	0.78
December	10,840	3,740	5,566	0.63	0.72
The year	83,000	2,690	12,884	1.48	19.86

MONTHLY DISCHARGE OF ROANOKE RIVER AT NEAL, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1900					
January	31,750	2,580	11,940	1.37	1.58
February	33,550	4,190	16,449	1.89	1.97
March	37,747	11,645	17,575	2.02	2.33
April	49,140	6,150	16,222	1.86	2.08
May	14,643	4,470	7,166	0.82	0.95
June	17,930	3,980	7,561	0.87	0.97
July	13,370	2,180	5,124	0.59	0.68
August	6,610	1,560	2,311	0.27	0.31
September	11,990	1,380	2,766	0.32	0.36
October	15,480	2,050	3,693	0.42	0.48
November	11,070	2,720	4,362	0.50	0.56
December	23,500	3,770	7,119	0.82	0.95
The year	49,140	1,380	8,468	0.971	13.22
1901					
January	33,850	4,190	10,053	1.15	1.33
February	7,700	3,630	5,186	0.59	0.61
March	41,550	3,420	9,370	1.07	1.23
April	55,260	11,070	24,914	2.86	3.19
May	84,400	4,980	20,817	2.39	2.76
June	27,640	5,240	11,138	1.28	1.43
July	51,055	5,205	15,898	1.82	2.10
August	57,300	4,190	30,897	3.54	4.08
September	30,550	5,130	10,919	1.25	1.39
October	13,380	4,190	6,563	0.75	0.86
November	8,305	3,980	4,637	0.53	0.59
December	52,535	4,400	14,865	1.70	1.96
The year	84,400	3,420	13,763	1.58	21.53
1902					
January	80,800	6,705	21,294	2.44	2.81
February	50,202	7,800	20,529	2.36	2.46
March	67,250	9,390	26,139	3.00	3.46
April	25,910	6,705	13,258	1.52	1.70
May	11,300	5,130	7,965	0.91	1.05
June	28,650	3,420	7,493	0.86	0.96
July	6,515	2,375	3,916	0.45	0.52
August					
September	5,910	2,720	3,703	0.42	0.47
October	39,075	3,910	11,793	1.35	1.56
November	15,430	4,050	6,795	0.78	0.87
December	37,975	8,050			
1903					
January	56,277	8,412	20,798	2.39	2.76
February	76,400	11,650	33,081	3.79	3.95
March	84,800	12,730	32,985	3.78	4.36
April	48,493	21,575	33,880	3.89	4.34
May 1-30	26,390	6,705	10,676	1.22	1.36

DAN RIVER NEAR PINNACLES, VA.

LOCATION. In the middle of Pinnacles Gorge, 3 miles southeast of Pinnacles, Patrick County, 3 miles north of Kibler, Va., 4 miles south of Meadows of Dan, and 7 miles upstream from North Carolina state line.

DRAINAGE AREA. 35 square miles, determined by a compass and transit survey around basin by private engineers.

RECORDS AVAILABLE. October 29, 1920 to November 24, 1921, when the station was discontinued.

GAGE. A vertical staff on right bank at end of measuring weir; read by C. M. Gentry. The location is very inaccessible so that only one daily reading could be obtained.

DISCHARGE MEASUREMENTS. A rectangular, sharp-edged timber weir attached to heavy timber, bolted to bedrock. The joint between rock and weir was not tight so some water escaped under weir. The weir discharge table was checked by one current meter discharge measurement made by wading. A standard weir formula was used to compute weir rating table.

CHANNEL AND CONTROL. Channel approaches weir on a fairly straight line, the weir forming a pool 3 or 4 feet deep at low stages. Control formed by weir.

EXTREMES OF DISCHARGE. Maximum stage recorded, 2.9 feet morning of December 14 (discharge, 686 second-feet); minimum stage recorded, 0.22 foot from October 20 to 24, 1921 (discharge, 17 second-feet).

ICE. None reported.

REGULATION. Low stages considerably affected by operation of several mill dams upstream.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF DAN RIVER NEAR PINNACLES, VA.

Week	Year		Week	Year	
	1920	1921		1920	1921
1		81	27		44
2		147	28		59
3		170	29		106
4		110	30		51
5		131	31		43
6		238	32		33
7		187	33		25
8		185	34		21
9		127	35		21
10		96	36		30
11		131	37		24
12		93	38		28
13		106	39		30
14		107	40		29
15		81	41		27
16		184	42		22
17		92	43		19
18		102	44	61	137
19		93	45	57	46
20		76	46	100	40
21		75	47	83	27
22		61	48	182	
23		58	49	128	
24		47	50	220	
25		45	51	130	
26		64	52	128	

MONTHLY DISCHARGE OF DAN RIVER NEAR PINNACLES, VA.
[Drainage area, 35 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
November	310	53	93.7	2.68	2.99
December	686	82	154	4.40	5.07
1921					
January	540	72	131	3.74	4.31
February	500	87	183	5.23	5.45
March	237	87	104	2.97	3.42
April	310	72	118	3.37	3.76
May	212	57	83.8	2.39	2.76
June	72	45	53.8	1.54	1.72
July	310	31	63.8	1.82	2.10
August	45	20	27.3	.780	.90
September	60	17	27.8	.794	.89
October	190	17	33.8	.966	1.11

DAN RIVER AT MADISON, N. C.

LOCATION. At Southern Railway bridge about one-fourth mile from Madison, Rockingham County, and half a mile above the mouth of Mayo River.

DRAINAGE AREA. 605 square miles.

RECORDS AVAILABLE. May 7, 1903 to December 31, 1908, when station was discontinued.

GAGE. Chain gage attached to bridge; read by J. W. Ore. Datum unchanged.

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

CHANNEL AND CONTROL. Bed of sand and gravel and changes frequently with swift current; one channel at all stages. Control not known. Channel straight for about 600 feet above the station; 300 feet below there is an abrupt turn. Both banks low and subject to overflow.

EXTREMES OF DISCHARGE. Maximum stage recorded, 20.3 feet August 26, 1908 (discharge not determined); minimum stage recorded, 0.2 foot October 9 to 19, 1904 (discharge, 180 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. Not known

ACCURACY. Stage-discharge relation fairly permanent. Low-water rating curve fairly well defined; no high-water curve has been developed. Gage read once daily to half-tenths. Daily discharge ascertained by applying daily gage height to rating table. 1903 records poor; the rest of the record fairly good for low water.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF DAN RIVER AT MADISON, N. C.

Week	Year					
	1903	1904	1905	1906	1907	1908
1		334	862			
2		385	1,017		709	
3		332	479	845	916	918
4		464	436		519	687
5		343	502		563	616
6		692	405	675	578	
7		419	1,019	587	517	
8		1,107	2,511	701	498	
9		545	1,019			1,024
10		798	773	732	768	
11		505	781	600	852	864
12		1,302	522		602	
13		757	547	779	579	905
14		504	1,036	748		
15		473	931	755	752	683
16		389	759	715	586	856
17		471	651	552		636
18		387	1,067	578	763	
19		509	1,531	554	682	
20	699	994	2,953	422	559	625
21	644	417	798	429	489	734
22	1,196	549	1,375	455		529
23		472	475		731	
24	933	781	414	983		921
25	949	669	515	924		776
26	1,288	612	444		676	531
27	799	355	1,019	536	699	908
28	1,052	361	1,433			543
29	569	349	756		685	564
30	555	663	946		453	605
31	1,187	905	872		472	427
32	650	1,323	1,312		439	607
33	1,505	626	1,147		599	388
34	548	1,018	1,460		412	
35	479	435	678		306	
36	602	414	737	831	391	
37	395	359	451		539	473
38	812	318	425	824		392
39	378	231	358	744		444
40	350	206	356		427	347
41	482	182	527		376	
42	442	185	391		333	485
43	346	204	384		315	692
44	344	206	376	748	446	
45	487	252	352	660	390	565
46	448	252	326	658	400	
47	410	242	319	718		597
48	346	238	315	658	732	522
49	349	494	486	594	469	
50	371	272	981	635		
51	434	282	2,469			
52	410	518	1,272	675		846

MONTHLY DISCHARGE OF DAN RIVER AT MADISON, N. C.
[Drainage area 605 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1903					
May 8-31	2,465	574	992	1.64	1.46
June	3,300	710	1,199	1.98	2.21
July	2,735	416	742	1.23	1.42
August	4,250	401	910	1.50	1.73
September	2,495	358	541	.894	1.00
October	813	330	398	.658	.76
November	1,020	317	418	.691	.77
December	795	265	388	.641	.74
1904					
January	727	216	376	0.621	0.72
February	2,375	265	659	1.09	1.18
March	5,255	416	808	1.34	1.54
April	710	330	463	.765	.85
May	3,455	330	550	.909	1.05
June	1,575	278	653	1.08	1.20
July	1,335	228	480	.793	.91
August	2,615	330	865	1.43	1.65
September	659	228	349	.577	.64
October	216	180	195	.322	.37
November	330	204	242	.400	.45
December	953	240	386	.638	.74
The year	5,255	180	502	.830	11.30
1905					
January	3,880	278	686	1.13	1.30
February	4,460	304	1,195	1.98	2.06
March	1,525	476	684	1.13	1.30
April	3,170	416	822	1.36	1.52
May	4,020	401	1,306	2.16	2.49
June	885	372	496	.820	.91
July	3,660	386	1,019	1.68	1.94
August	2,615	461	1,134	1.87	2.16
September	1,155	330	495	.818	.91
October	1,290	317	412	.681	.79
November	372	304	334	.552	.62
December	11,000	304	1,237	2.04	2.35
The year	11,000	278	818	1.35	18.35

DAN RIVER AT SOUTH BOSTON, VA.

LOCATION. At Norfolk and Western Railway bridge at South Boston, Halifax County. Banister River enters from the north about 7 miles below station.

DRAINAGE AREA. 2,750 square miles.

RECORDS AVAILABLE. August 27, 1900 to May 5, 1907.

GAGE. Chain installed May 18, 1903, to replace wire gage previously used; read twice daily.

DISCHARGE MEASUREMENTS. Made from bridge.

CHANNEL AND CONTROL. Left bank high; is not overflowed. At high stages right bank is subject to overflow for several hundred feet under a curved trestle approach to bridge. Bed of stream, sand and mud. Control section shifts during floods.

EXTREMES OF DISCHARGE. Maximum stage recorded, 25.2 feet at 4 p.m. December 31, 1901 (discharge, 52,600 second-feet); minimum stage recorded, 0.10 foot at 10 a.m. October 11, 1904 (discharge, 350 second-feet).

ICE. Discharge relation not seriously affected by ice.

ACCURACY. Rating curves fairly well defined from 850 to 50,000 second-feet. Records fairly good.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF DAN RIVER AT SOUTH BOSTON, VA.

Week	Year							
	1900	1901	1902	1903	1904	1905	1906	1907
1	----------	2,354	8,454	11,285	1,476	3,523	13,482	5,834
2	----------	6,117	3,323	4,570	1,838	5,658	3,995	2,194
3	----------	3,479	2,996	3,886	1,480	2,354	3,904	2,084
4	----------	2,054	4,550	3,807	2,126	1,309	7,256	2,416
5	----------	2,396	7,937	3,642	1,358	1,140	4,288	2,257
6	----------	2,482	4,193	9,348	3,239	1,417	3,332	3,011
7	----------	1,862	3,040	15,205	1,899	4,429	2,702	2,720
8	----------	1,711	5,493	9,280	5,619	9,041	2,389	1,969
9	----------	1,702	18,137	5,239	2,428	4,667	3,399	3,660
10	----------	1,826	6,057	4,537	3,152	3,035	3,384	4,456
11	----------	1,722	5,043	5,909	2,203	3,461	3,115	5,753
12	----------	1,711	5,021	20,587	3,307	2,049	3,932	2,419
13	----------	9,779	8,316	9,383	3,053	2,128	6,074	2,104
14	----------	14,887	5,036	7,525	1,803	3,825	3,475	4,317
15	----------	2,613	5,563	9,917	1,596	5,738	3,769	3,406
16	----------	5,237	4,551	5,812	1,373	4,465	3,164	2,411
17	----------	3,768	4,004	6,580	1,700	2,539	2,319	3,646
18	----------	2,493	3,918	4,238	1,743	2,516	2,229	----------
19	----------	2,375	3,901	3,627	1,674	4,396	2,526	----------
20	----------	2,354	4,018	3,162	3,387	6,319	1,816	----------
21	----------	22,763	3,998	2,637	1,721	4,395	1,900	----------
22	----------	3,927	3,194	6,409	2,376	5,938	1,957	----------
23	----------	2,519	2,446	6,636	2,336	1,766	1,783	----------
24	----------	2,107	3,083	6,029	2,270	1,435	2,553	----------
25	----------	2,182	6,163	5,301	1,610	1,535	3,616	----------
26	----------	2,064	2,882	3,999	1,684	1,532	3,101	----------
27	----------	2,214	2,577	7,741	1,652	4,265	2,576	----------
28	----------	11,507	1,836	5,271	1,322	5,743	2,574	----------
29	----------	10,060	1,229	2,579	958	2,595	4,611	----------
30	----------	2,332	1,132	1,652	2,909	3,179	7,850	----------
31	----------	2,334	1,229	2,298	3,589	2,839	3,124	----------
32	----------	14,034	1,136	2,622	5,687	4,863	3,149	----------
33	----------	15,834	1,280	3,280	1,852	4,341	3,086	----------
34	----------	5,463	1,237	1,729	2,010	2,834	9,277	----------
35	----------	7,972	1,079	4,010	1,260	2,111	3,780	----------
36	939	2,787	1,261	1,600	2,300	3,019	3,417	----------
37	1,205	2,300	1,218	2,054	3,948	1,323	1,893	----------
38	2,437	3,517	1,034	3,339	1,610	1,157	2,723	----------
39	1,307	2,664	2,651	1,377	1,285	1,216	2,351	----------
40	1,313	3,308	3,707	1,263	896	1,277	4,779	----------
41	1,768	2,279	6,109	1,959	617	1,896	1,700	----------
42	1,666	2,118	2,225	1,645	678	1,398	4,639	----------
43	2,681	1,919	1,159	1,410	834	1,326	4,593	----------
44	1,702	1,897	1,423	1,420	817	1,369	2,901	----------
45	1,854	1,925	1,721	2,102	1,020	1,201	2,026	----------
46	1,514	1,860	1,815	1,720	1,738	1,279	2,284	----------
47	1,394	1,983	2,064	2,000	1,195	1,387	2,514	----------
48	2,659	2,154	2,856	1,570	1,211	1,492	1,926	----------
49	5,276	2,863	8,921	1,539	3,121	2,829	2,037	----------
50	2,375	6,894	3,139	1,570	1,574	3,235	2,329	----------
51	2,300	3,371	2,569	1,585	1,506	6,926	2,284	----------
52	2,281	14,666	2,188	2,477	1,787	7,719	3,331	----------

MONTHLY DISCHARGE OF DAN RIVER AT SOUTH BOSTON, VA.
[Drainage area, 2,750 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1900					
September	7,605	700	1,430	0.52	0.58
October	6,500	1,200	1,842	0.67	0.77
November	4,600	1,360	1,804	0.66	0.74
December	15,100	2,075	2,785	1.01	1.16
1901					
January	21,965	1,860	3,387	1.23	1.42
February	2,675	1,600	2,042	0.74	0 77
March	25,000	1,600	3 504	1.27	1.46
April	38,800	2,375	6,382	2.32	2.59
May	46,600	2,300	7,297	2.65	3.06
June	3,100	1,925	2,292	0.83	0.93
July	44,200	2,150	6,132	2.23	2.58
August	36,600	1,860	9,866	3.59	4.14
September	5,100	2,150	2,902	1.06	1.18
October	4,100	1,860	2,353	0.86	0.99
November	3,730	1,730	2,032	0.74	0.83
December	51,200	2,000	6,875	2.50	2.89
The year	51,200	1,600	4,589	1.67	22.84
1902					
January	30,000	2,675	4,738	1.72	1.98
February	26,760	2,930	7,105	2.58	2.69
March	26,120	3,730	7,269	2.64	3.04
April	8,640	3,730	4,834	1.76	1.96
May	4,450	3,100	3,876	1.41	1.63
June	20,615	2,150	3,535	1.29	1 44
July	3,775	1,075	1,713	0.62	0.71
August	1,480	1,050	1,197	0.44	0.51
September	3,415	900	1,545	0.56	0.62
October	7,550	1,250	3,158	1.15	1.33
November	2,525	1,420	1,842	0.67	0.75
December	13,460	2,150	4,186	1.52	1.75
The year	30,000	900	3,750	1.36	18.41
1903					
January	28,240	2,700	5,934	2.16	2.49
February	39,800	3,510	9,953	3.62	3.78
March	44,400	3,800	10,084	3.67	4.23
April	22,670	5,050	8,065	2.93	3.27
May	9,520	2,475	4,050	1.47	1.69
June	17,750	2,350	5,785	2.10	2.34
July	16,700	1,465	4,389	1.60	1.84
August					
September					
October	3,465	1,185	1,551	0.56	0.65
November	4,070	1,355	1,811	0.66	0.74
December	6,635	1,376	1,811	0.66	0.76

MONTHLY DISCHARGE OF DAN RIVER AT SOUTH BOSTON, VA.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1904					
January	2,665	750	1,663	0.605	0.697
February	11,270	1,518	3,229	1.18	1.27
March	9,290	1,596	2,847	1.04	1.20
April	2,868	1,323	1,663	0.605	0.675
May	7,275	1,091	1,999	0.727	0 838
June	4,755	976	2,147	0.781	0.871
July	5,548	824	1,877	0.683	0.788
August	11,430	876	2,901	1.05	1.21
September	10,795	1,029	2,250	0.818	0.913
October	1,417	375	772	0.281	0.324
November	2,569	608	1,233	0.448	0.500
December	4,510	1,245	1,953	0.710	0.819
The year	11,430	375	2,045	0.744	10.11
1905					
January	13,370	1,006	3,004	1.09	1.26
February	18,270	1,052	4,563	1.66	1.73
March	5,730	1,713	2,635	0.958	1.10
April	11,900	1,541	3,992	1.45	1.62
May	17,160	1,729	4,845	1.76	2.03
June	6,720	1,230	1,867	0.679	0.758
July	10,400	1,440	3,927	1 43	1.65
August	10,820	1,385	3,382	1.23	1.42
September	6,214	1,076	1,709	0.621	0.693
October	3,568	937	1,463	0.532	0.613
November	1,635	976	1,337	0.486	0.542
December	17,720	1,401	5,020	1.83	2.11
The year	18,270	937	3,145	1.14	15.53
1906					
January	30,200	2,700	7,160	2.60	3.00
February	4,040	1,910	2,750	1.00	1.04
March	11,500	2,110	3,960	1.44	1.66
April	8,120	2,120	3,320	1.21	1.35
May	3,440	1,420	2,130	0.774	0.89
June	5,840	1,380	2,650	0.963	1.07
July	13,300	1,870	4,250	1.55	1.79
August	26,200	2,730	6,410	2.33	2.69
September	5,220	1,730	2,670	0.971	1.08
October	13,600	1,050	3,870	1.41	1.63
November	2,830	1,810	2,270	0.825	0.92
December	10,700	1,850	2,480	0.902	1.04
The year	30,200	1,050	3,660	1.33	18.16
1907					
January	11,400	1,930	3,040	1.11	1.28
February	3,700	1,750	2,530	0.920	0.96
March	9,700	1,930	3,830	1.39	1.60
April	6,180	2,010	3,430	1.25	1.40

TAR RIVER BASIN

TAR RIVER AT TARBORO, N. C.

LOCATION. On Atlantic Coast Line Railroad bridge at Tarboro, Edgecombe County.
DRAINAGE AREA. 2,290 square miles.*
RECORDS AVAILABLE. July 26, 1896 to December 31, 1900, when station was discontinued.
GAGE. Wire gage fastened to bridge; read by R. H. Williams.
DISCHARGE MEASUREMENTS. Made from railroad bridge. When this section is obstructed occasionally by rafts of logs measurements are made from highway bridge about 200 yards above.
CHANNEL AND CONTROL. Bed is sandy; fairly permanent. Current moderately swift and channel straight. Sand bars in channel affect stage-discharge relation at low stages. Both banks low and flooded during high water.
EXTREMES OF DISCHARGE. Maximum stage recorded, 25.0 feet February 11, 1899 (discharge, approximately 19,850 second-feet); minimum discharge recorded, 87 second-feet November 2, 1900.
ICE. Stage-discharge relation not affected by ice.
REGULATION. Diurnal regulation during low water due to operation of mills above.
ACCURACY. Stage-discharge relation shifting. Rating curves poorly defined up to 14,000 second-feet. Gage read to tenths, for a while to hundredths, once a day. Daily discharge ascertained by applying daily gage height to rating table. Records poor.

*Drainage area furnished by U. S. G. S, but later checked and found to be 2100 square miles. The monthly tables had however, been completed using the origional drainage area.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF TAR RIVER AT TARBORO, N. C.

Week	Year				
	1896	1897	1898	1899	1900
1		1,608	1,278	1,386	1,304
2		1,259	1,024	1,593	2,131
3		1,605	1,282	4,856	4,287
4		2,795	1,613	2,197	4,105
5		2,605	1,764	3,050	1,794
6		6,182	1,101	13,284	2,434
7		3,592	873		9,263
8		4,493	973	16,241	7,626
9		6,519	864	11,819	7,721
10		4,816	2,500	12,173	6,491
11		11,002	1,998	8,139	5,536
12		8,894	1,598	12,161	3,825
13		2,633	1,499	4,329	4,779
14		2,877	4,202	4,439	4,198
15		7,221	2,805	10,824	3,166
16		3,447	1,465	3,005	5,342
17		1,552	1,432	2,309	7,522
18		2,048	1,685	1,911	2,009
19		1,259	2,735	1,507	1,473
20		2,483	3,317	1,481	1,339
21		914	4,351	1,065	2,032
22		859	4,700	975	1,309
23		847	1,100	858	729
24		584	763	3,689	781
25		703	2,775	2,515	2,241
26		495	1,145	574	1,846
27		377	1,753	671	590
28		1,446	5,507	704	355
29		1,182	2,173	847	428
30		1,906	968	1,791	605
31	633	749	1,074	4,952	837
32	811	453	735	1,749	290
33	682	343	1,409	1,812	375
34	441	318	2,533	1,497	321
35	578	513	3,199	535	334
36	386	1,076	1,397	387	237
37	485	282	852	1,212	146
38	2,003	230	396	479	309
39	2,095	209	2,074	852	188
40	1,226	202	636	618	141
41	519	205	696	3,238	349
42	668	188	701	971	227
43	510	404	1,116	628	168
44	483	930	1,009	2,706	202
45	1,112	1,025	1,192	2,140	1,516
46	1,178	418	916	999	488
47	646	379	1,988	777	329
48	936	805	1,797	1,018	464
49	2,591	1,288	5,561	1,088	905
50	3,007	862	2,864	1,106	621
51	7,534	1,173	1,901	981	720
52	2,136	2,281	2,400	2,795	1,329

MONTHLY DISCHARGE OF TAR RIVER AT TARBORO, N. C.
[Drainage area, 2,290 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1896					
July 26-31	1,618	774	1,268	0.55	0.13
August	1,574	390	628	0.27	0.31
September	3,910	250	1,190	0.52	0.58
October	2,000	408	703	0.30	0.35
Novembr	1,910	476	842	0.37	0.41
December	9,460	1,420	3,739	1.63	1.88
1897					
January	4,460	1,155	1,814	0.79	0.91
February	8,725	1,480	4,888	2.13	2.22
March	14,600	2,197	6,789	2.96	3.41
April	9,800	1,280	3,636	1.59	1.77
May	3,915	690	1,580	0.69	0.79
June	1,280	360	689	0.30	0.33
July	3,725	310	1,198	0.52	0.60
August	860	247	399	0.17	0.20
September	2,460	196	490	0.21	0.23
October	770	170	295	0.13	0.15
November	2,250	347	674	0.29	0.32
December	3,072	770	1,430	0.62	0.71
The year	14,600	170	1,990	0.87	11.64
1898					
January	2,957	905	1,380	0.60	0.69
February	1,580	730	1,051	0.46	0.48
March	3,787	750	1,697	0.74	0.85
April	5,510	905	2,523	1.10	1.23
May	8,680	1,085	3,438	1.50	1.73
June	3,420	470	1,600	0.70	0.78
July	6,925	385	2,419	1.06	1.22
August	4,880	505	1,733	0.76	0.87
September	4,460	360	1,356	0.59	0.65
October	1,430	385	816	0.36	0.41
November	2,735	690	1,338	0.58	0.64
December	8,050	1,480	3,110	1.36	1.57
The year	8,650	360	1,855	.82	11.12
1899					
January	6,247	1,250	2,440	1.07	1.23
February	19,850	3,060	11,874	5.19	5.40
March	15,850	3,835	9,537	4.16	4.80
April	13,240	1,755	5,060	2.21	2.47
May	2,030	705	1,354	0.59	0.68
June	6,413	500	1,907	0.83	0.92
July	5,459	430	1,250	0.55	0.63
August	6,413	453	2,028	0.89	1.02
September	2,250	350	711	0.31	0.35
October	4,845	453	1,325	0.58	0.67
November	5,666	735	1,598	0.70	0.78
December	4,685	800	1,524	0.66	0.76
The year	19,850	350	3,334	1.47	19.71

MONTHLY DISCHARGE OF TAR RIVER AT TARBORO, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per Square Mile	
1900					
January	6,405	1,120	2,864	1.25	1.44
February	12,970	1,520	5,952	2.60	2.70
March	9,640	2,865	5,445	2.38	2.75
April	10,540	1,995	4,802	2.10	2.34
May	2,805	920	1,664	0.73	0.84
June	3,805	550	1,376	0.60	0.67
July	1,995	230	552	0.24	0.28
August	840	230	384	0.17	0.20
September	550	134	233	0.10	0.11
October	620	87	210	0.09	0.10
November	2,325	87	659	0.29	0.32
December	2,045	410	880	0.38	0.43
The year	12,970	87	2,085	0.91	12.19

NEUSE RIVER BASIN

NEUSE RIVER AT SELMA, N. C.

LOCATION. At Southern Railway bridge about 3 miles from Selma, Johnston County

DRAINAGE AREA. 1,240 square miles.

RECORDS AVAILABLE. July 29, 1896 to December 31, 1900, when station was discontinued.

GAGE. Wire gage on railway bridge; moved February 6, 1899 to highway bridge about 600 feet below; read by C. Richardson.

DISCHARGE MEASUREMENTS. Made from bridge.

CHANNEL AND CONTROL. Bed of river sandy and muddy; subject to shifts during high water. Flow obstructed by one pier of bridge. Channel straight; current moderately swift and confined to one channel.

EXTREMES OF DISCHARGE. Maximum stage recorded, 20.98 feet February 9, 1899 (discharge, 12,000 second-feet); minimum stage recorded, —0.4 foot October 17 and 18, 1897 (discharge, 73 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. Slight if any.

ACCURACY. Stage-discharge relation fairly permanent but affected by variation in slope with rate of change in stage. Rating curve poorly defined throughout. Gage read to tenths twice daily. Daily discharge ascertained by applying daily gage height to rating table. Records poor.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF NEUSE RIVER AT SELMA, N. C.

Week	Year				
	1896	1897	1898	1899	1900
1		354	375	482	409
2		327	331	1,508	2,372
3		548	370	2,249	1,792
4		1,999	969	727	1,021
5		1,151	498	1,378	496
6		3,844	324	9,953	1,090
7		1,324	298	4,857	7,489
8		2,707	408	8,907	2,953
9		1,507	325	6,969	3,970
10		2,609	1,006	7,440	2,934
11		7,540	1,018	6,124	2,651
12		2,399	640	5,143	1,356
13		768	1,891	1,940	1,294
14		1,839	2,951	2,963	946
15		3,487	817	3,987	2,167
16		785	391	1,133	5,069
17		513	663	1,126	4,584
18		946	427	633	1,284
19		396	1,273	1,058	776
20		1,679	1,804	1,342	1,163
21		497	2,491	1,110	886
22		819	896	926	465
23		576	243	793	380
24		332	788	1,908	413
25		329	470	469	791
26		318	211	354	1,297
27		238	793	388	483
28		900	1,034	509	319
29		689	1,027	943	267
30		685	300	1,821	2,215
31	431	225	259	2,721	515
32	876	151	245	843	256
33	351	142	769	636	330
34	324	293	1,819	295	231
35	232	152	2,334	289	487
36	185	142	805	234	235
37	138	138	633	254	436
38	351	117	436	234	419
39	211	91	2,536	430	239
40	783	84	189	399	214
41	213	84	351	1,448	204
42	207	89	329	325	229
43	209	165	455	296	177
44	199	144	591	3,402	246
45	668	262	364	725	834
46	282	194	563	450	331
47	211	162	1,217	358	269
48	437	357	596	291	611
49	848	477	2,869	358	1,073
50	943	383	701	591	454
51	1,756	800	500	430	645
52	425	1,199	513	456	669

MONTHLY DISCHARGE OF NEUSE RIVER NEAR SELMA, N. C.
[Drainage area, 1,240 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1896					
August	1,720	169	470	0.379	0.44
September	1,520	123	218	.176	.20
October	2,500	138	336	.271	.31
November	1,440	186	334	.269	.30
December	3,460	339	975	.786	.91
1897					
January	3,640	318	793	.640	.74
February	6,090	453	2,420	1.95	2.03
March	8,840	691	3,110	2.51	2.89
April	7,000	477	1,590	1.28	1.43
May	3,820	382	856	.690	.80
June	1,940	203	489	.394	.44
July	1,760	186	594	.479	.55
August	477	138	190	.153	.18
September	153	84	123	.099	.11
October	186	73	110	.089	.10
November	607	123	215	.173	.19
December	1,940	298	714	.576	.66
The year	8,840	73	934	.75	10.12
1898					
January	2,400	278	528	.426	.49
February	663	258	344	.277	.29
March	3,460	298	912	.735	.89
April	4,900	318	1,330	1.07	1.15
May	4,660	221	1,460	1.18	1.36
June	1,520	186	447	.360	.40
July	2,400	203	734	.592	.68
August	4,300	203	1,090	.879	1.01
September	5,950	258	1,160	.935	1.04
October	691	153	343	.277	.32
November	1,860	339	682	.550	.61
December	4,900	382	1,100	.887	1.02
The year	5,950	153	844	.68	9.26
1899					
January	3,400	360	1,180	.952	1.10
February	12,600	1,760	6,990	5.64	5.87
March	10,100	1,560	5,480	4.42	5.10
April	8,760	527	2,210	1.78	1.99
May	1,900	453	1,030	.831	.96
June	3,880	339	918	.740	.83
July	4,180	298	1,010	.815	.94
August	4,480	278	892	.719	.83
September	780	194	287	.231	.26
October	4,480	203	718	.579	.67
November	4,900	239	1,030	.831	.93
December	1,070	298	453	.365	.42
The year	12,600	194	1,850	1.49	19.90

MONTHLY DISCHARGE OF NEUSE RIVER NEAR SELMA, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1900					
January	4,780	298	1,310	1.06	1.22
February	9,670	405	3,200	2.58	2.69
March	6,020	810	2,490	2.01	2.32
April	10,000	810	3,040	2.45	2.73
May	2,900	453	965	.778	.90
June	1,990	339	665	.536	.60
July	5,260	221	834	.673	.78
August	1,140	186	335	.270	.31
September	1,720	186	340	.274	.31
October	258	138	199	160	.18
November	1,940	138	502	.405	.45
December	2,450	278	682	.550	.63
The year	10,000	138	1,213	.98	13.12

CAPE FEAR RIVER BASIN

HAW RIVER AT MONCURE, N. C.

LOCATION. At the bridge of the Seaboard Air Line Railroad, 1¾ miles north of Moncure, Chatham County, and about 2 miles from the junction of Haw and Deep rivers forming the Cape Fear.

DRAINAGE AREA. 1,800 square miles.

RECORDS AVAILABLE. May 6, 1898 to December 31, 1899, when station was discontinued.

GAGE. Wire gage attached to railroad bridge; read by M. A. Moore.

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

CHANNEL AND CONTROL. Bed of stream, coarse sand and gravel; fairly permanent. Channel straight for some distance above and below station. Control not known. Both banks low and subject to overflow at extreme stages.

EXTREMES OF DISCHARGE. Maximum stage recorded, 26.62 feet February 9, 1899 (discharge, 24,200 second-feet); minimum stage recorded, 0.82 foot October 3 and 4, 1899 (discharge not determined).

ICE. Stage-discharge relation not affected by ice.

REGULATION. There are four hydro-electric plants above the station causing diurnal fluctuations.

ACCURACY. Stage-discharge relation shifting. Rating curve poorly defined. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records poor.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF HAW RIVER AT MONCURE, N. C.

Week	Year		Week	Year	
	1898	1899		1898	1899
1		2,503	27	1,222	1,297
2		3,757	28	529	398
3		4,189	29	1,221	374
4		1,440	30	1,061	1,767
5		2,734	31	552	1,538
6		18,479	32	428	1,844
7		7,705	33	2,823	428
8		8,268	34	6,278	310
9		8,666	35	1,867	371
10		8,119	36	4,106	291
11		10,079	37	719	839
12		6,786	38	1,578	390
13		4,385	39	2,012	389
14		3,929	40	615	1,480
15		4,045	41	477	2,011
16		1,340	42	501	360
17		1,958	43	1,471	313
18		1,120	44	3,122	2,895
19	1,632	3,443	45	812	817
20	896	2,490	46	1,744	389
21	2,284	960	47	1,880	400
22	828	1,128	48	993	774
23	457	856	49	2,445	394
24	582	1,760	50	865	613
25	885	482	51	839	398
26	485	396	52	930	478

MONTHLY DISCHARGE OF HAW RIVER AT MONCURE, N. C.
[Drainage area, 1,800 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1898					
May 5-31	5,795	380	1,453	0.81	0.93
June	1,570	320	613	0.34	0.38
July	4,585	320	955	0.53	0.61
August	13,250	290	2,545	1.41	1.63
September	9,250	345	2,077	1.15	1.28
October	7,300	290	1,097	0.61	0.70
November	3,998	575	1,496	0.83	0.92
December	4,895	600	1,255	0.70	0.81

MONTHLY DISCHARGE OF HAW RIVER AT MONCURE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1899					
January	9,700	730	2,840	1.58	1.82
February	24,200	2,425	9,860	5.48	5.71
March	21,000	2,213	7,816	4.34	5.00
April	11,000	950	2,790	1.55	1.73
May	6,200	625	1,881	1.05	1.21
June	3,190	320	944	0.52	0.58
July	5,570	305	1,019	0.57	0.66
August	2,935	270	856	0.48	0.55
September	1,690	270	465	0.26	0.29
October	5,390	280	1,028	0.57	0.66
November	8,100	320	1,116	0.62	0.69
December	1,450	305	464	0.26	0.30
The year	24,200	270	2,590	1.44	19.20

MORGAN CREEK NEAR CHAPEL HILL, N. C.

LOCATION. About 3 miles northwest of Carrboro, about 5 miles northwest of Chapel Hill, Orange County, and about 7 miles above mouth of creek.

DRAINAGE AREA. 29 square miles.

RECORDS AVAILABLE. January 20, 1923 to December 31, 1923.

GAGE. Stevens continuous water-stage recorder on left bank in wooden well and shelter, attended by students or faculty of University of North Carolina at Chapel Hill.

DISCHARGE MEASUREMENTS. Made from cable 75 feet upstream from gage.

CHANNEL AND CONTROL. Creek is straight for 150 feet upstream and for about 700 feet downstream; bed of stream shifting sand and current is sluggish at low water. Both 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; probably permanent.

EXTREMES OF DISCHARGE. Maximum stage during period, 6.50 feet at 7:15 a.m. March 13 (discharge, 1,380 second-feet); minimum stage, 1.01 feet from 8 p.m. July 27 to 3 a.m. July 28 (discharge, 2.5 second-feet).

ICE. Stage-discharge relation not affected by ice.

ACCURACY. Stage-discharge relation permanent. Rating curve well defined up to 500 second-feet and fairly well defined between 500 and 1,000 second-feet. Breaks in record filled in by a rainfall run-off study. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting gage-height graph. Records considered good.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF MORGAN CREEK NEAR CHAPEL HILL, N. C.

Week	1923	Week	1923	Week	1923	Week	1923
1		14	23	27	9	40	4
2		15	54	28	10	41	4
3		16	33	29	6	42	4
4	36	17	30	30	13	43	5
5	33	18	31	31	25	44	5
6	82	19	21	32	9	45	7
7	43	20	19	33	5	46	7
8	20	21	17	34	13	47	7
9	63	22	12	35	5	48	12
10	52	23	9	36	14	49	20
11	255	24	14	37	11	50	13
12	76	25	7	38	10	51	14
13	30	26	5	39	17	52	15

MONTHLY DISCHARGE OF MORGAN CREEK NEAR CHAPEL HILL, N. C.
[Drainage area, 29 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1923					
January 20-31	71	14	31.1	1.07	.48
February	212	17	48.9	1.69	1.76
March	874	28	99.8	3.44	3.97
April	144	21	35.3	1.22	1.36
May	37	12	19.8	.683	.79
June	31	4.9	9.26	.319	.36
July	66	2.8	9.50	.328	.38
August	28	4.0	8.22	.283	.33
September	27	3 0	9.80	.338	.38
October	9	3.8	4.35	.150	.17
November	16	4.3	7.56	.261	.29
December	45	11	15.5	.534	.62

DEEP RIVER NEAR HIGH POINT, N. C.

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

DRAINAGE AREA. 33 square miles (measured on U. S. Department of Agriculture soil survey maps).

RECORDS AVAILABLE. June 14 to December 31, 1923.

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

DISCHARGE MEASUREMENTS. Made from upstream side of bridge; for low water by wading section under bridge.

CHANNEL AND CONTROL. Mostly sand. Control formed by loose rocks under lower side of bridge; sand between rocks washes away and is replaced frequently. Right bank is high but left bank is subject to overflow at about 7 feet gage height.

EXTREMES OF DISCHARGE. No record of floods has been obtained.

ICE.—Not enough to affect stage-discharge relation.

REGULATION. None.

DIVERSION. None.

ACCURACY. Stage-discharge relation for low water changes frequently. Rating curve for medium and higher stages fairly well defined. Gage read to hundredths once a day which was not sufficient for this station. Daily discharge ascertained by applying daily gage height to rating table. Records poor.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF DEEP RIVER NEAR HIGH POINT, N. C.

Week	1923	Week	1923	Week	1923
25	6.8	35	33.9	44	42.9
26	6.8	36	29.1	45	23.6
27	13.1	37	10.1	46	21.3
28	10.3	38	9.6	47	21.1
29	13.5	39	6.5	48	40.9
30	120.7	40	5.7	49	26.3
31	16.7	41	8.6	50	22.6
32	12.2	42	13.5	51	42.7
33	9.7	43	13.1	52	30.9
34	9.7				

MONTHLY DISCHARGE OF DEEP RIVER NEAR HIGH POINT, N. C.

[Drainage area, 33 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1923					
June 14-30	11	5.2	7.46	0.226	0.14
July	556	4.6	37.5	1.14	1.31
August	78	6.5	13.2	.400	.46
September	114	5.6	16.7	.506	.56
October	157	5.6	15.8	.479	.55
November	101	16	26.2	.794	.89
December	122	20	30.5	.924	1.07

DEEP RIVER AT RAMSEUR

LOCATION. At upper end of long pool, 200 feet downstream from railroad station at Ramseur, Randolph County, the end of the Southern Railroad's branch line from Greensboro.

DRAINAGE AREA. 343 square miles (measured on U. S. Department of Agriculture soil survey maps).

RECORDS AVAILABLE. November 24, 1922 to December 31, 1923.

GAGE. Gurley 7-day graph gage in wooden stilling well and shelter on right bank, 5 feet from edge of water; attended to by J. M. Woodell.

DISCHARGE MEASUREMENTS. Made from cable 200 feet below gage.

CHANNEL AND CONTROL. Channel straight above and below for 700 feet. Bed, composed of boulders and sand; fairly smooth. Both banks are about 20 feet high but are overflowed occasionally. Control is a solid rock shoal about 600 feet downstream from gage. There are three small islands between the cable and control.

EXTREMES OF DISCHARGE. Maximum stage recorded during year, 19.22 feet at 1 p.m. March 13, 1923 (discharge, 16,600 second-feet), minimum stage recorded, 0.44 foot from 8 p.m. July 27, to 6 a.m. July 28, 1923 (discharge, 35 second-feet).

ICE. Negligible.

DIVERSIONS. None.

REGULATION. Daily graphs show continual regulation by power plants above; however no plant has more than ten hours storage, consequently weekly and monthly mean flow is representative of natural flow.

ACCURACY. Stage-discharge relation, except for low water, considered permanent. A slight shift occurred during high water January 1. Rating curve used to that date is well defined between 40 and 125 second-feet and fairly well defined above. Curve since January 1 is well defined between 80 and 6,000 second-feet, and extended above. Operation of water-stage recorder satisfactory. Daily discharge ascertained by use of discharge integrator. As a result of measurements of extreme low water made late in 1925, the low water rating has been slightly changed. This results in making the smaller flows slightly too large as recorded in the following table.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF DEEP RIVER AT RAMSEUR, N. C.

Week	Year		Week	Year	
	1922	1923		1922	1923
1		701	27		79
2		392	28		134
3		194	29		963
4		683	30		413
5		499	31		661
6		946	32		184
7		507	33		94
8		228	34		92
9		756	35		79
10		789	36		169
11		427	37		192
12		1,131	38		105
13		329	39		106
14		641	40		68
15		815	41		55
16		322	42		59
17		337	43		62
18		492	44		69
19		217	45		193
20		311	46		93
21		431	47		83
22		206	48	71	96
23		128	49	104	278
24		252	50	228	137
25		104	51	450	145
26		99	52	225	214

MONTHLY DISCHARGE OF DEEP RIVER AT RAMSEUR, N. C.

[Drainage area, 343 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1922					
November 24-30	84	50	71.1	0.207	0.05
December	800	51	239.0	.697	.80
1923					
January	1,780	120	497	1.45	1.67
February	2,300	154	597	1.74	1.81
March	11,800	255	1,540	4.49	5.18
April	2,500	150	551	1.61	1.80
May	1,020	120	313	.913	1.05
June	580	80	148	.431	.48
July	3,250	50	455	1.33	1.53
August	620	54	154	.449	.52
September	460	45	137	.399	.45
October	84	35	62	.181	.21
November	405	54	112	.327	.36
December	566	75	187	.545	.63
The year	11,800	35	396	1.15	15.69

DEEP RIVER AT CUMNOCK, N. C.

LOCATION. At Southern Railway bridge, 300 yards northwest of the railroad station at Cumnock, Lee County.
DRAINAGE AREA. 1,110 square miles.
RECORDS AVAILABLE. July 1, 1900 to June 28, 1902, when the station was discontinued.
GAGE. Wire gage nailed to guard rail of bridge; read by J. A. Rollins.
DISCHARGE MEASUREMENTS. Made from bridge to which gage is attached.
CHANNEL AND CONTROL. Bed of stream muddy with some boulders. Channel straight for several hundred feet above and below bridge but current is rather sluggish during low water. Control not known.
EXTREMES OF DISCHARGE. Maximum stage recorded, 36.03 feet March 26, 1901 (discharge, 27,100 second-feet); minimum stage recorded, 0.85 feet August 19, 1900 (discharge, 72 second-feet).
ICE. Stage-discharge relation not affected by ice.
REGULATION. Diurnal regulation by mills above; no plant has more than 10 hours storage.
ACCURACY. Stage-discharge relation permanent. Rating curve well defined throughout. Gage read to hundredths. Daily discharge ascertained by applying daily gage height to rating table. Records good.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF DEEP RIVER AT CUMNOCK, N. C.

Week	Year			Week	Year		
	1900	1901	1902		1900	1901	1902
1		914	5,330	27		707	
2		1,101	256	28		4,102	
3		1,102	811	29		5,364	
4		351	492	30	363	516	
5		829	7,159	31	154	377	
6		1,045	4,324	32	113	7,385	
7		505	393	33	119	5,636	
8		293	3,281	34	153	3,566	
9		282	9,146	35	188	2,462	
10		242	2,806	36	130	737	
11		343	429	37	676	411	
12		1,001	249	38	309	5,222	
13		15,184	165	39	141	525	
14		3,689	213	40	99	427	
15		1,063	411	41	151	572	
16		1,798	320	42	196	439	
17		689	231	43	121	336	
18		132	229	44	750	320	
19		149	203	45	447	265	
20		209	230	46	137	283	
21			336	47	163	288	
22		2,117	456	48	178	305	
23		571	353	49	1,525	298	
24		2,674	279	50	186	1,071	
25		2,321	382	51	1,052	598	
26		3,468		52	942	5,274	

MONTHLY DISCHARGE OF DEEP RIVER AT CUMNOCK, N. C.
[Drainage area, 1,110 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1900					
August	394	72	138	0.125	0.14
September	3,990	100	308	0.280	0.31
October	274	80	139	0.126	0.15
November	4,550	106	368	0.335	0.37
December	5,190	126	878	0.798	0.92
1901					
January	4,830	250	827	0.752	0.87
February	2,990	262	656	0.596	0.62
March	27,100	181	3,564	3.24	3.74
April	9,075	95	1,958	1.78	1.99
May	6,820	80	989	0.899	1.04
June	9,918	334	2,129	1.94	2.16
July	13,540	322	2,500	2.27	2.62
August	14,135	322	4,179	3.80	4.38
September	10,950	298	1,805	1.64	1.83
October	1,125	322	434	0.395	0.46
November	334	250	286	0.260	0.29
December	16,696	274	1,824	1.66	1.91
The year	27,100	80	1,763	1.60	21.91
1902					
January	12,268	126	1,653	1.50	1.73
February	15,200	238	4,597	4.18	4.35
March	10,908	160	2,058	1.87	2.16
April	466	134	286	0.260	0.29
May	454	181	276	0.251	0.29
June 1-28	466	214	309	0.281	0.29

DEEP RIVER AT MONCURE, N. C.

LOCATION. At the covered wagon bridge of the Seaboard Airline Railroad, about one-fourth mile south of Moncure, Chatham County, and about 2 miles above the junction with the Haw River forming the Cape Fear.

DRAINAGE AREA. 1,400 square miles.

RECORDS AVAILABLE. May 5, 1898 to December 31, 1899, when station was discontinued.

GAGE. Wire gage fastened to guard rail of bridge; read by M. A. Moore.

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

CHANNEL AND CONTROL. Bed of stream shifting during high water. Channel straight for some distance above and below station. Control not known. Both banks low and subject to overflow.

EXTREMES OF DISCHARGE. Maximum stage recorded, 25.92 feet February 8, 1899 (discharge, 24,600 second-feet); minimum stage recorded, 0.63 foot December 20, 1899 (discharge, 180 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. Diurnal fluctuations from power plants above; no plant has more then 10 hours storage.

ACCURACY. Stage-discharge relation fairly permanent. Rating curve poorly defined. Gage read once daily. Daily discharge ascertained by applying daily gage height to rating table. Records poor.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF DEEP RIVER NEAR MONCURE, N. C.

Week	Year		Week	Year	
	1898	1899		1898	1899
1		1,881	27	1,321	646
2		4,653	28	592	357
3		4,863	29	658	247
4		1,131	30	676	1,115
5		2,334	31	368	1,625
6		17,786	32	283	1,160
7		7,679	33	3,859	272
8		8,491	34	8,131	221
9		7,726	35	1,859	236
10		9,429	36	4,365	223
11		9,701	37	710	741
12		6,549	38	317	291
13		5,210	39	1,872	305
14		5,464	40	453	1,427
15		4,546	41	326	1,853
16		1,434	42	568	261
17		1,688	43	1,416	225
18		690	44	1,451	2,545
19	771	3,374	45	833	476
20	475	2,629	46	971	252
21	1,859	744	47	1,576	243
22	387	713	48	706	650
23	290	525	49	3,264	356
24	300	1,156	50	703	1,470
25	526	336	51	634	269
26	313	365	52	746	248

MONTHLY DISCHARGE OF DEEP RIVER NEAR MONCURE, N. C.
[Drainage area, 1,400 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1898					
May 5-31	4,120	322	898	0.641	0.64
June	825	254	355	.254	.28
July	5,300	254	769	.549	.63
August	17,000	238	3,160	2.26	2.61
September	10,100	238	1,790	1.28	1.43
October	6,200	270	969	.692	.80
November	3,740	405	1,110	.793	.88
December	6,800	405	1,240	.886	1.02

MONTHLY DISCHARGE OF DEEP RIVER NEAR MONCURE N. C.—*Continued*

Month	Discharges in Second-feet				Run-off In Inches
	Maximum	Minimum	Mean	Per Square Mile	
1899					
January	10,700	430	2,900	2.07	2.39
February	24,600	2,320	10,100	7.21	7.51
March	20,800	1,660	7,560	5.40	6.23
April	15,700	900	3,250	2.32	2.59
May	6,800	405	1,730	1.24	1.43
June	2,420	304	633	.452	.50
July	3,940	222	687	.491	.57
August	2,220	194	638	.456	.53
September	2,600	194	378	.270	.30
October	4,800	208	873	.624	.72
November	10,300	208	911	.651	.73
December	3,650	180	571	.408	.47
The year	24,600	180	2,519	1.80	23.97

CAPE FEAR RIVER AT FAYETTEVILLE, N. C.

LOCATION. At steel highway bridge, 700 feet upstream from Atlantic Coast Line Railroad bridge, 1 mile from center of Fayetteville, Cumberland County, on road to Raleigh, 6 miles above Rockfish Creek, 22 miles below mouth of (lower) Little River, 41 miles above lock at Browns Landing and 45 miles below junction of Deep and Haw rivers forming Cape Fear River.

DRAINAGE AREA. 4,290 square miles.

RECORDS AVAILABLE. January 1, 1889 to August 24, 1917.

GAGE. Chain gage attached to downstream handrail of highway bridge; read by Frank Glover. Original gage was a vertical staff attached to right side of first pier from left end of bridge which was then a wooden structure. This bridge was burned and was later replaced by a 5-span steel bridge on same piers. Datum of two gages supposed to be the same.

DISCHARGE MEASUREMENTS. Made from downstream side of bridge to which gage is attached.

CHANNEL AND CONTROL. Bed of river composed largely of hard marl; fairly permanent. Channel straight for long distance above and below gage. Both banks high and steep; overflowed at about stage 64.0 feet. Low water control may be loose rock wing dams some distance downstream; high water control not apparent. After August 24, 1917, when lock at Brown's Landing was put in operation low water became affected by lock.

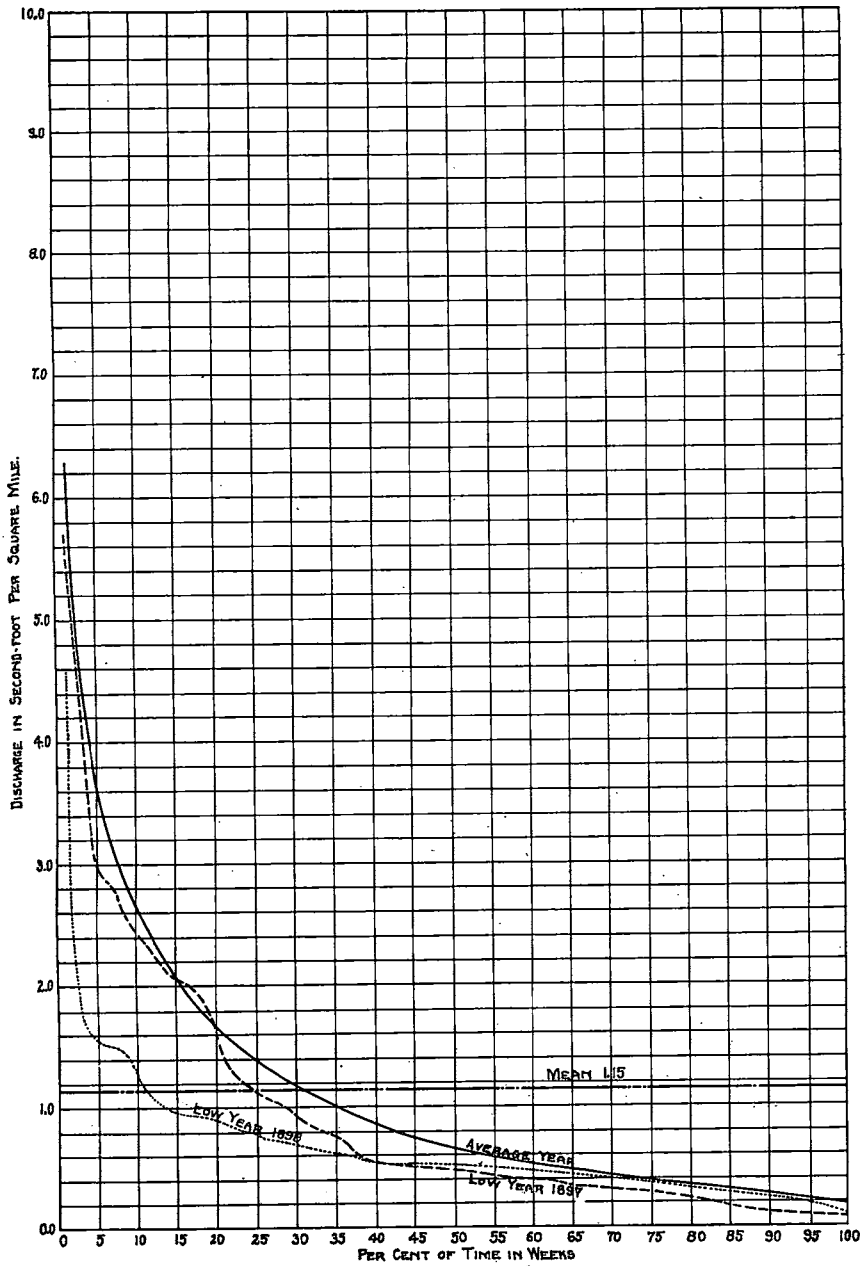
EXTREMES OF DISCHARGE. 1889-1917: Maximum stage recorded, 68.7 feet in early morning August 29, 1908 (discharge, 88,000 second-feet); minimum stage recorded, 0.2 foot October 8 and 9, 1897 (discharge, 295 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. Considerable fluctuation at low stages due to operation of Buckhorn power plant 50 miles upstream and also by plants on tributaries.

ACCURACY. Stage-discharge relation permanent but affected by variations in slope with rate of change in stage. Rating curve fairly well defined up to 80,000 second-feet. Gage read to tenths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

COOPERATION. Gage-height record furnished by U. S. Weather Bureau.



WEEKLY DURATION CURVES
FOR
CAPE FEAR RIVER AT FAYETTEVILLE, N.C.
1889–1916

MEAN WEEKLY DISCHARGE, IN SECOND-FEET

Week	Year													
	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902
1	14,606	2,896	3,466	3,676	6,489	3,129	2,751	5,560	2,210	1,651	2,259	1,749	3,883	13,391
2	12,073	1,991	7,733	4,260	1,931	15,757	39,424	1,717	1,687	1,357	7,167	5,503	3,444	2,777
3	16,457	1,623	6,489	23,859	1,511	6,079	12,696	8,400	3,419	1,414	9,097	5,234	4,449	2,141
4	20,357	1,603	9,299	20,566	2,056	2,960	9,301	11,041	8,093	3,141	2,894	3,953	2,117	6,716
5	11,521	1,836	6,626	4,854	9,520	6,224	18,857	5,863	7,216	2,376	5,664	1,999	2,201	17,261
6	4,884	4,463	7,667	4,039	4,346	5,943	8,643	37,471	18,657	1,403	39,243	3,451	4,110	12,001
7	10,631	4,979	5,309	3,789	34,243	11,077	4,636	11,087	8,793	1,163	14,947	21,271	3,386	3,449
8	34,343	4,293	17,386	3,433	15,204	7,431	10,173	4,213	12,429	2,013	28,086	8,830	1,714	10,030
9	9,409	12,366	7,370	11,169	7,280	14,467	7,699	3,763	8,756	1,434	17,211	15,890	1,523	34,271
10	2,369	5,106	8,583	4,954	5,181	6,137	12,889	2,380	10,950	6,041	17,657	9,513	1,277	11,694
11	7,224	4,864	23,149	3,640	2,950	3,124	16,329	3,930	26,843	2,744	19,309	7,940	1,683	5,839
12	5,881	7,713	10,731	3,864	2,833	3,339	22,420	3,707	9,626	1,996	16,273	4,881	1,457	5,747
13	4,570	6,273	16,566	5,619	2,730	2,987	6,350	2,677	3,499	4,609	9,127	5,524	17,233	6,440
14	3,279	3,393	10,093	6,221	2,123	2,019	4,916	7,156	10,227	7,480	10,483	3,607	27,119	4,359
15	2,684	3,411	6,146	15,907	1,830	2,589	29,251	2,153	12,581	3,131	14,969	5,629	5,566	9,870
16	7,814	5,373	5,087	6,093	2,434	1,897	18,020	1,734	3,903	1,903	4,317	19,177	6,723	4,273
17	6,803	3,624	3,809	7,084	1,647	1,781	9,233	1,889	2,157	3,474	4,057	16,851	5,601	2,486
18	4,604	3,371	2,371	2,969	9,416	1,283	27,714	3,429	4,544	2,313	2,677	3,297	1,886	2,393
19	2,393	5,036	2,467	2,887	6,357	2,874	7,904	1,581	2,119	2,260	5,181	2,063	2,927	1,790
20	1,411	3,294	4,660	3,229	2,247	1,673	4,537	950	5,233	1,766	5,329	3,176	2,487	2,350
21	1,169	2,219	5,396	4,999	1,369	3,509	4,189	4,817	1,736	2,964	2,229	3,647	37,311	1,886
22	10,099	3,490	28,640	3,110	2,366	2,009	3,154	2,130	2,321	1,600	2,250	1,469	12,043	1,449
23	5,506	2,044	6,556	6,359	6,256	1,007	1,624	6,391	2,417	704	1,950	1,151	2,573	915
24	2,546	3,621	5,016	3,577	2,643	696	3,604	3,067	1,470	749	3,583	1,218	3,523	866
25	3,283	2,556	3,221	4,056	4,554	849	2,943	2,066	1,330	2,083	1,366	3,586	8,901	2,149
26	12,477	1,473	2,247	7,960	2,123	802	3,667	3,527	1,419	872	1,139	5,259	5,061	1,633
27	31,486	1,817	3,443	7,823	1,860	2,164	5,177	2,696	1,102	2,860	1,877	1,351	2,756	866
28	4,349	929	3,849	5,333	861	971	1,996	36,371	2,430	3,984	2,324	940	6,666	1,032
29	4,753	941	2,567	5,587	829	931	2,194	4,663	5,139	2,079	1,224	762	26,586	786
30	19,924	4,689	5,660	2,559	601	3,586	6,070	2,577	4,524	2,363	3,118	2,259	4,827	584
31	33,343	10,980	13,157	2,014	1,726	5,260	1,827	1,363	1,479	2,321	3,979	1,277	1,729	817
32	20,800	10,491	7,309	1,711	2,236	16,949	1,499	921	2,063	1,368	2,423	501	26,453	799
33	5,387	6,531	2,696	830	623	4,129	6,271	1,266	1,119	5,031	1,191	755	25,136	969
34	2,846	11,269	22,991	967	1,849	2,523	4,431	1,008	1,906	19,633	1,171	924	13,420	906
35	13,614	6,054	22,071	2,026	10,930	3,003	2,284	817	1,224	3,837	814	920	8,243	568
36	3,694	2,443	6,976	1,096	11,469	1,514	1,446	1,890	891	6,551	696	707	3,404	429
37	2,913	5,956	4,771	861	15,551	946	1,596	908	467	2,591	1,461	420	1,736	1,277
38	2,764	8,767	2,201	1,371	5,070	2,623	877	1,015	486	1,107	1,003	1,996	23,207	475
39	3,289	2,756	1,923	1,751	1,921	4,327	623	1,940	486	4,061	1,192	509	4,621	1,914
40	2,017	3,016	1,899	826	2,666	5,020	493	10,211	394	1,154	1,741	459	4,039	1,803
41	1,626	1,674	2,790	589	2,589	26,424	709	1,143	352	1,239	5,123	556	2,139	2,169
42	1,226	4,049	3,276	533	7,263	6,176	634	2,264	344	1,066	1,246	759	2,563	1,639
43	4,054	7,457	1,883	497	22,724	2,639	571	1,224	731	2,683	860	444	1,506	768
44	7,456	3,604	1,414	526	4,153	6,596	1,561	1,026	2,016	3,530	5,747	479	1,397	858
45	3,126	3,767	1,403	1,091	2,356	5,711	1,591	6,054	1,571	1,803	2,759	2,944	1,397	1,015
46	3,277	3,760	1,636	2,044	2,470	2,721	2,393	1,751	824	2,290	1,620	801	1,363	833
47	13,947	2,743	1,726	2,101	1,954	2,377	1,176	1,323	696	4,126	1,386	520	1,519	1,769
48	11,701	2,014	3,699	901	3,354	1,911	1,373	2,470	1,294	2,121	3,001	939	1,777	4,407
49	3,113	2,033	3,457	808	6,824	1,954	1,117	6,181	1,856	6,439	2,369	4,073	1,500	9,626
50	2,413	2,374	3,303	931	4,863	6,067	3,880	4,579	1,300	2,220	3,183	1,413	2,600	4,840
51	1,813	6,760	3,247	4,137	10,261	2,659	3,026	4,554	1,691	2,217	1,919	3,130	3,941	4,629
52	1,664	6,279	3,229	2,441	2,791	3,086	3,135	2,104	3,330	2,371	3,493	2,896	9,335	3,574

OF CAPE FEAR RIVER AT FAYETTEVILLE, N. C.

Year															Week
1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	
10,427	1,294	3,259	21,074	2,489	15,397	4,021	1,301	12,290	5,494	3,250	14,573	7,524	3,341	2,444	1
5,304	1,320	13,114	7,367	1,811	24,271	2,727	1,719	3,857	5,999	2,344	4,624	18,743	4,140	2,959	2
3,044	1,311	6,320	4,279	1,557	10,794	6,419	1,413	2,731	5,133	1,484	2,547	21,929	3,954	3,371	3
4,687	4,313	3,346	10,466	1,480	3,213	2,863	5,049	2,579	4,247	9,476	3,770	12,490	2,483	3,947	4
3,243	2,573	2,441	13,116	1,926	6,324	2,370	6,149	2,376	8,779	13,669	4,703	12,420	11,919	8,674	5
17,123	6,729	4,060	7,687	4,766	4,414	4,290	2,627	5,691	3,303	3,344	6,309	9,431	17,636	3,284	6
19,371	3,137	20,057	1,074	3,467	13,997	6,833	6,616	6,349	9,373	4,643	4,871	4,220	3,719	2,716	7
12,117	16,521	29,064	4,557	5,540	11,300	8,543	6,607	2,791	13,486	4,780	20,951	4,451	2,539	9,123	8
12,347	7,739	10,490	3,657	11,524	5,008	6,843	8,483	2,329	10,271	8,040	10,591	5,760	5,044	12,154	9
5,823	9,346	4,754	5,634	4,663	3,764	4,120	4,849	5,624	16,683	4,136	7,221	6,999	5,966	24,454	10
8,344	4,841	11,063	4,696	10,267	8,756	3,270	4,666	5,943	26,557	16,204	6,749	3,481	3,031	5,176	11
21,766	3,049	4,684	11,463	4,033	17,569	2,491	2,287	4,656	18,350	10,079	5,857	3,803	2,294	8,389	12
26,300	6,517	4,067	13,269	2,164	19,431	4,467	1,899	3,619	13,703	6,724	4,426	2,399	2,066	13,200	13
13,231	2,119	5,580	10,511	5,327	7,661	3,093	1,693	2,036	8,289	5,330	5,406	15,919	5,369	1,060	14
10,924	2,009	9,126	3,550	5,424	2,944	2,933	1,495	5,767	4,306	7,990	4,397	7,187	9,676	1,512	15
10,241	1,656	11,234	3,447	2,507	5,199	4,206	9,310	4,341	3,844	5,646	6,471	3,380	2,364	4,044	16
13,204	1,841	4,481	2,061	10,651	3,201	2,364	2,771	2,704	13,887	2,410	3,624	2,879	1,806	2,811	17
5,696	2,026	4,750	1,916	5,356	2,704	15,229	2,021	2,094	4,736	1,966	2,101	2,146	1,497	3,270	18
2,459	2,156	14,800	2,246	4,950	2,310	4,156	6,404	1,466	10,540	1,509	2,119	4,711	1,138	6,324	19
1,854	2,386	10,294	1,306	2,536	1,497	2,117	2,056	2,527	10,371	1,331	1,370	3,331	5,193	2,299	20
1,584	1,827	2,947	1,064	1,633	3,114	7,847	2,143	1,139	3,280	2,056	958	4,030	4,516	1,896	21
1,826	1,251	12,783	2,090	6,033	1,490	2,629	1,381	951	2,496	3,124	944	14,727	2,907	1,486	22
3,657	1,640	3,306	1,864	6,360	2,784	13,407	2,079	807	4,410	1,893	876	15,697	10,446	2,076	23
2,974	2,967	3,087	2,613	9,599	2,293	4,530	16,727	1,273	6,074	2,396	1,270	2,651	5,647	8,629	24
2,663	1,878	2,311	6,273	2,587	2,074	5,253	7,420	1,401	3,569	1,546	1,480	3,520	8,673	3,616	25
3,684	3,546	1,483	8,374	5,554	2,089	4,031	3,219	1,069	2,420	4,861	1,356	1,407	3,967	2,530	26
3,619	2,014	3,143	2,334	3,439	2,467	5,883	1,631	813	2,257	2,351	1,736	1,384	4,613	3,283	27
2,757	3,085	10,610	3,536	2,074	2,174	2,206	3,324	750	2,737	1,340	1,981	1,417	1,830	4,344	28
2,277	1,384	9,057	3,024	2,506	2,593	2,579	4,104	1,450	2,276	1,408	1,640	1,537	2,824	12,377	29
874	4,623	5,320	13,156	1,359	2,116	1,817	1,709	943	1,698	2,657	767	2,266	19,893	15,051	30
981	3,414	2,299	10,170	1,634	4,341	18,884	1,533	741	813	5,040	692	2,705	10,917	3,631	31
1,641	10,236	15,676	4,791	1,459	4,359	16,660	2,706	1,951	804	4,653	934	3,250	3,947	2,360	32
2,166	7,456	18,914	8,014	2,063	2,210	6,640	3,693	1,234	678	2,283	911	1,753	2,057	1,959	33
1,446	1,713	3,680	12,533	3,754	18,329	2,149	2,657	921	826	1,301	658	1,570	1,661	1,592	34
841	5,069	3,890	28,200	1,059	59,986	1,754	2,541	5,355	878	1,305	2,017	5,699	3,490	------	35
805	5,890	6,706	8,167	6,753	15,459	1,369	4,614	4,113	900	6,831	1,023	4,823	1,717	------	36
1,363	12,110	2,203	2,244	1,714	6,296	1,344	2,394	1,264	687	1,414	790	1,600	2,144	------	37
1,879	19,556	1,779	2,537	891	2,173	2,491	1,301	878	645	2,354	1,016	945	1,283	------	38
729	2,149	1,329	2,140	1,759	1,870	1,941	1,093	1,379	2,369	2,136	1,039	821	866	------	39
521	1,277	814	2,017	1,566	1,864	909	956	871	932	1,973	769	1,400	969	------	40
680	1,031	1,021	1,546	554	1,564	850	4,099	801	680	1,871	750	4,264	911	------	41
1,626	1,023	1,036	1,829	606	1,414	1,111	3,399	2,418	763	1,341	1,237	1,903	1,161	------	42
1,709	2,957	940	3,236	546	2,004	1,198	5,046	2,107	813	4,871	973	1,803	1,551	------	43
1,131	1,520	1,413	1,486	649	5,041	1,008	1,651	1,569	670	2,621	839	1,306	1,194	------	44
1,301	6,994	1,207	1,294	808	2,113	993	1,579	4,769	2,813	6,340	778	1,085	741	------	45
976	10,893	920	1,464	1,010	6,337	911	1,246	4,197	1,707	4,924	2,886	1,200	984	------	46
1,341	3,169	1,122	1,584	6,133	2,846	814	1,180	2,589	1,164	2,031	2,919	2,519	986	------	47
920	2,103	1,190	1,209	7,743	2,257	875	1,048	2,863	1,014	1,523	1,346	1,540	936	------	48
870	6,327	3,339	1,179	2,291	2,190	847	2,819	2,070	1,420	4,994	6,409	1,334	1,027	------	49
1,112	3,734	4,184	2,061	13,791	3,321	2,176	2,124	1,583	1,240	2,261	5,346	1,501	1,661	------	50
1,987	4,403	11,083	4,203	11,080	3,984	1,881	1,571	11,250	950	1,746	4,541	4,110	1,677	------	51
2,124	3,805	14,266	2,644	12,935	16,293	1,374	4,521	16,139	2,020	8,271	22,474	2,916	1,954	------	52

MONTHLY DISCHARGE OF CAPE FEAR RIVER AT FAYETTEVILLE, N. C.
[Drainage area, 4,290 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1889					
January	34,600	3,550	15,900	3.71	4.28
February	41,900	4,390	15,100	3.52	3.66
March	13,800	2,070	5,200	1.21	1.40
April	12,800	1,980	5,210	1.21	1.35
May	6,150	1,070	2,040	.476	.55
June	37,400	1,980	6,480	1.51	1.68
July	45,000	2,890	17,400	4.06	4.68
August	43,700	2,470	14,200	3.31	3.82
September	7,610	2,220	3,440	.802	.89
October	18,100	1,140	3,280	.765	.88
November	26,500	2,780	7,490	1.75	1.95
December	7,610	1,580	2,490	.580	.67
The year	45,000	1,070	8,186	1.91	25.81
1890					
January	3,280	1,540	1,990	0.464	0.53
February	12,800	1,800	4,880	1.14	1.19
March	16,100	3,110	7,050	1.64	1.89
April	8,000	2,570	3,890	.907	1.01
May	8,080	1,340	3,610	.841	.97
June	5,450	1,100	2,470	.576	.64
July	12,800	550	2,700	.629	.73
August	17,600	3,670	8,920	2.08	2.40
September	24,200	1,540	5,210	1.21	1.35
October	15,700	1,340	4,020	.937	1.08
November	4,270	1,620	3,140	.732	.82
December	13,000	1,800	4,300	1.00	1.15
The year	24,200	550	4,348	1.01	13.76
1891					
January	14,000	3,000	6,620	1.54	1.78
February	36,300	3,550	9,490	2.21	2.30
March	38,900	4,900	13,700	3.19	3.68
April	12,800	2,670	6,270	1.46	1.63
May	45,200	1,840	8,140	1.90	2.19
June	25,700	1,580	5,580	1.30	1.45
July	8,480	1,840	3,830	.893	1.03
August	42,000	2,020	14,200	3.31	3.82
September	19,300	1,800	4,690	1.09	1.22
October	4,270	1,380	2,360	.550	.63
November	4,900	1,220	1,720	.401	.45
December	6,940	2,780	3,520	.821	.95
The year	45,200	1,220	6,677	1.56	21.13

MONTHLY DISCHARGE OF CAPE FEAR RIVER AT FAYETTEVILLE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1892					
January	52,200	3,000	12,400	2.89	3.33
February	17,700	3,000	4,590	1.07	1.15
March	19,400	2,890	5,660	1.32	1.52
April	29,400	3,440	8,140	1.90	2.12
May	7,920	2,370	3,430	.800	.92
June	12,800	1,940	5,270	1.23	1.37
July	10,500	1,540	5,120	1.19	1.37
August	2,520	440	1,460	.340	.39
September	3,220	465	1,330	.310	.35
October	1,000	440	606	.141	.16
November	3,550	440	1,450	338	.38
December	7,920	700	2,010	.469	.54
The year	52,200	440	4,289	1.00	13.60
1893					
January	16,600	1,140	3,910	0.911	1.05
February	40,800	2,780	14,900	3.47	3.61
March	13,600	2,070	4,280	.998	1.15
April	3,500	1,420	2,050	.478	.53
May	25,800	1,140	4,580	1.07	1.23
June	16,700	1,340	3,850	.897	1.00
July	2,270	520	1,020	.238	.27
August	19,100	550	2,710	.632	.73
September	36,000	1,380	9,150	2.13	2.38
October	40,400	1,380	8,540	1.99	2.29
November	6,780	1,760	2,500	.583	.65
December	19,200	2,370	5,910	1.38	1.59
The year	40,800	520	5,283	1.23	16.48
1894					
January	20,300	2,520	6,910	1.61	1.86
February	21,500	3,550	7,960	1.86	1.94
March	21,700	2,470	5,840	1.36	1.57
April	3,910	1,340	2,060	.480	.54
May	5,170	1,220	2,300	.536	.62
June	3,110	490	980	.228	.25
July	7,760	670	1,850	.431	.50
August	29,600	1,380	6,980	1.63	1.88
September	10,100	610	2,320	.541	.60
October	49,600	2,120	9,770	2.28	2.63
November	12,800	1,800	3,700	.862	.96
December	11,400	1,580	3,320	.774	.89
The year	49,600	490	4,499	1.05	14.24

MONTHLY DISCHARGE OF CAPE FEAR RIVER AT FAYETTEVILLE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1895					
January	67,200	2,420	16,100	3.75	4.32
February	21,500	4,030	9,530	2.22	2.31
March	38,900	4,390	14,000	3.26	3.76
April	49,300	3,790	15,700	3.66	4.08
May	44,400	3,060	9,350	2.18	2.51
June	6,290	1,540	2,780	.648	.72
July	13,800	1,620	3,790	.883	1.02
August	13,000	1,180	3,420	.797	.92
September	1,980	580	1,180	.275	.31
October	790	415	604	.141	.16
November	4,090	1,070	1,740	.406	.45
December	11,400	1,000	2,700	.629	.73
The year	67,200	415	6,741	1.57	21.29
1896					
January	19,200	1,540	6,390	1.49	1.72
February	49,800	2,720	14,200	3.31	3.57
March	5,450	2,120	3,300	.769	.89
April	15,400	1,340	3,180	.741	.83
May	10,500	825	2,740	.639	.74
June	12,800	1,040	3,540	.825	.92
July	52,200	1,300	10,600	2.47	2.85
August	1,660	610	1,090	.254	.29
September	4,450	440	1,380	.322	.36
October	25,200	825	3,180	.741	.85
November	11,900	965	2,470	.576	.64
December	8,720	1,890	4,360	1.02	1.18
The year	52,200	440	4,702	1.10	14.84
1897					
January	17,000	1,540	3,720	.867	1.00
February	32,500	2,220	12,900	3.01	3.13
March	34,000	3,110	12,100	2.82	3.25
April	21,900	1,710	6,910	1.61	1.80
May	10,500	1,540	3,240	.755	.87
June	3,910	730	1,800	.420	.47
July	18,400	760	3,180	.741	.85
August	2,890	860	1,540	.359	.41
September	1,800	315	632	.147	.16
October	860	295	483	.113	.13
November	4,580	610	1,260	.294	.33
December	4,770	1,140	2,110	.492	.57
The year	34,000	295	4,156	.97	12.97

MONTHLY DISCHARGE OF CAPE FEAR RIVER AT FAYETTEVILLE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1898					
January	7,610	1,260	2,000	0.466	0.54
February	2,470	860	1,580	.368	.38
March	13,300	1,220	3,200	.746	.86
April	14,300	1,500	4,340	1.01	1.13
May	6,150	1,100	2,200	.513	.59
June	3,000	520	1,120	.261	.29
July	9,380	490	2,670	.622	.72
August	22,900	895	5,500	1.28	1.48
September	11,700	860	3,660	.853	.95
October	4,770	610	1,630	.380	.44
November	7,610	1,340	2,800	.653	.73
December	11,000	1,800	3,240	.755	.87
The year	22,900	490	2,828	.66	8.98
1899					
January	16,600	1,760	5,120	1.19	1.37
February	56,500	4,770	23,200	5.41	5.63
March	40,400	3,970	16,300	3.80	4.38
April	31,100	2,780	8,390	1.96	2.19
May	10,400	1,620	3,580	.834	.96
June	5,520	965	2,130	.497	.55
July	6,710	895	2,220	.517	.60
August	5,800	640	1,850	.431	.50
September	2,320	610	1,080	.252	.28
October	10,100	610	2,130	.497	.57
November	14,200	1,260	3,070	.716	.80
December	7,610	1,540	2,790	.650	.75
The year	56,500	610	5,988	1.40	18.58
1900					
January	14,100	1,500	3,920	0.914	1.05
February	31,800	1,710	9,850	2.30	2.40
March	28,700	3,000	8,670	2.02	2.33
April	43,400	2,270	10,800	2.52	2.81
May	11,000	1,380	2,850	.664	.77
June	10,500	965	2,670	.622	.69
July	6,150	465	1,400	.326	.38
August	1,760	365	733	.171	.20
September	5,030	315	972	.227	.25
October	1,100	390	540	.126	.15
November	6,500	365	1,220	.284	.32
December	9,200	825	2,760	.643	.74
The year	43,400	315	3,865	.90	12.09

MONTHLY DISCHARGE OF CAPE FEAR RIVER AT FAYETTEVILLE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inche
	Maximum	Minimum	Mean	Per Square Mile	
1901					
January	8,720	1,540	3,320	0.774	0.89
February	5,590	1,500	2,820	.657	.68
March	31,800	1,140	4,870	1.14	1.31
April	49,300	2,470	10,800	2.52	2.81
May	68,100	1,500	12,200	2.84	3.27
June	15,900	1,710	5,070	1.18	1.32
July	39,600	1,460	9,480	2.21	2.55
August	44,700	1,380	16,400	3.82	4.40
September	42,800	1,540	8,120	1.89	2.11
October	5,030	1,340	2,450	.571	.66
November	2,520	1,340	1,510	.352	.39
December	30,800	1,380	4,320	1.01	1.16
The year	68,100	1,140	6,780	1.58	21.55
1902					
January	31,100	2,070	6,130	1.43	1.65
February	37,800	2,890	13,600	3.17	3.30
March	40,000	3,110	11,000	2.56	2.95
April	19,200	2,020	5,310	1.24	1.38
May	3,000	1,380	2,040	.476	.55
June	3,550	760	1,350	.315	.35
July	1,710	490	841	.196	.23
August	1,300	550	837	.195	.22
September	3,910	365	988	.230	.26
October	3,550	670	1,520	.354	.41
November	4,770	700	1,450	.338	.38
December	14,400	2,120	5,750	1.34	1.54
The year	40,000	365	4,235	.99	13.22
1903					
January	17,700	2,270	5,640	1.31	1.51
February	28,400	2,780	13,000	3.03	3.16
March	54,000	3,110	15,300	3.57	4.12
April	35,700	4,330	12,700	2.96	3.30
May	8,160	1,420	2,420	.564	.65
June	7,610	1,420	3,170	.739	.82
July	10,300	610	2,270	.529	.61
August	3,220	700	1,490	.347	.40
September	4,150	580	1,180	.275	.31
October	3,850	440	1,160	.270	.31
November	2,120	825	1,130	.263	.29
December	4,390	790	1,500	.349	.40
The year	54,000	440	5,080	1.18	15.88

MONTHLY DISCHARGE OF CAPE FEAR RIVER AT FAYETTEVILLE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1904					
January	8,400	1,100	2,110	0.492	0.57
February	29,100	2,220	8,050	1.88	2.03
March	18,100	2,470	6,010	1.40	1.61
April	4,030	1,300	2,020	.471	.53
May	3,670	895	1,920	.448	.52
June	11,400	760	2,240	.522	.58
July	7,610	790	2,940	.685	.79
August	19,400	1,500	5,940	1.38	1.59
September	53,100	1,460	9,430	2.20	2.46
October	5,450	790	1,590	.371	.43
November	21,300	1,300	5,450	1.27	1.42
December	10,100	1,980	4,380	1.02	1.18
The year	53,100	760	4,340	1.01	13.71
1905					
January	23,200	2,370	6,110	1.42	1.64
February	47,200	2,370	15,300	3.57	3.72
March	15,100	3,380	6,320	1.47	1.70
April	19,500	2,020	7,350	1.71	1.91
May	20,300	2,470	9,180	2.14	2.47
June	11,900	1,300	3,330	.776	.87
July	30,700	1,040	6,540	1.52	1.75
August	39,500	1,220	9,750	2.27	2.62
September	10,300	1,100	2,950	.688	.77
October	1,340	730	981	.229	.26
November	1,760	790	1,150	.268	.30
December	29,100	1,300	7,510	1.75	2.02
The year	47,200	730	6,373	1.48	20.03
1906					
January	35,300	3,000	11,800	2.75	3.17
February	17,000	3,550	7,210	1.68	1.75
March	24,000	3,160	7,370	1.72	1.98
April	31,100	1,710	5,660	1.32	1.47
May	3,550	1,000	1,740	.406	.47
June	11,500	1,420	3,500	.816	.91
July	21,100	1,500	5,440	1.27	1.46
August	38,200	1,980	12,000	2.80	3.23
September	35,400	1,500	5,560	1.30	1.45
October	5,590	1,140	2,100	.490	.56
November	1,890	1,140	1,410	.329	.37
December	8,000	1,070	2,440	.569	.66
The year	38,200	1,000	5,519	1.29	17.48

MONTHLY DISCHARGE OF CAPE FEAR RIVER AT FAYETTEVILLE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
January	3,000	1,380	1,830	0.427	0.49
February	15,900	1,620	5,250	1.22	1.27
March	14,000	1,980	5,920	1.38	1.59
April	19,200	2,070	5,750	1.34	1.50
May	10,500	1,420	3,380	.788	.91
June	21,500	1,710	6,620	1.54	1.72
July	7,610	895	2,410	.562	.65
August	5,590	895	2,100	.490	.56
September	16,300	760	2,650	.618	.69
October	2,940	415	794	.185	.21
November	19,500	520	3,530	.823	.92
December	33,500	2,020	9,360	2.18	2.51
The year	33,500	415	4,132	.96	13.02
1908					
January	32,200	2,570	12,500	2.91	3.36
February	23,100	3,550	9,070	2.11	2.28
March	40,000	3,060	11,500	2.68	3.09
April	13,500	2,420	4,720	1.10	1.23
May	3,790	1,340	2,310	.538	.62
June	4,770	1,180	2,240	.522	.58
July	7,920	1,140	2,510	.585	.67
August	85,600	1,420	18,000	4.20	4.84
September	33,200	1,380	7,880	1.84	2.05
October	10,100	1,300	2,110	.492	.57
November	12,800	1,580	3,610	.841	.94
December	34,900	1,760	6,490	1.51	1.74
The year	85,600	1,140	6,912	1.61	21.97
1909					
January	10,700	2,120	3,870	.902	1.04
February	15,900	1,980	6,260	1.46	1.52
March	6,710	2,420	3,730	.869	1.00
April	8,080	2,070	3,130	.730	.81
May	30,800	1,540	7,280	1.70	1.96
June	27,500	1,890	6,430	1.50	1.67
July	11,000	1,000	3,160	.737	.85
August	49,200	1,000	10,000	2.33	2.69
September	3,850	930	1,820	424	.47
October	1,980	580	1,020	.238	.27
November	1,420	580	906	.211	.24
December	5,800	490	1,520	.354	.41
The year	49,200	490	4,094	.95	12.93

MONTHLY DISCHARGE OF CAPE FEAR RIVER AT FAYETTEVILLE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1910					
January	10,800	825	2,950	.688	.79
February	10,400	2,270	5,180	1.20	1.25
March	15,100	1,710	4,430	1.03	1.19
April	20,300	965	3,730	.869	.97
May	13,800	1,140	2,970	.692	.80
June	35,300	895	6,900	1.61	1.80
July	8,000	965	2,630	.613	.71
August	6,360	1,070	2,550	.594	.68
September	7,080	930	2,490	.580	.65
October	14,100	825	3,200	.746	.86
November	1,890	825	1,340	.312	.35
December	8,400	965	2,700	.629	.73
The year	35,300	825	3,422	.80	10.78
1911					
January	24,200	1,760	5,060	1.18	1.36
February	17,100	1,620	4,300	1.00	1.04
March	11,400	2,070	4,680	1.09	1.26
April	10,800	2,020	3,860	.900	1.00
May	3,910	790	1,690	.394	.45
June	2,270	640	1,110	.259	.29
July	1,710	490	978	.228	.26
August	3,790	610	1,220	.284	.33
September	18,100	580	2,860	.667	.74
October	6,780	670	1,580	.368	.42
November	13,100	1,000	3,310	.772	.86
December	31,200	1,180	7,760	1.81	2.09
The year	31,200	490	3,201	.75	10.10
1912					
January	16,400	3,000	5,460	1.27	1.46
February	22,700	2,620	9,500	2.21	2.38
March	53,100	5,520	17,300	4.03	4.65
April	27,800	3,380	7,850	1.83	2.04
May	19,900	1,980	6,740	1.57	1.81
June	14,000	1,660	3,970	.925	1.03
July	3,280	790	2,170	.506	.58
August	1,260	520	805	.188	.22
September	3,280	465	1,120	.261	.29
October	1,420	520	786	.183	.21
November	7,160	490	1,590	.371	.41
December	2,890	825	1,400	.326	.38
The year	53,100	465	4,891	1.14	15.46

MONTHLY DISCHARGE OF CAPE FEAR RIVER AT FAYETTEVILLE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1913					
January	31,000	1,040	6,050	1.41	1.63
February	9,380	2,070	4,420	1.03	1.07
March	33,300	2,670	9,330	2.17	2.50
April	20,300	1,800	5,650	1.32	1.47
May	4,840	895	1,960	.457	.53
June	8,080	1,000	2,570	.599	.67
July	4,770	640	2,080	.485	.56
August	13,600	760	3,010	.702	.81
September	16,700	610	3,080	.718	.80
October	9,650	700	2,380	.555	.64
November	21,700	1,300	3,630	.846	.94
December	13,000	1,340	4,260	.993	1.14
The year	33,300	610	4,035	.94	12.76
1914					
January	23,900	2,320	6,040	1.41	1.63
February	35,000	3,500	9,710	2.26	2.35
March	16,800	3,730	7,000	1.63	1.88
April	11,000	2,470	4,870	1.14	1.27
May	2,620	790	1,510	.352	.41
June	2,670	520	1,230	.287	.32
July	2,840	490	1,470	.343	.40
August	3,440	415	1,060	.247	.28
September	1,800	640	1,000	.233	.26
October	1,460	550	944	.220	.25
November	8,240	610	1,860	.434	.48
December	38,900	1,000	9,550	2.23	2.57
The year	38,900	415	3,854	.90	12.10
1915					
January	33,800	3,330	14,400	3.36	3.87
February	27,800	3,000	7,780	1.81	1.88
March	10,700	1,980	4,150	.967	1.11
April	25,100	2,320	7,030	1.64	1.83
May	13,400	1,620	4,310	1.00	1.15
June	37,700	1,220	7,610	1.77	1.98
July	4,640	895	1,600	.373	.43
August	11,700	700	2,830	.660	.76
September	7,610	670	2,410	.562	.63
October	7,240	1,070	2,250	.524	.60
November	4,330	965	1,540	.359	.40
December	8,240	1,040	2,420	.564	.65
The year	37,700	670	4,861	1.13	15.29

MONTHLY DISCHARGE OF CAPE FEAR RIVER AT FAYETTEVILLE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1916					
January	6,640	2,170	3,390	0.790	0.91
February	43,400	2,120	9,050	2.11	2.28
March	9,200	1,760	3,630	.846	.98
April	19,200	1,340	4,600	1.07	1.19
May	9,650	895	3,070	.716	.83
June	25,700	1,980	6,960	1.62	1.81
July	29,900	1,420	7,860	1.83	2.11
August	9,740	1,140	3,520	.821	.95
September	4,770	760	1,700	.396	.44
October	2,620	730	1,130	.263	.30
November	1,660	670	964	.225	.25
December	2,890	965	1,550	.361	.42
The year	43,400	670	3,952	.92	12.47
1917					
January	14,000	1,340	3,660	.853	.98
February	17,100	2,370	6,370	1.48	1.54
March	38,300	3,610	13,000	3.03	3.49
April	27,200	2,120	7,720	1.80	2.01
May	9,830	1,180	3,230	.753	.87
June	11,700	1,220	3,920	.914	1.02
July	25,700	2,320	8,430	1.97	2.27

YADKIN RIVER BASIN

YADKIN RIVER AT NORTH WILKESBORO, N. C.

LOCATION. At new bridge (same location as old one washed out July 16, 1916), 3,780 feet below Southern Railway station at North Wilkesboro, Wilkes County.
DRAINAGE AREA. 500 square miles.
RECORDS AVAILABLE. April 10, 1903 to June 1, 1907; October 1, 1920 to December 31, 1923. Gage height record only, June 2, 1907 to June 30, 1909.
GAGE. Chain gage on downstream handrail; read by S. U. Reynolds. Original chain gage washed away with old bridge, July 16, 1916; original datum was lost.
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. Current is swift. 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; one channel at all stages. Control is not perceptible.
EXTREMES OF DISCHARGE. 1903-1907 and 1920-1923: Maximum stage recorded, 18.8 feet (datum of old gage) November 19, 1906 (discharge, 22,300 second-feet); minimum stage recorded, —0.6 foot January 26, 1905 (discharge, 184 second-feet).
ICE. Stage-discharge relation not affected by ice.
REGULATION. Very slight regulation from small milldams upstream.
ACCURACY. Stage-discharge relation permanent since 1916 flood; shifted frequently before. Rating curve used since 1920 is well defined between 370 and 10,000 second-feet; extended above. Preceding curves fairly well defined for medium and low stages. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records 1903 to 1907 fair; 1920 to 1923 good.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF YADKIN RIVER AT NORTH WILKESBORO, N. C.

Week	Year								
	1903	1904	1905	1906	1907	1920	1921	1922	1923
1		434	647	1,749	1,861		760	515	1,147
2		457	1,367	1,215	1,310		1,303	693	578
3		397	648	1,119	1,201		1,264	762	498
4		536	460	3,840	1,090		1,282	872	726
5		432	497	1,879	1,040		1,327	999	979
6		661	484	1,180	1,033		1,814	1,247	965
7		476	788	1,017	961		1,439	1,388	871
8		807	1,839	1,044	933		1,276	914	607
9		658	1,164	1,349	1,374		1,025	1,365	694
10		1,941	942	1,340	1,183		927	1,464	1,268
11		763	820	1,447	1,167		897	1,620	3,096
12		846	698	1,501	976		959	1,135	1,379
13		812	646	2,033	920		935	1,969	754
14		628	673	1,401	1,117		898	1,417	783
15		661	1,302	1,439	1,079		803	1,061	941
16	2,289	526	774	1,356	940		1,759	1,084	819
17	1,910	594	648	1,060	1,723		1,593	1,083	671
18	1,720	897	649	1,173	1,134		1,551	2,146	665
19	1,560	1,301	1,087	1,527	961		1,251	1,381	640
20	1,443	2,361	1,923	857	871		1,077	2,069	1,115
21	1,330	909	826	892	853		1,085	1,374	899
22	1,470	1,515	629	885			891	1,406	1,181
23	2,459	1,170	479	1,242			972	1,823	693
24	1,196	977	466	3,510			810	1,379	607
25	926	800	988	1,977			681	1,137	566
26	1,100	1,566	620	1,244			801	897	548
27	1,200	967	1,069	1,319			645	1,159	485
28	978	767	4,220	1,241			887	1,486	529
29	807	572	1,058	2,044			747	1,659	640
30	693	1,528	614	2,001			631	1,017	420
31	984	1,002	651	2,364			546	951	697
32	751	1,272	1,664	1,297			616	805	622
33	919	940	1,225	2,779			750	893	450
34	585	1,366	821	2,119			509	741	517
35	636	713	623	3,976			522	713	470
36	611	850	1,375	2,051			436	613	512
37	583	611	571	1,620			557	550	434
38	752	468	532	2,031			468	492	446
39	543	442	444	2,787			568	478	611
40	519	416	449	3,771		1,111	481	513	366
41	1,326	387	816	1,751		547	366	1,335	338
42	690	378	457	5,219		515	371	595	350
43	529	372	476	2,047		486	366	512	409
44	515	420	444	1,541		515	1,805	492	356
45	650	535	436	1,370		472	564	478	726
46	584	538	436	1,370		1,013	489	507	335
47	532	416	429	5,513		563	589	461	370
48	491	387	419	1,559		1,185	687	458	533
49	494	596	1,269	1,361		1,279	718	513	908
50	475	432	929	1,353		2,489	515	555	498
51	546	423	1,764	1,413		1,232	807	748	492
52	504	626	799	1,764		1,146	596	604	478

MONTHLY DISCHARGE OF YADKIN RIVER NEAR NORTH WILKESBORO, N. C.
[Drainage area, 500 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1903					
April 10-30	3,290	1,780	2,330	4.66	3.64
May	1,780	1,240	1,490	2.98	3.44
June	5,790	890	1,450	2.90	3.24
July	1,990	668	911	1.82	2.10
August	1,370	588	813	1.63	1.88
September	1,490	510	641	1.28	1.43
October	5,400	491	741	1.48	1.71
November	1,140	454	563	1.13	1.26
December	755	386	504	1.01	1.16
1904					
January	710	309	452	0.904	1.04
February	1,490	309	624	1.25	1.35
March	5,730	510	1,040	2.08	2.40
April	940	516	604	1.21	1.35
May	9,250	516	1,330	2.66	3.07
June	3,830	614	1,230	2.46	2.74
July	5,680	516	993	1.99	2.29
August	3,560	614	1,080	2.16	2.49
September	1,850	422	601	1.20	1.34
October	422	357	389	.778	.90
November	1,120	378	469	.938	1.05
December	1,360	378	515	1.03	1.19
The year	9,250	309	777	1.55	21.21
1905					
January	3,290	184	757	1.51	1.74
February	2,860	336	984	1.97	2.05
March	1,180	614	819	1.64	1.89
April	2,940	564	833	1.67	1.86
May	3,200	540	1,080	2.16	2.49
June	1,850	422	623	1.25	1.40
July	12,900	510	1,640	3.28	3.78
August	2,800	472	1,040	2.08	2.40
September	5,100	436	722	1.44	1.61
October	2,410	436	534	1.07	1.23
November	454	402	432	.864	.96
December	6,390	419	1,130	2.26	2.61
The year	12,900	184	883	1.77	24.02
1906					
January	11,600	588	2,010	4.02	4.64
February	18,500	940	1,140	2.28	2.37
March	3,650	940	1,560	3.12	3.60
April	3,290	940	1,350	2.70	3.01
May	3,830	716	1,080	2.16	2.49
June	6,450	716	1,910	3.82	4.26
July	4,010	940	1,660	3.32	3.83
August	22,100	1,060	3,130	6.26	7.22
September	5,580	1,430	2,200	4.40	4.91
October	20,700	1,490	3,040	6.08	7.01
November	22,300	1,250	2,390	4.78	5.33
December	5,840	990	1,480	2.96	3.41
The year	22,300	588	1,912	3.82	52.08

MONTHLY DISCHARGE OF YADKIN RIVER NEAR NORTH WILKESBORO, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
January	3,040	1,040	1,330	2.66	3.07
February	1,310	890	1,010	2.02	2.10
March	1,920	845	1,110	2.22	2.56
April	2,880	845	1,220	2.44	2.72
May	1,140	755	925	1.85	2.13
1920					
October	2,370	452	649	1.30	1.50
November	3,080	452	756	1.51	1.68
December	7,240	618	1,490	2.98	3.44
1921					
January	2,040	712	1,160	2.32	2.68
February	3,160	946	1,440	2.88	3.00
March	1,070	810	925	1.85	2.13
April	4,480	760	1,270	2.54	2.83
May	2,360	712	1,200	2.40	2.77
June	1,220	532	820	1.64	1 83
July	1,220	492	715	1.43	1.65
August	1,220	452	599	1.20	1.38
September	1,220	376	506	1.01	1.13
October	6,180	358	614	1.23	1.42
November	2,220	433	648	1.30	1.45
December	1,590	472	664	1.33	1.53
The year	6,180	358	880	1.76	23.80
1922					
January	1,700	492	714	1.43	1.65
February	2,290	760	1,150	2.30	2.40
March	3,320	860	1,560	3.12	3.60
April	1,920	860	1,200	2.40	2.68
May	4,200	1,020	1,670	3.34	3.85
June	2,700	810	1,320	2.64	2.94
July	5,080	810	1,280	2.56	2.95
August	1,280	664	828	1.66	1.91
September	712	452	542	1.08	1.20
October	3,030	395	717	1.43	1.65
November	574	433	474	.948	1.06
December	1,170	472	598	1.20	1.38
The year	5,080	395	1,004	2.01	27.27
1923					
January	2,920	472	763	1.53	1.76
February	1,170	532	830	1.66	1.73
March	7,000	574	1,530	3.06	3.53
April	1,540	618	796	1.59	1.77
May	2,360	574	905	1.81	2.09
June	1,020	433	640	1.28	1.43
July	964	376	543	1.09	1.26
August	860	376	557	1.11	1.28
September	1,380	358	492	.984	1.10
October	532	290	361	.722	.83
November	1,800	306	472	.944	1.05
December	1,800	414	588	1.18	1.36
The year	7,000	290	706	1.41	19.19

YADKIN RIVER AT DONNAHA, N. C.

LOCATION. One-fourth mile upstream from railroad station at Donnaha, Forsyth County, just below site of old toll bridge which was washed away by a flood in 1916, 6 miles downstream from Ararat River which enters from the left, 50 miles downstream from gaging station at North Wilkesboro, N. C., and 60 miles upstream from gaging station at Salisbury, N. C.

DRAINAGE AREA. 1,600 square miles.

RECORDS AVAILABLE. April 11, 1913 to September 30, 1923 when station was discontinued.

GAGE. Vertical gage in four sections on left bank, 150 feet downstream from left end of remains of old toll bridge.

DISCHARGE MEASUREMENTS. Since July 1920 measurements have been made from a cable erected 400 feet upstream from gage by North Carolina Geological and Economic Survey. Prior to flood of July, 1916, measurements were made from the toll bridge. Bridge washed out in July, 1916. After that date no measurements were made until April 23, 1920, when a new bridge had been erected 1 mile downstream.

CHANNEL AND CONTROL. Bed composed of sand and bedrock; probably permanent. Current slightly obstructed by two old steel trusses lying about opposite and 300 feet respectively, below gage. Obstruction probably permanent. Control is a rock ledge extending across river and forming a shoal 450 feet below gage.

EXTREMES OF DISCHARGE. 1913-1923: Maximum stage recorded, 40.0 feet at 8 a.m. July 16, 1916 (determined by observer who measured from flood marks down to water surface at lower stage; (discharge not determined); minimum stage recorded, 4.65 feet at 4 p.m. September 30, 1914 (discharge, 678 second-feet).

ICE. Stage-discharge relation not affected by ice.

DIVERSIONS. None.

REGULATION. None except for a few small milldams on tributary streams.

ACCURACY. Stage-discharge relation practically permanent. The remains of old bridge, which lodged below gage during flood of July, 1916, and changed the control, now seems to form a permanent part of control. Rating curves well defined for low water and fairly well defined to 15,000 second-feet.

NOTE. Observer faked gage height records at times. It is impossible to separate the false from the true, therefore the records have been discarded.

YADKIN RIVER NEAR SALISBURY, N. C.

LOCATION. At highway bridge known as Piedmont toll bridge, 1,000 feet upstream from Southern Railway bridge, 4 miles east of Spencer, 5 miles downstream from mouth of South Yadkin River, 6 miles east of Salisbury, Rowan County, and 26 miles upstream from American Aluminum Co's. hydro-electric plant near Whitney, N. C.

DRAINAGE AREA. 3,400 square miles.

RECORDS AVAILABLE. September 24, 1895 to December 31, 1909; September 1, 1911 to December 31, 1923.

GAGE. Chain gage attached to highway bridge; read by J. T. Yarbrough. From the date of establishment to May 31, 1899, the gage was at the Southern Railway bridge, and from the latter date it was at the highway bridge until moved back to the railroad bridge early in 1903, where it remained until the end of 1905. Since January 1, 1906, the gage has been at the highway bridge at the datum originally established there in 1899. The last gage at the railroad bridge read the same as the gage at the highway bridge at gage height 3.2 feet, but not for higher and lower stages. Datum of the original gage at the railroad bridge somewhat uncertain.

DISCHARGE MEASUREMENTS. Made from highway bridge. During the time that gage was at railroad bridge most of the measurements were made from that bridge. During flood of July, 1916, water rose over floor of highway bridge, making it necessary to use railroad bridge.

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

EXTREMES OF DISCHARGE. 1895-1909; 1911-1923: Maximum stage recorded, 23.8 feet at 1 a.m. July 18, 1916 (discharge, 121,000 second-feet); minimum stage, 1.2 feet September 20, October 5, November 22 and 26, 1897 (discharge 900 second-feet).

ICE. Never enough to affect stage-discharge relation.

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

ACCURACY. Stage-discharge relation fairly permanent. Rating curves well defined below 20,000 second-feet and fairly well defined between 20,000 and 121,000 second-feet. Gage read to half-tenths twice daily; during high water read oftener. Daily discharge ascertained by applying mean daily gage height to rating table. Records good, except for very high water which are fair.

NOTE. Mean weekly discharge and monthly values for the break in the record, January 1, 1910 to August 31, 1911, have been estimated from comparative hydrographs with Yadkin River near Peedee, N. C.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET

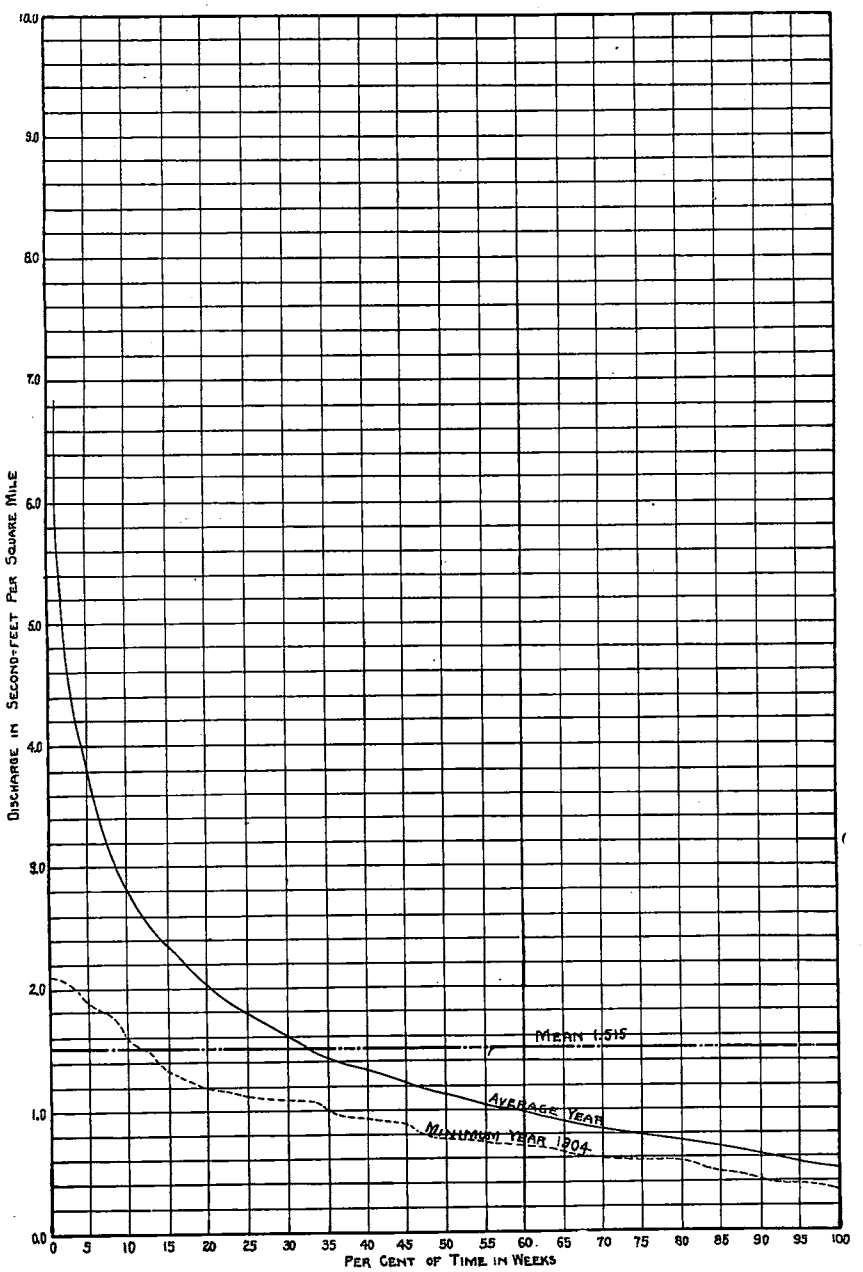
Week	Year													
	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908
1	------	4,069	2,967	2,261	10,109	1,621	4,110	10,697	16,843	1,956	2,951	13,727	9,659	7,734
2	------	5,429	2,320	2,100	11,207	5,482	9,554	5,611	6,113	2,278	7,919	5,694	4,157	17,096
3	------	2,757	4,529	3,114	7,886	6,434	5,127	4,900	4,710	2,061	3,815	5,229	3,664	5,730
4	------	6,174	6,239	6,184	5,150	4,963	3,331	6,529	6,419	2,717	2,056	15,464	3,396	4,051
5	------	8,060	6,656	2,961	5,636	1,863	3,361	10,589	6,958	2,119	2,242	8,856	3,313	4,150
6	------	14,740	14,508	1,936	25,843	4,385	4,453	6,154	16,272	4,015	2,375	4,424	3,499	4,636
7	------	5,769	7,464	1,536	8,400	14,489	3,460	4,809	19,028	2,606	6,171	*3,563	3,273	24,083
8	------	3,243	14,798	2,348	9,300	8,929	2,875	8,062	8,588	6,950	15,276	3,967	3,356	8,014
9	------	3,765	7,066	1,886	16,907	14,421	2,682	19,638	11,338	3,718	6,031	3,523	6,037	6,111
10	------	2,806	15,212	2,170	15,097	7,136	2,757	7,647	9,835	6,190	3,555	4,976	5,064	5,966
11	------	3,243	14,257	3,650	25,071	8,811	4,282	8,294	10,004	3,222	3,896	6,531	5,283	5,354
12	------	3,779	8,926	2,452	43,243	7,418	2,825	6,593	29,014	3,799	2,779	8,021	3,730	10,139
13	------	3,923	5,809	5,908	14,036	5,694	15,909	10,710	15,446	3,757	2,734	6,779	3,274	6,404
14	------	12,220	13,402	4,025	13,129	3,404	18,141	6,610	11,838	2,433	4,036	5,417	5,839	6,563
15	------	3,340	8,222	2,168	10,807	3,160	5,909	6,224	19,952	2,517	6,291	4,223	4,599	4,290
16	------	3,049	5,809	1,754	7,586	19,030	24,401	5,876	9,479	2,131	3,988	4,920	3,397	5,940
17	------	2,806	4,353	3,018	8,043	9,047	8,730	5,060	7,371	2,379	2,720	3,230	7,327	4,809
18	------	3,486	7,367	2,275	6,050	3,636	5,296	4,717	6,151	2,378	3,238	4,291	4,450	5,374
19	------	2,660	4,551	2,804	8,500	3,107	6,419	4,420	5,350	3,163	10,055	4,210	3,647	5,673
20	------	1,883	6,965	2,189	6,579	2,929	5,069	4,906	5,007	6,144	8,414	2,843	2,971	4,214
21	------	2,321	5,005	4,842	4,950	4,091	17,663	4,557	4,413	3,033	3,105	2,576	2,664	4,806
22	------	1,837	4,451	1,914	4,321	2,911	10,095	3,736	6,320	5,136	3,373	3,019	6,944	3,440
23	------	5,040	9,329	1,629	4,171	3,434	6,307	3,240	13,777	3,895	2,096	3,653	4,931	6,611
24	------	2,271	6,865	1,934	7,543	4,809	13,627	13,291	6,034	4,155	1,861	10,900	9,364	4,941
25	------	2,126	3,657	2,120	3,443	9,618	14,856	9,828	4,619	3,345	2,826	6,526	4,149	4,290
26	------	3,729	2,694	1,725	4,050	7,994	11,159	5,764	5,724	6,475	2,144	5,010	6,131	3,159
27	------	6,423	3,219	1,782	3,843	3,499	7,598	3,264	4,693	3,246	6,004	4,453	4,439	9,616
28	------	35,357	5,712	2,093	2,721	3,089	9,923	3,616	4,584	2,452	15,106	5,093	3,553	5,289
29	------	4,943	5,768	2,338	2,614	2,509	12,242	2,507	3,660	1,986	7,583	8,753	4,021	3,406
30	------	3,486	5,257	5,982	4,964	4,174	4,646	2,507	2,329	4,427	4,045	12,441	2,623	4,749
31	------	2,514	2,749	4,125	4,171	2,768	4,036	3,013	6,000	5,228	3,609	9,729	2,837	3,341
32	------	2,127	2,850	4,422	2,493	2,144	18,589	2,270	3,693	7,112	9,692	4,081	3,324	4,227
33	------	3,631	3,031	6,074	2,200	2,060	26,467	5,334	6,997	4,690	10,339	13,026	3,284	2,519
34	------	2,227	2,958	6,044	1,593	2,967	14,143	2,489	3,633	3,660	4,879	7,184	3,070	15,751
35	------	1,224	3,209	4,711	2,550	2,258	14,165	1,789	2,879	2,616	3,431	25,774	1,913	16,969
36	------	3,839	2,397	5,820	2,364	1,939	6,627	2,287	3,554	4,003	3,141	7,933	2,297	8,734
37	------	1,790	1,533	1,536	2,186	2,725	5,323	4,201	3,214	1,989	2,276	5,777	2,707	3,680
38	------	1,547	1,191	3,066	3,693	4,188	6,861	1,826	8,679	1,624	2,214	5,161	1,904	2,700
39	------	5,770	1,456	24,353	1,693	2,110	7,004	3,463	2,166	1,501	1,888	5,357	8,094	3,181
40	1,400	7,806	1,304	6,394	1,714	2,559	7,477	4,283	2,126	1,282	1,822	7,710	2,744	2,550
41	1,443	1,689	6,317	2,757	3,507	2,756	5,127	4,423	3,663	1,311	3,068	5,100	2,296	7,426
42	1,457	1,693	4,090	2,271	2,036	2,348	4,570	2,784	2,584	1,190	2,046	11,811	2,064	3,096
43	1,400	1,789	3,195	7,208	1,829	7,568	3,871	2,366	2,129	1,265	1,994	7,343	1,964	9,286
44	1,746	3,139	2,995	2,493	2,543	3,244	3,769	3,144	1,869	1,384	1,967	4,704	2,470	9,253
45	1,841	10,049	2,756	1,904	2,243	3,173	3,614	3,159	3,043	1,996	1,848	4,216	2,461	3,986
46	2,174	3,146	1,769	2,300	1,800	2,714	3,460	3,097	2,411	2,594	1,784	4,193	2,514	6,509
47	1,640	2,660	1,283	2,270	1,800	2,839	3,903	5,351	2,858	1,722	1,835	12,389	8,957	3,900
48	2,369	9,560	4,627	1,907	2,114	9,175	3,614	6,689	1,993	1,591	1,770	4,826	4,758	3,520
49	1,786	5,380	3,877	6,616	1,979	8,677	3,976	11,097	1,961	3,697	3,836	4,193	2,779	5,327
50	1,786	5,426	2,821	1,725	4,350	3,527	9,461	4,584	2,040	2,047	6,545	4,789	10,951	4,993
51	2,369	7,469	2,934	2,702	2,093	4,121	6,341	7,677	2,600	1,914	11,286	5,647	6,990	8,061
52	4,702	3,298	2,800	2,525	2,594	4,644	30,292	4,841	2,498	3,099	6,667	4,370	12,930	8,641

OF YADKIN RIVER NEAR SALISBURY, N. C.

Year															Week
1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	
7,143	2,386	9,286	4,670	2,976	10,241	10,094	5,963	4,701	1,974	18,014	2,170	4,349	2,101	5,566	1
5,247	2,814	3,757	3,043	2,537	3,843	19,097	4,830	3,640	6,541	5,271	2,794	9,389	3,467	3,239	2
7,296	2,614	2,700	2,789	2,326	3,010	11,420	3,730	4,533	5,513	5,720	2,517	11,989	2,644	2,371	3
4,607	6,543	2,643	2,669	7,701	2,996	6,264	4,983	4,051	4,424	9,286	5,779	5,891	4,484	3,470	4
3,944	7,214	2,400	4,740	6,159	4,400	10,639	20,443	7,314	11,160	5,480	8,059	8,283	7,029	5,301	5
4,971	3,614	4,600	2,540	3,136	6,203	6,490	6,689	3,484	4,499	4,474	7,291	13,597	7,897	5,526	6
5,141	6,986	4,929	4,443	2,921	4,273	5,466	4,380	3,133	3,796	6,291	3,851	10,374	10,026	4,287	7
6,823	8,714	3,114	8,497	3,084	9,713	7,901	5,314	7,557	3,379	7,763	3,937	8,849	4,377	3,230	8
6,549	11,000	2,571	8,012	6,356	4,707	7,319	6,033	10,711	2,721	12,346	4,118	5,406	7,993	5,271	9
5,659	5,643	3,729	7,391	3,466	3,773	6,940	4,246	16,290	2,764	18,334	6,206	4,646	8,809	6,790	10
5,204	4,786	5,229	34,260	30,827	6,431	4,770	3,686	6,653	2,528	7,046	8,331	4,554	9,989	22,643	11
4,951	3,257	4,229	7,086	6,557	3,941	4,289	3,439	10,721	3,681	5,606	6,874	4,749	5,931	12,734	12
9,645	2,857	3,943	11,254	9,474	3,779	3,983	3,541	7,671	2,774	5,680	7,466	4,654	7,523	4,473	13
4,677	2,657	5,057	7,491	4,153	4,081	4,337	4,453	9,601	2,293	5,029	21,223	5,251	6,280	5,567	14
7,368	2,443	9,314	4,227	10,084	6,374	4,173	4,877	5,947	5,336	6,909	8,297	4,051	4,303	7,237	15
5,641	4,229	6,357	5,296	5,544	7,940	3,499	3,253	3,860	9,374	5,489	5,320	10,440	5,263	4,769	16
4,794	2,871	3,429	6,724	3,773	4,011	3,296	3,090	3,876	5,544	4,523	5,369	7,654	4,351	3,534	17
10,351	2,371	2,771	4,124	3,134	3,557	3,273	2,777	4,009	3,983	8,754	3,914	6,671	9,143	3,920	18
5,413	5,614	2,357	15,209	3,093	3,601	5,044	2,470	3,890	3,137	8,971	3,943	6,166	6,780	3,286	19
3,837	2,657	2,743	12,517	3,217	2,744	3,137	2,636	3,070	3,811	7,374	3,243	6,391	11,577	5,423	20
22,377	2,786	1,886	4,187	10,393	2,324	3,957	9,189	3,059	3,930	8,106	3,509	4,697	5,934	4,570	21
6,397	2,343	1,529	3,541	7,184	2,397	12,713	3,630	2,616	2,473	5,923	2,729	3,891	6,099	4,907	22
20,968	2,243	2,300	3,610	3,774	2,181	5,299	10,201	2,941	2,174	4,294	6,237	4,260	11,514	2,770	23
11,181	6,457	1,814	3,716	3,084	2,091	3,499	6,820	4,206	1,857	4,144	2,847	3,351	4,774	2,749	24
12,097	15,029	2,029	3,183	2,723	1,806	3,046	4,620	2,520	2,960	3,991	5,051	2,886	5,539	2,136	25
6,997	3,471	1,750	3,724	3,443	1,854	2,140	3,814	2,706	2,073	8,111	3,133	3,764	3,551	2,629	26
5,296	2,700	1,357	5,583	3,530	2,719	3,159	6,184	3,119	1,833	3,514	2,644	2,519	6,213	2,533	27
4,430	4,343	1,507	4,316	2,077	2,706	2,899	11,624	3,597	1,830	3,201	3,854	3,214	4,217	2,111	28
3,378	5,571	2,364	4,587	2,580	3,074	2,399	54,386	7,086	2,397	30,860	5,309	4,883	9,394	2,601	29
6,276	2,457	1,357	2,944	2,011	1,437	3,099	16,471	7,859	3,317	11,591	2,836	2,514	4,573	2,214	30
13,527	2,343	1,221	2,386	4,757	1,479	3,239	19,583	4,476	4,676	4,526	2,009	2,491	3,433	3,979	31
5,236	4,129	2,579	2,291	4,436	1,709	2,153	7,931	2,636	2,224	3,263	5,210	2,184	3,284	5,130	32
4,820	2,114	1,621	2,057	2,923	2,210	4,476	5,953	2,299	4,971	5,834	6,351	2,470	5,914	3,241	33
3,093	3,129	1,571	1,859	6,450	1,420	6,836	4,296	1,884	3,349	3,181	5,574	1,931	2,796	2,749	34
2,773	3,286	3,876	2,206	4,913	3,367	14,014	4,627	11,890	2,706	3,256	11,491	1,734	2,831	2,817	35
2,589	7,586	2,590	1,817	6,860	1,781	9,480	3,440	5,899	2,446	2,537	3,260	1,701	3,349	3,577	36
2,683	3,416	1,872	3,159	2,387	1,681	3,320	3,484	2,434	2,153	2,331	3,594	2,130	2,263	2,679	37
3,870	1,986	3,043	2,254	4,634	1,566	2,329	3,217	1,870	3,110	2,206	3,966	2,284	1,851	2,411	38
2,946	1,800	2,317	9,867	2,723	1,581	2,073	3,803	1,976	2,261	2,191	6,200	2,349	1,771	2,607	39
2,403	1,886	1,489	2,346	2,081	4,279	13,409	3,017	1,843	1,617	2,091	5,050	1,913	2,091	1,653	40
2,999	6,571	1,873	1,916	2,257	2,434	5,027	2,647	2,053	1,503	2,544	2,484	1,594	5,380	1,540	41
2,916	2,743	8,330	2,551	4,814	9,384	3,947	6,183	2,269	1,597	3,061	2,310	1,571	2,326	1,623	42
2,800	2,543	6,579	2,210	5,876	2,771	3,554	3,923	2,069	11,346	4,207	2,293	1,503	2,230	1,956	43
2,513	1,914	2,054	2,074	2,791	2,073	2,706	2,893	3,053	12,809	2,551	2,380	8,606	2,043	1,697	44
2,596	2,071	3,704	5,000	5,881	1,871	2,481	2,739	2,061	3,689	2,334	2,343	2,824	1,986	4,516	45
2,740	2,000	3,604	2,594	3,059	3,679	2,744	2,814	2,013	3,661	4,249	6,153	2,356	2,057	1,914	46
2,530	2,000	3,148	2,273	2,464	2,539	7,696	2,780	2,017	4,214	2,664	3,634	2,579	1,986	1,934	47
2,403	1,843	2,876	2,154	4,907	5,559	3,173	2,834	2,013	4,826	2,589	11,809	2,847	1,971	2,504	48
2,720	3,557	2,193	2,616	5,770	21,773	2,700	2,647	2,057	3,163	2,716	9,134	3,156	2,196	7,814	49
4,904	2,400	2,251	2,156	2,857	6,613	2,844	3,501	1,843	5,940	7,694	14,494	2,196	2,511	2,934	50
3,036	2,071	7,053	2,204	2,680	4,306	11,767	3,333	2,366	16,946	3,260	5,569	2,560	3,717	2,566	51
2,837	3,150	9,426	2,380	4,753	14,298	12,299	3,709	2,183	12,510	2,751	6,820	2,646	2,610	2,956	52

MONTHLY DISCHARGE OF YADKIN RIVER NEAR SALISBURY, N. C.
[Drainage area, 3,400 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1895					
October	1,500	1,400	1,426	0.42	0.48
November	4,000	1,310	2,004	.59	.69
December	10,160	1,640	2,683	.79	.91
1896					
January	10,940	1,640	4,485	1.32	1.52
February	24,200	2,320	7,817	2.30	2.48
March	5,380	2,320	3,472	1.02	1.18
April	29,200	2,660	5,242	1.54	1.72
May	6,060	1,310	2,507	.74	.85
June	9,460	1,310	3,159	.93	1.03
July	64,200	1,640	11,584	3.41	3.94
August	6,060	1,000	2,411	.71	.82
September	32,200	1,000	3,087	.91	1.01
October	31,200	1,310	3,122	.92	1.06
November	23,200	1,980	5,206	1.48	1.65
December	22,700	3,000	6,037	1.78	2.05
The year	64,200	1,000	4,844	1.42	19.31
1897					
January	12,044	2,600	4,039	1.19	1.37
February	34,924	4,652	11,513	3.39	3.45
March	25,068	4,652	10,522	3.10	3.58
April	31,756	3,948	7,761	2.28	2.54
May	14,156	3,250	5,776	1.70	1.96
June	19,788	2,300	5,652	1.66	1.85
July	11,692	2,600	4,821	1.42	1.64
August	5,708	1,760	2,943	.87	1.00
September	3,250	1,100	1,785	.53	.59
October	25,772	900	3,557	1.05	1.21
November	7,116	900	2,708	.80	.89
December	5,708	2,300	3,086	.91	1.05
The year	34,924	900	5,347	1.57	20.87
1898					
January	9,290	2,100	3,460	1.02	1.18
February	2,850	1,400	1,957	.58	.60
March	13,820	1,725	3,119	.92	1.06
April	10,645	1,550	2,977	.88	.98
May	12,058	1,550	2,928	.86	.99
June	2,567	1,400	1,855	.55	.61
July	10,450	1,100	3,178	.94	1.08
August	12,880	1,725	5,185	1.53	1.76
September	79,998	1,400	8,297	2.44	2.72
October	16,550	1,725	4,411	1.30	1.50
November	4,800	1,725	2,211	.65	.72
December	12,645	1,550	3,257	.96	1.10
The year	79,998	1,100	3,570	1.05	14.30



WEEKLY DURATION CURVES.
FOR
YADKIN RIVER AT SALISBURY, N.C.
1896-1929.

MONTHLY DISCHARGE OF YADKIN RIVER NEAR SALISBURY, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1899					
January	46,600	2,560	8,548	2.51	2.90
February	45,800	3,100	13,443	3.95	4.11
March	107,400	6,900	23,899	7.03	8.10
April	27,700	6,500	9,825	2.89	3.22
May	11,300	4,000	6,211	1.83	2.11
June	12,900	3,100	4,823	1.42	1.58
July	10,900	2,250	3,703	1.09	1.26
August	5,000	1,450	2,356	.69	.79
September	10,500	1,450	2,495	.73	.81
October	5,700	1,600	2,226	.65	.75
November	3,700	1,800	2,120	.62	.69
December	8,900	1,800	2,716	.80	.92
The year	107,400	1,450	6,864	2.02	27.24
1900					
January	15,250	1,430	4,405	1.25	1.44
February	37,800	1,430	7,029	2.07	2.15
March	40,500	4,080	9,182	2.70	3.12
April	48,298	2,250	8,679	2.55	2.84
May	8,450	2,500	3,331	.98	1.13
June	24,060	3,000	6,190	1.82	2.03
July	5,945	2,060	3,332	.98	1.13
August	5,112	1,870	2,415	.71	.82
September	12,570	1,625	2,769	.81	.90
October	22,830	2,060	3,750	1.10	1.27
November	29,435	2,625	4,417	1.30	1.45
December	21,915	3,125	5,138	1.51	1.74
The year	48,298	1,430	5,053	1.48	20.02
1901					
January	26,731	2,925	5,284	1.55	1.79
February	6,195	2,420	3,507	1.03	1.07
March	35,310	2,585	5,922	1.74	2.01
April	81,030	4,180	13,787	4.06	4.53
May	70,870	4,000	11,152	3.28	3.78
June	30,400	4,540	10,950	3.22	3.59
July	26,026	3,820	8,455	2.49	2.87
August	44,132	3,640	16,509	4.86	5.60
September	15,910	4,360	6,764	1.99	2.22
October	13,420	3,640	5,116	1.51	1.74
November	6,380	3,100	3,683	1.08	1.20
December	104,640	3,280	12,506	3.68	4.24
The year	104,640	2,420	8,636	2.54	34.64

MONTHLY DISCHARGE OF YADKIN RIVER NEAR SALISBURY, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1902					
January	25,190	4,740	5,678	1.67	1.93
February	27,295	4,580	8,763	2.58	2.69
March	32,740	5,390	9,759	2.87	3.31
April	9,480	4,900	6,031	1.77	1.97
May	5,900	3,470	4,530	1.33	1.53
June	55,700	2,570	7,700	2.27	2.53
July	5,220	1,980	2,974	.88	1.01
August	9,670	1,465	3,108	.91	1.05
September	10,620	1,580	2,871	.84	.94
October	10,810	1,350	3,512	1.03	1.19
November	12,200	2,120	3,833	1.13	1.26
December	16,750	3,940	7,273	2.14	2.47
The year	55,700	1,350	5,503	1.62	21.88
1903					
January	38,070	3,750	8,421	2.48	2.86
February	38,650	5,030	12,677	3.73	3.88
March	76,200	6,475	15,798	4.65	5.36
April	39,565	6,475	12,174	3.58	3.99
May	10,370	4,230	5,393	1.59	1.83
June	32,480	3,910	7,446	2.19	2.44
July	7,960	1,865	3,872	1.14	1.31
August	12,600	1,865	4,744	1.40	1.61
September	21,100	1,865	4,343	1.28	1.43
October	8,300	1,620	2,536	.75	.86
November	5,350	1,740	2,542	.75	.84
December	4,390	1,500	2,260	.66	.76
The year	76,200	1,500	6,850	2.01	27.17
1904					
January	4,110	1,300	2,226	0.655	0.76
February	13,020	2,026	4,151	1.22	1.32
March	13,440	2,445	4,177	1.23	1.34
April	3.405	1,950	2,370	.697	.78
May	19,320	1,950	3,521	1.04	1.20
June	18,270	1,860	4,770	1.40	1.56
July	12,810	1,685	3,624	1.07	1.23
August	11,987	1,860	4,434	1.30	1.50
September	5,768	1,372	2,376	.699	.78
October	1,372	1,050	1,268	.373	.43
November	2,775	1,372	1,931	.568	.63
December	5,455	1,523	2,630	.774	.89
The year	19,320	1,050	3,123	0.92	12.42

MONTHLY DISCHARGE OF YADKIN RIVER NEAR SALISBURY, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1905					
January	16,000	1,235	4,007	1.18	1.36
February	27,520	1,950	7,107	2.09	2.18
March	5,300	2,445	3,447	1.01	1.16
April	12,750	2,140	4,153	1.22	1.36
May	14,320	2,240	5,977	1.76	2.03
June	4,110	1,685	2,332	.686	.76
July	33,820	1,770	7,835	2.31	2.66
August	22,890	2,340	6,678	1.97	2.27
September	4,995	1,770	2,381	.700	.78
October	7,190	1,600	2,221	.653	.75
November	2,045	1,685	1,818	.535	.60
December	31,460	1,770	6,513	1.92	2.21
The year	33,820	1,235	4,539	1.34	18.12
1906					
January	34,600	2,990	10,300	3.03	3.49
February	6,760	3,130	4,190	1.23	1.28
March	14,600	3,270	6,020	1.77	2.04
April	11,600	2,590	4,630	1.36	1.52
May	6,760	2,340	3,460	1.02	1.18
June	16,400	2,340	6,230	1.83	2.04
July	21,500	2,720	7,540	2.22	2.56
August	51,400	3,420	10,900	3.21	3.70
September	38,800	4,170	7,630	2.24	2.50
October	36,400	4,010	7,700	2.26	2.61
November	31,000	4,010	6,140	1.81	2.02
December	6,580	3,270	4,720	1.39	1.60
The year	38,800	2,340	6,620	1.95	26.54
1907					
January	22,700	3,070	5,020	1.48	1.71
February	6,460	3,070	3,640	1.07	1.11
March	7,590	2,930	4,600	1.35	1.56
April	13,000	3,210	5,230	1.54	1.72
May	4,720	2,400	3,280	.965	1.11
June	21,200	2,930	6,750	1.99	2.22
July	7,980	2,400	3,750	1.10	1.27
August	5,740	1,910	2,960	.871	1.00
September	26,900	1,570	3,610	1.06	1.18
October	3,500	1,680	2,260	.665	.77
November	21,700	2,150	4,510	1.33	1.48
December	38,000	2,530	8,210	2.41	2.78
The year	38,000	1,570	4,485	1.32	17.91

MONTHLY DISCHARGE OF YADKIN RIVER NEAR SALISBURY, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1908					
January	33,400	3,500	8,640	2.54	2.93
February	48,200	3,500	10,500	3.09	3.33
March	22,200	4,720	6,840	2.01	2.32
April	10,400	4,090	5,360	1.58	1.76
May	9,170	3,360	4,860	1.43	1.65
June	17,700	2,660	4,660	1.37	1.53
July	14,900	2,660	5,580	1.64	1.89
August	67,800	2,150	9,120	2.68	3.09
September	15,300	2,400	4,540	1.34	1.50
October	22,200	2,400	6,370	1.87	2.16
November	12,200	3,500	4,730	1.39	1.55
December	28,600	3,210	6,600	1.94	2.24
The year	67,800	2,150	6,483	1.91	25.95
1909					
January	12,600	4,090	5,890	1.73	1.99
February	13,000	3,500	5,630	1.66	1.73
March	17,700	4,090	6,280	1.85	2.13
April	16,300	4,090	5,600	1.65	1.84
May	54,400	3,500	10,200	3.00	3.46
June	44,700	5,050	12,200	3.59	4.00
July	12,200	2,930	5,130	1.51	1.74
August	28,000	2,600	6,030	1.77	2.04
September	5,740	2,150	3,000	.882	.98
October	5,220	2,150	2,750	.809	.93
November	3,500	2,280	2,580	.759	.85
December	8,770	1,570	3,200	.941	1.08
The year	54,400	1,570	5,708	1.68	22.77
1910					
January	14,000	1,900	4,177	1.23	1.42
February	15,000	3,200	6,096	1.79	1.86
March	25,000	2,700	5,681	1.67	1.92
April	6,000	2,300	3,027	.890	.99
May	10,500	2,100	3,281	.965	1.11
June	40,000	1,700	6,460	1.90	2.12
July	11,000	1,900	3,623	1.07	1.23
August	7,000	1,700	2,913	.857	.99
September	15,000	1,600	3,800	1.12	1.25
October	15,000	1,800	3,290	.968	1.12
November	2,200	1,700	1,973	.580	.65
December	7,000	1,900	2,748	.808	.93
The year	40,000	1,600	3,922	1.15	15.59

MONTHLY DISCHARGE OF YADKIN RIVER NEAR SALISBURY, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1911					
January	20,000	2,400	4,384	1.30	1.50
February	11,000	2,300	3,779	1.11	1.16
March	8,000	2,100	4,077	1.20	1.38
April	20,000	2,800	5,860	1.72	1.92
May	3,500	1,550	2,313	.680	.78
June	3,500	1,300	1,922	.565	.63
July	4,600	1,100	1,627	.479	.55
August	11,000	1,000	2,113	.621	.72
September	8,770	1,250	2,570	.756	.84
October	24,800	1,250	4,360	1.28	1.48
November	5,740	1,400	3,180	.935	1.04
December	17,200	1,940	4,900	1.44	1.66
The year	24,800	1,000	3,424	1.01	13.66
1912					
January	7,590	2,060	3,530	1.04	1.20
February	17,200	2,290	5,840	1.72	1.86
March	103,000	4,090	13,900	4.09	4.72
April	14,400	3,790	6,020	1.77	1.98
May	57,200	3,500	8,520	2.51	2.89
June	5,050	2,410	3,550	1.04	1.16
July	11,700	2,060	4,190	1.23	1.42
August	3,500	1,530	2,180	.641	.74
September	23,200	1,440	4,100	1.21	1.35
October	3,210	1,730	2,230	.656	.76
November	12,600	1,940	2,950	.868	.97
December	2,930	1,940	2,330	.685	.79
The year	103,000	1,440	4,945	1.45	19.84
1913					
January	22,200	2,170	4,380	1.29	1.49
February	12,200	2,410	3,500	1.03	1.07
March	77,200	2,660	12,000	3.53	4.07
April	23,800	3,500	5,850	1.72	1.92
May	25,900	2,410	5,640	1.66	1.91
June	5,390	2,170	3,330	.979	1.09
July	6,460	1,530	2,600	.765	.88
August	10,400	1,730	4,850	1.43	1.65
September	13,900	1,730	4,110	1.21	1.35
October	12,200	1,630	3,700	1.09	1.26
November	12,600	2,170	3,360	.988	1.10
December	19,200	2,170	4,530	1.33	1.53
The year	77,200	1,530	4,821	1.42	19.32

MONTHLY DISCHARGE OF YADKIN RIVER NEAR SALISBURY, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1914					
January	24,300	2,660	4,820	1.42	1.64
February	18,200	3,500	6,370	1.87	1.95
March	9,580	3,360	4,480	1.32	1.52
April	15,800	3,500	5,490	1.61	1.80
May	5,050	2,170	2,950	.868	1.00
June	2,930	1,630	2,050	.603	.67
July	6,100	1,160	2,400	.706	.81
August	6,100	1,130	2,070	.609	.70
September	2,540	1,300	1,680	.494	.55
October	26,400	1,250	4,470	1.31	1.51
November	7,210	1,690	2,510	.738	.82
December	50,200	3,790	12,000	3.53	4.07
The year	50,200	1,130	4,274	1.26	17.04
1915					
January	54,400	4,240	11,300	3.32	3.83
February	24,800	4,400	8,170	2.40	2.50
March	9,580	3,790	5,060	1.49	1.72
April	5,050	3,070	3,810	1.12	1.25
May	8,370	2,800	3,960	1.16	1.34
June	32,800	2,060	5,560	1.64	1.83
July	4,400	1,630	2,540	.747	.86
August	32,800	1,690	6,340	1.86	2.14
September	22,700	1,940	4,520	1.33	1.48
October	24,600	2,660	6,130	1.80	2.08
November	18,500	2,410	3,910	1.15	1.28
December	38,600	2,410	7,270	2.14	2.47
The year	54,400	1,630	5,714	1.68	22.78
1916					
January	10,000	3,500	5,010	1.47	1.70
February	54,200	3,790	9,180	2.70	2.91
March	5,740	3,210	3,950	1.16	1.34
April	8,000	2,930	3,860	1.14	1.27
May	29,000	2,060	4,270	1.26	1.45
June	28,400	2,410	6,120	1.80	2.01
July	107,000	2,410	20,700	6.09	7.02
August	11,200	3,500	6,000	1.76	2.13
September	8,000	2,660	3,500	1.03	1.15
October	18,500	2,410	3,740	1.10	1.27
November	3,210	2,540	2,790	.821	.92
December	5,390	2,290	3,290	.968	1.12
The year	107,000	2,060	6,034	1.77	24.19

MONTHLY DISCHARGE OF YADKIN RIVER NEAR SALISBURY, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1917					
January	12,000	2,930	4,640	1.36	1.57
February	10,800	2,930	4,990	1.47	1.53
March	43,400	4,720	11,100	3.26	3.76
April	24,600	3,210	5.700	1.68	1.87
May	4,400	2,660	3,380	.994	1.15
June	5,390	2,060	3,060	.900	1.00
July	11,200	1,940	5,170	1.52	1.75
August	9,200	1,530	2,860	.841	.97
September	34,400	1,630	5,100	1.50	1.67
October	5,740	1,630	2,200	.647	.75
November	3,790	1,730	2,110	.621	.69
December	2,800	1,340	2,120	.624	.72
The year	43,400	1,340	4,369	1.29	17.43
1918					
January	18,000	1,630	5,740	1.69	1.95
February	10,000	2,800	4,270	1.26	1.31
March	5,050	2,290	2,910	.856	.99
April	22,000	2,060	5,480	1.61	1.80
May	6,100	2,410	3,570	1.05	1.21
June	4,400	1,530	2,290	.674	.75
July	5,050	1,530	2,500	.735	.85
August	14,700	1,730	3,530	1.04	1.20
September	5,390	1,630	2,530	.744	.83
October	34,400	1,360	5,270	1.55	1.79
November	19,000	2,610	4,850	1.43	1.60
December	42,200	2,740	9,370	2.76	3.18
The year	42,200	1,360	4,359	1.28	17.46
1919					
January	45,200	4,200	9,260	2.72	3.14
February	17,000	4,200	6,630	1.95	2.03
March	36,200	4,840	9,740	2.86	3.36
April	12,000	3,900	5,440	1.60	1.78
May	15,600	5,160	8,230	2.42	2.79
June	14,700	3,600	5,100	1.50	1.67
July	72,200	2,740	11,500	3.38	3.90
August	12,400	2,610	3,990	1.17	1.35
September	3,900	1,870	2,410	.709	.79
October	7,300	1,960	2,940	.865	.99
November	8,060	2,300	2,910	.856	.96
December	16,000	2,420	3,970	1.17	1.35
The year	72,200	1,870	6,010	1.77	24.11

MONTHLY DISCHARGE OF YADKIN RIVER NEAR SALISBURY, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
January	10,400	1,420	3,730	1.10	1.27
February	20,500	3,110	5,470	1.61	1.74
March	14,700	3,110	6,720	1.98	2.28
April	37,400	4,020	9,780	2.88	3.21
May	5,600	2,480	3,520	1.04	1.20
June	12,900	2,480	4,190	1.23	1.37
July	7,360	1,920	3,520	1.04	1.20
August	25,200	1,820	6,490	1.91	2.20
September	10,000	2,480	4,040	1.19	1.33
October	12,400	2,130	2,980	.876	1.01
November	21,500	2,240	4,660	1.37	1.53
December	32,000	4,600	9,550	2.81	3.24
The year	37,400	1,420	5,388	1.58	21.58
1921					
January	27,400	3,800	7,820	2.30	2.65
February	42,800	5,600	10,100	2.97	3.09
March	5,600	4,280	4,680	1.38	1.59
April	23,500	3,800	6,820	2.01	2.24
May	10,800	3,640	5,720	1.68	1.94
June	5,260	2,480	3,530	1.04	1.16
July	6,640	2,100	3,280	.965	1.11
August	3,400	1,640	2,150	.632	.73
September	4,230	1,400	2,090	.615	.69
October	8,240	1,400	1,850	.544	.63
November	24,400	2,210	3,920	1.15	1.28
December	4,740	2,000	2,560	.753	.87
The year	42,800	1,400	4,543	1.34	17.98
1922					
January	8,240	2,000	3,200	0.941	1.08
February	23,900	3,250	7,370	2.17	2.26
March	18,800	3,890	8,390	2.47	2.85
April	10,200	3,560	5,240	1.54	1.72
May	25,000	3,560	7,900	2.32	2.68
June	17,800	3,100	6,580	1.94	2.16
July	16,800	3,250	5,280	1.55	1.99
August	14,500	2,320	3,710	1.09	1.26
September	5,760	1,720	2,330	.685	.76
October	11,800	1,640	2,920	.859	.99
November	2,100	1,900	2,000	.588	.66
December	6,100	2,000	2,700	.794	.92
The year	25,000	1,640	4,802	1.41	19.33

MONTHLY DISCHARGE OF YADKIN RIVER NEAR SALISBURY, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1923					
January	11,800	2,320	3,890	1.14	1.31
February	8,620	2,560	4,480	1.32	1.38
March	66,000	3,100	11,000	3.24	3.74
April	17,800	3,100	5,260	1.55	1.73
May	10,200	2,820	4,420	1.30	1.50
June	4,400	1,900	2,710	.797	.89
July	5,420	1,560	2,460	.724	.83
August	10,600	1,900	3,510	1.03	1.19
September	7,140	1,560	2,750	.809	.90
October	2,560	1,260	1,700	.50	.58
November	10,200	1,640	2,520	.741	.83
December	20,800	2,320	4,010	1.18	1.36
The year	66,000	1,260	3,984	1.18	16.24

YADKIN RIVER AT HIGH ROCK, N. C.

LOCATION. About 50 feet upstream from Brinkles Ferry at High Rock, Davidson County, about 14 miles downstream from Salisbury gaging station and about 15 miles upstream from big dam of Tallassee Power Co., at Badin.

DRAINAGE AREA. 3,930 square miles.

RECORDS AVAILABLE. January 8, 1919 to December 31, 1923.

GAGE. Friez 7-day graph water-stage recorder in concrete well and shelter on right bank about 40 feet from edge of river; attended by employees of Tallassee Power Co. Zero flow at gage about elevation 592.8 feet above sea level.

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

EXTREMES OF DISCHARGE. 1919-1923: Maximum stage, elevation 605.9 feet, morning of July 21, 1921 (discharge, 104,000 second-feet); minimum mean daily stage, elevation 593.68 feet October 17-19, 1923 (discharge, 1,170 second-feet); 1916 flood elevation, 612.1 feet, (discharge, 184,000 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. Slight diurnal regulation 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 not satisfactory. Daily discharge ascertained by applying to the rating table mean daily gage height obtained by inspecting gage height graphs. Records fair.

COOPERATION. Water-stage recorder graphs and list of discharge measurements furnished by Tallassee Power Co.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF YADKIN RIVER AT HIGH ROCK, N. C.

Week	Year				
	1919	1920	1921	1922	1923
1		2,607	5,233	2,461	6,289
2	6,070	3,269	11,049	4,549	4,104
3	6,391	3,543	14,066	3,671	2,693
4	12,129	6,349	6,441	5,670	3,966
5	9,676	9,726	9,523	7,997	7,119
6	8,150	9,876	17,249	10,270	7,127
7	8,247	4,719	13,013	12,599	5,543
8	8,287	3,997	10,004	4,991	3,457
9	12,437	4,330	6,376	9,089	6,130
10	14,493	7,134	5,276	11,041	9,511
11	7,926	9,509	5,227	12,033	21,219
12	6,187	7,797	5,457	7,540	15,593
13	5,186	8,380	5,536	8,019	5,659
14	4,483	24,143	5,974	7,494	6,873
15	6,647	9,571	4,529	5,559	8,667
16	6,349	5,986	11,139	5,906	6,179
17	5,059	5,834	8,370	6,297	4,397
18	6,324	4,217	7,476	10,141	5,377
19	7,459	4,357	6,694	8,249	4,087
20	7,284	3,286	7,393	13,663	7,006
21	6,430	3,864	5,336	9,624	5,609
22	6,599	3,243	4,589	6,766	5,257
23	5,276	7,499	4,700	13,734	2,954
24	4,847	3,866	3,911	6,046	3,083
25	4,347	6,867	3,476	5,990	2,236
26	4,901	3,310	4,241	3,951	2,823
27	3,520	2,390	2,953	7,347	2,501
28	3,243	3,416	3,763	5,046	2,310
29	30,484	5,601	5,534	9,779	2,900
30	13,531	3,194	3,224	5,349	1,899
31	5,169	2,297	2,771	4,464	3,997
32	3,583	5,700	2,560	3,931	5,544
33	6,003	8,039	3,040	4,426	3,573
34	3,584	6,714	2,237	3,903	3,297
35	3,424	10,757	1,886	3,359	3,030
36	2,813	4,023	1,923	3,490	3,951
37	2,597	4,129	2,369	2,621	4,247
38	2,383	3,576	2,123	2,290	2,096
39	2,443	6,780	2,554	2,290	3,924
40	2,500	5,776	1,843	1,883	1,517
41	3,034	2,910	1,539	6,189	1,241
42	3,934	2,711	1,413	2,950	1,203
43	4,461	2,671	1,499	2,443	1,641
44	3,160	2,831	8,086	2,197	1,724
45	2,790	2,691	3,527	2,179	5,167
46	4,890	6,610	2,871	2,141	2,480
47	3,263	4,423	3,701	2,290	2,347
48	3,077	12,330	3,423	2,383	2,904
49	3,076	10,410	4,143	2,537	7,969
50	8,630	15,517	2,713	2,891	3,627
51	3,766	6,584	3,006	4,619	3,286
52	3,181	8,244	3,163	3,395	3,795

MONTHLY DISCHARGE OF YADKIN RIVER AT HIGH ROCK, N. C.
[Drainage area, 3,930 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1919					
January 8-31	21,500	4,800	8,540	2.17	1.94
February	14,000	5,130	8,720	2.22	2.31
March	21,000	4,800	9,110	2.32	2.68
April	13,900	4,170	5,570	1.42	1.58
May	8,630	4,800	6,950	1.77	2.04
June	6,590	4,170	4,990	1.27	1.42
July	86,000	3,120	12,000	3.05	3.52
August	9,050	2,690	4,300	1.09	1.26
September	4,170	2,290	2,670	.679	.76
October	5,470	2,290	3,470	.883	1.02
November	9,470	2,690	3,470	.883	.99
December	22,000	2,950	4,510	1.15	1.33
1920					
January	13,000	2,030	4,500	1.15	1.33
February	31,600	3,560	6,480	1.65	1.78
March	17,000	3,710	7,650	1.95	2.25
April	42,000	4,170	11,100	2.82	3.15
May	6,210	2,970	3,820	.972	1.12
June	14,000	2,690	5,250	1.34	1.50
July	8,210	1,900	3,530	.898	1.04
August	19,800	2,160	6,980	1.78	2.05
September	11,200	2,970	4,770	1.21	1.35
October	12,600	2,560	3,460	.880	1.01
November	20,400	2,560	5,180	1.32	1.47
December	30,000	5,130	10,700	2.72	3.14
The year	42,000	1,900	6,120	1.56	21.19
1921					
January	31,000	4,480	9,090	2.31	2.66
February	52,500	6,210	12,300	3.13	3.26
March	6,990	4,800	5,440	1.38	1.59
April	27,600	4,170	7,480	1.90	2.12
May	12,100	4,480	6,450	1.64	1.89
June	5,470	3,120	4,060	1.03	1.15
July	7,790	2,560	3,830	.975	1.12
August	4,020	1,780	2,520	.641	.74
September	5,130	1,390	2,220	.565	.63
October	5,130	1,300	1,680	.427	.49
November	20,400	2,690	4,530	1.15	1.28
December	5,130	2,290	3,280	835	.96
The year	52,500	1,300	5,240	1.33	17.89

MONTHLY DISCHARGE OF YADKIN RIVER AT HIGH ROCK, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1922					
January	9,050	2,290	4,120	1.05	1.21
February	23,800	4,170	9,000	2.29	2.38
March	19,800	5,130	9,990	2.54	2.93
April	10,800	4,170	6,480	1.65	1.84
May	28,400	4,800	9,860	2.51	2.89
June	19,300	3,560	7,660	1.95	2.18
July	16,600	3,860	6,670	1.70	1.96
August	5,830	2,830	4,040	1.03	1.19
September	5,830	2,160	2,680	.682	.76
October	8,630	1,780	3,260	.830	.96
November	2,420	2,030	2,230	.567	.63
December	5,830	2,290	3,300	.840	.97
The year	28,400	1,780	5,770	1.47	19.90
1923					
January	8,630	2,560	4,590	1.17	1.35
February	9,890	2,970	5,680	1.45	1.51
March	65,200	4,020	12,300	3.13	3.61
April	18,200	3,860	6,570	1.67	1.86
May	11,700	3,560	5,380	1.37	1.58
June	6,210	2,030	3,020	.768	.86
July	6,990	1,430	2,610	.664	.77
August	9,470	2,030	3,880	.987	1.14
September	9,470	1,660	3,460	.880	.98
October	1,900	1,170	1,410	.359	.41
November	10,800	1,540	2,980	.758	.85
December	19,300	2,970	4,610	1.17	1.35
The year	65,200	1,170	4,710	1.20	16.27

YADKIN RIVER AT NORWOOD, N. C.

LOCATION. At Blalocks Ferry 1 mile above Richland Creek and about 2 miles from Norwood, Stanly County.

DRAINAGE AREA. 4,614 square miles.

RECORDS AVAILABLE. September 1, 1896 to December 31, 1899, when station was discontinued.

GAGE. Vertical rod fastened to tree near ferry; read by W. B. Nichols.

DISCHARGE MEASUREMENTS. Made from ferryboat.

CHANNEL AND CONTROL. Bed of stream, sand and gravel; shifting. Current swift; channel straight and free from all obstructions. Control not known. Both banks low and during extreme stages are overflowed for a distance of half a mile.

EXTREMES OF DISCHARGE. Maximum stage recorded, 11.0 feet September 25, 1898 (discharge not determined); minimum stage recorded, 0.8 foot September 17, 1897 (discharge, 1,310 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. Slight diurnal regulation.

ACCURACY. Stage-discharge relation shifting. Rating curves good for low stages; fairly good for medium stages. Gage read once daily to tenths. Daily discharge ascertained by applying daily gage height to rating table. Records fairly good.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF YADKIN RIVER AT NORWOOD, N. C.

Week	Year			
	1896	1897	1898	1899
1		3,114	3,540	13,274
2		2,997	3,323	19,920
3		2,259	3,160	11,149
4		7,423	7,653	6,240
5		5,646	4,354	7,129
6		22,161	3,106	41,986
7		8,483	3,486	16,534
8		16,284	3,811	14,620
9		6,966	3,486	22,254
10		18,807	4,789	17,491
11		20,623	5,060	34,656
12		9,409	4,517	
13		6,309	11,866	
14		19,203	9,149	
15		9,517	4,843	8,363
16		6,091	4,191	8,123
17		5,277	5,549	7,846
18		8,443	3,323	6,960
19		5,874	3,920	10,076
20		7,306	2,997	8,320
21		5,549	7,871	6,060
22		4,680	3,594	5,409
23		7,263	1,986	4,721
24		6,146	2,343	9,883
25		4,463	4,300	4,407
26		2,403	2,086	4,721
27		3,703	2,306	5,509
28		5,549	3,594	3,697
29		6,927	2,779	3,103
30		6,531	6,363	5,417
31		3,431	4,680	5,267
32		4,463	3,486	3,274
33		3,377	6,377	3,146
34		4,029	6,070	2,289
35		2,951	7,014	3,210
36	4,174	1,866	7,826	3,284
37	2,029	1,646	3,403	3,324
38	1,847	1,550	2,260	4,250
39	1,833	1,889	22,719	2,586
40	7,724	1,520	8,514	2,206
41	1,980	4,400	5,277	4,264
42	1,847	3,003	4,897	2,799
43	1,946	3,377	9,749	2,204
44	2,016	3,060	5,386	3,289
45		2,580	5,874	3,504
46	3,505	2,134	6,146	2,584
47	2,574	1,969	7,123	2,457
48	3,343	5,140	4,843	2,717
49	5,960	4,191	11,507	2,727
50	4,109	3,169	4,951	5,883
51	6,199	3,580	5,603	2,763
52	3,437	5,060	8,295	3,191

MONTHLY DISCHARGE OF YADKIN RIVER AT NORWOOD, N. C.
[Drainage area, 4,614 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1896					
September	9,700	1,450	2,409	0.52	0.58
October	26,100	1,640	3,225	.70	.81
November	20,500	2,080	4,176	.91	1.01
December	11,700	2,080	4,885	1.06	1.22
1897					
January	15,810	2,780	4,880	1.06	1.22
February	50,120	4,300	13,760	2.98	3.10
March	33,330	5,440	13,017	2.82	3.25
April	45,010	5,060	9,755	2.11	2.35
May	14,400	4,300	6,388	1.38	1.59
June	14,400	3,160	5,397	1.17	1.31
July	15,810	2,400	5,495	1.19	1.37
August	6,580	2,400	3,712	.81	.93
September	2,780	1,310	1,774	.38	.43
October	11,800	1,480	2,999	.65	.75
November	8,480	1,820	2,973	.64	.71
December	7,340	2,080	4,171	.90	1.04
The year	50,120	1,310	6,193	1.34	18.05
1898					
January	11,330	2,780	4,506	0.98	1.13
February	4,300	2,780	3,445	.75	.78
March	27,490	2,780	5,972	1.29	1.49
April	15,820	3,540	6,128	1.33	1.48
May	18,000	2,400	4,469	.97	1.12
June	5,820	1,650	2,755	.60	.67
July	8,480	1,380	3,928	.85	.98
August	12,800	2,110	5,353	1.16	1.34
September	63,260	1,820	8,887	1.93	2.15
October	23,840	3,160	7,045	1.53	1.76
November	9,240	3,540	5,858	1.27	1.41
December	17,270	3,540	7,461	1.62	1.87
The year	63,260	1,380	5,484	1.19	16.18
1899					
January	51,000	5,400	12,026	2.61	3.00
February	66,750	5,820	22,070	4.78	4.97
March 1-18*	----------	4,600	24,572	5.33	6.14
April 9-30	----------	5,820	8,219	1.78	1.99
May	17,200	5,000	7,523	1.63	1.88
June	12,980	3,570	5,865	1.27	1.42
July	14,180	2,670	4,489	.97	1.12
August	7,500	2,080	3,321	.72	.83
September	8,760	2,080	3,355	.73	.81
October	6,240	1,790	2,840	.62	.71
November	4,250	2,080	2,999	.65	.72
December	9,180	2,080	3,739	.81	.93

*Approximate.

YADKIN RIVER NEAR PEEDEE, N. C.

LOCATION. At a private ferry about 1,500 feet below the dam of the Rockingham Power Co., half a mile below the mouth of Smith Creek, 1 mile above Partridge Creek, and 2 miles northeast of Peedee, Anson County.

DRAINAGE AREA. 6,830 square miles.

RECORDS AVAILABLE. August 9, 1906 to January 21, 1912, when station was discontinued.

GAGE. Vertical staff gage on right bank above ferry landing; read by W. S. Ide.

DISCHARGE MEASUREMENTS. Made from ferry boat.

CHANNEL AND CONTROL. Bed of stream rough and irregular. Control not known.

EXTREMES OF DISCHARGE. Maximum stage recorded, 117.0 feet August 27, 1908 (discharge, 124,000 second-feet); minimum stage recorded, 86.4 feet August 1-2, 1911 (discharge, 1,560 second-feet).

ICE. Stage-discharge relation seldom if ever affected by ice.

REGULATION. The large power plant of the Rockingham Power Co., was put in operation January 21, 1912. The tailrace of the plant empties into the river below the gage so there is no flow past the gage at times when this plant is using all the flow of the river. There had not been much artificial regulation of the flow prior to January 21, 1912.

ACCURACY. Stage-discharge relation permanent. Rating curve well defined between 4,000 and 15,000 second-feet, fairly well defined between 2,800 and 4,000 second-feet; extended below 2,800 and above 15,000 second-feet. Gage read to half-tenths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good between 4,000 and 15,000 second-feet and fairly good above and below those stages.

COOPERATION. Gage height record furnished by engineers of the Rockingham Power Co.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF YADKIN RIVER NEAR PEEDEE, N. C.

Week	Year						
	1906	1907	1908	1909	1910	1911	1912
1	----------	11,509	16,429	8,763	3,659	15,060	9,051
2	----------	6,054	34,271	7,683	4,331	5,696	7,723
3	----------	5,223	10,643	11,763	4,084	4,131	----------
4	----------	4,791	6,946	6,931	9,874	4,043	----------
5	----------	4,853	11,871	5,537	11,631	3,700	----------
6	----------	7,669	8,543	10,043	5,603	7,186	----------
7	----------	5,456	32,871	9,043	11,277	7,571	----------
8	----------	8,614	15,171	11,843	13,231	4,700	----------
9	----------	12,114	9,120	10,234	17,060	3,957	----------
10	----------	7,500	8,889	9,000	9,000	5,779	----------
11	----------	10,369	12,026	8,289	7,231	7,940	----------
12	----------	6,100	23,306	6,389	5,004	5,914	----------
13	----------	4,820	12,760	12,331	4,310	6,357	----------
14	----------	8,007	9,031	6,491	4,133	7,656	----------
15	----------	7,117	6,254	7,094	3,789	11,320	----------
16	----------	5,529	8,389	8,046	6,303	10,526	----------
17	----------	13,483	6,254	5,957	4,280	5,581	----------
18	----------	7,206	6,920	17,434	3,619	4,580	----------
19	----------	7,077	6,557	6,466	8,356	3,900	----------
20	----------	4,763	5,480	5,134	3,934	4,383	----------
21	----------	4,514	7,160	25,557	4,343	3,066	----------
22	----------	12,803	4,703	8,754	3,520	2,534	----------
23	----------	8,363	7,354	27,871	3,459	3,764	----------
24	----------	17,629	6,383	15,343	21,440	3,047	----------
25	----------	5,766	6,024	14,554	7,757	3,391	----------
26	----------	8,917	5,357	10,549	5,114	2,933	----------
27	----------	6,351	15,871	8,291	4,271	2,299	----------
28	----------	6,477	7,934	6,440	6,883	2,537	----------
29	----------	6,134	4,346	5,313	8,383	3,746	----------
30	----------	4,181	8,146	6,777	3,911	1,973	----------
31	----------	4,401	5,037	23,927	3,771	1,870	----------
32	----------	4,676	6,961	10,229	6,191	3,277	----------
33	19,580	4,283	3,843	7,834	3,313	2,213	----------
34	13,289	4,187	36,726	4,837	4,619	2,129	----------
35	32,443	2,669	39,906	4,146	6,056	7,201	----------
36	12,663	3,709	12,880	3,447	12,323	6,669	----------
37	7,623	3,567	6,399	3,560	5,169	2,794	----------
38	7,109	2,564	4,043	5,914	3,039	2,809	----------
39	6,849	8,270	5,566	5,413	2,769	4,663	----------
40	9,691	4,167	4,236	3,283	2,957	2,310	----------
41	6,431	3,094	11,937	3,707	9,860	2,566	----------
42	13,706	2,613	4,676	4,086	4,210	10,230	----------
43	9,177	2,534	16,280	3,760	3,893	8,750	----------
44	5,920	2,931	17,571	3,310	2,957	3,486	----------
45	5,317	3,261	6,397	3,503	3,039	8,539	----------
46	5,317	3,174	12,994	3,817	2,903	6,263	----------
47	10,657	13,221	6,360	3,310	2,903	5,126	----------
48	5,763	8,886	5,380	3,201	2,850	4,940	----------
49	5,191	4,133	6,186	3,229	5,043	3,706	----------
50	6,731	19,489	7,769	6,223	3,713	4,104	----------
51	8,094	10,426	12,746	4,756	3,147	14,906	----------
52	6,128	23,008	16,502	3,711	5,006	22,558	----------

MONTHLY DISCHARGE OF YADKIN RIVER NEAR PEEDEE, N. C.
[Drainage area, 6,830 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1906					
August	52,700	5,000	16,300	2.39	2.04
September	49,400	5,380	10,700	1.57	1.75
October	32,100	4,940	9,410	1.38	1.59
November	23,000	4,940	6,720	.984	1.10
December	10,800	4,940	6,450	.944	1.09
1907					
January	21,300	4,520	6,680	.978	1.13
February	15,400	4,520	7,590	1.11	1.16
March	17,800	4,520	7,780	1.14	1.31
April	27,900	4,730	8,400	1.23	1.37
May	9,200	3,700	5,690	.833	.96
June	30,700	4,940	11,400	1.67	1.86
July	12,700	3,310	5,890	.862	.99
August	7,240	2,560	4,160	.609	.70
September	21,000	2,210	4,380	.641	.72
October	6,280	2,380	3,090	.452	.52
November	30,000	2,930	6,680	.978	1.09
December	41,700	3,700	14,000	2.05	2.36
The year	41,700	2,210	7,145	1.05	14.17
1908					
January	48,500	5,820	16,100	2.36	2.72
February	49,400	7,240	17,100	2.50	2.70
March	43,700	7,240	13,700	2.01	2.32
April	12,200	5,820	7,450	1.09	1.22
May	10,200	4,520	6,310	.924	1.07
June	15,100	4,100	6,200	.908	1.01
July	23,400	3,700	8,710	1.28	1.48
August	124,000	3,500	20,000	2.93	3.38
September	20,400	3,700	7,320	1.06	1.18
October	33,200	3,700	10,900	1.60	1.84
November	25,800	5,160	8,370	1.23	1.37
December	50,200	4,940	10,600	1.55	1.79
The year	124,000	3,500	11,063	1.62	22.08
1909					
January	17,200	5,820	8,500	1.24	1.43
February	25,100	4,940	9,890	1.45	1.51
March	16,600	5,820	8,910	1.30	1.50
April	15,400	5,380	6,910	1.01	1.13
May	46,500	4,520	13,400	1.96	2.26
June	51,000	6,760	16,300	2.39	2.67
July	14,500	4,100	7,090	1.04	1.20
August	48,500	3,700	10,600	1.55	1.79
September	9,200	3,310	4,540	.665	.74
October	6,280	3,120	3,670	.537	.62
November	4,520	3,120	3,460	.507	.57
December	11,100	2,740	4,370	.640	.74
The year	51,000	2,740	8,136	1.19	16.16

MONTHLY DISCHARGE OF YADKIN RIVER NEAR PEEDEE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1910					
January	21,000	2,930	6,590	0.965	1.11
February	23,000	4,940	9,460	1.39	1.45
March	35,900	4,100	8,730	1.28	1.48
April	8,680	3,500	4,590	.672	.75
May	16,000	3,120	4,950	.725	.84
June	44,100	2,560	8,980	1.31	1.46
July	15,400	2,930	5,620	.823	.95
August	9,720	2,560	4,440	.650	.75
September	22,000	2,560	6,220	.911	1.02
October	21,000	2,930	5,010	.734	.85
November	3,310	2,560	2,920	.428	.48
December	9,450	2,560	4,170	.611	.70
The year	44,100	2,560	5,973	.87	11.84
1911					
January	31,400	3,700	6,890	1.01	1.16
February	17,200	3,500	5,820	.852	.89
March	10,800	3,310	6,200	.908	1.05
April	22,400	4,520	8,520	1.25	1.40
May	5,380	2,560	3,770	.552	.64
June	5,820	2,210	3,200	.469	.52
July	7,480	1,640	2,600	.381	.44
August	16,600	1,560	2,950	.432	.50
September	14,500	1,880	4,690	.687	.77
October	24,400	2,120	5,770	.845	.97
November	21,000	2,930	5,850	.857	.96
December	37,400	3,120	10,100	1.48	1.71
The year	37,400	1,560	5,530	.81	11.01
1912					
January 1-18	11,300	4,730	7,770	1.14	0.76

FISHER RIVER NEAR DOBSON, N. C.

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

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

RECORDS AVAILABLE. September 1, 1920 to December 31, 1923.

GAGE. Standard enameled staff gage fastened to tree on left bank about 20 feet above bridge; read by Miss Ada Kidd.

DISCHARGE MEASUREMENTS. Made from lower side of bridge.

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

EXTREMES OF DISCHARGE. 1920-1923: Maximum stage recorded, 10.1 feet at 5 p.m. March 16, 1923 (discharge, 6,700 second-feet); minimum stage recorded, 0.34 foot at 7 a.m. and 5 p.m. July 27, 1923 (discharge, 42 second-feet).

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

REGULATION. Probably none.

ACCURACY. Stage-discharge relation permanent. Rating curve well defined between 54 and 300 second-feet and extended above by comparison with Ararat River near Pilot Mountain, N. C., and therefore should be used with caution. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records probably good.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF FISHER RIVER NEAR DOBSON, N. C.

Week	Year			
	1920	1921	1922	1923
1		149	106	276
2		254	132	119
3		234	156	105
4		268	158	190
5		307	236	241
6		483	234	182
7		301	254	203
8		320	181	129
9		263	332	141
10		218	362	210
11		159	398	1,006
12		174	237	307
13		172	453	179
14		181	249	179
15		171	199	181
16		201	211	156
17		191	222	147
18		214	402	138
19		184	245	147
20		182	484	151
21		195	244	170
22		167	501	159
23		176	1,034	110
24		151	267	111
25		141	253	97
26		159	206	99
27		151	394	121
28		152	412	73
29		193	444	55
30		194	216	51
31		169	169	135
32		214	157	226
33		214	213	125
34		110	166	148
35		90	157	94
36	167	97	141	166
37	161	78	119	109
38	148	84	103	299
39	346	84	98	145
40	162	91	138	97
41	143	73	202	87
42	151	70	119	110
43	156	71	113	103
44	148	437	104	100
45	156	134	105	209
46	319	117	107	114
47	206	117	103	114
48	191	159	100	162
49	208	149	115	254
50	677	110	115	144
51	213	141	151	145
52	174	110	131	129

MONTHLY DISCHARGE OF FISHER RIVER NEAR DOBSON, N. C.
[Drainage area, 109 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
September	1,120	119	198	1.82	2.03
October	185	125	153	1.40	1.61
November	650	119	207	1.90	2.12
December	2,050	154	308	2.83	3.26
1921					
January	760	135	234	2.15	2.48
February	1,440	276	350	3.21	3.34
March	255	151	189	1.73	1.99
April	243	151	188	1.73	1.93
May	243	154	193	1.77	2.04
June	208	122	156	1.43	1.60
July	243	104	172	1.58	1.82
August	243	76	163	1.50	1.73
September	158	68	86.6	.794	.89
October	1,500	65	134	1.23	1.42
November	485	104	145	1.33	1.48
December	255	101	131	1.20	1.38
The year	1,500	65	178	1.64	22.10
1922					
January	298	94	137	1.26	1.45
February	1,120	125	255	2.34	2.44
March	1,060	193	374	3.43	3.95
April	364	175	225	2.06	2.30
May	1,310	178	328	3.01	3.47
June	1,980	196	519	4.76	5.31
July	1,640	164	350	3.20	3.70
August	485	125	174	1.60	1.84
September	171	94	117	1.07	1.19
October	568	82	139	1.28	1.48
November	119	94	104	.954	1.06
December	320	91	127	1.17	1.35
The year	1,980	82	237	2.18	29.54
1923					
January	940	98	173	1.59	1.83
February	650	116	187	1.72	1.79
March	4,100	116	396	3.63	4.18
April	255	135	165	1.51	1.68
May	388	110	156	1.43	1.65
June	161	62	104	.954	1.06
July	223	42	81.5	.748	.86
August	412	76	152	1.39	1.60
September	940	71	173	1.59	1.77
October	154	76	96.6	.886	1.02
November	540	85	142	1.30	1.45
December	595	113	167	1.53	1.76
The year	4,100	42	166	1.52	20.65

ARARAT RIVER NEAR PILOT MOUNTAIN, N. C.

LOCATION. At steel highway bridge on Ararat road, R.F.D. Route No. 3, about a mile below mouth of Tom's Creek, 1½ miles upstream from old Douglas Ford and 5 miles west of Pilot Mountain, Surry County.

DRAINAGE AREA. 250 square miles.

RECORDS AVAILABLE. July 28, 1920 to October 31, 1922, when the station was discontinued because of backwater from dam under construction a quarter of a mile downstream.

GAGE. Standard enameled staff gage fastened to downstream side of pier at left bank; read by Martin A. Fulk.

DISCHARGE MEASUREMENTS. Made from downstream side of highway bridge to which gage is attached.

CHANNEL AND CONTROL. Channel is straight and smooth above and below gage. Banks are about 10 feet high and are rarely overflowed. Control is a rock shoal about 75 feet downstream from gage; excellent for stages below 10 feet. Rock bluffs farther downstream make perfect high water control.

EXTREMES OF DISCHARGE. 1920-1922: Maximum stage recorded, 6.6 feet at 7 a.m. May 19, 1922 (discharge, 5,520 second-feet); minimum stage recorded, 0.30 foot at 8 a.m. September 20, 1921 (discharge, 70 second-feet).

ICE. Probably not enough to affect stage-discharge relation.

REGULATION. Two hydro-electric power plants on the river above may seriously affect the low water flow; their storage however is relatively small.

ACCURACY. Stage-discharge relation permanent. Rating curve well defined between 165 and 2,550 second-feet and probably accurate up to 6,000 second-feet. Gage read to hundredths twice daily which may compensate for regulation because the storage at the power plants is relatively small. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF ARARAT RIVER NEAR PILOT MOUNTAIN, N. C.

Week	Year			Week	Year		
	1920	1921	1922		1920	1921	1922
1		392	192	27		264	666
2		926	256	28		388	625
3		653	305	29		515	763
4		564	319	30		320	423
5		576	441	31		517	370
6		978	553	32	525	247	355
7		569	954	33	653	258	492
8		803	379	34	612	180	273
9		495	783	35	401	178	269
10		441	792	36	335	236	649
11		434	868	37	289	218	321
12		426	524	38	294	202	192
13		465	767	39	587	179	167
14		416	513	40	330	184	496
15		406	423	41	253	163	485
16		904	459	42	221	153	207
17		471	442	43	224	140	211
18		501	862	44	223	1,003	
19		457	661	45	226	303	
20		424	1,521	46	634	249	
21		416	616	47	326	253	
22		374	888	48	1,220	369	
23		415	1,125	49	590	292	
24		317	503	50	1,113	225	
25		266	564	51	508	232	
26		605	439	52	485	194	

MONTHLY DISCHARGE OF ARARAT RIVER NEAR PILOT MOUNTAIN, N. C.
[Drainage area, 250 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
August	1,200	235	516	2.06	2.38
September	1,360	235	373	1.49	1.66
October	455	176	253	1.01	1.16
November	2,980	200	533	2.13	2.38
December	3,860	405	682	2.73	3.15
1921					
January	3,420	360	628	2.51	2.89
February	3,090	455	726	2.90	3.02
March	670	405	443	1.77	2.04
April	2,350	360	547	2.19	2.44
May	700	360	442	1.77	2.04
June	1,200	255	397	1.59	1.77
July	1,600	218	414	1.66	1.91
August	338	162	235	.94	1.08
September	588	106	205	.82	.92
October	3,310	97	285	1.14	1.31
November	1,520	218	342	1.37	1.53
December	430	148	240	.96	1.11
The year	3,420	106	408	1.63	22.06
1922					
January	670	168	267	1.07	1.23
February	2,050	315	546	2.18	2.27
March	1,960	405	778	3.11	3.58
April	822	382	469	1.88	2.10
May	3,750	382	871	3.48	4.01
June	2,050	360	743	2.97	3.31
July	1,520	382	602	2.41	2.78
August	822	196	353	1.41	1.63
September	2,550	127	325	1.30	1.45
October	1,440	140	330	1.32	1.52

SANTEE RIVER BASIN

SANTEE RIVER AT FERGUSON, S. C.

LOCATION. At Ferguson boat landing, three-fourths mile from railroad station, in Orangeburg County, 4 miles downstream from mouth of Eutaw Creek, 6 miles northeast of Eutawville, S. C., and 15 miles upstream from mouth of old Santee-Cooper Canal.

DRAINAGE AREA. 14,800 square miles.

RECORDS AVAILABLE. December 1, 1907 to December 31, 1923.

GAGE. A vertical staff gage with enamel face is attached to a cypress pile driven into river bottom near right bank at boat landing. This gage was established September 21, 1907. On November 23, 1921 an automatic water-stage recorder, Gurley 7-day graph, was placed in a well and shelter about 10 feet below staff gage. Recorder is set with the staff gage. According to the U. S. Weather Bureau, the datum of rod gage has never been changed. Mr. H. C. Savage, reads rod gage daily and attends to recorder.

DISCHARGE MEASUREMENTS. Made from downstream side of steel railroad bridge 1 mile above gage.

CHANNEL AND CONTROL. The channel up to 12 feet is deep, narrow and probably permanent. Left bank above 12 foot stage is a flat swamp 3½ miles wide. Right bank is a flat swamp and about one-half mile wide and somewhat lower than left bank. Control is not definitely known as there are no shoals or riffles below Ferguson. However, much of the river banks and bottom are limestone and marl and it is believed that control is fairly permanent. Current is good at all stages and slope of surface is very even for 50 miles downstream.

EXTREMES OF DISCHARGE. 1907-1923: Maximum stage recorded, 24.5 feet on July 22, 1916 (estimated discharge, 368,000 second-feet); minimum stage recorded, 0.9 foot October 23, 1918 (discharge not estimated). Minimum stage probably caused by regulation of storage reservoirs above.

ICE. None.

DIVERSIONS. None.

REGULATION. Two large hydro-electric plants have fairly large reservoirs on the 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 a hundred miles upstream. However, there is a very distinct weekly fluctuation during average and low water periods caused apparently by shutdown of plants on Saturday afternoons and Sundays. 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. During the rest of the week there is comparatively little fluctuation.

ACCURACY. Stage-discharge relation practically permanent. Rating curve well defined between 6,000 and 16,000 second-feet. Above 16,000 second-feet rating is based on an extended curve 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 heights obtained by inspecting gage height graph. Records good.

COOPERATION. This station is part of Federal Power Commission Project No. 199. All field expenses, equipment and operation costs paid by Columbia Railway and Navigation Company, permittees.

MEAN WEEKLY DISCHARGE, IN SECOND-

Week	Year							
	1907	1908	1909	1910	1911	1912	1913	1914
1	----------	38,929	26,443	10,929	14,757	39,000	14,543	37,500
2	----------	41,071	21,857	11,471	27,971	32,043	13,686	41,243
3	----------	59,857	19,071	10,826	14,857	37,171	11,383	17,114
4	----------	25,286	24,643	17,143	10,157	22,114	15,219	13,914
5	----------	20,886	16,643	23,800	9,120	21,500	48,686	13,543
6	----------	31,914	15,543	23,900	9,119	26,771	34,314	16,800
7	----------	3,5429	30,986	20,586	15,886	24,386	23,129	20,829
8	----------	51,714	26,729	29,071	12,071	61,143	22,657	22,429
9	----------	28,150	33,743	43,143	9,583	50,375	26,400	29,814
10	----------	20,343	24,929	45,714	9,160	43,143	44,929	29,857
11	----------	20,271	32,671	24,986	10,099	44,000	31,100	20,757
12	----------	21,471	32,671	15,771	10,186	125,857	68,429	17,714
13	----------	55,971	23,814	13,500	12,590	35,214	36,857	14,629
14	----------	28,443	24,829	11,414	11,680	38,071	33,314	16,114
15	----------	18,786	17,343	10,061	21,357	27,357	20,886	16,429
16	----------	20,329	16,143	11,914	27,714	24,157	30,200	28,900
17	----------	22,557	14,600	10,433	21,343	39,000	21,100	25,371
18	----------	21,386	18,414	8,491	12,086	33,614	14,329	13,940
19	----------	16,329	38,486	12,539	9,974	29,143	11,486	9,789
20	----------	13,243	18,814	21,857	8,430	33,857	11,486	7,544
21	----------	16,100	28,329	13,771	7,247	31,243	12,520	7,290
22	----------	13,071	38,100	12,386	6,903	17,414	18,129	6,060
23	----------	11,943	44,571	10,223	5,756	21,029	15,900	8,100
24	----------	12,043	53,857	17,886	6,169	28,914	21,029	8,580
25	----------	14,543	39,286	37,386	5,906	32,557	13,514	8,207
26	----------	20,943	27,100	24,471	5,491	19,057	12,151	6,889
27	----------	19,171	26,543	23,286	5,257	20,671	11,757	8,526
28	----------	28,371	28,400	20,329	5,581	27,229	9,977	15,029
29	----------	20,557	25,143	20,300	8,390	25,486	8,200	8,451
30	----------	14,286	16,171	17,086	6,286	23,586	12,214	6,593
31	----------	16,014	22,014	9,513	4,323	13,729	16,271	7,930
32	----------	13,776	34,600	13,971	9,297	14,214	14,500	10,616
33	----------	13,554	25,129	13,057	5,944	14,200	12,414	15,457
34	----------	17,157	23,029	10,117	4,420	13,757	10,737	8,600
35	----------	190,586	12,186	11,056	5,623	11,614	9,487	8,597
36	----------	80,571	10,490	28,571	13,014	7,344	9,600	6,806
37	----------	24,157	9,383	25,571	11,761	8,446	8,757	5,079
38	----------	14,500	17,280	10,171	5,461	10,847	12,986	5,021
39	----------	11,343	25,500	8,883	9,061	18,074	19,686	6,946
40	----------	11,904	13,714	11,269	9,706	22,886	9,530	5,667
41	----------	12,761	11,569	19,097	5,827	9,531	8,014	9,044
42	----------	14,500	14,157	29,729	10,834	10,621	6,600	11,200
43	----------	14,014	12,943	13,986	26,043	20,243	13,606	16,800
44	----------	28,714	10,369	8,526	24,671	11,829	16,914	8,403
45	----------	31,957	10,957	7,840	13,633	14,173	10,577	5,780
46	----------	21,243	10,666	9,283	28,957	40,214	20,943	9,136
47	----------	23,000	9,851	7,616	16,914	14,400	11,319	16,429
48	----------	15,229	9,137	6,206	11,786	10,497	8,129	9,136
49	21,214	12,729	9,183	5,957	11,871	10,969	15,454	32,057
50	15,957	17,243	11,844	11,854	8,369	10,933	13,814	51,286
51	31,986	15,143	18,957	9,296	22,657	9,529	9,760	25,986
52	38,087	29,962	13,625	10,792	54,000	13,425	15,145	27,175

FEET, OF SANTEE RIVER AT FERGUSON, S. C.

Year									Week
1915	1916	1917	1918	1919	1920	1921	1922	1923	
51,714	35,114	11,154	7,071	37,071	13,244	27,014	12,159	21,014	1
46,643	29,443	11,771	10,079	38,900	11,140	20,214	15,414	22,214	2
49,143	18,186	12,056	22,657	22,957	12,471	37,886	21,486	17,643	3
54,714	14,486	16,700	20,457	25,486	13,100	37,286	20,757	16,000	4
33,057	16,514	18,414	23,257	43,643	34,929	31,171	19,271	21,486	5
43,971	62,871	20,014	39,800	25,543	41,000	37,143	28,300	23,014	6
28,986	31,986	12,971	20,514	20,429	33,614	100,143	37,286	33,243	7
23,757	16,314	18,671	17,300	28,029	27,571	40,786	70,143	21,900	8
26,814	20,062	46,143	14,243	41,243	20,375	28,257	28,743	21,014	9
29,929	30,457	44,514	13,269	39,714	21,843	22,314	37,971	31,971	10
36,757	25,471	35,129	10,553	45,714	30,186	19,457	50,000	28,157	11
20,586	14,357	20,500	12,700	28,486	37,214	16,300	35,429	68,429	12
16,929	13,200	32,114	11,743	20,271	31,657	18,971	30,500	37,171	13
20,843	13,186	36,929	9,530	18,186	46,143	17,143	25,429	23,800	14
21,014	16,500	46,143	17,876	17,843	44,857	15,200	45,886	26,829	15
14,529	12,347	28,529	19,871	19,986	31,114	16,200	28,214	25,757	16
12,929	10,464	15,300	30,586	15,429	27,186	16,271	32,429	21,900	17
11,343	9,316	12,771	24,014	15,229	24,614	15,371	25,171	19,243	18
16,571	7,851	15,943	13,371	22,414	18,086	14,743	27,800	20,714	19
22,886	7,297	12,043	15,700	39,786	15,829	24,986	22,914	18,429	20
15,543	9,054	9,216	14,786	31,329	15,100	25,843	32,114	20,386	21
17,543	16,971	11,757	10,573	19,500	12,957	19,200	25,343	25,143	22
27,043	11,707	10,494	10,811	15,471	15,700	14,486	32,357	29,257	23
18,329	15,100	15,671	8,541	13,114	15,657	12,090	27,243	19,671	24
16,529	20,129	14,043	7,891	12,200	13,286	12,857	19,229	13,314	35
12,276	17,557	8,441	8,384	20,929	13,790	12,580	18,557	12,690	26
10,654	15,700	11,386	10,154	23,114	12,957	11,826	15,329	12,561	27
12,619	19,886	12,404	7,096	18,614	12,529	13,543	17,571	10,949	28
10,190	170,857	10,206	6,557	20,329	14,157	19,700	19,329	11,791	29
10,109	202,571	21,414	9,807	102,357	21,327	25,157	24,643	10,741	30
6,957	66,714	16,300	17,214	41,057	16,343	15,829	19,829	14,329	31
12,521	32,643	13,243	24,114	19,586	14,800	15,686	17,529	13,214	32
15,900	22,814	8,714	11,857	29,043	27,329	14,971	21,586	13,357	33
19,086	15,514	8,127	8,793	25,700	38,071	11,943	20,386	15,871	34
17,200	14,414	6,917	7,209	13,686	38,929	11,290	13,329	17,257	35
13,900	13,129	21,057	6,714	13,169	36,114	8,159	10,240	20,971	36
13,294	11,029	19,771	11,620	8,481	25,386	9,479	9,651	12,643	37
8,783	13,043	8,136	7,803	8,433	18,286	9,249	8,366	10,243	38
6,610	8,823	8,909	11,357	6,697	16,900	14,857	7,846	12,729	39
11,331	12,529	18,057	6,684	5,461	21,043	14,614	7,353	10,033	40
21,157	8,696	8,091	5,759	5,563	16,229	9,586	14,499	8,446	41
13,506	8,153	7,123	4,111	5,903	11,034	8,040	18,486	7,383	42
15,043	14,986	8,919	6,543	11,434	9,357	6,601	18,400	6,543	43
10,034	8,646	12,540	40,043	11,700	11,114	10,291	10,360	7,117	44
7,924	8,589	9,587	50,457	9,294	11,269	15,671	9,799	11,049	45
7,391	7,229	7,310	15,900	9,609	11,231	11,070	9,760	8,423	46
18,004	7,071	6,961	17,700	9,229	17,500	14,214	10,173	8,289	47
18,329	7,481	6,464	16,443	8,224	13,926	14,629	9,049	9,219	48
10,949	8,611	6,607	29,043	8,294	24,843	16,300	9,467	13,641	49
10,291	9,919	7,319	14,929	22,729	29,114	12,783	11,704	20,029	50
15,400	10,959	6,987	27,929	33,857	33,429	13,286	16,129	20,129	51
22,325	9,736	6,517	52,625	12,449	27,162	11,115	23,312	16,750	52

MONTHLY DISCHARGE OF SANTEE RIVER AT FERGUSON, S. C.
[Drainage area, 14,800 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
December	53,000	11,300	27,500	1.86	2.14
1908					
January	83,000	19,600	39,200	2.65	3.06
February	68,000	20,800	36,300	2.45	2.64
March	77,000	17,800	28,200	1.91	2.20
April	44,000	16,200	23,200	1.57	1.75
May	23,200	11,800	16,200	1.09	1.26
June	24,000	11,800	14,300	.966	1.08
July	32,500	11,300	20,500	1.39	1.60
August	344,000	9,430	36,600	2.47	2.85
September	323,000	10,800	50,100	3.39	3.78
October	23,200	9,430	14,100	.953	1.10
November	41,000	14,800	25,000	1.69	1.89
December	47,000	12,300	18,800	1.27	1.46
The year	344,000	9,430	26,875	1.82	24.67
1909					
January	38,000	17,100	22,600	1.53	1.76
February	38,000	14,200	23,800	1.61	1.68
March	41,000	22,500	29,600	2.00	2.31
April	27,200	13,700	18,400	1.24	1.38
May	65,000	14,900	28,800	1.95	2.25
June	101,000	24,000	40,500	2.74	3.06
July	32,500	13,500	23,900	1.61	1.86
August	41,000	11,000	24,300	1.64	1.89
September	28,800	8,140	15,400	1.04	1.16
October	18,300	9,580	12,900	.872	1.01
November	12,600	8,140	10,300	.696	.78
December	23,200	7,340	13,100	.885	1.02
The year	101,000	7,340	21,967	1.48	20.16
1910					
January	19,300	9,580	13,100	0.885	1.02
February	44,000	16,400	26,900	1.82	1.90
March	50,000	12,300	27,800	1.88	2.17
April	14,600	8,420	11,000	.743	.83
May	27,200	7,340	14,200	.959	1.11
June	44,000	9,430	21,400	1.45	1.62
July	26,000	10,700	19,600	1.32	1.52
August	18,000	7,730	11,500	.777	.90
September	38,000	6,340	18,000	1.22	1.36
October	35,000	9,580	17,700	1.20	1.38
November	9,880	6,100	7,800	.527	.59
December	14,800	5,030	9,290	.628	.72
The year	50,000	5,030	16,524	1.12	15.12

MONTHLY DISCHARGE OF SANTEE RIVER AT FERGUSON, S. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1911					
January	35,000	8,420	16,300	1.10	1.27
February	17,100	7,080	11,600	.784	.82
March	16,400	7,340	10,100	.682	.79
April	30,500	9,730	20,100	1.36	1.52
May	12,600	5,880	9,010	.609	.70
June	7,340	4,120	5,900	.399	.45
July	10,300	4,120	6,280	.424	.49
August	12,000	3,520	5,840	.395	.46
September	16,900	4,120	10,000	.676	.75
October	32,500	4,200	14,500	.980	1.13
November	38,000	8,700	18,600	1.26	1.41
December	80,000	6,820	24,600	1.66	1.91
The year	80,000	3,520	12,736	.86	11.70
1912					
January	50,000	14,600	30,900	2.09	2.41
February	83,000	14,600	37,600	2.54	2.74
March	209,000	32,500	61,500	4.16	4.80
April	50,000	20,000	32,600	2.20	2.46
May	41,000	16,600	29,700	2.01	2.32
June	41,000	16,900	24,800	1.68	1.87
July	28,800	13,900	23,500	1.59	1.83
August	18,000	10,800	13,600	.919	1.06
September	27,200	6,340	11,100	.750	.84
October	30,500	8,420	15,500	1.05	1.21
November	53,000	8,700	19,200	1.30	1.45
December	15,300	7,600	11,300	.764	.88
The year	209,000	6,340	25,942	1.75	23.87
1913					
January	50,000	9,130	16,400	1.11	1.28
February	56,000	20,000	30,600	2.07	2.16
March	98,000	25,000	43,100	2.91	3.36
April	38,000	14,600	26,300	1.78	1.99
May	18,600	8,560	13,100	.885	1.02
June	23,200	9,280	16,000	1.08	1.21
July	16,200	6,700	11,000	.743	.86
August	17,800	6,700	12,700	.858	.99
September	23,200	6,700	12,600	.851	.95
October	19,600	6,100	10,400	.703	.81
November	25,000	7,600	13,300	.899	1.00
December	20,800	7,340	13,300	.899	1.04
The year	98,000	6,100	18,233	1.23	16.67

MONTHLY DISCHARGE OF SANTEE RIVER AT FERGUSON, S. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1914					
January	53,000	11,000	26,100	1.76	2.03
February	28,800	12,100	20,000	1.35	1.41
March	35,000	13,500	22,300	1.51	1.74
April	44,000	11,500	21,200	1.43	1.60
May	16,200	5,880	9,000	.608	.70
June	10,700	5,330	7,710	.521	.58
July	17,300	4,280	9,360	.632	.73
August	16,700	5,550	10,500	.709	.82
September	12,000	4,280	14,100	.953	1.06
October	21,900	4,830	10,600	.716	.83
November	19,300	4,370	9,770	.660	.74
December	62,000	6,340	32,300	2.18	2.51
The year	62,000	4,280	16,078	1.09	14.75
1915					
January	71,000	32,500	49,300	3.33	3.84
February	50,000	21,400	30,700	2.07	2.16
March	47,000	15,700	26,900	1.82	2.10
April	26,000	11,800	17,100	1.16	1.29
May	25,000	8,700	16,700	1.13	1.30
June	32,500	10,200	18,800	1.27	1.42
July	16,000	6,460	10,600	.716	.83
August	20,400	6,460	14,600	.986	1.14
September	18,000	5,230	11,100	.750	.84
October	23,200	6,100	15,000	1.01	1.16
November	26,000	5,550	12,400	.838	.94
December	27,200	8,280	14,800	1.00	1.15
The year	71,000	5,230	19,833	1.34	18.17
1916					
January	50,000	13,300	23,400	1.58	1.82
February	104,000	14,400	31,700	2.14	2.31
March	35,000	11,500	21,300	1.44	1.66
April	17,300	7,730	13,100	.885	.99
May	19,600	5,330	9,620	.650	.75
June	21,900	8,420	16,000	1.08	1.21
July	368,000	13,500	100,000	6.76	7.79
August	71,000	13,700	26,200	1.77	2.04
September	16,900	7,470	11,700	.791	.88
October	16,900	6,460	10,900	.736	.85
November	11,000	6,220	7,580	.512	.57
December	14,900	7,600	9,710	.656	.76
The year	368,000	5,330	23,434	1.58	21.63

MONTHLY DISCHARGE OF SANTEE RIVER AT FERGUSON, S. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1917					
January	20,800	7,860	13,500	0.912	1.05
February	44,000	11,000	20,000	1.35	1.41
March	74,000	19,600	35,200	2.38	2.74
April	53,000	12,100	31,100	2.10	2.34
May	16,700	7,080	12,500	.845	.97
June	18,900	6,950	12,100	.818	.91
July	26,000	5,990	14,000	.946	1.09
August	16,400	5,660	10,300	.696	.80
September	27,200	6,580	14,000	.946	1.06
October	22,500	5,880	10,200	.689	.79
November	18,000	4,730	8,820	.596	.67
December	8,560	4,830	6,880	.465	.54
The year	74,000	4,730	15,717	1.06	14.37
1918					
January	28,800	5,660	15,400	1.04	1.20
February	50,000	13,500	24,900	1.68	1.75
March	15,800	8,840	12,300	.831	.96
April	41,000	7,600	19,600	1.32	1.47
May	30,500	9,280	15,600	1.05	1.21
June	12,800	6,220	9,110	.616	.69
July	14,400	4,730	8,770	.593	.68
August	26,000	5,030	13,800	.932	1.07
September	14,800	5,030	9,360	.632	.71
October	20,400	3,480	7,030	.475	.55
November	80,000	11,100	29,600	2.00	2.23
December	68,000	13,000	31,100	2.10	2.42
The year	80,000	3,480	16,381	1.11	14.94
1919					
January	50,000	20,000	32,100	2.17	2.50
February	50,000	19,300	28,700	1.94	2.02
March	53,000	19,600	35,700	2.41	2.78
April	20,800	10,500	17,600	1.19	1.33
May	47,000	12,500	26,900	1.82	2.10
June	26,000	10,000	15,100	1.02	1.14
July	146,000	14,200	42,900	2.90	3.34
August	41,000	12,300	23,600	1.59	1.83
September	15,100	5,660	9,450	.639	.71
October	16,700	4,120	7,500	.507	.58
November	12,600	5,770	9,460	.639	.71
December	44,000	5,990	18,400	1.24	1.43
The year	146,000	4,120	22,284	1.50	20.47

MONTHLY DISCHARGE OF SANTEE RIVER AT FERGUSON, S. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
January	30,500	7,600	13,600	0.919	1.06
February	47,000	20,800	33,600	2.27	2.45
March	44,000	17,300	28,500	1.93	2.23
April	53,000	24,000	37,000	2.50	2.79
May	27,200	12,500	17,600	1.19	1.37
June	18,600	10,200	14,400	.973	1.09
July	24,000	9,430	15,300	1.03	1.19
August	44,000	10,700	26,500	1.79	2.06
September	44,000	15,300	25,500	1.72	1.92
October	21,900	6,950	14,100	.953	1.10
November	20,000	7,340	12,800	.865	.97
December	38,000	17,100	27,900	1.89	2.18
The year	53,000	6,950	22,233	1.50	20.41
1921					
January	53,000	17,800	30,300	2.05	2.36
February	149,000	27,200	52,600	3.55	3.70
March	27,200	14,400	20,200	1.36	1.57
April	19,300	12,800	16,300	1.10	1.23
May	30,500	12,600	20,400	1.38	1.59
June	18,000	9,130	13,400	.905	1.01
July	27,200	9,880	17,600	1.19	1.37
August	18,000	8,700	13,700	.926	1.07
September	17,500	5,550	10,500	.709	.79
October	17,800	4,730	9,560	.646	.74
November	18,900	5,660	13,400	.905	1.01
December	17,500	8,140	13,500	.912	1.05
The year	149,000	4,730	19,288	1.30	17.49
1922					
January	23,200	9,130	17,800	1.20	1.38
February	101,000	17,300	40,000	2.70	2.81
March	56,000	25,000	37,200	2.51	2.89
April	59,000	25,000	32,600	2.20	2.46
May	38,000	21,400	27,000	1.82	2.10
June	38,000	16,700	24,500	1.66	1.85
July	26,000	12,300	19,300	1.30	1.50
August	23,200	11,300	18,700	1.26	1.45
September	12,600	5,440	9,260	.626	.70
October	25,000	4,980	14,300	.966	1.11
November	12,000	6,290	9,710	.656	.73
December	28,800	6,290	15,100	1.02	1.18
The year	101,000	4,980	22,122	1.49	20.16

MONTHLY DISCHARGE OF SANTEE RIVER AT FERGUSON, S. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1923					
January	26,000	10,800	19,500	1.32	1.52
February	41,000	16,500	24,400	1.65	1.72
March	89,000	19,500	39,600	2.68	3.09
April	30,500	19,500	24,500	1.66	1.85
May	25,000	16,500	20,300	1.37	1.58
June	35,000	8,330	19,600	1.32	1.47
July	15,900	7,920	11,600	.784	.90
August	18,600	10,600	14,700	.993	1.14
September	22,800	7,140	14,600	.986	1.10
October	12,200	4,980	7,900	.534	.62
November	15,300	5,820	9,000	.608	.68
December	23,400	8,750	17,100	1.16	1.34
The year	89,000	4,980	18,567	1.25	17.01

CATAWBA RIVER AT OLD FORT, N. C.

LOCATION. At wooden wagon bridge, one-fourth mile above the mouth of Mill Creek and half a mile south of Old Fort, McDowell County.

DRAINAGE AREA. 14.7 square miles.

RECORDS AVAILABLE. May 24 to December 31, 1907 when station was discontinued.

GAGE. Vertical rod gage fastened to bridge bent.

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

CHANNEL AND CONTROL. Bed is sand and liable to shift. Control not known.

EXTREMES OF DISCHARGE. Maximum stage recorded, 2.4 feet June 1 and 4, 1907 (discharge not determined); minimum stage recorded, 0.80 foot December 12 and 13, 1907 (discharge not determined).

ICE. Stage-discharge relation seldom if ever affected by ice.

REGULATION. None.

ACCURACY. Stage-discharge relation fairly permanent. Daily discharge based on an approximate rating curve. Gage read to tenths by W. A. Thomas.

DAILY DISCHARGE IN SECOND-FEET OF CATAWBA RIVER AT OLD FORT, N. C., FOR 1907

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1							27	27	13	19	19	19
2							19	27	13	19	19	36
3							19	27	13	19	19	19
4							19	27	13	19	19	19
5							19	27	13	19	19	19
6							19	27	13	19	19	19
7							19	36	60	19	19	13
8							19	27	51	19	19	13
9							19	27	51	19	19	13
10							19	27	46	19	19	13
11							19	19	46	19	19	13
12						51	27	19	36	19	19	8
13						51	27	19	19	19	19	8
14						51	19	19	19	19	19	36
15							27	27	19	19	19	
16						46	51	27	19	19	19	60
17						36	36	36	19	19	19	51
18						27	36	36	19	19	19	36
19						27	27	27	19	19	19	27
20						27	27	27	19	19	19	27
21						27	27	19	19	13	36	27
22						27	19	19	19	13	27	27
23						27	19	19		13	19	27
24					19	36	19	19		13	60	19
25					27	27	36	13	19	13	51	19
26					27	27	27	13	19	46	46	19
27					36	27	27	13	19	46	36	19
28					46	27	19	13		36	27	
29					46	27	19	13	36	36	19	
30					36	27	27	13	19	36	19	
31					36		27	13		27		

NOTE. Daily discharge based on an approximate rating curve. Beginning May 24, the discharge for all missing days was greater than 50 second-feet.

CATAWBA RIVER NEAR MORGANTON, N. C.

LOCATION. At highway bridge on road from Morganton to Hartland, 200 yards below mouth of Upper Creek and 1 mile north of Morganton, Burke County.

DRAINAGE AREA. 758 square miles.

RECORDS AVAILABLE. May 6, 1903 to June 30, 1906; January 16 to December 21, 1907; January 1, 1908 to June 30, 1909, when station was discontinued.

GAGE. Chain gage attached to downstream side of steel highway bridge; read by Oscar A. Gillam.

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

CHANNEL AND CONTROL. Bed of stream is rock with sand and gravel near right bank; fairly permanent. Current swift; control not known. Left bank is high, rocky and wooded and is not subject to overflow; right bank is low and is sometimes overflowed. Channel straight for 200 feet above and 600 feet below bridge.

EXTREMES OF DISCHARGE. Maximum stage recorded, 16.3 feet May 21, 1909 (discharge not determined); minimum stage recorded, 0.85 foot October 17, 1904 (discharge not determined).

ICE. Stage-discharge relation seldom if ever affected by ice.

REGULATION. Low water flow somewhat affected by operation of mills above.

ACCURACY. Stage-discharge relation fairly permanent. Rating curves are approximate owing to inadequate data. Gage read once daily to half tenths.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF CATAWBA RIVER NEAR MORGANTON, N. C.

Week	Year						
	1903	1904	1905	1906	1907	1908	1909
1		584	925	2,609		1,804	3,280
2		539	3,459	1,941		5,751	1,744
3		504	1,095	1,866		1,857	2,293
4		946	634	6,917	1,146	1,147	1,386
5		614	604	2,956	1,189	1,005	1,077
6		827	735	1,767	1,197	1,249	1,580
7		672	1,299	1,574	1,043	6,397	2,044
8		1,330	3,269	1,514	1,054	2,089	3,467
9		1,033	1,613	1,377	1,609	1,958	2,831
10		4,239	1,369	1,636	1,583	1,677	2,099
11		1,069	1,209	2,117	1,429	1,540	2,206
12		1,004		1,964	1,103	2,497	2,406
13		1,046		2,234	1,124	2,467	2,431
14		759		1,786	950	1,317	1,266
15		1,159	1,240	1,449	993	1,267	2,040
16		731	892	2,039	1,064	1,429	2,503
17		762	790	1,334	1,780	1,851	2,056
18		1,635	1,288	1,506	1,429	1,817	1,124
19	1,369	2,819	2,051	1,300	1,206	1,541	2,673
20	1,314	1,578	4,303	1,065	949	1,370	2,949
21	1,109	895	2,018	971	913	1,611	11,043
22	2,510	3,245	1,018	903	3,970	1,369	2,159
23	6,788	1,249	643	1,470	1,847	1,446	9,369
24	3,097	829	1,919	5,900	1,489	1,257	2,560
25	2,058	939	2,658	2,644	1,099	1,231	1,756
26	1,365	1,131	914		1,369	1,046	
27	1,279	737	1,705		926	2,786	
28	1,369	613	8,136		2,136	1,543	
29	1,005	459	2,420		979	1,257	
30	787	948	1,838		748	1,180	
31	1,310	1,539	926		643	1,274	
32	740	1,748	3,839		589	2,087	
33	1,545	824	1,514		760	1,823	
34	971	1,173	966		782	9,076	
35	607	959	3,391		510	4,699	
36	761	559	814		499	3,540	
37	752	426	621		991	2,870	
38	966	389	601		2,726	2,126	
39	594	341	516		1,296	1,193	
40	608	1,043	488		704	820	
41	1,098	349	1,212		595	1,547	
42	698	312	571		521	2,337	
43	619	330			548	11,677	
44	532	481			594	8,678	
45	749	511			559	5,066	
46	784	658	471		584	1,543	
47	667	409	494		1,811	1,171	
48	538	437	465		931	1,051	
49	526	866	2,536		1,053	1,206	
50	551	565	1,520		2,707	1,317	
51	649	493	2,755			1,769	
52	601	829	1,189			1,712	

MONTHLY DISCHARGE OF CATAWBA RIVER NEAR MORGANTON, N. C.
[Drainage area, 758 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1903					
May 6-31	1,925	1,026	1,283	1.69	1.63
June	17,040	1,156	3,476	4.59	5.12
July	2,220	702	1,100	1.45	1.67
August	2,902	367	1,028	1.36	1.57
September	1,735	569	770	1.02	1.14
October	3,390	526	735	.97	1.12
November	1,830	526	674	.89	.99
December	908	485	579	.76	.88
1904					
January	2,220	487	643	0.848	0.978
February	3,000	569	915	1.21	1.30
March	15,480	800	1,759	2.32	2.68
April	2,708	657	846	1.12	1.25
May	7,777	657	1,878	2.48	2.86
June	6,217	612	1,333	1.76	1.96
July	2,220	410	711	.938	1.08
August	3,585	612	1,293	1.71	1.97
September	1,830	339	639	.843	.940
October	447	280	338	.446	.514
November	1,156	372	515	.679	.758
December	1,550	410	679	.896	1.03
The year	15,480	280	962	1.27	17.32
1905					
January	11,580	470	1,438	1.90	2.19
February	4,950	550	1,616	2.13	2.22
March 1-24	1,930	840	1,212	1.60	1.43
April 9-30	1,572	740	964	1.27	1.04
May	6,900	690	2,311	3.05	3.52
June	8,460	470	1,474	1.94	2.16
July	19,965	950	3,290	4.34	5.00
August	9,630	740	2,259	2.98	3.44
September	1,415	470	670	.884	.986
October 1-26	4,170	435	710	.937	.906
November	550	435	476	.628	.561
December	6,900	470	1,875	2.47	2.85
1906					
January	24,200	1,000	3,360	4.43	5.11
February	3,080	1,360	1,730	2.28	2.37
March	4,550	1,180	1,870	2.47	2.85
April	2,810	1,180	1,680	2.22	2.48
May	1,780	790	1,180	1.56	1.80
June	16,100	740	2,680	3.54	3.95
1907					
January 16-31	1,420	1,060	1,200	1.58	0.94
February	1,480	950	1,150	1.52	1.58
March	2,680	950	1,350	1.78	2.05
April	2,680	895	1,210	1.60	1.78
May	1,600	790	1,090	1.44	1.66
June	14,500	950	2,120	2.80	3.12
July	6,680	690	1,170	1.54	1.78
August	1,300	470	664	.876	1.01
September	16,400	435	1,320	1.74	1.94
October	790	510	585	.772	.89
November	4,400	510	942	1.24	1.38
December	7,700	690	1,670	2.20	1.72

MONTHLY DISCHARGE OF CATAWBA RIVER NEAR MORGANTON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1908					
January	17,100	895	2,480	3.27	3.77
February	21,400	950	2,770	3.65	3.94
March	3,950	1,300	2,050	2.70	3.11
April	3,360	950	1,480	1.95	2.18
May	3,430	1,000	1,540	2.03	2.34
June	1,480	840	1,250	1.65	1.84
July	4,100	1,060	1,650	2.18	2.51
August	28,400	1,180	3,950	5.21	6.01
September	3,950	840	2,530	3.34	3.73
October	15,400	740	4,710	6.21	7.16
November	7,700	1,000	2,960	3.91	4.36
December	3,950	1,000	1,480	1.95	2.25
The year	28,400	740	2,400	3.17	43.20
1909					
January	7,490	1,060	2,070	2.73	3.15
February	4,870	950	2,170	2.86	2.98
March	6,880	1,540	2,430	3.21	3.70
April	4,100	840	1,930	2.55	2.84
May	32,200	895	4,310	5.69	6.56
June	26,400	1,180	3,600	4.75	5.30

CATAWBA RIVER AT RHODHISS, N. C.

LOCATION. At new highway bridge, 1,000 feet below dam of Rhodhiss Manufacturing Co., 1 mile from Carolina and North Western Railroad station in Rhodhiss, Caldwell County. The tailrace of the company's cotton mills empties into river 300 feet upstream from gage.

DRAINAGE AREA. 1,180 square miles (determined by Rhodhiss Manufacturing Co.).

RECORDS AVAILABLE. April 13, 1917 to March 31, 1920, when station was discontinued.

GAGE. Chain gage attached to upstream side of highway bridge; read by H. C. Cobb and A. C. Holbar.

DISCHARGE MEASUREMENTS. Made from the bridge.

CHANNEL AND CONTROL. Bed composed of rock; probably permanent.

EXTREMES OF DISCHARGE. 1917-1920: Maximum stage recorded, 19.2 feet at 2 a.m. October 26, 1920 (discharge, 52,900 second-feet); minimum stage, 0.2 foot at 6 p.m. November 16, 17 and December 6, 1919 (discharge estimated, 100 second-feet) undoubtedly owing to shut-down at plant above gage.

ICE. Stage-discharge relation not affected by ice.

REGULATION. Slight fluctuations at low stages caused by operation of power plant of the Rhodhiss Manufacturing Co.

ACCURACY. Stage-discharge relation shifted once during record. Rating curves fairly well defined between 700 and 1,300 second-feet and well defined between 1,300 and 10,000 second-feet; extended above 10,000 second-feet. Gage read to half-tenths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except those below 1,000 second-feet which are subject to error owing to regulation caused by operation of power plant, and those above 10,000 second-feet, which are fair.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF CATAWBA RIVER AT RHODHISS, N. C.

Week	Year			
	1917	1913	1919	1920
1		1,078	5,717	1,251
2		2,226	2,914	1,887
3		1,756	2,127	1,700
4		2,136	3,287	1,600
5		5,976	2,596	2,164
6		2,226	2,780	1,613
7		1,881	2,510	1,007
8		1,931	2,794	1,233
9		1,413	3,529	1,032
10		1,263	5,671	1,399
11		1,164	3,409	1,677
12		1,490	2,643	1,630
13		1,301	3,186	
14		1,607	2,289	
15		3,211	3,083	
16	1,783	2,406	2,220	
17	1,692	2,009	2,017	
18	1,639	1,574	2,749	
19	1,510	1,417	4,277	
20	1,304	1,827	3,740	
21	1,324	2,150	3,686	
22	1,244	1,469	2,320	
23	1,376	1,287	2,351	
24	1,309	1,078	1,657	
25	1,110	1,740	2,773	
26	1,016	1,973	5,086	
27	1,229	1,399	2,341	
28	1,266	989	1,974	
29	2,170	934	9,204	
30	3,263	1,506	4,663	
31	1,533	1,741	1,957	
32	1,249	1,549	2,380	
33	870	1,460	2,243	
34	1,001	1,124	1,164	
35	3,222	1,038	1,357	
36	1,606	1,050	1,080	
37	1,019	917	1,054	
38	1,071	1,309	910	
39	1,324	999	1,197	
40	988	764	1,467	
41	898	756	1,194	
42	1,604	1,079	887	
43	1,067	11,224	1,326	
44	1,263	11,331	1,713	
45	965	2,357	1,111	
46	1,030	2,923	999	
47	937	2,649	1,509	
48	877	2,363	1,740	
49	838	1,620	1,350	
50	854	2,661	2,253	
51	1,014	10,866	921	
52	985	5,802	758	

MONTHLY DISCHARGE OF CATAWBA RIVER AT RHODHISS, N. C.
[Drainage area, 1,180 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1917					
May	1,770	1,050	1,410	1.19	1.37
June	2,290	950	1,210	1.03	1.15
July	6,100	900	1,920	1.63	1.88
August	1,940	778	1,130	.958	1.00
September	15,400	900	1,770	1.50	1.67
October	4,350	778	1,180	1.00	1.15
November	1,210	815	974	.825	.92
December	1,270	600	921	.781	.90
1918					
January	9,160	858	2,460	2.08	2.40
February	4,830	1,400	2,230	1.89	1.97
March	2,110	1,100	1,320	1.12	1.29
April	7,980	1,000	2,250	1.91	2.13
May	2,840	1,210	1,730	1.47	1.70
June	2,880	900	1,390	1.18	1.32
July	4,590	815	1,400	1.19	1.37
August	3,230	900	1,340	1.14	1.31
September	1,770	815	1,060	.889	1.00
October	39,800	685	4,970	4.21	4.85
November	8,000	1,630	2,980	2.53	2.82
December	22,200	1,220	5,070	4.30	4.96
The year	39,800	685	2,350	1.99	27.12
1919					
January	12,400	1,630	3,450	2.92	3.37
February	4,280	1,780	2,480	2.10	2.19
March	12,100	2,240	3,740	3.17	3.66
April	5,040	1,930	2,420	2.05	2.09
May	6,080	2,400	3,500	2.97	3.42
June	9,400	1,220	2,880	2.44	2.72
July	20,600	1,630	4,340	3.68	4.24
August	7,440	1,090	1,820	1.54	1.78
September	1,630	630	1,080	.915	1.02
October	2,080	740	1,250	1.06	1.22
November	2,760	100	1,380	1.17	1.30
December	6,600	100	1,340	1.14	1.31
The year	20,600	100	2,473	2.10	28.32
1920					
January	2,080	630	1,610	1.36	1.57
February	6,080	850	1,430	1.21	1.30
March	8,280	970	1,750	1.48	1.71

CATAWBA RIVER AT CATAWBA, N. C.

LOCATION. At Southern Railway bridge just below mouth of Lyle Creek and about half a mile from Catawba, Catawba County.
DRAINAGE AREA. 1,535 square miles.
RECORDS AVAILABLE. July 4, 1896 to December 31, 1899; June 13, 1900 to March 31, 1902, when station was discontinued.
GAGE. Wire gage fastened to footway; read by C. A. Reed. Datum unchanged.
DISCHARGE MEASUREMENTS. Made from plank walk underneath bridge.
CHANNEL AND CONTROL. Bed sandy; current swift and evenly distributed across stream. Channel straight above and below bridge. Control not known. Left bank high; right bank subject to overflow at very high stages.
EXTREMES OF DISCHARGE. Maximum stage recorded, 29.0 feet May 22, 1901 (discharge, 81,500 second-feet;) minimum stage recorded, 1.45 feet September 4 1896 (discharge, 740 second-feet.)
ICE. Stage-discharge relation not affected by ice.
REGULATION. Probably negligible.
ACCURACY. Stage-discharge relation shifts frequently. Rating curves poorly, defined. Records poor.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF CATAWBA RIVER AT CATAWBA, N. C.

Week	Year					
	1896	1897	1898	1899	1900	1901
1		1,191	1,373	5,921		3,349
2		1,199	1,414	5,503		6,087
3		2,065	1,668	3,507		3,323
4		2,175	3,930	2,529		2,804
5		2,594	1,816	5,368		2,947
6		12,361	1,425	13,456		3,114
7		4,587	1,393	5,893		3,029
8		7,853	1,382	4,487		2,887
9		2,324	1,330	10,725		2,877
10		8,334	1,280	7,586		3,140
11		9,676	1,343	15,416		3,237
12		4,529	1,436	22,515		3,266
13		2,306	5,767	9,851		11,971
14		12,364	2,501	8,639		10,331
15		3,499	1,618	6,879		4,609
16		2,393	1,800	4,345		
17		2,210	1,682	4,861		
18		4,966	1,704	3,911		3,593
19		2,695	1,704	6,287		3,429
20		2,071	1,270	3,659		4,329
21		1,619	1,870	2,771		22,109
22		1,441	1,290	2,481		5,224
23		2,429	1,120	2,655		3,828
24		1,681	1,569	3,186		9,176
25		1,554	1,460	2,217		5,525
26		1,301	1,150	1,891		3,265
27		1,632	1,592	1,846		2,740
28	9,929	1,736	4,107	1,743		3,346
29	2,139	1,787	3,610	1,530		3,964
30	1,737	2,076	4,193	2,421		3,714
31	1,407	1,498	6,126	1,571		2,715
32	1,130	1,929	6,334	1,903		10,874
33	1,121	1,184	4,334	1,370		17,012
34	889	1,007	3,541	1,289		9,593
35	902	950	3,779	2,306		8,064
36	1,296	936	6,759	1,844		3,636
37	881	950	2,161	1,494		2,964
38	828	1,026	8,918	1,561		3,599
39	1,383	1,177	9,794	1,244		3,139
40	1,066	850	12,498	1,229		3,092
41	818	4,159	4,821	1,591		2,729
42	789	1,427	5,393	1,372		2,366
43	789	1,051	7,854	1,381		2,341
44	899	1,421	3,194	1,383		2,315
45	3,996	1,061	2,336	1,470		2,386
46	1,049	950	2,578	1,381		2,199
47	1,049	950	2,158	1,289		2,471
48	5,571	1,731	2,476	1,382		2,135
49	1,723	1,246	4,864	1,440		2,334
50	2,041	1,129	2,458	5,095		7,589
51	1,824	1,415	2,566	2,056		3,276
52	1,101	1,479	3,021	3,442		10,508

MONTHLY DISCHARGE OF CATAWBA RIVER AT CATAWBA, N. C.
[Drainage area, 1,535 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1896					
July 4-31	*16,100	1,420	4,466	2.91	3.03
August	1,420	770	1,071	.698	.80
September	5,000	770	1,090	.710	.79
October	1,630	770	865	.564	.65
November	*15,200	835	2,222	1.45	1.62
December	9,800	1,060	2,149	1.40	1.61
1897					
January	6,452	1,050	1,647	1.07	1.23
February	40,230	1,550	7,006	4.56	4.75
March	17,663	1,550	5,637	3.67	4.23
April	40,525	2,180	5,014	3.27	3.65
May	11,025	1,435	2,600	1.69	1.95
June	3,450	1,270	1,833	1.19	1.33
July	3,210	1,270	1,774	1.16	1.34
August	2,560	950	1,321	.861	.99
September	1,380	900	1,017	.663	.74
October	16,925	850	1,787	1.16	1.34
November	2,560	950	1,233	.803	.90
December	1,850	1,105	1,328	.865	1.00
The year	40,525	850	2,683	1.75	23.45
1898					
January	,700	1,280	2,103	1.37	1.58
February	1,725	1,350	1,417	.923	.96
March	15,600	1,280	2,270	1.48	1.70
April	3,675	1,575	1,949	1.27	1.42
May	4,135	1,210	1,600	1.04	1.20
June	4,135	1,000	1,322	.861	.96
July	14,125	1,140	3,321	2.16	2.49
August	21,942	2,100	5,042	3.28	3.78
September	52,600	1,500	6,620	4.31	4.81
October	27,400	2,675	7,250	4.72	5.44
November	3,675	1,875	2,691	1.75	1.95
December	9,995	2,175	3,162	2.06	2.38
The year	52,600	1,000	3,245	2.11	28.67
1899					
January	17,075	2,400	4,175	2.72	3.14
February	32,710	2,400	8,776	5.72	5.96
March	61,050	4,135	13,127	8.55	9.86
April	19,730	3,900	6,172	4.02	4.49
May	8,520	2,600	3,933	2.56	2.95
June	3,787	1,270	2,492	1.62	1.81
July	4,625	1,470	1,873	1.22	1.41
August	5,400	1,270	1,645	1.07	1.23
September	2,800	1,210	1,588	1.03	1.15
October	1,760	1,150	1,386	.903	1.04
November	1,540	1,270	1,384	.902	1.01
December	12,650	1,400	2,921	1.90	2.19
The year	61,050	1,150	4,098	2.67	36.24

*Estimated.

MONTHLY DISCHARGE OF CATAWBA RIVER AT CATAWBA, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1901					
January	17,240	2,720	3,777	2.46	2.84
February	4,175	2,720	3,009	1.96	2.04
March	38,375	2,855	5,130	3.34	3.85
April 1-20			9,911	6.46	4.80
May	79,625	3,150	8,260	5.38	6.20
June	24,540	2,810	5,358	3.49	3.89
July	6,655	2,275	3,383	2.20	2.54
August	40,250	2,450	10,326	6.73	7.76
September	6,590	2,495	3,493	2.28	2.54
October	4,450	2,315	2,601	1.69	1.95
November	3,500	2,000	2,311	1.51	1.69
December	45,875	2,090	5,830	3.80	4.38

CATAWBA RIVER NEAR ROCK HILL, S. C.

LOCATION. At Southern Railway bridge, 3 miles south of Fort Mill, 4½ miles northeast of Rock Hill, York County and 5 miles above mouth of Sugar Creek.

DRAINAGE AREA. 3,050 square miles.

RECORDS AVAILABLE. September 23, 1895 to July 31, 1903, when station was discontinued.

GAGE. Wire gage fastened to guard rail on upper side of bridge, read by D. A. Morris.

DISCHARGE MEASUREMENTS. Made from bridge.

CHANNEL AND CONTROL. Bottom of stream rough. Water shallow at ordinary stages. Current at angle with bridge and is swift. Channel curved above and below bridge. Control not known.

EXTREMES OF DISCHARGE. Maximum stage recorded, 24.15 feet at 10 a.m. May 23, 1901 (discharge, 151,000 second-feet); minimum stage recorded, 1.5 feet numerous days in September, October, and November 1895, and August, September, and October 1896 (discharge, 1,200 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. Diurnal regulation probable.

ACCURACY. Stage-discharge relation changes for low water frequently. Rating curves poorly defined except for the periods October 3, 1899 to October 25, 1900, and from March 28, 1901 to May 23, 1901, which are fairly well defined throughout. Gage read to tenths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records poor except for the periods mentioned above which are fair.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF CATAWBA RIVER NEAR ROCK HILL, S. C.

Week	Year								
	1895	1896	1897	1898	1899	1900	1901	1902	1903
1	.....	3,016	1,660	3,031	7,973	3,251	6,146	9,994	14,851
2	.....	1,883	1,604	2,970	9,967	4,857	9,967	5,609	5,629
3	.....	2,244	2,479	3,000	6,183	4,173	6,441	5,091	4,564
4	.....	5,199	3,449	5,609	4,667	4,001	5,093	5,627	4,810
5	.....	4,267	3,050	3,899	4,600	2,887	5,589	12,360	4,810
6	.....	12,096	23,243	3,150	27,614	3,966	6,021	6,246	16,250
7	.....	3,969	6,186	3,030	10,719	17,079	5,490	5,419	19,046
8	.....	2,639	8,827	2,970	9,314	7,540	4,899	8,844	7,856
9	.....	2,490	4,834	2,821	16,386	15,647	4,550	30,057	12,249
10	.....	2,054	13,057	3,097	10,057	6,836	4,477	8,231	8,629
11	.....	2,114	14,786	2,970	25,616	9,526	5,540	7,741	9,186
12	.....	2,171	7,143	3,764	31,343	6,200	4,666	6,854	33,133
13	.....	2,233	4,304	6,976	13,971	5,830	20,377	12,640	18,793
14	.....	5,261	19,614	5,786	11,471	4,026	23,336	6,936	9,753
15	.....	2,143	5,851	3,693	11,986	3,946	5,231	5,816	23,293
16	.....	1,826	4,349	3,061	7,829	11,521	17,191	5,200	9,557
17	.....	1,713	3,666	3,473	8,143	11,000	7,431	5,020	6,799
18	.....	3,987	5,484	2,820	6,889	4,657	4,653	4,530	5,646
19	.....	2,121	3,666	2,914	7,801	3,580	4,363	4,290	5,236
20	.....	1,577	4,579	2,646	7,790	4,483	3,803	4,704	4,913
21	.....	1,811	3,137	3,077	6,054	4,471	30,491	4,987	4,427
22	.....	1,759	2,853	2,620	5,690	3,589	12,177	4,160	5,200
23	.....	2,929	5,266	2,004	5,370	3,653	6,746	3,854	14,254
24	.....	1,474	3,420	2,650	3,864	4,246	13,183	16,930	7,934
25	.....	1,946	2,803	3,846	1,200	12,951	13,371	8,136	5,847
26	.....	2,029	2,410	2,279	1,463	7,823	8,749	4,393	5,286
27	.....	7,461	2,400	2,570	1,154	4,136	6,741	3,754	4,830
28	.....	31,016	3,374	3,037	1,291	3,049	9,244	4,710	4,360
29	.....	3,674	6,603	4,980	1,273	2,793	6,554	3,789	3,887
30	.....	2,671	3,044	4,630	1,821	3,596	4,121	3,721	3,464
31	.....	2,179	2,020	4,300	1,716	3,146	4,089	3,886	.....
32	.....	1,744	4,486	6,686	1,769	2,243	23,221	3,309	.....
33	.....	2,000	2,381	4,984	1,666	2,339	37,657	6,159	.....
34	.....	1,449	2,357	10,174	1,360	2,257	19,186	3,120	.....
35	.....	1,273	1,914	6,180	2,453	2,391	19,457	2,940	.....
36	.....	2,271	1,707	10,100	2,620	2,129	7,443	4,579	.....
37	.....	1,507	1,484	10,100	2,360	1,791	5,877	5,716	.....
38	.....	1,346	1,560	10,100	1,940	3,410	9,421	2,940	.....
39	1,249	2,351	1,787	7,566	1,791	1,409	6,793	2,970	.....
40	1,200	2,653	1,460	18,717	1,876	1,611	7,356	4,636	.....
41	1,224	1,224	3,651	7,514	2,500	1,959	4,913	4,204	.....
42	1,200	1,273	2,830	6,486	2,100	1,633	5,344	3,416	.....
43	1,200	1,321	3,080	12,063	1,957	13,193	4,290	3,889	.....
44	1,324	1,399	2,801	5,501	2,280	5,251	4,290	3,989	.....
45	1,823	5,230	2,820	5,281	1,986	5,356	4,290	3,636	.....
46	1,903	2,340	2,530	5,309	1,873	4,030	4,221	5,191	.....
47	1,370	1,631	2,530	6,231	1,877	4,030	4,256	4,037	.....
48	1,664	4,406	3,926	5,421	2,187	8,049	4,121	5,331	.....
49	1,447	3,226	3,307	7,456	1,900	7,803	4,294	9,131	.....
50	1,579	2,480	2,970	5,203	4,164	4,940	14,523	4,496	.....
51	2,744	3,066	3,373	5,557	2,920	7,260	6,937	6,204	.....
52	2,635	1,765	3,766	6,745	3,561	6,302	31,806	4,700	.....

MONTHLY DISCHARGE OF CATAWBA RIVER NEAR ROCK HILL, S. C.
[Drainage area, 3,050 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1895					
October	1,370	1,200	1.210	0.397	0.46
November	2,350	1,200	1,660	.544	.61
December	6,300	1,370	2,180	.715	.82
1896					
January	9,260	1,740	3,050	1.00	1.15
February	18,000	2,350	5,600	1.84	1.98
March	2,800	1,940	2,180	.715	.82
April	14,400	1,550	2,680	.879	.98
May	8,580	1,370	2,310	.757	.87
June	5,110	1,200	2,090	.685	.76
July	71,500	1,370	10,300	3.38	3.90
August	2,350	1,200	1,710	.561	.65
September	8,580	1,200	1,820	.597	.67
October	7,250	1,200	1,580	.518	.60
November	12,700	1,370	2,650	.869	.97
December	13,100	1,740	3,140	1.03	1.19
The year	71,500	1,200	3,259	1.07	14.54
1897					
January	6,610	1,550	2,240	0.734	0.85
February	68,500	1,740	10,800	3.54	3.69
March	24,100	3,700	9,260	3.04	3.50
April	57,800	3,460	8,070	2.65	2.96
May	9,910	2,790	4,060	1.33	1.53
June	9,570	2,180	3,450	1.13	1.26
July	12,800	1,990	3,130	1.03	1.19
August	11,000	1,810	2,720	.892	1.03
September	2,180	1,460	1,650	.541	.60
October	11,300	1,460	2,730	.895	1.03
November	5,530	2,530	2,940	.964	1.08
December	4,290	2,940	3,350	1.10	1.27
The year	68,500	1,460	4,533	1.49	19.99
1898					
January	9,300	2,940	3,730	1.22	1.41
February	3,820	2,730	3,080	1.01	1.05
March	19,100	2,730	3,820	1.25	1.44
April	10,700	2,730	4,190	1.37	1.53
May	4,530	2,140	2,850	.934	1.08
June	7,210	1,770	2,680	.879	.98
July	9,650	1,770	3,890	1.28	1.48
August	23,200	3,370	6,470	2.12	2.44
September	10,100	3,590	9,290	3.05	3.40
October	38,000	4,530	10,700	3.51	4.05
November	6,630	5,020	5,520	1.81	2.02
December	12,400	4,530	6,200	2.03	2.34
The year	38,000	1,770	5,202	1.71	23.22

MONTHLY DISCHARGE OF CATAWBA RIVER NEAR ROCK HILL, S. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1899					
January	27,100	4,290	6,930	2.27	2.62
February	47,000	4,530	14,900	4.89	5.09
March	85,400	6,510	19,500	6.39	7.37
April	22,800	7,100	9,810	3.22	3.59
May	11,900	5,650	6,950	2.28	2.63
June	6,220	1,200	3,280	1.08	1.20
July	3,180	1,040	1,420	.466	.54
August	2,730	1,200	1,650	.541	.62
September	5,800	1,530	2,300	.754	.84
October	3,650	1,710	2,100	.689	.79
November	2,950	1,710	2,040	.669	.75
December	7,020	1,900	3,080	1.01	1.16
The year	85,400	1,040	6,163	2.02	27.20
1900					
January	10,800	2,300	3,960	1.30	1.50
February	50,800	2,730	8,120	2.66	2.77
March	48,200	3,410	9,250	3.03	3.49
April	36,200	3,180	7,700	2.52	2.81
May	10,400	3,180	4,010	1.31	1.51
June	19,500	3,180	6,850	2.25	2.51
July	5,240	2,510	3,500	1.15	1.33
August	3,410	1,900	2,450	.803	.93
September	5,800	1,360	2,130	.698	.78
October	44,400	1,530	4,630	1.52	1.75
November	19,200	4,030	5,400	1.77	1.98
December	11,600	4,290	6,470	2.12	2.44
The year	50,800	1,360	5,372	1.76	23.80
1901					
January	30,500	4,820	6,710	2.20	2.54
February	10,200	4,550	5,470	1.79	1.86
March	61,400	4,290	8,330	2.73	3.15
April	107,000	3,900	16,000	5.25	5.86
May	127,000	3,180	15,400	5.05	5.82
June	31,700	5,020	10,100	3.31	3.69
July	21,800	3,820	6,670	2.19	2.52
August	66,200	3,820	22,200	7.28	8.39
September	16,200	5,270	7,890	2.59	2.89
October	9,650	4,290	5,360	1.76	2.03
November	4,770	4,050	4,260	1.40	1.56
December	98,600	3,820	14,300	4.69	5.41
The year	127,000	3,180	10,224	3.55	45.72

MONTHLY DISCHARGE OF CATAWBA RIVER NEAR ROCK HILL, S. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1902					
January	23,200	5,020	6,530	2.14	2.47
February	30,600	5,270	9,610	3.15	3.28
March	72,200	5,530	12,600	4.13	4.76
April	9,650	4,530	5,830	1.91	2.13
May	5,530	3,820	4,600	1.51	1.74
June	81,000	3,590	8,010	2.63	2.93
July	5,270	3,590	4,000	1.31	1.51
August	16,600	2,940	3,940	1.29	1.49
September	14,600	2,940	3,980	1.30	1.45
October	8,700	2,940	4,130	1.35	1.56
November	17,000	3,150	4,140	1.36	1.52
December	15,000	4,050	6,210	2.04	2.35
The year	81,000	2,940	6,132	2.01	27.19
1903					
January	36,200	4,050	7,240	2.37	2.73
February	37,400	4,290	12,100	3.97	4.13
March	93,800	5,530	17,100	5.61	6.47
April	37,400	5,800	12,600	4.13	4.61
May	5,800	4,290	4,960	1.63	1.88
June	38,600	4,770	8,230	2.70	3.01
July	6,350	3,370	4,200	1.38	1.59

MILL CREEK AT OLD FORT, N. C.

LOCATION. At the footbridge in Old Fort, McDowell County, a short distance above the mouth of creek.

DRAINAGE AREA. 21.2 square miles.

RECORDS AVAILABLE. May 24 to December 31, 1907, when station was discontinued.

GAGE. Vertical staff attached to sycamore tree on left bank about 500 feet above footbridge; read by W. A. Thomas.

DISCHARGE MEASUREMENTS. Made from footbridge.

CHANNEL AND CONTROL. Bed of stream, gravel; probably shifting. Control section not known. Right bank high; left bank subject to overflow.

EXTREMES OF DISCHARGE. Maximum stage recorded, 2.6 feet May 31, June 1, and December 28, 1907 (discharge not determined); minimum stage recorded, 1.0 foot September 13 to 21 and 27, 1907 (discharge, 5 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. Negligible.

ACCURACY. Stage-discharge relation shifting. Rating curve poorly defined. Gage read to tenths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records poor.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF MILL CREEK AT OLD FORT, N. C.

Week	1907	Week	1907	Week	1907
22	22	33	26	43	37
23	48	34	21	44	38
24	47	35	10	45	35
25	46	36	15	46	35
26	44	37	6	47	54
27	41	38	31	48	47
28	20	39	32	49	30
29	28	40	29	50	47
30	34	41	25	51	39
31	34	42	20	52	72
32	26				

LINVILLE RIVER AT BRANCH, N. C.

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

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

RECORDS AVAILABLE. June 7, 1922 to December 31, 1923.

GAGE. Standard enameled 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. Wide and shallow, composed of gravel and boulders; slightly curved above bridge and straight for 200 feet below. Right bank high and wooded, not subject to overflow; left bank about 6 feet high, partially wooded and partially cultivated; subject to overflow in extreme floods for 500 feet back from stream. Control is a boulder and gravel shoal 200 feet downstream from gage; probably permanent.

EXTREMES OF DISCHARGE. 1922-1923: Maximum stage recorded, 5.4 feet at noon, May 29, 1923 (discharge, 2,830 second-feet); minimum stage recorded, 1.54 feet at 5 p.m., October 6, 1922, and October 16 to 18, 1923 (discharge, 29 second-feet).

ICE. Stage-discharge relation not affected by ice.

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.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF LINVILLE RIVER AT BRANCH, N. C.

Week	Year		Week	Year	
	1922	1923		1922	1923
1		252	27	138	193
2		113	28	108	120
3		83	29	172	196
4		122	30	144	90
5		266	31	89	104
6		204	32	71	111
7		215	33	102	87
8		132	34	70	86
9		118	35	65	84
10		175	36	48	101
11		369	37	54	83
12		279	38	43	82
13		136	39	58	108
14		122	40	38	47
15		153	41	189	37
16		140	42	68	45
17		103	43	61	55
18		144	44	47	47
19		167	45	45	96
20		345	46	42	53
21		274	47	40	59
22		597	48	41	98
23		180	49	58	180
24	178	116	50	80	106
25	136	92	51	149	103
26	102	100	52	100	109

MONTHLY DISCHARGE OF LINVILLE RIVER AT BRANCH, N. C.
[Drainage area, 65 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1922					
June 7-30	311	102	164	2.52	2.25
July	243	86	136	2.09	2.41
August	144	54	80.2	1.23	1.42
September	86	39	50.3	.774	.86
October	430	31	85.0	1.31	1.51
November	47	36	42.4	.652	.73
December	264	45	93.6	1.44	1.66
1923					
January	600	65	155.0	2.38	2.74
February	311	81	189.0	2.91	3.03
March	825	99	227	3.49	4.02
April	281	91	129	1.98	2.21
May	1,620	81	310	4.77	5.50
June	380	72	144	2.22	2.48
July	380	67	143	2.20	2.54
August	163	63	96.4	1.48	1.71
September	264	54	91.6	1.41	1.57
October	84	29	45.7	.703	.81
November	188	41	68.5	1.05	1.17
December	280	91	125	1.92	2.21
The year	1,620	29	143.7	2.21	29.99

LINVILLE RIVER NEAR FONTA FLORA, N. C.

LOCATION. At footbridge half a mile east of Fonta Flora, Burke County, and about 6 miles above mouth of river which is a tributary of Catawba River.
DRAINAGE AREA. 67 square miles.
RECORDS AVAILABLE. May 20, 1907 to August 26, 1908; October 6 to December 31, 1908, when station was discontinued.
GAGE. Vertical staff in two sections located about 1,200 feet above footbridge; read by W. P. Hemphill.
DISCHARGE MEASUREMENTS. Made from footbridge.
CHANNEL AND CONTROL. Conditions not known.
EXTREMES OF DISCHARGE. Maximum stage recorded, 5.3 feet February 15, 1908 (discharge not determined); minimum stage recorded, 0.75 foot September 4 and 5, 1907 (discharge, 40 second-feet).
ICE. Stage-discharge relation not affected by ice.
REGULATION. None.
ACCURACY. Stage-discharge relation fairly permanent. Rating curve fairly well defined between 72 and 190 second-feet. Gage read to half-tenths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF LINVILLE RIVER AT FONTA FLORA, N. C.

Week	Year		Week	Year	
	1907	1908		1907	1908
1		237	27	127	336
2		448	28	263	266
3		257	29	215	129
4		161	30	112	198
5		124	31	91	230
6		161	32	72	159
7		751	33	82	148
8		235	34	98	591
9		222	35	59	
10		295	36	47	
11		211	37	85	
12		217	38	241	
13		217	39	206	
14		178	40	105	
15		147	41	69	205
16		239	42	66	108
17		394	43	52	884
18		208	44	70	362
19		230	45	96	133
20		162	46	98	96
21	104	156	47	161	100
22	96	149	48	138	82
23	224	138	49	118	144
24	152	223	50	331	105
25	125	224	51	317	141
26	168	159	52	424	119

MONTHLY DISCHARGE OF LINVILLE RIVER AT FONTA FLORA, N. C.
[Drainage area, 67 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
May 20-31			101	1.51	0.67
June 4-30	275	96	169	2.52	2.53
July	680	96	173	2.58	2.97
August	156	50	81	1.21	1.40
September	1,390	40	139	2.07	2.31
October	124	50	71	1.06	1.22
November	160	50	118	1.76	1.96
December	940	110	277	4.13	4.76
1908					
January	1,380	124	261	3.90	4.50
February	1,950	124	308	4.60	4.96
March	320	156	242	3.61	4.16
April	940	124	239	3.57	3.98
May	275	140	183	2.73	3.15
June	500	124	181	2.70	3.01
July	500	110	237	3.54	4.08
August 1-26	1,600	124	277	4.13	4.00
September					
October 6-31	2,700	40	384	5.73	5.54
November	370	72	126	1.88	2.10
December	275	72	123	1.84	2.12

LINVILLE RIVER NEAR BRIDGEWATER, N. C.

LOCATION. At Poole's Mill just above the ford on road from Morganton to Marion about 4 miles from Bridgewater, Burke County.
DRAINAGE AREA. 86 square miles.
RECORDS AVAILABLE. July 3 to October 14, 1900, when station was discontinued.
GAGE. Vertical staff near tailrace of mill; read by J. A. Cooper.
DISCHARGE MEASUREMENTS. Made by wading, about 200 feet below gage.
CHANNEL AND CONTROL. Bed extremely rough and rocky; current very swift during high water. Control section not known.
EXTREMES OF DISCHARGE. Maximum stage recorded, 10.33 feet, September 12 and 13, 1900 (discharge not determined); minimum stage recorded, 7.5 feet, September 16, 1900 (discharge not determined).
ICE. Stage-discharge relation not affected by ice.
REGULATION. Negligible.
ACCURACY. Records fair.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF LINVILLE RIVER NEAR BRIDGEWATER, N. C.

Week	1900	Week	1900	Week	1900
27	215	32	*86	37	203
28	175	33	81	38	126
29	124	34	78	39	107
30	123	35	74	40	188
31	116	36	68	41	210

MONTHLY DISCHARGE OF LINVILLE RIVER NEAR BRIDGEWATER, N. C.
[Drainage area, 86 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1900					
July 3-31	295	90	154	1.79	1.93
August	122	73	85.9	1.00	1.15
September	1,040	59	123	1.43	1.60
October 1-14	255	146	199	2.31	1.20

JOHN RIVER NEAR MORGANTON, N. C.

LOCATION. At highway bridge on road from Morganton, Burke County, to Lenoir, N. C.

DRAINAGE AREA. 213 square miles.

RECORDS AVAILABLE. June 19 to August 18, 1900; September 10, 1900 to December 31, 1901, when station was discontinued.

GAGE. Wire gage nailed to guard rail of bridge; read by W. A. Clontz.

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

CHANNEL AND CONTROL. Bed of stream rocky and permanent. Channel straight for 200 feet above and 300 feet below the station. Control not known. Both banks high and are never overflowed.

EXTREMES OF DISCHARGE. Maximum stage recorded, 20.5 feet May 22, 1901 (discharge not determined); minimum stage recorded, 1.7 feet September 10 to 13, 1900 (discharge, 80 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. Probably none.

ACCURACY. Stage-discharge relation fairly permanent. Rating curve fairly well defined below 1,500 second-feet; extended above. Gage read to hundredths. Daily discharge ascertained by applying daily gage height to rating table. Records fair for stages below 1,500 second-feet; should be used with caution above.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF JOHN RIVER NEAR MORGANTON, N. C.

Week	Year		Week	Year	
	1900	1901		1900	1901
1		370	27	457	762
2		876	28	319	691
3		476	29	279	719
4		353	30	302	491
5		370	31	223	975
6		381	32	146	2,319
7		358	33	162	2,491
8		317	34		1,923
9		281	35		1,897
10		382	36		1,026
11		332	37	222	858
12		409	38	173	717
13		2,115	39	124	724
14		1,896	40	248	625
15		567	41	156	561
16		2,526	42	118	531
17		999	43	1,838	450
18		642	44	370	439
19		759	45	345	450
20		559	46	248	422
21		3,894	47	337	408
22		1,269	48	617	367
23		948	49	596	370
24		1,758	50	348	2,429
25	868	1,989	51	458	893
26	829	1,112	52	461	2,328

MONTHLY DISCHARGE OF JOHN RIVER NEAR MORGANTON, N. C.
[Drainage area 213 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1900					
June 19-30	1,160	595	872	4.09	1.83
July	550	233	341	1.60	1.84
August 1-18	257	140	168	.789	.53
September 10-30	655	80	173	.812	.63
October	7,740	95	567	2.66	3.07
November	1,640	209	390	1.83	2.04
December	955	281	457	2.15	2.48
1901					
January	2,300	329	502	2.36	2.72
February	505	281	352	1.65	1.72
March	7,080	233	741	3.48	4.01
April	9,540	475	1,450	6.81	7.60
May	11,200	425	1,490	7.00	8.07
June	4,280	655	1,420	6.67	7.44
July	4,080	450	783	3.68	4.24
August	9,120	377	1,910	8.97	10.34
September	2,000	535	887	4.16	4.64
October	775	425	531	2.49	2.87
November	450	329	419	1.97	2.20
December	10,300	353	1,460	6.85	7.90
The year	11,200	233	1,000	4.69	63.75

JOHN RIVER AT COLLETTSVILLE, N. C.

LOCATION. At footlog a short distance above the mouth of Mulberry Creek in the town of Collettsville, Caldwell County.

DRAINAGE AREA. 69 square miles.

RECORDS AVAILABLE. June 1 to July 31, 1907, when station was discontinued.

GAGE. Vertical rod attached to footlog supports and to a tree; read by W. T. McLean.

DISCHARGE MEASUREMENTS. Made from the footlog.

CHANNEL AND CONTROL. Conditions not known.

EXTREMES OF DISCHARGE. Maximum stage recorded, 7.5 feet June 1, 1907 (discharge not determined); minimum stage recorded, 1.0 foot May 23 to 25 and 28 to 30, 1907 (discharge, 98 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. Probably none.

ACCURACY. Gage read to tenths once daily. Rating curve very poorly defined. Records poor.

DAILY DISCHARGE, IN SECOND-FEET, OF JOHNS RIVER AT COLLETTSVILLE, N. C., FOR 1907

Day	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Mean for Year
1						1,320	131						
2						540	144						
3						275	144						
4						203	158						
5						172	144						
6						144	144						
7						131	131						
8						119	131						
9						238	119						
10						203	119						
11						172	119						
12						144	131						
13						158	144						
14						158	158						
15						144	158						
16						144	172						
17						144	158						
18						131	131						
19						131	158						
20						131	131						
21						144	131						
22						131	119						
23					98	144	119						
24					98	158	144						
25					98	144	131						
26					108	131	119						
27					119	144	119						
28					98	158	119						
29					98	187	131						
30					98	144	144						
31					108		119						

THIRD CREEK NEAR STATESVILLE, N. C.

LOCATION. At highway crossing known as McHenry's Bridge, 3 miles above Rowan County line and 6 miles east of Statesville, Iredell County.

DRAINAGE AREA. 68.9 square miles (measured on topographic maps).

RECORDS AVAILABLE. March 17, 1913 to June 30, 1921.

GAGE. Vertical staff located 100 feet upstream from bridge on left bank; read by J. P. Quinn.

DISCHARGE MEASUREMENTS. Made from highway bridge using standard cross-section.

CHANNEL AND CONTROL. One channel at all stages. Control formed by dredged channel extending to county line; control point probably changes with stage. Both banks subject to overflow at stages above 10 feet.

EXTREMES OF DISCHARGE. Maximum discharge recorded, 1,960 second-feet August 31, 1917; minimum discharge, 30 second-feet July 21, 1914.

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

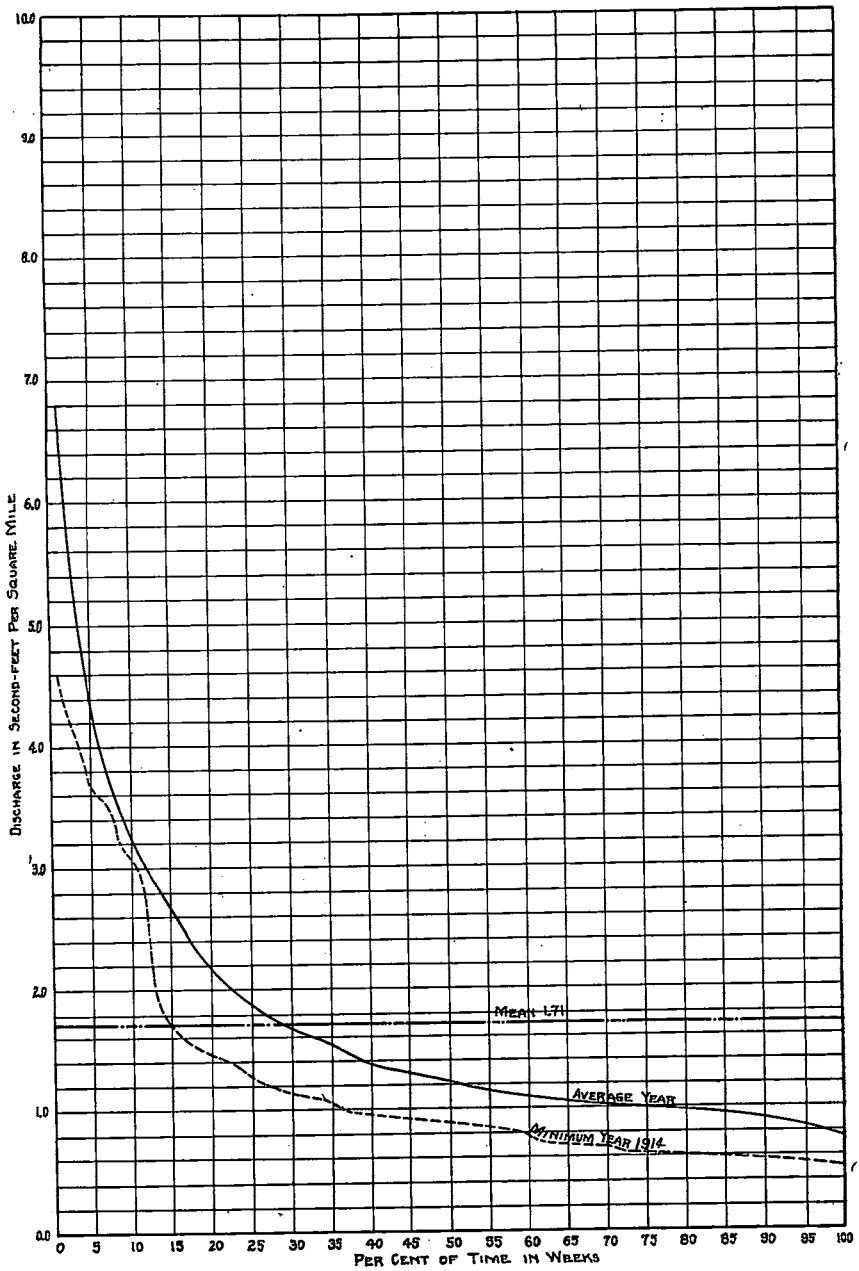
REGULATION. Slight regulation by grist mills above.

ACCURACY. Stage-discharge relation shifts; affected by variation in slope with rate of change in stage. Gage read once daily; twice daily on days of wide range in stage. Monthly values fair.

COOPERATION. Data obtained by U. S. Department of Agriculture in coöperation with Department of Agriculture, State of North Carolina.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF THIRD CREEK AT McHENRY'S BRIDGE, NEAR STATESVILLE, N. C.

Week	Year								
	1913	1914	1915	1916	1917	1918	1919	1920	1921
1		246	138	84	73	62	259	65	122
2		51	180	73	70	106	89	67	329
3		44	218	63	87	98	102	74	225
4		47	66	71	93	102	186	231	146
5		58	136	420	214	193	94	205	196
6		73	70	69	69	82	89	112	505
7		65	63	57	64	71	136	98	154
8		249	156	112	200	91	278	109	265
9		76	74	99	394	70	237	99	133
10		63	115	73	243	73	442	150	125
11		117	61	66	107	66	121	213	123
12	107	65	56	66	296	83	103	182	128
13	174	64	57	68	127	75	102	224	141
14	73	99	64	102	211	79	95	463	123
15	159	210	63	88	109	90	186	291	121
16	61	112	56	69	82	238	113	178	171
17	112	66	53	62	81	113	110	130	186
18	52	58	56	61	87	83	128	117	183
19	57	57	136	67	78	86	148	147	203
20	49	48	53	56	70	98	134	110	134
21	101	44	97	207	83	79	117	102	134
22	57	44	332	66	61	65	102	89	119
23	80	43	84	150	76	93	126	224	129
24	43	52	145	202	66	109	90	98	111
25	45	41	49	114	58	68	92	121	110
26	58	48	49	160	66	69	134	92	
27	50	85	237	271	81	58	107	99	
28	53	57	106	513	97	61	80	132	
29	97	41	122	486	180	75	513	186	
30	63	60	45	264	175	156	111	110	
31	140	42	106	103	271	88	106	98	
32	164	40	79	165	65	65	167	160	
33	46	76	156	79	59	158	118	252	
34	251	39	185	70	90	78	99	133	
35	168	62	323	141	548	90	109	244	
36	197	36	82	69	50	90	91	106	
37	43	36	52	64	45	61	94	111	
38	62	36	43	65	43	103	92	98	
39	41	98	41	117	47	73	91	232	
40	39	89	433	63	45	59	102	126	
41	40	103	78	61	46	59	105	98	
42	97	217	73	195	46	60	101	98	
43	106	48	62	68	48	141	154	98	
44	41	40	51	64	58	297	100	98	
45	117	42	50	63	48	73	94	94	
46	43	64	62	62	51	90	185	204	
47	41	42	169	63	52	80	108	111	
48	150	145	54	64	50	200	104	293	
49	69	303	47	63	54	78	131	310	
50	44	79	60	101	56	241	243	330	
51	49	81	257	83	64	398	126	137	
52	125	282	255	80	53	193	110	172	



WEEKLY DURATION CURVES
FOR
THIRD CREEK AT McHENRY'S BRIDGE NEAR STATESVILLE, N.C.
1914-1920

MONTHLY DISCHARGE OF THIRD CREEK AT MCHENRY'S BRIDGE NEAR STATESVILLE, N. C.
[Drainage area, 69 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1913					
March 17-31	443	76	142	2.06	1.15
April	587	56	99.2	1.43	1.60
May	335	44	65.2	.945	1.09
June	226	37	55.9	.810	.90
July	159	37	63.2	.916	1.06
August	1,180	41	169	2.45	2.82
September	480	41	82.7	1.20	1.34
October	370	37	67.6	.980	1.13
November	389	41	59.2	.858	.96
December	526	44	96.1	1.39	1.60
1914					
January	1,000	44	94.0	1.36	1.57
February	878	50	112	1.62	1.69
March	244	56	77.6	1.12	1.29
April	515	56	118	1.71	1.91
May	61	44	50.3	.729	.84
June	107	33	46.3	.671	.75
July	261	30	58.8	.852	.98
August	222	33	53.2	.771	.89
September	400	33	50.8	.736	.82
October	895	37	107	1.55	1.79
November	244	37	53.3	.772	.86
December	1,060	61	197	2.86	3.30
The year	1,060	30	84.8	1.23	16.69
1915					
January	678	56	141	2.04	2.35
February	622	56	110	1.59	1.66
March	261	56	71.3	1.03	1.19
April	107	50	58.8	.852	.95
May	491	50	89.5	1.30	1.50
June	1,280	41	136	1.97	2.20
July	806	44	121	1.75	2.02
August	1,240	41	185	2.68	3.09
September	156	41	55.0	.797	.89
October	1,190	44	151	2.19	2.52
November	733	50	81.4	1.18	1.32
December	1,290	44	151	2.19	2.52
The year	1,290	41	113	1.64	22.21
1916					
January	107	56	74.7	1.08	1.24
February	1,510	56	161	2.33	2.51
March	156	61	74.5	1.08	1.24
April	207	61	79.1	1.15	1.28
May	620	56	95.7	1.39	1.60
June	589	56	147	2.13	2.38
July	1,480	69	358	5.19	5.98
August	569	61	115	1.67	1.92
September	443	56	78.2	1.13	1.26
October	932	61	93.8	1.36	1.57
November	76	61	63.3	.918	1.02
December	298	56	80.5	1.17	1.35
The year	1,510	56	118	1.71	23.35

MONTHLY DISCHARGE OF THIRD CREEK AT MCHENRY'S BRIDGE NEAR STATESVILLE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1917					
January	457	57	96.1	1.39	1.60
February	517	59	122	1.77	1.84
March	1,270	70	250	3.62	4.17
April	711	78	119	1.72	1.92
May	170	59	76.8	1.11	1.28
June	156	57	66.3	.961	1.07
July	556	57	126	1.83	2.11
August	1,960	57	177	2.57	2.96
September	1,380	43	96.9	1.40	1.56
October	106	44	48.7	.706	.81
November	52	48	50.0	.725	.81
December	78	48	56.5	.819	.94
The year	1,960	43	107	1.55	21.07
1918					
January	400	48	112	1.62	1.87
February	156	59	85.3	1.24	1.29
March	106	57	73.9	1.07	1.23
April	887	59	126	1.83	2.04
May	191	59	84.0	1.22	1.41
June	361	57	82.4	1.19	1.33
July	457	54	90.9	1.32	1.52
August	730	57	95.0	1.38	1.59
September	191	59	80.8	1.17	1.30
October	887	57	126	1.83	2.11
November	789	59	111	1.61	1.80
December	1,180	78	217	3.14	3.62
The year	1,180	48	107	1.55	21.11
1919					
January	557	81	153	2.22	2.56
February	707	89	158	2.29	2.38
March	1,230	98	208	3.01	3.47
April	652	89	125	1.81	2.02
May	246	98	129	1.87	2.16
June	307	81	111	1.61	1.80
July	1,160	65	189	2.74	3.16
August	572	91	125	1.81	2.09
September	109	91	92.5	1.34	1.50
October	350	91	114	1.65	1.90
November	515	91	121	1.75	1.95
December	609	100	148	2.14	2.47
The year	1,230	65	140	2.03	27.46

MONTHLY DISCHARGE OF THIRD CREEK AT McHENRY'S BRIDGE NEAR STATESVILLE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
January	617	57	109	1.58	1.82
February	585	81	130	1.88	2.03
March	557	89	172	2.49	2.87
April	1,140	117	265	3.84	4.28
May	357	89	115	1.67	1.92
June	444	89	131	1.90	2.12
July	357	89	128	1.86	2.14
August	891	89	187	2.71	3.12
September	617	98	135	1.96	2.19
October	189	98	104	1.51	1.74
November	696	89	159	2.30	2.57
December	1,160	117	237	3.43	3.95
The year	1,160	57	156	2.26	30.75
1921					
January	707	117	203	2.94	3.39
February	1,360	117	275	3.99	4.16
March	133	117	126	1.83	2.11
April	519	117	152	2.20	2.46
May	637	117	159	2.30	2.65
June	189	98	117	1.70	1.90

WILSON CREEK NEAR ADAKO, N. C.

LOCATION. At pool 2½ miles northwest of Adako, Caldwell County, 3 miles above junction of Wilson Creek with Johns River and 4½ miles downstream from mouth of Harpers Creek.

DRAINAGE AREA. 66 square miles (measured on topographic maps).

RECORDS AVAILABLE. July 27, 1921 to May 31, 1922, when the station was discontinued.

GAGE. Standard enameled staff in two sections in a pool at proposed lower dam site. Lower section is fastened to a vertical timber bolted to a large rock near right bank; upper section is fastened to rock on right bank in line with lower section. Gage read by W. H. Thompson. Datum of gage above sea level, 1,144.00 feet.

DISCHARGE MEASUREMENTS. Low water measurements are made by wading just above control. A cable for high water measurements was never installed.

CHANNEL AND CONTROL. Channel and banks composed mostly of solid bed rock and very steep; banks are the sides of the gorge. Control is a solid rock ledge; permanent.

EXTREMES OF DISCHARGE. 1916-1922: Crest of great flood of July, 1916, approximately 27.0 feet (estimated discharge, 7,500 second-feet); minimum stage recorded, 1.30 feet October 21 to 27, 1921 (discharge, 52 second-feet).

ICE. Probably never enough to affect stage-discharge relation.

REGULATION. Probably none.

ACCURACY. Stage-discharge relation permanent. Rating curve well defined between 50 and 120 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 high water which may be subject to error.

COOPERATION. Granite Falls Manufacturing Co., permittees of Federal Power Commission Project No. 81.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF WILSON CREEK NEAR ADAKO, N. C.

Week	Year		Week	Year	
	1921	1922		1921	1922
1		86	27		
2		94	28		
3		122	29		
4		137	30		
5		119	31		
6		141	32	108	
7		175	33	133	
8		129	34	104	
9		165	35	90	
10		186	36	87	
11		190	37	107	
12		148	38	85	
13		305	39	83	
14		206	40	74	
15		159	41	62	
16		147	42	58	
17		138	43	52	
18		218	44	231	
19		169	45	110	
20		272	46	92	
21		191	47	118	
22			48	113	
23			49	121	
24			50	91	
25			51	139	
26			52	99	

MONTHLY DISCHARGE OF WILSON CREEK NEAR ADAKO, N. C.
[Drainage area, 66 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1921					
July 27-31	165	120	143	2.17	.40
August	176	84	112	1.70	1.96
September	231	70	90.4	1.37	1.53
October	385	52	81.9	1.24	1.43
November	301	88	119	1.80	2.01
December	250	83	113	1.71	1.97
1922					
January	280	72	110	1.67	1.92
February	260	111	140	2.14	2.23
March	451	122	206	3.12	3.60
April	280	120	165	2.50	2.79
May	473	132	207	3.14	3.62

BROAD RIVER AT UREE, N. C.

LOCATION. At Uree, Rutherford County, 3 miles below mouth of Buffalo Creek and 4 miles above mouth of Cove Creek.
DRAINAGE AREA. 100 square miles.
RECORDS AVAILABLE. May 17, 1907 to June 30, 1909, when station was discontinued.
GAGE. Vertical staff gage on right bank about 130 feet below bridge.
DISCHARGE MEASUREMENTS. Made from bridge.
CHANNEL AND CONTROL. Rocky and fairly permanent. Both banks are high and not subject to overflow.
EXTREMES OF DISCHARGE. Maximum stage recorded, 9.2 feet August 25, 1908 (discharge estimated, 5,400 second-feet); minimum stage, 1.5 feet numerous times in 1907 (discharge, 117 second-feet).
ICE. Stage-discharge relation probably not affected by ice.
REGULATION. Probably none.
ACCURACY. Records approximate owing to insufficient data.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF BROAD RIVER AT UREE, N. C.

Week	Year			Week	Year		
	1907	1908	1909		1907	1908	1909
1		194	347	27	122	280	
2		453	272	28	122	279	
3		238	348	29	115	178	
4		168	249	30	92	341	
5		184	223	31	124	202	
6		193	243	32	109	337	
7		558	275	33	127	229	
8		255	368	34	168	1,235	
9		235	290	35	96	403	
10		217	303	36	96	327	
11		199	391	37	85	240	
12		292	322	38	183	212	
13		240	315	39	120	210	
14		194	260	40	88	183	
15		217	283	41	79	288	
16		221	251	42	75	191	
17		267	246	43	77	641	
18		210	300	44	87	410	
19		273	266	45	82	272	
20	149	228	537	46	97	246	
21	145	243	592	47	177	220	
22	286	223	371	48	102	223	
23	194	202	546	49	97	251	
24	179	199	422	50	237	226	
25	159	188	364	51	190	259	
26	154	159	420	52	236	243	

MONTHLY DISCHARGE OF BROAD RIVER AT UREE, N. C.
[Drainage area, 100 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
June	910	149	205	2.05	
July	220	88	116	1.16	1.34
August	345	88	128	1.28	1.48
September	860	62	119	1.19	1.28
October	88	75	79	.79	.911
November	302	62	115	1.15	1.24
December	615	88	185	1.85	2.13
1908					
January	860	149	252	2.52	2.94
February	1,270	149	306	3.06	3.30
March	390	183	236	2.36	2.72
April	480	183	228	2.28	2.46
May	525	183	237	2.37	2.73
June	220	149	191	1.91	2.06
July	710	149	264	2.64	3.04
August	5,400	183	508	5.08	5.86
September	390	183	251	2.51	2.71
October	1,920	183	345	3.45	4.00
November	345	220	252	2.52	2.72
December	480	202	243	2.43	2.80
The year	5,400	149	276	2.76	37.34
1909					
January	860	183	295	2.95	3.40
February	435	220	288	2.88	3.00
March	660	260	327	3.27	3.77
April	480	220	260	2.60	2.90
May	2,340	220	421	4.21	4.71
June	760	302	434	4.34	4.84

GREEN RIVER NEAR SALUDA, N. C.

LOCATION. At the lower steel bridge, 1 mile above the mouth of Hungry Creek 3 miles northeast of Flat Rock, N. C., 3 miles west of Saluda, Henderson County and 5 miles southeast of Hendersonville, N. C.

DRAINAGE AREA. 51 square miles.

RECORDS AVAILABLE. May 9, 1907 to June 30, 1909, when the station was discontinued.

GAGE. Chain gage attached to the bridge; read by J. C. Gordon.

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

CHANNEL AND CONTROL. Bed partly rock; permanent. Banks probably not subject to overflow. Current slow at low water. Control not known.

EXTREMES OF DISCHARGE. Maximum stage recorded, 7.60 feet February 15, 1908 (discharge, 3,920 second-feet); minimum stage recorded, 1.40 feet several days in August, September and November 1907 (discharge, 40 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. Probably none.

ACCURACY. Stage-discharge relation permanent. Rating curve well defined for low water and fairly well defined for higher stages. Gage read to tenths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records good.

COOPERATION. United States Forest Service.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF GREEN RIVER AT SALUDA, N. C.

Week	Year			Week	Year		
	1907	1908	1909		1907	1908	1909
1		219	317	27	91	162	
2		234	185	28	85	120	
3		227	205	29	76	99	
4		171	171	30	66	155	
5		165	142	31	58	109	
6		168	209	32	56	124	
7		1,014	210	33	66	92	
8		309	358	34	68	883	
9		257	271	35	47	293	
10		185	238	36	58	205	
11		175	258	37	53	148	
12		268	320	38	173	130	
13		211	299	39	88	126	
14		164	194	40	58	103	
15		177	200	41	70	135	
16		218	167	42	52	101	
17		251	190	43	52	301	
18		185	386	44	73	232	
19		225	249	45	60	145	
20	105	164	302	46	63	139	
21	124	139	253	47	249	130	
22	174	125	235	48	113	123	
23	169	150	1,029	49	104	221	
24	113	118	403	50	486	161	
25	98	98	312	51	342	195	
26	181	87	206	52	318	175	

MONTHLY DISCHARGE OF GREEN RIVER AT SALUDA, N. C.
[Drainage area, 51 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
May 9-31	255	96	114	2.24	1.92
June	670	80	154	3.02	3.37
July	112	52	80.2	1.57	1.81
August	96	40	59.4	1.16	1.34
September	950	40	89.5	1.75	1.95
October	151	52	57.5	1.13	1.30
November	480	40	119	2.33	2.60
December	1,340	66	299	5.86	6.76

MONTHLY DISCHARGE OF GREEN RIVER NEAR SALUDA, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1908					
January	330	151	227	4.45	5.13
February	3,920	151	424	8.31	8.96
March	525	151	213	4.18	4.82
April	525	130	202	3.96	4.42
May	480	112	170	3.33	3.84
June	287	80	116	2.27	2.53
July	480	80	132	2.59	2.99
August	3,730	80	317	6.22	7.17
September	287	112	156	3.06	3.41
October	950	96	174	3.41	3.93
November	199	96	141	2.76	3.08
December	525	66	184	3.61	4.16
The year	3,920	66	205	4.01	54.44
1909					
January	1,070	130	212	4.16	4.80
February	620	130	245	4.80	5.00
March	1,070	174	274	5.37	6.19
April	287	151	189	3.71	4.14
May	1,130	151	286	5.61	6.47
June	2,630	199	487	9.55	10.66

SECOND BROAD RIVER NEAR LOGANS STORE, N. C.

LOCATION. Two miles south of Logans Store, Rutherford County, 2 miles above the mouth of Catheys Creek and 6 miles northeast of Rutherfordton, N. C.

DRAINAGE AREA. 98 square miles.

RECORDS AVAILABLE. May 16, 1907 to June 30, 1908, when station was discontinued.

GAGE. Staff gage attached to tree on right bank about 100 yards below bridge; read by J. A. Mode.

DISCHARGE MEASUREMENTS. Made from wagon bridge.

CHANNEL AND CONTROL. Bed of stream sandy; shifting. Current swift. Control not known. Right bank subject to overflow; left bank high and not subject to overflow.

EXTREMES OF DISCHARGE. Maximum stage recorded, 9.0 feet December 23, 1907 (discharge not determined); minimum stage recorded, 1.1 foot September 20 to 22, 1907 (discharge, 60 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. Probably none.

ACCURACY. Stage-discharge relation shifting. Rating curves poorly defined. Gage read to tenths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records poor.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF SECOND BROAD RIVER NEAR LOGANS STORE, N. C.

Week	Year		Week	Year	
	1907	1908		1907	1908
1		164	27	124	
2			28	98	
3		149	29	79	
4		102	30	70	
5		111	31	79	
6		134	32	81	
7			33	85	
8			34	106	
9		161	35	72	
10		140	36	79	
11		131	37	80	
12			38	65	
13		155	39	107	
14		131	40	79	
15		115	41	74	
16		148	42	70	
17		142	43	75	
18		131	44	83	
19		145	45	73	
20	102	119	46	72	
21	114	119	47		
22	103	110	48	111	
23	137	106	49	88	
24	117	124	50		
25	102	122	51	142	
26	115	101	52	146	

KANAWHA RIVER BASIN

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

LOCATION. Half a mile above confluence of North and South forks of New River and 2½ miles north of Crumpler, Ashe County.

DRAINAGE AREA. 279 square miles.

RECORDS AVAILABLE. August 13, 1908 to September 30, 1916, when station was discontinued.

GAGE. Chain gage attached to posts on right bank until July 24, 1911, when a staff gage was installed at the same place and at the same datum as the chain gage, read by J. J. Garvey.

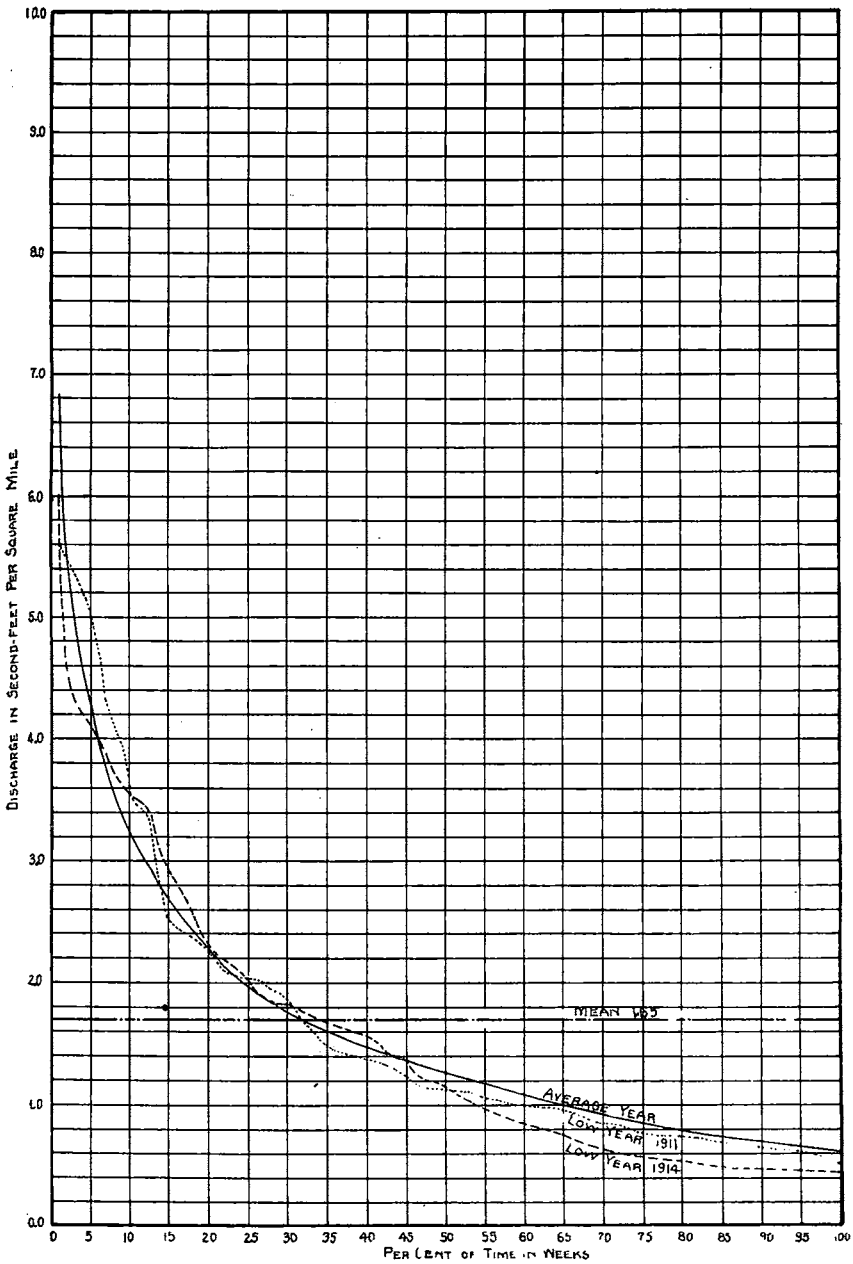
DISCHARGE MEASUREMENTS. Made from a boat at a section one-eighth mile below gage or by wading. The boat cable section was formerly at a ford one-fourth mile above gage, but was moved July 23, 1911, to a point one-eighth mile below gage.

CHANNEL AND CONTROL. Practically permanent.

EXTREMES OF DISCHARGE. 1908-1916: Maximum stage recorded, 22.4 feet about 11 p.m. July 15, 1916 (discharge, roughly, 24,000 second-feet, allowing for about 3.5 feet of backwater from the South Fork). Observer stated flood of September 12, 1878, was about 3 feet lower than the flood of July, 1916, at his residence which is near the gage. Farther up the river, however, the flood of 1878 was about half a foot higher than the flood of July, 1916. The floods of April 20, and May 20, 1901, reached a stage of about 16.4 feet by the present gage. Minimum stage recorded, 1.10 feet, afternoon reading, July 2, 1914 (discharge, 108 second-feet).

ICE. Stage-discharge relation affected by ice for short periods during severe winters.

ACCURACY. Stage-discharge relation practically permanent. Rating curve well defined between 150 to 2,000 second-feet; beyond these limits the curve is an extension. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Daily discharge for July 15 and 16, 1916, derived from mean daily gage-height determined from a gage-height hydrograph based on the crest stage of the flood reduced 3.5 feet for backwater and the gage readings of July 14 and 17. Records excellent.



WEEKLY DURATION CURVES
FOR
NORTH FORK OF NEW RIVER AT CRUMPLER, N C
1909 - 1915

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF NORTH FORK OF NEW RIVER NEAR CRUMPLER, N. C.

Week	Year								
	1908	1909	1910	1911	1912	1913	1914	1915	1916
1	----	1,460	600	1,421	411	405	291	828	903
2	----	748	446	382	357	406	479	837	1,188
3	----	924	430	309	400	305	328	1,020	541
4	----	594	468	585	398	557	439	866	603
5	----	491	392	967	784	534	607	1,074	901
6	----	938	368	943	328	391	784	725	613
7	----	892	968	569	292	277	388	423	396
8	----	1,073	651	381	785	344	1,150	495	492
9	----	848	665	312	753	610	540	469	657
10	----	995	460	1,494	674	352	428	405	914
11	----	1,026	310	657	1,620	1,793	1,021	360	490
12	----	676	259	460	809	611	703	328	471
13	----	1,296	224	678	1,210	2,192	1,043	341	732
14	----	609	209	1,567	1,173	454	841	323	548
15	----	758	232	1,197	455	1,104	588	439	853
16	----	584	309	1,121	396	684	959	312	471
17	----	453	488	539	496	389	507	345	369
18	----	888	287	569	574	305	455	331	299
19	----	666	491	407	488	278	493	347	262
20	----	479	336	533	602	312	320	297	242
21	----	1,481	425	315	342	1,338	246	387	369
22	----	743	272	267	409	885	219	483	256
23	----	1,580	355	405	288	397	259	346	258
24	----	700	1,273	237	269	298	188	344	508
25	----	585	760	236	246	288	169	225	333
26	----	559	395	294	364	304	139	188	265
27	----	644	635	285	702	412	180	245	202
28	----	566	601	280	367	215	249	256	1,985
29	----	339	384	185	316	178	223	254	5,782
30	----	348	298	159	286	195	146	200	1,179
31	----	422	806	209	310	201	138	231	804
32	----	307	272	189	252	249	131	184	1,401
33	308	446	231	176	215	249	135	331	1,089
34	633	256	251	142	480	410	131	288	709
35	476	209	444	345	221	248	380	569	417
36	395	226	499	176	228	319	132	1,517	375
37	268	239	288	202	178	191	155	468	391
38	240	267	208	224	404	499	165	313	292
39	256	238	223	172	404	261	128	352	285
40	208	185	223	192	195	201	138	1,288	----
41	371	463	296	202	175	193	130	424	----
42	232	379	224	629	207	215	509	355	----
43	1,390	277	206	277	188	366	200	297	----
44	1,276	220	224	195	169	224	160	240	----
45	448	222	193	354	267	252	156	224	----
46	443	202	197	314	204	311	339	264	----
47	494	205	187	297	176	261	232	647	----
48	497	189	297	266	212	262	979	345	----
49	1,245	229	645	211	227	269	1,872	270	----
50	853	286	281	235	186	263	461	323	----
51	607	240	257	437	174	209	635	1,632	----
52	995	350	453	688	345	302	1,201	1,169	----

MONTHLY DISCHARGE OF NORTH FORK OF NEW RIVER NEAR CRUMPLER, N. C.
[Drainage area, 279 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1908					
August 12-31	1,470	270	475	1.70	1.26
September	675	213	294	1.05	1.17
October	4,320	200	680	2.44	2.81
November	1,040	360	494	1.77	1.98
December	3,180	522	920	3.30	3.80
1909					
January	2,590	286	883	3.16	3.64
February	2,590	422	910	3.26	3.40
March	2,370	550	969	3.47	4.00
April	1,290	400	608	2.18	2.43
May	3,540	380	866	3.10	3.57
June	3,930	445	857	3.07	3.42
July	1,120	270	465	1.67	1.92
August	775	200	339	1.22	1.41
September	422	188	244	.875	.98
October	1,380	176	316	1.13	1.30
November	286	176	207	.742	.83
December	610	166	296	1.06	1.22
The year	3,930	166	580	2.08	28.12
1910					
January	1,560	226	474	1.70	1.96
February	2,150	188	605	2.17	2.26
March	1,040	226	382	1.37	1.58
April	1,120	176	307	1.10	1.23
May	675	254	376	1.35	1.56
June	1,750	226	663	2.38	2.66
July	1,560	240	460	1.65	1.90
August	955	176	282	1.01	1.16
September	845	188	329	1.18	1.32
October	470	176	237	.849	.98
November	400	176	210	.753	.84
December	1,850	138	407	1.46	1.68
The year	2,150	138	394	1.41	19.13
1911					
January	2,590	286	734	2.63	3.03
February	1,750	304	611	2.19	2.28
March	2,700	270	763	2.73	3.15
April	3,180	445	1,070	3.84	4.28
May	1,020	240	429	1.54	1.78
June	708	200	294	1.05	1.17
July	675	147	222	.796	.92
August	955	130	211	.756	.87
September	360	156	200	.717	.80
October	1,470	156	314	1.13	1.30
November	610	176	295	1.06	1.18
December	1,120	200	393	1.41	1.63
The year	3,180	130	461	1.65	22.39

MONTHLY DISCHARGE OF NORTH FORK OF NEW RIVER NEAR CRUMPLER, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1912					
January	1,470	270	456	1.63	1.88
February	1,470	270	559	2.00	2.16
March	2,940	445	1,010	3.62	4.17
April	2,050	341	646	2.32	2.59
May	1,040	286	473	1.70	1.96
June	775	200	310	1.11	1.24
July	1,290	226	408	1.46	1.68
August	1,120	200	300	1.08	1.24
September	1,380	166	297	1.06	1.18
October	270	166	189	.677	.78
November	445	156	209	.749	.84
December	775	147	235	.842	.97
The year	2,940	147	424	1.52	20.69
1913					
January	1,290	254	439	1.57	1.81
February	1,200	240	392	1.41	1.47
March	7,110	270	1,170	4.19	4.83
April	2,820	360	649	2.33	2.60
May	2,700	240	644	2.31	2.66
June	675	226	342	1.23	1.37
July	845	156	247	.885	1.02
August	955	156	282	1.01	1.16
September	1,200	166	309	1.11	1.24
October	708	176	243	.871	1.00
November	495	200	256	.918	1.02
December	495	200	270	.968	1.12
The year	7,110	156	436	1.56	21.30
1914					
January	1,120	270	406	1.46	1.68
February	2,150	254	730	2.62	2.73
March	1,950	380	736	2.64	3.04
April	1,660	360	741	2.66	2.97
May	955	213	359	1.29	1.49
June	422	122	193	.692	.77
July	470	122	194	.695	.80
August	1,290	108	188	.674	.78
September	254	122	146	.523	.58
October	1,660	122	237	.849	.98
November	1,380	147	265	.950	1.06
December	3,930	254	1,130	4.05	4.67
The year	3,930	108	443	1.58	21.55

MONTHLY DISCHARGE OF NORTH FORK OF NEW RIVER NEAR CRUMPLER, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1915					
January	2,480	422	855	3.06	3.53
February	2,050	380	696	2.49	2.59
March	470	304	365	1.31	1.51
April	642	254	355	1.27	1.42
May	880	226	348	1.25	1.44
June	642	176	308	1.10	1.23
July	445	147	233	0.835	0.96
August	1,120	156	325	1.16	1.34
September	4,840	213	647	2.32	2.59
October	3,670	254	558	2.00	2.31
November	1,660	200	355	1.27	1.42
December	4,980	226	824	2.95	3.40
The year	4,980	147	489	1.75	23.74
1916					
January	2,590	495	783	2.81	3.24
February	1,560	322	608	2.18	2.35
March	1,290	400	662	2.37	2.73
April	1,200	322	552	1.98	2.21
May	740	213	288	1.03	1.19
June	955	213	332	1.19	1 33
July	17,700	166	2,120	7.60	8.76
August	2,480	400	928	3.33	3.84
September	740	240	338	1.21	1.35

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

LOCATION. 1.6 miles above confluence of North and South forks of New River and 4 miles from Crumpler, Ashe County.

DRAINAGE AREA. 325 square miles.

RECORDS AVAILABLE. August 12, 1908 to September 30, 1916, when station was discontinued.

GAGE. Chain gage attached to trees on left bank; read by J. J. Garvey.

DISCHARGE MEASUREMENTS. Made from a boat at a section about half a mile below gage or by wading at a section 500 feet below gage.

CHANNEL AND CONTROL. Practically permanent.

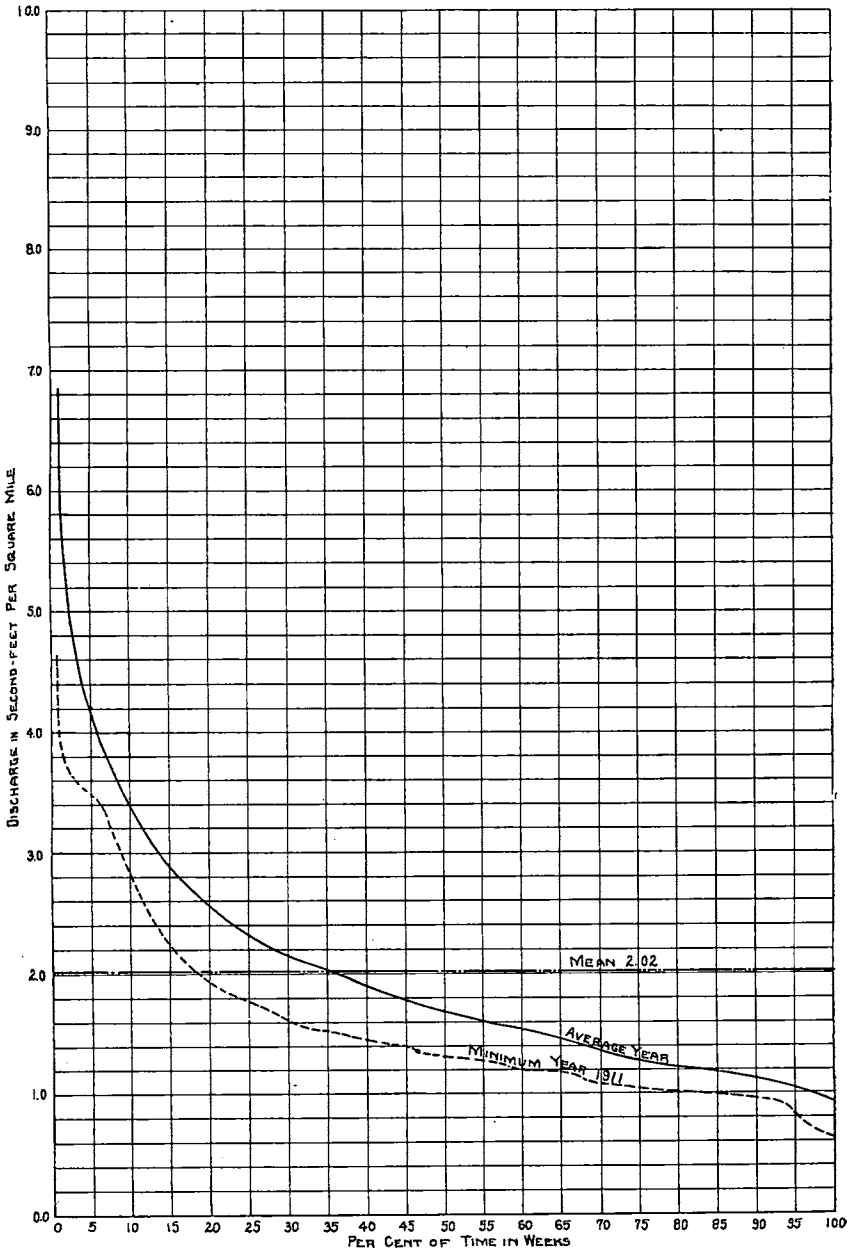
EXTREMES OF DISCHARGE. 1908-1916: Maximum stage recorded, previous to flood, July, 1916, 7.00 feet, morning reading, October 24, 1908 (discharge, 10,600 second-feet); minimum stage, 0.85 foot, afternoon reading, July 27, 1911 (discharge, 205 second-feet). The crest of the flood of July, 1916, occurred about 11 p.m. July 15; stage as determined by leveling, July 25, was 21.3 feet (discharge, roughly, 46,000 second-feet). This flood exceeded the flood of 1878 by about 3 feet; a building which had been standing for more than 100 years was carried away by the water.

ICE. Ice seldom forms in sufficient quantity to affect stage-discharge relation.

ACCURACY. Stage-discharge relation practically permanent. Rating curve well defined between 200 and 3,500 second-feet; beyond these limits the curve is an extension. Gage read twice daily to hundredths. Daily discharge ascertained by applying mean daily gage height to rating table. Records excellent.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF SOUTH FORK OF NEW RIVER NEAR CRUMPLER, N. C.

Week	Year								
	1908	1909	1910	1911	1912	1913	1914	1915	1916
1	----------	1,157	538	1,138	534	476	496	1,165	1,134
2	----------	807	652	502	407	412	635	1,329	1,031
3	----------	941	504	424	457	373	505	1,509	752
4	----------	692	579	461	485	529	497	1,186	1,194
5	----------	754	468	472	541	529	1,072	1,575	1,523
6	----------	868	464	600	450	422	919	1,186	1,066
7	----------	1,022	889	489	476	389	615	1,049	806
8	----------	1,353	789	429	948	469	1,075	1,033	853
9	----------	981	862	387	818	642	671	913	899
10	----------	973	595	896	737	449	641	863	829
11	----------	807	475	557	1,537	1,941	767	727	692
12	----------	811	434	461	916	906	683	666	687
13	----------	1,066	391	687	1,182	2,810	690	609	896
14	----------	721	425	1,146	922	864	711	602	744
15	----------	1,249	397	1,336	657	1,750	942	639	871
16	----------	889	458	1,092	613	1,137	1,129	532	636
17	----------	699	439	657	687	797	679	658	567
18	----------	941	362	618	645	649	685	594	543
19	----------	1,443	534	511	898	648	658	595	475
20	----------	902	399	517	1,077	716	495	490	459
21	----------	3,210	506	429	599	1,739	433	535	684
22	----------	1,229	352	412	596	1,048	412	769	614
23	----------	1,900	416	420	589	841	558	543	491
24	----------	1,161	1,490	335	559	634	409	572	906
25	----------	921	634	331	413	604	367	516	682
26	----------	1,014	591	319	590	486	293	396	617
27	----------	923	668	317	595	539	403	485	488
28	----------	745	713	347	684	404	379	392	5,884
29	----------	538	602	326	807	355	486	524	9,443
30	----------	647	421	225	565	401	284	475	2,316
31	----------	774	413	334	543	393	275	375	1,800
32	----------	580	369	348	453	528	281	404	1,531
33	550	716	337	262	387	453	304	530	1,281
34	1,353	461	373	214	368	547	257	654	1,163
35	1,076	403	1,009	579	305	364	483	914	854
36	777	408	693	326	357	735	256	2,119	743
37	568	423	461	307	357	393	294	939	978
38	495	614	360	570	456	1,222	341	666	634
39	544	511	694	376	498	534	266	608	733
40	455	395	689	302	369	445	323	1,936	----------
41	874	826	1,072	312	335	412	278	881	----------
42	492	534	558	1,065	378	479	1,500	792	----------
43	2,833	420	444	456	371	964	468	657	----------
44	1,567	387	420	341	324	508	351	567	----------
45	838	405	380	491	644	566	341	526	----------
46	743	388	373	477	393	465	798	589	----------
47	713	374	347	416	340	424	478	991	----------
48	659	344	374	387	382	518	1,744	688	----------
49	900	463	662	351	417	540	2,967	538	----------
50	752	757	432	387	369	499	1,023	572	----------
51	673	478	408	744	347	384	896	1,372	----------
52	879	370	552	808	496	531	1,269	1,706	----------



WEEKLY DURATION CURVES
FOR
SOUTH FORK OF NEW RIVER AT CRUMPLER, N.C.
1909–1915

MONTHLY DISCHARGE OF SOUTH FORK OF NEW RIVER NEAR CRUMPLER, N. C.
[Drainage area, 325 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1908					
August 12-31	3,900	485	996	3.06	2.28
September	980	450	604	1.86	2.08
October	8,540	420	1,250	3.85	4.44
November	1,340	561	799	2.46	2.74
December	1,530	561	799	2.46	2.84
1909					
January	1,660	650	875	2.69	3.10
February	2,080	561	1,050	3.23	3.36
March	1,340	650	915	2.82	3.25
April	2,850	561	884	2.72	3.04
May	9,200	650	1,610	4.96	5.72
June	3,900	862	1,240	3.82	4.26
July	1,160	485	721	2.22	2.56
August	1,160	391	598	1.84	2.12
September	980	366	483	1.49	1.66
October	1,800	391	529	1.63	1.88
November	520	340	381	1.17	1.30
December	1,530	340	500	1.54	1.78
The year	9,200	340	816	2.51	34.03
1910					
January	1,280	391	555	1.71	1.97
February	2,380	366	677	2.08	2.17
March	1,220	391	546	1.68	1.94
April	750	340	427	1.31	1.46
May	804	318	442	1.36	1.57
June	2,380	318	747	2.30	2.57
July	1,160	391	585	1.80	2.08
August	1,160	318	395	1.22	1.41
September	3,020	340	615	1.89	2.11
October	2,080	391	665	2.05	2.36
November	420	340	374	1.15	1.28
December	1,100	318	505	1.55	1.79
The year	3,020	318	544	1.67	22.71
1911					
January	1,800	391	619	1.90	2.19
February	862	391	488	1.50	1.56
March	1,340	366	619	1.90	2.19
April	2,230	520	1,030	3.17	3.54
May	697	391	498	1.53	1.76
June	450	295	363	1.12	1.25
July	650	205	297	.914	1.05
August	980	205	335	1.03	1.19
September	1,400	255	413	1.27	1.42
October	3,540	275	518	1.59	1.83
November	650	318	432	1.33	1.48
December	1,460	318	568	1.75	2.02
The year	3,540	205	515	1.58	21.48

MONTHLY DISCHARGE OF SOUTH FORK OF NEW RIVER NEAR CRUMPLER, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1912					
January	804		487	1.50	1.73
February	2,230		656	2.02	2.18
March	2,530	602	1,030	3.17	3.66
April	1,340	520	744	2.29	2.56
May	1,940	485	783	2.41	2.78
June	980	391	543	1.67	1.86
July	1,220	450	662	2.04	2.35
August	520	295	396	1.22	1.41
September	1,400	275	454	1.40	1.56
October	450	318	359	1.10	1.27
November	1,340	318	428	1.32	1.47
December	697	340	409	1.26	1.45
The year	2,530		579	1.78	24.28
1913					
January	1,040	340	463	1.42	1.64
February	1,040	340	460	1.42	1.48
March	8,320	391	1,420	4.37	5.04
April	3,360	697	1,120	3.45	3.85
May	4,080	520	983	3.02	3.48
June	1,040	450	664	2.04	2.28
July	804	340	426	1.31	1.51
August	980	340	466	1.43	1.65
September	3,020	340	696	2.14	2.39
October	2,080	366	574	1.77	2.04
November	862	391	467	1.44	1.61
December	920	366	512	1.58	1.82
The year	8,320	340	688	2.12	28.79
1914					
January	2,380	450	588	1.81	2.09
February	1,800		880	2.71	2.82
March	920	450	679	2.09	2.41
April	2,380	561	862	2.65	2.96
May	920	391	545	1.68	1.94
June	804	255	411	1.26	1.41
July	804	255	377	1.16	1.34
August	862	220	326	1.00	1.15
September	450	238	288	.886	.99
October	5,420	255	616	1.90	2.19
November	1,800	318	539	1.66	1.85
December	5,820	697	1,710	5.26	6.06
The year	5,820		652	2.01	27.21

MONTHLY DISCHARGE OF SOUTH FORK OF NEW RIVER NEAR CRUMPLER, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1915					
January	3,020	697	1,260	3.88	4.47
February	3,190	804	1,220	3.75	3.90
March	920	602	735	2.26	2.61
April	920	520	611	1.88	2.10
May	750	450	556	1.71	1.97
June	1,160	366	558	1.72	1.92
July	920	340	460	1.42	1.64
August	1,220	295	575	1.77	2.04
September	5,620	485	1,060	3.26	3.64
October	4,650	561	1,020	3.14	3.62
November	2,080	520	686	2.11	2.35
December	4,080	520	1,040	3.20	3.69
The year	5,620	295	815	2.51	33.95
1916					
January	1,460	697	1,030	3.17	3.66
February	2,380	697	1,040	3.20	3.45
March	1,340	602	790	2.43	2.80
April	1,040	520	698	2.15	2.40
May	1,100	391	559	1.72	1.98
June	1,800	450	661	2.03	2.26
July	30,500	420	4,220	13.00	14.99
August	2,690	862	1,340	4.12	4.75
September	1,800	520	774	2.38	2.66

TENNESSEE RIVER BASIN

WATAUGA RIVER AT BUTLER, TENN.

LOCATION. At county highway bridge at Butler, Johnson County, 800 feet above Virginia and Southwestern Railroad bridge. Roane Creek enters just above gage and Elk Creek enters 1 mile above.

DRAINAGE AREA. 427 square miles (measured on topographic maps).

RECORDS AVAILABLE. July 30, 1900 to December 28, 1901 and November 2, 1920 to December 31, 1923.

GAGE. During 1900-01, vertical staff fastened to tree on right bank 100 yards below mouth of Roane Creek. Gage used 1920-1922, was chain gage attached to downstream side of bridge near right end. Old gage and all bench marks destroyed by flood in 1920; new gage at independent datum.

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

CHANNEL AND CONTROL. Bed composed of rock and gravel; smooth and uniform. Channel straight for 1,000 feet above and for 500 feet below bridge. Banks high but subject to overflow at extreme high water. Control is well-defined, rock and gravel shoal 300 feet below bridge; fairly permanent.

EXTREMES OF DISCHARGE. Maximum discharge recorded, 6,760 second-feet at 5 p.m. February 10, 1921 (gage height, 6.70 feet); minimum discharge, 120 second-feet February 23 and 24, 1901. A stage of 16.27 feet was reported May 21, 1901.

ICE. Stage-discharge relation not affected by ice.

REGULATION. None.

ACCURACY. Stage-discharge relation not permanent. Three rating curves used, as follows: August 14, 1900 to December 28, 1901, fairly well defined below 2,000 second-feet; November 7, 1920 to May 19, 1922, well defined below 1,700 second-feet and extended above; May 20 to March 17, 1923, fairly well defined between 180 and 1,500 second-feet and extended beyond these limits. Gage read to tenths probably once daily in 1900-1901; to hundredths twice daily

during 1920-1922. Daily discharge ascertained by applying daily or mean daily gage height to rating table. Records for 1900-01, fair below 2,000 second-feet; others poor. For 1920-1923, records good below 1,700 second-feet and fair above.

NOTE. Records of 1900 and 1901 are fragmentary, therefore omitted.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF WATAUGA RIVER AT BUTLER, TENN.

Week	Year			
	1920	1921	1922	1923
1		530	377	1,063
2		758	419	456
3		1,055	1,707	558
4		957	1,600	1,253
5		1,094	595	2,614
6		2,120	1,018	1,683
7		1,396	2,196	1,826
8		989	894	611
9		650	1,609	531
10		521	1,723	1,441
11		482	2,109	2,317
12		595	966	1,650
13		644	1,368	807
14		589	1,125	646
15		425	809	594
16		1,073	952	567
17		748	1,408	525
18		1,518	1,374	601
19		1,071	1,052	587
20		642	1,823	1,240
21		661	1,029	1,064
22		514	677	1,677
23		420	731	781
24		358	450	934
25		379	382	546
26		329	355	705
27		341	592	1,086
28		612	491	664
29		1,002	836	1,011
30		551	429	415
31		890	382	697
32		550	287	630
33		1,135	267	637
34		624	245	834
35		371	216	466
36		358	219	385
37		342	181	362
38		340	155	395
39		338	160	314
40		298	143	261
41		259	437	244
42		242	190	241
43		241	196	304
44		1,218	166	255
45	252	478	165	329
46	565	528	197	251
47	448	485	182	269
48	529	866	166	307
49	891	875	413	474
50	1,829	438	982	427
51	845	549	1,169	428
52	803	411	387	771

MONTHLY DISCHARGE OF WATAUGA RIVER NEAR BUTLER, TENN.
[Drainage area, 427 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
November 7-30	1,350	233	457	1.07	.96
December	4,180	448	1,050	2.46	2.84
1921					
January	1,800	435	859	2.01	2.32
February	5,500	686	1,350	3.16	3.29
March	835	442	552	1.29	1.49
April	2,290	380	723	1.69	1.89
May	2,490	500	924	2.16	2.49
June	507	281	381	.892	1.00
July	1,640	269	600	1.41	1.63
August	3,020	321	757	1.77	2.04
September	618	265	346	.810	.90
October	1,770	241	353	.827	.95
November	2,160	408	643	1.51	1.68
December	1,380	380	594	1.39	1.60
The year	5,500	241	674	1.58	21.28
1922					
January	4,800	330	984	2.30	2.65
February	4,380	535	1,180	2.76	2.87
March	3,680	695	1,630	3.82	4.40
April	3,400	610	1,120	2.62	2.92
May	3,960	510	1,210	2.83	3.26
June	1,080	300	516	1.21	1.35
July	1,140	370	579	1.36	1.57
August	348	205	267	.625	.72
September	266	150	180	.422	.47
October	1,080	135	234	.548	.63
November	310	135	176	.412	.46
December	2,220	168	690	1.62	1.87
The year	4,800	135	731	1.71	23.17
1923					
January	4,600	364	988	2.31	2.66
February	3,480	394	1,490	3.49	3.63
March	4,600	475	1,450	3.40	3.92
April	790	436	592	1.39	1.55
May	3,040	485	1,020	2.39	2.76
June	1,440	485	804	1.88	2.10
July	1,920	338	776	1.82	2.10
August	1,920	374	671	1.57	1.81
September	645	270	364	0.852	0.95
October	383	226	262	0.614	0.71
November	395	231	279	0.653	0.73
December	1,300	305	522	1.22	1.41
The year	4,600	226	768	1.80	24.33

WATAUGA RIVER NEAR ELIZABETHTON, TENN.

LOCATION. At Virginia and Southwestern Railway bridge at Siam, 4 miles east of Elizabethton, Carter County, and 5 miles above mouth of Doe River.

DRAINAGE AREA. 475 square miles (measured on topographic maps).

RECORDS AVAILABLE. February 10, 1903 to December 31, 1908, when station was discontinued.

GAGE. Chain gage fastened to downstream guard rail in middle span of bridge.

DISCHARGE MEASUREMENTS. Made principally from railroad bridge. Also made from boat above gage. Some measurements apparently made at another section, possibly at highway bridge one-fourth of a mile downstream.

CHANNEL AND CONTROL. Channel is straight for 1,000 feet above and below gage. Right bank high and subject to overflow at flood stages; left bank is abutment of bridge. Bed even and consists of sand and rocks. Control probably a shoal 1,000 feet downstream.

EXTREMES OF DISCHARGE. Maximum stage recorded, 8.4 feet July 12, 1905 (discharge, 10,100 second-feet); minimum stage, 1.05 feet January 6 and October 20 to November 2, 1904 (discharge, 148 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. No information.

ACCURACY. Stage-discharge relation not permanent. Two rating curves used, as follows: May 11, 1903 to July 11, 1905, well defined between 150 and 3,000 second-feet; July 12, 1905 to December 31, 1908, well defined between 500 and 3,000 second-feet. Gage read to half-tenths once daily. Daily discharge ascertained by applying gage height to rating table except as indicated in footnote to daily-discharge table. Records good, except for days of estimated discharge.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF WATAUGA RIVER NEAR ELIZABETHTON, TENN.

Week	Year					
	1903	1904	1905	1906	1907	1908
1	----------	180	444	1,086	1,280	1,279
2	----------	221	125	816	702	3,102
3	----------	297	764	1,070	531	1,433
4	----------	565	546	3,940	483	1,087
5	----------	273	370	1,241	417	855
6	----------	488	800	756	430	792
7	----------	317	1,281	699	400	3,251
8	----------	534	1,791	836	591	994
9	----------	835	1,061	742	1,334	1,477
10	----------	1,739	1,173	1,164	1,337	1,700
11	----------	730	952	959	1,174	1,439
12	----------	1,886	576	1,019	695	1,567
13	----------	1,258	476	1,201	526	1,170
14	----------	572	747	973	569	2,243
15	----------	584	1,180	1,169	873	796
16	----------	490	655	1,458	933	1,151
17	----------	584	541	695	1,150	1,764
18	----------	1,186	701	971	739	878
19	----------	1,374	1,666	1,334	624	1,014
20	596	872	3,271	537	431	937
21	489	576	1,013	420	447	975
22	513	850	551	469	1,606	914
23	823	688	399	368	1,893	869
24	552	455	375	1,449	1,939	829
25	436	395	706	890	1,051	722
26	538	625	480	751	971	765
27	489	597	599	439	500	1,561
28	796	387	3,392	671	821	1,040
29	446	286	1,157	911	888	586
30	316	423	761	876	640	806
31	530	611	1,779	1,086	534	929
32	415	524	2,786	612	512	511
33	301	590	1,890	1,341	472	353
34	251	439	918	989	536	911
35	231	332	712	3,753	457	839
36	218	344	551	2,206	495	483
37	251	247	448	1,192	615	361
38	306	203	415	1,904	1,060	298
39	202	185	325	1,781	2,117	259
40	171	179	321	2,547	719	184
41	250	165	329	799	457	511
42	215	160	322	2,346	364	263
43	188	148	333	1,185	298	1,556
44	194	159	306	586	391	1,538
45	250	240	290	502	451	571
46	299	308	240	633	574	585
47	252	289	240	2,636	700	567
48	205	250	247	695	863	522
49	208	439	1,022	551	435	1,781
50	213	355	871	460	742	1,127
51	289	264	946	674	1,228	840
52	358	398	674	1,605	2,416	1,463

MONTHLY DISCHARGE OF WATAUGA RIVER NEAR ELIZABETHTON, TENN.
[Drainage area, 475 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1903					
May	680	440	543	1.14	0.89
June	1,280	355	587	1.24	1.38
July	1,600	275	500	1.05	1.21
August	835	205	354	.745	.86
September	570	185	244	.514	.57
October	470	165	204	.429	.49
November	835	185	248	.522	.58
December	718	165	266	.560	.65
1904					
January	1,380	148	310	.653	.75
February	1,100	205	479	1.01	1.09
March	4,570	605	1,310	2.76	3.18
April	920	382	572	1.20	1.34
May	2,460	470	953	2.01	2.32
June	1,600	328	603	1.27	1.42
July	1,280	250	429	.903	1.04
August	1,190	300	514	1.08	1.24
September	470	185	254	.535	.60
October	185	148	162	.341	.39
November	355	148	260	.547	.61
December	920	228	357	.752	.87
The year	4,570	148	517	1.09	14.85
1905					
January	2,460	355	712	1.50	1.73
February	2,850	250	1,140	2.40	2.50
March	1,710	410	827	1.74	2.01
April	1,600	410	765	1.61	1.80
May	5,200	535	1,560	3.28	3.78
June	1,190	355	494	1.04	1.16
July	10,100	410	1,550	3.26	3.76
August	3,820	525	1,600	3.37	3.88
September	595	290	438	.922	1.03
October	400	290	326	.686	.79
November	290	240	258	.543	.61
December	3,250	240	832	1.75	2.02
The year	10,100	240	875	1.84	25.07
1906					
January	8,260	460	1,700	3.58	4.13
February	1,280	595	804	1.69	1.76
March	2,120	525	1,030	2.17	2.50
April	4,270	560	1,070	2.25	2.51
May	2,230	345	786	1.65	1.90
June	2,230	345	830	1.75	1.95
July	1,680	345	731	1.54	1.78
August	7,200	460	1,540	3.24	3.74
September	4,270	525	1,810	3.81	4.25
October	5,840	595	1,610	3.39	3.91
November	7,540	460	1,080	2.27	2.53
December	3,390	460	829	1.75	2.02
The year	8,260	345	1,152	2.42	32.98

MONTHLY DISCHARGE OF WATAUGA RIVER NEAR ELIZABETHTON, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
January	2,120	400	716	1.51	1.74
February	1,470	400	555	1.17	1.22
March	1,780	492	1,000	2.11	2.43
April	1,680	460	864	1.82	2.03
May	830	345	530	1.12	1.29
June	5,040	595	1,670	3.52	3.93
July	1,890	400	706	1.49	1.72
August	670	290	494	1.04	1.20
September	4,570	400	1,030	2.17	2.42
October	1,180	290	457	.962	1.11
November	1,180	290	609	1.28	1.43
December	3,530	400	1,210	2.55	2.94
The year	5,040	290	820	1.73	23.46
1908					
January	9,530	830	1,680	3.54	4.08
February	6,690	595	1,430	3.01	3.25
March		830	1,580	3.33	3.84
April	5,200	670	1,460	3.07	3.42
May	1,470	670	965	2.03	2.34
June	1,680	525	774	1.63	1.82
July	3,820	400	1,050	2.21	2.55
August	2,600	290	652	1.37	1.58
September	550	195	362	.762	.85
October	3,530	175	773	1.63	1.88
November	1,500	400	623	1.31	1.46
December	4,880	400	1,270	2.67	3.08
The year	9,530	175	1,051	2.21	30.15

DOE RIVER AT VALLEY FORGE, TENN.

LOCATION. At concrete highway bridge 50 feet below East Tennessee and Western North Carolina Railroad bridge at Valley Forge, Carter County. It is one-fourth of a mile from the railroad station and 4 miles above mouth of river. Laurel Creek enters 4 miles above. In 1911-1915, gage was at railroad bridge.

DRAINAGE AREA. 132 square miles (measured on topographic maps).

RECORDS AVAILABLE. December 9, 1911 to September 30, 1916, and November 5, 1920 to December 31, 1923.

GAGE. Chain gage attached to parapet wall on downstream side of highway bridge, during 1920-1922; read by R. M. Snyder. During 1911-1915, chain gage attached to upstream side of railroad bridge. Both gages set to same datum, but read differently due to slope of river between.

DISCHARGE MEASUREMENTS. Made from either highway or railroad bridge, or by wading.

CHANNEL AND CONTROL. Bed composed principally of coarse gravel; smooth and uniform. Channel straight for 500 feet above and below gage; right bank is low and is overflowed at stage of about 5 feet; left bank is high and not subject to overflow. Control is gravel riffle 200 feet downstream; probably shifts during high water.

EXTREMES OF DISCHARGE. Maximum stage recorded, 5.9 feet during afternoon of July 20, 1921 (discharge 4,080 second-feet); minimum discharge, 35 second-feet November 24, 1914 (gage height, 0.90 foot).

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

ACCURACY. Stage-discharge relation practically permanent. Two rating curves used as follows: December 11, 1911 to September 30, 1916, fairly well defined below 700 second-feet and extended beyond; November 5, 1920 to December 31, 1923, well defined below 800 second-feet and extended beyond to pass through a slope-discharge determination at 5,040 second-feet. Curves merge at 1,420 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF DOE RIVER AT VALLEY FORGE, TENN.

Week	Year									
	1911	1912	1913	1914	1915	1916	1920	1921	1922	1923
1		145	157	90	264	432		194	135	492
2		123	164	117	327	432		379	204	177
3		110	173	113	464	189		364	577	257
4		106	408	200	346	340		255	499	448
5		229	298	252	381	423		303	206	834
6		122	177	327	270	310		609	378	597
7		129	161	154	213	180		396	647	735
8		248	165	335	223	226		349	295	291
9		356	369	208	194	320		244	394	227
10		331	197	211	179	407		206	459	537
11		728	1,274	539	161	250		190	631	802
12		315	330	285	163	389		190	322	484
13		561	999	370	224	733		224	336	271
14		538	237	305	204	395		241	332	230
15		211	298	284	274	313		158	275	205
16		222	322	516	163	216		326	420	204
17		399	210	253	153	183		266	439	186
18		512	241	189	239	142		638	389	196
19		282	163	189	279	114		399	292	241
20		246	183	132	169	101		232	420	353
21		172	598	97	180	130		212	283	237
22		284	516	83	150	167		166	198	271
23		173	325	75	129	109		156	191	198
24		224	186	65	138	167		143	171	198
25		178	127	83	118	130		200	150	157
26		147	96	40	89	83		136	154	183
27		204	126	90	156	115		121	266	271
28		204	88	94	141	446		236	229	223
29		313	81	86	178	1,175		670	261	517
30		251	81	88	108	325		259	182	180
31		145	111	79	88	167		411	202	215
32		108	155	59	67	241		266	138	308
33		89	87	111	169	610		409	114	540
34		132	86	105	169	178		266	120	449
35		85	127	284	141	113		183	92	213
36		92	81	71	306	103		135	93	162
37		71	64	85	145	112		109	68	136
38		95	142	60	100	75		109	61	172
39		117	101	57	76	73		121	61	115
40		76	71	50	133			120	59	92
41		67	62	48	91			92	164	83
42		77	90	320	90			85	78	80
43		68	117	74	79			77	75	101
44		66	78	62	68			350	67	83
45		150	103	73	66		100	151	66	98
46		87	171	74	151		220	185	82	78
47		75	120	64	209		159	159	70	92
48		79	95	272	160		139	299	79	101
49		109	106	496	98		289	270	211	125
50	84	79	85	160	123		483	144	365	142
51	126	70	83	176	783		216	142	400	150
52	240	104	105	576	502		255	163	146	239

MONTHLY DISCHARGE OF DOE RIVER NEAR VALLEY FORGE, TENN.
[Drainage area, 132 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1911					
December	344	73	157	1.19	1.37
1912					
January	419	47	138	1.05	1.21
February	858	107	214	1.62	1.75
March	1,600	190	449	3.40	3.92
April	6,170	167	369	2.80	3.12
May	558	146	286	2.17	2.50
June	500	112	186	1.41	1.57
July	652	134	236	1.79	2.06
August	216	77	111	.841	.97
September	197	63	92	.697	.78
October	102	60	71	.538	.62
November	344	57	94	.712	.79
December	197	41	91	.689	.79
The year	1,600	41	195	1.48	20.02
1913					
January	786	95	243	1.84	2.12
February	718	90	201	1.52	1.58
March	3,600	158	664	5.03	5.80
April	446	164	273	2.07	2.31
May	1,330	131	343	2.60	3.00
June	528	88	200	1.52	1.70
July	271	57	92	.697	.80
August	446	57	118	.894	1.03
September	344	57	96	.727	.81
October	216	55	85	.644	.74
November	344	69	115	.871	.97
December	161	63	97	.735	.85
The year	3,600	55	211	1.60	21.71
1914					
January	446	46	139	1.05	1.21
February	588	61	271	2.05	2.14
March	1,170	102	325	2.46	2.84
April	858	167	339	2.57	2.87
May	227	83	141	1.07	1.23
June	171	37	68	.515	.57
July	306	37	88	.667	.77
August	858	49	131	.992	1.04
September	167	49	71	.538	.60
October	1,090	42	117	.886	1.02
November	368	35	82	.621	.69
December	1,250	70	374	2.83	3.26
The year	1,250	35	179	1.35	18.24

MONTHLY DISCHARGE OF DOE RIVER NEAR VALLEY FORGE, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1915					
January	588	149	336	2.55	2.94
February	752	164	273	2.07	2.16
March	267	120	180	1.36	1.57
April	394	123	202	1.53	1.71
May	446	102	201	1.52	1.75
June	246	75	126	.955	1.07
July	368	67	141	1.07	1.23
August	394	58	131	.992	1.14
September	786	67	154	1.17	1.31
October	187	65	96	.727	.84
November	500	65	138	1.05	1.17
December	2,640	36	364	2.76	3.18
The year	2,640	36	195	1.48	20.07
1916					
January	858	120	336	2.55	2.94
February	752	120	284	2.15	2.32
March	1,170	187	437	3.31	3.82
April	558	146	282	2.14	2.39
May	250	88	131	.992	1.14
June	250	71	124	.939	1.05
July	2,300	67	480	3.64	4.20
August	1,880	102	277	2.10	2.42
September	267	52	92	.697	.78
1920					
November 5-30	562	88	155	1.17	1.31
December	1,180	138	298	2.26	2.61
1921					
January	620	168	301	2.28	2.63
February	1,690	230	407	3.08	3.21
March	265	162	200	1.52	1.75
April	590	144	256	1.94	2.16
May	1,140	168	346	2.62	3.02
June	265	120	160	1.21	1.35
July	1,510	97	304	2.30	2.65
August	1,040	125	325	2.46	2.84
September	192	92	123	.932	1.04
October	740	74	124	.939	1.08
November	390	130	202	1.53	1.71
December	435	125	191	1.45	1.67
The year	1,690	74	245	1.86	25.11

MONTHLY DISCHARGE OF DOE RIVER NEAR VALLEY FORGE, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1922					
January	1,510	120	340	2.58	2.97
February	1,420	202	383	2.90	3.02
March	1,110	248	449	3.40	3.92
April	865	230	372	2.82	3.15
May	800	177	321	2.43	2.80
June	248	112	172	1.30	1.45
July	412	135	234	1.77	2.04
August	192	80	128	.970	1.12
September	125	59	72	.545	.61
October	368	55	91	.689	.79
November	132	63	71	.538	.60
December	900	97	265	2.01	2.32
The year	900	55	241	1.83	24.79
1923					
January	1,340	141	383	2.90	3.34
February	1,510	216	561	4.25	4.43
March	1,600	198	493	3.73	4.30
April	285	168	207	1.57	1.75
May	650	162	265	2.01	2.32
June	265	138	189	1.43	1.60
July	1,690	144	287	2.17	2.50
August	1,690	168	366	2.77	3.19
September	368	106	147	1.11	1.24
October	132	76	89.2	.676	.78
November	138	72	90	.682	.76
December	390	88	163	1.23	1.42
The year	1,690	72	270	2.04	27.63

NOLICHUCKY RIVER NEAR EMBREEVILLE, TENN.

LOCATION. At county highway bridge at Embreeville, Washington County, 3½ miles northwest of Erwin, and 14 miles southwest of Johnson City. North Indian Creek enters at Erwin and South Indian Creek 1½ miles farther upstream.

DRAINAGE AREA. 795 square miles (measured on topographic maps).

RECORDS AVAILABLE. July 1, 1920 to December 31, 1923.

GAGE. Chain gage bolted to downstream railing of bridge; read by James Ammons.

DISCHARGE MEASUREMENTS. Made from downstream side of bridge.

CHANNEL AND CONTROL. Control solid rock and gravel shoal 600 feet below gage; shifts occassionally. Both banks wooded; right bank steep and high; left bank subject to overflow above stage of about 15 feet.

EXTREMES OF DISCHARGE. Maximum stage recorded, about 11.0 feet at noon August 3, 1921 (discharge not determined); minimum stage, 2.09 feet mean for day November 14, 1923 (discharge, 315 second-feet).

ICE. Stage-discharge relation slightly affected by ice during average winters.

REGULATION. None.

ACCURACY. Stage-discharge relation not permanent. Two rating curves used as follows: July 1, 1920 to February 9, 1921, fairly well defined below 2,000 second-feet and extended above; February 10, 1921 to September 30, 1923, well defined below 5,000 second-feet and extended above. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table except as indicated in footnote to daily-discharge table. Records good for medium and low stages; records above 5,000 second-feet subject to error on account of extension of rating curve.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF NOLICHUCKY RIVER NEAR EMBREEVILLE, TENN.

Week	Year			
	1920	1921	1922	1923
1		938	721	2,381
2		1,448	940	1,009
3		1,673	2,970	997
4		1,350	2,829	2,346
5		1,779	1,227	3,639
6		3,821	1,987	3,041
7		2,586	3,761	2,987
8		2,313	1,687	1,393
9		1,487	2,330	1,221
10		1,204	2,947	2,981
11		1,116	3,450	4,323
12		1,273	1,979	2,791
13		1,417	2,767	1,547
14		1,367	2,499	1,350
15		972	1,820	1,381
16		2,846	2,239	1,393
17		1,913	2,107	1,246
18		2,884	2,203	2,160
19		2,093	1,776	21,50
20		1,413	2,156	2,261
21		1,534	1,871	2,683
22		1,139	1,510	2,927
23		1,096	1,626	1,624
24		1,044	1,270	1,220
25		973	1,291	1,077
26		911	953	1,070
27	948	748	1,430	1,213
28	690	1,537	1,441	1,084
29	638	3,170	1,831	2,603
30	470	1,763	1,376	1,157
31	550	2,679	926	1,116
32	1,569	1,719	699	1,596
33	1,571	3,831	681	1,630
34	1,590	1,829	779	1,180
35	1,343	1,109	652	715
36	875	838	559	764
37	1,994	813	441	566
38	1,229	776	410	603
39	997	694	423	574
40	765	746	403	468
41	559	574	1,031	440
42	505	549	490	370
43	533	494	544	414
44	526	1,898	418	401
45	490	941	394	403
46	1,056	946	390	342
47	779	964	378	420
48	816	1,574	385	550
49	1,381	1,579	786	1,008
50	2,796	835	1,670	975
51	1,420	1,097	2,541	920
52	1,419	907	735	1,135

MONTHLY DISCHARGE OF NOLICHUCKY RIVER AT EMBREEVILLE, TENN.
[Drainage area, 795 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
July	2,640	405	732	0.921	1.06
August	2,290	432	1,410	1.77	2.04
September	3,470	730	1,250	1.57	1.75
October	1,030	449	586	.738	.85
November	2,700	432	744	.936	1.04
December	7,860	715	1,690	2.13	2.46
1921					
January	3,100	781	1,400	1.77	2.04
February	9,260	1,240	2,600	3.27	3.40
March	1,750	972	1,240	1.56	1.80
April	6,820	860	1,800	2.26	2.52
May	4,570	1,120	1,890	2.38	2.74
June	1,780	774	1,010	1.27	1.42
July	5,720	692	1,740	2.19	2.52
August	6,020	840	2,370	2.98	3.44
September	1,230	593	798	1.00	1.12
October	2,620	463	711	.894	1.03
November	2,900	755	1,180	1.48	1.65
December	2,620	536	1,140	1.43	1.65
The year	9,260	463	1,490	1.87	25.33
1922					
January	8,880	585	1,810	2.28	2.63
February	7,850	1,120	2,170	2.73	2.84
March	5,890	1,520	2,810	3.53	4.07
April	3,820	1,460	2,210	2.78	3.10
May	4,140	1,170	1,900	2.39	2.76
June	2,330	850	1,340	1.68	1.87
July	2,190	1,000	1,480	1.86	2.14
August	1,170	550	736	.926	1.07
September	625	362	465	.585	.65
October	2,900	352	601	.756	.87
November	508	330	383	.482	.54
December	4,140	374	1,350	1.70	1.96
The year	8,880	330	1,438	1.81	24.50
1923					
January	5,520	755	1,830	2.30	2.65
February	4,980	1,120	2,560	3.22	3.35
March	7,050	1,060	2,740	3.45	3.98
April	2,050	1,060	1,350	1.70	1.90
May	4,980	1,120	2,510	3.16	3.64
June	2,050	950	1,330	1.67	1.86
July	5,520	950	1,470	1.85	2.13
August	2,190	585	1,290	1.62	1.87
September	950	463	637	0.801	0.89
October	500	326	419	0.527	0.61
November	645	315	421	0.530	0.59
December	1,730	468	982	1.23	1.42
The year	7,050	315	1,462	1.84	25.29

NOLICHUCKY RIVER NEAR GREENEVILLE, TENN.

LOCATION. At Jones highway bridge, half a mile below Camp Creek, 5 miles south east of Greeneville, Greene County, and 9 miles above power plant of Tennessee Eastern Electric Company.

DRAINAGE AREA. 1,100 square miles (measured on topographic maps).

RECORDS AVAILABLE. May 9, 1903 to December 31, 1908; April 7, 1919 to December 31, 1923.

GAGE. Chain gage used, 1903-1908, was bolted to upstream side of bridge; that used 1919-1923, fastened to downstream side. Datum of latter gage is 2.04 feet lower than that of original gage.

DISCHARGE MEASUREMENTS. Made from downstream side of highway bridge.

CHANNEL AND CONTROL. Bed composed of gravel and rock; somewhat shifting. Right bank high but subject to overflow at extreme flood stages; left bank not subject to overflow. Channel straight for 700 feet above and below station. Control is formed by well-defined gravel and rock riffle 50 feet below gage; fairly permanent.

EXTREMES OF DISCHARGE. Maximum stage recorded, 19.3 feet (original datum), crest stage during early morning January 23, 1906 (discharge not determined); minimum stage recorded,—0.15 foot (original datum), October 23, 1904 (discharge, 305 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. Probably negligible.

ACCURACY. Stage-discharge relation not permanent; three rating curves used, well defined between 500 and 9,000 second-feet and extended above. One curve used 1903-1908, another used 1919-1923. Gage read to half-tenths once daily; more frequently during extreme high water. Daily discharge ascertained by applying gage height to rating table. Records good except for extremely high stages, for which they are fair.

MEAN WEEKLY DISCHARGE IN SECOND-FEET OF NOLICHUCKY RIVER NEAR GREENEVILLE, TENN.

Week	Year										
	1903	1904	1905	1906	1907	1908	1919	1920	1921	1922	1923
1	.....	522	1,143	2,391	2,910	2,710	.....	675	1,737	1,033	3,259
2	.....	562	2,616	1,480	1,711	6,089	.....	809	2,649	1,178	1,520
3	.....	693	1,660	1,951	1,410	2,609	.....	1,201	2,957	4,611	1,681
4	.....	1,036	879	9,723	1,174	1,810	.....	2,711	2,146	6,033	2,870
5	.....	616	885	3,367	1,150	1,400	.....	2,489	2,943	1,791	6,034
6	.....	1,300	2,286	1,953	1,441	1,720	.....	2,153	6,384	2,541	5,087
7	.....	803	2,229	1,857	1,063	6,104	.....	1,339	4,249	5,871	6,076
8	.....	1,322	4,550	1,781	983	2,379	.....	2,086	3,271	2,810	2,106
9	.....	2,188	2,281	1,933	2,446	2,518	.....	1,925	2,219	3,324	1,687
10	.....	3,513	2,346	1,827	2,391	3,097	.....	1,984	1,824	5,604	4,421
11	.....	1,811	2,160	1,516	2,643	3,133	.....	6,184	1,639	5,929	7,850
12	.....	3,857	1,541	2,286	1,597	4,431	.....	3,966	1,779	3,396	4,714
13	.....	3,113	1,270	2,521	1,204	2,844	.....	3,333	1,977	3,926	2,591
14	.....	1,621	1,489	2,080	1,447	2,330	.....	11,989	2,083	3,316	1,904
15	.....	1,363	3,183	3,044	1,920	1,841	1,929	2,961	1,283	2,456	1,931
16	.....	1,331	1,601	2,749	1,814	2,363	2,037	1,970	4,684	2,827	1,954
17	.....	1,917	1,253	1,491	2,407	3,647	1,507	1,890	2,427	3,244	1,663
18	2,500	1,961	1,461	2,651	2,010	2,011	2,034	1,581	3,599	3,364	2,346
19	2,016	2,876	3,633	2,906	2,207	2,190	1,933	1,373	2,780	2,961	2,221
20	1,737	1,431	4,701	1,390	1,351	1,839	1,711	1,201	1,780	3,239	3,334
21	1,281	1,041	2,176	1,086	1,101	2,051	2,117	1,187	1,931	2,584	3,326
22	2,080	1,741	1,834	1,316	2,421	2,117	2,214	1,034	1,397	2,034	4,463
23	2,859	1,288	1,012	974	3,826	1,503	1,211	2,031	1,181	2,493	2,097
24	1,871	973	1,420	2,850	3,049	1,904	1,080	1,012	1,210	2,130	1,587
25	1,320	997	2,526	1,594	1,541	1,350	1,627	1,769	1,186	2,219	1,693
26	1,128	1,626	1,176	1,593	1,719	1,020	3,111	1,099	1,220	1,291	1,723
27	1,011	970	1,846	1,171	1,266	2,630	1,287	1,529	988	1,717	1,947
28	1,349	1,028	5,247	1,103	1,595	2,049	1,071	926	1,564	2,334	1,326
29	992	708	2,701	2,613	1,949	1,029	2,754	911	6,260	2,187	3,503
30	748	869	1,654	1,971	1,035	1,251	1,639	682	2,337	1,576	1,191
31	1,214	1,101	1,309	2,563	1,196	1,349	1,366	786	5,911	1,213	2,130
32	924	1,134	3,039	1,613	1,033	1,506	1,045	2,345	2,467	908	2,578
33	962	956	3,537	2,749	809	870	1,188	2,697	6,740	927	1,814
34	779	1,131	1,669	2,159	1,112	2,871	762	2,577	2,601	1,087	1,649
35	580	729	1,141	5,603	848	2,093	861	1,937	1,413	887	1,104
36	531	779	969	4,037	857	1,084	567	1,276	1,139	746	1,045
37	533	532	808	2,053	858	836	569	3,276	1,057	568	917
38	658	449	709	6,081	1,568	683	586	2,150	978	519	1,059
39	449	415	612	3,304	2,226	639	556	1,427	928	553	952
40	421	362	676	5,181	1,179	605	493	1,115	909	474	626
41	590	372	761	2,380	902	1,114	669	847	738	1,157	584
42	448	340	644	3,539	734	690	923	726	703	649	529
43	411	340	724	2,327	676	3,973	1,011	648	631	648	686
44	406	372	651	1,501	716	3,374	661	767	2,112	550	679
45	468	569	612	1,213	728	1,431	564	655	1,111	551	836
46	813	669	562	1,304	771	1,461	713	1,400	1,217	580	689
47	685	619	575	7,567	1,492	1,214	520	1,074	1,207	526	1,049
48	473	550	568	1,891	1,320	1,107	620	1,121	1,850	528	1,483
49	459	1,087	2,368	1,480	849	2,659	779	2,097	1,984	1,331	1,270
50	507	770	1,967	1,451	1,600	2,523	3,074	4,599	1,104	2,167	1,179
51	771	607	1,607	1,850	1,189	2,259	1,287	1,997	1,312	3,750	1,289
52	680	1,037	1,678	3,714	2,396	2,664	859	2,159	1,103	1,533	1,685

MONTHLY DISCHARGE OF NOLICHUCKY RIVER NEAR GREENEVILLE, TENN.
[Drainage area, 1,100 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1903					
May		1,070	1,790	1.63	1.88
June	5,180	1,070	1,960	1.78	1.99
July	2,620	670	1,030	.936	1.08
August	1,480	580	894	.813	.94
September	1,200	415	545	.495	.55
October	855	378	460	.418	.48
November	2,440	415	594	.540	.60
December	1,340	408	598	.544	.63
1904					
January	1,480	447	702	.638	.74
February	3,550	538	1,240	1.13	1.22
March	10,000	1,410	2,960	2.69	3.10
April	3,550	1,140	1,610	1.46	1.63
May	6,760	905	1,690	1.54	1.78
June	3,170	760	1,360	1.24	1.38
July	1,930	580	923	.839	.97
August	2,100	625	1,040	.945	1.09
September	1,010	415	557	.506	.56
October	415	305	355	.323	.37
November	905	340	572	.520	.58
December	2,020	495	863	.785	.90
The year	10,000	305	1,156	1.05	14.32
1905					
January	7,480	625	1,510	1.37	1.58
February	7,970	760	2,680	2.44	2.54
March	3,940	1,200	1,870	1.70	1.96
April	4,550	1,070	1,850	1.68	1.87
May	7,970	1,200	2,930	2.66	3.07
June	5,400	855	1,530	1.39	1.55
July	13,100	1,010	2,730	2.48	2.86
August	8,470	1,010	2,240	2.04	2.35
September	1,200	580	790	.718	.80
October	1,200	580	701	.637	.73
November	670	538	584	.531	.59
December	6,070	580	1,820	1.65	1.90
The year	13,100	538	1,769	1.61	21.80
1906					
January	40,400	905	3,870	3.52	4.06
February	3,940	1,480	2,040	1.85	1.93
March	5,620	1,340	2,220	2.02	2.33
April	10,000	1,270	2,330	2.12	2.36
May	5,400	955	1,960	1.78	2.05
June	6,300	855	1,710	1.55	1.73
July	2,980	855	1,690	1.54	1.78
August	11,100	1,140	2,920	2.65	3.06
September	19,400	1,480	3,900	3.55	3.96
October	8,470	1,550	3,190	2.90	3.34
November	23,300	1,140	2,870	2.61	2.91
December	8,220	1,140	2,150	1.95	2.25
The year	40,400	855	2,571	2.34	31.76

MONTHLY DISCHARGE OF NOLICHUCKY RIVER NEAR GREENEVILLE, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
January	4,760	1,010	1,720	1.56	1.80
February	2,020	905	1,260	1.15	1.20
March	4,760	1,140	2,090	1.90	2.19
April	3,550	1,070	1,880	1.71	1.91
May	2,980	905	1,560	1.42	1.64
June	6,530	1,200	2,750	2.50	2.79
July	3,550	905	1,490	1.35	1.56
August	1,480	670	969	.881	1.02
September	6,070	670	1,330	1.21	1.35
October	1,770	670	853	.775	.89
November	2,620	670	1,040	.945	1.05
December	5,400	760	1,510	1.37	1.58
The year	6,530	670	1,538	1.40	18.98
1908					
January	22,100	1,340	3,130	2.85	3.29
February	9,760	1,200	2,890	2.63	2.84
March	7,480	2,270	3,400	3.09	3.56
April	10,000	1,410	2,530	2.30	2.57
May	3,360	1,480	2,080	1.89	2.18
June	3,550	855	1,470	1.34	1.50
July	8,220	855	1,720	1.56	1.80
August	11,400	808	1,760	1.60	1.84
September	1,340	580	841	.765	.85
October	15,200	538	1890	1.72	1.98
November	3,170	955	1,450	1.32	1.47
December	5,400	1,270	2,460	2.24	2.58
The year	22,100	538	2,135	1.94	26.46
1919					
April 7-30	2,770	1,310	1,810	1.65	1.47
May	3,350	1,450	2,040	1.85	2.13
June	4,240	940	1,740	1.58	1.76
July	4,600	885	1,670	1.52	1.75
August	2,070	625	1,040	.946	1.09
September	940	385	592	.538	.60
October	1,600	385	763	.694	.80
November	940	420	603	.548	.61
December	6,860	580	1,430	1.30	1.50
1920					
January	5,220	495	1,420	1.29	1.49
February	6,300	1,060	2,030	1.85	2.00
March	11,300	1,450	3,600	3.27	3.77
April	33,800	1,600	4,550	4.14	4.62
May	1,680	1,000	1,290	1.17	1.35
June	3,150	830	1,440	1.31	1.46
July	3,560	625	997	.906	1.04
August	3,900	625	2,200	2.00	2.31
September	6,580	1,060	2,000	1.82	2.03
October	1,310	535	833	.757	.87
November	3,670	535	1,010	.918	1.02
December	11,300	1,120	2,590	2.35	2.71
The year	33,800	495	1,997	1.82	24.67

MONTHLY DISCHARGE OF NOLICHUCKY RIVER NEAR GREENEVILLE, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1921					
January	5,220	1,450	2,420	2.20	2.54
February	15,800	2,240	4,160	3.78	3.94
March	2,500	1,380	1,810	1.65	1.90
April	14,900	1,180	2,620	2.38	2.66
May	6,720	1,380	2,390	2.17	2.50
June	1,600	940	1,200	8.09	1.22
July	14,600	830	2,660	2.42	2.79
August	16,100	1,310	4,140	3.76	4.34
September	1,260	874	1,040	.945	1.05
October	4,360	625	864	.785	.90
November	3,060	896	1,430	1.30	1.45
December	3,150	896	1,400	1.27	1.46
The year	16,100	625	2,178	1.98	26.75
1922					
January	14,000	809	3,090	2.81	3.24
February	10,700	1,680	3,270	2.97	3.09
March	7,150	1,990	4,650	4.23	4.88
April	7,730	2,070	3,050	2.77	3.09
May	4,240	1,600	2,840	2.58	2.97
June	3,350	1,120	2,110	1.92	2.14
July	1,830	778	1,880	1.71	1.97
August	725	725	998	.907	1.05
September	455	455	603	.548	.61
October	1,910	441	715	.650	.75
November	725	427	540	.491	.55
December	9,800	625	2,070	1.88	2.17
The year	14,000	427	2,151	1.96	26.51
1923					
January	8,900	1,240	2,620	2.38	2.74
February	10,700	1,520	4,440	4.04	4.21
March	17,900	1,520	4,580	4.16	4.80
April	2,550	1,490	1,890	1.72	1.92
May	12,100	1,560	3,150	2.86	3.30
June	3,700	1,350	1,930	1.75	1.95
July	10,000	790	1,940	1.76	2.03
August	3,290	1,020	1,930	1.75	2.02
September	2,030	670	991	.901	1.01
October	760	506	611	.555	.64
November	2,300	640	894	.813	.91
December	2,830	760	1,420	1.29	1.49
The year	17,900	506	2,200	2.00	27.02

NORTH TOE RIVER AT SPRUCE PINE, N. C.

LOCATION. At county highway steel bridge at Spruce Pine, Mitchell County, 600 feet southwest of Carolina, Clinchfield and Ohio Railroad station, half a mile below mouth of Beaver Creek and 3 miles above mouth of Bear Creek.

DRAINAGE AREA. 130 square miles (measured on topographic maps).

RECORDS AVAILABLE. June 19, 1907 to June 30, 1908; April 21 to October 9, 1920; January 13, 1921 to December 31, 1923. Gage-height record only April 21 to October 9, 1920.

GAGE. Chain gage attached to floor on upstream side of highway bridge, installed February 1, 1921; read by G. A. Wilkie. Original gage used during 1907 and 1908 was a vertical staff located at a suspension footbridge which was probably at the site of the present bridge. Gage used April 21 to October 9, 1920, was a vertical staff fastened to rock ledge on left bank 50 feet above bridge. Datum unchanged since April 21, 1920.

DISCHARGE MEASUREMENTS. Made from downstream side of bridge to which gage is attached.

CHANNEL AND CONTROL. Bed of stream sandy and rough. Current not uniform across section; sluggish near left bank. Control is well-defined shoal 100 feet below gage; probably shifting. Right bank is overflowed during extreme high water; left bank is overflowed below bridge during high water.

EXTREMES OF DISCHARGE. 1920-1923: Maximum stage recorded, 6.50 feet at 6 p.m. April 16, 1921 (discharge, 3,160 second-feet); minimum stage, 1.24 feet 6 a.m. November 28, 1922 (discharge, 55 second-feet).

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

REGULATION. Small power plant upstream probably causes some diurnal fluctuation.

ACCURACY. Stage-discharge relation not permanent. Rating curves fairly well defined between 100 and 550 second-feet; poorly defined above 550 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records fair below 550 second-feet; fair to poor above that point.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF NORTH TOE RIVER AT SPRUCE PINE, N. C.

Week	Year					
	1907	1908	1920	1921	1922	1923
1					185	438
2		260			206	208
3		275		340	423	217
4				384	557	316
5				354	273	514
6				760	374	329
7				547	527	454
8				468	347	245
9				317	483	208
10				270	524	346
11				245	586	674
12				304	372	480
13				332	774	269
14				237	533	258
15		303		219	446	359
16				803	369	278
17				436	408	238
18				439	497	258
19		313		384	384	282
20		280		284	722	527
21		320		309	528	409
22		290		248	408	802
23		311		234	381	332
24		260		180	292	291
25	284	270		150	295	313
26	308	252		143	215	288
27	277			145	306	330
28	280			225	222	373
29	303			528	294	626
30	236			375	242	206
31	252			392	157	204
32	194			265	146	179
33	183			435	156	175
34	160			256	137	172
35	160			188	114	154
36	160			149	105	178
37	192			143	73	138
38	120			151	69	114
39	270			123	113	111
40	183			110	96	112
41	160			89	360	121
42	143			91	138	142
43	131			88	105	173
44	166			726	77	197
45	120			242	75	228
46	131			222	71	208
47	231			241	66	216
48	166			281	76	337
49	160			270	210	382
50				198	311	267
51	214			253	464	267
52	260			217	363	284

MONTHLY DISCHARGE OF NORTH TOE RIVER AT SPRUCE PINE, N. C.
[Drainage area, 130 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1921					
January 13-31	610	294	380	2.92	2.06
February	1,550	294	530	4.08	4.08
March	534	222	287	2.21	2.55
April	1,480	175	420	3.23	3.60
May	558	222	343	2.64	3.04
June	396	111	183	1.41	1.57
July	837	88	304	2.34	2.70
August	778	140	321	2.47	2.85
September	294	99	144	1.11	1.24
October	1,840	77	178	1.37	1.58
November	958	193	280	2.15	2.40
December	462	178	241	1.85	2.13
1922					
January	1,410	166	334	2.57	2.96
February	610	276	384	2.95	3.07
March	1,340	314	572	4.40	5.07
April	837	333	443	3.41	3.80
May	1,480	276	516	3.97	4.58
June	584	190	314	2.42	2.70
July	440	178	259	1.99	2.29
August	184	109	142	1.09	1.26
September	294	61	90.7	.698	.78
October	829	63	165	1.27	1.46
November	78	58	69.3	.533	.59
December	1,210	67	324	2.49	2.87
The year	1,480	58	301	2.32	31.43
1923					
January	1,210	186	325	2.50	2.88
February	625	209	344	2.65	2.76
March	1,410	194	418	3.22	3.71
April	491	209	280	2.15	2.40
May	1,700	240	456	3.51	4.05
June	625	224	329	2.53	2.82
July	1,840	194	370	2.85	3.29
August	209	148	177	1.36	1.57
September	194	99	135	1.04	1.16
October	189	107	147	1.08	1.24
November	441	183	236	1.82	2.03
December	625	224	302	2.32	2.68
The year	1,840	99	293	2.26	30.65

FRENCH BROAD RIVER AT ROSMAN, N. C.

LOCATION. At highway bridge 800 feet west of railroad station at Rosman, Transylvania County. East Fork of French Broad River enters half a mile below.
DRAINAGE AREA. 66 square miles (measured on topographic maps).
RECORDS AVAILABLE. May 7, 1907 to June 30, 1909, when station was discontinued.
GAGE. Vertical staff fastened to plank retaining wall on right bank just above bridge.
DISCHARGE MEASUREMENTS. Made from highway bridge at gage.
CHANNEL AND CONTROL. Both banks may be overflowed at high stages. Current is good. Conditions of control not known.
EXTREMES OF DISCHARGE. Maximum stage recorded, 7.3 feet February 15, 1908 (discharge, 4,760 second-feet); minimum stage, 1.8 feet August 5, 7-10, September 7, 13-21, and October 25 and 26, 1907 (discharge, 90 second-feet).
ICE. No ice affect during period of record.
REGULATION. None.
ACCURACY. Stage-discharge relation practically permanent. Rating curve well defined between 100 and 600 second-feet and fairly well defined between 600 and 2,500 second-feet. Gage read to tenths once daily. Daily discharge ascertained by applying gage height to rating table. Records good.
COOPERATION. Station established in coöperation with United States Forest Service.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF FRENCH BROAD RIVER AT ROSMAN, N. C.

Week	Year			Week	Year		
	1907	1908	1909		1907	1908	1909
1		318	403	27	110	387	1,492
2		495	234	28	126	209	819
3		386	359	29	134	173	716
4		308	242	30	140	182	
5		323	178	31	110	175	
6		241	304	32	102	203	
7		1,339	537	33	123	133	
8		446	817	34	138	607	
9		452	365	35	110	329	
10		317	375	36	107	309	
11		338	537	37	99	153	
12		527	817	38	299	133	
13		361	365	39	179	142	
14		255	375	40	141	129	
15		319	478	41	120	246	
16		386	449	42	110	133	
17		667	403	43	104	543	
18		436	241	44	171	438	
19	186	445	502	45	136	170	
20	164	381	328	46	162	208	
21	149	353	333	47	410	145	
22	251	261	486	48	196	173	
23	160	318	637	49	163	562	
24	141	279	600	50	490	209	
25	133	239	466	51	363	244	
26	129	218	826	52	445	246	

MONTHLY DISCHARGE OF FRENCH BROAD RIVER AT ROSMAN, N. C.
[Drainage area, 66 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
May 7-31	223	133	164	2.48	2.31
June	705	133	166	2.52	2.81
July	300	110	127	1.92	2.21
August	160	90	117	1.77	2.04
September	1,510	90	167	2.53	2.82
October	160	90	118	1.79	2.06
November	1,000	110	229	3.47	3.87
December	1,510	110	355	5.38	6.20
1908					
January	1,260	133	368	5.58	6.43
February	4,760	190	603	9.14	9.86
March	850	260	393	5.95	6.86
April	1,960	133	407	6.17	6.88
May	775	223	385	5.83	6.72
June	395	223	263	3.98	4.44
July	570	160	231	3.50	4.04
August	1,170	133	299	4.53	5.22
September	510	110	189	2.86	3.19
October	1,690	110	305	4.62	5.33
November	345	133	179	2.71	3.02
December	1,420	160	308	4.67	5.38
The year	4,760	110	328	4.96	67.37
1909					
January	850	190	299	4.53	5.22
February	1,340	133	484	7.33	7.63
March	1,340	260	415	6.29	7.25
April	1,600	190	357	5.41	6.04
May	2,560	260	551	8.35	9.63
June	4,180	190	882	13.4	14.95

FRENCH BROAD RIVER AT BLANTYRE, N. C.

LOCATION. At highway bridge 700 feet east of Blantyre railroad station, Transylvania County, 3 miles downstream from mouth of Little River and 6 miles downstream from mouth of Davidson River.

DRAINAGE AREA. 296 square miles (measured on topographic map).

RECORDS AVAILABLE. December 11, 1920 to December 31, 1923.

GAGE. Chain gage attached to downstream side of bridge; read by Mrs. A. B. Osbourne.

DISCHARGE MEASUREMENTS. Made from upstream side of bridge.

CHANNEL AND CONTROL. Channel straight for several hundred feet above and below gage. Bed composed of sand and gravel, somewhat shifting. Both banks steep and about 15 feet above zero of gage; subject to overflow which floods the wide cultivated bottom. Control apparently formed by a rock ledge across the river about 1 mile below gage.

EXTREMES OF DISCHARGE. 1920-1923: Maximum stage recorded, 15.95 feet at 8 a.m. May 30, 1923 (discharge, 6,000 second-feet); minimum stage recorded, 2.6 feet at 5 p.m. November 26, 1922 (discharge, 239 second-feet).

ICE. None.

REGULATION. Slight diurnal fluctuations noticeable during low water periods is probably due to operation of small mills on tributaries.

ACCURACY. Stage-discharge relation fairly permanent. Rating curve well defined below 3,200 second-feet; extended above that point. Gage read to half-tenths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF FRENCH BROAD RIVER AT BLANTYRE, N. C.

Week	Year			
	1920	1921	1922	1923
1		981	724	1,268
2		1,393	1,163	597
3		1,486	1,359	513
4		999	1,731	726
5		994	1,121	948
6		1,984	1,266	1,166
7		1,566	1,829	1,072
8		1,694	1,226	676
9		1,084	1,613	717
10		921	2,029	767
11		824	1,999	2,159
12		927	1,501	1,480
13		893	2,983	922
14		776	2,306	931
15		790	1,636	1,409
16		1,804	1,513	1,081
17		1,257	1,247	841
18		960	2,179	1,137
19		961	1,556	1,047
20		1,059	1,794	1,469
21		1,613	1,604	1,581
22		909	1,481	3,870
23		862	1,384	1,716
24		871	1,054	1,196
25		889	1,329	1,007
26		1,019	887	948
27		744	979	841
28		844	859	692
29		1,133	1,033	855
30		835	1,063	597
31		888	712	715
32		928	584	781
33		1,029	561	656
34		1,038	468	556
35		764	410	615
36		608	383	623
37		554	371	561
38		747	330	955
39		965	346	641
40		732	347	441
41		512	536	386
42		451	399	480
43		410	342	383
44		946	310	561
45		645	289	923
46		754	286	471
47		1,017	275	459
48		899	276	737
49		1,015	351	1,327
50		664	482	886
51	1,364	1,324	1,161	1,059
52	1,506	976	770	843

MONTHLY DISCHARGE OF FRENCH BROAD RIVER AT BLANTYRE, N. C.
[Drainage area, 296 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
December 11-31	5,340	756	1,740	5.88	4.60
1921					
January	2,560	840	1,200	4.05	4.67
February	4,630	900	1,570	5.30	5.52
March	1,140	784	902	3.05	3.52
April	3,920	644	1,150	3.89	4.34
May	2,400	784	1,130	3.82	4.40
June	1,230	672	902	3.05	3.40
July	1,430	644	882	2.98	3.44
August	1,500	700	954	3.22	3.71
September	1,500	484	717	2.42	2.70
October	2,240	395	589	1.99	2.29
November	1,530	534	808	2.73	3.05
December	2,780	588	998	3.37	3.88
The year	4,630	395	984	3.32	44.92
1922					
January	3,600	700	1,220	4.12	4.75
February	2,970	1,020	1,380	4.66	4.85
March	5,280	1,230	2,090	7.06	8.14
April	3,760	1,170	1,690	5.71	6.37
May	4,040	1,110	1,740	5.88	6.78
June	2,090	870	1,230	4.16	4.64
July	1,710	756	970	3.28	3.78
August	728	395	538	1.82	2.10
September	460	294	360	1.22	1.36
October	930	275	397	1.34	1.54
November	313	239	283	.956	1.07
December	2,320	294	668	2.26	2.61
The year	5,280	239	1,047	3.54	47.99
1923					
January	2,740	484	805	2.72	3.14
February	1,790	616	935	3.16	3.29
March	5,340	616	1,260	4.26	4.91
April	3,220	756	1,050	3.55	3.96
May	5,970	756	1,780	6.01	6.93
June	3,870	784	1,400	4.73	5.28
July	1,430	534	738	2.49	2.87
August	1,110	438	679	2.29	2.64
September	2,280	438	682	2.30	2.57
October	870	353	419	1.42	1.64
November	2,360	353	638	2.16	2.41
December	2,740	672	1,010	3.41	3.93
The year	5,970	353	950	3.21	43.57

FRENCH BROAD RIVER AT HORSESHOE, N. C.

LOCATION. At steel highway bridge at Horseshoe, Henderson County.
DRAINAGE AREA. 325 square miles (measured on topographic maps).
RECORDS AVAILABLE. July 18, 1904 to March 31, 1906, when station was discontinued.
GAGE. Vertical staff attached to timber in bed of stream and nailed to tree overhanging right bank 25 feet below bridge.
DISCHARGE MEASUREMENTS. Made from downstream side of bridge at gage.
CHANNEL AND CONTROL. Channel is straight for 2,000 feet above and 1,500 feet below the station. Bed composed of sand with a few rocks; is smooth and practically permanent. There is one channel at all but extremely high stages, when a flood channel, cut through the earth approach to the bridge, comes into use. Banks are about 15 feet high.
EXTREMES OF DISCHARGE. Maximum stage recorded, 16.0 feet January 23 and 24, 1906 (discharge, 5,950 second-feet); minimum stage, 0.3 foot October 17-25, 1904 (discharge, 242 second-feet).
ICE. No ice affect during period of record.
REGULATION. No information.
ACCURACY. Stage-discharge relation practically permanent. Rating curve well defined below 1,600 second-feet and extended above. Gage read once daily to half-tenths below, and to tenths above 0.3 feet. Records good up to 1,600 second-feet and fair above.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF FRENCH BROAD RIVER AT HORSESHOE, N. C.

Week	Year			Week	Year		
	1904	1905	1906		1904	1905	1906
1		590	2,612	27		1,392	
2		1,560	1,565	28		3,575	
3		906	1,294	29		1,939	
4		738	4,076	30		1,169	
5		553	2,133	31		901	
6		848	1,457	32		1,984	
7		1,203	1,264	33		2,066	
8		1,829	1,243	34		1,671	
9		1,257	1,181	35		1,104	
10		1,134	1,443	36		903	
11		1,052	1,671	37		721	
12		920	2,113	38		649	
13		753		39		561	
14		729		40	275	571	
15		851		41	263	943	
16		717		42	244	571	
17		688		43	245	539	
18		1,233		44	318	504	
19		1,431		45	386	459	
20		1,176		46	388	434	
21		1,119		47	297	449	
22		1,204		48	283	426	
23		708		49	556	1,723	
24		1,398		50	355	1,541	
25		1,207		51	332	1,359	
26		1,010		52	700	1,273	

MONTHLY DISCHARGE OF FRENCH BROAD RIVER AT HORSESHOE, N. C.
[Drainage area, 325 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1904					
October	284	242	256	0.788	0.91
November	710	250	346	1.06	1.18
December	1,950	284	480	1.48	1.71
1905					
January	3,630	301	917	2.82	3.25
February	3,110	473	1,190	3.66	3.81
March	1,630	725	994	3.06	3.53
April	1,130	615	751	2.31	2.58
May	2,910	695	1,280	3.94	4.54
June	3,630	554	1,050	3.23	3.60
July	5,630	935	1,960	6.03	6.95
August	3,870	815	1,610	4.95	5.71
September	1,200	542	732	2.25	2.51
October	2,310	496	643	1.98	2.28
November	519	408	449	1.38	1.54
December	3,310	429	1,400	4.31	4.97
The year	5,630	301	1,081	3.33	45.27
1906					
January	5,950	995	2,380	7.32	8.44
February	2,230	1,060	1,390	4.28	4.46
March	3,510	995	1,700	5.23	6.03

FRENCH BROAD RIVER AT ASHEVILLE, N. C.

LOCATION. At Bingham School bridge 2 miles below Southern Railway Depot at Asheville, Buncombe County, from September 2, 1895 to December 31, 1901, and October 1, 1922 to December 31, 1923; and at Smith highway bridge, one mile upstream from Bingham School bridge, from March 19, 1903 to September 30, 1922. Inflow between bridges negligible. Swannanoa River enters 2 miles above the latter site.

RECORDS AVAILABLE. September 2, 1895 to December 31, 1901; March 19, 1903 to July 16, 1916, and January 1, 1917 to December 31, 1923.

DRAINAGE AREA. 949 square miles (measured on topographic maps) for Bingham School bridge; and 941 square miles for Smith bridge; revised determinations.

GAGES. Original gage at Bingham School bridge, used September 2, 1895 to December 31, 1901, when observations were discontinued, was a wire gage on upstream side of bridge. Datum of this gage was changed to read 0.58 foot less on October 14, 1901, but subsequent readings were corrected to origional datum. Bridge and bench marks destroyed by 1916 flood. Present chain gage is on downstream railing of concrete bridge about 50 feet downstream from original site.

Gage at Smith bridge, established by United States Weather Bureau, and used from March 19, 1903 to July 15, 1916 was a vertical staff in two sections bolted to second stone pier from the left bank. On November 1, 1904 this gage was supplemented by a chain gage on downstream side of bridge, set to the same datum, and used for negative readings. Datum remained unchanged until the flood of July 16, 1916, which destroyed the bridge and gages. From January 1 to November 21, 1917, a temporary vertical staff, just above the bridge site, was used and readings later reduced to former gage datum. Gage used from November 22, 1917 to September 30, 1922 was a vertical staff cast in concrete on the right downstream face of third pier from right abutment of concrete highway bridge at the same site. This gage is graduated from —2.00 feet to 14.70 feet and is set to the same datum as original gage at Smith bridge.

DISCHARGE MEASUREMENTS. Made from Bingham School bridge, or Smith bridge.

CHANNEL AND CONTROL. At Bingham School bridge the channel is straight, the bed rocky and fairly permanent. Current is swift. Right bank below bridge is overflowed in extremely high water. Control for low and medium stages, is a rock shoal immediately below gage. Extreme high water control is probably 7,500 feet downstream where mountain spurrs close in to channel. At Smith bridge the channel is straight for 1,500 feet above and 800 feet below the station. One channel at all stages. Banks are not high. Current is irregular throughout the section, and fairly swift. Bed composed of sand and boulders and is quite uneven; practically permanent. Control is rock shoal, and piers of Southern Railway bridge 1,000 feet downstream; practically permanent, though stage-discharge relation may be affected at times by debris collected against piers of railroad bridge. There are 20 of these piers, 13 of which are in the normal river bed.

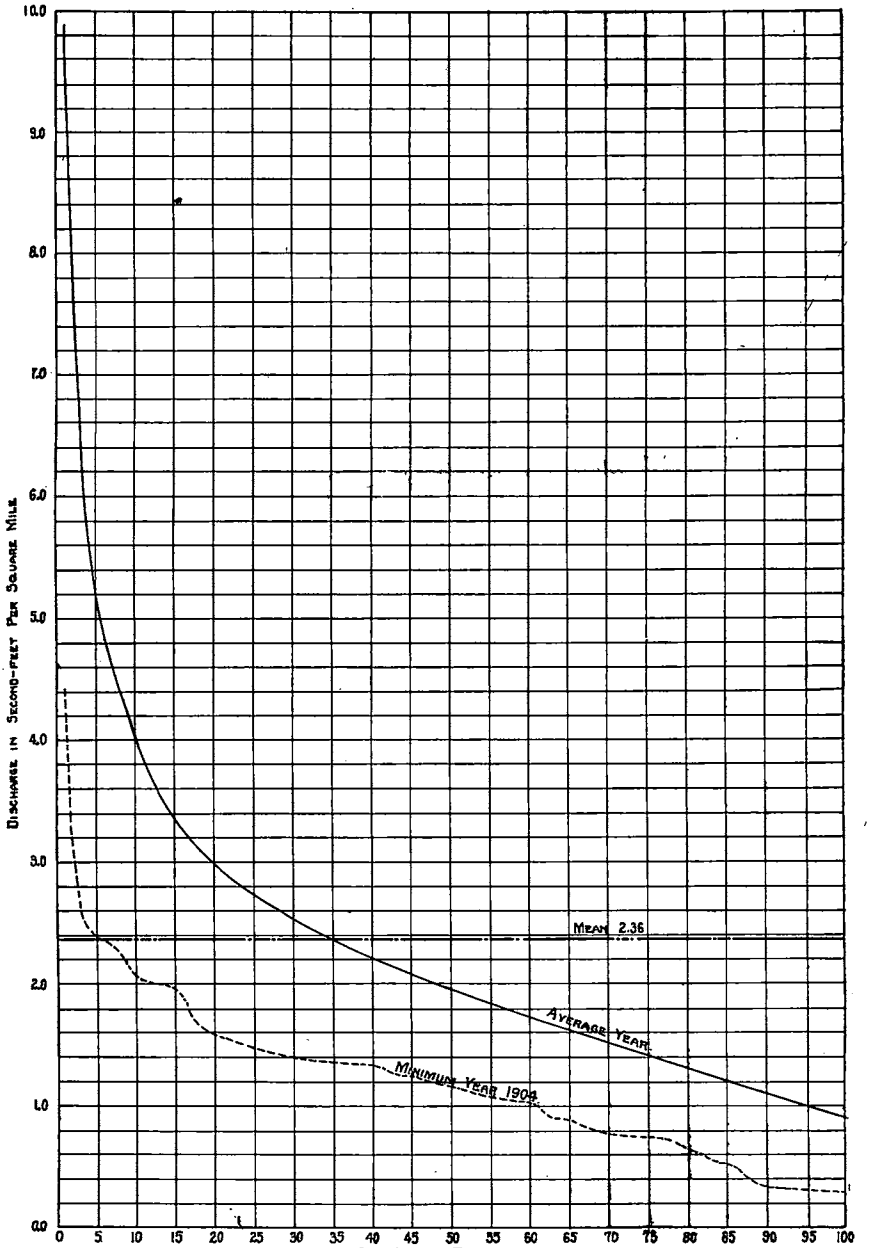
EXTREMES OF DISCHARGE. 1895-1901 and 1903-1923: Maximum stage recorded, at Smith bridge 23.6 feet July 16, 1916, determined by leveling from flood marks (discharge not determined); stage-discharge relation probably affected by backwater from drift lodged against Southern Railway bridge. Water flowed over top of railroad bridge. Stage reached at Bingham School bridge determined by leveling from flood marks, 23.1 feet (present datum) about 1 p.m. July 16, 1916, two hours after bridge was washed away (discharge estimated, 90,000 second-feet). Minimum stage recorded, —2.00 feet at Smith bridge November 1-3, 1904 (discharge, 275 second-feet).

ICE. Stage-discharge relation seldom affected by ice.

REGULATION. Slight diurnal fluctuation may be caused by operation of small mills above.

ACCURACY. Since 1903 stage-discharge relation practically permanent except as changed by construction of Southern Railway bridge in 1907-1908. At Bingham School bridge, stage-discharge relation likely to change with extremely high water. Several rating tables used, as follows: September 17, 1895 to March 15, 1899; September 6 to October 23, 1900 and December 14, 1900 to November 9, 1901, fairly well defined below 20,000 second-feet; March 16,1899 to June 6, 1900, well defined below 20,000 second-feet; January 1, 1908 to July 15, 1916, well defined below 12,000 second-feet; January 1, 1917 to September 30, 1922, three slightly different curves used, all fairly well defined below 12,000 second-feet. October 1, 1922 to December 31, 1923, well defined below 15,000 second-feet. From March 19, 1903, gage read to tenths once daily. Daily discharge ascertained by applying gage height to rating table. Records previous to 1903, fair; since 1903, good.

COOPERATION. Gage-height records furnished by United States Weather Bureau, 1903 to September 30, 1922.



WEEKLY DURATION CURVES
FOR
FRENCH BROAD RIVER AT ASHEVILLE, N.C.
1904 – 1923

MEAN WEEKLY DISCHARGE, IN SECOND-FEET

Week	Year													
	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908
1	------	1,403	983	1,075	2,523	1,354	2,496	------	------	704	1,363	5,500	3,926	2,931
2	------	929	907	925	2,986	2,631	5,667	------	------	719	3,184	2,993	2,166	6,231
3	------	1,075	1,423	1,250	2,734	4,541	3,106	------	------	790	1,660	2,657	1,931	2,931
4	------	4,146	1,774	3,037	2,080	3,507	2,383	------	------	1,737	1,201	12,899	1,730	1,940
5	------	1,706	2,250	1,620	3,784	1,877	2,579	------	------	1,010	1,069	4,854	1,854	1,741
6	------	3,284	6,411	1,015	7,440	3,121	2,673	------	------	1,287	1,606	2,923	2,083	2,064
7	------	2,470	2,967	855	3,984	10,046	2,324	------	------	979	2,533	2,484	1,630	8,864
8	------	1,440	3,996	1,011	3,361	5,101	1,976	------	------	2,230	3,349	2,800	1,417	3,876
9	------	1,430	2,406	829	8,047	8,493	1,783	------	------	1,385	2,336	2,611	1,997	3,064
10	------	1,500	5,583	760	2,873	5,454	2,360	------	------	4,670	1,917	2,840	1,751	2,364
11	------	1,511	6,869	787	13,941	3,386	2,143	------	------	1,897	2,004	3,197	1,810	2,179
12	------	1,343	4,413	839	15,579	4,257	3,239	------	10,056	2,039	2,107	4,019	1,513	3,847
13	------	1,380	2,750	3,166	8,389	3,957	10,613	------	8,980	2,217	1,364	3,647	1,580	2,807
14	------	1,610	6,826	2,357	8,969	2,979	9,187	------	6,413	1,456	1,337	2,993	1,764	2,029
15	------	1,237	3,827	1,384	9,761	2,579	4,844	------	7,354	1,877	1,840	3,309	1,631	1,743
16	------	972	2,634	1,145	5,789	9,401	9,594	------	5,223	1,343	1,440	3,697	1,984	2,567
17	------	892	1,949	2,421	5,866	5,540	6,817	------	3,423	1,289	1,237	2,299	2,653	3,220
18	------	1,851	5,354	1,263	5,100	3,840	3,700	------	2,793	1,273	2,034	2,323	3,257	2,236
19	------	1,189	2,051	1,391	5,626	2,490	3,229	------	2,459	2,506	2,821	1,979	2,169	2,506
20	------	854	1,980	1,106	4,544	1,924	3,813	------	2,419	1,343	2,707	1,610	1,611	2,161
21	------	955	1,550	932	4,544	1,791	11,790	------	2,169	1,164	1,999	1,711	1,646	1,889
22	------	854	1,459	795	1,927	2,026	5,119	------	4,126	1,891	3,250	2,164	2,186	1,681
23	------	952	2,041	724	1,557	3,777	4,514	------	8,396	1,539	1,281	2,516	2,181	1,556
24	------	821	1,296	795	1,557	4,643	7,073	------	5,241	1,130	2,167	7,080	1,481	1,601
25	------	1,188	1,531	2,134	1,701	6,056	5,927	------	2,981	1,273	4,066	4,253	1,350	1,390
26	------	900	1,500	903	1,637	5,357	4,597	------	2,797	1,269	1,754	2,769	1,637	1,234
27	------	4,536	1,224	719	1,301	3,276	2,080	------	2,704	840	3,016	2,281	1,080	2,651
28	------	6,593	1,396	3,591	1,137	2,867	------	------	2,890	989	10,730	2,350	1,067	1,973
29	------	2,220	1,441	5,061	1,107	2,177	------	------	1,920	749	4,839	5,341	1,203	1,470
30	------	1,600	1,251	2,980	1,704	2,566	------	------	1,381	1,011	2,567	3,846	964	1,589
31	------	1,186	896	5,077	1,151	2,101	------	------	2,071	1,223	1,863	2,649	931	1,553
32	------	930	1,395	6,251	1,649	1,370	7,396	------	1,557	1,490	4,901	2,094	681	1,940
33	------	944	839	5,221	972	1,523	14,746	------	1,697	1,069	4,873	2,904	931	1,379
34	------	803	868	2,727	804	1,433	9,811	------	1,310	1,109	3,173	2,910	1,051	4,471
35	------	710	739	1,907	2,059	1,380	10,490	------	1,079	1,426	2,347	6,123	616	3,983
36	------	936	714	4,993	1,778	1,149	4,879	------	1,236	1,171	1,750	3,997	577	2,456
37	------	734	629	2,289	1,031	2,286	3,871	------	1,080	704	1,269	2,699	544	1,601
38	922	677	632	2,786	894	1,734	5,150	------	1,080	690	1,130	9,836	898	1,290
39	764	739	641	3,617	801	872	2,921	------	809	677	947	6,803	1,611	1,320
40	735	701	591	6,557	743	1,131	3,516	------	690	613	999	11,840	720	1,140
41	728	667	944	4,447	1,119	1,049	2,757	------	1,103	484	1,483	5,669	616	2,139
42	703	666	920	4,764	1,112	727	2,277	------	826	388	979	4,460	515	1,167
43	692	659	732	4,230	866	7,721	2,140	------	664	319	916	3,397	476	3,229
44	844	750	1,297	1,520	1,010	2,564	2,106	------	697	289	916	2,533	709	4,191
45	2,239	3,146	766	1,197	867	2,300	1,951	------	1,011	557	837	1,997	626	1,600
46	829	2,229	662	1,220	819	1,651	1,821	------	873	501	790	2,197	639	1,779
47	742	994	621	1,271	867	1,899	1,837	------	887	297	806	8,386	3,549	1,404
48	887	3,529	869	1,494	1,099	4,700	1,806	------	719	289	790	2,771	1,707	1,347
49	776	1,854	898	1,363	941	3,436	2,176	------	690	854	4,427	2,144	980	2,480
50	769	1,280	775	1,079	5,732	1,921	7,944	------	690	325	3,383	2,739	4,473	2,043
51	1,861	1,154	1,125	2,093	1,859	3,059	4,369	------	930	325	3,016	2,824	2,777	1,989
52	1,953	914	1,448	3,960	2,336	3,471	10,010	------	860	1,043	2,405	2,430	4,084	2,418

OF FRENCH BROAD RIVER AT ASHEVILLE, N. C.

Year															Week
1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	
2,806	1,947	3,704	2,286	1,421	1,879	3,286	4,714	1,894	†1,379	5,704	1,014	2,233	1,389	2,917	1
2,039	1,940	1,579	1,649	1,304	1,587	5,854	3,124	1,563	2,323	3,380	1,314	2,999	2,064	1,417	2
2,554	1,537	1,404	1,573	1,177	1,319	6,230	2,570	2,663	2,377	3,124	1,111	3,917	2,033	1,173	3
1,727	1,797	1,193	1,433	2,329	1,290	4,717	3,219	1,856	2,850	4,346	2,346	2,346	3,410	1,641	4
1,711	1,509	1,166	2,303	2,510	1,657	6,056	5,643	1,970	6,464	3,053	3,223	2,670	2,053	2,210	5
2,261	1,333	1,901	1,507	1,879	2,246	5,214	4,063	1,561	2,054	2,423	3,517	4,466	2,506	3,050	6
2,714	2,201	1,634	1,731	1,509	1,631	3,603	2,563	1,343	2,106	2,846	1,836	4,224	3,863	2,143	7
4,243	2,597	1,419	3,729	2,036	2,286	3,743	2,594	3,186	2,827	3,457	1,644	4,230	2,410	1,529	8
3,099	3,903	1,304	3,450	3,106	1,726	3,357	2,919	3,460	1,987	3,480	1,446	2,527	3,066	1,574	9
3,183	2,117	1,439	2,500	1,834	1,584	4,107	2,606	5,117	1,719	6,143	2,130	2,103	3,601	1,851	10
3,744	1,796	1,363	5,096	9,229	1,774	2,690	2,154	2,667	1,593	4,024	2,971	1,907	4,204	4,277	11
3,020	1,584	1,153	3,757	3,940	1,523	2,323	1,871	4,299	1,791	3,481	2,873	2,293	2,906	3,271	12
4,144	1,404	1,776	5,600	8,007	1,543	2,117	2,186	5,149	1,577	3,739	4,347	2,259	5,060	1,976	13
2,364	1,361	4,501	3,683	3,131	1,617	2,097	2,357	3,511	1,547	2,726	10,966	2,017	4,539	1,826	14
2,619	1,233	4,887	2,443	5,334	3,511	1,923	2,383	3,040	2,964	2,864	3,886	1,701	3,194	2,711	15
2,237	1,774	4,067	2,383	3,689	3,413	1,679	1,859	2,309	1,863	2,807	3,013	4,759	2,903	2,263	16
2,087	1,434	2,271	3,197	2,521	1,874	1,666	1,616	2,051	1,734	2,170	3,237	2,874	2,444	1,807	17
4,156	1,140	2,037	2,731	2,027	1,584	1,680	1,491	1,847	1,791	2,643	2,550	2,387	3,594	3,214	18
4,260	3,769	1,631	3,597	1,961	1,544	2,553	1,347	1,689	1,723	3,100	2,057	2,293	3,093	2,849	19
2,526	1,727	1,494	2,470	1,773	1,204	1,971	1,290	1,436	1,809	2,713	1,956	2,376	3,177	3,176	20
6,417	2,157	1,621	1,807	3,353	1,139	1,711	4,621	1,616	2,214	2,629	1,900	3,477	3,019	3,586	21
3,296	1,633	1,319	2,151	2,083	1,100	3,083	2,180	1,376	1,486	2,324	1,644	2,230	2,631	5,771	22
8,923	1,499	1,180	2,121	2,607	1,151	2,303	3,559	1,470	1,891	1,869	2,781	1,970	2,861	3,177	23
5,521	2,774	933	2,057	1,747	1,061	1,969	3,651	1,314	1,224	1,660	1,534	2,074	2,089	2,384	24
5,413	1,807	933	1,584	1,634	1,130	1,767	2,527	1,273	1,854	2,007	2,027	1,987	2,440	1,976	25
3,911	1,601	920	2,634	1,601	959	2,547	1,961	1,073	1,519	3,786	1,660	2,191	1,719	1,983	26
3,540	2,391	920	2,485	1,613	1,050	3,231	1,791	1,164	1,200	1,789	1,570	1,633	2,057	1,807	27
3,774	3,471	1,007	2,443	1,219	1,109	1,839	14,746	943	1,110	1,691	1,796	1,669	2,000	1,601	28
2,466	1,961	946	2,864	1,090	973	1,711	*27,786	1,610	983	3,489	3,233	2,679	2,587	1,929	29
2,241	1,556	784	2,074	1,413	761	1,467	5,329	1,881	1,336	2,414	1,770	1,847	2,225	1,240	30
2,553	1,707	924	2,009	1,353	823	1,630	3,286	1,217	1,547	1,660	1,240	1,634	1,439	1,564	31
1,761	1,751	1,013	1,539	1,916	766	1,309	4,257	1,386	1,184	1,779	2,969	1,773	1,294	1,603	32
2,756	1,146	786	1,510	1,531	1,023	1,577	2,843	1,227	1,277	1,794	4,081	1,891	1,297	1,353	33
1,617	1,266	636	1,390	1,313	811	2,419	2,186	891	1,087	1,326	3,231	1,726	1,043	1,194	34
1,361	9,397	1,560	1,390	1,246	923	1,304	1,643	2,356	1,010	1,391	3,543	1,404	910	1,131	35
1,304	4,779	1,010	1,036	1,246	684	3,050	1,414	2,341	1,001	1,057	2,539	1,231	869	1,287	36
1,334	1,779	796	1,164	1,083	670	1,879	1,436	1,413	931	950	1,901	1,269	794	1,194	37
2,604	1,419	834	1,474	2,311	804	1,436	1,186	1,130	1,041	814	1,566	1,264	680	2,104	38
2,366	1,747	1,637	2,724	1,291	776	1,219	1,314	1,894	946	803	2,126	1,531	1,104	1,260	39
1,333	1,481	807	1,249	1,117	921	4,670	1,129	1,374	780	757	1,689	1,549	715	876	40
1,714	2,417	1,101	1,159	933	763	2,517	1,093	1,283	711	803	1,200	967	1,419	765	41
1,816	1,404	2,714	1,154	1,030	8,171	2,770	1,829	,009	747	886	1,059	837	927	880	42
1,276	1,167	1,643	1,151	2,367	1,631	2,441	1,283	1,549	7,637	1,361	1,219	737	818	845	43
1,190	1,074	1,074	1,131	1,531	1,127	1,741	1,157	1,699	11,986	899	1,216	1,780	715	863	44
1,177	1,167	1,614	1,697	1,291	1,049	1,569	,1,000	1,283	2,627	814	1,059	1,437	685	1,696	45
1,190	1,010	1,589	1,153	1,126	2,347	1,569	1,219	1,196	2,779	1,347	1,730	1,329	689	950	46
1,190	1,010	1,427	1,036	1,036	1,453	4,024	1,136	1,086	2,961	874	1,454	1,894	646	919	47
3,126	1,010	1,479	1,036	1,319	6,437	2,180	1,507	991	2,744	1,061	1,764	1,669	721	1,285	48
1,334	1,766	1,127	1,687	1,591	9,167	1,741	1,471	917	1,987	1,086	2,074	1,929	871	2,606	49
1,750	1,127	1,101	1,166	1,347	2,991	1,663	1,643	894	3,719	3,341	5,194	1,326	1,260	1,659	50
1,907	1,023	2,731	1,100	1,166	2,649	6,917	1,729	821	10,027	1,416	3,123	2,510	2,920	1,864	51
1,523	1,795	3,025	1,254	2,249	5,645	6,868	2,869	986	7,147	1,127	3,441	1,711	1,503	1,581	52

*Station was not in operation July 16, 1916 to Dec. 31, 1916 inclusive. Discharge estimated by comparative mean daily discharge hydrographs with French Broad at Dandridge and Little Tennessee at Judson. (By U. S. G. S.)

†During month of January, 1918, river frozen at intervals. The missing values were estimated to make out complete year.

MONTHLY DISCHARGE OF FRENCH BROAD RIVER AT ASHEVILLE, N. C.
[Drainage area, 949 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1895					
October	785	685	717	0.756	0.870
November	1,340	735	866	.913	1.02
December	5,030	735	1,320	1.39	1.60
1896					
January	7,700	815	1,860	1.97	2.27
February	5,030	1,280	2,170	2.29	2.47
March	----------	----------	1,420	1.50	1.73
April	2,700	845	1,190	1.25	1.40
May	3,420	785	1,170	1.23	1.42
June	1,480	735	969	1.03	1.15
July	21,600	710	3,490	3.68	4.24
August	1,280	685	899	.947	1.09
September	1,220	620	768	.809	.90
October	760	640	673	.709	.82
November	6,680	760	2,110	2.22	2.48
December	5,960	880	1,500	1.58	1.82
The year	----------	620	1,518	1.60	21.79
1897					
January	3,050	785	1,290	1.36	1.57
February	12,500	1,760	4,050	4.27	4.45
March	9,060	1,900	4,610	4.86	5.60
April	11,100	1,760	3,810	4.01	4.47
May	9,350	1,280	2,480	2.61	3.01
June	3,230	1,050	1,600	1.69	1.89
July	1,760	815	1,300	1.37	1.58
August	2,360	685	962	1.01	1.16
September	760	620	661	.697	.78
October	1,410	585	784	.826	.95
November	2,060	585	859	.905	1.01
December	1,760	662	1,060	1.12	1.29
The year	12,500	585	1,956	2.06	27.76
1898					
January	4,810	815	1,590	1.68	1.94
February	1,620	815	1,030	1.09	1.14
March	6,440	735	1,250	1.32	1.52
April	3,420	958	1,860	1.96	2.19
May	2,360	785	1,120	1.18	1.36
June	3,240	685	1,120	1.18	1.32
July	9,060	620	2,920	3.08	3.55
August	15,800	1,900	4,560	4.81	5.54
September	9,990	1,480	3,310	3.49	3.89
October	13,400	1,280	4,650	4.90	5.65
November	1,760	1,000	1,310	1.38	1.54
December	5,260	915	2,160	2.28	2.63
The year	15,800	620	2,240	2.36	32.27

MONTHLY DISCHARGE OF FRENCH BROAD RIVER AT ASHEVILLE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1899					
January	3,610	1,760	2,520	2.66	3.07
February	16,800	1,690	5,580	5.88	6.12
March	29,800	2,700	9,740	10.3	11.87
April	11,800	5,060	7,520	7.92	8.84
May	6,200	1,770	4,560	4.81	5.54
June	2,140	1,300	1,650	1.74	1.94
July	2,630	955	1,310	1.38	1.59
August	3,280	775	1,260	1.33	1.53
September	3,280	660	1,210	1.28	1.43
October	1,600	660	960	1.01	1.16
November	1,240	815	925	.975	1.09
December	11,800	860	2,590	2.73	3.15
The year	29,800	660	3,319	3.50	47.33
1900					
January	5,620	1,060	2,980	3.14	3.62
February	17,200	1,600	5,200	5.48	5.71
March	15,200	3,050	5,320	5.61	6.47
April	15,200	2,240	5,000	5.27	5.88
May	5,900	1,120	2,380	2.51	2.89
June	12,800	1,340	4,760	5.02	5.60
July	4,900	1,990	2,730	2.88	3.32
August	2,190	1,260	1,500	1.58	1.82
September	6,320	585	1,500	1.58	1.76
October	17,600	585	2,610	2.75	3.17
November	9,910	1,520	2,670	2.81	3.14
December	5,730	1,800	2,850	3.00	3.46
The year	17,600	585	3,292	3.47	46.84
1901					
January	13,500	1,990	3,300	3.48	4.01
February	4,900	1,800	2,350	2.48	2.58
March	22,800	1,610	4,230	4.46	5.14
April	16,500	3,390	7,380	7.78	8.68
May	24,700	2,720	5,690	6.00	6.92
June	11,300	3,390	5,450	5.74	6.40
July	----------	2,140	2,750	2.90	3.34
August	19,700	1,900	9,390	9.89	11.40
September	9,060	2,630	4,480	4.74	5.29
October	5,960	2,140	2,630	2.77	3.19
November	2,140	1,790	1,890	1.99	2.22
December	26,900	1,790	5,970	6.29	7.25
The year	26,900	1,610	4,626	4.88	66.42

MONTHLY DISCHARGE OF FRENCH BROAD RIVER AT ASHEVILLE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1903					
April	10,400	2,890	5,670	5.97	6.66
May	4,270	1,930	2,510	2.64	3.04
June	12,400	2,390	5,010	5.28	5.89
July	4,060	1,250	2,190	2.31	2.66
August	3,070	1,010	1,580	1.66	1.91
September	1,510	690	1,050	1.11	1.24
October	1,510	600	799	.842	.97
November	1,650	690	871	.918	1.02
December	1,510	690	788	.830	.96
1904					
January	4,060	690	990	1.04	1.20
February	4,270	900	1,440	1.52	1.64
March	9,080	1,130	2,550	2.69	3.10
April	3,070	1,130	1,480	1.56	1.74
May	5,700	1,010	1,570	1.65	1.90
June	2,890	1,010	1,420	1.50	1.67
July	1,510	690	895	.943	1.09
August	2,720	690	1,320	1.39	1.60
September	1,510	600	825	.870	.98
October	690	285	435	.458	.53
November	1,510	275	404	.426	.48
December	2,550	285	627	.661	.76
The year	9,080	275	1,163	1.23	16.69
1905					
January	9,080	600	1,800	1.90	2.19
February	6,500	790	2,290	2.41	2.51
March	4,270	1,250	1,900	2.00	2.31
April	2,390	1,010	1,460	1.54	1.72
May	7,890	1,130	2,660	2.80	3.23
June	7,890	1,010	2,270	2.39	2.67
July	18,600	1,790	4,990	5.26	6.06
August	10,700	1,510	3,610	3.80	4.38
September	2,720	900	1,310	1.38	1.54
October	3,640	790	1,080	1.14	1.31
November	900	790	819	.875	.98
December	7,320	790	3,120	3.29	3.79
The year	18,600	600	2,276	2.40	32.69
1906					
January	25,800	1,790	5,960	6.28	7.24
February	5,200	2,230	2,920	3.08	3.21
March	6,770	2,080	3,320	3.50	4.04
April	8,480	2,230	3,120	3.29	3.67
May	3,440	1,250	1,930	2.03	2.34
June	11,700	1,510	4,010	4.22	4.71
July	7,600	1,790	3,360	3.54	4.08
August	8,480	1,650	3,240	3.41	3.93
September	17,400	2,080	5,810	6.12	6.83
October	15,800	2,720	6,000	6.32	7.29
November	14,600	1,650	3,730	3.93	4.38
December	4,270	2,080	2,530	2.67	3.08
The year	25,800	1,250	3,828	4.03	54.80

MONTHLY DISCHARGE OF FRENCH BROAD RIVER AT ASHEVILLE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
January	7,320	1,650	2,360	2.49	2.87
February	3,070	1,380	1,750	1.85	1.93
March	3,070	1,250	1,720	1.81	2.09
April	5,200	1,250	2,010	2.12	2.36
May	8,480	1,250	2,100	2.21	2.55
June	3,850	1,130	1,810	1.91	2.13
July	1,510	900	1,100	1.16	1 34
August	1,380	600	833	.878	1.01
September	4,490	460	881	.928	1.04
October	900	460	570	.601	.69
November	7,040	515	1,560	1.64	1.83
December	8,780	900	2,990	3.15	3.63
The year	8,780	460	1,640	1.73	23.47
1908					
January	15,200	1,710	3,340	3.52	4.06
February	15,200	1,710	4,270	4.50	4.85
March	6,640	1,820	2,810	2.96	3.41
April	6,390	1,600	2,390	2.52	2.81
May	3,770	1,710	2,140	2.26	2.61
June	1,820	1,190	1,460	1.54	1.72
July	4,150	1,100	1,900	2.00	2.31
August	12,100	1,190	2,770	2.92	3.37
September	5,900	1,190	1,670	1.76	1.96
October	8,230	1,010	2,330	2.46	2.84
November	3,770	1,290	1,700	1.79	2.00
December	5,430	1,390	2,180	2.30	2.65
The year	15,200	1,010	2,413	2.54	34.59
1909					
January	4,980	1,600	2,230	2.35	2.71
February	6,140	1,600	2,960	3.12	3.25
March	6,140	2,320	3,420	3.60	4.15
April	4,350	1,710	2,320	2.44	2.72
May	10,800	1,940	4,270	4.50	5.19
June	15,200	3,240	5,770	6.08	6.78
July	4,350	1,710	3,000	3.16	3.64
August	4,150	1,290	2,030	2.14	2.47
September	6,640	1,190	1,860	1.96	2.19
October	2,750	1,190	1,500	1.58	1.82
November	1,190	1,100	1,180	1.25	1.40
December	7,960	1,010	2,040	2.15	2.48
The year	15,200	1,010	2,715	2.86	38.80

MONTHLY DISCHARGE OF FRENCH BROAD RIVER AT ASHEVILLE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1910					
January	4,350	1,390	1,790	1.89	2.18
February	5,900	1,290	2,000	2.11	2.20
March	6,390	1,390	2,150	2.27	2.62
April	2,320	1,190	1,440	1.52	1.70
May	7,160	1,100	2,170	2.29	2.64
June	4,350	1,390	1,890	1.99	2.22
July	4,980	1,390	2,270	2.39	2.76
August	25,100	1,010	2,190	2.31	2.66
September	21,900	1,390	3,470	3.66	4.08
October	4,150	1,010	1,560	1.64	1.89
November	1,190	1,010	1,020	1.07	1.19
December	3,770	920	1,410	1.49	1.72
The year	25,100	920	1,947	2.05	27.86
1911					
January	6,900	1,100	1,890	1.99	2.29
February	3,070	1,100	1,540	1.62	1.69
March	2,320	1,100	1,420	1.50	1.73
April	9,070	1,290	3,790	3.99	4.45
May	2,460	1,190	1,630	1.72	1.98
June	1,490	830	1,020	1.07	1.19
July	1,490	670	915	.964	1.11
August	3,410	590	966	1.02	1.18
September	3,770	670	1,100	1.16	1.29
October	6,390	670	1,590	1.67	1.92
November	2,320	1,010	1,470	1.55	1.73
December	5,660	1,010	1,990	2.10	2.42
The year	9,070	590	1,610	1.70	22.98
1912					
January	4,350	1,390	1,850	1.95	2.25
February	6,640	1,290	2,530	2.66	2.87
March	9,940	2,190	4,010	4.22	4.86
April	5,200	2,190	2,990	3.15	3.51
May	4,550	1,710	2,590	2.73	3.15
June	4,150	1,490	2,090	2.20	2.46
July	3,770	1,490	2,390	2.52	2.90
August	3,410	1,190	1,560	1.64	1.89
September	5,430	1,010	1,570	1.65	1.84
October	1,600	1,010	1,160	1.22	1.41
November	3,240	1,010	1,240	1.31	1.46
December	2,190	1,100	1,290	1.36	1.57
The year	9,940	1,010	2,106	2.22	30.17

MONTHLY DISCHARGE OF FRENCH BROAD RIVER AT ASHEVILLE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1913					
January	5,660	1,190	1,690	1.78	2.05
February	4,980	1,290	2,000	2.11	2.20
March	16,200	1,290	5,460	5.75	6.63
April	8,510	2,190	3,640	3.84	4.28
May	7,160	1,600	2,290	2.41	2.78
June	4,150	1,390	1,900	2.01	2.24
July	2,600	920	1,340	1.41	1.63
August	3,240	1,010	1,510	1.59	1.83
September	3,070	920	1,450	1.53	1.71
October	5,660	830	1,400	1.48	1.71
November	1,600	920	1,150	1.22	1.36
December	3,070	1,100	1,650	1.74	2.01
The year	16,200	830	2,123	2.24	30.43
1914					
January	2,320	1,190	1,500	1.58	1.82
February	3,240	1,390	2,010	2.12	2.21
March	1,940	1,290	1,610	1.70	1.96
April	7,690	1,490	2,540	2.67	2.98
May	1,940	1,100	1,330	1.40	1.61
June	1,490	920	1,080	1.14	1.27
July	1,600	590	963	1.02	1.18
August	1,710	590	884	.932	1.07
September	1,010	590	729	.769	.86
October	17,600	590	2,710	2.86	3.30
November	12,100	1,010	1,850	1.95	2.18
December	14,300	2,190	5,700	6.01	6.93
The year	17,600	590	1,909	2.01	27.37
1915					
January	9,070	2,750	4,870	5.13	5.91
February	9,940	2,190	4,690	4.94	5.14
March	6,390	1,940	2,850	3.01	3.47
April	2,320	1,600	1,860	1.96	2.19
May	4,150	1,490	2,040	2.15	2.48
June	4,980	1,290	2,200	2.32	2.59
July	5,900	1,190	2,130	2.25	2.59
August	3,410	1,190	1,700	1.79	2.06
September	5,900	1,190	1,850	1.95	2.18
October	6,140	1,820	2,980	3.14	3.62
November	7,690	1,490	2,270	2.39	2.67
December	15,200	1,600	4,230	4.46	5.14
The year	15,200	1,190	2,806	2.96	40.04

MONTHLY DISCHARGE OF FRENCH BROAD RIVER AT ASHEVILLE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1916					
January	9,070	2,320	3,370	3.55	4.09
Feburary	9,360	2,060	3,660	3.86	4.16
March	3,410	1,820	2,320	2.44	2.81
April	3,240	1,600	2,030	2.14	2.39
May	10,200	1,190	2,230	2.35	2.71
June	6,640	1,600	2,860	3.02	3.37
July*	66,000	1,600	11,496	12.11	13.96
August	6,600	1,650	2,884	3.04	3.50
September	2,000	1,050	1,348	1.42	1.64
October	3,300	980	1,312	1.38	1.59
November	1,800	980	1,186	1.25	1.44
December	4,800	1,300	1,937	2.04	2.35
The year	66,000	980	3,053	3.22	44.01
1917					
January	3,480	1,310	1,970	2.08	2.40
February	4,840	1,210	2,090	2.20	2.29
March	9,770	2,100	4,370	4.61	5.32
April	7,020	1,420	2,670	2.82	3.15
May	2,230	1,210	1,600	1.68	1.94
June	2,500	1,020	1,300	1.37	1.53
July	2,500	840	1,360	1.44	1.66
August	1,980	680	1,120	1.18	1.36
September	7,020	1,020	2,010	2.12	2.36
October	5,750	1,020	1,590	1.67	1.92
November	1,750	930	1,200	1.27	1.42
December	1,110	760	914	.963	1.11
The year	9,770	680	1,850	1.95	26.46
1918					
January†	10,400	1,110	2,917	3.07	3.54
February	5,750	1,980	2,600	2.74	2.85
March	2,230	1,420	1,700	1.79	2.06
April	5,990	1,420	1,990	2.10	2.34
May	2,360	1,530	1,860	1.96	2.26
June	3,670	1,110	1,570	1.65	1.84
July	2,360	930	1,240	1.31	1.51
August	2,500	840	1,200	1.27	1.46
September	1,310	760	977	1.03	1.15
October	22,100	630	3,900	4.11	4.74
November	13,800	1,770	3,500	3.69	4.12
December	25,200	1,770	5,560	5.86	6.76
The year	25,200	630	2,418	2.55	34.63

*Station was not in operation July 16, 1916 to Dec. 31, 1916 inclusive. Discharge estimated by comparative mean daily discharge hydrographs with French Broad at Dandridge and Little Tennessee at Judson. (By U. S. G. S.)

†During month of January, 1918, river frozen at intervals. The missing values were estimated to make out complete year.

MONTHLY DISCHARGE OF FRENCH BROAD RIVER AT ASHEVILLE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1919					
January	9,190	2,570	4,080	4.30	4.96
February	6,020	2,130	2,960	3.12	3.25
March	9,190	2,570	4,250	4.48	5.16
April	4,270	2,130	2,680	2.83	3.16
May	4,080	2,130	2,730	2.88	3.32
June	6,020	1,550	2,300	2.42	2.70
July	6,020	1,440	2,300	2.42	2.79
August	3,370	1,140	1,590	1.68	1.94
September	1,440	780	938	.988	1.10
October	2,000	700	946	.996	1.15
November	1,770	780	990	1.04	1.16
December	7,020	950	1,690	1.78	2.05
The year	9,190	700	2,288	2.41	32.74
1920					
January	3,370	950	1,580	1.66	1.91
February	8,620	1,550	2,390	2.52	2.72
March	7,800	1,240	2,840	3.00	3.46
April	17,000	2,570	5,140	5.42	6.05
May	2,720	1,660	2,040	2.15	2.48
June	4,660	1,340	1,970	2.08	2.32
July	4,080	1,240	2,020	2.13	2.46
August	4,870	1,140	3,160	3.33	3.84
September	3,200	1,440	2,020	2.17	2.42
October	2,540	980	1,250	1.32	1.52
November	3,690	980	1,420	1.50	1.67
December	10,400	1,530	3,360	3.54	4.03
The year	17,000	950	2,433	2.57	34.88
1921					
January	7,580	1,890	2,850	3.01	3.47
February	10,200	2,400	3,910	4.12	4.29
March	3,150	1,770	2,150	2.27	2.62
April	10,200	1,650	2,830	2.98	3.32
May	5,500	1,890	2,610	2.75	3.17
June	2,990	1,650	2,050	2.16	2.41
July	4,300	1,420	1,940	2.05	2.36
August	2,270	1,310	1,700	1.79	2.06
September	2,270	980	1,320	1.39	1.55
October	3,150	680	1,060	1.12	1.29
November	2,830	1,010	1,570	1.65	1.84
December	3,890	1,200	1,850	1.95	2.25
The year	10,200	680	2,153	2.27	30.63

MONTHLY DISCHARGE OF FRENCH BROAD RIVER AT ASHEVILLE, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1922					
January	6,280	1,310	2,200	2.32	2.68
February	6,800	1,770	2,730	2.88	3.00
March	7,580	2,140	3,890	4.10	4.73
April	6,540	2,270	3,290	3.46	3.86
May	6,280	2,140	3,150	3.32	3.83
June	3,690	1,530	2,350	2.48	2.77
July	3,150	1,650	2,160	2.28	2.63
August	1,770	880	1,190	1.26	1.45
September	2,830	580	860	0.906	1.01
October	2,300	610	946	0.997	1.15
November	740	610	679	0.715	0.80
December	6,080	740	1,580	1.66	1.91
The year	7,580	580	2,085	2.20	29.82
1923					
January	5,860	1,120	1,850	1.95	2.25
February	4,800	1,380	2,160	2.28	2.37
March	8,940	1,380	2,700	2.85	3.29
April	5,860	1,640	2,130	2.24	2.50
May	8,940	1,640	3,560	3.75	4.32
June	7,300	1,640	2,760	2.91	3.25
July	2,800	1,180	1,630	1.72	1.98
August	2,030	990	1,390	1.46	1.68
September	5,000	860	1,430	1.51	1.68
October	1,280	686	836	0.881	1.02
November	3,770	804	1,130	1.19	1.33
December	4,370	1,280	1,910	2.01	2.32
The year	8,940	686	1,957	2.06	27.99

FRENCH BROAD RIVER AT OLDTOWN, NEAR NEWPORT, TENN.

LOCATION. At highway bridge at Oldtown, on Newport-Morristown road, 2½ miles northeast of Newport, Cocke County. Pigeon River enters 4 miles below.

DRAINAGE AREA. 1,740 square miles (measured on topographic maps).

RECORDS AVAILABLE. September 4, 1900 to November 9, 1901; September 20, 1902 to December 31, 1905; August 16 to December 31, 1907; November 17, 1920 to December 31, 1923.

GAGE. Wire gage used from September 4, 1900 to November 9, 1901, was destroyed early in spring of 1902 when bridge was washed out by a flood. On October 27, 1902, a wire gage was installed on the new bridge, at same site as bridge which was destroyed; gage set to independent datum. Wire gage replaced April 29, 1903, by chain gage set to same datum, which remained unchanged until December 31, 1907. From November 17, 1920 to December 31, 1923, chain gage set to an independent datum.

DISCHARGE MEASUREMENTS. Made from highway bridge at gage.

CHANNEL AND CONTROL. Channel fairly straight for 500 feet above and below gage. Banks are high and not subject to overflow. Bed composed of sand and gravel; fairly regular and subject to little change. Conditions of control not known prior to 1920, at which time a rock and gravel shoal 300 feet below gage formed the control. This shoal probably changes during high water.

EXTREMES OF DISCHARGE. Maximum stage recorded, 12.0 feet April 8, 1903 (discharge, 62,200 second-feet); minimum discharge, 440 second-feet October 18, 1904 and September 21, 1907; gage height 0.9 foot.

ICE. Stage-discharge relation not affected by ice.

REGULATION. None to affect earlier records, and later records to only a slight extent, if at all.

ACCURACY. Stage-discharge relation practically permanent for ordinary stages; shifts slightly at extremely high stages. Rating curves used, as follows: September 4, 1900 to November 9, 1901, fairly well defined above 1,500 second-feet; November 1, 1902 to April 8, 1903, well defined between 1,000 and 15,000 second-feet; April 9, 1903 to December 31, 1907, well defined between 500 and 7,000 second-feet; November 17, 1920 to December 31, 1923, three curves well defined below 7,500 second-feet. Daily discharge ascertained by applying gage height to rating table. Records good for medium stages and fair to poor for extremely high or low stages.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF FRENCH BROAD RIVER AT OLDTOWN, NEAR NEWPORT, TENN.
[Drainage area, 1740 square miles]

Week	Year							
	1902	1903	1904	1905	1920	1921	1922	1923
1	----------	3,321	927	1,824	----------	2,939	1,783	4,606
2	----------	2,717	1,281	5,741	----------	4,591	2,697	2,151
3	----------	2,521	2,369	2,769	----------	5,131	4,986	2,099
4	----------	2,259	2,536	1,519	----------	3,139	5,833	3,126
5	----------	3,357	1,427	1,526	----------	4,326	2,804	5,994
6	----------	8,066	2,043	3,036	----------	8,701	4,080	6,110
7	----------	12,081	1,457	3,721	----------	6,280	7,196	4,577
8	----------	5,276	2,611	7,490	----------	5,354	3,704	2,326
9	----------	11,710	2,703	3,546	----------	3,571	4,451	2,259
10	----------	9,897	6,087	2,979	----------	2,990	6,257	4,816
11	----------	8,387	2,919	3,023	----------	2,599	7,197	7,549
12	----------	19,904	5,459	2,451	----------	3,106	4,351	5,900
13	----------	13,299	3,914	2,003	----------	3,440	6,719	3,199
14	----------	16,496	2,170	2,276	----------	3,224	6,220	2,674
15	----------	15,256	2,471	3,677	----------	2,383	4,469	3,439
16	----------	9,616	2,077	2,283	----------	7,164	4,823	3,353
17	----------	5,734	2,543	1,931	----------	4,614	3,831	2,780
18	----------	4,363	2,491	2,830	----------	4,014	5,617	2,730
19	----------	3,500	3,951	5,519	----------	3,811	4,606	4,171
20	----------	2,971	2,133	5,831	----------	3,484	4,144	4,621
21	----------	2,661	1,677	3,594	----------	4,586	4,060	5,559
22	----------	4,701	2,376	3,896	----------	3,084	3,463	8,094
23	----------	10,640	2,023	1,949	----------	2,623	4,474	4,213
24	----------	6,414	1,513	2,779	----------	2,753	3,029	3,154
25	----------	3,630	1,830	4,986	----------	2,754	3,216	2,589
26	----------	3,507	1,960	2,863	----------	2,924	2,260	2,897
27	----------	3,179	1,386	4,146	----------	2,014	3,010	2,320
28	----------	3,583	1,289	18,524	----------	2,270	3,134	2,496
29	----------	2,550	875	5,874	----------	5,470	4,067	3,150
30	----------	1,840	1,484	3,599	----------	2,807	3,064	1,697
31	----------	2,663	1,424	2,856	----------	3,414	2,106	2,201
32	----------	2,210	2,191	6,054	----------	2,811	2,019	2,966
33	----------	2,173	1,773	6,285	----------	5,400	1,756	1,926
34	----------	1,770	1,759	3,581	----------	2,749	1,644	1,954
35	----------	1,493	1,823	2,667	----------	2,079	1,296	1,563
36	----------	1,263	1,756	2,326	----------	1,796	1,327	1,620
37	----------	1,086	1,102	1,660	----------	1,837	1,067	1,557
38	----------	1,237	798	1,540	----------	1,691	880	2,024
39	----------	951	744	1,230	----------	2,017	1,212	1,684
40	----------	879	596	1,331	----------	1,850	897	1,129
41	----------	1,300	534	1,941	----------	1,320	1,909	1,003
42	----------	1,086	503	1,390	----------	1,163	1,234	1,081
43	----------	903	536	1,360	----------	1,101	1,111	1,160
44	1,010	914	570	1,176	----------	2,387	967	1,029
45	1,270	1,407	1,084	1,071	----------	1,674	984	2,393
46	1,147	1,317	1,061	964	----------	1,860	976	1,203
47	1,733	1,499	980	1,002	1,924	2,373	871	1,127
48	2,521	927	771	1,047	2,000	2,829	944	1,546
49	4,006	951	1,753	4,814	2,834	2,861	2,034	2,961
50	2,259	903	1,221	4,380	7,393	1,843	2,833	2,061
51	3,734	1,153	966	3,451	3,987	2,780	4,861	2,379
52	2,793	1,340	1,899	3,151	4,736	2,258	2,163	2,264

MONTHLY DISCHARGE OF FRENCH BROAD RIVER AT OLDTOWN, NEAR NEWPORT, TENN.
[Drainage area, 1,740 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1902					
November	2,900	680	1,500	0.862	0.96
December	6,380	2,110	3,160	1.82	2.10
1903					
January	3,790	2,110	2,680	1.54	1.78
February	26,400	2,110	8,110	4.66	4.85
March	60,800	4,110	12,700	7.30	8.42
April	62,200	4,500	11,700	6.70	7.48
May	5,590	2,430	3,390	1.95	2.25
June	14,800	2,970	6,130	3.52	3.93
July	4,850	1,660	2,770	1.59	1.83
August	2,970	1,200	2,090	1.20	1.38
September	1,420	830	1,150	.661	.74
October	1,660	830	1,020	.586	.68
November	2,970	830	1,270	.730	.81
December	1,910	830	1,080	.621	.72
The year	62,200	830	4,507	2.59	34.87
1904					
January	4,160	830	1,750	1.01	1.16
February	5,590	1,200	2,060	1.18	1.27
March	13,600	2,430	4,390	2.52	2.90
April	3,540	1,910	2,350	1.35	1.51
May	7,650	1,420	2,430	1.40	1.61
June	3,840	1,200	1,960	1.13	1.26
July	2,560	755	1,280	.736	.85
August	2,700	1,200	1,880	1.08	1.24
September	2,430	680	1,110	.638	.71
October	680	440	543	.312	.36
November	1,910	495	929	.534	.60
December	3,400	830	1,370	.787	.91
The year	13,600	440	1,838	1.06	14.38
1905					
January	15,400	755	2,770	1.59	1.83
February	13,000	1,420	4,280	2.48	2.59
March	4,500	1,910	2,700	1.55	1.79
April	5,220	1,660	2,520	1.45	1.62
May	10,700	1,910	4,560	2.62	3.02
June	8,600	1,540	3,090	1.78	1.99
July	44,600	2,840	7,620	4.38	5.05
August	14,200	2,170	4,430	2.55	2.94
September	3,250	1,100	1,730	.994	1.11
October	4,330	1,100	1,490	.856	.99
November	1,200	915	1,020	.586	.65
December	11,300	1,100	3,740	2.15	2.48
The year	44,600	755	3,329	1.91	26.06

MONTHLY DISCHARGE OF FRENCH BROAD RIVER AT OLDTOWN, NEAR NEWPORT, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
November 17-30	5,310	1,440	2,350	1.35	0.70
December	16,800	2,020	4,570	2.63	3.03
1921					
January	8,730	2,470	4,010	2.30	2.65
February	20,400	3,220	6,090	3.50	3.64
March	4,640	2,380	3,020	1.74	2.01
April	16,100	2,200	4,340	2.49	2.78
May	7,250	2,760	3,920	2.25	2.59
June	4,130	2,090	2,750	1.58	1.76
July	11,000	1,790	3,110	1.79	2.06
August	10,900	1,920	3,390	1.95	2.25
September	2,590	1,330	1,850	1.06	1.18
October	4,020	958	1,420	.816	.94
November	4,580	1,420	2,220	1.28	1.43
December	4,870	1,710	2,440	1.40	1.61
The year	20,400	958	3,213	1.85	24.90
1922					
January	12,500	1,710	3,730	2.14	2.47
February	12,800	2,470	4,470	2.57	2.68
March	13,800	3,090	5,990	3.44	3.97
April	8,570	3,480	4,920	2.83	3.16
May	10,200	2,960	4,450	2.56	2.95
June	6,070	2,130	3,320	1.91	2.13
July	4,870	2,240	3,230	1.86	2.14
August	3,350	1,160	1,760	1.01	1.16
September	2,240	830	1,120	.644	.72
October	3,120	776	1,260	.724	.83
November	1,150	805	935	.537	.60
December	10,700	956	2,830	1.63	1.88
The year	13,800	776	3,168	1.82	24.69
1923					
January	9,370	1,740	3,290	1.89	2.18
February	9,040	1,940	4,360	2.51	2.61
March	16,200	2,050	5,040	2.90	3.34
April	6,450	2,270	3,060	1.76	1.96
May	12,800	2,270	4,830	2.78	3.20
June	9,370	2,380	3,700	2.13	2.38
July	6,130	1,540	2,380	1.37	1.58
August	3,370	1,360	2,140	1.23	1.42
September	5,200	1,080	1,700	.977	1.09
October	1,660	885	1,080	.621	.72
November	4,760	1,040	1,450	.833	.93
December	5,710	1,560	2,410	1.39	1.60
The year	16,200	885	2,953	1.70	23.01

FRENCH BROAD RIVER AT DANDRIDGE, TENN.

LOCATION. At steel highway bridge at Dandridge, Jefferson County, 12 miles by road and 23 miles by river below mouth of Nolichucky River, 28 miles below mouth of Pigeon River, and 40 miles above junction of French Broad and Holston rivers.

DRAINAGE AREA. 4,450 square miles (measured on topographic maps).

RECORDS AVAILABLE. October 1, 1918 to December 31, 1923. Gage-height records obtained by U. S. Weather Bureau since December 1, 1904.

GAGE. Graduations painted on shoreward side, near downstream end of second concrete pier from right end of bridge.

DISCHARGE MEASUREMENTS. Made from downstream side of highway bridge to which gage is attached.

CHANNEL AND CONTROL. Bed of stream at gage composed of silt and mud; shifting. One channel at all stages. Control formed by series of milldams and rock dykes across the three channels, into which the river divides 1 mile below station. The dykes are in very poor repair and are subject to change at each flood. Right bank high; left bank is overflowed some distance above gage at stages above 12 feet.

EXTREMES OF DISCHARGE. Maximum stage recorded, 16.5 feet April 3, 1920 (discharge, 81,600 second-feet); minimum stage, 0.01 foot October 10-12, 1918 (discharge, 830 second-feet).

The United States Weather Bureau records a maximum stage of 28.0 feet May 21, 1901, and a minimum stage of—0.7 foot December 3, 1910, and on other dates.

ICE. Stage-discharge relation not affected by ice.

REGULATIONS. Slight diurnal fluctuations.

ACCURACY. Stage-discharge relation not permanent. Average rating curve fairly well defined between 2,000 and 30,000 second-feet; poorly defined outside those limits. Gage read to tenths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records below 30,000 second-feet, fair, above that point they may be in error due to lack of information in regard to flood flow. Discharge for individual days may be in error on account of poor location of gage for observation.

COOPERATION. Gage-height record furnished by United States Weather Bureau.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF FRENCH BROAD RIVER AT DANDRIDGE, TENN.

Week	Year					
	1918	1919	1920	1921	1922	1923
1		24,150	2,983	6,249	4,291	10,931
2		8,934	3,560	10,091	5,714	5,151
3		9,606	4,571	12,420	15,139	5,071
4		16,951	11,820	7,264	21,763	8,414
5		9,860	7,704	9,471	6,567	21,514
6		6,460	12,460	21,761	7,799	17,243
7		7,489	5,757	18,567	21,314	17,729
8		10,686	9,356	12,134	9,944	6,696
9		12,346	8,639	7,353	13,030	5,496
10		17,823	6,586	5,586	16,077	16,234
11		11,360	23,177	5,074	22,314	22,171
12		8,913	19,880	5,476	10,687	17,700
13		8,754	14,403	6,456	14,251	8,447
14		7,246	44,700	6,429	13,634	6,627
15		6,970	12,451	4,354	9,571	7,243
16		8,180	7,617	13,919	11,904	7,794
17		5,914	8,751	7,761	10,269	6,163
18		8,167	7,110	8,311	15,669	7,297
19		7,247	6,439	8,994	12,237	9,924
20		6,197	5,176	6,944	9,419	11,029
21		6,336	4,981	9,233	9,027	12,903
22		5,563	4,653	6,236	6,939	17,306
23		3,964	8,263	4,731	6,420	9,237
24		3,073	4,287	5,501	7,426	7,133
25		3,883	7,001	6,209	7,243	5,580
26		12,789	4,887	5,810	5,151	7,497
27		3,900	4,786	4,194	8,484	
28		3,371	3,900	4,740	9,289	
29		6,623	6,701	13,801	9,237	
30		5,210	4,409	9,194	7,563	
31		3,704	3,217	11,277	5,214	
32		3,253	8,231	7,507	4,257	
33		4,456	13,226	14,096	3,643	
34		2,926	10,371	8,859	3,514	
35		2,177	9,723	5,683	3,396	
36		2,253	5,776	3,960	3,060	3,209
37		1,619	8,756	3,820	2,421	3,106
38		1,175	6,251	3,001	1,981	2,904
39		1,706	4,587	3,491	2,267	3,581
40	1,460	1,278	3,889	3,909	1,984	2,201
41	1,046	1,706	2,500	2,754	3,380	2,013
42	1,160	2,901	2,220	2,294	2,327	2,014
43	15,119	3,681	2,100	2,137	2,233	2,390
44	34,586	2,329	2,624	4,557	2,137	2,169
45	6,226	1,756	2,114	3,630	2,016	3,187
46	4,614	2,717	4,223	4,343	2,051	2,326
47	6,233	1,983	4,439	5,241	2,043	2,264
48	5,497	1,900	3,914	6,961	1,691	3,176
49	4,357	2,727	4,480	7,357	4,476	5,117
50	5,417	14,613	15,757	4,334	8,034	4,424
51	18,151	5,770	9,641	5,034	15,523	5,039
52	18,191	3,653	10,530	5,365	5,148	5,676

MONTHLY DISCHARGE OF FRENCH BROAD RIVER AT DANDRIDGE, TENN.
[Drainage area, 4,450 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1918					
October	63,300	830	8,900	2.00	2.31
November	41,800	3,890	8,150	1.83	2.04
December	49,300	3,810	11,400	2.56	2.95
1919					
January	45,000	6,710	14,700	3.30	3.80
February	18,100	5,950	8,930	2.01	2.09
March	24,500	7,100	11,600	2.61	3.01
April	10,900	5,310	7,130	1.60	1.78
May	10,900	5,410	6,880	1.55	1.79
June	22,600	2,760	5,820	1.31	1.46
July	11,200	2,880	4,740	1.07	1.23
August	5,310	1,620	3,310	.744	.86
September	3,620	934	1,770	.398	.44
October	5,120	974	2,410	.542	.62
November	3,510	1,670	2,110	.474	.53
December	22,000	1,550	6,280	1.41	1.63
The year	45,000	934	6,307	1.42	19.24
1920					
January	21,400	2,530	6,040	1.36	1.57
February	25,100	4,960	8,920	2.00	2.16
March	35,800	4,960	14,700	3.30	3.80
April	81,600	6,430	17,900	4.02	4.48
May	7,940	4,590	5,730	1.29	1.49
June	13,600	4,120	6,000	1.35	1.51
July	6,990	2,980	4,810	1.08	1.24
August	18,200	2,710	9,490	2.13	2.46
September	14,100	3,810	6,350	1.43	1.60
October	4,650	2,100	2,710	.609	.70
November	9,460	2,000	3,400	.764	.85
December	39,900	3,640	9,780	2.20	2.54
The year	81,600	2,000	7,986	1.79	24.40
1921					
January	18,900	5,610	8,980	2.02	2.33
February	58,400	6,990	15,400	3.46	3.60
March	9,670	4,060	5,740	1.29	1.49
April	29,400	3,780	8,050	1.81	2.02
May	15,000	5,610	8,190	1.84	2.12
June	7,350	4,200	5,530	1.24	1.38
July	31,500	3,250	7,830	1.76	2.03
August	31,500	4,350	9,990	2.24	2.58
September	4,800	2,880	3,640	.818	.91
October	4,730	1,980	2,700	.607	.70
November	10,000	2,890	5,070	1.14	1.27
December	9,640	3,640	5,650	1.27	1.46
The year	58,400	1,980	7,231	1.62	21.89

MONTHLY DISCHARGE OF FRENCH BROAD RIVER AT DANDRIDGE, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1922					
January	56,000	3,900	11,300	2.54	2.93
February	46,600	5,930	11,400	2.56	2.67
March	41,700	7,540	16,000	3.60	4.15
April	21,200	7,540	11,700	2.63	2.93
May	30,400	6,240	10,900	2.45	2.82
June	12,300	4,730	7,290	1.64	1.83
July	13,100	5,020	8,380	1.88	2.17
August	6,240	2,650	3,970	.892	1.03
September	5,020	1,770	2,440	.548	.61
October	5,320	1,770	2,450	.551	.64
November	2,420	1,380	2,000	.449	.50
December	35,200	1,200	7,760	1.74	2.01
The year	56,000	1,200	7,966	1.79	24.29
1923					
January	24,100	4,450	8,780	1.97	2.27
February	31,400	5,020	14,000	3.15	3.28
March	37,300	5,020	15,100	3.39	3.91
April	13,100	5,620	7,000	1.57	1.75
May	27,700	5,930	11,300	2.54	2.93
June	21,700	5,320	8,290	1.86	2.08
July					
August					
September	6,240	2,200	3,210	.721	.80
October	2,650	1,770	2,160	.485	.56
November	5,320	1,980	2,540	.571	.64
December	9,280	2,890	5,050	1.13	1.30

DAVIDSON RIVER NEAR DAVIDSON RIVER, N. C.

LOCATION. At English bridge, 4 miles from Davidson River, Transylvania County, and 500 feet above mouth of Avery Creek.

DRAINAGE AREA. 31 square miles (measured on topographic map).

RECORDS AVAILABLE. June 1, 1904 to June 30, 1909, when station was discontinued.

GAGE. Vertical staff fastened to a tree on left bank 40 feet below bridge.

DISCHARGE MEASUREMENTS. Made from highway bridge just above gage.

CHANNEL AND CONTROL. Channel is straight for 500 feet above and below station; one channel at all stages. Right bank is high; left bank is low; neither is subject to overflow. Bed composed of boulders and gravel; is clear and practically permanent.

EXTREMES OF DISCHARGE. Maximum stage recorded, 4.10 feet January 22, 1906 (discharge, 2,360 second-feet); minimum stage, 0.70 foot September 2, 6, 7, 21, 1907 (discharge 32 second-feet).

ICE. No ice affect during period of record.

REGULATION. None.

ACCURACY. Stage-discharge relation practically permanent. One rating curve used; well defined below 1,200 second-feet and extended above. Gage read to half-tenths once daily. Daily discharge ascertained by applying gage height to rating table. Records good except for extremely high stages.

COOPERATION. Station established in coöperation with the Biltmore estate.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF DAVIDSON RIVER NEAR DAVIDSON RIVER, N. C.

Week	Year				
	1904	1905	1906	1907	1908
1		78	277	146	146
2		233	131	102	256
3		104	117	90	154
4		76	699	79	123
5		69	187	88	130
6		120	134	94	113
7		158	119	73	491
8		183	143	71	200
9		129	159	111	167
10		140	135	88	148
11		126	153	85	134
12		113	173	68	213
13		94	239	71	152
14		90	156	97	121
15		119	177	78	129
16		90	159	82	142
17		85	116	107	233
18		128	102	120	139
19		129	87	123	180
20		105	76	90	141
21		134	126	106	114
22		128	126	144	128
23	81	80	175	115	109
24	75	85	665	70	120
25	66	125	237	60	94
26	58	112	146	60	77
27	49	118	201	44	208
28	55	502	199	61	125
29	58	190	303	65	87
30	57	122	225	76	88
31	71	96	181	44	80
32	125	247	154	59	99
33	89	202	188	57	76
34	141	125	180	52	442
35	137	99	223	38	180
36	82	81	274	39	165
37	72	68	160	43	107
38	55	59	550	176	81
39	50	50	493	87	83
40	44	47	733	55	66
41	40	66	271	45	90
42	38	46	218	38	64
43	38	46	160	42	143
44	53	44	127	50	208
45	46	44	106	40	88
46	52	39	249	51	88
47	38	42	297	170	74
48	39	38	131	87	64
49	65	142	114	89	103
50	45	122	139	170	102
51	44	124	127	187	121
52	88	106	262	237	110

MONTHLY DISCHARGE OF DAVIDSON RIVER NEAR DAVIDSON RIVER, N. C.
[Drainage area, 31 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1904					
June	111	52	73	2.35	2.62
July	90	38	55.4	1.79	2.06
August	272	60	117	3.77	4.35
September	100	44	67.3	2.17	2.42
October	44	38	39.7	1.28	1.48
November	122	38	47	1.52	1.70
December	147	38	59.9	1.93	2.22
1905					
January	895	60	117	3.77	4.35
February	295	60	140	4.52	4.71
March	230	90	120	3.87	4.46
April	176	79	95.9	3.09	3.45
May	210	90	128	4.13	4.76
June	162	60	94.1	3.04	3.39
July	1,220	90	227	7.32	8.44
August	555	90	161	5.19	5.98
September	100	44	66.5	2.15	2.40
October	147	44	50.7	1.64	1.89
November	52	38	41.3	1.33	1.48
December	345	38	118	3.81	4.39
The year	1,220	38	113	3.66	49.70
1906					
January	2,360	79	297	9.58	11.04
February	193	100	130	4.19	4.36
March	460	100	177	5.71	6.58
April	295	111	152	4.90	5.47
May	295	60	102	3.29	3.79
June	1,760	90	293	9.45	10.54
July	555	122	226	7.29	8.40
August	345	122	182	5.87	6.77
September	1,260	134	360	11.6	12.94
October	1,460	134	325	10.5	11.99
November	1,120	100	191	6.16	6.87
December	430	100	162	5.23	6.03
The year	2,360	60	216	6.98	94.78
1907					
January	210	70	101	3.26	3.76
February	134	60	82.8	2.67	2.78
March	210	60	85.5	2.76	3.18
April	250	60	89.9	2.90	3.24
May	193	70	108	3.48	4.01
June	400	52	88.9	2.87	3.20
July	147	44	60.4	1.95	2.25
August	134	38	51.1	1.65	1.90
September	985	32	82.7	2.67	2.98
October	70	38	44.1	1.42	1.64
November	295	----------	84.5	2.73	3.05
December	590	60	166	5.35	6.17
The year	985	----------	87.1	2.81	38.16

MONTHLY DISCHARGE OF DAVIDSON RIVER NEAR DAVIDSON RIVER, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1908					
January	520	100	163	5.26	6.06
February	1,460	100	237	7.65	8.25
March	345	111	165	5.32	6.13
April	625	100	156	5.03	5.61
May	400	100	142	4.58	5.28
June	210	70	102	3.29	3.67
July	345	70	122	3.94	4.54
August	940	70	185	5.97	6.88
September	272	70	110	3.55	3.96
October	660	60	114	3.68	4.24
November	134	60	84.6	2.73	3.05
December	295	60	106	3.42	3.94
The year	1,460	60	141	4.54	61.61

DAVIDSON RIVER NEAR BREVARD, N. C.

LOCATION. At steel highway bridge on road from Brevard to Mount Pisgah, 500 feet downstream from boundary line of Pisgah National Forest, 1½ miles upstream from junction of Davidson and French Broad rivers, 2 miles downstream from mouth of Avery Creek, 2¼ miles downstream from site of old gaging station which was discontinued in 1909, and 5½ miles northeast of Brevard, Transylvania County.

DRAINAGE AREA. 41 square miles (measured on topographic map).

RECORDS AVAILABLE. December 10, 1920 to December 31, 1923.

GAGE. Enameled staff gage bolted to left bank pier of steel bridge; read by Mrs. U. G. Reeves.

DISCHARGE MEASUREMENTS. Made from upstream side of single-span steel bridge to which gage is attached.

CHANNEL AND CONTROL. Channel is straight 600 feet above and 50 feet below gage. Bed of stream consists of gravel and is shifting. Both banks are high and are rarely overflowed. Nearly all floods are sharp and extend over very short periods. Control is a rock ledge covered with boulders forming a riffle 20 feet below gage. During flood of December 17, 1921, it is believed that a shift occurred in the control as stage-discharge relation after that date was changed.

EXTREMES OF DISCHARGE. 1920-1923: Maximum stage recorded, 7.5 feet at 7:30 a.m. December 14, 1920 (estimated discharge, 2,360 second-feet); minimum stage recorded, 0.54 foot at 7:00 a.m. and 6:00 p.m. November 21 to 26, 1922 (discharge, 37 second-feet).

ICE. Stage-discharge relation rarely if ever affected by ice.

REGULATION. None.

ACCURACY. Stage-discharge relation shifted once. Rating curve is well defined between 45 and 400 second-feet; above that point curve is extended. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF DAVIDSON RIVER NEAR BREVARD, N. C.

Week	Year			
	1920	1921	1922	1923
1		133	94	174
2		205	133	81
3		177	235	72
4		135	243	106
5		129	169	124
6		259	185	164
7		209	252	164
8		229	162	96
9		144	256	99
10		125	278	108
11		113	258	323
12		139	212	245
13		132	405	157
14		109	315	176
15		112	233	214
16		327	222	176
17		162	185	139
18		136	288	207
19		142	222	178
20		178	250	284
21		239	272	229
22		125	234	587
23		121	236	274
24		129	178	179
25		116	221	152
26		178	133	139
27		117	158	119
28		183	128	94
29		190	134	109
30		169	129	82
31		164	91	94
32		131	86	144
33		143	81	97
34		139	66	74
35		110	61	76
36		96	51	90
37		82	48	59
38		91	47	131
39		86	50	71
40		71	51	54
41		57	67	50
42		52	55	58
43		50	46	47
44		84	41	88
45		67	39	74
46		75	39	52
47		140	38	55
48		159	41	95
49		115	49	161
50	310	75	69	109
51	225	223	181	121
52	199	146	98	98

MONTHLY DISCHARGE OF DAVIDSON RIVER NEAR BREVARD, N. C.
[Drainage area, 41 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
December 10-31	1,160	99	243	5.93	4.86
1921					
January	490	118	160	3.90	4.50
February	520	118	208	5.07	5.28
March	182	102	128	3.12	3.60
April	855	88	175	4.27	4.76
May	430	118	170	4.15	4.78
June	280	97	134	3.27	3.65
July	340	100	162	3.95	4.55
August	220	100	140	3.41	3.93
September	134	68	89.7	2.19	2.44
October	170	50	61.6	1.50	1.73
November	325	52	92.7	2.26	2.52
December	520	70	150	3.66	4.22
The year	855	50	139	3.39	45.96
1922					
January	770	88	173	4.22	4.86
February	480	136	193	4.71	4.90
March	700	171	292	7.12	8.21
April	510	171	240	5.85	6.53
May	570	159	253	6.17	7.11
June	390	126	203	4.95	5.52
July	195	101	135	3.29	3.79
August	98	55	75.7	1.85	2.13
September	80	42	50.2	1.22	1.36
October	117	40	53.6	1.31	1.51
November	43	37	39.0	.951	1.06
December	665	41	96.1	2.34	2.70
The year	770	37	150	3.66	49.68
1923					
January	420	66	111	2.71	3.12
February	300	80	135	3.29	3.43
March	735	84	195	4.76	5.49
April	390	126	175	4.27	4.76
May	1,300	117	293	7.15	8.24
June	450	108	209	5.10	5.69
July	159	75	100	2.44	2.81
August	207	64	100	2.44	2.81
September	480	53	86.1	2.10	2.34
October	93	46	52	1.27	1.46
November	315	46	73.2	1.79	2.00
December	315	78	120	2.93	3.38
The year	1,300	46	137	3.35	45.53

LITTLE RIVER AT CALHOUN, N. C.

LOCATION. At highway bridge one-fourth mile west of Calhoun, Transylvania County, half a mile above mouth of river.

RRAINAGE AREA. 59 square miles (measured on topographic map).

DECORDS AVAILABLE. July 19, 1904 to June 30, 1908 when station was discontinued. Discharge measurements only, before May 1, 1907.

GAGE. Assumed to have been vertical staff. Different datums for records before and after May 1, 1907.

DISCHARGE MEASUREMENTS. Made from upstream side of bridge.

CHANNEL AND CONTROL. Channel curved 75 feet above and 100 feet below station; one channel at all stages. Both banks high and not subject to overflow. Bed composed of rock and sand.

EXTREMES OF DISCHARGE. Maximum stage recorded, 10.0 feet February 15, 1908 (discharge from extension of rating curve, 2,190 second-feet); minimum stage, water level below gage October 14 to November 1 (discharge estimated 46 second-feet).

REGULATION. Probably none.

ACCURACY. Stage-discharge relation practically permanent except possibly at highest stages, when there may be backwater from French Broad River. One rating curve used; well defined below 450 second-feet, and extended above. Gage read to half-tenths, probably once daily. Daily discharge ascertained by applying gage height to rating table. Records of discharge below 600 second-feet, good; those for high stages fair.

COOPERATION. Station established and maintained in coöperation with United States Forest Service.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF LITTLE RIVER AT CALHOUN, N. C.

Week	Year		Week	Year	
	1907	1908		1907	1908
1		292	27	78	
2		589	28	102	
3		286	29	88	
4		184	30	78	
5		191	31	62	
6		279	32	80	
7		1,051	33	92	
8		360	34	80	
9		359	35	52	
10		235	36	64	
11		211	37	52	
12		491	38	182	
13		286	39	102	
14		206	40	77	
15		241	41	63	
16		320	42	46	
17		406	43	46	
18		366	44	65	
19	171	221	45	70	
20	128	220	46	106	
21	127	170	47	448	
22	175	136	48	153	
23	133	153	49	121	
24	106	131	50	628	
25	97	109	51	443	
26	141		52	493	

MONTHLY DISCHARGE OF LITTLE RIVER AT CALHOUN, N. C.
[Drainage area, 59 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
May	230	----------	139	2.36	2.72
June	410	83	134	2.27	2.53
July	185	51	86.0	1.46	1.68
August	137	51	74.7	1.27	1.46
September	951	51	96.8	1.64	1.83
October	131	----------	56.9	.964	1.11
November	897	----------	184	3.12	3.48
December	1,700	95	404	6.85	7.90
1908					
January	1,680	171	322	5.46	6.30
February	2,190	185	495	8.39	9.05
March	1,060	171	306	5.19	5.98
April	897	157	298	5.05	5.63
May	454	137	223	3.78	4.36
June	280	83	123	2.08	2.32

SOUTH FORK OF MILLS RIVER NEAR SITTON, N. C.

LOCATION. At Sycamore church, 1 mile below Sitton, Henderson County.
DRAINAGE AREA. 40.5 square miles (measured on topographic map).
RECORDS AVAILABLE. June 1, 1904 to June 30, 1909, when station was discontinued.
GAGE. Vertical staff fastened to tree on right bank 200 feet above ford. Datum of gage reported to have changed, but corrections have been made to readings
DISCHARGE MEASUREMENTS. Made from foot log 40 feet below gage.
CHANNEL AND CONTROL. One channel at all stages; curved for 500 feet above and straight for 200 feet below station. Bed composed of rock; fairly permanent. Both banks high and clear; subject to overflow at high stages.
EXTREMES OF DISCHARGE. Maximum stage recorded, 6.1 feet February 15, 1908 (discharge 1,780 second-feet); minimum stage, 0.7 foot October 14-26, 28-31, November 1, and December 14, 1904 (discharge, 33 second-feet).
REGULATION. Probably none.
ACCURACY. Stage-discharge relation not permanent. Two rating curves used as follows: June 1, 1904 to January 31, 1906, fairly well defined below 300 second-feet; February 1, 1906 to June 30, 1909, well defined below 400 second-feet and fairly well defined between 400 and 1,000 second-feet. Gage read to half-tenths once daily. Daily discharge ascertained by applying gage height to rating table. There is some uncertainty regarding the stability of gage during latter part of record. Records fair.
COOPERATION. Station established in coöperation with the Biltmore estate.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF SOUTH FORK, MILLS RIVER NEAR SITTON, N. C.

Week	Year					
	1904	1905	1906	1907	1908	1909
1		85	310	194	168	145
2		271	170	140	284	118
3		127	146	127	177	153
4		87	717	111	134	112
5		87	229	112	133	104
6		187	148	115	111	131
7		178	133	100	562	161
8		202	128	96	260	267
9		164	168	147	224	215
10		182	165	116	192	173
11		159	169	109	163	187
12		152	221	94	226	187
13		110	263	96	167	219
14		105	184	118	131	145
15		136	216	108	130	166
16		109	185	103	143	136
17		98	137	141	221	121
18		147	125	194	154	194
19		151	105	167	193	239
20		133	90	127	143	161
21		158	137	171	119	294
22		203	156	197	104	222
23	98	105	227	152	103	421
24	80	175	790	115	96	234
25	74	169	284	122	89	170
26	103	150	184	133	72	228
27	60	161	163	99	201	
28	74	593	191	88	161	
29	70	288	293	93	90	
30	62	170	194	92	109	
31	64	127	160	71	100	
32	130	221	130	75	110	
33	99	179	166	73	95	
34	98	180	235	65	565	
35	113	139	357	49	238	
36	108	111	298	57	205	
37	72	86	192	52	122	
38	49	83	613	177	93	
39	46	68	493	91	95	
40	40	66	822	61	76	
41	39	96	359	56	109	
42	33	65	291	48	74	
43	34	63	227	49	186	
44	51	60	179	64	271	
45	51	57	152	55	131	
46	55	54	258	63	114	
47	45	52	394	221	97	
48	43	46	189	110	93	
49	67	206	162	93	170	
50	44	148	172	201	127	
51	61	155	163	203	142	
52	82	136	223	235	145	

MONTHLY DISCHARGE OF SOUTH FORK OF MILLS RIVER NEAR SITTON, N. C.
[Drainage area, 40.5 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1904					
June	221	62	90.7	2.24	2.50
July	173	46	66.4	1.64	1.89
August	262	54	104.0	2.57	2.96
September	290	46	70.9	1.75	1.95
October	40	33	36.2	.894	1.03
November	130	33	50.8	1.25	1.40
December	162	33	63.1	1.56	1.80
1905					
January	920	54	137	3.38	3.90
February	366	80	172	4.25	4.43
March	276	99	154	3.80	4.38
April	196	90	112	2.77	3.09
May	382	99	161	3.98	4.59
June	516	80	142	3.51	3.92
July	1,500	130	294	7.26	8.37
August	482	109	174	4.30	4.96
September	140	62	89.7	2.21	2.47
October	234	62	71.4	1.76	2.03
November	62	46	53.5	1.32	1.47
December	516	46	153.0	3.78	4.36
The year	1,500	46	143	3.53	47.97
1906					
January	1,650	109	331	8.17	9.42
February	214	115	142	3.51	3.66
March	452	115	203	5.01	5.78
April	418	125	181	4.47	4.99
May	339	77	118	2.91	3.36
June	1,660	105	358	8.84	9.86
July	386	125	205	5.06	5.83
August	556	105	209	5.16	5.95
September	1,270	168	391	9.65	10.77
October	1,430	190	402	9.93	11.45
November	982	136	243	6.00	6.69
December	664	125	181	4.47	5.15
The year	1,660	77	247	6.10	82.91
1907					
January	268	105	139	3.43	3.95
February	146	86	106	2.62	2.73
March	296	86	113	2.79	3.22
April	214	86	118	2.91	3.25
May	452	105	165	4.07	4.69
June	354	96	144	3.56	3.97
July	125	68	92.9	2.29	2.64
August	105	51	66.8	1.65	1.90
September	1,000	36	90.9	2.24	2.50
October	77	44	53.2	1.31	1.51
November	402	51	108.0	2.67	2.98
December	628	68	179.0	4.42	5.10
The year	1,000	36	115	2.83	38.44

MONTHLY DISCHARGE OF SOUTH FORK, MILLS RIVER NEAR SITTON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1908					
January	628	105	183.0	4.52	5.21
February	1,780	105	276.0	6.81	7.34
March	324	146	194.0	4.79	5.52
April	452	105	157	3.88	4.33
May	339	105	146	3.60	4.15
June	115	60	91.4	2.26	2.52
July	402	60	137.0	3.38	3.90
August	1,080	68	231	5.70	6.57
September	370	86	131	3.23	3.60
October	521	68	137	3.38	3.90
November	214	86	120	2.96	3.30
December	486	86	143	3.53	4.07
The year	1,780	60	162	4.00	54.41
1909					
January	268	96	129	3.19	3.68
February	418	86	184	4.54	4.73
March	452	125	189	4.67	5.38
April	268	115	144	3.56	3.97
May	664	115	217	3.97	6.18
June	1,160	146	292	7.21	8.04

NORTH FORK OF MILLS RIVER AT PINKBED, N. C.

LOCATION. At highway bridge in Pinkbed, Henderson County, three fourths of a mile below postoffice and 1 mile above junction of north and south forks of river.

DRAINAGE AREA. 24 square miles (measured on topographic map).

RECORDS AVAILABLE. April 21, 1904 to June 30, 1909, when station was discontinued.

GAGE. Vertical staff fastened to log crib on right bank at upstream side of bridge.

DISCHARGE MEASUREMENTS. Made from bridge.

CHANNEL AND CONTROL. One channel at all stages; straight for 200 feet above and below station. Banks are high and not subject to overflow. Bed composed of loose rock; not permanent.

EXTREMES OF DISCHARGE. Maximum stage recorded, 4.0 feet July 12, 1905 and January 22, 1906 (discharge, 1,150 second-feet); minimum stage, 0.45 foot September 29, 30, October 1-31, November 1, 2, 9-12, 24-30, December 1, 2, 19, and 23, 1904 (discharge, 16 second-feet).

ICE. Stage-discharge relation not affected by ice.

DIVERSIONS. Subsequent to period of record, city of Hendersonville has drawn its water supply from the upper end of this stream. A 12 inch cast-iron pipe is used.

REGULATION. None.

ACCURACY. Stage-discharge relation not permanent. Two rating curves used as follows: June 1, 1904 to October 31, 1906, well defined below 100 second-feet and fairly well defined between 100 and 400 second-feet; November 1, 1906 to June 30, 1909, fairly well defined below 250 second-feet. Gage read to half-tenths once daily. Daily discharge ascertained by applying gage height to rating table. Records for low and medium stages, good; others, fair.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF NORTH FORK, MILLS RIVER AT PINKBED, N. C.

Week	Year					
	1904	1905	1906	1907	1908	1909
1		35	151	85	69	78
2		111	82	65	100	68
3		47	76	62	72	82
4		45	408	55	63	66
5		29	127	55	65	61
6		39	88	58	63	74
7		54	74	52	291	90
8		82	73	51	105	137
9		73	82	59	92	105
10		76	74	55	80	98
11		68	80	54	68	108
12		64	107	47	75	106
13		52	126	46	79	130
14		45	98	65	67	90
15		64	98	55	67	105
16		55	104	58	66	83
17		50	76	64	113	78
18		62	66	94	74	86
19		66	61	78	86	159
20		65	47	65	75	100
21		67	66	66	63	146
22		71	62	72	58	111
23	40	50	71	67	56	229
24	31	77	457	54	54	126
25	38	91	154	54	44	116
26	29	82	97	52	37	111
27	21	78	78	45	68	
28	34	351	85	45	69	
29	26	142	128	40	42	
30	25	93	88	41	49	
31	32	74	77	42	57	
32	61	90	72	30	59	
33	40	96	74	31	46	
34	30	84	71	34	141	
35	33	72	144	26	94	
36	33	59	114	25	73	
37	26	51	95	28	55	
38	21	46	281	65	46	
39	19	45	238	40	48	
40	16	45	432	30	40	
41	16	50	187	28	48	
42	16	41	145	28	36	
43	16	38	115	28	58	
44	23	38	84	33	187	
45	22	36	70	28	66	
46	26	29	69	32	61	
47	19	32	158	64	54	
48	16	28	81	45	48	
49	25	82	71	37	75	
50	21	68	66	71	62	
51	22	78	66	97	74	
52	33	68	77	83	70	

MONTHLY DISCHARGE OF NORTH FORK OF MILLS RIVER AT PINKBED, N. C.
[Drainage area, 24 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1904					
June	55	24	35.9	1.50	1.67
July	55	20	26.5	1.10	1.27
August	112	24	40.6	1.69	1.95
September	55	16	24.8	1.03	1.15
October	16	16	16.0	.667	.77
November	65	16	21.9	.912	1.02
December	65	16	24.7	1.03	1.19
1905					
January	432	24	56.9	2.37	2.73
February	112	24	55.6	2.32	2.42
March	112	50	66.2	2.76	3.18
April	103	42	53.3	2.22	2.48
May	96	50	67.4	2.81	3.24
June	179	42	71.0	2.96	3.30
July	1,150	65	160	6.67	7.69
August	158	65	84.3	3.51	4.05
September	70	42	51.9	2.16	2.41
October	103	37	43.5	1.81	2.09
November	37	28	32.1	1.34	1.50
December	202	28	71.0	2.96	3.41
The year	1,150	24	67.8	2.82	38.50
1906					
January	1,150	55	175	7.29	8.40
February	129	65	83.2	3.47	3.61
March	202	60	94.6	3.94	4.54
April	202	70	94.8	3.95	4.41
May	158	37	59.7	2.49	2.87
June	1,000	55	185.0	7.71	8.60
July	158	70	93.2	3.88	4.47
August	202	65	85.7	3.57	4.12
September	700	82	178.0	7.42	8.28
October	700	----------	208.0	8.67	10.00
November	409	64	93.2	3.88	4.33
December	168	64	70.8	2.95	3.40
The year	1,150	37	118	4.93	67.03
1907					
January	113	54	65.4	2.72	3.14
February	64	50	53.8	2.24	2.33
March	74	45	52.0	2.17	2.50
April	113	50	60.5	2.52	2.81
May	148	54	74.6	3.11	3.58
June	113	45	60.2	2.51	2.80
July	54	36	43.7	1.82	2.10
August	45	24	32.0	1.33	1.53
September	301	24	38.3	1.60	1.78
October	36	28	28.5	1.19	1.37
November	106	28	42.1	1.75	1.95
December	371	36	70.3	2.93	3.38
The year	371	24	51.8	2.16	29.27

MONTHLY DISCHARGE OF NORTH FORK MILLS RIVER AT PINKBED, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1908					
January	301	54	74.5	3.10	3.57
February	775	59	133	5.54	5.98
March	92	64	77.2	3.22	3.71
April	286	54	78.2	3.26	3.64
May	130	54	72.6	3.02	3.48
June	64	36	48.5	2.02	2.25
July	130	36	58.0	2.42	2.79
August	301	40	80.3	3.35	3.86
September	113	45	56.3	2.35	2.62
October	626	36	78.5	3.27	3.77
November	106	45	62.5	2.60	2.90
December	168	45	68.4	2.85	3.29
The year	775	36	74.0	3.08	41.86
1909					
January	130	64	72.6	3.02	3.48
February	214	54	96.6	4.02	4.19
March	214	85	109	4.54	5.23
April	190	69	88.9	3.70	4.13
May	470	74	122	5.08	5.86
June	626	92	145	6.04	6.74

MUD CREEK AT NAPLES, N. C.

LOCATION. At wooden highway bridge half a mile east of Naples, Henderson County.

DRAINAGE AREA. 112 square miles (measured on topographic maps).

RECORDS AVAILABLE. May 10 to December 31, 1907, when station was discontinued.

GAGE. Vertical staff fastened to downstream side of bridge.

DISCHARGE MEASUREMENTS. Made from the bridge.

CHANNEL AND CONTROL. Both banks are high but will be overflowed at high stages. Bed composed of sand; shifts somewhat.

EXTREMES OF DISCHARGE. Maximum stage recorded, 8.5 feet December 14 (discharge, 1,410 second-feet); minimum stage, 1.1 feet September 17, October 15, 28, and December 6 (discharge, 30 second-feet).

ICE. No ice affect during period of record.

ACCURACY. Stage-discharge relation practically permanent. One rating curve used, fairly well defined above 60 second-feet; extension below may be poor. Gage read probably to tenths once a day. Daily discharge ascertained by applying gage height to rating table. Records fair.

COOPERATION. Station maintained in coöperation with United States Forest Service

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF MUD CREEK AT NAPLES, N. C.

Week	Year 1907	Week	Year 1907	Week	Year 1907
20	146	31	113	42	49
21	203	32	105	43	53
22	274	33	97	44	48
23	234	34	96	45	78
24	169	35	51	46	119
25	152	36	76	47	497
26	149	37	70	48	152
27	125	38	109	49	122
28	89	39	138	50	807
29	99	40	75	51	459
30	89	41	74	52	592

MONTHLY DISCHARGE OF MUD CREEK AT NAPLES, N. C.

[Drainage area, 112 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
May 10-31	490	120	184	1.64	1.34
June	550	120	197	1.76	1.96
July	172	82	103	.92	1.06
August	136	37	94.5	.844	.97
September	510	30	94.5	.844	.94
October	94	30	62.3	.556	.64
November	910	37	198	1.77	1.98
December	1,410	30	471	4.21	4.85

SWANNANOA RIVER AT SWANNANOA, N. C.

LOCATION. At iron highway bridge, one-fourth of a mile from the railroad station at Swannanoa, Buncombe County, 2 miles below North Fork and 2 miles above Beetree Creek.

DRAINAGE AREA. 60 square miles (measured on topographic map).

RECORDS AVAILABLE. May 28, 1907 to June 30, 1909, when station was discontinued.

GAGE. Vertical staff in two sections, lower section fastened to tree on right bank 50 feet above bridge and upper section fastened to pile foundation of store on right bank, 5 feet below bridge.

DISCHARGE MEASUREMENTS. Made from highway bridge.

CHANNEL AND CONTROL. Bed composed of sand and gravel. Banks high but may be overflowed at extremely high stages.

EXTREMES OF DISCHARGE. Maximum stage recorded, 7.8 feet February 15, 1908 (discharge beyond limits of rating curve); minimum stage, 1.1 feet August 30, September 1, 2, 20-22, October 22-24, and November 2-4, 1907 (discharge, 30 second-feet).

ICE. No ice affect during period of record.

ACCURACY. Stage-discharge relation assumed not permanent. Two rating curves used, as follows: May 28, 1907 to December 31, 1908, fairly well defined between 40 and 250 second-feet; January 1 to June 30, 1909, fairly well defined between 40 and 280 second-feet. High water portion of curves not developed. Gage probably read to tenths once a day. Daily discharge ascertained by applying gage height to rating table. Records good below 400 second-feet.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF SWANNANOA RIVER AT SWANNANOA, N. C.

Week	Year			Week	Year		
	1907	1908	1909		1907	1908	1909
1		128	174	27	118	142	
2		132	166	28	99	129	
3		142	159	29	151	67	
4		107	129	30	84	91	
5		88	115	31	109	110	
6		97	118	32	66	118	
7		325	149	33	61	86	
8		252		34	55	120	
9		153	216	35	35	226	
10		164		36	41	148	
11		181		37	42	97	
12		228		38	33	74	
13		181		39	63	64	
14		120	211	40	52	56	
15		101	198	41	39	206	
16		145	167	42	36	76	
17		188	135	43	35		
18		131	208	44	35	276	
19		140	192	45	44	148	
20		134	192	46	55	146	
21		129		47	105	107	
22	157	163	280	48	84	92	
23	166	107		49	55	133	
24	113	88		50	208	123	
25	125	72	246	51	128	141	
26	229	58	211	52	283	164	

SWANNANOA RIVER AT BILTMORE, N. C.

LOCATION. At Biltmore Avenue concrete bridge 600 feet upstream from Southern Railway bridge, 600 feet below the mouth of the Foster Mill Creek, 800 feet from Southern Railway station at Biltmore, Buncombe County, 1½ miles above junction of Swannanoa and French Broad rivers, and 2 miles south of center of Asheville.

DRAINAGE AREA. 128 square miles (measured on topographic maps).

RECORDS AVAILABLE. December 1, 1920 to December 31, 1923.

GAGE. Enameled vertical staff attached to downstream end of bridge pier nearest right bank; read by Mr. W. M. Brown.

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

CHANNEL AND CONTROL. Channel is straight for 300 feet above and below gage. Bed consists of sand, gravel and boulders; probably permanent. Bridge has vertical concrete abutments and two concrete piers. Low-water channel is confined between two piers. Both banks are high and have never been known to have been overflowed except during the great flood of July 1916. Control is a rock ledge extending entirely across river making a sharp riffle 200 feet below gage; permanent except that trash sometimes lodges on top of riffle causing slight disturbance of stage-discharge relation. Great floods on French Broad River, 1½ miles below, may cause backwater but there has been no backwater since this station was established.

EXTREMES OF DISCHARGE. 1920-1923: Maximum stage recorded, 8.2 feet at 6:00 p.m. May 29, 1923 (discharge, 6,240 second-feet); minimum stage, 1.00 foot at 4:30 p.m. November 11, 1922 (discharge, 20 second-feet).

ICE. Stage-discharge relation not affected by ice.

DIVERSIONS. The water supply for the city of Asheville is drawn from headwaters of Beetree Creek and North Fork, both tributaries of Swannanoa River. The amount diverted is said to be about 11 second-feet but has not been accurately measured. Practically the entire flow from 28 square miles is used during extreme low stages. Some of the water reënters the river above the gage.

REGULATION. During low water there will probably be diurnal fluctuation due to operation of a small hydro-electric plant 3 miles upstream.

ACCURACY. Stage-discharge relation practically permanent. Rating curve well defined below 1,300 second-feet; extended above that point. Gage read twice daily to hundredths. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF SWANNANOA RIVER AT BILTMORE, N. C.

Week	Year			
	1920	1921	1922	1923
1		156	106	412
2		238	131	134
3		252	319	99
4		192	289	147
5		238	151	302
6		632	249	374
7		374	464	202
8		368	209	132
9		214	293	131
10		169	280	217
11		147	428	602
12		224	259	399
13		197	448	209
14		177	412	175
15		149	275	252
16		509	285	228
17		282	216	177
18		241	285	289
19		246	228	271
20		255	299	303
21		368	279	348
22		179	225	947
23		236	220	303
24		198	138	209
25		155	216	141
26		146	87	135
27		104	88	118
28		113	111	157
29		195	217	215
30		182	132	91
31		105	78	104
32		107	76	116
33		161	91	82
34		107	68	83
35		74	60	67
36		74	62	104
37		115	51	96
38		65	46	130
39		59	59	88
40		63	53	63
41		60	138	57
42		60	73	64
43		69	65	77
44		159	59	68
45		106	53	91
46		103	58	70
47		141	56	77
48		173	50	105
49	183	156	79	156
50	422	103	166	129
51	217	147	264	139
52	244	108	117	124

MONTHLY DISCHARGE OF SWANNANOA RIVER AT BILTMORE, N. C.
[Drainage area, 128 square miles]

Month	Discharges in Second-feet		
	Maximum	Minimum	Mean
1920			
December	1,410	100	257
1921			
January	440	132	209
February	1,680	200	403
March	380	132	187
April	1,320	132	273
May	650	186	266
June	550	132	183
July	420	72	144
August	218	70	114
September	482	46	77.6
October	218	50	72.0
November	218	83	133
December	254	89	132
The year	1,680	46	183
1922			
January	1,240	83	205
February	1,160	135	272
March	760	168	353
April	760	178	299
May	528	148	266
June	550	72	178
July	344	72	132
August	116	54	74.7
September	92	43	54.8
October	272	43	80.1
November	62	26	56.2
December	650	59	150
The year	1,240	26	177
1923			
January	1,320	86	205
February	705	110	243
March	1,160	113	332
April	528	148	205
May	2,830	151	433
June	625	119	231
July	440	60	142
August	175	61	91.5
September	362	59	102
October	106	48	65.5
November	126	59	81.1
December	254	103	136
The year	2,830	48	189

IVY RIVER AT DEMOCRAT, N. C.

LOCATION. At steel wagon bridge at Democrat, Buncombe County, about 4 miles above West Fork and 18 miles west of Asheville, N. C.

DRAINAGE AREA. About 164 square miles.

RECORDS AVAILABLE. May 27, 1907 to December 31, 1907, when station was discontinued.

GAGE. Rod gage in two sections; lower section spiked to willow tree on right bank about 150 feet below bridge, upper section attached to sycamore tree about 25 feet to right of lower one; read by W. R. Maney.

DISCHARGE MEASUREMENTS. Made from the wagon bridge.

CHANNEL AND CONTROL. Bed rocky and rough. Current irregular. Control not known. Both banks are high and not subject to overflow.

EXTREMES OF DISCHARGE. Maximum stage recorded, 3.8 feet September 23, 1907 (discharge not determined); minimum stage recorded, 0.6 foot September 14, 20 and 21 (discharge not determined).

ICE. Stage-discharge relation not affected by ice.

REGULATION. Some regulation caused by operation of mill above.

ACCURACY. Stage-discharge relation shifts. Rating curve poorly defined. Gage read to tenths once daily. Records very poor.

DAILY DISCHARGE, IN SECOND-FEET, OF IVY RIVER AT DEMOCRAT, N. C., FOR 1907

Day	May	June	July	August	Sept.	Oct.	Nov.	Dec.
1				70	32	43	32	43
2				70	32	43	43	43
3			88	55	32	43	55	43
4			88	55	32	43	43	43
5			70	55	43	70	43	43
6		88	70	55	32	43	43	32
7		88	70	55	32	43	43	32
8			70	55	55	43	43	43
9			70	55	43	43	43	70
10			55	55	43	32	70	
11			55	43	55	32	70	
12				55	32	32	55	70
13				70	32	32	55	70
14			88	55		32	55	
15			70	55	32	32	43	
16		88	88	43	55	32	43	
17		88	88	43	32	32	43	70
18		70		88	32	32	70	70
19		70		70	32	43	55	70
20				70		32	55	70
21		88	88	55		32	88	70
22		70	70	43	43	32	70	70
23		88	70	43		43	88	
24			88	55	88	43		
25			88	43	70	43	70	
26			70	43	43	32	70	88
27	70		70	32	43	43	70	88
28	70		70	32	43	55	70	88
29	55		70	43	70	55	55	88
30	55			43	43	43	55	
31	70		88	55		43		

PIGEON RIVER AT CANTON, N. C.

LOCATION. At highway bridge 1,000 feet above Southern Railway bridge at Canton, Haywood County.

DRAINAGE AREA. 134 square miles (measured on topographic maps).

RECORDS AVAILABLE. May 25, 1907 to June 30, 1909, when station was discontinued.

GAGE. Vertical staff on left bank 50 feet above bridge.

DISCHARGE MEASUREMENTS. Made from highway bridge.

CHANNEL AND CONTROL. Bed composed of sand. Conditions of control not known, though a low dam one-fourth of a mile below may have had some effect.

EXTREMES OF DISCHARGE. Maximum stage recorded, 7.7 feet February 15, 1908 (discharge, 3,650 second-feet); minimum stage, 2.5 feet August 26-31, September 1-7, 10-20, October 13-27, 1907 (discharge, 105 second-feet).

ACCURACY. Stage-discharge relation permanent. Rating curve used, fairly well defined below 700 second-feet, and extended above. Gage read probably to half-tenths once daily. Daily discharge ascertained by applying gage height to rating table. Records good between 200 and 700 second-feet, fair below and probably fair above.

COOPERATION. Station established in coöperation with United States Forest Service.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF PIGEON RIVER AT CANTON, N. C.

Week	Year			Week	Year		
	1907	1908	1909		1907	1908	1909
1		419	524	27	203	346	
2		569	394	28	192	307	
3		374	483	29	213	220	
4		278	343	30	155	218	
5		300	290	31	132	201	
6		293	552	32	130	246	
7		1,097	777	33	132	214	
8		412	887	34	128	585	
9		344	593	35	105	391	
10		377	1,150	36	113	362	
11		375	920	37	105	249	
12		547	675	38	401	196	
13		409	771	39	211	175	
14		295	479	40	159	163	
15		253	416	41	121	313	
16		352	409	42	105	229	
17		568	365	43	111	594	
18		370	569	44	139	629	
19		401	379	45	154	374	
20		308	497	46	130	335	
21		261	987	47	337	295	
22	289	235	623	48	221	265	
23	275	268	1,373	49	165	459	
24	229	265	546	50	335	409	
25	220	252	388	51	377	373	
26	224	205	366	52	439	387	

MONTHLY DISCHARGE OF PIGEON RIVER AT CANTON, N. C.
[Drainage area, 134 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
June	417	205	248	1.85	20.6
July	300	150	189	1.41	1.63
August	162	105	125	.933	1.08
September	2,100	105	201	1.50	1.67
October	175	105	125	.933	1.08
November	570	125	203	1.51	1.68
December	1,100	150	324	2.42	2.79
1908					
January	960	265	398	2.97	3.42
February	3,650	265	526	3.93	4.24
March	730	337	419	3.13	3.61
April	1,380	235	367	2.74	3.06
May	482	235	320	2.39	2.76
June	337	205	248	1.85	2.06
July	482	175	267	1.99	2.29
August	1,170	175	337	2.51	2.89
September	504	175	249	1.86	2.08
October	1,240	125	366	2.73	3.15
November	592	265	350	2.61	2.91
December	1,100	265	397	2.96	3.41
The year	3,650	125	354	2.65	35.88
1909					
January	780	300	423	3.16	3.64
February	1,240	265	665	4.96	5.16
March	2,010	460	884	6.30	7.26
April	614	337	423	3.16	3.53
May	1,850	337	602	4.49	5.18
June	3,320	337	690	5.15	5.75

PIGEON RIVER NEAR CRABTREE, N. C.

LOCATION. At steel highway bridge on road from Waynesville to Crabtree, 2 miles south of Crabtree, Haywood County and 5 miles northwest of Clyde. Crabtree Creek enters 1½ miles below.

DRAINAGE AREA. 244 square miles (measured on topographic maps).

RECORDS AVAILABLE. December 16, 1920 to December 31, 1923.

GAGE. Chain gage attached to upstream handrail of bridge; read by Miss Mary Kinsland.

DISCHARGE MEASUREMENTS. Made from downstream side of bridge at gage.

CHANNEL AND CONTROL. Channel straight for 200 feet above and 100 feet below gage. Bed composed of rock, gravel and sand; probably permanent. Right bank high; is seldom overflowed. Left bank high and not subject to overflow. Control is rock riffle 100 feet below gage; permanent except that at times debris may lodge on top of riffle.

EXTREMES OF DISCHARGE. Maximum stage recorded, 6.8 feet at 5 p.m January 21, 1922 (discharge, 6,250 second-feet); minimum stage, 1.1 feet at 8 a.m. November 21, 1922 (discharge, 14 second-feet), during filling of Lake Junaluska after flushing it.

ICE. Stage-discharge relation not affected by ice.

REGULATION. A small mill at Clyde and others on tributaries cause slight diurnal fluctuation during low water, but as none of the plants have large storage the effect on the records is slight.

ACCURACY. Stage-discharge relation permanent except when changed by debris lodging on control Rating curves, well defined below 3,000 second-feet. Gage read to hundredths once daily prior to April 10, 1921, and thereafter twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF PIGEON RIVER NEAR CRABTREE, N. C.

Week	Year			
	1920	1921	1922	1923
1		539	357	752
2		685	453	426
3		788	1,273	379
4		534	1,028	582
5		521	591	736
6		1,056	719	921
7		854	979	925
8		1,024	750	499
9		596	1,220	518
10		497	1,278	580
11		426	1,253	1,179
12		477	935	899
13		468	1,596	581
14		388	1,091	591
15		359	804	769
16		764	833	628
17		658	682	530
18		516	769	659
19		551	646	614
20		516	685	789
21		1,201	729	747
22		559	648	1,379
23		480	595	788
24		482	447	701
25		467	442	594
26		499	447	601
27		347	370	510
28		417	457	483
29		731	583	475
30		457	419	328
31		491	402	448
32		350	302	362
33		376	271	325
34		403	233	278
35		301	198	230
36		289	183	242
37		231	187	208
38		206	194	273
39		275	222	181
40		218	141	162
41		169	180	167
42		155	121	185
43		133	135	168
44		225	149	215
45		208	139	234
46		321	152	139
47		399	121	156
48		429	153	222
49		439	175	378
50		310	322	274
51	738	500	970	355
52	861	460	399	318

MONTHLY DISCHARGE OF PIGEON RIVER AT CRABTREE, N. C.
[Drainage area, 244 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
December 16-31	1,720	525	811	3.32	1.97
1921					
January	1,300	430	631	2.59	2.99
February	2,360	400	870	3.57	3.72
March	625	340	467	1.91	2.20
April	1,400	312	551	2.26	2.52
May	2,800	460	691	2.83	3.26
June	880	370	485	1.99	2.22
July	1,300	302	485	1.99	2.29
August	960	252	383	1.57	1.81
September	400	166	255	1.05	1.17
October	310	64	176	.721	.83
November	635	170	310	1.27	1.42
December	932	280	435	1.78	2.05
The year	2,800	64	478	1.96	26.48
1922					
January	5,350	280	758	3.11	3.58
February	1,610	530	766	3.14	3.27
March	3,550	635	1,320	5.41	6.24
April	1,840	600	855	3.50	3.90
May	1,050	498	691	2.83	3.26
June	932	340	513	2.10	2 34
July	1,010	310	469	1.92	2.21
August	472	160	262	1.07	1.23
September	282	95	197	.807	.95
October	292	44	143	.586	.68
November	190	54	134	.549	.61
December	3,650	25	463	1.90	2.19
The year	5,350	25	548	2.24	30.46
1923					
January	2,040	322	553	2.27	2.62
February	1,810	403	759	3.11	3.24
March	1,920	448	773	3.17	3.66
April	1,300	448	624	2.56	2.86
May	2,160	448	826	3.39	3.91
June	1,300	448	715	2.93	3.27
July	695	285	451	1.85	2.13
August	658	214	327	1.34	1.54
September	397	156	224	.918	1.02
October	241	140	169	.693	.80
November	585	103	191	.783	.87
December	775	187	327	1.34	1.54
The year	2,160	103	495	2.03	27.46

PIGEON RIVER AT NEWPORT, TENN.

LOCATION. At county highway bridge, 1 mile above railway station at Newport, Cocke County, 300 feet above Southern Railway bridge, and 6 miles above mouth of river.

DRAINAGE AREA. 655 square miles (measured on topographic maps).

RECORDS AVAILABLE. September 4, 1900 to December 31, 1923. During 1900-1902, records were fragmentary owing to disturbance of gage. No gage-height record January 1 to November 30, 1906, and for short periods at other times.

GAGE. Wire gage was used from September 4, 1900 to April 30, 1903, on which date it was replaced by standard chain gage, which has remained in use since. Datum of gage has remained unchanged.

DISCHARGE MEASUREMENTS. Made from highway bridge or from railway bridge 300 feet below. In 1903-04, some discharge measurements were made from Deep Ford bridge, 3 miles below gaging station.

CHANNEL AND CONTROL. Bed of stream composed of solid rock overlain with shifting sand near right bank. Well defined control formed by rock ledge extending across river in front of sandbar island below Southern railway bridge and 500 feet below gage; probably permanent. Left bank is high rock cliff, right bank is overflowed above stage of 10 feet.

EXTREMES OF DISCHARGE. Maximum stage recorded, 17.0 feet at 5 a.m. April 2, 1920 (discharge more than 31,000 second-feet); minimum stage, 0.4 foot October 3, 1919 (discharge, 102 second-feet).

ICE. Stage-discharge relation seldom affected by ice.

REGULATION. Operation of industrial plants at Hartford, Tenn., 18 miles upstream may have caused slight regulation of flow, but effect at gaging station is considered negligible.

ACCURACY. Stage-discharge relation not permanent. Six rating curves used, as follows: September 5, 1900 to October 12, 1901, and March 3, 1903 to December 31, 1909, well defined between 250 and 9,000 second-feet; January 1, 1910 to September 30, 1918, fairly well defined below 10,000 second-feet. October 1, 1918 to February 10, 1921, fairly well defined between 300 and 5,000 second-feet; December 14, 1902 to February 6, 1903, and February 11, to September 30, 1921, fairly well defined between 500 and 6,000 second-feet; October 1, 1921 to September 30, 1922, and October 1, 1922 to December 31, 1923, well defined between 300 and 5,000 second-feet. Gage read to tenths and to half-tenths, probably once daily. Daily discharge ascertained by applying gage height to rating table. Records good for discharge between 300 and 5,000 second-feet, others fair.

COOPERATION. Gage height record furnished by United States Weather Bureau from December 1, 1906 to December 31, 1923.

NOTE. Breaks in the record since 1902 have been filled in by estimates derived from comparative mean daily discharge hydrographs using records of French Broad River at Asheville and of Little Tennessee River at Judson.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET

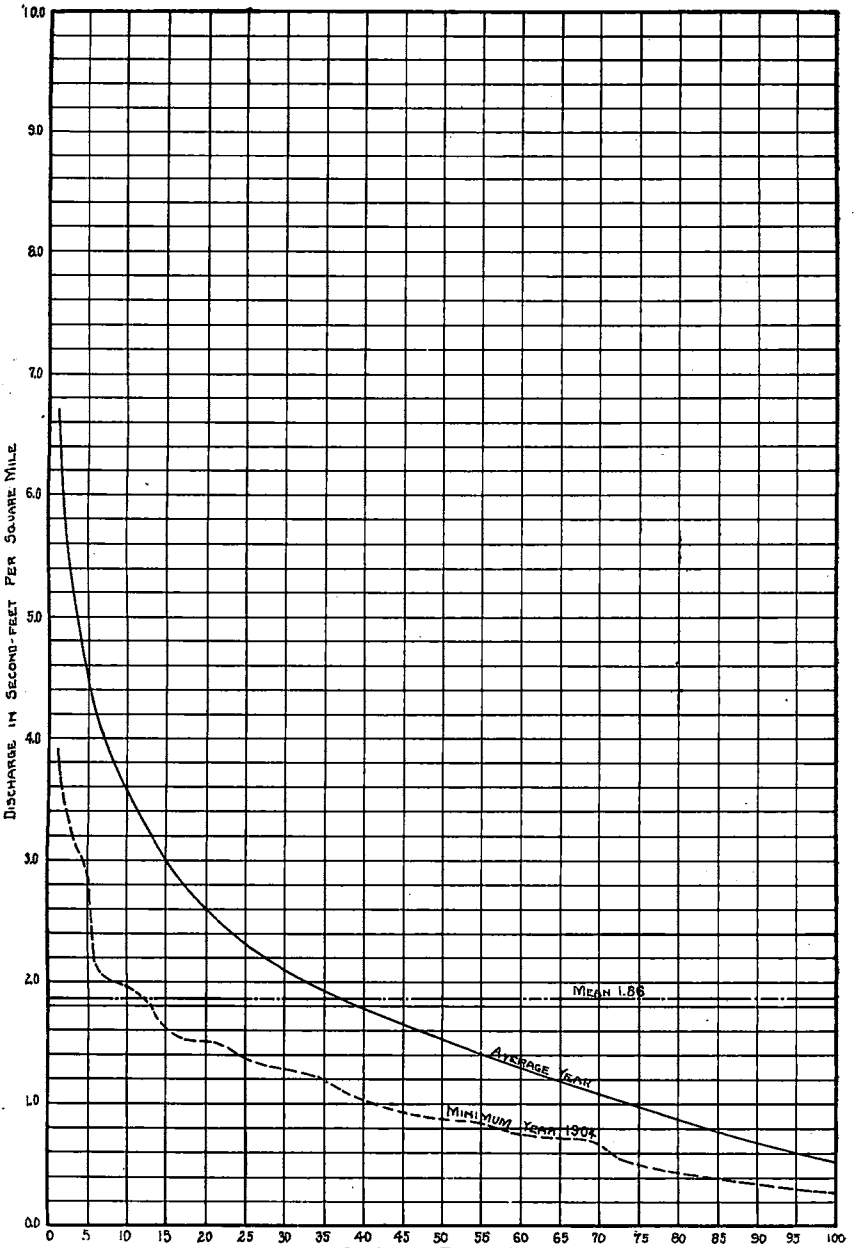
Week	Year									
	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911
1		2,110	341	762	1,943	1,677	2,513	1,654	1,456	2,537
2		2,116	419	2,132	1,414	1,136	3,380	1,427	1,167	911
3		2,104	467	1,133	1,286	907	1,717	2,077	930	676
4		2,130	1,312	475	4,671	751	1,427	1,237	1,064	653
5		2,887	468	522	1,729	879	1,556	912	874	820
6		2,750	890	1,991	1,371	1,268	1,324	2,746	849	1,967
7		2,786	609	1,541	1,143	801	3,831	3,094	1,493	1,316
8		2,249	983	3,180	1,101	746	1,824	3,270	1,646	1,029
9		4,510	1,213	1,240	1,019	1,131	1,609	2,330	1,959	807
10		3,149	2,559	1,517	1,279	1,406	1,637	3,749	1,366	1,789
11		2,370	1,263	1,249	1,471	1,641	2,096	3,159	1,014	1,119
12		5,331	2,056	1,198	1,936	999	3,571	2,901	806	924
13		4,286	1,874	879	1,579	961	2,290	4,209	676	1,333
14		5,999	1,003	927	1,457	952	1,357	1,933	590	3,814
15		5,651	1,077	1,556	1,579	1,029	980	1,717	601	2,557
16		3,336	876	982	1,657	1,215	1,236	1,289	1,080	2,204
17		2,496	992	815	1,193	1,409	1,872	1,273	790	1,406
18		1,531	1,005	982	1,214	1,576	1,359	3,039	687	1,301
19		1,139	1,309	1,132	956	2,043	1,307	1,724	1,320	937
20		920	858	1,949	846	1,192	1,251	1,323	1,089	733
21		950	620	1,530	897	920	1,124	3,099	1,380	723
22		1,308	824	1,157	1,100	968	1,026	1,760	1,103	551
23		3,130	749	711	1,094	1,476	897	4,193	1,473	575
24		1,517	531	687	1,907	1,116	956	1,994	1,457	452
25		1,119	574	983	1,514	779	767	1,536	1,024	411
26		935	675	1,002	1,271	1,415	662	1,697	1,044	421
27		789	563	670	1,136	905	1,270	2,284	1,326	457
28		739	835	3,124	1,264	783	1,045	2,583	1,377	711
29		861	471	1,171	2,643	901	700	1,207	1,330	529
30		541	548	909	1,700	583	639	1,205	889	641
31		693	493	695	1,379	676	629	1,628	1,054	487
32		586	706	1,188	1,097	562	1,054	1,263	781	506
33		1,110	572	1,501	1,471	566	645	2,264	571	471
34		504	550	1,012	1,486	646	2,095	1,046	804	291
35		374	492	725	2,829	376	1,079	841	1,213	763
36		330	470	547	1,771	637	855	658	1,251	602
37		289	319	435	1,350	407	491	706	687	465
38		399	251	437	2,971	680	341	718	541	378
39		252	229	350	2,943	949	430	1,068	650	686
40		226	209	359	4,757	630	334	658	647	436
41		350	196	390	2,357	476	829	769	604	624
42		300	181	388	1,857	371	334	1,212	444	1,183
43		251	184	400	1,579	340	1,037	636	388	544
44		268	202	350	1,207	484	1,853	581	435	388
45		296	273	349	997	668	789	560	435	516
46		499	255	296	1,063	685	869	500	373	734
47		404	284	364	3,229	1,736	622	473	330	810
48		331	323	311	1,248	1,000	749	425	541	734
49		289	661	1,855	1,027	584	2,357	588	1,292	561
50		334	350	997	982	1,267	1,764	1,142	608	488
51	1,816	553	243	1,025	1,427	1,001	1,275	794	646	1,199
52	2,140	420	805	996	2,032	1,586	1,911	763	881	1,683

OF PIGEON RIVER AT NEWPORT, TENN.

Year												Week
1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	
1,499	804	623	1,641	2,589	1,504	840	3,536	468	1,084	786	1,549	1
900	880	496	2,064	2,069	1,161	2,746	1,271	522	1,768	928	1,089	2
666	846	435	2,473	1,269	1,790	1,899	1,133	1,038	2,261	2,564	971	3
560	2,281	380	2,143	1,373	1,943	2,931	2,741	2,633	1,247	3,361	1,849	4
1,451	1,551	565	3,179	2,469	1,984	4,881	1,112	2,134	2,507	1,519	3,473	5
829	1,100	1,273	2,453	1,896	2,384	1,636	951	1,931	3,541	1,999	3,226	6
843	1,506	723	1,157	1,401	1,543	1,977	1,010	1,319	2,350	3,490	2,806	7
1,690	967	1,067	969	1,086	3,087	1,546	1,997	1,399	2,654	1,721	1,296	8
2,574	2,484	807	994	2,020	5,377	1,160	1,764	1,164	1,133	2,416	1,198	9
1,719	1,201	733	1,017	1,786	5,940	1,054	3,039	1,279	886	2,826	2,991	10
2,860	5,101	1,663	907	1,424	3,936	951	1,386	4,293	1,015	3,011	4,394	11
2,163	2,094	856	843	956	3,679	1,360	810	2,951	1,260	2,039	3,154	12
4,346	6,594	1,346	924	910	4,211	1,227	1,195	3,199	1,269	2,759	1,460	13
3,384	1,773	937	923	1,383	3,063	1,009	759	8,833	1,101	2,483	1,289	14
1,423	1,859	1,117	1,044	1,407	2,380	1,653	1,044	2,306	834	1,833	1,694	15
1,369	1,944	2,066	767	951	1,726	1,510	1,513	2,021	3,049	1,869	1,487	16
2,056	1,206	943	883	856	1,439	1,037	1,029	1,604	1,634	1,814	1,411	17
2,679	1,100	871	951	699	1,659	1,146	1,653	1,370	1,613	2,471	1,761	18
1,977	770	873	1,760	560	1,404	1,187	984	1,234	1,439	2,671	1,601	19
1,163	866	561	1,086	677	1,114	1,251	908	928	1,283	1,876	1,730	20
846	3,170	452	923	1,579	909	1,444	1,028	751	2,059	1,546	2,166	21
1,021	2,063	444	1,526	1,707	909	1,301	1,014	636	1,457	1,440	2,497	22
869	2,023	654	1,076	1,134	1,073	1,546	532	1,091	1,016	1,777	1,507	23
807	971	420	1,081	2,296	1,109	999	552	565	1,065	1,580	1,604	24
699	843	1,031	937	1,244	954	2,769	653	1,215	1,182	1,525	1,069	25
1,534	713	342	943	810	897	1,641	1,692	618	1,129	799	1,444	26
1,806	966	260	1,263	924	817	924	575	595	648	1,806	1,099	27
1,721	586	444	1,117	4,200	751	784	828	656	1,023	1,575	1,114	28
911	459	471	1,011	3,599	2,111	561	1,486	876	2,384	1,999	1,206	29
934	587	586	580	1,987	1,301	1,379	958	739	1,490	1,614	641	30
1,199	636	558	523	1,186	1,343	1,520	507	583	1,397	809	705	31
643	800	336	636	2,057	884	1,081	804	1,286	1,069	906	1,121	32
594	606	903	856	1,231	889	1,017	1,003	2,394	1,834	739	901	33
543	550	374	914	773	764	774	449	1,479	1,251	472	640	34
404	543	567	576	613	1,464	654	318	1,373	1,221	499	524	35
359	483	299	842	429	1,147	821	228	836	1,136	454	473	36
345	387	305	576	404	750	593	259	1,215	738	457	439	37
399	671	285	464	366	506	761	190	744	453	324	439	38
799	334	299	412	344	1,050	721	566	556	434	435	490	39
453	353	328	1,510	359	479	461	254	662	811	330	330	40
359	292	281	606	419	461	402	602	489	688	409	330	41
612	299	2,245	771	637	876	410	552	394	436	366	319	42
436	691	424	613	565	810	1,653	914	363	403	313	313	43
311	353	285	404	411	874	4,407	376	471	636	290	359	44
594	430	334	344	337	699	1,029	337	445	564	290	416	45
396	495	661	670	411	580	894	452	791	999	301	337	46
311	412	545	871	380	590	1,059	299	1,055	1,154	296	404	47
311	359	2,043	504	510	736	876	390	736	1,141	333	401	48
796	452	2,671	624	666	614	663	509	952	1,365	755	989	49
479	486	1,213	713	896	560	1,356	2,349	3,364	627	1,380	801	50
396	444	744	4,410	733	574	3,984	734	1,674	1,346	2,297	671	51
549	628	3,078	3,431	1,235	630	2,519	514	1,618	868	926	805	52

MONTHLY DISCHARGE OF PIGEON RIVER AT NEWPORT, TENN.
(Drainage area, 655 square miles)

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1903					
January	2,210	2,070	2,120	3.24	3.74
February	13,000	1,500	3,070	4.69	4.88
March	16,400	1,710	3,740	5.71	6.58
April	17,400	1,710	4,270	6.52	7.27
May	1,710	890	1,120	1.71	1.97
June	6,950	890	1,680	2.56	2.86
July	1,100	490	737	1.13	1.30
August	1,990	365	668	1.02	1.18
September	675	220	321	.49	.55
October	758	220	279	.426	.49
November	995	260	376	.574	.64
December	758	205	391	.597	.69
The year	17,400	05	1,560	2.38	32.15
1904					
January	2,880	160	624	.953	1.10
February	2,140	395	853	1.30	1.40
March	8,470	800	1,840	2.81	3.24
April	1,850	715	1,000	1.53	1.71
May	2,140	490	915	1.40	1.61
June	1,050	458	654	.998	1.11
July	1,520	365	596	.910	1.05
August	890	395	579	.884	1.02
September	560	220	329	.502	.56
October	220	175	192	.293	.34
November	490	190	266	.406	.45
December	2,580	190	516	.788	.91
The year	8,470	160	697	1.06	14.50
1905					
January	6,000	260	1,070	1.63	1.88
February	6,000	425	1,910	2.92	3.04
March	3,190	800	1,210	1.85	2.13
April	1,990	715	1,070	1.63	1.82
May	4,020	800	1,390	2.12	2.44
June	1,780	560	863	1.32	1.47
July	10,900	560	1,410	2.15	2.48
August	2,880	525	1,060	1.62	1.87
September	675	310	457	.698	.78
October	490	310	384	.586	.68
November	425	260	330	.504	.56
December	4,380	310	1,150	1.76	2.03
The year	10,900	260	1,020	1.56	21.18



WEEKLY DURATION CURVES
FOR
PIGEON RIVER AT NEWPORT, TENN
1903-1923

MONTHLY DISCHARGE OF PIGEON RIVER AT NEWPORT, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1906					
January	11,000	700	2,290	3.50	4.04
February	1,700	940	1,230	1.88	1.96
March	2,600	940	1,490	2.27	2.62
April	2,300	1,100	1,480	2.26	2.52
May	1,700	680	990	1.51	1.74
June	2,700	980	1,420	2.17	2.42
July	3,500	1,050	1,650	2.52	2.90
August	3,700	900	1,630	2.49	2.87
September	5,400	1,100	2,260	3.45	3.85
October	5,600	1,250	2,510	3.83	4.42
November	6,400	840	1,610	2.46	2.74
December	3,520	890	1,360	2.08	2.40
The year	11,000	700	1,660	2.53	34.48
1907					
January	2,580	715	1,080	1.65	1.90
February	1,990	560	950	1.45	1.51
March	2,280	715	1,250	1.91	2.20
April	1,710	800	1,160	1.77	1.98
May	2,880	715	1,360	2.08	2.40
June	3,680	715	1,210	1.85	2.06
July	1,220	490	801	1.22	1.41
August	995	310	566	.864	1.00
September	3,000	260	644	.983	1.10
October	740	310	443	.676	.78
November	4,020	350	983	1.50	1.67
December	3,350	490	1,100	1.68	1.94
The year	4,020	260	962	1.47	19.95
1908					
January	9,800	1,100	2,160	3.30	3.80
February	9,610	1,100	2,140	3.27	3.53
March	7,330	1,220	2,300	3.51	4.05
April	4,200	890	1,420	2.17	2.42
May	1,850	890	1,250	1.91	2.20
June	1,460	560	827	1.26	1.41
July	2,580	490	889	1.36	1.57
August	3,040	490	1,150	1.76	2.03
September	1,990	310	545	.832	.93
October	2,880	310	817	1.25	1.44
November	1,710	425	814	1.24	1.38
December	6,570	715	1,780	2.72	3.14
The year	9,800	310	1,340	2.05	27.90

MONTHLY DISCHARGE OF PIGEON RIVER AT NEWPORT, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1909					
January	3,520	890	1,540	2.35	2.71
February	8,090	715	2,690	4.11	4.28
March	9,040	1,850	3,340	5.10	5.88
April	2,880	1,100	1,570	2.40	2.68
May	7,900	1,220	2,260	3.45	3.98
June	11,300	1,340	2,330	3.56	3.97
July	5,640	995	1,770	2.70	3.11
August	4,380	800	1,470	2.24	2.58
September	2,140	635	788	1.20	1.34
October	2,580	560	798	1.22	1.41
November	560	425	503	.768	.86
December	2,730	425	794	1.21	1.40
The year	11,300	425	1,650	2.53	34.20
1910					
January	5,990	560	1,130	1.73	1.99
February	6,180	560	1,230	1.88	1.96
March	3,960	630	1,200	1.83	2.11
April	2,070	560	762	1.16	1.29
May	2,650	630	1,140	1.74	2.01
June	2,960	790	1,230	1.88	2.10
July	2,210	790	1,210	1.85	2.13
August	1,930	330	774	1.18	1.36
September	3,120	495	894	1.36	1.52
October	880	380	512	.782	.90
November	790	330	414	.632	.71
December	4,320	330	837	1.28	1.48
The year	6,180	330	944	1.44	19.56
1911					
January	4,500	630	1,160	1.77	2.04
February	3,960	710	1,280	1.95	2.03
March	3,960	630	1,240	1.89	2.18
April	8,460	880	2,420	3.70	4.13
May	1,670	560	853	1.30	1.50
June	790	380	471	.719	.80
July	1,800	380	568	.867	1.00
August	2,350	285	492	.751	.87
September	980	330	551	.841	.94
October	3,960	380	668	1.02	1.18
November	980	380	655	1.00	1.12
December	2,800	380	988	1.51	1.74
The year	8,460	285	945	1.44	19.53

MONTHLY DISCHARGE OF PIGEON RIVER AT NEWPORT, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1912					
January	4,500	560	1,030	1.57	1.81
February	5,420	790	1,340	2.05	2.21
March	13,400	1,420	2,620	4.00	4.61
April	7,700	1,190	2,180	3.33	3.72
May	3,120	710	1,490	2.27	2.62
June	2,070	630	955	1.46	1.63
July	2,500	630	1,310	2.00	2.31
August	2,800	380	691	1.05	1.21
September	1,540	285	469	.716	.80
October	880	330	454	.693	.80
November	1,420	285	392	.598	.67
December	1,420	330	540	.824	.95
The year	13,400	285	1,120	1.71	23.34
1913					
January	5,420	710	1,290	1.97	2.27
February	6,560	880	1,360	2.08	2.17
March	21,400	980	3,580	5.47	6.31
April	3,120	1,080	1,710	2.61	2.91
May	10,200	630	1,620	2.47	2.85
June	3,620	630	1,190	1.82	2.03
July	1,300	430	647	.988	1.14
August	1,150	430	641	.979	1.13
September	900	310	467	.713	.80
October	1,540	285	400	.611	.70
November	560	330	419	.640	.71
December	790	380	500	.763	.88
The year	21,400	285	1,150	1.76	23.90
1914					
January	710	380	474	.724	0.83
February	2,960	435	961	1.47	1.53
March	3,120	630	1,090	1.66	1.91
April	3,790	710	1,270	1.94	2.16
May	1,080	435	651	.994	1.15
June	2,210	285	603	.921	1.03
July	1,190	242	461	.704	.81
August	1,930	242	534	.815	.94
September	495	242	308	.470	.52
October	9,410	202	767	1.17	1.35
November	7,510	285	692	1.06	1.18
December	9,030	710	2,020	3.08	3.55
The year	9,410	202	819	1.25	16.96

MONTHLY DISCHARGE OF PIGEON RIVER AT NEWPORT, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1915					
January	4,860	790	2,070	3.16	3.64
February	7,320	790	1,860	2.84	2.96
March	1,540	790	907	1.38	1.59
April	1,930	710	909	1.39	1.55
May	3,790	790	1,180	1.80	2.08
June	2,210	790	1,090	1.66	1.85
July	2,210	560	987	1.51	1.74
August	1,670	495	725	1.11	1.28
September	1,930	380	566	.864	.96
October	4,320	435	832	1.27	1.46
November	1,800	330	575	.878	.98
December	18,000	495	2,220	3.39	3.91
The year	18,000	330	1,160	1.77	24.00
1916					
January	3,790	980	1,760	2.69	3.10
February	5,990	790	1,810	2.76	2.98
March	2,210	790	1,380	2.11	2.43
April	1,930	790	1,130	1.73	1.93
May	4,860	560	996	1.52	1.75
June	3,790	710	1,420	2.17	2.42
July	8,460	560	2,500	3.82	4.40
August	3,620	560	1,230	1.88	2.17
September	630	330	400	.611	.68
October	1,420	330	489	.747	.86
November	710	330	390	.595	.66
December	3,280	630	880	1.34	1.54
The year	8,460	330	1,200	1.83	24.92
1917					
January	3,280	880	1,590	2.43	2.80
February	7,320	880	2,200	3.36	3.50
March	16,800	2,350	5,040	7.69	8.87
April	4,320	1,300	2,170	3.31	3.69
May	1,930	880	1,200	1.83	2.11
June	2,070	790	1,000	1.53	1.71
July	3,620	630	1,220	1.86	2.14
August	2,500	560	907	1.38	1.59
September	3,960	435	1,050	1.60	1.78
October	2,350	435	674	1.03	1.19
November	980	560	673	1.03	1.15
December	----------	----------	611	.933	1.08
The year	16,800	435	1,530	2.33	31.61

MONTHLY DISCHARGE OF PIGEON RIVER AT NEWPORT, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1918					
January	11,100		2,700	4.12	4.75
February	4,140	1,080	1,750	2.67	2.78
March	2,500	880	1,160	1.77	2.04
April	2,500	980	1,280	1.95	2.18
May	1,930	880	1,300	1.98	2.28
June	7,130	710	1,680	2.56	2.86
July	2,500	495	.999	1.53	1.76
August	2,500	560	963	1.47	1.70
September	1,540	495	720	1.10	1.23
October	12,600	348	1,390	2.12	2.44
November	3,880	695	1,130	1.73	1.93
December	12,200	620	2,060	3.14	3.62
The year	12,600	348	1,430	2.18	29.57
1919					
January	10,300	695	2,090	3.19	3.68
February	3,370	695	1,390	2.12	2.21
March	5,020	695	1,580	2.41	2.78
April	2,760	620	1,130	1.72	1.92
May	2,200	780	1,110	1.69	1.95
June	2,480	445	843	1.29	1.44
July	2,760	445	927	1.42	1.64
August	1,680	265	643	.982	1.13
September	1,200	130	313	.478	.53
October	2,070	102	563	.860	.99
November	555	265	366	.559	.62
December	4,620	395	969	1.48	1.71
The year	10,300	102	994	1.52	20.60
1920					
January	3,880	445	1,230	1.88	2.17
February	6,000	875	1,650	2.52	2.72
March	8,960	780	2,650	4.05	4.67
April	31,000	1,200	3,600	5.50	6.14
May	2,200	620	1,020	1.56	1.80
June	2,200	445	853	1.30	1.45
July	1,200	498	701	1.07	1.23
August	3,370	555	1,510	2.30	2.65
September	1,810	498	841	1.28	1.43
October	845	355	475	.725	.84
November	1,740	410	716	1.09	1.22
December	12,600	605	1,820	2.78	3.20
The year	31,000	355	1,420	2.17	29.52

MONTHLY DISCHARGE OF PIGEON RIVER AT NEWPORT, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1921					
January	4,040	935	1,700	2.60	3.00
February	7,810	1,040	2,600	3.97	4.13
March	2,000	760	1,070	1.63	1.88
April	6,550	760	1,660	2.53	2.82
May	4,200	1,140	1,620	2.47	2.85
June	1,870	760	1,100	1.68	1.87
July	7,990	535	1,350	2.06	2.38
August	2,970	935	1,380	2.11	2.43
September	1,480	355	717	1.09	1.22
October	1,250	300	560	.855	.99
November	2,260	410	958	1.46	1.63
December	2,260	535	1,030	1.57	1.81
The year	7,990	300	1,310	2.00	27.01
1922					
January	7,990	680	1,870	2.85	3.29
February	8,170	1,140	2,170	3.31	3.45
March	6,910	1,480	2,700	4.12	4.75
April	3,720	1,250	2,050	3.13	3.49
May	3,880	1,140	2,040	3.11	3.58
June	2,260	680	1,460	2.23	2.49
July	3,570	845	1,660	2.53	2.92
August	2,130	410	689	1.05	1.21
September	605	300	421	.643	.72
October	430	290	348	.531	.61
November	330	290	298	.455	.51
December	6,550	330	1,260	1.92	2.21
The year	8,170	290	1,410	2.16	29.23
1923					
January	4,360	845	1,540	2.35	2.71
February	5,360	1,040	2,500	3.82	3.98
March	8,350	935	2,810	4.29	4.95
April	4,200	1,040	1,490	2.27	2.53
May	4,040	1,140	1,930	2.95	3.40
June	2,400	1,040	1,480	2.26	2.52
July	2,000	550	998	1.52	1.75
August	1,610	550	805	1.23	1.42
September	550	430	460	0.702	0.78
October	330	290	324	0.495	0.57
November	550	330	389	0.594	0.66
December	1,740	380	788	1.20	1.38
The year	8,350	290	1,290	1.97	26.65

LITTLE PIGEON RIVER AT SEVIERVILLE, TENN.

LOCATION. At H. O. Eckel farm house, half a mile below Sevierville, Sevier County, half a mile below confluence of East and West forks, and 5 miles above mouth of river.

DRAINAGE AREA. 346 square miles (measured on topographic maps).

RECORDS AVAILABLE. November 23, 1920 to September 30, 1923.

GAGE. Vertical staff in two sections spiked to trees on left bank, 100 feet from Eckel farm house; read by Harry Eckel.

DISCHARGE MEASUREMENTS. Made by measuring East and West forks of river from highway bridges just above confluence and half a mile above gage, or by wading at section 1,000 feet below confluence.

CHANNEL AND CONTROL. Channel straight for a quarter of a mile above gage and 500 feet below. Low water control is rock shoal 500 feet below gage; probably permanent. Medium and high water control is a concrete dam in three sections about 1 mile below gage. Right bank at gage is low and subject to overflow above gage height 6 feet; left bank high and not subject to overflow except during extremely high water. During ordinary floods all water passes under the bridges from which discharge measurements are made, but extreme floods inundate practically the entire town of Sevierville. During extreme floods on French Broad River it is possible that stage-discharge relation may be affected by backwater.

EXTREMES OF DISCHARGE. Maximum stage recorded, 10.25 feet at 5 p.m. February 10, 1921 (discharge, 15,400 second-feet); minimum stage, 0.65 foot October 15, 1922 (discharge, 15 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. Operation of power plant on West Fork 3 miles above Sevierville causes considerable fluctuation during low water. Several flour mills on both forks cause some regulation.

ACCURACY. Stage-discharge relation practically permanent. Rating curve well defined between 50 and 3,000 second-feet; fairly well defined between 3,000 and 15,000 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except those for high stages, which are fair.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF LITTLE PIGEON RIVER AT SEVIERVILLE, TENN.

Week	Year			
	1920	1921	1922	1923
1		439	221	1,161
2		1,385	357	408
3		805	3,621	386
4		600	1,415	1,920
5		765	454	3,541
6		3,993	697	2,097
7		1,108	2,831	2,141
8		1,306	651	498
9		609	1,675	391
10		486	2,487	2,719
11		384	1,423	2,697
12		812	603	1,491
13		823	952	726
14		654	700	604
15		398	522	572
16		1,806	1,548	465
17		876	1,089	628
18		971	2,165	603
19		896	931	729
20		472	657	834
21		1,143	491	1,217
22		801	456	1,060
23		495	904	673
24		532	759	689
25		659	536	365
26		524	305	781
27		312	1,051	451
28		405	886	278
29		1,624	1,421	227
30		554	685	200
31		491	328	352
32		539	466	734
33		847	327	499
34		569	309	436
35		456	317	215
36		294	157	150
37		271	222	74
38		195	91	76
39		184	81	83
40		366	55	
41		165	77	
42		127	47	
43		130	66	
44		229	40	
45		146	71	
46		309	134	
47		387	64	
48	367	837	117	
49	557	669	627	
50	1,843	178	3,325	
51	1,077	282	2,406	
52	909	358	423	

MONTHLY DISCHARGE OF LITTLE PIGEON RIVER AT SEVIERVILLE, TENN.
[Drainage area, 346 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
November 23-30	612	207	332	.960	.29
December	8,210	305	1,050	3.03	3.49
1921					
January	3,040	355	813	2.35	2.71
February	15,000	550	1,770	5.12	5.33
March	2,470	282	576	1.66	1.91
April	4,480	320	955	2.76	3.08
May	3,970	355	903	2.61	3.01
June	1,230	310	541	1.56	1.74
July	4,310	242	698	2.02	2.33
August	1,590	256	611	1.77	2.04
September	490	119	242	.699	.78
October	645	75	190	.549	.63
November	1,480	75	369	1.07	1.19
December	1,940	99	409	1.18	1.36
The year	15,000	75	673	1.95	26.11
1922					
January	10,200	191	1,310	3.79	4.37
February	11,100	355	1,170	3.38	3.52
March	8,420	405	1,510	4.36	5.03
April	3,810	380	987	2.85	3.18
May	4,660	335	968	2.80	3.23
June	1,480	195	623	1.80	2.01
July	3,650	380	954	2.76	3.18
August	855	126	353	1.02	1.18
September	405	50	145	.419	.47
October	195	23	59	.171	.20
November	455	23	74.9	.216	.24
December	18,200	163	1,560	4.51	5.20
The year	18,200	23	810	2.34	31.81
1923					
January	5,860	330	1,190	3.44	3.97
February	6,630	155	1,760	5.09	5.30
March	8,680	395	1,760	5.09	5.87
April	1,120	368	586	1.69	1.89
May	1,920	384	888	2.57	2.96
June	1,690	270	648	1.87	2.09
July	548	119	303	0.876	1.01
August	1,070	187	467	1.35	1.56
September	218	35	103	0.298	0.33

LITTLE TENNESSEE RIVER AT FRANKLIN, N. C.

LOCATION. At steel highway bridge one-fourth mile northeast of Southern Railway Station, one-half mile northeast of court house at Franklin, Macon County, and one mile below mouth of Cullasegee River.

DRAINAGE AREA. 297 square miles (measured on topographic map).

RECORDS AVAILABLE. June 12, 1907 to July 12, 1910; February 9, 1921 to December 31, 1923.

GAGE. Present gage is a standard gage attached to upstream side of highway bridge. Original gage used during 1907-1910, was a staff on right bank 700 feet upstream from bridge but in the same pool. Original datum has been used for present gage but difference in location has some effect on stage-discharge relation. Gage read by H. H. Mashburn.

DISCHARGE MEASUREMENTS. Made from upstream side of bridge to which gage is attached.

CHANNEL AND CONTROL. Channel above and below gage is slightly curved. Bed of stream composed of rock, sand and gravel; fairly normal. Both banks are steep but extreme floods will overflow both banks and cultivated flats. Control is formed by a boulder riffle just below bridge and another 300 feet below. The remains of an old fish trap about one-fourth mile below will probably have no effect on stage-discharge relation which is probably permanent.

EXTREMES OF DISCHARGE. 1907-1910 and 1921-1923: Maximum stage recorded, 10.0 feet June 4, 1909 (discharge, 7,950 second-feet); minimum stage recorded, 1.02 feet at 8:00 a.m. November 18 and 5:10 p.m. November 25, 1922 (discharge 201 second-feet).

ICE. Stage-discharge relation rarely if ever affected by ice.

REGULATION. A few small plants on tributaries may cause slight diurnal fluctuations at low stages.

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

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF LITTLE TENNESSEE RIVER AT FRANKLIN, N. C.

Week	Year						
	1907	1908	1909	1910	1921	1922	1923
1		1,494	1,078	935		596	1,102
2		2,386	778	944		975	574
3		1,211	1,014	772		2,136	591
4		943	726	762		2,440	1,135
5		1,083	628	646		1,114	981
6		1,131	1,239	616		1,230	1,367
7		2,964	1,811	898	1,636	1,944	1,551
8		1,557	1,974	1,037	1,593	1,241	849
9		1,254	1,441	1,637	1,063	1,579	866
10		1,075	1,708	1,060	891	1,920	832
11		1,057	2,630	844	779	1,899	1,681
12		1,831	1,894	751	829	1,474	1,333
13		1,140	1,951	654	836	2,577	897
14		994	1,219	607	732	1,900	878
15		1,028	1,213	573	698	1,447	1,379
16		1,196	1,053	1,006	1,456	1,476	1,073
17		2,206	1,091	687	1,137	1,166	901
18		1,264	1,797	576	931	1,647	883
19		1,286	1,686	1,914	846	1,324	907
20		977	1,609	946	864	1,166	1,168
21		956	2,981	1,919	1,297	1,313	2,081
22		926	1,706	1,111	755	1,259	2,526
23		879	3,843	981	691	1,156	1,383
24		869	1,749	1,123	597	887	1,099
25	657	779	1,480	835	497	783	844
26	689	684	1,459	665	706	639	862
27	640	918	1,227	890	474	627	774
28	595	998	1,264		495	584	691
29	527	704	901		663	743	684
30	441	611	868		536	624	529
31	388	567	939		594	464	494
32	354	625	1,708		499	448	541
33	563	489	1,249		495	427	466
34	488	944	685		450	364	441
35	319	854	561		389	321	449
36	316	757	489		318	313	382
37	296	556	517		338	339	313
38	891	412	793		338	278	347
39	843	374	784		524	297	341
40	464	356	518		419	271	262
41	334	494	648		296	334	245
42	288	362	802		278	278	326
43	297	646	524		257	266	271
44	325	735	467		404	247	342
45	555	517	418		361	239	395
46	622	546	415		494	238	291
47	665	517	436		703	249	322
48	763	574	402		734	264	444
49	1,019	1,461	908		754	619	823
50	1,174	929	1,995		487	663	618
51	1,571	851	827		823	1,504	725
52	1,293	938	679		906	672	648

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT FRANKLIN, N. C.
[Drainage area, 297 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
June 12-30	930	570	672	2.26	1.60
July	755	405	544	1.83	2.11
August	755	305	432	1.45	1.67
September	4,650	250	567	1.91	2.13
October	595	285	344	1.16	1.34
November	755	325	599	2.02	2.25
December	1,680	755	1,230	4.14	4.77
1908					
January	5,050	870	1,460	4.92	5.67
February	7,650	960	1,700	5.72	6.17
March	3,950	930	1,270	4.28	4.93
April	4,950	755	1,350	4.55	5.08
May	2,070	870	1,080	3.64	4.20
June	1,240	672	823	2.77	3.09
July	1,380	520	792	2.67	3.08
August	1,240	472	694	2.34	2.70
September	930	345	541	1.82	2.03
October	1,180	345	505	1.70	1.96
November	755	450	536	1.80	2.01
December	3,860	570	1,020	3.43	3.95
The year	7,650	345	981	3.30	44.87
1909					
January	1,800	615	877	2.95	3.40
February	3,140	560	1,520	5.12	5.33
March	4,750	1,120	1,970	6.63	7.64
April	1,560	915	1,150	3.87	4.32
May	4,950	980	1,990	6.70	7.72
June	7,950	1,290	2,140	7.21	8.04
July	1,640	730	1,060	3.57	4.12
August	2,870	560	882	2.97	3.42
September	1,720	438	638	2.15	2.40
October	1,480	415	608	2.05	2.36
November	560	415	427	1.44	1.61
December	3,950	325	1,020	3.43	3.95
The year	7,950	325	1,190	4.01	54.31
1910					
January	2,690	615	834	2.81	3.24
February	2,510	588	841	2.83	2.95
March	2,600	642	997	3.36	3.87
April	2,150	535	712	2.40	2.68
May	3,500	535	1,340	4.51	5.20
June	2,060	630	994	3.35	3.74
July 1-12	1,790	420	905	3.05	1.36

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT FRANKLIN, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1921					
February 9-28	4,450	1,100	1,880	6.33	4.70
March	1,100	695	850	2.86	3.30
April	2,420	600	1,000	3.37	3.76
May	2,060	695	960	3.23	3.72
June	1,480	465	633	2.13	2.38
July	960	420	541	1.82	2.10
August	1,030	375	491	1.65	1.90
September	760	278	378	1.27	1.42
October	542	242	319	1.07	1.23
November	1,030	278	526	1.77	1.98
December	1,720	442	762	2.57	2.96
1922					
January	6,350	570	1,500	5.05	5.82
February	3,950	1,030	1,380	4.65	4.84
March	3,860	1,180	1,940	6.53	7.53
April	2,870	1,100	1,520	5.12	5.71
May	2,870	1,030	1,340	4.51	5.20
June	1,890	600	932	3.14	3.50
July	960	515	636	2.14	2.47
August	542	315	402	1.35	1.56
September	465	242	307	1.03	1.15
October	490	225	283	0.953	1.10
November	335	210	240	.808	.90
December	3,860	242	826	2.78	3.20
The year	6,350	210	942	3.17	42.98
1923					
January	2,330	490	861	2.90	3.34
February	3,140	760	1,190	4.01	4.18
March	2,600	728	1,150	3.87	4.46
April	2,870	760	1,040	3.50	3.90
May	3,950	792	1,480	4.98	5.74
June	2,330	760	1,160	3.91	4.36
July	960	442	661	2.23	2.57
August	662	375	483	1.63	1.88
September	465	278	347	1.17	1.30
October	690	225	276	.929	1.07
November	792	242	356	1.20	1.34
December	1,560	442	690	2.32	2.68
The year	3,950	225	808	2.72	36.82

LITTLE TENNESSEE RIVER AT ALMOND, N. C.

LOCATION. At old footbridge one-fourth mile above mouth of Nantahala River, half a mile east of railroad station at Almond, Swain County, and 3 miles above Judson.

DRAINAGE AREA. 453 square miles (measured by Knoxville Power Co., on topographic maps).

RECORDS AVAILABLE. April 16, 1912 to November 30, 1917, when station was discontinued.

GAGE. Vertical staff attached to center pier of footbridge. January 1, 1914, a Friez water-stage recorder was installed half a mile above footbridge. Gages set to independent datums. At times backwater from Nantahala River affected readings on staff at footbridge, but recorder was above backwater effect. An auxiliary staff 1 mile upstream was read when backwater affected readings on lower staff. Gages read by employee of Knoxville Power Co.

DISCHARGE MEASUREMENTS. Made from footbridge to which lower staff was attached.

CHANNEL AND CONTROL. Bed composed of rock and boulders. Channel straight below gage but bends sharply 200 feet upstream. Banks not subject to overflow except during extremely high water. Control is series of rock riffles, probably practically permanent.

EXTREMES OF DISCHARGE. Maximum mean daily discharge recorded, 12,700 second-feet, March 4, 1917 (from extension of rating curve); minimum mean daily discharge, 212 second-feet, September 16 and 17, 1914.

ICE. Stage-discharge relation probably seldom affected by ice.

REGULATION. Probably negligible.

COOPERATION. All records furnished by Knoxville Power Co.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF LITTLE TENNESSEE RIVER AT ALMOND, N. C.

Week	Year					
	1912	1913	1914	1915	1916	1917
1	----------	745	649	1,657	2,057	1,286
2	----------	815	515	1,899	1,823	1,237
3	----------	779	451	2,379	1,692	1,664
4	----------	1,425	444	2,442	1,903	1,853
5	----------	1,339	629	2,924	2,979	1,648
6	----------	1,099	929	2,163	2,056	1,231
7	----------	1,133	898	1,780	1,496	1,139
8	----------	1,065	1,046	1,671	1,273	2,768
9	----------	1,769	793	1,467	1,542	4,032
10	----------	1,194	734	1,699	1,345	3,893
11	----------	4,807	1,146	1,226	1,086	2,206
12	----------	2,117	837	1,084	928	2,854
13	----------	4,139	906	1,010	1,019	2,895
14	----------	1,792	884	964	1,108	2,662
15	----------	1,725	1,241	849	1,096	2,018
16	1,439	1,376	1,501	729	909	1,548
17	1,771	1,079	1,036	691	801	1,338
18	1,722	926	833	637	695	1,321
19	1,474	906	701	1,413	596	1,086
20	1,115	807	539	1,043	591	899
21	939	1,791	483	784	2,231	----------
22	1,227	1,035	431	875	1,122	914
23	962	1,060	475	679	1,459	----------
24	984	802	460	749	1,292	----------
25	781	718	482	602	1,101	----------
26	1,454	645	375	1,273	1,019	739
27	1,420	581	416	1,431	851	606
28	1,415	569	504	997	5,829	500
29	1,409	463	411	725	4,306	925
30	1,010	577	357	553	2,747	832
31	983	726	334	517	1,867	760
32	784	746	498	424	1,479	1,584
33	706	501	402	448	1,201	601
34	656	450	339	572	969	504
35	583	423	346	422	803	1,077
36	465	441	282	682	680	882
37	625	389	252	514	718	508
38	588	534	308	464	559	----------
39	832	421	245	399	654	----------
40	531	397	388	1,810	509	561
41	433	347	297	757	472	514
42	568	439	1,944	1,253	650	763
43	461	683	494	1,007	539	685
44	466	459	392	649	661	697
45	633	439	413	549	470	535
46	493	405	715	672	532	512
47	420	382	509	1,413	619	491
48	420	473	1,981	902	679	----------
49	968	596	3,136	678	653	----------
50	574	468	1,154	733	723	----------
51	476	409	1,009	3,472	734	----------
52	780	809	3,404	3,166	1,186	----------

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER NEAR ALMOND, N. C.
(Drainage area, 453 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1912					
April 16-30	2,025	1,261	1,616	3.57	1.99
May	1,940	880	1,311	2.89	3.33
June	2,122	670	1,040	2.29	2.56
July	1,989	770	1,271	2.80	3.23
August	1,454	540	747	1.65	1.90
September	1,366	402	625	1.38	1.54
October	980	392	489	1.08	1.24
November	930	392	497	1.10	1.23
December	1,767	431	662	1.46	1.68
1913					
January	2,281	654	984	2.17	2.50
February	3,076	851	1,232	2.72	2.83
March	9,170	970	2,876	6.34	7.31
April	2,307	1,010	1,504	3.32	3.70
May	3,971	716	1,115	2.46	2.84
June	1,231	564	819	1.81	2.02
July	841	412	562	1.24	1.43
August	1,170	372	574	1.27	1.46
September	689	353	441	0.973	1.09
October	1,150	333	470	1.04	1.20
November	572	359	404	0.891	0.99
December	1,160	392	589	1.30	1.50
The year	9,170	333	964	2.13	28.87
1914					
January	1,244	401	531	1.17	1.35
February	1,362	639	935	2.06	2.14
March	1,727	680	892	1.95	2.25
April	2,418	732	1,153	2.54	2.83
May	1,030	419	605	1.33	1.53
June	744	318	450	0.993	1.11
July	1,030	272	413	0.911	1.05
August	841	272	394	0.869	1.00
September	378	212	272	0.600	0.67
October	5,625	248	744	1.64	1.89
November	5,625	378	691	1.52	1.70
December	5,671	868	2,162	4.77	5.50
The year	5,671	212	770	1.70	23.02

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT ALMOND, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1915					
January	3,686	1,264	2,059	4.54	5.23
February	5,625	1,398	2,123	4.68	4.87
March	2,235	964	1,274	2.81	3.24
April	1,060	654	813	1.79	2.00
May	2,042	574	950	2.10	2.42
June	2,844	480	812	1.79	2.00
July	1,874	458	927	2.05	2.36
August	868	413	483	1.07	1.23
September	1,288	368	507	1.12	1.25
October	3,218	622	1,158	2.55	2.94
November	2,776	532	854	1.88	2.10
December	9,621	602	1,970	4.35	5.02
The year	9,621	368	1,161	2.56	34.66
1916					
January	2,646	1,515	1,840	4.06	4.68
February	5,490	1,132	1,881	4.15	4.48
March	1,723	868	1,157	2.55	2.94
April	1,385	736	969	2.14	2.39
May	4,890	540	1,066	2.35	2.71
June	2,535	844	1,157	2.55	2.84
July	10,100	676	3,252	7.17	8.27
August	2,190	772	1,256	2.77	3.19
September	1,424	480	661	1.46	1.63
October	1,108	448	567	1.25	1.44
November	1,108	458	566	1.25	1.40
December	2,090	556	828	1.83	2.11
The year	10,100	448	1,267	2.79	38.08
1917					
January	2,662	574	1,475	3.25	3.75
February	4,890	976	1,797	3.96	4.12
March	12,700	1,916	3,468	7.65	8.82
April	3,648	1,288	1,892	4.17	4.65
May	1,528	784	1,044	2.30	2.66
June					
July	1,902	468	708	1.56	1.80
August	1,580	408	650	1.43	1.65
September	2,678	438	798	1.76	1.96
October	1,888	453	645	1.42	1.64
November	676	443	519	1.14	1.27

LITTLE TENNESSEE RIVER AT JUDSON, N. C.

LOCATION. One-fourth mile downstream from concrete highway bridge which is at Judson railway station, Swain County, half a mile below mouth of Yalaka Creek, 1 mile upstream from old U. S. Geological Survey gaging station site at Southern Railway bridge and 3 miles below mouth of Nantahala River at Almond, N. C.

DRAINAGE AREA. 668 square miles (measured by Knoxville Power Company on topographic maps), 670 square miles at former location.

RECORDS AVAILABLE. June 25, 1896 to September 13, 1913, at former station, and April 16, 1912 to December 31, 1923.

GAGE. Present gage is a vertical staff attached to big sycamore tree on right bank, read by an employee of Knoxville Power Company. Prior to October 26, 1918, the gage was a Friez automatic recorder located at site of present rod. Recorder was washed away by flood October 26, 1918. Datum of present gage probably somewhat different from that of Friez recorder, due to settlement. Elevation of zero of Friez gage was 1,400 feet above mean sea level. Datum of Friez gage and of new gage not related to old U. S. Geological Survey gage, which was a chain gage on bridge until 1905, when a staff gage was installed on right bank 100 feet above bridge.

DISCHARGE MEASUREMENTS. Made from concrete highway bridge one-fourth mile above gage, since 1920.

CHANNEL AND CONTROL. Channel straight for several hundred feet above and below bridge. Bed of stream at bridge consists of gravel and boulders and is rough; at gage, sand, probably shifting. Both banks sloping but high and subject to overflow only during extremely high stages. Control formed by a riffle one-fourth mile below gage; probably permanent.

EXTREMES OF DISCHARGE. 1896-1923: Maximum stage recorded, (old Geological Survey Station), 16.19 feet February 28, 1902 (discharge 43,300 second-feet); minimum stage recorded (old Geological Survey station), 2.1 feet October 13 to November 1, and December 20, 1904 (discharge, 275 second-feet).

ICE. Stage-discharge relation seldom if ever affected by ice.

REGULATION. Very slight diurnal fluctuations during low stages from small plants on tributaries.

ACCURACY. Stage-discharge relation fairly permanent. Rating curves well developed below 3,000 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

COOPERATION. Gage-height record furnished by Knoxville Power Company since April 16, 1912.

NOTE. Breaks in the record have been filled in by estimates derived from comparative mean daily discharge hydrographs.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET

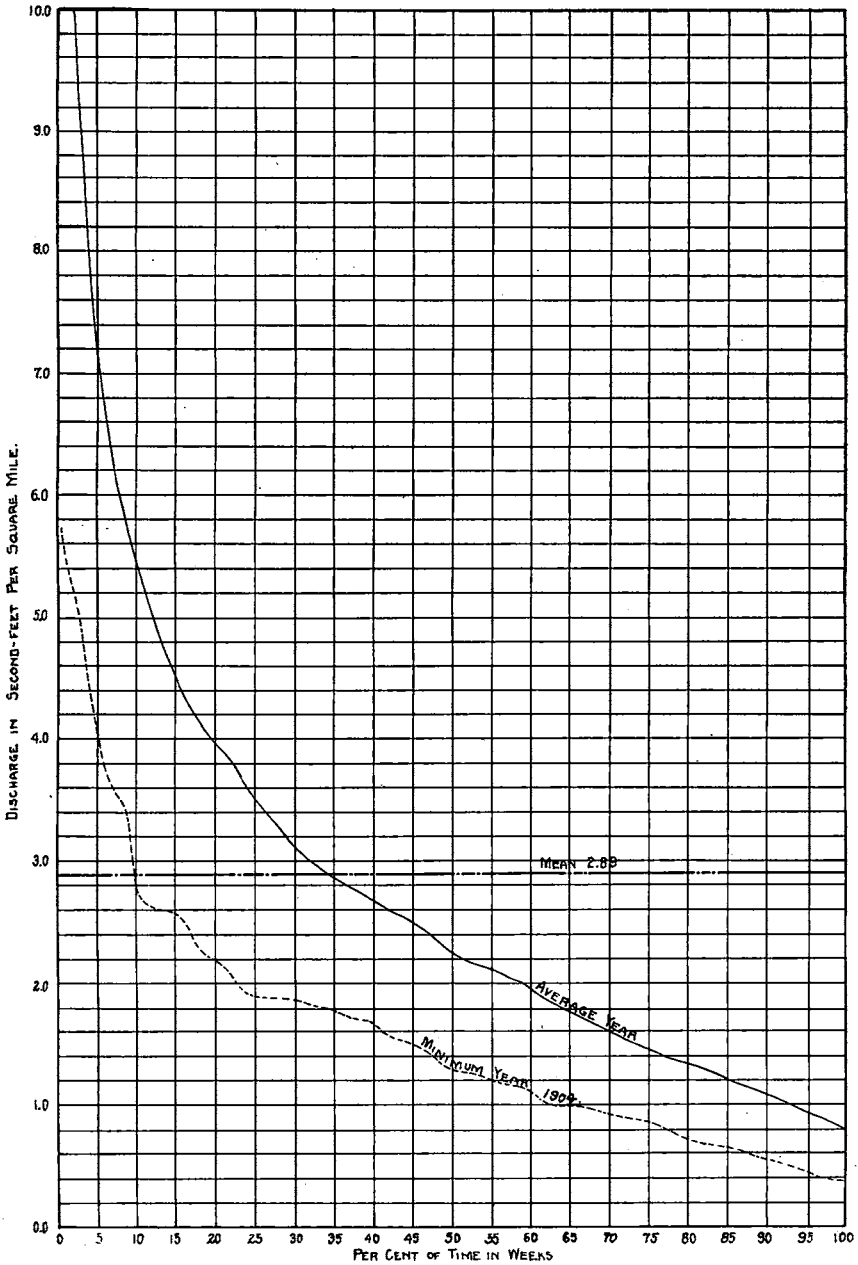
Week	Year												
	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908
1	-------	1,663	806	1,851	409	1,776	6,709	2,023	520	1,141	3,281	2,887	3,081
2	-------	1,850	779	2,217	1,014	5,106	3,166	1,924	584	4,368	2,586	2,319	3,917
3	-------	2,439	1,235	1,900	868	1,349	2,660	1,576	1,039	1,676	2,317	1,903	2,773
4	-------	2,770	3,180	1,806	806	1,550	2,917	1,653	1,747	1,016	5,056	1,643	2,064
5	-------	4,194	1,148	5,583	712	1,981	5,097	2,433	655	953	2,719	1,993	2,216
6	-------	3,886	585	17,411	1,639	1,916	3,474	4,374	1,200	3,977	2,033	2,617	2,354
7	-------	3,789	746	2,604	5,961	1,454	2,680	4,926	1,263	2,827	1,730	1,716	5,881
8	-------	5,971	1,081	1,911	1,753	1,383	2,459	3,559	2,820	4,601	1,624	1,550	3,023
9	-------	2,507	827	614	3,026	1,249	10,864	11,183	1,249	2,226	1,684	2,720	2,512
10	-------	6,134	694	1,837	3,239	2,634	3,521	7,993	3,704	1,913	1,969	2,497	2,231
11	-------	10,821	845	9,291	2,897	1,940	3,314	6,320	2,313	1,999	2,466	2,137	2,589
12	-------	13,087	960	13,529	2,289	2,056	2,314	9,580	3,324	2,186	3,231	1,640	4,129
13	-------	6,476	6,501	4,699	2,049	7,741	6,303	7,129	1,694	1,520	2,980	1,546	3,089
14	-------	9,890	3,441	2,271	1,409	5,824	2,971	11,527	1,743	1,381	2,573	1,580	2,180
15	-------	4,201	1,547	1,777	2,790	2,767	3,657	6,304	1,800	1,880	2,690	1,564	1,964
16	-------	2,246	1,879	1,640	1,846	5,803	3,474	3,803	1,474	1,459	2,757	1,670	2,436
17	-------	1,489	1,623	1,946	1,444	2,660	1,910	3,037	1,260	1,381	2,064	2,886	4,056
18	-------	1,944	1,716	2,960	906	1,549	1,757	2,386	1,243	2,213	2,097	1,990	2,574
19	-------	1,780	2,089	2,317	686	1,373	1,279	1,957	2,429	2,010	1,489	2,209	2,181
20	-------	3,527	1,764	1,947	713	5,524	1,644	1,824	1,220	2,167	1,373	1,920	2,067
21	-------	1,904	651	755	1,374	5,313	1,417	1,531	992	1,973	1,450	1,657	2,100
22	-------	2,010	415	437	1,621	2,889	1,293	2,613	1,143	1,886	1,883	2,134	1,800
23	-------	2,261	430	401	1,931	1,840	1,149	3,663	1,036	1,244	1,517	1,970	1,379
24	-------	1,740	491	4,804	2,263	3,907	1,147	2,716	800	1,123	2,553	1,667	1,780
25	-------	1,624	706	956	3,770	3,521	1,070	1,616	842	1,399	2,357	1,591	1,274
26	-------	1,520	766	1,181	4,194	1,679	1,053	1,754	873	1,061	1,973	1,836	976
27	2,508	1,726	304	1,756	3,376	2,391	862	1,410	636	979	2,039	1,317	1,903
28	7,474	1,729	2,113	884	2,593	1,780	1,140	1,667	783	3,044	2,766	1,380	1,707
29	2,129	3,287	1,123	1,273	1,476	1,347	837	1,276	666	1,753	4,483	1,229	1,219
30	2,759	2,076	1,371	2,411	2,046	1,487	674	926	661	1,444	2,534	976	1,133
31	1,429	1,659	5,276	1,926	1,774	1,481	686	1,504	715	1,210	2,843	950	936
32	1,194	1,530	7,016	2,007	1,310	4,590	571	855	1,499	2,020	2,529	802	1,386
33	1,490	1,883	8,057	890	1,193	10,280	584	1,170	950	1,611	2,827	1,147	849
34	1,165	1,507	3,519	496	1,326	7,551	521	681	769	1,370	2,653	944	2,060
35	767	943	4,643	1,099	1,257	6,751	597	625	1,143	1,171	3,539	571	1,289
36	774	841	11,526	1,294	1,147	1,754	651	540	855	825	2,404	777	1,190
37	675	861	1,921	365	1,181	1,416	719	708	571	653	1,930	635	843
38	779	628	1,576	340	1,240	1,283	861	540	449	680	3,816	1,384	712
39	745	557	1,586	469	1,249	1,266	1,524	435	403	539	5,214	1,607	609
40	728	584	13,136	488	1,240	1,211	876	397	324	755	7,764	1,116	546
41	702	1,380	4,456	2,164	1,591	1,890	921	433	301	1,102	3,793	746	756
42	609	883	3,454	551	1,720	1,274	779	499	265	693	2,984	680	551
43	823	644	2,696	584	3,271	1,197	661	407	265	834	2,353	661	1,779
44	993	666	3,386	546	1,319	1,099	635	497	374	577	1,919	863	1,270
45	2,459	760	3,131	712	976	983	1,346	615	357	539	1,699	990	1,002
46	4,293	733	2,289	648	834	917	759	786	480	478	1,953	1,104	1,198
47	1,621	693	2,216	648	1,011	889	917	656	433	624	6,231	2,356	835
48	873	825	2,191	1,051	1,904	847	1,587	438	624	655	2,387	1,690	1,018
49	3,151	1,960	2,073	648	3,249	786	1,853	406	1,170	3,346	2,047	1,384	3,361
50	3,039	1,025	1,890	4,256	1,244	9,110	1,303	495	596	2,571	2,226	2,444	2,430
51	2,270	1,864	1,751	955	2,624	3,403	2,597	642	452	1,914	2,780	2,193	2,281
52	1,744	1,203	2,031	531	1,845	12,830	1,811	639	1,397	2,180	2,665	3,088	2,066

OF LITTLE TENNESSEE RIVER AT JUDSON, N. C.

Year															Week
1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	
2,283	2,103	3,467	2,691	1,201	1,109	2,535	2,905	2,539	810	4,611	996	1,751	1,479	2,463	1
1,736	2,709	2,114	2,136	1,516	951	2,685	2,746	1,956	1,654	2,300	1,374	2,564	2,220	1,397	2
3,156	1,744	1,639	1,694	1,359	837	2,352	2,601	2,667	1,412	2,207	1,597	2,687	5,173	1,464	3
1,857	1,394	1,243	1,436	2,400	793	3,558	2,948	2,557	3,253	2,937	4,084	1,800	5,630	2,839	4
1,457	1,457	1,373	3,696	2,296	1,284	4,443	5,007	2,284	5,298	2,189	2,876	1,786	2,399	2,640	5
2,749	1,457	2,424	1,824	1,841	1,504	3,083	2,960	1,956	2,083	1,757	2,680	4,589	2,641	3,966	6
3,630	1,816	2,131	2,273	2,149	1,509	2,579	2,155	1,859	2,653	2,157	1,803	3,417	4,111	3,113	7
4,697	2,454	1,761	3,966	1,694	1,779	2,380	1,792	4,742	2,645	3,244	1,721	3,179	2,707	1,827	8
3,241	3,423	1,763	4,111	3,187	1,371	2,044	1,983	8,316	1,715	2,486	1,425	2,136	3,536	1,993	9
3,984	2,370	1,997	3,071	2,014	1,204	2,444	2,011	6,126	1,566	4,000	2,020	1,764	4,364	2,183	10
6,084	1,953	1,626	5,407	7,144	2,047	1,710	1,549	3,252	1,382	2,797	2,969	1,543	4,497	3,886	11
3,501	1,501	1,410	4,064	3,063	1,380	1,515	1,355	5,192	1,519	2,241	3,060	1,603	3,403	3,083	12
4,353	1,347	2,469	5,797	6,621	1,243	1,510	1,475	5,854	1,239	2,459	4,226	1,657	4,887	2,064	13
2,709	1,200	7,156	3,877	2,577	1,523	1,402	1,547	4,043	1,431	1,743	8,624	1,457	3,803	1,874	14
2,717	1,157	5,956	2,713	2,541	1,936	1,312	1,578	2,902	1,879	1,993	3,661	1,350	2,837	2,871	15
2,376	2,391	4,596	2,419	2,041	2,494	1,098	1,316	2,160	1,501	2,493	2,741	2,577	3,343	2,320	16
2,409	1,379	3,497	3,203	1,613	1,719	1,063	1,202	1,815	1,424	1,643	2,879	2,227	2,624	2,079	17
3,613	1,186	2,859	2,773	1,326	1,414	974	1,037	1,720	1,417	1,744	2,291	1,743	3,379	1,880	18
2,741	3,231	2,066	2,284	1,267	1,191	2,082	909	1,449	1,433	1,899	2,021	1,800	2,956	1,881	19
2,330	2,311	1,871	1,771	1,221	989	1,482	896	1,205	1,391	1,543	1,809	1,781	2,307	2,763	20
5,970	3,636	1,794	1,447	2,970	819	1,174	3,583	1,231	1,468	1,414	1,664	2,331	2,650	3,511	21
3,181	2,930	1,046	1,956	1,573	723	1,264	1,629	1,273	1,166	1,233	1,421	1,473	2,226	4,376	22
7,870	2,754	1,257	1,471	1,629	855	1,017	1,801	1,455	1,198	992	1,057	1,333	2,396	2,631	23
3,211	2,426	1,129	1,477	1,249	717	1,129	2,175	1,328	962	1,025	1,080	1,203	1,940	2,784	24
2,477	2,066	1,029	1,194	1,040	765	915	1,677	1,218	1,101	1,180	1,736	1,141	1,679	1,910	25
2,971	1,747	1,499	1,930	869	546	1,599	1,440	1,037	1,453	2,139	1,217	1,433	1,436	1,984	26
2,809	2,673	895	1,981	974	638	1,957	1,329	874	858	1,289	1,224	1,016	1,436	1,621	27
3,071	2,749	1,266	2,114	877	672	1,405	8,337	742	672	1,133	1,092	1,146	1,307	1,340	28
2,204	1,909	1,133	2,024	679	774	1,057	5,781	1,206	770	1,252	1,750	1,571	1,564	1,329	29
1,701	1,564	961	1,439	942	548	846	3,989	1,103	937	1,157	1,079	1,119	1,436	1,177	30
1,960	1,823	1,568	1,491	1,073	514	830	2,653	1,034	843	912	884	1,189	1,079	1,010	31
2,017	2,561	1,100	1,164	1,429	717	680	2,358	949	747	991	2,016	1,026	1,042	1,461	32
2,244	1,777	745	1,116	961	637	724	1,780	766	832	867	4,334	1,182	932	1,152	33
1,580	1,071	493	988	963	560	937	1,363	671	691	771	2,784	1,076	787	1,131	34
1,144	1,386	673	827	746	573	698	1,094	1,331	646	779	1,999	950	673	799	35
1,000	1,146	801	721	740	430	955	997	1,090	914	649	1,586	873	638	693	36
1,211	936	576	907	599	403	775	1,003	763	679	596	1,664	809	773	482	37
1,564	842	431	1,230	861	480	752	852	778	796	531	1,223	1,127	692	935	38
2,057	943	856	1,182	607	427	637	901	1,297	761	483	1,106	1,075	732	1,063	39
923	856	524	819	575	593	2,462	757	829	589	585	929	703	594	533	40
1,211	1,274	850	901	478	449	1,148	707	728	542	599	798	659	685	447	41
1,411	836	2,224	867	649	2,534	1,695	992	1,093	575	677	704	608	501	495	42
1,073	641	906	728	1,011	817	1,432	705	806	1,523	1,136	843	906	588	482	43
910	674	696	698	705	629	974	926	883	4,771	680	861	795	440	553	44
856	571	1,280	932	767	672	864	732	757	1,236	652	760	1,336	394	1,066	45
829	545	1,340	744	727	1,041	1,133	853	753	1,083	1,056	1,347	1,473	395	586	46
855	527	1,267	659	649	797	2,147	942	666	1,121	652	956	1,826	389	743	47
751	750	1,150	600	771	2,695	1,358	1,009	665	1,341	1,141	1,149	1,877	464	770	48
725	1,826	890	1,505	974	4,973	988	1,035	638	1,040	1,729	1,408	1,201	1,617	1,474	49
2,792	731	931	898	797	1,738	1,028	1,123	646	1,744	3,790	3,903	1,726	2,007	1,107	50
2,784	559	2,080	827	683	1,579	4,550	1,109	839	5,854	1,571	2,301	873	4,164	1,421	51
1,188	884	3,436	1,168	1,287	5,171	4,338	1,816	711	3,521	1,159	2.776	2,059	1,370	1,550	52

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT JUDSON, N. C.
[Drainage area, 670 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1896					
July	17,400	725	3,490	5.21	6.01
August	2,240	725	1,220	1.82	2.10
September	1,360	545	736	1.10	1.23
October	1,130	590	746	1.11	1.28
November	12,700	820	2,600	3.88	4.33
December	12,700	1,560	3,030	4.52	5.21
1897					
January	3,940	1,490	2,150	3.21	3.70
February	16,000	1,620	4,610	6.88	7.16
March	18,100	1,690	8,250	12.3	14.18
April	13,400	1,190	4,500	6.72	7.50
May	4,920	1,240	2,240	3.34	3.85
June	3,940	1,490	1,830	2.73	3.05
July	4,920	1,360	2,160	3.22	3.71
August	2,410	772	1,520	2.27	2.62
September	915	404	731	1.09	1.22
October	3,500	404	829	1.24	1.43
November	1,360	444	775	1.16	1.29
December	3,500	590	1,440	2.15	2.48
The year	18,100	404	2,586	3.86	52.19
1898					
January	5,980	725	1,510	2.25	2.59
February	1,360	380	807	1.20	1.25
March	14,900	380	1,930	2.88	3.32
April	6,530	1,020	2,250	3.36	3.75
May	2,750	360	1,410	2.10	2.42
June	820	315	580	.866	.97
July	9,640	280	1,220	1.82	2.10
August	22,400	1,430	5,830	8.70	10.03
September	27,800	1,490	4,410	6.58	7.34
October	33,600	1,560	5,690	8.49	9.79
November	3,500	2,070	2,590	3.87	4.32
December	4,420	1,620	1,960	2.93	3.38
The year	33,600	280	2,516	3.76	51.26
1899					
January	2,750	1,620	1,920	2.87	3.31
February	26,000	1,690	7,860	11.7	12.18
March	31,800	1,760	6,870	10.3	11.87
April	3,940	1,560	1,980	2.96	3.30
May	6,260	380	1,790	2.67	3.08
June	9,310	360	1,720	2.57	2.87
July	3,110	725	1,600	2.39	2.76
August	4,420	341	1,130	1.69	1.95
September	2,930	315	765	1.14	1.27
October	5,980	452	914	1.36	1.57
November	1,620	460	733	1.09	1.22
December	15,200	452	1,490	2.22	2.56
The year	31,800	315	2,398	3.58	48.44



WEEKLY DURATION CURVES
FOR
LITTLE TENNESSEE RIVER AT JUDSON, N.C.
1897-1923

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT JUDSON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1900					
January	3,110	380	769	1.15	1.33
February	26,000	680	2,660	3.97	4.13
March	8,340	1,910	2,790	4.16	4.80
April	6,810	772	1,860	2.78	3.10
May	1,620	590	975	1.46	1.68
June	5,440	1,490	2,900	4.33	4.83
July	3,720	1,490	2,490	3.72	4.29
August	1,910	1,130	1,340	2.00	2.31
September	1,300	1,130	1,210	1.81	2.02
October	9,310	1,240	1,900	2.84	3.27
November	3,940	820	1,180	1.76	1.96
December	7,400	1,130	2,170	3.24	3.74
The year	26,000	380	1,854	2.77	37.46
1901					
January	15,200	1,240	2,390	3.57	4.12
February	2,930	1,240	1,620	2.42	2.52
March	22,800	1,190	3,310	4.94	5.70
April	15,600	1,690	4,130	6.16	6.87
May	29,300	1,240	3,450	5.15	5.94
June	8,340	1,430	2,770	4.13	4.61
July	3,500	1,130	1,740	2.60	3.00
August	22,100	1,130	6,620	9.88	11.39
September	3,110	1,240	1,540	2.30	2.57
October	3,300	1,130	1,370	2.04	2.35
November	1,130	820	937	1.40	1.56
December	35,000	772	6,370	9.51	10.96
The year	35,000	772	3,021	4.51	61.59
1902					
January	15,200	1,690	3,890	5.81	6.70
February	43,300	2,240	4,800	7.16	7.46
March	18,500	1,690	4,160	6.21	7.16
April	4,920	1,020	2,980	4.45	4.96
May	3,500	915	1,500	2.24	2.58
June	1,490	915	1,140	1.70	1.90
July	1,620	635	867	1.29	1.49
August	725	460	592	.884	1.02
September	2,580	460	909	1.36	1.52
October	1,490	635	792	1.18	1.36
November	3,720	545	1,070	1.60	1.78
December	4,180	1,130	1,860	2.78	3.20
The year	43,300	460	2,047	3.06	41.13

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT JUDSON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1903					
January	3,110	1,360	1,790	2.67	3.08
February	23,200	1,690	4,980	7.43	7.74
March	22,100	3,500	7,980	11.9	13.72
April	16,300	2,410	6,190	9.24	10.31
May	2,750	1,240	1,910	2.85	3.29
June	6,260	1,240	2,580	3.85	4.30
July	2,070	820	1,300	1.94	2.24
August	3,110	545	974	1.45	1.67
September	1,760	404	571	.852	.95
October	725	380	433	.646	.74
November	1,430	334	629	.939	1.05
December	1,080	328	540	.806	.93
The year	23,200	328	2,490	3.72	50.02
1904					
January	5,180	452	944	1.41	1.63
February	5,440	412	1,550	2.31	2.49
March	7,710	1,020	2,580	3.85	4.44
April	2,410	1,190	1,560	2.33	2.60
May	6,000	868	1,430	2.13	2.46
June	1,360	680	924	1.38	1.54
July	1,300	502	680	1.01	1.16
August	3,110	590	1,040	1.55	1.79
September	1,240	380	603	.900	1.00
October	380	265	286	.427	.49
November	820	265	445	.664	.74
December	3,720	265	917	1.37	1.58
The year	7,710	265	1,080	1.61	21.92
1905					
January	14,500	725	1,940	2.90	3.34
February	13,800	772	3,260	4.87	5.07
March	3,110	1,360	1,930	2.88	3.32
April	3,500	1,130	1,590	2.37	2.64
May	3,940	1,430	2,060	3.07	3.54
June	2,070	772	1,230	1.84	2.05
July	7,370	770	1,790	2.67	3.08
August	4,980	635	1,490	2.22	2.56
September	1,200	348	685	1.02	1.14
October	1,840	545	823	1.23	1.42
November	1,000	460	568	.848	.95
December	8,030	590	2,370	3.54	4.08
The year	14,500	348	1,645	2.46	33.19

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT JUDSON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1906					
January	9,730	1,300	3,290	4.91	5.66
February	2,670	1,520	1,870	2.79	2.90
March	4,830	1,620	2,520	3.76	4.34
April	3,490	1,840	2,530	3.78	4.22
May	2,930	1,100	1,570	2.34	2.70
June	4,080	1,200	2,150	3.21	3.58
July	6,090	1,300	2,890	4.31	4.97
August	5,130	2,060	2,850	4.25	4.90
September	14,800	1,200	3,360	5.01	5.59
October	10,400	1,950	4,010	5.99	6.91
November	17,400	1,520	2,960	4.42	4.93
December	4,830	1,840	2,420	3.61	4.16
The year	17,400	1,100	2,702	4.03	54.86
1907					
January	3,780	1,000	2,100	3.13	3.61
February	3,350	1,520	2,030	3.03	3.16
March	4,830	1,410	2,150	3.21	3.70
April	4,080	1,200	1,920	2.87	3.20
May	3,350	1,200	1,900	2.84	3.27
June	3,210	1,520	1,880	2.81	3.14
July	1,950	910	1,220	1.82	2.10
August	1,520	545	890	1.33	1.53
September	6,410	460	1,060	1.58	1.76
October	1,300	545	815	1.22	1.41
November	4,530	815	1,480	2.21	2.47
December	5,610	1,060	2,240	3.34	3.85
The year	6,410	460	1,640	2.45	33.20
1908					
January	8,880	1,950	2,870	4.28	4.93
February	13,000	2,060	3,380	5.04	5.44
March	7,210	1,950	2,980	4.45	5.13
April	6,410	1,620	2,660	3.97	4.43
May	3,070	1,620	2,180	3.25	3.75
June	2,930	910	1,380	2.06	2.30
July	2,930	910	1,440	2.15	2.48
August	3,930	815	1,340	2.00	2.31
September	2,060	545	851	1.27	1.42
October	3,630	460	978	1.46	1.68
November	1,840	725	975	1.46	1.63
December	8,710	1,000	2,460	3.67	4.23
The year	13,000	460	1,958	2.92	39.73

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT JUDSON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1909					
January	5,610	1,000	2,190	3.27	3.77
February	7,050	1,300	3,360	5.01	5.22
March	10,600	2,670	4,320	6.45	7.44
April	3,490	2,060	2,580	3.85	4.30
May	7,690	2,060	3,610	5.39	6.21
June	11,100	2,060	4,110	6.13	6.84
July	4,230	1,520	2,400	3.58	4.13
August	3,630	1,100	1,860	2.78	3.20
September	3,630	1,000	1,430	2.13	2.38
October	1,520	910	1,130	1.69	1.95
November	1,000	725	841	1.26	1.41
December	4,980	725	1,780	2.66	3.07
The year	11,100	725	2,468	3.68	49.92
1910					
January	5,930	1,300	1,940	2.90	3.34
February	4,680	1,200	1,660	2.78	2.90
March	5,930	1,300	2,150	3.21	3.70
April	4,830	1,100	1,520	2.27	2.53
May	5,610	1,100	2,730	4.07	4.69
June	3,630	1,520	2,280	3.40	3.79
July	3,210	1,410	2,160	3.22	3.71
August	2,670	1,000	1,740	2.60	3.00
September	2,060	725	1,010	1.51	1.68
October	1,840	635	885	1.32	1.52
November	1,840	502	609	.909	1.01
December	5,610	315	964	1.44	1.66
The year	5,930	315	1,654	2.47	33.53
1911					
January	7,860	1,100	2,020	3.01	3.47
February	3,350	1,100	2,010	3.00	3.12
March	3,350	1,300	1,830	2.73	3.15
April	11,600	2,300	5,130	7.66	8.55
May	3,070	1,000	1,980	2.96	3.41
June	1,950	910	1,220	1.82	2.03
July	1,840	815	1,050	1.57	1.81
August	3,930	354	921	1.37	1.58
September	1,730	396	678	1.01	1.13
October	5,580	450	1,090	1.63	1.88
November	2,150	640	1,190	1.78	1.99
December	5,240	825	1,830	2.73	3.15
The year	11,600	354	1,746	2.61	35.27

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT JUDSON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1912					
January	6,620	1,320	2,320	3.46	3.99
February	7,680	1,590	2,990	4.46	4.81
March	14,000	2,580	4,350	6.49	7.48
April	5,920	2,030	3,170	4.73	5.28
May	3,060	1,350	2,050	3.06	3.53
June	2,870	1,080	1,510	2.25	2.51
July	2,800	1,140	1,830	2.73	3.15
August	2,720	782	1,140	1.70	1.96
September	3,860	667	991	1.48	1.65
October	1,250	611	808	1.21	1.40
November	1,410	556	744	1.11	1.24
December	2,690	611	1,070	1.60	1.84
The year	14,000	556	1,914	2.86	38.84
1913					
January	3,960	1,090	1,690	2.52	2.90
February	5,880	1,480	2,180	3.25	3.38
March	14,300	1,590	4,450	6.64	7.66
April	3,960	1,440	2,290	3.42	3.82
May	7,470	1,160	1,710	2.55	2.94
June	2,270	862	1,230	1.84	2.05
July	1,350	647	872	1.30	1.50
August	----------	----------	870	1.30	1.50
September	1,160	495	706	1.05	1.17
October	1,870	460	683	1.02	1.18
November	952	600	696	1.04	1.16
December	1,810	630	959	1.44	1.66
The year	----------	----------	1,528	2.28	30.92
1914					
January	2,060	706	946	1.42	1.64
February	2,170	1,010	1,550	2.32	2.42
March	3,400	1,100	1,510	2.26	2.61
April	3,640	1,290	1,900	2.84	3.17
May	1,780	730	1,040	1.56	1.80
June	1,120	468	728	1.09	1.22
July	1,190	390	642	.961	1.11
August	991	459	615	.921	1.06
September	541	380	436	.653	.73
October	5,680	380	1,060	1.59	1.83
November	7,780	571	1,040	1.56	1.74
December	9,690	1,340	3,450	5.16	5.95
The year	9,690	380	1,243	1.86	25.28

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT JUDSON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1915					
January	5,260	1,910	2,980	4.46	5.14
February	8,200	2,000	3,090	4.63	4.82
March	3,100	1,420	1,810	2.71	3.12
April	1,580	1,010	1,220	1.83	2.04
May	3,050	903	1,400	2.10	2.42
June	3,190	770	1,160	1.74	1.94
July	2,830	735	1,310	1.96	2.26
August	1,210	634	786	1.18	1.36
September	1,690	583	769	1.15	1.28
October	4,420	978	1,621	2.43	2.80
November	3,630	819	1,338	2.00	2.23
December	11,734	889	2,674	4.00	4.61
The year	11,734	583	1,680	2.51	34.02
1916					
January	3,580	2,270	2,750	4.12	4.75
February	8,870	1,600	2,860	4.28	4.62
March	2,680	1,280	1,710	2.56	2.95
April	1,920	1,080	1,390	2.08	2.32
May	7,810	840	1,650	2.47	2.85
June	3,170	1,330	1,750	2.62	2.92
July	15,000	1,050	4,600	6.89	7.94
August	2,970	1,040	1,850	2.77	3.19
September	1,760	700	947	1.42	1.58
October	1,540	634	819	1.23	1.42
November	1,460	700	864	1.29	1.44
December	3,820	1,490	2,420	3.62	4.17
The year	15,000	2,270	1,968	2.95	40.15
1917					
January	3,823	1,487	2,417	3.62	4.17
February	7,776	1,440	2,763	4.44	4.31
March	30,000	2,856	6,105	9.14	10.54
April	5,862	1,697	2,726	4.08	4.56
May	1,976	1,064	1,359	2.04	2.34
June	2,537	903	1,288	1.93	2.15
July	2,460	714	974	1.46	1.68
August	1,792	602	852	1.28	1.48
September	3,142	634	1,085	1.63	1.81
October	2,152	627	875	1.31	1.51
November	840	621	726	1.09	1.22
December	880	545	707	1.06	1.22
The year	30,000	545	1,823	2.73	36.99

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT JUDSON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1918					
January	11,500	721	2,408	3.61	4.16
February	4,226	1,749	2,490	3.73	3.88
March	1,802	1,171	1,452	2.17	2.50
April	2,790	1,072	1,546	2.32	2.59
May	1,697	1,043	1,391	2.08	2.40
June	1,943	854	1,171	1.75	1.95
July	1,345	647	838	1.26	1.45
August	1,088	559	745	1.12	1.29
September	1,240	535	777	1.16	1.29
October	----------	501	1,500	2.25	2.59
November	----------	----------	1,350	2.02	2.25
December	19,600	----------	2,940	4.40	5.07
The year	19,600	501	1,551	2.32	31.42
1919					
January	7,310	1,850	2,950	4.42	5.10
February	4,570	1,600	2,360	3.53	3.68
March	4,730	1,850	2,840	4.25	4.90
April	3,350	1,500	1,960	2.93	3.27
May	2,530	1,300	1,610	2.41	2.78
June	3,070	864	1,300	1.95	2.18
July	1,650	846	1,200	1.80	2.08
August	2,290	648	873	1.31	1.51
September	837	445	576	.862	.96
October	1,800	445	741	1.11	1.28
November	1,700	591	834	1.25	1.40
December	8,310	738	1,970	2.95	3.40
The year	8,310	445	1,601	2.40	32.54
1920					
January	5,420	909	2,140	3.20	3.69
February	3,950	1,450	2,050	3.07	3.31
March	6,550	1,300	2,790	4.18	4.82
April	15,900	2,410	4,430	6.63	7.40
May	2,410	1,350	1,870	2.80	3.23
June	2,410	990	1,390	2.08	2.32
July	2,930	891	1,260	1.89	2.18
August	5,240	819	2,550	3.82	4.40
September	1,900	990	1,410	2.11	2.35
October	1,500	633	821	1.23	1.42
November	2,930	704	1,030	1.54	1.72
December	12,500	954	2,510	3.76	4.34
The year	15,900	633	2,021	3.02	41.18

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT JUDSON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1921					
January	4,100	1,500	2,170	3.25	3.75
February	10,300	1,650	3,290	4.93	5.13
March	2,170	1,350	1,680	2.51	2.89
April	4,900	1,220	1,910	2.86	3.19
May	3,210	1,400	1,870	2.80	3.23
June	2,410	1,120	1,280	1.92	2.14
July	2,170	918	1,210	1.81	2.09
August	1,950	891	1,100	1.65	1.90
September	1,550	738	919	1.38	1.54
October	1,260	570	756	1.13	1.30
November	2,410	688	1,270	1.90	2.12
December	3,500	1,080	1,750	2.62	3.02
The year	10,300	570	1,600	2.40	32.30
1922					
January	16,100	1,350	3,520	5.27	6.08
February	7,700	2,060	2,930	4.39	4.59
March	7,700	2,290	4,280	6.41	7.39
April	5,600	2,410	3,220	4.82	5.38
May	5,240	2,060	2,740	4.10	4.73
June	2,930	1,350	1,930	2.89	3.22
July	1,950	1,080	1,420	2.13	2.46
August	1,220	584	901	1.35	1.56
September	1,170	522	706	1.06	1.18
October	1,040	450	579	.867	1.00
November	450	360	395	.591	.66
December	10,800	400	2,160	3.23	3.72
The year	16,100	360	2,065	3.09	41.95
1923					
January	5,240	1,260	2,080	3.11	3.58
February	6,170	1,260	2,860	4.28	4.46
March	6,170	1,750	2,710	4.06	4.68
April	5,600	1,450	2,260	3.38	3.77
May	6,170	1,750	2,840	4.25	4.90
June	5,420	1,650	2,480	3.71	4.44
July	1,850	900	1,350	2.02	2.33
August	1,950	570	1,140	1.71	1.97
September	1,950	400	774	1.16	1.29
October	680	412	492	.737	.85
November	1,530	506	769	1.15	1.28
December	2,550	680	1,350	2.02	2.33
The year	6,170	400	1,759	2.63	35.88

LITTLE TENNESSEE RIVER AT CALDERWOOD, TENN.

LOCATION. At wooden highway bridge at Calderwood, Blount County, 8 miles downstream from North Carolina-Tennessee State line, 10 miles below mouth of Cheoah River and 21 miles above McGhee.

DRAINAGE AREA. 1,870 square miles (measured on topographic maps).

RECORDS AVAILABLE. January 1, 1912 to December 30, 1918; January 1, 1921 to January 7, 1922; and April 1, 1922 to December 31, 1923.

GAGE. Vertical staff attached to downstream side of bridge pier; read by W. C. Penn. In 1912-13, gage was Barret & Lawrence water-stage recorder on right bank 1,000 feet below bridge; in 1914-1918, a Friez water-stage recorder 1 mile farther downstream was used. Friez water-stage recorder, located on bridge pier, was used until January 7, 1922, since then a vertical staff gage has been used at same location.

DISCHARGE MEASUREMENTS. Made from upstream side of highway bridge. Prior to January 1, 1921, made from cable 1,000 feet below bridge.

CHANNEL AND CONTROL. Bed composed of coarse gravel and boulders; uniform throughout section. Left bank steep hill side; right bank low and subject to overflow at stage of about 10 feet. Control is rock and gravel shoal 300 feet below gage; probably permanent.

EXTREMES OF DISCHARGE. Maximum mean daily discharge recorded, 70,000 second-feet March 4, 1917; minimum stage, 738.8 feet October 15, 16, November 20 and December 1, 1922 (discharge 320 second-feet), owing to regulation.

ICE. Stage-discharge relation not affected by ice.

REGULATION. Since December 1918, considerable regulation of flow has resulted from operation of power house at Tapaco, 10 miles above gage. Effort is made to pass normal stream-flow at all times.

ACCURACY. Stage-discharge relation practically permanent. Three curves used, one for records previous to January 1921, being well defined, and the second used January 1, 1921 to September 30, 1922, being well defined below 30,000 second-feet. Last curve well defined except for extremely high water. Staff gage read to tenths twice daily, January 1-29, 1921 and April 1, 1922 to December 31, 1923. Operation of water-stage recorder satisfactory except for a few short periods. Daily discharge ascertained by applying to rating table the mean daily gage height obtained from staff gage readings or from graph of water-stage recorder. Records before January 7, 1922, good; others fair.

COOPERATION. For 1912-1918, complete records furnished by Aluminum Company of America; the company also furnished gage-height record for 1921-23.

MEAN WEEKLY DISCHARGE IN SECOND-FEET OF LITTLE TENNESSEE RIVER AT CALDERWOOD, TENN.

Week	Year									
	1912	1913	1914	1915	1916	1917	1918	1921	1922	1923
1	6,613	3,887	2,841	6,613	9,051	7,716	1,940	5,454	2,911	7,306
2	4,884	5,486	2,479	7,262	8,538	6,706	4,174	8,056	.....	3,969
3	3,975	4,619	2,129	8,788	6,908	7,210	4,095	7,810	.....	4,299
4	3,352	8,340	2,380	9,749	8,577	.....	6,809	5,257	.....	9,203
5	9,385	7,113	3,679	10,808	12,205	9,385	14,122	5,153	.....	10,750
6	4,675	5,536	4,630	8,446	8,423	5,749	6,148	13,431	.....	11,551
7	5,293	7,388	4,035	6,688	5,916	4,776	7,413	9,901	.....	10,886
8	8,737	4,854	5,942	6,107	4,957	.....	8,503	9,176	.....	5,624
9	11,148	9,272	3,993	5,371	5,698	24,738	5,102	6,301	.....	5,734
10	7,721	5,903	3,497	6,691	5,960	.....	4,279	5,103	.....	8,647
11	11,951	17,579	6,044	4,578	4,720	.....	3,666	4,304	.....	12,720
12	9,244	9,240	4,181	4,109	4,093	.....	4,494	4,649	.....	9,871
13	15,315	18,943	5,583	4,163	4,868	16,656	4,062	4,857	.....	6,247
14	10,742	7,883	5,036	4,003	4,763	11,527	4,595	4,419	10,244	6,079
15	6,685	7,177	5,457	4,633	4,906	9,508	5,416	3,971	7,786	7,931
16	6,723	6,073	7,831	3,450	4,017	.....	5,131	9,377	9,614	6,781
17	9,470	4,662	5,135	3,228	3,524	5,453	4,835	6,771	8,037	6,061
18	9,944	3,966	4,108	2,918	3,155	5,158	4,902	5,477	11,043	5,617
19	7,734	3,563	3,605	6,192	2,686	4,244	4,808	5,157	8,913	5,579
20	5,370	3,533	2,856	4,000	2,607	3,173	4,283	4,974	7,191	8,384
21	4,087	7,338	2,429	3,299	7,485	3,484	4,354	6,763	6,960	9,480
22	5,324	5,474	2,209	3,923	4,411	3,551	4,268	4,067	6,221	11,300
23	4,440	4,603	2,389	3,288	4,395	3,841	4,457	3,466	6,477	6,911
24	3,958	3,676	1,989	3,385	5,739	4,126	3,912	4,083	5,493	7,739
25	3,196	3,370	2,241	2,965	4,949	3,378	4,309	2,976	4,823	4,763
26	4,830	2,824	1,647	4,252	3,927	3,231	4,214	3,371	3,950	5,193
27	4,703	2,770	1,926	6,075	3,499	2,625	3,264	2,483	4,560	4,541
28	6,028	2,751	2,010	4,100	15,240	2,417	2,654	2,794	4,047	3,836
29	5,123	2,260	2,518	3,323	11,135	3,366	2,810	5,144	4,750	4,051
30	3,725	2,829	1,609	2,599	7,886	3,769	3,020	3,409	4,131	3,309
31	4,188	3,201	1,630	2,311	6,299	3,266	2,913	3,679	3,029	3,430
32	3,262	2,588	1,900	2,129	6,091	2,818	2,590	3,451	2,736	4,217
33	3,241	2,368	2,027	2,229	4,821	2,436	2,440	4,394	2,851	3,211
34	3,010	2,377	1,519	2,820	3,608	2,160	2,176	3,939	2,709	2,987
35	2,590	2,329	1,750	2,103	3,012	3,364	2,299	3,307	2,646	2,520
36	2,242	1,894	1,257	2,704	2,854	3,282	2,741	2,433	1,986	2,134
37	2,310	1,794	1,170	2,155	2,592	2,251	2,196	2,179	2,329	2,123
38	3,144	2,652	1,260	2,130	2,366	2,084	2,391	2,004	2,003	2,157
39	3,921	1,944	1,188	1,849	2,571	2,974	2,106	2,353	1,830	2,120
40	2,353	1,910	1,487	6,762	2,011	2,353	1,789	2,786	1,019	2,377
41	2,057	1,606	1,236	3,006	1,977	2,199	1,680	1,817	799	1,183
42	2,658	2,070	6,991	3,751	3,226	2,375	1,840	1,901	556	877
43	2,164	3,083	2,086	3,345	2,519	2,307	6,644	1,821	864	1,196
44	2,066	2,234	1,634	2,457	2,429	2,367	16,560	2,047	1,032	1,424
45	2,613	2,184	1,770	2,257	2,163	2,257	4,576	1,837	860	1,856
46	2,193	2,297	2,346	3,310	2,708	2,037	4,082	3,954	604	1,544
47	1,953	2,068	1,880	4,967	2,810	1,777	3,939	4,419	510	1,594
48	1,844	2,177	5,801	3,294	2,879	1,791	4,835	5,799	726	1,633
49	4,032	3,244	10,759	2,573	3,039	2,043	2,485	4,991	3,766	3,693
50	2,606	2,415	4,324	2,935	3,384	2,140	3,509	2,583	6,593	2,890
51	2,424	2,085	4,761	14,068	3,367	2,160	13,366	4,119	11,171	3,433
52	3,315	3,255	12,493	11,503	6,701	2,186	8,623	4,376	3,975	3,961

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT CALDERWOOD, TENN.
[Drainage area, 1,870 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1912					
January	17,100	3,090	5,590	2.99	3.45
February	19,300	3,720	7,380	3.95	4.26
March	36,100	6,770	10,600	5.67	6.54
April	15,000	5,970	8,720	4.66	5.20
May	11,400	3,720	6,450	3.45	3.98
June	6,370	2,980	4,130	2.21	2.47
July	7,580	3,030	4,750	2.54	2.93
August	7,580	2,390	3,320	1.77	2.04
September	7,330	1,990	2,870	1.53	1.71
October	3,720	1,940	2,270	1.21	1.40
November	4,570	1,800	2,170	1.16	1.29
December	8,230	1,890	3,020	1.62	1.87
The year	36,100	1,800	5,106	2.73	37.14
1913					
January	13,100	3,570	5,790	3.10	3.57
February	17,700	4,030	6,560	3.51	3.66
March	47,000	4,570	12,400	6.63	7.64
April	11,200	4,380	6,520	3.49	3.89
May	17,900	3,160	4,810	2.57	2.96
June	5,770	2,640	3,730	1.99	2.22
July	4,200	2,110	2,680	1.43	1.65
August	4,970	1,910	2,560	1.37	1.58
September	4,340	1,690	2,090	1.12	1.25
October	4,380	1,520	2,200	1.18	1.36
November	3,080	1,830	2,110	1.13	1.30
December	5,090	2,010	2,780	1.49	1.72
The year	47,000	1,520	4,519	2.42	32.80
1914					
January	5,020	2,000	2,530	1.35	1.56
February	8,000	2,910	4,680	2.50	2.60
March	9,140	3,160	4,630	2.48	2.86
April	11,300	3,970	5,850	3.13	3.49
May	5,230	2,240	3,090	1.65	1.90
June	3,400	1,480	2,090	1.12	1.25
July	4,070	1,410	1,980	1.06	1.22
August	3,130	1,410	1,790	.95	1.10
September	1,500	930	1,230	.66	.74
October	19,400	951	2,830	1.51	1.74
November	14,900	1,480	2,360	1.26	1.41
December	25,000	3,900	8,290	4.43	5.11
The year	25,000	930	3,446	1.84	24.98

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT CALDERWOOD, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1915					
January	13,000	4,720	7,990	4.27	4.92
February	16,700	4,930	7,920	4.24	4.42
March	8,950	3,840	4,900	2.62	3.02
April	6,070	3,070	3,830	2.05	2.29
May	10,700	2,610	4,020	2.15	2.48
June	9,000	2,360	3,500	1.87	2.09
July	8,760	2,240	3,980	2.13	2.46
August	4,040	1,980	2,350	1.26	1.45
September	4,800	1,720	2,190	1.17	1.30
October	11,000	2,470	4,060	2.17	2.50
November	7,870	2,220	3,350	1.79	2.00
December	40,700	2,360	7,580	4.05	4.67
The year	40,700	1,720	4,639	2.48	33.60
1916					
January	11,200	6,020	8,090	4.33	4.99
February	23,300	4,480	7,580	4.05	4.37
March	6,550	3,620	5,170	2.77	3.19
April	5,800	3,340	4,260	2.28	2.54
May	14,900	2,380	4,120	2.20	2.54
June	8,760	3,280	4,710	2.52	2.81
July	27,500	3,020	9,020	4.82	5.56
August	8,860	3,040	4,800	2.57	2.96
September	4,400	2,000	2,620	1.40	1.56
October	5,670	1,860	2,460	1.32	1.52
November	4,520	1,920	2,540	1.36	1.52
December	15,500	2,630	4,150	2.22	2.56
The year	27,500	1,860	4,960	2.65	36.12
1917					
May	5,700	2,360	3,890	2.08	2.40
June	4,800	2,820	3,670	1.96	2.19
July	5,020	2,200	3,030	1.62	1.87
August	5,020	1,960	2,550	1.36	1.57
September	8,310	1,960	2,920	1.56	1.74
October	6,240	1,140	2,320	1.24	1.43
November	2,360	1,560	2,000	1.07	1.19
December	2,260	1,920	2,130	1.14	1.31
1918					
January	32,400	1,350	5,750	3.08	3.55
February	12,600	5,360	7,600	4.07	4.24
March	4,800	3,460	4,170	2.23	2.57
April	8,310	3,780	4,950	2.65	2.96
May	6,020	3,780	4,550	2.43	2.80
June	7,430	3,970	4,210	2.25	2.51
July	4,720	2,960	3,000	1.60	1.84
August	3,130	1,820	2,440	1.30	1.50
September	3,490	1,720	2,370	1.27	1.42
October	37,800	1,560	5,180	2.77	3.19
November	13,500	3,190	5,090	2.72	3.03
December*	38,200	400	6,870	3.67	4.23
The year	38,200	400	4,682	2.50	33.84

*Low water Dec. 7 to 13 due to filling of Cheoah dam reservoir.

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT CALDERWOOD, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1921					
January	14,300	3,840	6,520	3.49	4.02
February	30,200	4,620	9,570	5.12	5.33
March	7,000	3,690	4,840	2.59	2.99
April	18,000	3,690	6,110	3.27	3.65
May	9,160	3,990	5,440	2.91	3.36
June	4,620	2,770	3,490	1.87	2.09
July	8,270	2,240	3,430	1.83	2.11
August	6,220	2,450	3,860	2.06	2.38
September	3,010	1,780	2,280	1.22	1.36
October	3,600	1,600	2,050	1.10	1.27
November	8,270	1,620	3,600	1.92	2.14
December	8,940	2,170	4,200	2.25	2.59
The year	30,200	1,600	4,616	2.47	33.29
1922					
January 1-7	3,260	2,690	2,910	1.56	.41
February					
March					
April	13,100	6,600	8,910	4.76	5.31
May	17,500	5,120	8,150	4.36	5.03
June	8,050	3,540	5,390	2.88	3.21
July	5,660	3,260	4,310	2.30	2.65
August	3,990	2,200	2,750	1.47	1.70
September	3,400	1,830	2,090	1.12	1.25
October	1,780	320	842	.450	.52
November	1,220	400	676	.361	.40
December	26,100	400	5,960	3.19	3.68
1923					
January	16,800	3,550	6,580	3.52	4.06
February	18,000	4,860	9,270	4.96	5.16
March	20,600	4,860	9,000	4.81	5.54
April	16,800	4,510	6,670	3.57	3.98
May	15,000	4,860	7,960	4.26	4.91
June	11,600	4,510	6,560	3.51	3.92
July	5,600	2,840	3,910	2.09	2.41
August	5,990	2,340	3,320	1.78	2.05
September	2,460	1,380	2,150	1.15	1.28
October	2,560	500	1,400	0.749	0.86
November	2,180	1,290	1,620	0.866	0.97
December	6,820	1,710	3,400	1.82	2.09
The year	20,600	500	5,153	2.76	37.23

LITTLE TENNESSEE RIVER AT McGHEE, TENN.

LOCATION. At Louisville and Nashville Railroad bridge half a mile southwest of the railroad station at McGhee, Monroe County, half a mile below mouth of Tellico River, and 17 miles above junction with Tennessee River.

DRAINAGE AREA. 2,470 square miles (measured on topographic maps).

RECORDS AVAILABLE. November 29, 1904 to December 31, 1923.

GAGE. Chain gage bolted to ties on upstream side of railroad bridge; read by Annie V. Hill. Previous to Dec. 1, 1905, was at railroad bridge 500 feet downstream. In moving gage to present location datum was raised 0.3 foot. In 1919, the datum used was 0.79 foot lower than that used in 1913. This difference was due principally to chain stretch, and corrections were made to account for the change.

DISCHARGE MEASUREMENTS. Made from downstream side of railroad bridge.

CHANNEL AND CONTROL. Banks are subject to overflow above gage height of 12 feet, but all water will pass under bridge and approaches. Bed is rocky and probably permanent. Control practically permanent, though flood stages on Tennessee River may affect gage readings at times.

EXTREMES OF DISCHARGE. Maximum stage recorded, 30.5 feet at noon April 2, 1920 (discharge approximately 118,000 second-feet); minimum discharge, 720 second-feet December 9, 1918 (caused by closing of Cheoah power dam) and October 2, 1919. Minimum discharge with no regulation occured November 29, 1904 (800 second-feet); probably discharge was somewhat less than this in October, 1904, before observations were started. The United States Weather Bureau reports a stage of 39.0 feet in March, 1867 (discharge not ascertained).

ICE. Stage-discharge relation not affected by ice.

REGULATION. None prior to December, 1918. Operation of power plant of Knoxville Power Co., 30 miles upstream causes some diurnal fluctuation at gage.

ACCURACY. Stage-discharge relation changed by backwater from Tennessee River at times during floods, by stretch of chain and change in location of gage. Three rating curves used, as follows: November 29, 1904 to December 31, 1905, fairly well defined between 1,500 and 30,000 second-feet; January 1, 1906 to September 30, 1918, fairly well defined between 1,500 and 30,000 second-feet; October 1, 1918 to December 31, 1923, well defined between 1,500 and 25,000 second-feet. Gage read to tenths once daily. Daily discharge ascertained by applying gage height to rating table. Records good 1905-1913, and fair 1918-1919; for 1919-1923, good except for low stages when discharge for individual days may be greatly in error due to power plant regulation.

COOPERATION. From 1904 to 1918, gage heights were furnished by United States Weather Bureau.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET

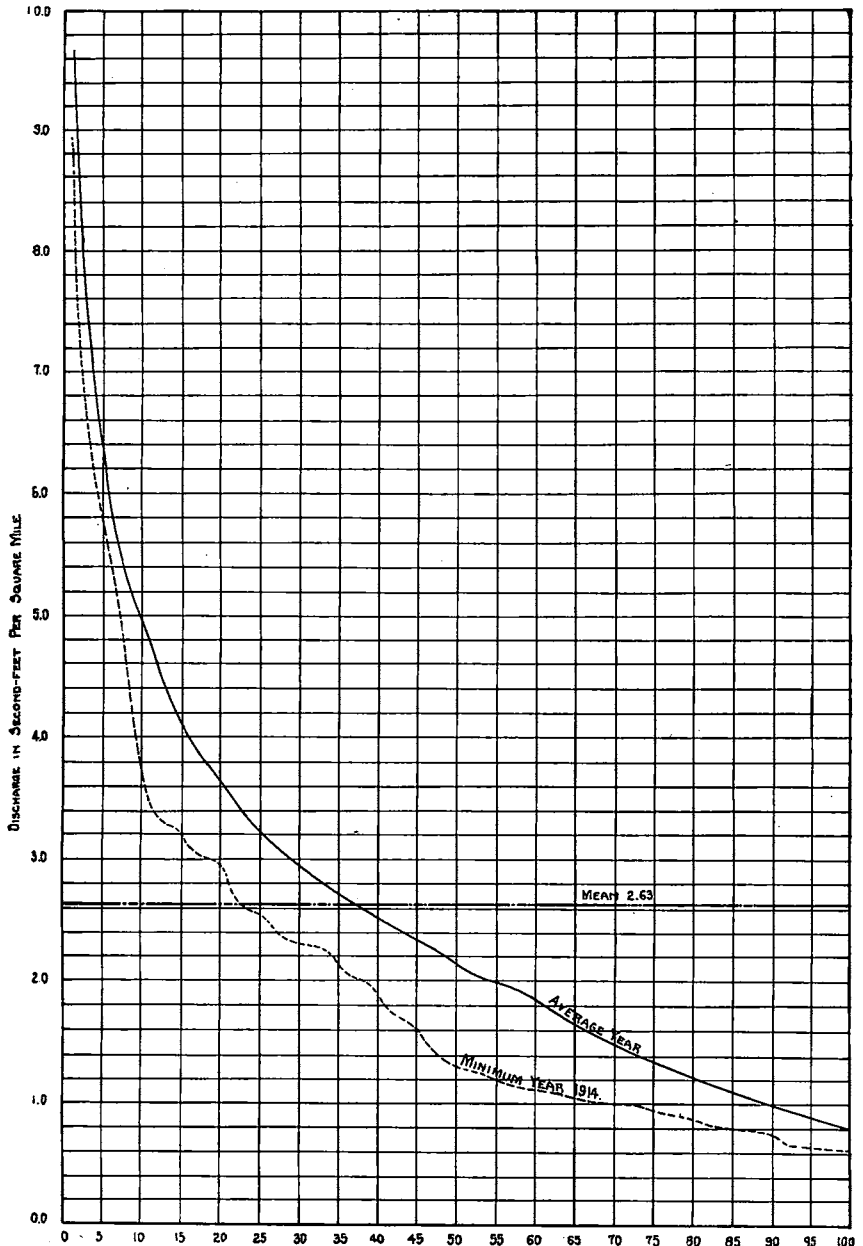
Week	Year									
	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
1	------	1,830	12,050	10,443	11,949	8,616	5,813	16,689	8,336	6,341
2	------	9,824	7,814	6,741	13,531	6,280	6,836	5,970	6,073	7,411
3	------	5,926	7,109	5,996	9,289	11,247	5,567	4,596	4,760	7,539
4	------	3,026	16,389	5,489	6,664	5,764	6,603	4,100	4,597	14,699
5	------	3,124	7,861	9,004	6,650	4,069	5,056	5,010	11,777	10,763
6	------	13,576	5,609	9,001	6,543	10,576	4,533	12,446	5,419	7,449
7	------	8,537	4,707	5,760	15,924	14,166	6,936	7,866	6,800	11,686
8	------	16,369	4,907	5,157	9,077	17,814	8,851	5,416	11,633	6,387
9	------	7,433	6,070	8,903	8,353	11,294	11,511	5,041	14,118	15,447
10	------	8,254	6,393	9,014	8,021	13,563	6,960	6,533	10,703	7,846
11	------	7,076	8,430	8,324	9,579	19,114	5,424	5,384	15,989	27,031
12	------	6,674	9,310	5,993	14,009	10,534	4,560	5,191	12,606	13,729
13	------	5,457	9,880	5,313	10,027	13,914	3,890	7,267	22,846	26,486
14	------	5,396	8,023	5,420	6,783	8,399	3,521	16,777	17,029	10,934
15	------	7,067	10,169	5,304	5,491	7,616	3,461	15,186	9,031	8,904
16	------	4,943	8,927	7,103	7,576	6,799	6,831	13,346	9,586	8,189
17	------	5,073	6,030	8,654	9,521	7,246	5,154	8,611	15,974	6,223
18	------	7,679	5,876	6,839	6,989	16,094	4,600	7,363	15,957	5,303
19	------	6,560	5,387	9,837	7,287	8,589	9,396	5,680	10,909	4,891
20	------	7,710	3,994	6,834	6,344	6,661	7,390	4,777	7,356	4,710
21	------	7,233	3,837	5,346	6,187	18,857	12,546	4,894	5,681	12,327
22	------	5,354	5,096	6,440	5,574	9,329	7,821	3,687	7,504	7,824
23	------	3,697	4,534	7,279	4,896	22,529	10,846	3,563	5,606	6,081
24	------	3,529	8,454	6,246	5,019	10,663	8,186	2,796	5,164	4,827
25	------	4,737	6,606	5,009	3,856	8,107	6,461	3,186	4,419	4,206
26	------	5,391	7,039	8,447	3,474	8,359	6,611	3,279	7,026	3,471
27	------	4,189	5,644	4,791	6,073	9,307	9,960	2,723	7,131	3,493
28	------	8,949	7,701	5,319	5,394	13,393	8,613	3,864	7,820	3,581
29	------	5,734	15,029	4,204	3,970	6,974	7,250	3,846	6,543	2,450
30	------	4,301	10,023	3,361	3,021	7,021	5,499	4,914	5,206	3,159
31	------	3,029	8,694	3,396	2,781	10,747	6,326	3,423	5,629	3,446
32	------	5,293	6,603	3,093	5,500	6,760	5,544	3,330	4,566	3,124
33	------	6,869	6,763	3,527	2,934	8,613	3,890	2,816	4,347	2,779
34	------	6,050	7,111	3,266	7,389	4,863	4,250	2,121	4,136	2,729
35	------	3,706	10,006	2,557	4,236	3,821	4,827	2,473	3,374	2,123
36	------	2,951	8,651	2,659	3,817	3,357	4,647	2,947	2,853	2,081
37	------	2,460	7,597	2,809	2,684	3,571	3,267	2,433	2,890	1,946
38	------	2,090	9,380	3,687	2,253	5,047	2,709	2,256	3,850	2,623
39	------	1,811	9,771	6,556	2,117	4,226	2,920	2,673	5,654	2,123
40	------	2,114	21,671	4,180	1,919	2,850	2,757	2,071	2,964	2,340
41	------	3,116	10,341	3,247	2,630	3,386	3,567	2,824	2,810	1,897
42	------	2,139	8,114	2,523	1,854	5,286	2,323	6,921	3,603	2,809
43	------	2,221	6,270	2,539	2,990	3,050	2,094	3,161	2,883	3,750
44	------	1,839	5,001	3,360	3,420	2,764	2,121	2,329	2,641	2,806
45	------	1,834	4,344	3,991	2,373	2,446	1,961	4,023	3,614	2,820
46	------	1,710	4,647	3,910	3,031	2,501	1,854	4,799	2,764	2,801
47	------	1,994	30,543	9,483	2,471	2,617	1,793	4,953	2,497	2,664
48	------	1,840	8,319	6,076	2,789	2,450	2,534	3,654	2,274	2,609
49	1,887	9,367	6,824	3,756	8,967	4,217	7,286	2,906	7,019	3,981
50	1,019	8,184	6,910	7,166	6,559	6,373	3,147	2,854	3,790	3,153
51	874	6,846	9,819	5,573	6,931	4,084	2,526	5,727	3,334	2,524
52	2,965	7,544	8,015	9,619	7,370	3,485	4,315	12,563	5,346	4,309

OF LITTLE TENNESSEE RIVER AT McGHEE, TENN.

Year										Week
1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	
4,250	9,729	14,714	12,483	2,366	19,964	2,674	5,517	3,723	7,851	1
3,241	10,807	14,300	7,930	5,066	8,537	3,987	9,430	6,490	4,320	2
2,879	11,654	10,197	11,631	5,664	7,913	6,289	10,149	17,407	4,587	3
3,373	14,686	13,017	11,553	7,323	12,604	13,683	6,137	28,086	12,459	4
5,117	17,291	17,829	13,146	32,329	8,100	8,439	6,253	7,663	16,200	5
6,426	11,820	11,943	7,819	21,866	5,989	7,869	21,987	6,741	16,457	6
5,730	9,134	8,066	6,680	11,126	7,506	5,549	14,703	17,276	14,589	7
8,126	8,347	6,840	22,186	12,217	10,500	7,289	10,240	9,033	6,760	8
5,044	7,611	8,875	26,057	7,246	10,669	5,061	7,260	15,179	6,341	9
4,746	9,184	9,497	37,386	6,357	16,356	6,633	5,794	18,871	12,001	10
8,609	6,580	6,904	19,071	5,493	9,889	20,216	4,714	18,814	18,214	11
6,116	6,264	5,796	22,914	6,216	7,464	14,006	5,284	11,100	13,133	12
8,059	5,839	7,171	27,371	5,730	8,646	13,563	6,244	15,046	7,740	13
7,423	5,680	6,586	17,471	5,621	6,099	42,557	5,554	12,257	7,000	14
7,537	7,296	7,397	13,729	7,633	5,774	13,133	3,986	8,730	9,999	15
12,406	5,343	5,797	8,990	7,956	8,466	8,930	13,359	12,776	8,066	16
7,327	4,416	5,261	7,187	6,429	5,227	8,710	7,739	9,560	7,504	17
5,746	4,073	4,524	6,869	6,649	8,779	9,057	6,559	12,453	6,761	18
5,117	9,003	3,787	5,720	5,304	7,784	9,104	6,039	10,344	6,606	19
3,894	5,661	3,834	4,671	6,307	6,504	6,637	5,884	7,771	10,596	20
3,171	4,453	10,151	4,530	6,391	7,067	5,814	6,647	7,817	13,629	21
2,736	6,563	6,013	4,533	4,574	5,436	4,321	4,559	6,689	14,243	22
3,094	4,824	5,951	5,441	4,901	3,561	5,461	3,691	7,297	8,414	23
2,550	4,337	8,173	5,687	4,216	3,639	2,650	3,384	7,036	9,329	24
2,846	3,826	6,781	4,984	6,799	3,433	5,163	3,469	5,437	5,760	25
2,027	5,674	5,504	4,193	5,136	8,703	3,140	3,793	4,046	5,961	26
2,431	8,203	4,649	3,174	3,890	3,173	3,806	2,597	5,131	4,784	27
2,266	5,417	20,331	2,840	2,950	3,027	2,331	3,070	4,210	3,997	28
4,157	4,316	16,243	5,090	3,044	4,180	5,014	6,139	4,980	4,554	29
1,919	3,051	11,760	5,857	3,914	3,930	3,346	3,809	4,929	4,124	30
2,216	3,069	7,769	3,909	4,217	2,650	3,073	4,436	3,264	4,634	31
2,466	2,450	8,483	3,716	2,929	2,824	6,444	4,159	2,900	4,520	32
2,606	2,723	7,441	3,466	2,810	2,924	1,914	4,913	2,793	3,991	33
1,941	3,416	5,341	2,829	2,991	2,537	11,331	4,061	2,556	3,354	34
2,127	2,617	4,204	5,244	2,451	2,539	9,136	3,996	2,480	2,871	35
1,606	3,481	3,896	4,614	2,896	1,750	6,964	2,513	2,079	2,761	36
1,551	2,409	3,499	2,611	2,624	1,513	10,884	2,280	2,756	2,306	37
1,653	2,609	2,823	2,383	2,923	1,184	5,500	2,054	2,389	2,333	38
1,626	1,941	3,141	3,949	2,534	906	4,016	2,493	2,053	2,283	39
1,956	7,723	2,656	2,647	1,814	1,007	3,347	3,273	1,673	2,574	40
1,566	3,953	2,450	2,403	1,674	2,080	2,786	1,956	1,604	1,881	41
10,370	3,980	4,090	4,073	1,793	2,897	2,676	1,934	1,453	1,477	42
2,661	4,267	2,957	2,841	6,939	6,374	2,541	2,209	1,629	1,590	43
2,184	2,907	2,833	3,280	27,496	2,471	2,669	2,960	1,539	1,546	44
2,357	2,550	2,456	2,681	5,750	2,101	2,567	2,080	1,653	1,959	45
2,803	4,541	3,139	2,450	4,690	3,211	3,303	4,367	1,474	1,703	46
2,500	5,944	2,866	2,276	5,304	2,103	3,203	5,320	1,523	1,751	47
5,559	4,396	3,811	2,311	6,171	2,226	3,751	7,561	1,459	1,767	48
15,866	3,390	3,767	2,323	3,463	4,841	5,134	7,411	5,690	3,657	49
5,667	3,446	4,813	1,817	5,427	18,513	15,630	3,664	9,797	4,024	50
6,343	34,464	4,033	2,169	18,460	4,977	10,739	4,421	16,251	4,329	51
21,713	17,101	9,803	2,430	12,981	3,813	10,224	5,889	4,641	4,894	52

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT McGHEE, TENN.
[Drainage area, 2,470 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1904					
December	8,850	830	1,740	0.704	0.81
1905					
January	35,000	1,430	4,960	2.01	2.32
February	38,800	2,600	11,000	4.45	4.63
March	15,600	5,230	6,880	2.79	3.22
April	12,800	3,970	5,840	2.30	2.63
May	12,500	4,470	6,930	2.81	3.24
June	8,270	3,020	4,310	1.74	1.94
July	19,800	3,250	5,660	2.29	2.64
August	11,500	2,800	5,170	2.09	2.41
September	4,470	1,790	2,420	.980	1.09
October	7,420	1,650	2,360	.955	1.10
November	2,600	1,650	1,810	.733	.82
December	16,900	1,650	7,590	3.07	3.54
The year	38,800	1,430	5,411	2.19	29.58
1906					
January	38,800	4,630	10,700	4.33	4.99
February	7,640	4,130	5,340	2.16	2.25
March	16,200	4,380	8,200	3.32	3.83
April	16,600	5,680	8,320	3.37	3.76
May	6,780	3,420	4,780	1.94	2.24
June	16,200	3,650	6,570	2.66	2.97
July	21,800	4,130	9,380	3.80	4.38
August	15,000	5,150	7,590	3.07	3.54
September	20,500	3,200	8,990	3.64	4.06
October	36,200	5,150	11,000	4.45	5.13
November	70,000	4,130	11,300	4.57	5.10
December	16,900	5,150	8,140	3.30	3.80
The Year	70,000	3,200	8,359	3.38	46.05
1907					
January	15,900	4,630	6,940	2.81	3.24
February	21,200	4,630	7,490	3.03	3.16
March	14,000	4,630	7,560	3.06	3.53
April	11,200	4,630	6,630	2.68	2.99
May	11,500	4,630	6,950	2.81	3.24
June	16,600	4,380	6,910	2.80	3.12
July	9,720	2,990	4,490	1.82	2.10
August	4,130	2,420	3,140	1.27	1.46
September	13,100	1,940	3,820	1.55	1.73
October	5,150	2,250	3,090	1.25	1.44
November	23,500	2,250	5,680	2.30	2.57
December	20,200	3,420	6,500	2.63	3.03
The year	23,500	1,940	5,767	2.33	31.61



WEEKLY DURATION CURVES
FOR
LITTLE TENNESSEE RIVER AT McGEE, TENN.
1905-1923

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT McGHEE, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1908					
January	27,000	5,410	9,910	4.01	4.62
February	27,700	5,950	9,610	3.89	4.20
March	26,300	6,780	10,400	4.21	4.85
April	18,500	5,150	7,370	2.98	3.32
May	10,300	4,890	6,580	2.66	3.07
June	6,500	2,990	4,420	1.79	2.00
July	11,800	2,790	4,470	1.81	2.09
August	13,100	2,420	4,740	1.92	2.21
September	5,950	1,940	2,760	1.12	1.25
October	5,410	1,650	2,540	1.03	1.19
November	3,650	2,250	2,590	1.05	1.17
December	21,500	2,250	7,230	2.93	3.38
The year	27,700	1,650	6,052	2.45	33.35
1909					
January	23,200	3,890	7,620	3.09	3.56
February	32,100	3,420	12,700	5.14	5.35
March	37,300	8,220	13,800	5.59	6.44
April	10,600	5,950	7,630	3.09	3.45
May	38,100	5,950	12,200	4.94	5.70
June	39,200	7,350	12,300	4.98	5.56
July	24,200	5,150	9,020	3.65	4.21
August	19,500	3,650	7,170	2.90	3.34
September	14,000	2,990	4,020	1.63	1.82
October	10,000	2,600	3,570	1.45	1.67
November	3,420	2,250	2,550	1.03	1.15
December	15,300	2,250	4,360	1.76	2.03
The year	39,200	2,250	8,080	3.27	44.28
1910					
January	13,100	3,650	6,090	2.47	2.85
February	20,200	3,650	6,430	2.60	2.71
March	21,200	3,650	6,620	2.68	3.09
April	14,600	3,200	4,720	1.91	2.13
May	19,500	4,130	8,610	3.49	4.02
June	22,500	5,150	7,940	3.21	3.58
July	13,700	4,630	7,690	3.12	3.60
August	8,220	2,990	4,680	1.89	2.18
September	10,000	2,420	3,690	1.49	1.66
October	4,630	1,940	2,650	1.07	1.23
November	4,380	1,650	2,030	.822	.92
December	24,200	1,650	4,160	1.68	1.94
The year	24,200	1,650	5,450	2.21	29.91

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT McGHEE, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1911					
January	32,100	3,890	7,580	3.07	3.54
February	28,400	4,380	7,650	3.10	3.23
March	9,720	4,630	5,970	2.42	2.79
April	40,300	5,410	13,000	5.26	5.87
May	9,120	3,420	5,370	2.17	2.50
June	4,890	2,600	3,260	1.32	1.47
July	12,200	2,420	3,720	1.51	1.74
August	5,410	1,650	2,810	1.14	1.31
September	4,890	2,090	2,630	1.06	1.18
October	23,500	1,790	3,630	1.47	1.70
November	7,060	2,090	4,120	1.67	1.86
December	24,900	2,600	6,060	2.45	2.82
The year	40,300	1,650	5,470	2.21	30.01
1912					
January	27,400	3,420	6,930	2.81	3.24
February	29,500	4,630	9,460	3.83	4.13
March	42,600	8,220	14,700	5.95	6.86
April	31,700	8,220	13,700	5.55	6.19
May	18,200	5,150	9,110	3.69	4.25
June	11,200	4,130	5,590	2.26	2.52
July	10,300	3,890	6,470	2.62	3.02
August	9,120	3,200	4,530	1.83	2.11
September	11,200	2,600	3,750	1.52	1.70
October	5,150	2,420	3,000	1.21	1.40
November	6,220	2,250	2,830	1.15	1.28
December	13,700	2,250	4,720	1.91	2.20
The year	42,600	2,250	7,060	2.86	38.90
1913					
January	25,600	5,680	9,300	3.77	4.35
February	43,000	5,410	9,880	4.00	4.16
March	52,100	6,220	18,000	7.29	8.40
April	16,900	5,950	8,750	3.54	3.95
May	36,900	4,130	7,080	2.87	3.31
June	7,930	3,200	4,920	1.99	2.22
July	6,500	2,250	3,140	1.27	1.46
August	4,380	1,940	2,880	1.17	1.35
September	2,990	1,650	2,190	.887	.99
October	5,410	1,790	2,740	1.11	1.28
November	3,890	2,090	2,640	1.07	1.19
December	7,060	2,420	3,530	1.43	1.65
The year	52,100	1,650	6,254	2.53	34.31

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT McGHEE, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1914					
January	5,410	2,600	3,410	1.38	1.59
February	12,500	4,380	6,610	2.68	2.79
March	13,700	4,380	6,470	2.62	3.02
April	17,500	5,950	8,660	3.51	3.92
May	8,220	2,790	4,200	1.70	1.96
June	3,890	1,940	2,660	1.08	1.20
July	6,220	1,790	2,680	1.09	1.26
August	3,650	1,790	2,260	.915	1.05
September	2,250	1,220	1,620	.656	.73
October	38,100	1,220	3,950	1.60	1.84
November	5,410	1,860	2,540	1.03	1.15
December	60,100	3,320	12,700	5.14	5.93
The year	60,100	1,220	4,813	1.95	26.44
1915					
January	21,500	7,060	11,500	4.66	5.37
February	41,500	6,500	11,500	4.66	4.85
March	14,000	5,410	6,950	2.81	3.24
April	12,200	4,130	5,710	2.31	2.58
May	20,800	3,420	5,650	2.29	2.64
June	13,100	2,990	4,950	2.00	2.23
July	15,000	2,600	5,220	2.11	2.43
August	4,890	2,250	2,900	1.17	1.35
September	8,220	1,650	2,590	1.05	1.17
October	11,800	2,990	4,790	1.94	2.24
November	10,600	2,420	4,180	1.69	1.89
December	54,800	2,790	11,300	4.57	5.27
The year	54,800	1,650	6,437	2.60	35.26
1916					
January	25,600	7,060	12,600	5.10	5.88
February	37,300	5,950	10,800	4.37	4.71
March	13,700	5,410	7,850	3.18	3.67
April	8,820	4,890	6,200	2.51	2.80
May	27,000	3,420	5,720	2.32	2.68
June	12,800	4,630	6,540	2.65	2.96
July	35,400	3,890	12,600	5.10	5.88
August	11,200	4,130	6,730	2.73	3.15
September	5,410	2,250	3,380	1.37	1.53
October	10,000	2,250	3,040	1.23	1.42
November	4,890	2,020	2,890	1.17	1.30
December	29,200	2,600	5,690	2.30	2.65
The year	37,300	2,020	7,003	2.84	38.63

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT McGHEE, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1917					
January	20,500	5,410	10,900	4.41	5.08
February	36,900	5,680	12,500	5.06	5.27
March	89,000	13,100	28,300	11.50	13.26
April	27,400	6,780	11,900	4.82	5.38
May	7,640	3,890	5,230	2.12	2.44
June	10,600	3,420	5,080	2.06	2.30
July	9,420	2,600	4,180	1.69	1.95
August	5,410	2,020	3,340	1.35	1.56
September	13,700	2,090	3,950	1.60	1.78
October	11,800	2,090	3,050	1.23	1.42
November	3,420	1,940	2,490	1.01	1.13
December	3,200	1,520	2,230	.903	1.04
The year	89,000	1,520	7,763	3.14	42.61
1918					
January	62,400	1,460	9,470	3.83	4.42
February	26,300	7,060	11,900	4.82	5.02
March	7,640	4,380	6,040	2.45	2.82
April	13,100	4,380	6,820	2.76	3.08
May	10,300	4,380	6,010	2.43	2.80
June	16,200	3,200	5,080	2.06	2.30
July	6,780	2,420	3,730	1.51	1.74
August	4,890	2,090	2,930	1.19	1.37
September	4,380	2,020	2,720	1.10	1.23
October	63,000	1,340	7,020	2.84	3.27
November	25,100	3,980	6,750	2.73	3.05
December	59,000	720	9,880	4.00	4.61
The year	63,000	720	6,529	2.64	35.71
1919					
January	37,600	5,940	12,000	4.86	5.60
February	22,600	5,170	8,400	3.40	3.54
March	24,800	6,480	10,500	4.25	4.90
April	14,000	4,680	6,430	2.60	2.90
May	16,800	3,530	7,400	3.00	3.46
June	12,800	2,700	4,720	1.91	2.13
July	6,750	2,510	3,610	1.46	1.68
August	4,440	2,510	2,720	1.10	1.27
September	2,700	820	1,420	.575	.64
October	17,500	720	3,010	1.22	1.41
November	4,440	1,980	2,570	1.04	1.16
December	43,600	2,700	7,640	3.09	3.56
The year	43,600	720	5,868	2.38	32.25

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT McGHEE, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
January	32,900	1,810	6,870	2.78	3.20
February	14,300	3,980	6,870	2.78	3.00
March	44,500	4,210	12,500	5.06	5.83
April	89,000	4,920	17,800	7.21	8.04
May	11,000	3,980	7,260	2.94	3.39
June	11,300	2,330	4,100	1.66	1.85
July	8,690	2,150	3,560	1.44	1.66
August	39,400	2,510	10,500	4.25	4.90
September	25,100	3,530	6,900	2.79	3.11
October	3,750	2,330	2,800	1.13	1.30
November	5,170	2,330	3,110	1.26	1.41
December	46,400	3,100	10,000	4.05	4.67
The year	89,000	1,810	7,689	3.11	42.36
1921					
January	20,200	3,530	7,700	3.12	3.60
February	60,000	5,420	13,400	5.43	5.65
March	9,530	3,750	5,580	2.26	2.61
April	36,300	3,530	7,370	2.98	3.32
May	11,000	4,210	6,080	2.46	2.84
June	6,210	2,700	3,630	1.47	1.64
July	17,500	2,330	3,950	1.60	1.84
August	8,410	2,700	4,370	1.77	2.04
September	3,750	1,810	2,300	.968	1.08
October	4,680	1,650	2,350	.951	1.10
November	13,400	1,810	4,530	1.83	2.04
December	12,500	2,900	5,430	2.20	2.54
The year	60,000	1,650	5,565	2.25	30.30
1922					
January	83,500	3,310	13,400	5.43	6.26
February	43,100	3,530	10,000	4.05	4.22
March	52,100	6,750	16,500	6.68	7.70
April	24,000	7,290	11,200	4.53	5.05
May	18,900	5,680	9,120	3.69	4.25
June	11,000	3,750	6,150	2.49	2.78
July	7,570	3,750	4,720	1.91	2.20
August	4,440	1,980	2,770	1.12	1.29
September	4,680	1,200	2,310	.935	1.04
October	1,980	1,070	1,580	.640	.74
November	1,980	1,070	1,550	.628	.70
December	51,600	1,200	8,460	3.43	3.95
The year	83,500	1,070	7,313	2.96	40.18

MONTHLY DISCHARGE OF LITTLE TENNESSEE RIVER AT McGHEE, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1923					
January	26,600	3,530	7,970	3.23	3.72
February	32,900	5,680	12,700	5.14	5.35
March	39,000	4,920	12,100	4.90	5.65
April	23,700	5,170	8,110	3.28	3.66
May	21,600	5,680	10,200	4.13	4.76
June	15,900	5,170	7,950	3.22	3.59
July	6,750	3,100	4,440	1.80	2.08
August	5,170	2,700	3,850	1.56	1.80
September	3,310	1,980	2,450	0.992	1.11
October	2,790	1,000	1,840	0.745	0.86
November	2,590	1,470	1,760	0.713	0.80
December	10,200	1,890	4,100	1.66	1.91
The year	39,000	1,000	6,456	2.61	35.29

CULLASAGEE RIVER AT CULLASAJA, N. C.

LOCATION. At wooden highway bridge at Cullasaja, Macon County, 3½ miles above mouth of river and 5 miles below Cullasagee falls. Ellijay Creek enters 1 mile above.

DRAINAGE AREA. 87 square miles (measured on topographic maps).

RECORDS AVAILABLE. June 13, 1907 to December 31, 1909; February 12, 1921 to December 31, 1923.

GAGE. Vertical staff attached to left abutment of bridge during 1907-1909, and during 1921-1923, fastened to face of rock bluff on right bank 50 feet above bridge. Datum unchanged.

DISCHARGE MEASUREMENTS. Made from highway bridge.

CHANNEL AND CONTROL. Bed composed of rock and boulders; permanent. Channel straight for 200 feet above and below gage. Banks high and not subject to overflow. Control is riffle just below bridge, formed of solid rock and boulders; practically permanent.

EXTREMES OF DISCHARGE. Maximum stage recorded, 10.10 feet at 7 a.m. May 23, 1923 (discharge, 3,740 second-feet); minimum stage, 0.66 foot at 7 a.m. November 29, 1922 (discharge, 58 second-feet).

ICE. Stage-discharge relation not affected by ice during periods of record.

REGULATION. Several mills above station, but effect of their operation believed to be negligible.

ACCURACY. Stage-discharge relation permanent. Rating curve well defined between 70 and 800 second-feet; extended beyond these limits. Gage read probably to half-tenths once daily during 1907-1909; during 1921-1923, read to hundredths twice daily. Daily discharge ascertained by applying daily or mean daily gage height to rating table. Records good, except for extremely high and low stages, for which they are fair.

COOPERATION. Records during 1907-1909, obtained in coöperation with United States Forest Service.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF CULLASAGEE RIVER AT CULLASAJA, N. C.

Week	Year					
	1907	1908	1909	1921	1922	1923
1	----------	379	285	----------	189	459
2	----------	622	229	----------	372	188
3	----------	382	267	----------	673	152
4	----------	260	213	----------	644	315
5	----------	275	192	----------	343	280
6	----------	256	285	----------	381	431
7	----------	939	585	456	658	412
8	----------	421	894	422	388	260
9	----------	321	425	278	497	252
10	----------	281	429	241	632	245
11	----------	265	838	197	609	549
12	----------	543	520	237	482	458
13	----------	365	528	241	1,021	269
14	----------	264	383	214	657	301
15	----------	230	448	218	439	509
16	----------	297	304	531	496	331
17	----------	627	360	358	346	296
18	----------	343	506	288	562	287
19	----------	336	492	264	449	320
20	----------	252	700	275	369	424
21	----------	242	1,117	381	461	806
22	----------	208	530	214	419	868
23	----------	175	956	195	355	489
24	178	206	432	194	266	354
25	208	185	392	144	260	267
26	213	143	622	176	180	272
27	161	195	360	130	159	229
28	153	234	371	129	157	203
29	120	147	226	185	219	244
30	105	127	221	187	167	159
31	101	103	277	181	123	141
32	96	138	233	149	112	155
33	113	100	534	151	138	133
34	110	334	208	142	101	116
35	85	153	188	109	86	117
36	94	169	136	89	79	112
37	82	95	164	103	95	82
38	142	91	390	100	79	116
39	177	93	231	132	79	102
40	103	78	136	113	77	79
41	87	127	289	84	94	78
42	77	80	224	81	72	94
43	78	247	162	78	80	80
44	129	231	129	135	69	151
45	94	135	119	113	69	173
46	131	146	127	149	69	96
47	413	122	125	234	74	99
48	191	154	119	266	75	159
49	161	396	538	246	136	243
50	398	251	667	156	193	205
51	457	292	282	288	482	246
52	468	255	198	308	243	193

MONTHLY DISCHARGE OF CULLASAGEE RIVER AT CULLASAJA, N. C.
[Drainage area, 87 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
July	190	100	136	1.56	1.80
August	164	78	100	1.15	1.33
September	550	69	121	1.39	1.55
October	126	69	86.2	.991	1.14
November	905	78	205	2.36	2.63
December	995	126	338	3.89	4.48
1908					
January	1,220	230	393	4.52	5.21
February	1,900	230	479	5.51	5.94
March	1,220	220	362	4.16	4.80
April	1,310	190	354	4.07	4.54
May	550	210	280	3.22	3.71
June	309	140	180	2.07	2.31
July	378	112	171	1.97	2.27
August	770	88	174	2.00	2.31
September	350	83	110	1.26	1.41
October	635	74	154	1.77	2.04
November	200	100	130	1.49	1.66
December	1,260	156	296	3.40	3.92
The year	1,900	74	257	2.95	40.12
1909					
January	474	200	244	2.80	3.23
February	1,440	164	519	5.97	6.22
March	2,160	296	573	6.59	7.60
April	1,040	261	381	4.38	4.89
May	2,880	296	672	7.72	8.90
June	2,120	250	592	6.80	7.59
July	995	181	311	3.57	4.12
August	1,900	156	303	3.48	4.01
September	1,620	126	225	2.59	2.89
October	474	126	196	2.25	2.59
November	156	119	124	1.43	1.60
December	2,120	112	401	4.61	5.32
The year	2,880	112	378	4.35	58.96
1921					
February 12-28	680	296	415	4.77	3.01
March	350	181	231	2.66	3.01
April	995	172	328	3.77	4.21
May	680	210	292	3.36	3.87
June	296	126	180	2.07	2.31
July	350	112	158	1.82	2.10
August	378	100	150	1.72	1.98
September	200	83	106	1.22	1.36
October	181	78	93.6	1.08	1.24
November	350	88	168	1.93	2.15
December	635	140	261	3.00	3.46

MONTHLY DISCHARGE OF CULLASAGEE RIVER AT CULLASAJA, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1922					
January	1,900	172	456	5.24	6.04
February	1,360	309	443	5.09	5.30
March	1,540	378	674	7.75	8.94
April	995	309	488	5.61	6.26
May	1,040	296	452	5.20	6.00
June	680	164	294	3.38	3.77
July	350	133	168	1.93	2.22
August	272	83	112	1.29	1.49
September	126	69	83.2	.956	1.07
October	126	65	79.8	.917	1.06
November	88	61	69.7	.801	.89
December	1,670	74	252	2.90	3.34
The year	1,900	61	298	3.42	46.38
1923					
January	1,080	148	279	3.21	3.70
February	905	230	349	4.01	4.18
March	1,180	190	363	4.17	4.81
April	1,260	220	352	4.05	4.52
May	1,670	240	536	6.16	7.10
June	815	230	383	4.40	4.91
July	550	126	206	2.37	2.73
August	220	100	134	1.54	1.78
September	250	78	103	1.18	1.32
October	164	74	83.1	.955	1.10
November	550	78	138	1.59	1.77
December	408	140	217	2.49	2.87
The year	1,670	74	262	3.01	40.79

NANTAHALA RIVER NEAR NANTAHALA, N. C.

LOCATION. At Mathew Cole's footbridge just above Nelsons Creek and about 1 mile up the river from Nantahala, Swain County.

DRAINAGE AREA. 144 square miles.

RECORDS AVAILABLE. May 22, 1907 to December 31, 1909, when the station was discontinued.

GAGE. Staff gage attached to right bank abutment of bridge; read by Mathew Cole.

DISCHARGE MEASUREMENTS. Made from footbridge.

CHANNEL AND CONTROL. Bed rough and rocky; current swift and considerably broken. Control not known. Both banks low but will seldom be overflowed.

EXTREMES OF DISCHARGE. Maximum stage recorded, 4.4 feet June 4, 1909 (discharge not determined); minimum discharge, 152 second-feet numerous days in November and December, 1909.

ICE. Stage-discharge relation seldom if ever affected by ice.

REGULATION. None.

ACCURACY. Stage-discharge relation fairly permanent. Rating curve fairly well defined between 200 and 700 second-feet. Gage read to half-tenths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF NANTAHALA RIVER AT NANTAHALA, N. C.

Week	Year			Week	Year		
	1907	1908	1909		1907	1908	1909
1			445	27	376	355	569
2			451	28	364	376	650
3				29	347	303	444
4			437	30	297	265	393
5		470	340	31	302	254	405
6		470	425	32	261	346	411
7				33	339	263	296
8				34	306	365	266
9				35	241	314	229
10				36	226	293	225
11				37	227	246	250
12				38	177		278
13				39	353	208	274
14			680	40	325	193	214
15		438	589	41	269	223	236
16			468	42	222	167	328
17			535	43	237	240	223
18			656	44	260	289	199
19			568	45	285	226	155
20		440	485	46	312	239	185
21		429		47	344	222	174
22		395		48	387	233	152
23	448	374		49	325	282	255
24	411	363		50		449	359
25	385	310	617	51	406	384	222
26	393	273	644	52	460	424	220

NANTAHALA RIVER AT WESSER, N. C.

LOCATION. At Wesser railroad station on Murphy branch of Southern Railway in Swain County, 500 feet below upper railroad bridge, one-fourth mile below mouth of Silvermine Creek, one-fourth mile above mouth of Wesser Creek and 4 miles upstream from Almond, at junction of Nantahala and Little Tennessee rivers.

DRAINAGE AREA. 160 square miles (measured on topographic maps).

RECORDS AVAILABLE. April 15 to September 30, 1920; November 1, 1920 to April 30, 1921, when station was discontinued.

GAGE. Enameled-faced vertical staff on left bank 500 feet downstream from upper Southern Railway bridge; read by J. Z. Wright.

DISCHARGE MEASUREMENTS. No suitable measuring section near. Measurements made at Almond, 4 miles below, have been used.

CHANNEL AND CONTROL. Bottom very rough; current swift, rough and crooked. Control is a rocky riffle or shoal which heads 10 feet below gage; probably permanent.

EXTREMES OF DISCHARGE. Maximum stage recorded, 4.5 feet at 7 a.m. December 14, 1920 (discharge, 9,800 second-feet); minimum stage recorded, 1.58 feet at 7 a.m. November 14, 1920 (discharge, 195 second-feet).

ICE. Stage-discharge relation seldom if ever affected by ice.

REGULATION. None.

ACCURACY. Stage-discharge relation permanent. Rating curve well defined between 150 and 3,000 second-feet; extended above. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records fair.

NOTE. October 1 to 31, 1920, filled in by estimates derived from comparative hydrographs using records of Little Tennessee River at Judson and Hiwassee River at Murphy.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF NANTAHALA RIVER AT WESSER, N. C.

Week	Year		Week	Year	
	1920	1921		1920	1921
1		506	27	370	
2		883	28	307	
3		781	29	606	
4		529	30	350	
5		489	31	286	
6		1,474	32	564	
7		1,039	33	1,226	
8		920	34	688	
9		652	35	518	
10		523	36	441	
11		435	37	597	
12		466	38	421	
13		483	39	370	
14		415	40	310	
15		375	41	271	
16	906	772	42	242	
17	899	585	43	272	
18	747		44	276	
19	685		45	221	
20	625		46	430	
21	591		47	309	
22	483		48	334	
23	446		49	462	
24	385		50	1,564	
25	503		51	666	
26	365		52	826	

MONTHLY DISCHARGE OF NANTAHALA RIVER AT WESSER, N. C.
[Drainage area, 160 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
April 15-30	1,100	785	895	5.59	3.33
May	905	460	635	3.97	4.58
June	840	320	433	2.70	3.01
July	1,100	290	400	2.50	2.88
August	1,850	260	690	4.31	4.97
September	1,100	320	459	2.87	3.20
October	460	225	271	1.69	1.95
November	970	205	320	2.00	2.23
December	6,400	320	842	5.26	6.06
1921					
January	1,850	460	658	4.11	4.74
February	4,100	460	1,000	6.25	6.51
March	680	390	494	3.09	3.56
April	1,400	355	536	3.35	3.74

NANTAHALA RIVER AT ALMOND, N. C.

LOCATION. At Almond, Swain County, 1,000 feet downstream from railroad station and concrete highway bridge, and one-fourth of a mile above junction of Nantahala and Little Tennessee rivers. It is 300 feet above site of old cable footbridge and 4 miles below mouth of Wesser Creek.

DRAINAGE AREA. 177 square miles (measured on topographic maps).

RECORDS AVAILABLE. April 16, 1912 to November 30, 1917; January 31, 1921 to December 31, 1923.

GAGE. Vertical staff attached to large blackgum tree on right bank near rear of J. H. Coffey's store; read by Mrs. Coffey. From April 16, 1912 to December 31, 1913, the gage used by Knoxville Power Co., was vertical staff at footbridge 300 feet below present gage. On January 1, 1914, a Friez automatic recorder was installed by the power company several hundred feet farther downstream, and maintained until November 30, 1917. Automatic gage referenced to previous staff gage by long series of simultaneous readings. Datum of present gage independent of that used by the power company.

DISCHARGE MEASUREMENTS. Made from cable footbridge 300 feet below gage, and from concrete bridge 1,000 feet upstream.

CHANNEL AND CONTROL. Channel straight for several hundred feet above and below gage. Bed composed of gravel and boulders; probably permanent. Both banks at gage slope gradually. Control is rocky riffle which breaks sharply 500 feet below gage. There is small possibility of backwater effect from the Little Tennessee River.

EXTREMES OF DISCHARGE. Maximum discharge recorded, 15,400 second-feet at 1:30 p.m. January 21, 1922 (gage height, 7.75 feet); a mean daily discharge of 15,240 second-feet is recorded March 4, 1917; minimum stage, 0.70 foot at 5 p.m. November 29, 1922 (discharge, 115 second-feet).

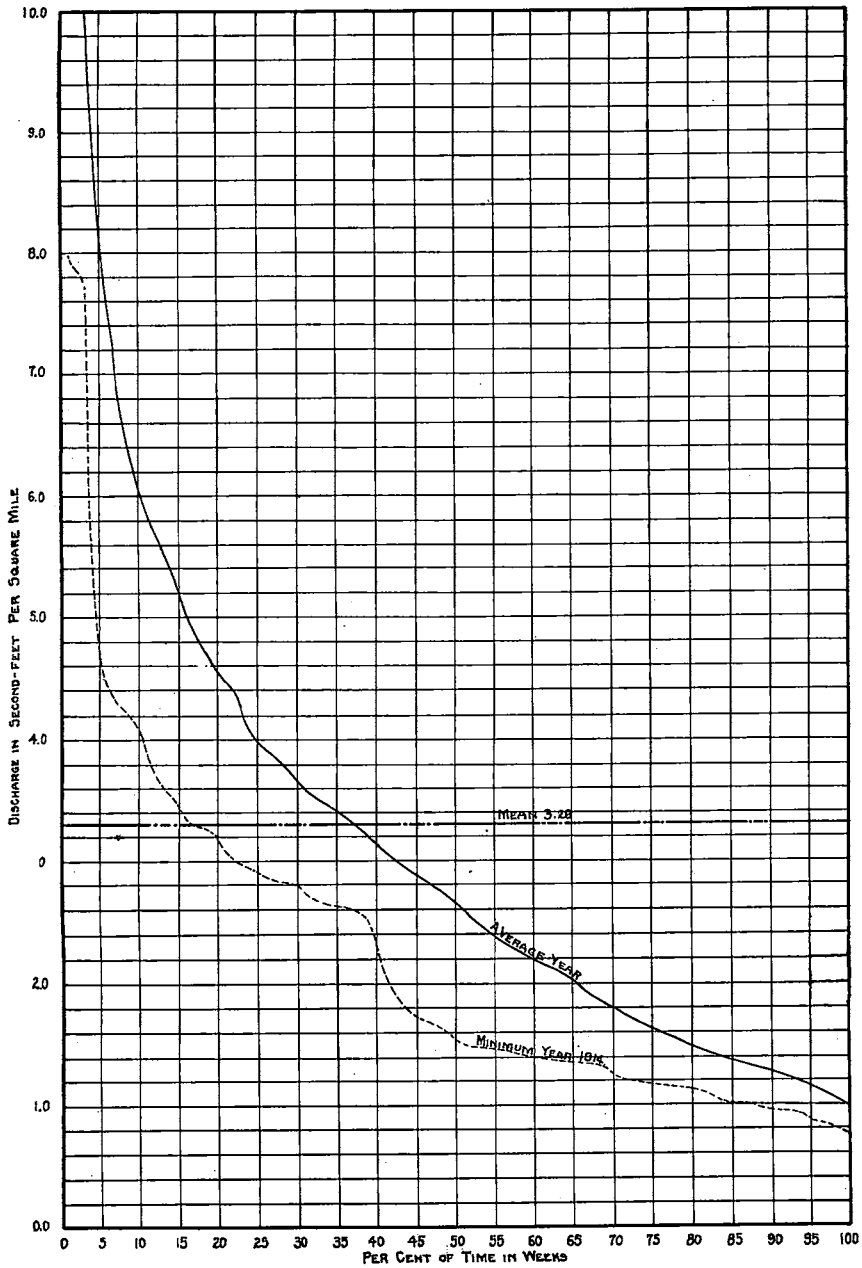
ICE. Stage-discharge relation not affected by ice.

REGULATION. None.

ACCURACY. Stage-discharge relation fairly permanent; rating curve fairly well defined below 3,000 second-feet and extended above. During 1912-13, gage read to hundredths twice daily; during 1921-1923, read to half-tenths twice daily. Daily discharge ascertained by applying to rating table mean daily gage height obtained from two readings on staff or from inspection of recordergraph. Records fairly good.

COOPERATION. Records of daily and monthly discharge previous to 1918, furnished by Knoxville Power Co.

NOTE. Break in record, December 1, 1917 to January 31, 1921, filled in by estimates derived from comparative discharge hydrographs, using records of Little Tennessee River at Judson and of Hiwassee River at Murphy, except those for April 15, 1920 to January 21, 1921, which were obtained by use of gage relation curve between Wesser and Almond gages.



WEEKLY DURATION CURVES
FOR
NANTAHALA RIVER AT ALMOND, N.C.
1913 – 1923

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF NANTAHALA RIVER AT ALMOND, N. C.

Week	Year											
	1912	1913	1911	1915	1916	1917	1918	1919	1920	1921	1922	1923
1	-------	416	282	714	817	835	319	1,554	312	411	579	1,911
2	-------	533	263	713	854	649	541	774	466	986	916	563
3	-------	487	244	836	763	854	524	683	699	875	3,449	643
4	-------	838	260	1,043	877	952	896	1,149	1,963	649	2,460	1,111
5	-------	748	432	1,109	1,317	1,176	1,817	769	946	589	994	1,219
6	-------	669	520	744	817	717	774	640	873	1,676	1,018	1,486
7	-------	779	499	673	555	591	921	780	629	1,131	1,599	1,724
8	-------	539	702	628	491	1,716	979	1,056	741	1,039	975	831
9	-------	894	479	545	543	3,713	633	923	602	737	1,434	769
10	-------	642	465	674	552	2,331	559	1,500	849	583	1,793	936
11	-------	2,138	763	485	427	1,312	513	891	1,180	490	1,636	1,574
12	-------	993	527	415	357	2,584	539	746	1,203	522	1,253	1,207
13	-------	2,047	621	445	405	2,029	477	919	1,587	543	1,529	816
14	-------	841	558	409	425	1,502	556	654	3,514	485	1,244	823
15	-------	668	581	415	445	1,097	659	707	1,371	424	968	1,049
16	714	532	838	332	352	769	539	811	1,004	853	1,235	874
17	784	439	582	299	321	599	541	547	997	727	995	744
18	722	374	499	276	289	541	536	589	840	594	1,258	673
19	627	359	461	584	245	477	507	727	772	611	1,051	686
20	497	345	363	385	258	405	519	556	709	624	854	1,104
21	415	672	304	345	1,139	422	526	503	673	730	860	1,107
22	554	457	257	346	500	456	415	422	546	481	788	1,564
23	401	457	297	282	438	564	404	346	502	419	854	961
24	408	375	250	334	625	485	247	319	426	357	774	1,055
25	341	339	248	267	480	423	411	434	561	324	584	721
26	458	306	207	278	408	381	500	917	401	352	475	716
27	446	274	235	518	385	305	321	663	410	259	517	669
28	518	293	209	395	1,615	281	259	486	333	263	458	536
29	471	221	264	291	1,049	439	304	574	678	465	501	503
30	365	259	180	241	932	367	343	447	386	325	467	448
31	402	312	168	233	567	349	309	397	311	321	352	410
32	344	305	213	183	639	326	281	345	627	349	331	526
33	305	227	201	189	476	300	299	313	1,361	412	273	470
34	313	241	182	225	387	234	265	292	768	422	250	434
35	261	197	196	197	335	377	238	320	590	324	217	361
36	246	192	151	229	312	365	299	221	496	262	205	341
37	277	191	139	215	243	274	229	208	671	225	225	250
38	355	225	170	219	224	304	289	171	471	214	196	248
39	490	205	153	188	205	428	280	154	407	359	182	229
40	267	183	179	641	221	287	219	201	336	363	174	189
41	239	164	166	326	210	245	201	204	294	229	188	171
42	286	213	744	421	277	319	220	209	263	202	158	204
43	239	258	241	394	213	287	606	389	296	191	184	173
44	234	200	202	268	239	337	1,756	251	300	316	144	203
45	271	224	217	240	192	278	486	236	235	249	136	207
46	251	221	318	353	278	282	438	321	475	569	189	160
47	223	199	241	476	285	244	436	215	337	651	168	203
48	220	232	639	317	299	255	546	291	368	912	210	240
49	466	288	1,401	257	333	258	390	869	522	799	768	458
50	305	240	507	309	367	283	719	1,147	1,801	476	948	354
51	292	216	469	1,759	411	316	2,160	511	751	557	1,699	398
52	426	321	1,377	1,133	496	309	1,193	392	925	860	613	564

MONTHLY DISCHARGE OF NANTAHALA RIVER AT ALMOND, N. C.
[Drainage area, 177 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1912					
April 16-30	1,056	572	750	4.24	2.37
May	1,084	383	570	3.22	3.71
June	711	312	404	2.28	2.54
July	572	317	441	2.49	2.87
August	636	249	337	1.90	2.19
September	1,217	225	335	1.89	2.11
October	436	217	254	1.44	1.66
November	389	188	241	1.36	1.52
December	767	225	366	2.07	2.39
1913					
January	1,350	389	589	3.33	3.84
February	1,509	454	713	4.03	4.20
March	5,058	505	1,380	7.80	8.99
April	1,124	394	629	3.55	3.96
May	1,282	302	446	2.52	2.90
June	621	271	373	2.11	2.35
July	538	205	267	1.51	1.74
August	400	188	256	1.45	1.67
September	372	170	202	1.14	1.27
October	366	150	205	1.16	1.34
November	341	179	207	1.17	1.30
December	551	210	271	1.53	1.76
The year	5,058	150	462	2.61	35.32
1914					
January	788	218	278	1.57	1.81
February	913	365	547	3.09	3.22
March	1,441	400	573	3.24	3.74
April	1,214	443	637	3.60	4.02
May	672	250	387	2.19	2.52
June	400	188	252	1.42	1.58
July	495	148	218	1.23	1.42
August	305	155	195	1.10	1.27
September	201	127	154	.870	.97
October	1,872	136	321	1.81	2.09
November	1,656	173	305	1.72	1.92
December	2,959	400	943	5.33	6.14
The year	2,959	127	401	2.26	30.70
1915					
January	1,438	550	813	4.59	5.29
February	1,674	534	778	4.40	4.58
March	934	386	508	2.87	3.31
April	480	282	364	2.06	2.30
May	809	260	391	2.21	2.55
June	458	218	299	1.69	1.89
July	1,055	209	349	1.97	2.27
August	338	173	207	1.17	1.35
September	429	165	211	1.19	1.33
October	1,393	271	430	2.43	2.80
November	738	227	339	1.92	2.14
December	5,898	241	835	4.72	5.44
The year	5,898	165	460	2.60	35.25

MONTHLY DISCHARGE OF NANTAHALA RIVER AT ALMOND, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1916					
January	1,194	626	812	4.59	5.29
February	2,662	414	766	4.33	4.67
March	700	331	459	2.59	2.99
April	495	305	383	2.16	2.41
May	3,172	236	495	2.80	3.23
June	924	358	488	2.76	3.08
July	2,857	293	947	5.35	6.17
August	840	318	486	2.75	3.17
September	352	192	251	1.42	1.58
October	600	184	234	1.32	1.52
November	443	180	253	1 43	1.60
December	810	280	400	2.26	2.61
The year	3,172	180	498	2.81	38.32
1917					
January	1,739	495	828	4.68	5.40
February	2,959	534	1,060	5.99	6.24
March	15,240	1,100	2,610	14.70	16.95
April	2,112	550	990	5.59	6.24
May	600	365	451	2.55	2.94
June	934	338	474	2.68	2.99
July	748	271	347	1.96	2.26
August	583	201	297	1.68	1.94
September	945	241	361	2.04	2.28
October	558	214	294	1.66	1.91
November	318	226	270	1.53	1.71
December	340	230	281	1.59	1.83
The year	15,240	201	689	3.89	52.69
1918					
January	3,200	280	783	4.42	5.10
February	1,500	660	903	5.10	5.31
March	620	440	530	2.99	3.45
April	960	440	568	3.21	3.58
May	660	440	511	2.89	3.33
June	580	310	406	2.29	2.56
July	600	240	320	1.81	2.09
August	400	210	273	1.54	1.78
September	370	200	270	1.53	1.71
October	5,000	190	559	3.16	3.64
November	1,300	350	538	3.04	3.39
December	7,800	350	1,070	6.05	6.98
The year	7,800	190	561	3.17	42.92

MONTHLY DISCHARGE OF NANTAHALA RIVER AT ALMOND, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1919					
January	2,500	600	1,020	5.76	6.64
February	1,700	580	825	4.66	4.85
March	1,900	640	1,010	5.71	6.58
April	1,100	500	676	3.82	4.26
May	1,100	410	578	3.27	3.77
June	1,300	300	486	2.75	3.07
July	980	380	535	3.02	3.48
August	470	240	333	1.88	2.17
September	320	145	195	1.10	1.23
October	800	150	248	1.40	1.61
November	400	210	263	1.49	1.66
December	4,000	270	692	3.91	4.51
The year	4,000	145	572	3.23	43.83
1920					
January	3,200	290	875	4.94	5.70
February	1,600	520	754	4.26	4.59
March	2,600	520	1,100	6.21	7.16
April	8,000	880	1,690	9.55	10.66
May	1,000	520	718	4.06	4.68
June	930	350	483	2.73	3.05
July	1,220	310	442	2.50	2.88
August	2,030	285	770	4.35	5.02
September	1,220	350	513	2.90	3.24
October	520	240	294	1.66	1.91
November	1,070	215	350	1.98	2.21
December	7,500	350	955	5.40	6.23
The year	8,000	215	745	4.21	57.33
1921					
January	2,030	520	755	4.27	4.92
February	4,500	535	1,130	6.38	6.64
March	770	432	549	3.10	3.57
April	1,660	370	624	3.53	3.94
May	1,000	465	624	3.53	4.07
June	465	296	373	2.11	2.35
July	610	235	325	1.84	2.12
August	610	235	373	2.11	2.43
September	610	190	268	1.51	1.68
October	610	182	245	1.38	1.59
November	1,360	226	542	3.06	3.41
December	1,600	400	696	3.93	4.53
The year	4,500	182	542	3.06	41.25

MONTHLY DISCHARGE OF NANTAHALA RIVER AT ALMOND, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1922					
January	12,600	535	1,770	10.00	11.53
February	3,420	815	1,130	6.38	6.64
March	3,420	950	1,590	8.98	10.35
April	1,730	815	1,120	6.33	7.06
May	1,860	690	972	5.49	6.33
June	1,360	465	698	3.94	4.40
July	690	400	480	2.71	3.12
August	465	212	283	1.60	1.84
September	340	150	202	1.14	1.27
October	340	132	174	.983	1.13
November	465	132	159	.898	1.00
December	4,800	182	952	5.38	6.20
The year	12,600	132	794	4.49	60.87
1923					
January	2,000	500	841	4.75	5.48
February	3,660	690	1,290	7.29	7.59
March	2,300	690	1,090	6.16	7.10
April	1,730	690	863	4.88	5.44
May	2,300	610	1,010	5.71	6.58
June	1,600	610	916	5.18	5.78
July	860	370	533	3.01	3.47
August	730	334	449	2.54	2.93
September	370	212	271	1.53	1.71
October	302	155	185	1.05	1.21
November	376	146	202	1.14	1.27
December	950	208	434	2.45	2.82
The year	3,660	146	674	3.81	51.38

OCONALUFTY RIVER AT CHEROKEE, N. C.

LOCATION. At cable footbridge one-fourth mile upstream from Cherokee Indian School in Cherokee Indian Reservation, one-fourth mile downstream from small milldam, three-fourths mile upstream from Cherokee, Swain County, 2 miles upstream from mouth of Soco Creek and 7 miles upstream from junction of Oconalufty and Tuckasegee rivers at Elo, N. C.

DRAINAGE AREA. 133 square miles (measured on topographic maps).

RECORDS AVAILABLE. January 27, 1921 to December 31, 1923. The gaging station operated on this river, 1907-1908, was located just below mouth of Soco Creek, 2 miles downstream from present gage.

GAGE. A vertical staff with standard enamel face reading from 3.4 to 10.2 feet, attached to a large maple on right bank 6 feet below bridge; read by Mr. J. L. Walters.

DISCHARGE MEASUREMENTS. Made from cable footbridge just above gage.

CHANNEL AND CONTROL. Channel straight for several hundred feet above and below gage. Both banks steep and about 11 feet high. Wide cultivated bottoms on both banks are overflowed during extreme flood stages. Bed, gravel and small boulders; probably permanent. A rocky riffle 400 feet below forms low water control. 1,000 feet below, the hills shut in to form bluffs on both banks which will control extreme flood stages. Stage-discharge relation considered permanent.

EXTREMES OF DISCHARGE. 1921-1923: Maximum stage recorded during period, 9.5 feet at 1 p.m. January 21, 1922 (discharge 8,990 second-feet); minimum stage recorded, 3.55 feet various days in October and November 1922 (discharge 76 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. A small dam one-fourth mile upstream, which operates lighting system for Indian School, has very little storage but may cause sufficient diurnal fluctuation during low stages to affect accuracy of daily means.

ACCURACY. Stage-discharge relation fairly permanent. Rating curves well defined between 100 and 1,500 second-feet; above that point curve is an extension Gage read to half-tenths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF OCONALUFTY RIVER NEAR CHEROKEE, N. C.

Week	Year				
	1907	1908	1921	1922	1923
1				286	570
2				347	299
3		412		1,628	356
4		436		1,154	644
5		440	375	476	1,239
6		416	1,297	467	1,009
7			829	964	1,004
8		416	632	534	455
9		454	430	1,174	458
10		423	359	1,443	888
11		442	301	1,172	1,363
12			359	669	825
13		397	377	1,015	496
14		406	333	752	538
15		409	264	527	666
16		405	706	771	524
17		414	477	727	507
18		413	472	1,076	532
19		341	463	749	522
20		407	354	585	973
21		406	435	574	1,053
22		432	348	436	718
23		427	273	435	471
24		410	298	437	564
25		421	316	335	387
26		385	266	367	419
27			194	603	392
28			222	401	327
29			505	387	315
30			319	335	324
31			659	243	321
32			522	342	337
33			722	252	312
34			613	236	253
35	249		460	163	203
36	231		308	153	182
37	299		243	157	149
38	274		214	116	169
39			212	110	132
40	393		289	102	119
41	278		195	111	101
42	207		160	103	104
43	191		146	109	108
44	382		250	87	133
45	477		169	81	145
46			355	106	100
47			384	92	140
48	439		771	171	169
49	313		559	309	378
50	530		298	544	269
51	384		343	868	300
52	390		448	287	423

MONTHLY DISCHARGE OF OCONALUFTY RIVER AT CHEROKEE, N. C.
[Drainage area, 133 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1921					
January 27-31	415	385	398	2.99	0.56
February	3,030	328	789	5.93	6.18
March	575	250	353	2.65	3.06
April	1,230	250	444	3.34	3.73
May	808	311	427	3.21	3.70
June	445	225	290	2.18	2.43
July	1,030	180	305	2 29	2.64
August	2,300	200	633	4.76	5.49
September	367	180	252	1.89	2.11
October	403	142	195	1.47	1.70
November	940	142	358	2.69	3.00
December	1,440	250	444	3.34	3.85
1922					
January	6,490	275	818	6,15	7.09
February	2,300	415	613	4.61	4.80
March	3,520	508	1,150	8.65	9.97
April	1,230	415	711	5.35	5.97
May	2,170	415	705	5.30	6.11
June	685	275	406	3.05	3.40
July	1,130	260	419	3.15	2.63
August	475	160	253	1.90	2.19
September	344	92	134	1.01	1.13
October	180	78	105	.789	.91
November	168	78	90.6	.681	.76
December	2,440	118	487	3.66	4.22
The year	6,490	78	491	3.69	49.18
1923					
January	1,670	250	545	4.10	4.73
February	2,300	355	847	6.37	6.63
March	1,790	385	846	6.36	7.33
April	1,130	385	557	4.19	4.68
May	1,790	445	777	5.84	6.73
June	725	344	480	3.61	4.03
July	685	225	337	2.53	2.92
August	540	180	298	2.24	2.58
September	367	124	159	1.20	1.34
October	131	92	108	.812	.94
November	328	92	137	1.03	1.15
December	808	142	335	2.52	2.90
The year	2,300	92	452	3.40	45.96

TUCKASEGEE RIVER NEAR EAST LAPORT, N. C.

LOCATION. At steel highway bridge on road between Sylva, Cullowhee and East Laport, 1 mile west of East Laport, Jackson County, and 1 mile southeast of Cullowhee. Caney Fork enters from the right 1½ miles upstream.

DRAINAGE AREA. 200 square miles (measured on topographic maps).

RECORDS AVAILABLE. May 27, 1907 to December 31, 1909; December 21, 1920 to December 31, 1923.

GAGE. Chain gage attached to downstream handrail of bridge, read by W. D. Wike. Gage used, 1907-1909, was vertical staff fastened to post on left bank, 75 feet below bridge. Datum unchanged but stage-discharge relation was changed by relocation of gage.

DISCHARGE MEASUREMENTS. Made from highway bridge at gage.

CHANNEL AND CONTROL. Channel straight for 500 feet above and below gage. Bed composed of rock, sand and gravel; shifts slightly. Right bank high, but during extremely high stages is overflowed beyond end of bridge; left bank extremely high and not subject to overflow. Control is series of solid rock riffles several hundred feet downstream; practically permanent.

EXTREMES OF DISCHARGE. Maximum stage recorded, 9.6 feet February 15, 1908 (discharge, 6,000 second-feet); minimum stage recorded, 0.99 foot November 29 and 30, 1922 (discharge, 103 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. Negligible.

ACCURACY. Stage-discharge relation not permanent. Rating curves used, fairly well defined for medium and low stages, 1907-1909, and well defined below 1,000 second-feet for recent years; all extended for high water. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records, 1907-1909, fair; 1920-1923, good up to 1,000 second-feet and fair beyond.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF TUCKASEGEE RIVER NEAR EAST LAPORT, N. C.

Week	Year						
	1907	1908	1909	1920	1921	1922	1923
1		704	739		579	393	854
2		1,680	539		777	621	390
3		783	633		771	1,105	338
4		566	458		584	1,247	590
5		661	452		549	704	664
6		583	729		1,063	802	925
7		2,137	1,116		969	1,188	891
8		769	866		1,089	786	514
9		521	761		671	1,102	531
10		589	1,064		542	1,088	549
11		686	1,426		470	1,185	1,162
12		954	1,177		557	1,014	971
13		790	1,111		540	1,659	621
14		571	726		458	1,315	588
15		664	989		447	934	701
16		684	697		874	914	665
17		1,104	747		800	769	579
18		644	1,137		582	971	555
19		903	1,273		617	746	634
20		537	776		624	837	862
21		514	1,596		857	888	1,290
22	569	576	1,161		550	894	1,864
23	531	459	2,411		435	763	1,121
24	395	492	928		405	621	778
25	406	390	754		331	544	600
26	448	336	794		436	533	627
27	376	539	771		286	408	556
28	357	544	610		296	421	557
29	336	381	526		450	441	724
30	288	306	494		332	411	453
31	271	327	531		318	296	449
32	266	367	787		287	263	437
33	296	288	599		353	261	428
34	242	797	385		390	265	348
35	231	471	306		307	197	333
36	220	362	271		234	186	319
37	195	296	221		230	189	294
38	504	249	980		212	156	885
39	386	227	957		309	177	332
40	296	213	317		422	159	250
41	238	331	747		175	179	235
42	220	213	985		165	147	328
43	220	404	531		151	142	236
44	275	455	380		293	129	436
45	233	288	296		213	129	358
46	262	301	235		405	137	267
47	766	288	191		424	125	267
48	407	292	171		396	120	387
49	239	761	429		461	238	604
50	907	501	1,029		308	320	571
51	765	484	731		585	1,111	534
52	924	551	523	951	632	462	461

MONTHLY DISCHARGE OF TUCKASEGEE RIVER NEAR EAST LAPORT, N. C.
[Drainage area, 200 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
June	1,050	335	477	2.38	2.66
July	480	275	340	1.70	1.96
August	335	220	258	1.29	1.49
September	2,380	170	322	1.61	1.80
October	305	220	241	1.20	1.38
November	1,230	195	410	2.05	2.29
December	2,380	220	691	3.46	3.99
1908					
January	4,450	520	893	4.46	5.14
February	8,000	480	1,020	5.10	5.50
March	1,710	480	724	3.62	4.17
April	3,780	480	750	3.75	4.18
May	1,950	480	648	3.24	3.74
June	640	305	429	2.14	2.39
July	740	245	432	2.16	2.49
August	1,360	275	464	2.32	2.68
September	440	220	287	1.44	1.61
October	890	195	320	1.60	1.84
November	370	275	298	1.49	1.66
December	2,380	305	557	2.78	3.20
The year	8,000	195	569	2.84	38.60
1909					
January	1,570	405	576	2.88	3.32
February	3,350	440	824	4.12	4.29
March	2,850	690	1,150	5.75	6.63
April	2,380	600	793	3.96	4.42
May	3,050	690	1,200	6.00	6.92
June	5,700	644	1,230	6.15	6.86
July	910	419	594	2.97	3.42
August	1,560	305	542	2.71	3.12
September	3,350	208	585	2.92	3.26
October	1,950	239	622	3.11	3.58
November	379	179	246	1.23	1.37
December	3,350	152	639	3.20	3.69
The year	5,700	152	751	3.75	50.88

MONTHLY DISCHARGE OF TUCKASEGEE RIVER NEAR EAST LAPORT, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
December 21-31	1,860	488	894	4.47	1.83
1921					
January	1,150	488	669	3.34	3.85
February	2,370	488	933	4.66	4.85
March	800	420	536	2.68	3.09
April	1,570	360	648	3.24	3.62
May	1,200	465	660	3.30	3.80
June	750	300	413	2.06	2.30
July	700	248	340	1.70	1.96
August	750	230	337	1.68	1.94
September	442	175	249	1.24	1.38
October	750	155	235	1.18	1.36
November	1,000	165	344	1.72	1.92
December	1,320	265	493	2.46	2.84
The year	2,370	155	488	2.44	32.91
1922					
January	3,150	360	827	4.14	4.77
February	2,380	644	870	4.35	4.53
March	2,950	746	1,250	6.25	7.21
April	2,470	694	990	4.95	5.52
May	1,710	620	853	4.26	4.91
June	1,560	419	664	3.32	3.70
July	549	323	418	2.09	2.41
August	596	179	255	1.28	1.48
September	305	132	178	.890	.99
October	305	127	154	.770	.89
November	168	103	127	.635	.71
December	4,220	134	506	2.53	2.92
The Year	4,220	103	591	2.96	40.04
1923					
January	2,380	305	555	2.78	3.20
February	1,710	461	742	3.71	3.86
March	2,200	461	790	3.95	4.55
April	1,270	504	627	3.14	3.50
May	3,050	461	1,030	5.15	5.94
June	1,480	549	843	4.22	4.71
July	1,710	360	563	2.82	3.25
August	620	288	402	2.01	2.32
September	3,890	239	446	2.23	2.49
October	461	157	260	1.30	1.50
November	1,480	208	352	1.76	1.96
December	1,140	341	528	2.64	3.04
The year	3,890	157	595	2.98	40.32

TUCKASEGEE RIVER AT BRYSON, N. C.

LOCATION. At highway bridge in Bryson, Swain County, on the main street between Southern Railway station and county courthouse, half a mile below mouth of Deep Creek, 5½ miles below mouth of Oconalufty River and 15 miles above junction of Tuckasegee and Little Tennessee rivers.

DRAINAGE AREA. 673 square miles (measured by Knoxville Power Company on topographic maps).

RECORDS AVAILABLE. November 7, 1897 to December 31, 1923.

GAGE. A vertical rod attached to first pier from left bank; read by employees of Knoxville Power Company. From February 3, 1914 to May 17, 1920, the gage was a Friez water-stage recorder, located on right bank 200 feet below bridge. Prior to February 3, 1919, the gage was a staff attached to right bank pier of old steel bridge. Datum of present gage and Friez recorded 0.1 foot higher than original gage.

DISCHARGE MEASUREMENTS. Made from downstream side of bridge to which gage is attached.

CHANNEL AND CONTROL. Bed at gage is sand, gravel and boulders; fairly permanent. Both banks are high and not subject to overflow beyond ends of bridge. Control is a rock, gravel and sand riffle half a mile downstream; practically permanent.

EXTREMES OF DISCHARGE. 1898-1923: Maximum stage recorded, 11.0 feet (old Geological Survey gage), March 19, 1899 (discharge 38,600 second-feet); minimum discharge recorded, 300 second-feet several days in September, 22-30, 1899.

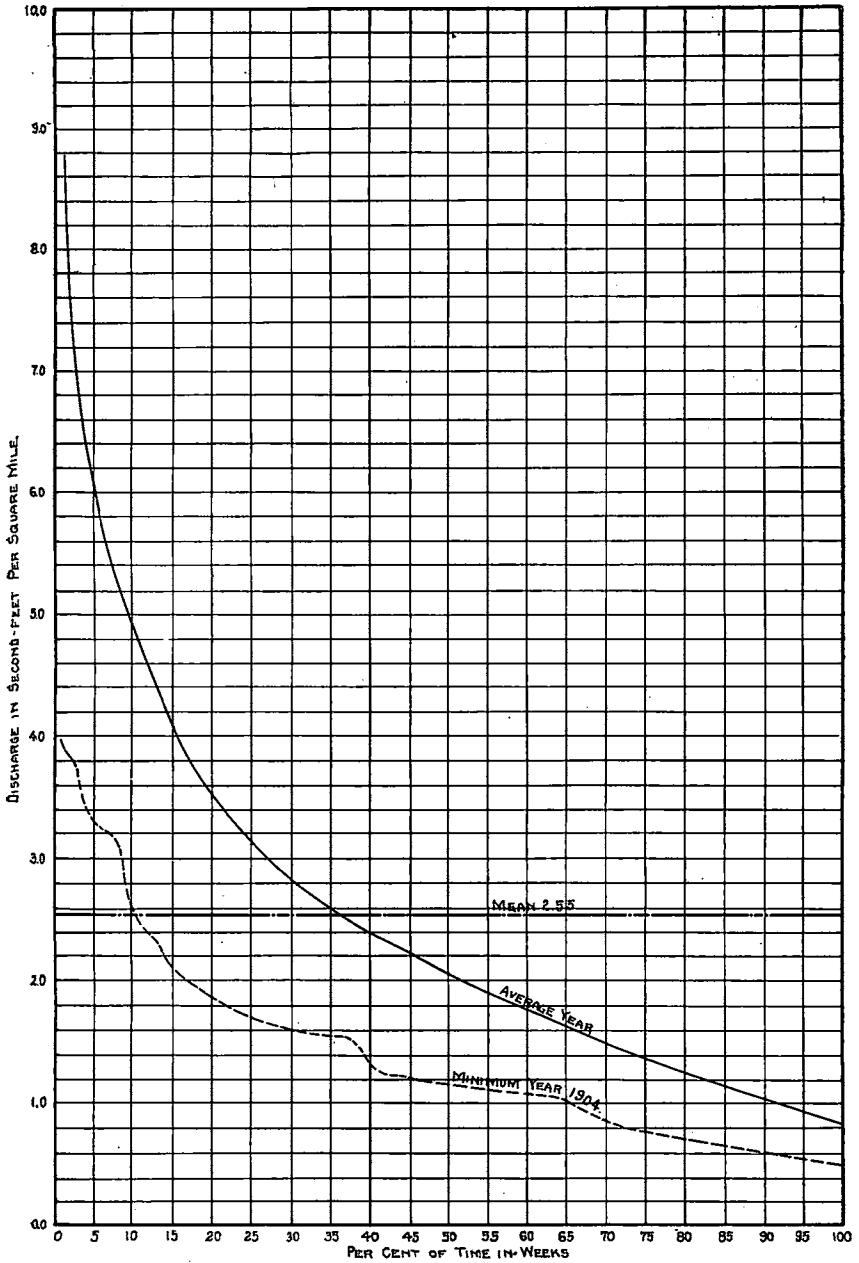
ICE. Stage-discharge relation seldom, if ever, affected by ice.

REGULATION. Slight diurnal fluctuations caused by small plants upstream, during low stages; probably not enough to affect accuracy of records during periods when record is based on two daily rod readings.

ACCURACY. Stage-discharge relation fairly permanent. Rating curves for recent years very well defined except at extremities; for former years not so good; for 1898 and 1899, poorly defined. Gage read to hundredths twice daily since recorder was taken out. Probably first gage was read only once a day. Daily discharge ascertained by applying mean daily gage height to rating table. Records poor for 1898 and 1899; fair to good for 1900 to 1915; and good since 1915 except for extremely high water which are fair.

COOPERATION. Daily discharge record October 1, 1915 to December 31, 1919, and mean daily gage heights January 1, 1920 to December 31, 1923, furnished by Knoxville Power Co.

NOTE. Short breaks in the record have been filled in by estimate derived from comparative hydrographs of gaging stations near by.



WEEKLY DURATION CURVES.
FOR
TUCKASEEGEE RIVER AT BRYSON, N.C.
1898-1923

MEAN WEEKLY DISCHARGE, IN SECOND-FEET

Week	Year											
	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
1	623	2,356	820	1,286	2,901	1,617	496	803	3,467	2,314	2,434	2,179
2	1,197	2,474	2,429	4,483	1,779	1,397	539	3,072	1,719	1,614	3,227	1,547
3	2,096	1,740	2,217	1,871	1,413	1,070	724	1,247	1,731	1,449	2,194	2,430
4	4,036	1,501	2,580	1,399	1,547	1,043	2,178	803	4,567	1,270	1,614	1,384
5	1,339	5,584	1,969	1,714	4,360	1,274	620	3,072	2,021	1,737	1,551	1,131
6	889	13,086	1,714	1,904	2,070	409	1,040	1,247	1,449	2,039	1,557	2,521
7	754	3,043	7,223	1,491	1,559	4,959	750	803	1,270	1,290	4,826	3,159
8	754	2,257	3,853	1,074	1,769	2,726	1,609	760	1,254	1,240	2,440	3,884
9	649	6,229	2,594	977	6,774	5,154	1,266	2,361	1,813	2,596	2,192	2,817
10	569	3,967	4,557	2,186	3,543	4,663	2,564	2,260	1,481	2,239	2,341	3,446
11	984	11,583	3,291	1,443	4,281	3,593	1,360	3,550	2,089	1,813	2,339	4,634
12	916	13,297	4,110	2,679	2,744	6,399	2,534	1,744	2,233	1,311	3,999	3,189
13	6,346	5,714	2,141	5,076	5,121	4,579	2,093	2,731	3,019	1,210	2,864	3,880
14	2,621	4,107	2,064	5,270	2,961	4,774	1,636	1,747	2,029	1,363	1,834	2,330
15	2,111	3,883	2,207	2,801	2,240	5,041	1,410	1,844	2,871	1,160	1,593	2,397
16	1,639	2,613	3,401	3,620	1,990	3,814	1,150	1,280	2,301	1,540	1,961	1,753
17	1,911	2,943	2,810	3,017	1,649	2,647	1,259	1,201	1,557	1,834	3,384	1,821
18	1,327	2,507	2,041	2,214	1,661	1,967	1,043	1,611	1,603	1,853	2,069	4,059
19	1,153	2,819	1,620	1,731	1,341	1,580	2,170	1,180	1,336	2,326	2,247	2,534
20	1,096	1,871	1,230	1,766	1,334	1,341	1,091	1,189	1,041	1,596	2,067	2,367
21	913	1,429	1,221	6,431	1,376	1,180	830	1,420	1,026	1,451	1,846	4,253
22	711	1,206	997	2,857	1,131	1,964	1,107	1,557	1,511	1,863	1,719	2,789
23	547	1,020	1,596	2,141	913	2,670	1,057	1,971	1,253	1,761	1,379	5,314
24	714	2,259	2,241	2,360	865	1,533	766	1,864	2,679	1,343	1,377	2,827
25	740	1,029	3,946	2,046	896	1,190	777	1,354	1,644	1,224	1,070	2,200
26	590	893	3,266	1,924	1,023	1,053	916	989	1,434	1,781	976	2,383
27	724	897	1,971	1,866	798	996	691	944	1,554	1,164	1,593	2,800
28	1,380	679	1,616	1,064	923	1,186	735	1,301	1,567	1,276	1,486	3,134
29	914	599	1,526	1,157	667	911	662	1,231	2,846	1,327	1,030	1,756
30	1,370	950	1,714	863	569	771	729	1,066	1,999	881	880	1,967
31	5,721	689	1,099	815	536	886	1,191	3,459	1,946	766	766	2,159
32	4,771	583	837	3,624	531	701	800	1,779	1,393	874	1,293	1,893
33	2,900	569	816	6,933	471	776	819	1,261	1,720	926	814	2,473
34	1,604	450	921	4,766	431	597	796	933	1,754	856	1,831	1,366
35	1,736	623	871	3,771	489	536	716	2,211	2,773	639	1,049	1,100
36	10,279	509	683	2,037	882	523	557	1,819	2,496	734	1,101	949
37	1,920	450	1,259	1,777	702	579	441	1,324	1,494	730	726	1,027
38	2,714	374	902	2,341	1,550	489	425	980	3,859	1,430	624	1,590
39	1,660	300	675	1,330	1,020	420	729	827	4,160	1,326	583	1,109
40	7,581	365	624	1,140	736	395	410	729	5,827	1,001	522	829
41	3,079	764	618	1,250	735	516	370	610	2,767	766	769	1,164
42	4,379	543	549	951	639	481	360	597	2,281	631	522	1,159
43	2,036	425	2,180	820	515	405	346	660	1,559	671	831	889
44	1,409	591	995	804	515	436	373	529	1,290	947	1,187	789
45	1,521	412	807	734	981	494	409	535	1,191	1,027	683	710
46	1,587	365	689	681	630	1,355	449	479	2,167	946	783	734
47	2,157	578	1,091	701	1,148	511	435	544	5,991	2,493	681	736
48	1,759	679	2,121	639	1,221	390	484	573	1,756	1,417	811	653
49	1,907	586	1,993	899	1,744	405	1,090	2,964	1,563	1,167	2,369	1,207
50	1,073	2,764	960	4,960	1,771	477	545	1,554	1,687	2,011	1,531	1,834
51	1,430	836	1,331	1,904	2,109	615	448	1,531	2,383	1,886	1,559	1,047
52	2,754	1,130	1,430	5,812	1,281	606	1,066	1,490	2,649	2,912	1,934	870

OF TUCKASEGEE RIVER AT BRYSON, N. C.

Year														
1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	Week
1,610	4,353	2,117	1,353	1,023	2,371	3,162	2,929	936	4,120	984	1,549	1,184	2,320	1
1,541	1,451	1,461	1,674	846	2,533	2,919	1,933	2,316	2,016	1,377	2,507	1,711	1,304	2
1,399	1,110	1,274	1,479	789	3,279	2,764	2,559	1,079	1,873	1,689	2,307	4,593	1,242	3
1,323	1,013	1,060	2,714	839	3,313	2,448	2,930	3,005	7,709	3,547	4,704	4,073	2,356	4
1,063	1,229	3,046	2,543	1,412	3,865	3,942	2,876	4,754	2,101	2,459	1,660	2,003	3,069	5
2,124	2,363	1,351	1,906	1,734	2,866	2,766	1,761	2,103	1,716	1,951	3,953	2,166	3,310	6
1,681	1,720	1,411	2,061	1,323	2,236	1,978	1,744	2,680	1,993	1,606	2,956	3,663	3,304	7
1,913	1,499	2,610	1,583	1,880	2,144	1,658	4,026	2,666	2,523	1,759	2,919	2,396	1,903	8
2,994	1,250	3,556	3,833	1,350	1,732	1,849	7,170	1,796	2,419	1,605	2,069	3,790	1,769	9
1,837	2,264	2,433	1,803	1,176	2,097	2,141	5,329	1,633	3,478	1,624	1,681	4,321	2,499	10
1,356	1,387	4,550	5,983	1,889	1,500	1,721	3,541	1,350	2,642	3,809	1,486	4,233	3,794	11
1,180	1,353	3,374	3,166	1,430	1,329	1,566	4,337	1,571	2,053	3,377	1,634	2,969	3,070	12
984	1,961	5,220	7,244	1,936	1,297	1,688	4,828	1,378	2,085	4,014	1,619	3,989	2,151	13
906	5,189	3,999	2,757	1,796	1,243	1,689	3,478	2,252	1,641	9,180	1,461	3,323	2,117	14
907	3,909	2,354	2,593	1,997	1,617	1,639	3,009	1,537	1,884	3,797	1,356	2,541	2,561	15
2,146	3,197	2,454	2,203	2,247	1,152	1,317	2,299	1,434	2,249	3,551	2,744	2,766	2,154	16
1,110	2,164	3,514	1,637	1,619	1,139	1,197	1,957	1,372	1,559	3,191	2,063	2,641	1,957	17
1,034	2,060	3,321	1,384	1,360	1,013	1,030	1,839	1,367	2,299	2,274	1,741	3,197	1,947	18
2,686	1,480	2,790	1,291	1,221	2,083	936	1,617	1,404	1,622	2,211	1,289	2,711	2,004	19
1,897	1,260	2,021	1,190	1,031	1,326	912	1,406	1,378	1,420	1,859	1,684	2,469	2,966	20
3,030	1,200	1,479	2,777	868	1,165	2,317	1,314	1,416	1,450	1,463	2,096	2,396	3,703	21
1,973	1,014	2,124	1,861	727	1,502	1,605	1,267	1,073	1,258	1,311	1,507	2,081	3,591	22
2,587	863	1,651	1,736	803	1,197	1,619	1,474	1,214	1,038	1,624	1,366	2,010	2,460	23
2,224	734	1,401	1,251	672	1,187	2,366	1,357	888	994	1,061	1,329	1,884	2,587	24
1,820	806	1,140	1,130	843	967	1,750	1,213	1,659	1,281	1,599	1,259	1,545	1,724	25
1,534	881	1,919	994	602	1,732	1,509	1,142	1,151	1,872	1,101	945	1,409	1,860	26
2,059	734	1,947	966	691	2,024	1,418	1,025	901	1,159	1,064	1,134	1,676	1,520	27
2,290	1,104	2,066	973	629	1,507	4,539	916	787	1,102	926	1,903	1,483	1,321	28
2,019	979	1,871	760	849	1,229	4,057	1,624	709	1,438	1,297	1,249	1,609	1,443	29
1,509	893	1,424	1,002	570	1,061	2,972	1,569	921	1,285	983	1,657	1,419	1,241	30
1,610	1,023	1,614	1,039	507	945	2,297	1,284	791	1,120	784	1,323	1,030	1,271	31
1,250	839	1,337	1,033	579	796	2,074	1,052	750	1,320	1,729	2,006	1,011	1,530	32
1,006	733	1,191	902	719	929	1,800	965	857	1,241	3,250	1,683	964	1,281	33
1,053	542	996	891	504	1,060	1,383	800	702	2,339	974	987	769	1,231	34
1,467	834	849	694	577	771	1,218	1,241	1,164	1,723	937	1,313	735	936	35
1,293	748	765	685	409	1,056	1,154	1,142	1,042	1,686	830	983	569	793	36
1,031	619	767	647	390	827	1,134	801	810	1,834	802	829	682	733	37
765	640	1,293	1,006	494	779	926	800	827	1,293	752	917	572	885	38
867	704	1,214	719	414	699	842	1,202	647	759	1,081	1,036	641	701	39
883	585	822	606	520	2,428	681	831	576	748	908	693	511	557	40
1,071	897	729	546	394	1,171	680	826	713	946	757	634	673	465	41
839	1,822	898	676	2,363	1,438	1,155	1,141	1,220	1,046	721	607	558	544	42
646	834	726	1,308	737	1,193	771	881	3,812	1,739	814	879	564	496	43
617	627	727	782	573	931	782	948	4,586	1,038	726	750	474	634	44
610	1,073	1,019	790	598	825	647	746	1,239	893	685	1,411	471	745	45
555	1,203	689	959	872	1,146	834	727	1,922	1,323	1,247	1,399	572	540	46
535	1,121	653	691	598	1,912	896	653	1,463	837	1,077	2,047	444	725	47
654	915	636	889	2,064	1,314	1,066	639	1,668	1,232	1,232	1,739	501	837	48
1,540	774	1,637	997	3,283	1,045	1,132	589	1,189	1,924	1,300	1,739	1,035	1,454	49
793	834	853	811	1,445	1,093	1,117	626	1,688	2,892	3,644	1,133	1,484	1,118	50
714	1,506	814	692	2,304	4,759	1,116	824	4,179	1,567	2,249	1,493	3,133	1,234	51
1,456	3,201	1,214	1,205	4,008	3,705	2,149	704	2,852	1,161	2,270	1,604	1,551	1,289	52

MONTHLY DISCHARGE OF TUCKASEGEE RIVER AT BRYSON, N. C.
[Drainage area, 673 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1897					
November 7-30	640	300	349	0.519	0.46
December	4,850	370	973	1.45	1.67
1898					
January	9,100	450	1,950	2.90	3.34
February	1,220	590	827	1.23	1.28
March	18,000	540	1,950	2.90	3.34
April	3,950	1,370	2,110	3.14	3.50
May	1,450	750	1,060	1.58	1.82
June	1,290	495	649	.964	1.08
July	5,200	540	1,120	1.66	1.91
August	22,800	1,070	3,500	5.20	6.00
September	26,300	1,000	4,050	6.02	6.72
October	21,900	1,000	4,000	5.94	6.85
November	2,400	1,140	1,700	2.53	2.82
December	3,400	870	1,820	2.70	3.11
The year	26,300	450	2,061	3.06	41.77
1899					
January	3,650	1,140	1,950	2.90	3.34
February	28,800	1,220	6,900	10.25	10.68
March	38,600	1,900	8,110	12.05	13.89
April	5,550	2,200	3,400	5.05	5.63
May	3,650	1,140	2,030	3.02	3.48
June	5,200	750	1,310	1.95	2.18
July	1,450	540	782	1.16	1.34
August	750	450	564	838	.97
September	640	300	424	.630	.70
October	1,500	365	510	.758	.87
November	1,210	365	524	.779	87
December	11,500	515	1,290	1 92	2.21
The year	38,600	300	2,316	3.44	46.16
1900					
January	3,510	820	2,030	3.02	3.48
February	15,100	940	3,770	5.60	5.83
March	11,500	1,820	3,430	5.10	5.88
April	5,520	1,820	2,590	3.85	4.30
May	2,160	820	1,420	2.11	2.43
June	6,440	940	2,600	3.86	4.31
July	2,520	1,070	1,710	2.54	2.93
August	1,500	660	881	1.31	1.51
September	3,300	562	880	1.31	1.46
October	8,600	515	974	1.45	1.67
November	7,640	562	1,190	1.77	1.98
December	4,150	820	1,390	2.07	2.39
The year	15,100	515	1,905	2.83	38.17

MONTHLY DISCHARGE OF TUCKASEGEE RIVER AT BRYSON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1901					
January	13,200	1,000	2,170	3.22	3.71
February	3,510	940	1,500	2.23	2.32
March	12,400	940	2,610	3.88	4.47
April	9,560	2,160	3,610	5.36	5.98
May	15,800	1,350	3,070	4.56	5.26
June	3,510	1,660	2,170	3.22	3.59
July	2,710	820	1,220	1.81	2.09
August	12,900	710	4,250	6.32	7.29
September	5,290	1,280	1,940	2.88	3.21
October	2,520	820	1,020	1.52	1.75
November	940	610	708	1.05	1.17
December	19,900	610	3,290	4.89	5.64
The year	19,900	610	2,296	3.41	46.48
1902					
January	5,290	1,140	2,100	3.12	3.60
February	19,900	1,350	2,930	4.35	4.53
March	11,000	2,160	4,140	6.15	7.09
April	3,720	1,500	2,250	3.34	3.73
May	1,990	1,070	1,370	2.04	2.35
June	1,500	710	951	1.41	1.57
July	1,280	515	734	1.09	1.26
August	820	365	493	.733	.85
September	5,750	400	996	1.48	1.65
October	1,280	515	643	.955	1.10
November	4,370	515	917	1.36	1.52
December	5,750	940	1,680	2.50	2.88
The year	19,900	365	1,600	2.38	32.13
1903					
January	2,520	940	1,280	1.90	2.19
February	14,800	1,070	4,110	6.11	6.36
March	15,800	2,340	4,760	7.07	8.15
April	11,700	2,160	4,010	5.96	6.65
May	2,080	1,070	1,510	2.24	2.58
June	4,150	940	1,710	2.54	2.83
July	1,580	660	954	1.42	1.64
August	1,210	515	705	1.05	1.21
September	940	400	504	.749	.84
October	1,070	365	446	.663	.76
November	5,750	365	678	1.01	1.13
December	1,350	365	518	.770	.89
The year	15,800	365	1,765	2.62	35.23

MONTHLY DISCHARGE OF TUCKASEGEE RIVER AT BRYSON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1904					
January	9,080	365	955	1.42	1.64
February	3,100	515	1,080	1.60	1.73
March	7,640	820	2,040	3.03	3.49
April	2,710	940	1,360	2.02	2.25
May	5,520	710	1,260	1.87	2.16
June	1,660	660	908	1.35	1.51
July	1,070	515	704	1.05	1.21
August	1,660	610	886	1.32	1.52
September	940	400	554	.823	.92
October	435	332	368	.547	.63
November	940	332	435	.646	.72
December	3,100	400	777	1.15	1.33
The year	9,080	332	944	1.40	19.11
1905					
January	11,500	610	1,420	2.11	2.43
February	5,750	610	2,360	3.51	3.66
March	5,290	1,210	1,880	2.79	3.22
April	2,250	940	1,300	1.93	2.15
May	3,720	1,210	1,680	2.50	2.88
June	1,990	820	1,120	1.66	1.85
July	8,600	880	1,810	2.69	3.10
August	4,150	880	1,510	2.24	2.58
September	1,210	515	693	1.03	1.15
October	2,710	515	682	1.01	1.16
November	710	475	529	.786	.88
December	8,600	515	1,790	2.66	3.07
The year	11,500	475	1,398	2.08	28.13
1906					
January	9,320	1,070	2,820	4.19	4.83
February	1,990	1,070	1,380	2.05	2.14
March	6,210	1,070	2,190	3.25	3.75
April	5,290	1,420	2,190	3.25	3.63
May	2,340	820	1,280	1.90	2.19
June	5,060	940	1,750	2.60	2.90
July	4,370	1,070	1,950	2.90	3.34
August	4,830	1,070	1,900	2.82	3.25
September	11,000	1,210	2,960	4.40	4.91
October	7,640	1,350	2,940	4.37	5.04
November	20,100	1,070	2,650	3.94	4.40
December	5,750	1,350	2,050	3.05	3.52
The year	20,100	820	2,172	3.23	43.90

MONTHLY DISCHARGE OF TUCKASEGEE RIVER AT BRYSON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
January	3,100	1,140	1,620	2.41	2.78
February	3,300	1,140	1,690	2.51	2.61
March	3,930	1,070	1,810	2.69	3.10
April	2,710	1,070	1,470	2.18	2.43
May	3,100	1,210	1,770	2.63	3.03
June	3,930	1,000	1,630	2.42	2.70
July	2,430	820	1,150	1.71	1.97
August	1,350	610	822	1.22	1.41
September	6,210	515	1,020	1.52	1.70
October	1,420	610	752	1.12	1.29
November	4,370	610	1,460	2.17	2.42
December	6,440	820	1,970	2.93	3.38
The year	6,440	515	1,430	2.12	28.82
1908					
January	7,160	1,350	2,270	3.37	3.88
February	12,000	1,420	2,630	3.91	4.22
March	7,160	1,660	2,860	4.25	4.90
April	7,880	1,350	2,200	3.27	3.65
May	3,930	1,580	2,030	3.02	3.48
June	1,820	820	1,230	1.83	2.04
July	2,080	820	1,210	1.80	2.08
August	3,510	710	1,190	1.77	2.04
September	1,660	515	765	1.14	1.27
October	2,160	515	750	1.11	1.28
November	1,000	610	722	1.07	1.19
December	8,120	765	1,780	2.64	3.04
The year	12,000	515	1,636	2.43	33.07
1909					
January	4,370	1,070	1,820	2.70	3.11
February	6,920	940	2,880	4 28	4.46
March	7,160	2,160	3,660	5.44	6.27
April	6,920	1,500	2,260	3.36	3.75
May	7,160	1,500	3,080	4.58	5.28
June	11,700	1,990	3,200	4.75	5.30
July	5,290	1,500	2,370	3.52	4.06
August	4,830	1,070	1.860	2.76	3.18
September	3,930	820	1,160	1.72	1.92
October	2,080	710	991	1.47	1.70
November	880	660	722	1.07	1.19
December	4,370	610	1,190	1.77	2.04
The year	11,700	610	2,099	3.12	42.26

MONTHLY DISCHARGE OF TUCKASEGEE RIVER AT BRYSON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1910					
January	4,150	1,070	1,430	2.12	2.44
February	4,830	880	1,550	2.30	2.40
March	5,290	940	1,640	2.44	2.81
April	5,290	820	1,250	1.86	2.08
May	4,830	940	2,190	3.25	3.75
June	3,930	1,420	2,030	3.02	3.37
July	3,510	1,210	1,950	2.90	3.34
August	2,900	820	1,200	1.78	2.05
September	1,990	710	1,020	1.52	1.70
October	1,580	610	805	1.20	1.38
November	1,000	515	596	.886	.99
December	4,370	515	1,100	1.63	1.88
The year	5,290	515	1,397	2.08	28.19
1911					
January	9,320	940	1,910	2.84	3.27
February	3,510	940	1,700	2.53	2.64
March	3,100	1,140	1,690	2.51	2.89
April	12,700	1,350	3,520	5.23	5.84
May	2,340	940	1,390	2.07	2.39
June	1,900	660	847	1.26	1.41
July	1,420	610	899	1.34	1.54
August	1,660	515	807	1.20	1.38
September	1,280	515	685	1.02	1.14
October	4,830	515	997	1.48	1.71
November	1,900	610	1,030	1.53	1.71
December	6,210	710	1,580	2.35	2.71
The year	12,700	515	1,421	2.11	28.63
1912					
January	6,210	1,000	1,780	2.64	3.04
February	6,680	1,140	2,210	3.28	3.54
March	11,500	2,160	3,650	5.42	6.25
April	5,750	1,990	3,210	4.77	5.32
May	4,150	1,350	2,340	3.48	4.01
June	3,930	1,070	1,540	2.29	2.56
July	3,300	1,070	1,770	2.63	3.03
August	2,340	820	1,230	1.83	2.11
September	4,600	660	994	1.48	1.65
October	1,210	660	792	1.18	1.36
November	1,420	562	744	1.11	1.24
December	3,100	610	1,110	1.65	1.90
The year	11,500	562	1,781	2.65	36.01

MONTHLY DISCHARGE OF TUCKASEGEE RIVER AT BRYSON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1913					
January	4,830	1,070	1,860	2.76	3.18
February	9,560	1,350	2,350	3.49	3.63
March	18,400	1,500	4,300	6.39	7.37
April	3,720	1,500	2,320	3.45	3.85
May	5,520	1,070	1,720	2.56	2.95
June	2,340	940	1,320	1.96	2.19
July	1,660	660	929	1.38	1.59
August	1,350	610	927	1.38	1.59
September	1,660	534	755	1.12	1.25
October	2,250	515	793	1.18	1.36
November	1,270	599	764	1.14	1.27
December	1,900	647	980	1.46	1.68
The year	18,400	515	1,585	2.36	31.91
1914					
January	2,810	699	934	1.39	1.60
February	2,610	1,060	1,580	2.35	2.45
March	3,030	1,120	1,540	2.29	2.64
April	3,400	1,350	1,910	2.84	3.17
May	1,780	744	1,070	1.59	1.83
June	1,330	512	731	1.09	1.22
July	1,440	481	668	.993	1.14
August	1,000	460	589	.875	1.01
September	657	325	429	.637	.71
October	5,280	346	999	1.48	1.71
November	6,570	501	866	1.29	1.44
December	7,250	1,320	2,790	4.15	4.78
The year	7,250	325	1,176	1.75	23.70
1915					
January	4,600	1,600	2,810	4.18	4.82
February	6,550	1,670	2,730	4.06	4.23
March	2,660	1,230	1,580	2.35	2.71
April	2,050	1,040	1,280	1.90	2.12
May	3,240	902	1,390	2.07	2.39
June	3,240	814	1,290	1.92	2.14
July	2,720	826	1,410	2.10	2.42
August	1,560	721	917	1.36	1.57
September	1,900	595	830	1.23	1.37
October	4,340	940	1,500	2.23	2.57
November	4,085	790	1,260	1.87	2.09
December	13,130	940	2,590	3.85	4.44
The year	13,130	595	1,632	2.42	32.87

MONTHLY DISCHARGE OF TUCKASEGEE RIVER AT BRYSON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1916					
January	3,810	2,050	2,760	4.10	4.73
February	7,110	1,540	2,490	3.70	3.99
March	2,620	1,440	1,830	2.72	3.14
April	2,010	1,190	1,540	2.29	1.96
May	5,620	839	1,680	2.50	1.67
June	3,100	1,210	1,780	2.64	2.94
July	7,140	1,190	3,130	4.65	5.36
August	2,910	1,200	1,770	2.63	3.03
September	1,560	678	1,020	1.52	1.70
October	2,380	647	830	1.23	1.42
November	1,400	616	820	1.22	1.36
December	4,935	966	1,388	2.06	2.38
The year	7,140	616	1,753	2.60	33.68
1917					
January	6,710	1,350	2,750	3.82	4.40
February	6,380	1,330	2,630	3.91	4.07
March	23,200	3,050	5,320	7.90	9.11
April	4,390	1,790	2,680	3.98	4.44
May	2,090	1,180	1,500	2.23	2.57
June	2,470	1,000	1,300	1.93	2.15
July	2,470	802	1,270	1.89	2.18
August	1,660	657	985	1.46	1.68
September	2,840	721	1,070	1.59	1.77
October	1,927	742	934	1.39	1.60
November	914	595	715	1.06	1.18
December	889	520	686	1.02	1.18
The year	23,200	520	1,805	2.68	36.33
1918					
January	11,330	625	2,299	3.42	3.94
February	4,170	1,790	2,553	3.79	3.95
March	1,896	1,227	1,513	2.25	2.59
April	2,793	1,070	1,638	2.43	2.71
May	1,750	1,044	1,367	2.03	2.34
June	3,915	720	1,204	1.79	2.00
July	1,070	647	844	1.25	1.44
August	1,150	570	750	1.11	1.28
September	1,494	575	820	1.22	1.36
October	11,330	522	2,122	3.15	3.63
November	3,235	904	1,721	2.56	2.86
December	14,630	1,070	2,425	3.60	4.15
The year	14,630	522	1,605	2.38	32.25

MONTHLY DISCHARGE OF TUCKASEGEE RIVER AT BRYSON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1919					
January	7,315	1,563	2,643	3.93	4.53
February	3,660	1,549	2,117	3.15	3.28
March	4,680	1,717	2,553	3.79	4.37
April	2,895	1,494	1,850	2.75	3.07
May	2,895	1,254	1,597	2.37	2.73
June	2,640	940	1,279	1.90	2.12
July	1,820	1,005	1,242	1.85	2.13
August	2,135	863	1,123	1 67	1.92
September	1,031	699	799	1.19	1.33
October	3,490	668	1,110	1.65	1.90
November	1,896	814	1,060	1.58	1.76
December	6,635	780	1,820	2.70	3.11
The year	7,315	668	1,599	2.38	32.25
1920					
January	5,050	890	1,970	2.93	3.38
February	3,110	1,360	1,800	2.67	2.88
March	6,780	1,300	2,970	4.41	5.08
April	22,500	2,420	4,840	7.19	8.02
May	2,590	1,220	1,850	2.75	3.17
June	2,420	1,000	1,350	2.01	2.24
July	1,910	750	1,050	1.56	1.80
August	3,850	750	2,080	3.09	3.56
September	3,660	1,000	1,470	2.18	2.43
October	1,290	654	791	1.18	1 36
November	2,760	654	963	1.43	1.60
December	10,800	935	2,270	3.37	3.88
The year	22,500	654	1,950	2.90	39.40
1921					
January	5,050	1,360	1,990	2.96	3.41
February	9,320	1,520	2,930	4.35	4.53
March	2,250	1,360	1,630	2.42	2.79
April	5,050	1,220	1,900	2.82	3.15
May	2,760	1,440	1,810	2.69	3.10
June	2,080	1,000	1,290	1.92	2.14
July	3,470	870	1,290	1.92	2.21
August	3,470	870	1,610	2.39	2.76
September	1,440	726	966	1.44	1.61
October	1,290	597	742	1.10	1.27
November	3,470	654	1,290	1.92	2.14
December	2,930	1,000	1,540	2.29	2.64
The year	9,320	597	1,582	2.35	31.75

MONTHLY DISCHARGE OF TUCKASEGEE RIVER AT BRYSON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1922					
January	14,200	1,140	2,810	4.18	4.82
February	7,690	1,910	2,610	3.88	4.04
March	9,080	2,250	3,990	5.93	6.84
April	4,240	2,250	2,860	4.25	4.74
May	5,050	1,910	2,610	3.88	4.47
June	2,590	1,220	1,760	2.62	2.92
July	2,080	1,070	1,510	2.24	2.58
August	1,140	678	905	1.34	1.54
September	935	509	619	0.92	1.03
October	935	410	569	0.845	0.97
November	750	360	482	0.716	0.80
December	9,080	542	1,720	2.56	2.95
The year	14,200	360	1,870	2.78	37.70
1923					
January	4,850	1,030	1,930	2.87	3.31
February	6,340	1,600	2,780	4.13	4.30
March	6,120	1,600	2,750	4.09	4.72
April	4,250	1,680	2,190	3.25	3.63
May	5,260	1,680	2,850	4.23	4.88
June	3,870	1,680	2,260	3.36	3.75
July	1,990	1,100	1,380	2.05	2.36
August	1,910	834	1,280	1.90	2.19
September	1,760	599	781	1.16	1.29
October	807	435	523	0.777	0.90
November	1,460	510	698	1.04	1.16
December	2,820	716	1,250	1.86	2.14
The year	6,340	435	----------	----------	----------

SCOTT'S CREEK NEAR DILLSBORO, N. C.

LOCATION. At the footbridge about 1 mile from Dillsboro, Jackson County, and about 1 mile from the mouth of the creek which is tributary to Tuckasegee River.

DRAINAGE AREA. Not determined.

RECORDS AVAILABLE. August 26, 1907 to June 30, 1908, when the station was discontinued.

GAGE. Vertical gage fastened to maple tree on left bank; read by E. B. Monleith.

DISCHARGE MEASUREMENTS. Made from footbridge.

CHANNEL AND CONTROL. Bed fairly permanent; current swift. Control not known. Right bank not subject to overflow; at high stages water surrounds left bank approach to bridge.

EXTREMES OF DISCHARGE. Maximum stage recorded, 3.0 feet February 15, 1908 (discharge not determined); minimum stage recorded, 1.6 feet numerous days in September, October, and November, 1907 (discharge, 78 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. None.

ACCURACY. Data insufficient for completion of records. Rating curve approximate. Discharge for breaks in the record was greater than 220 second-feet.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF SCOTT'S CREEK NEAR DILLSBORO, N. C.

Week	Year		Week	Year	
	1907	1908		1907	1908
1		163	27		
2		168	28		
3		167	29		
4		144	30		
5		133	31		
6		150	32		
7			33		
8		193	34		
9		177	35	79	
10		168	36	115	
11		166	37	87	
12		158	38	79	
13			39	118	
14		196	40	109	
15		173	41	92	
16		157	42	78	
17		156	43	86	
18		164	44	94	
19		164	45	86	
20		162	46	107	
21		169	47	147	
22		150	48	127	
23		127	49	106	
24		137	50	138	
25		119	51	122	
26		101	52	141	

CHEOAH RIVER AT MILLSAPS, N. C.

LOCATION. At boat landing at Millsaps, Graham County, 500 feet above mouth of Snowbird Creek.

DRAINAGE AREA. Not measured.

RECORDS AVAILABLE. August 24, 1907 to June 30, 1908, when station was discontinued.

GAGE. Vertical staff fastened to large maple tree on right bank, at boat landing.

DISCHARGE MEASUREMENTS. Made by boat at boat landing.

CHANNEL AND CONTROL. Conditions unknown.

EXTREMES OF DISCHARGE. Maximum stage recorded, 6.0 feet February 15, 1908 (discharge not determined); minimum stage, 1.1 feet September 17-20, 1907 (discharge, 40 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. None.

ACCURACY. Data insufficient. Discharge given is approximate for low and medium stages. High water estimates not attempted.

DAILY DISCHARGE, IN SECOND-FEET, OF CHEOAH RIVER AT MILLSAPS, N. C.

Day	August	September	October	November	December
1907					
1		83	76	68	99
2		76	99		
3		68	83	99	
4		61	76	61	115
5		54	83	68	
6		54	91	68	99
7		83	83	76	
8		61	99	68	115
9		68	91	99	
10		54	83		99
11		115	83		
12		68	91	99	
13		61	83	115	
14		47	91	99	
15		54	68		
16		47	68	99	132
17		40	61	99	
18		40	68		
19		40	61	99	
20		40	68	115	
21			61	99	107
22		99	54	107	
23			61		
24	99	83	68		
25	99	68	61	99	
26	83	76	54		
27	68		99	132	
28	68	61	83		
29	68	68	68	99	
30	68	83	61	115	
31	54		68		

Day	April	May	June	Day	April	May	June
1908							
1			99	17	99		83
2			99	18	99		83
3				19	99		83
4			99	20	99		83
5			99	21			83
6			99	22			83
7			99	23			83
8			99	24			76
9			99	25			68
10				26			68
11				27		99	68
12	99		99	28		99	68
13	99		99	29		99	68
14	83		99	30		99	68
15	91		91	31		99	
16	91		91				

CHEOAH RIVER AT JOHNSON, N. C.

LOCATION. At farm of W. O. Williams, 1 mile above footbridge at Johnson, Graham County, 11 miles above mouth of river and 11 miles northwest from Robbinsville. Santeelah Creek enters 2 miles above and Yellow Creek enters 4 miles below. Dam site for development No. 2 of Aluminum Co. of America is 1 mile above gage.

DRAINAGE AREA. 175 square miles (measured on topographic maps).

RECORDS AVAILABLE. November 1, 1912 to December 31, 1918, and December 29, 1920 to December 31, 1923.

GAGE. Vertical staff fastened to large sycamore tree on right bank 100 feet above house of gage reader, W. O. Williams; installed December 29, 1920. From November 1, 1912 to December 31, 1913, gage was vertical staff fastened to rock on right bank three-fourths of a mile downstream, and from January 1, 1914 to December 31, 1918, gage was vertical staff fastened to fallen white oak tree on right bank half a mile below Williams' house. Datum of present gage independent of that previously used.

DISCHARGE MEASUREMENTS. Made from cable just below footbridge. During 1912-1918, measurements were made at section three-fourths of a mile below Williams' house.

CHANNEL AND CONTROL. Bed composed of practically solid rock. Control is a series of rapids several hundred feet below the gage; practically permanent. Left bank is high.

EXTREMES OF DISCHARGE. Maximum discharge recorded, 11,400 second-feet March 4, 1917 (mean daily stage, 7.25 feet); minimum discharge, 95 second-feet October 16-18 and November 22, 1923 (gage height, 0.86 foot).

ICE. Stage-discharge relation rarely affected by ice.

ACCURACY. Stage-discharge relation changed slightly, affecting lower portion of rating curves which are fairly well defined except at high stages. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records below 3,000 second-feet are good, others fair.

COOPERATION. Complete records for 1912-1918, furnished by Aluminum Co. of America.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF CHEOAH RIVER AT JOHNSON, N. C.

Week	Year									
	1912	1913	1914	1915	1916	1917	1918	1921	1922	1923
1	-------	537	282	675	1,028	1,270	-------	574	482	798
2	-------	897	275	681	974	787	-------	992	828	544
3	-------	727	247	801	801	1,138	-------	799	2,405	586
4	-------	1,177	282	1,230	1,139	1,129	-------	583	1,624	1,402
5	-------	868	419	1,557	1,393	1,429	-------	587	818	1,592
6	-------	700	547	841	859	726	745	1,644	788	1,514
7	-------	822	508	754	618	874	1,283	1,016	1,182	1,502
8	-------	576	755	676	516	1,972	1,202	907	771	700
9	-------	1,552	417	543	570	3,368	632	671	1,490	768
10	-------	814	384	870	658	2,243	650	540	2,191	1,146
11	-------	1,879	640	521	480	1,363	554	454	1,680	1,590
12	-------	1,063	474	451	400	1,943	571	492	1,055	1,128
13	-------	1,946	753	488	573	2,228	487	536	1,344	705
14	-------	809	599	470	533	1,437	554	468	1,060	830
15	-------	631	630	599	535	1,060	522	390	787	1,057
16	-------	544	849	403	457	693	737	1,292	1,121	811
17	-------	452	571	355	406	561	632	754	959	765
18	-------	389	485	307	337	522	602	567	1,386	616
19	-------	350	429	824	288	439	579	547	1,055	724
20	-------	347	319	393	276	353	583	528	708	1,215
21	-------	891	264	346	648	360	704	465	765	996
22	-------	524	223	369	406	380	479	334	626	1,249
23	-------	454	237	317	377	499	474	339	748	738
24	-------	340	184	294	647	478	361	271	774	955
25	-------	313	185	252	451	407	564	245	535	559
26	-------	267	161	271	344	328	463	317	440	536
27	-------	259	168	696	355	281	342	200	643	477
28	-------	324	180	344	968	222	258	246	456	366
29	-------	206	288	279	770	325	280	490	429	409
30	-------	252	149	208	568	311	302	291	418	356
31	-------	280	143	252	397	404	276	364	293	363
32	-------	214	206	195	536	253	244	320	270	393
33	-------	180	194	197	632	255	264	573	284	323
34	-------	199	143	237	361	219	289	423	263	258
35	-------	155	169	207	275	407	229	320	223	223
36	-------	143	146	234	264	334	284	209	171	214
37	-------	156	133	186	220	235	220	183	284	153
38	-------	209	123	241	188	200	280	163	184	164
39	-------	169	126	192	207	296	266	261	162	158
40	-------	150	168	557	175	208	201	266	156	117
41	-------	138	137	275	184	184	188	156	203	103
42	-------	242	666	253	381	269	248	133	149	114
43	-------	331	181	256	219	194	416	120	202	108
44	-------	204	153	197	245	252	1,627	423	134	159
45	233	222	179	193	219	199	421	210	135	144
46	195	263	199	433	316	190	553	647	169	105
47	169	214	171	402	499	173	580	678	152	174
48	170	267	322	309	401	209	599	1,169	295	227
49	501	350	991	241	425	199	379	789	943	409
50	267	256	309	325	379	169	596	425	1,036	346
51	285	218	448	1,453	409	194	1,663	515	1,617	379
52	488	302	1,782	1,622	887	185	867	754	525	591

MONTHLY DISCHARGE OF CHEOAH RIVER AT JOHNSON, N. C.
[Drainage area, 175 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1912					
November	389	143	191	1.09	1.22
December	1,132	171	377	2.15	2.48
1913					
January	2,198	470	843	4.81	5.54
February	4,622	517	892	5.09	5.30
March	4,817	572	1,377	7.86	9.05
April	1,067	433	619	3.54	3.94
May	2,552	282	504	2.88	3.32
June	609	244	358	2.04	2.28
July	727	179	262	1.50	1.72
August	433	148	206	1.18	1.35
September	493	138	167	.95	1.06
October	655	130	217	1.24	1.42
November	437	162	218	1.24	1.39
December	826	194	295	1.68	1.94
The year	4,817	130	496	2.83	38.31
1914					
January	1,007	216	296	1.69	1.94
February	1,185	296	551	3.14	3.27
March	1,100	338	532	3.02	3.50
April	1,336	424	662	3.78	4.21
May	693	226	352	2.01	2.32
June	305	142	196	1.12	1.24
July	467	132	191	1.09	1.25
August	268	128	175	1.00	1.15
September	216	112	133	.76	.84
October	2,455	110	275	1.57	1.81
November	777	142	201	1.14	1.28
December	6,902	210	877	5.00	5.76
The year	6,902	110	370	2.11	28.57
1915					
January	2,040	442	833	4.75	5.48
February	4,758	507	946	5.40	5.62
March	1,806	424	575	3.28	3.78
April	1,018	333	453	2.58	2.89
May	2,072	272	451	2.57	2.96
June	535	204	302	1.72	1.92
July	1,898	186	365	2.08	2.40
August	418	171	221	1.26	1.45
September	676	152	212	1.21	1.35
October	1,136	198	322	1.84	2.12
November	1,052	178	319	1.82	2.03
December	6,322	219	892	5.09	5.87
The year	6,322	152	491	2.80	37.87

MONTHLY DISCHARGE OF CHEOAH RIVER AT JOHNSON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1916					
January	2,746	618	953	5.44	6.27
February	3,352	442	815	4.65	5.01
March	962	374	548	3.12	3.60
April	676	353	478	2.73	3.04
May	1,362	250	395	2.25	2.60
June	1,041	305	449	2.56	2.86
July	1,210	243	639	3.65	4.21
August	1,235	250	451	2.57	2.97
September	396	164	225	1.28	1.43
October	1,210	166	244	1.39	1.60
November	1,704	189	339	1.93	2.16
December	2,531	308	528	3.01	3.47
The year	3,352	164	505	2.88	39.22
1917					
January	2,104	535	1,090	6 21	7.16
February	3,352	535	1,226	6.98	7.26
March	11,400	1,064	2,387	13.62	15.70
April	2,464	507	932	5.32	5.93
May	626	314	410	2.34	2.69
June	786	295	428	2.44	2.72
July	594	204	283	1.62	1.87
August	1,160	166	295	1.68	1.94
September	676	183	285	1.62	1.81
October	693	168	222	1.27	1.46
November	250	166	191	1.09	1.22
December	264	136	192	1.10	1.27
The year	11,400	136	662	3.77	51.03
1918					
February	3,234	650	1,053	6.01	6.25
March	1,006	436	569	3.25	3.75
April	1,041	396	612	3.49	3.87
May	876	430	598	3.41	3.93
June	1,185	314	460	2.62	2.92
July	497	229	305	1.74	2.01
August	442	181	258	1.47	1.70
September	454	183	260	1.48	1.65
October	5,155	171	507	2.89	3.33
November	1,285	314	572	3.26	3.64
December	5,234	338	850	4.85	5.59
1920					
December 29-31	820	702	767	4.38	0.49

MONTHLY DISCHARGE OF CHEOAH RIVER AT JOHNSON, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1921					
January	2,270	500	726	4.15	4.78
February	4,170	530	1,050	6.00	6.25
March	740	390	515	2.94	3.39
April	2,550	365	722	4.13	4.61
May	780	340	503	2.87	3.31
June	470	221	293	1.67	1.86
July	995	178	310	1.77	2.04
August	1,090	217	411	2.35	2.71
September	530	147	209	1.19	1.33
October	500	108	171	.977	1.13
November	1,510	174	615	3.51	3.92
December	2,130	365	678	3.87	4.46
The year	4,170	108	517	2.95	39.79
1922					
January	8,470	415	1,290	7.37	8.50
February	2,410	562	889	5.08	5.29
March	5,870	820	1,620	9.26	10.68
April	1,750	665	1,000	5.71	6.37
May	2,550	530	929	5.31	6.12
June	1,870	390	639	3.65	4.07
July	950	340	475	2.71	3.12
August	630	185	267	1.53	1.76
September	702	141	199	1.14	1.27
October	442	123	173	0.989	1.14
November	320	123	148	0.846	0.94
December	5,090	156	991	5.66	6.52
The year	8,470	123	718	4.10	55.78
1923					
January	2,410	442	871	4.98	5.74
February	3,480	595	1,290	7.37	7.68
March	2,270	595	1,100	6.29	7.25
April	2,000	595	851	4.86	5.42
May	2,270	530	969	5.54	6.39
June	1,400	470	731	4.18	4.66
July	740	275	400	2.29	2.64
August	530	207	317	1.81	2.09
September	280	132	174	0.994	1.11
October	193	95	113	0.646	0.74
November	442	98	162	0.926	1.03
December	1,340	159	421	2.41	2.78
The year	3,480	95	617	3.54	47.53

HIWASSEE RIVER NEAR HAYESVILLE, N. C.

LOCATION. At Barnard's bridge, a steel highway bridge on the road from Hayesville to Hiwassee, Ga., 1 mile below the mouth of Shooting Creek and 2½ miles east of Hayesville, Clay County.

DRAINAGE AREA. 190 square miles (measured on topographic map).

RECORDS AVAILABLE. May 20, 1907 to December 31, 1909 and August 16, 1922 to September 30, 1923, when station was discontinued.

GAGE. Standard chain gage attached to downstream lower chord of bridge; read by Mrs. V. A. Barnard. Original gage used to December 31, 1909, was a vertical staff attached to a maple tree on left bank about 200 feet above bridge; same datum.

DISCHARGE MEASUREMENTS. Made from downstream side of bridge until falsework of the construction of a new concrete bridge just above interfered with the distribution of the current at the measuring section. The construction was discontinued before bridge was completed. Since this interference measurements have been made from a steel highway bridge 1 mile below.

CHANNEL AND CONTROL. Bed of stream is composed largely of rock and some sand; fairly permanent. Channel is straight for 500 feet above and 800 feet below station; current is swift. Both banks are high but left bank may be subject to overflow during extreme floods. Control is a rock riffle about 50 feet below gage; fairly permanent.

EXTREMES OF DISCHARGE. 1907-1909: Maximum stage recorded, 11.0 feet at noon December 17, 1922 (discharge not determined); minimum stage recorded, 0.72 foot October 8, 1908 (discharge, 157 second-feet).

ICE. Stage-discharge relation probably never affected by ice.

REGULATION. Negligible.

ACCURACY. Stage-discharge relation permanent, 1907-1909. Rating poorly defined up to 530 second-feet; estimates not attempted above. Read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records poor.

NOTE. Estimates of discharge for August 16, 1922 to September 30, 1923, were prepared, found erratic and therefore discarded. The cofferdam for the new bridge confined the water to a narrow channel and frequent changes in stage-discharge relation must have occurred. A sufficient number of discharge measurements was not obtained.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF HIWASSEE RIVER NEAR HAYESVILLE, N. C.

Week	Year			Week	Year		
	1907	1908	1909		1907	1908	1909
1			393	27	380	374	
2			442	28	429	366	
3				29	423	311	479
4			466	30	309	255	437
5			383	31	313	220	432
6			410	32	291	300	454
7				33	402	198	412
8				34	365	356	293
9				35	242	287	271
10				36	250	282	239
11				37	272	218	275
12				38	214	176	251
13				39	422	184	325
14				40	320	166	227
15				41	283	245	228
16				42	215	175	339
17				43	253	295	263
18				44	258	344	231
19				45	296	241	211
20				46	295	269	225
21	430			47		221	225
22		465		48	384	278	204
23		414		49	314	291	240
24	474	287		50		475	347
25	437	333		51		371	303
26	438	275		52		472	300

HIWASSEE RIVER AT MURPHY, N. C.

LOCATION. At highway bridge four blocks west of courthouse in Murphy, Cherokee County. Just above Louisville and Nashville Railroad bridge. Valley River enters half a mile below and Nottely River enters 4 miles below.

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

RECORDS AVAILABLE. June 23, 1896 to June 30, 1917; October 27, 1918 to December 31, 1923.*

GAGE. Chain gage attached to downstream handrail of new concrete bridge; installed January 30, 1921; read by Miss Willie Mingus. Original gage, established July 26, 1896, was a wire gage fastened to downstream guard rail of old highway bridge, which is just below present concrete bridge. In March 1903, the wire was replaced by a chain. Datum remained unchanged until installation of gage on concrete bridge, when gage was made to read 2.0 feet lower.

DISCHARGE MEASUREMENTS. Made from concrete highway bridge. Previous to construction of this bridge, made from old highway bridge.

CHANNEL AND CONTROL. Channel straight for several hundred feet above and below gage. Bed composed chiefly of solid rock. River confined by concrete abutments of bridge. At section used previous to January 1921, the left bank was overflowed slightly at extremely high stages; but right bank was not subject to overflow. Control is rock, boulder and gravel riffle, and pier of railroad bridge; shifts slightly. A fish-trap about 400 feet below gage, constructed about August 1922, has become part of control.

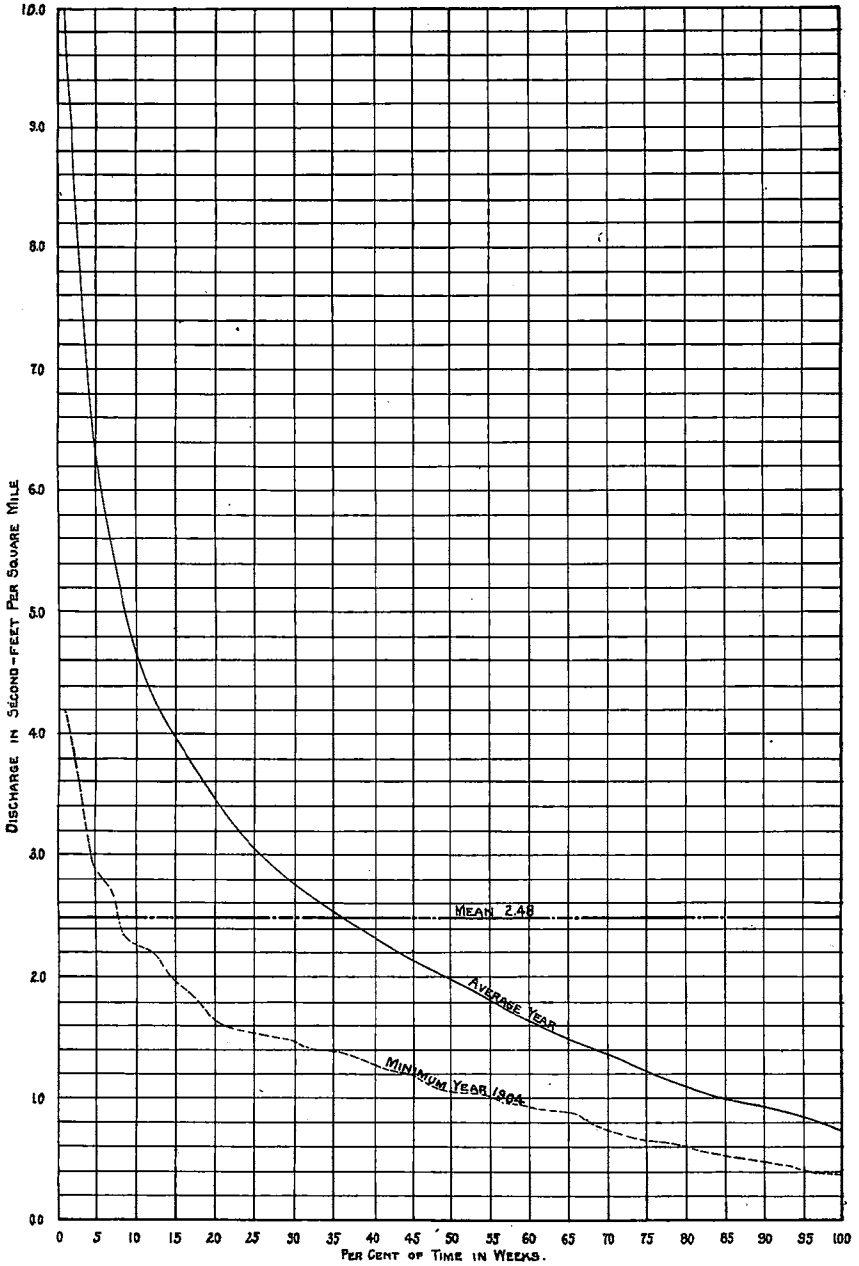
EXTREMES OF DISCHARGE. Maximum stage recorded, 18.4 feet March 19, 1899 (discharge 33,100 second-feet); minimum stage, 4.7 feet October 23, 1904 (discharge, 140 second-feet); on September 18, 1914 also, the mean discharge was 140 second-feet.

ICE. Stage-discharge relation not affected by ice.

REGULATION. Negligible.

ACCURACY. Stage-discharge not permanent. Rating curves used, with definition and periods of use, as follows: October 20, 1897 to December 31, 1899, well defined below 3,000 second-feet and extended above; January 1, 1900 to September 30, 1903, well defined below 5,500 second-feet and extended above; October 1, 1903 to August 10, 1907, well defined below 3,000 second-feet and extended above; August 11, 1907 to December 6, 1908, well defined between 350 and 2,500 second-feet and extended beyond; December 7, 1908 to April 30, 1909, and also April 1, 1912 to June 30, 1917, well defined below 3,500 second-feet and extended above; May 1, 1909 to March 31, 1912, well defined below 3,800 second-feet and extended above; October 27, 1918 to September 30, 1920, well defined between 700 and 3,000 second-feet and extended beyond; October 1, 1920 to January 30, 1921, well defined below 7,000 second-feet and extended above; January 31, 1921 to August 22, 1922, well defined below 7,000 second-feet; October 7, 1922 to October 30, 1923, well defined below 7,000 second-feet. Gage probably read to tenths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records up to June 30, 1917, good below 3,500 second-feet and fair above except for extremely high stages. Records after October 27, 1918, good below 7,000 second-feet and fair above.

*NOTE. From October 13 to December 6, 1908, August 23 to October 6, 1922, and November 31 to December 22, 1923, stage-discharge relation affected by backwater from fish-trap dam a short distance below gage; discharge ascertained by indirect method or derived from comparative discharge hydrographs. The break in the record July 1, 1917 to October 26, 1918 has been filled in with estimate derived from comparative discharge hydrographs using records of Hiwassee River near Appalachia, Tenn and Little Tennessee River at Judson, N. C.



WEEKLY DURATION CURVES
FOR
HIWASSEE RIVER AT MURPHY, N.C.
1898–1923

MEAN WEEKLY DISCHARGE, IN SECOND-FEET

Week	Year											
	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908
1	-------	449	886	534	971	1,833	769	250	544	1,802	1,811	1,901
2	-------	680	909	776	3,106	1,071	855	270	950	1,229	1,181	2,216
3	-------	859	811	1,112	1,470	922	752	424	879	1,011	1,025	1,587
4	-------	1,866	694	849	1,196	909	584	655	463	2,709	921	1,300
5	-------	769	2,816	565	1,710	3,433	880	370	417	1,260	1,537	1,471
6	-------	551	4,710	1,113	2,111	1,676	2,629	553	1,851	900	1,919	1,447
7	-------	459	1,571	3,857	1,419	1,089	3,157	492	1,401	745	1,025	3,319
8	-------	472	1,163	1,364	972	1,304	1,727	1,120	2,103	706	935	1,530
9	-------	440	2,639	1,683	809	4,820	4,184	639	944	741	2,147	1,298
10	-------	420	1,921	2,604	979	2,437	3,964	1,491	834	879	1,413	1,134
11	-------	483	3,727	1,557	1,069	2,177	3,063	935	767	1,635	1,207	1,513
12	-------	508	6,400	2,443	988	1,703	4,483	1,720	1,218	1,679	939	3,256
13	-------	3,526	2,323	1,537	3,877	3,319	3,239	1,173	746	1,657	866	1,924
14	-------	2,301	2,036	1,436	2,936	1,820	2,373	894	694	1,289	905	1,473
15	-------	1,123	1,546	1,343	1,680	1,500	2,584	916	822	1,590	893	1,181
16	-------	870	1,120	1,993	3,659	1,193	2,154	644	740	1,434	1,005	1,556
17	-------	1,156	1,220	1,984	2,169	970	1,487	616	726	1,124	1,666	2,240
18	-------	811	962	1,264	1,410	955	1,270	576	1,339	863	1,064	1,290
19	-------	641	774	886	1,071	755	970	770	1,193	866	1,186	1,604
20	-------	537	645	742	1,436	704	824	578	1,344	618	1,011	1,006
21	-------	504	541	684	3,974	590	790	452	1,471	660	891	1,022
22	-------	394	480	642	1,834	511	1,167	571	878	838	1,326	1,045
23	-------	381	416	1,306	1,236	583	1,676	731	588	739	1,130	759
24	-------	393	600	1,470	1,597	682	1,023	392	521	1,111	1,001	783
25	-------	405	379	1,536	1,163	570	704	428	892	786	929	585
26	-------	336	336	2,829	1,219	572	759	517	621	773	999	483
27	-------	402	335	1,754	1,089	428	665	365	645	567	736	845
28	-------	585	361	1,029	655	488	1,070	495	2,416	844	1,086	1,016
29	-------	501	419	755	1,107	376	689	354	677	2,010	856	564
30	-------	900	901	855	627	292	500	301	506	1,031	589	439
31	-------	2,721	418	739	677	290	956	372	404	1,402	1,369	400
32	-------	3,594	401	461	1,924	228	450	625	650	952	606	590
33	-------	1,780	394	432	4,030	222	381	810	866	1,439	992	364
34	-------	961	344	559	5,417	203	363	442	716	1,187	1,028	991
35	-------	2,260	508	439	2,521	242	296	421	426	2,289	515	466
36	-------	5,901	430	385	1,396	256	300	391	370	1,201	549	558
37	-------	1,330	349	944	1,109	231	341	262	337	1,029	800	376
38	-------	898	341	581	1,709	324	305	227	289	1,550	1,834	334
39	-------	759	331	408	856	468	254	205	258	2,320	1,159	323
40	-------	5,242	291	329	733	369	209	180	335	3,839	665	290
41	-------	1,760	397	386	765	420	1,623	163	824	1,644	543	504
42	-------	2,151	339	277	595	330	239	160	333	1,261	460	334
43	254	1,261	309	1,049	527	280	209	160	330	1,002	484	581
44	348	977	317	680	494	260	238	186	293	805	516	526
45	333	948	305	518	489	459	293	198	293	719	596	404
46	326	969	301	442	479	362	330	232	285	897	618	466
47	318	1,539	355	452	497	395	270	216	351	4,824	1,330	364
48	344	1,147	505	1,056	431	808	238	265	370	1,244	817	436
49	581	1,115	361	1,424	484	999	219	528	2,629	1,066	566	1,822
50	559	894	1,554	669	2,090	588	250	317	1,277	1,336	1,309	1,039
51	1,338	899	528	1,041	1,246	1,171	275	285	1,083	1,821	1,017	954
52	665	914	741	1,047	4,295	774	272	610	1,024	2,120	1,431	1,015

OF HIWASSEE RIVER AT MURPHY, N. C.

Year															Week
1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	
1,181	1,004	2,395	1,226	684	520	1,149	1,547	1,458	489	2,500	486	1,036	671	1,789	1
930	994	848	936	814	401	1,269	1,566	1,101	947	1,188	738	1,770	1,467	807	2
1,706	819	659	748	764	339	1,609	1,337	1,569	989	1,088	1,105	1,446	4,986	918	3
953	927	619	624	1,769	392	1,666	1,561	1,671	1,143	1,828	2,946	1,079	2,887	1,829	4
764	791	764	1,759	1,213	536	1,867	2,871	1,881	2,729	1,216	1,509	1,010	1,244	1,881	5
1,719	755	1,439	809	936	726	1,441	1,536	1,197	1,100	989	1,353	3,348	1,524	2,264	6
2,403	1,096	2,713	1,279	1,278	624	1,224	1,134	1,144	1,330	1,214	951	2,054	2,634	2,477	7
2,516	1,236	938	1,687	1,309	821	1,163	1,005	2,930	1,386	1,740	1,259	1,803	1,401	1,156	8
1,667	1,655	872	1,960	1,423	629	1,048	1,219	4,141	911	1,421	937	1,257	1,974	1,190	9
2,141	999	815	1,407	1,101	547	1,144	1,177	3,708	869	2,414	1,234	1,030	3,326	1,474	10
4,374	803	670	2,569	4,863	1,090	845	940	1,776	800	1,434	1,649	914	2,323	2,830	11
2,333	676	770	1,883	1,766	669	805	805	2,808	795	1,172	1,948	1,082	1,883	1,920	12
2,469	545	1,086	4,337	3,800	829	789	940	3,394	706	1,384	2,169	1,129	2,456	1,269	13
1,436	545	2,769	1,750	1,467	773	708	856	2,149	806	1,016	5,530	979	1,999	1,219	14
1,371	546	2,938	1,217	1,174	1,051	645	837	1,766	906	1,106	2,238	836	1,513	1,866	15
1,226	965	1,686	1,287	964	1,702	541	766	1,351	916	1,291	1,610	1,387	1,940	1,361	16
1,831	710	1,314	1,687	833	886	565	665	1,210	886	885	1,520	1,289	1,577	1,209	17
3,069	630	1,043	1,801	707	702	480	586	1,243	931	913	1,130	1,004	2,366	1,190	18
2,124	2,047	834	1,193	713	635	1,062	711	1,063	954	1,189	1,116	974	1,876	1,160	19
1,711	992	747	904	697	466	647	575	876	991	846	1,172	1,016	1,310	1,800	20
4,213	2,761	1,005	764	1,077	396	614	2,038	786	1,091	759	1,044	1,290	1,247	1,819	21
1,740	1,212	673	1,216	924	375	742	959	869	689	676	872	795	1,151	2,760	22
3,474	1,592	551	787	1,301	417	597	856	997	706	541	860	671	1,199	1,503	23
1,624	1,371	420	749	701	324	590	1,517	901	634	508	653	550	1,225	1,646	24
1,490	1,094	474	656	547	343	475	971	735	763	674	969	530	875	1,138	25
1,456	972	446	1,264	565	249	456	1,040	554	863	1,436	799	531	794	1,320	26
1,585	1,417	469	1,124	475	231	891	685	620	627	1,122	679	398	694	980	27
1,561	1,267	682	1,009	549	333	659	4,540	540	479	761	562	466	687	903	28
921	872	963	3,133	367	422	456	3,213	823	524	857	1,233	661	886	1,039	29
849	892	519	770	386	242	345	2,314	751	703	676	842	524	770	775	30
1,139	738	668	862	417	285	352	1,623	600	589	607	540	485	500	709	31
826	693	442	650	444	333	273	1,486	666	411	518	953	491	507	1,020	32
891	579	370	557	338	285	353	1,041	663	396	476	2,881	732	451	726	33
537	638	288	488	391	238	468	799	511	369	456	1,890	490	473	748	34
481	675	355	397	295	255	422	643	756	361	502	1,136	400	453	597	35
477	614	399	383	304	201	368	603	671	413	340	998	312	437	519	36
543	509	321	394	265	205	345	556	537	366	315	1,233	301	536	380	37
716	390	352	794	312	219	355	460	514	459	272	773	273	434	404	38
576	497	284	588	328	201	248	657	711	417	237	620	540	380	337	39
448	391	265	420	286	268	1,243	450	527	324	282	520	427	368	295	40
463	483	401	348	233	225	535	399	427	306	312	455	294	386	280	41
1,115	342	553	531	341	835	779	669	439	334	319	410	263	286	338	42
475	341	410	458	355	316	631	417	513	994	262	464	249	368	317	43
380	335	340	396	288	262	423	546	543	2,574	384	420	608	283	315	44
375	330	499	502	322	311	395	426	451	767	359	390	386	272	357	45
410	300	618	447	312	469	709	554	433	707	480	811	844	296	254	46
410	305	573	376	281	340	833	512	416	703	340	526	829	348	333	47
385	356	507	352	305	1,350	500	611	404	825	429	591	1,173	387	399	48
666	1,163	420	824	396	2,452	428	639	411	651	1,356	810	993	1,165	810	49
1,012	459	505	504	344	819	541	689	453	1,142	1,806	2,487	572	1,503	656	50
653	416	852	446	297	685	3,248	628	490	2,765	860	1,411	761	2,866	834	51
739	630	1,464	641	489	2,509	3,022	989	420	1,627	610	1,694	1,231	925	999	52

MONTHLY DISCHARGE OF HIWASSEE RIVER AT MURPHY, N. C.
[Drainage area, 410 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1897					
November	540	305	339	.827	.92
December	3,270	335	753	1.84	2.12
1898					
January	3,990	375	960	2.34	2.70
February	700	420	509	1.24	1.29
March	9,930	420	1,090	2.66	3.07
April	5,790	745	1,390	3.39	3.78
May	890	375	583	1.42	1.64
June	615	320	380	.927	1.03
July	1,360	305	618	1.51	1.74
August	7,950	700	2,100	5.12	5.90
September	15,200	540	2,480	6.05	6.75
October	15,900	615	2,450	5.98	6.89
November	2,090	790	1,130	2.76	3.08
December	1,230	790	960	2.34	2.70
The year	15,900	305	1,221	2.97	40.57
1899					
January	1,500	615	817	1.99	2.29
February	15,200	700	2,860	6.98	7.27
March	23,100	1,230	3,430	8.37	9.65
April	2,920	1,000	1,490	3.63	4.05
May	1,230	475	690	1.68	1.94
June	890	292	440	1.07	1.19
July	----------	----------	543	1.32	.98
August	790	335	407	.993	1.14
September	615	305	371	.905	1.01
October	790	268	334	.815	.94
November	840	292	353	.861	.96
December	6,330	335	771	1.88	2.17
The year	23,100	----------	1,042	2.54	33.59
1900					
January	2,270	440	800	1.95	2.25
February	13,100	388	1,780	4.34	4.52
March	3,880	1,300	2,070	5.05	5.82
April	3,160	1,030	1,660	4.05	4.52
May	1,450	600	841	2.05	2.36
June	3,340	600	1,650	4.02	4.48
July	2,980	600	1,140	2.78	3.20
August	1,160	375	503	1.23	1.42
September	2,980	315	574	1.40	1.56
October	3,160	215	507	1.24	1.43
November	2,440	408	646	1.58	1.76
December	2,340	515	1,020	2.49	2.87
The year	13,100	215	1,099	2.68	36.19

MONTHLY DISCHARGE OF HIWASSEE RIVER AT MURPHY, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1901					
January	6,940	695	1,660	4.05	4.67
February	4,060	800	1,500	3.66	3.81
March	9,820	748	1,600	3.90	4.50
April	10,900	1,450	2,550	6.22	6.94
May	9,460	800	1,990	4.85	5.59
June	2,100	910	1,340	3.27	3.65
July	3,160	515	868	2.12	2.44
August	13,200	440	3,110	7.59	8.75
September	3,340	800	1,330	3.24	3.62
October	1,610	478	640	1.56	1.80
November	600	408	478	1.17	1.30
December	14,300	440	2,000	4.88	5.63
The year	14,300	408	1,588	3.88	52.70
1902					
January	3,340	800	1,270	3.10	3.57
February	15,900	970	2,320	5.66	5.89
March	10,000	1,380	2,590	6.32	7.29
April	2,270	910	1,390	3.39	3.78
May	1,030	478	706	1.72	1.98
June	748	440	598	1.46	1.63
July	695	260	389	.949	1.09
August	440	198	237	.578	.67
September	648	198	336	.820	.91
October	648	260	341	.832	.96
November	1,300	260	455	1.11	1.24
December	2,270	478	873	2.13	2.46
The year	15,900	198	959	2.34	31.47
1903					
January	1,230	345	733	1.79	2.06
February	12,000	600	2,530	6.17	6.42
March	11,600	1,690	3,720	9.07	10.46
April	4,060	1,230	2,150	5.24	5.85
May	1,770	648	950	2.32	2.68
June	2,620	600	1,100	2.68	2.99
July	1,530	478	717	1.75	2.02
August	2,100	288	496	1.21	1.40
September	648	238	299	.729	.81
October	1,000	205	247	.602	.69
November	570	230	281	.685	.76
December	430	205	253	.617	.71
The year	12,000	205	1,123	2.74	36.85

MONTHLY DISCHARGE OF HIWASSEE RIVER AT MURPHY, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1904					
January	1,500	205	397	.968	1.12
February	1,860	340	663	1.62	1.75
March	3,990	530	1,260	3.07	3.54
April	1,790	530	765	1.87	2.09
May	1,230	400	595	1.45	1.67
June	2,250	312	520	1.27	1.42
July	1,300	258	377	.92	1.06
August	2,920	312	558	1.36	1.57
September	655	205	278	.678	.76
October	180	140	166	.405	.47
November	285	160	217	.529	.59
December	1,720	258	434	1.06	1.22
The year	3,990	140	519	1.27	17.26
1905					
January	1,940	370	680	1.66	1.91
February	5,790	400	1,520	3.71	3.86
March	2,580	655	889	2.17	2.50
April	2,580	570	804	1.96	2.19
May	2,920	790	1,250	3.05	3.52
June	2,250	460	653	1.59	1.77
July	8,490	430	1,020	2.49	2.87
August	1,790	370	637	1.55	1.79
September	460	258	319	.778	.87
October	3,630	258	441	1.08	1.24
November	495	285	315	.768	.86
December	7,950	370	1,420	3.46	3.99
The year	8,490	258	823	2.02	27.37
1906					
January	7,050	700	1,660	4.05	4.67
February	1,230	610	816	1.99	2.07
March	3,630	610	1,360	3.32	3.83
April	3,270	890	1,370	3.34	3.73
May	1,430	530	729	1.78	2.05
June	2,090	340	890	2.17	2.42
July	2,410	495	1,100	2.68	3.09
August	5,610	700	1,450	3.54	4.08
September	7,230	700	1,540	3.76	4.20
October	6,150	840	1,830	4.46	5.14
November	18,400	655	1,820	4.44	4.95
December	3,990	1,000	1,570	3.83	4.42
The year	18,400	340	1,345	3.28	44.65

MONTHLY DISCHARGE OF HIWASSEE RIVER AT MURPHY, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
January	2,410	840	1,200	2.93	3.38
February	3,630	840	1,410	3.44	3.58
March	4,890	790	1,320	3.22	3.71
April	2,920	745	1,120	2.73	3.05
May	1,640	745	1,020	2.49	2.87
June	2,250	745	1,110	2.71	3.02
July	5,610	530	973	2.37	2.73
August	1,710	488	776	1.89	2.18
September	10,200	425	1,040	2.54	2.83
October	848	425	531	1.29	1.49
November	2,980	455	814	1.99	2.22
December	2,310	552	1,070	2.61	3.01
The year	10,200	425	1,032	2.52	34.07
1908					
January	6,210	1,000	1,680	4.10	4.73
February	8,730	1,110	1,950	4.76	5.13
March	7,470	1,000	1,890	4.61	5.32
April	4,230	1,000	1,560	3.80	4.24
May	3,510	800	1,230	3.00	3.46
June	1,280	455	668	1.63	1.82
July	2,000	395	688	1.68	1.94
August	2,000	340	581	1.42	1.64
September	1,220	295	398	.971	1.08
October	1,400	260	444	1.08	1.24
November	618	295	407	.993	1.11
December	7,070	455	1,170	2.85	3.29
The year	8,730	260	1,056	2.57	35.00
1909					
January	3,110	730	1,150	2.80	3.23
February	5,270	690	1,980	4.83	5.03
March	8,690	1,260	2,690	6.56	7.56
April	2,000	1,110	1,430	3.49	3.89
May	8,330	1,140	2,680	6.54	7.54
June	7,790	1,200	2,010	4.90	5.47
July	4,190	735	1,200	2.93	3.38
August	3,110	455	791	1.93	2.22
September	1,600	425	572	1.40	1.56
October	3,830	370	602	1.47	1.70
November	490	350	393	.959	1.07
December	1,670	385	742	1.81	2.09
The year	8,690	350	1,353	3.30	44.74

MONTHLY DISCHARGE OF HIWASSEE RIVER AT MURPHY, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1910					
January	3,110	640	924	2.25	2.59
February	3,110	680	980	2.39	2.48
March	3,830	512	952	2.32	2.68
April	2,130	512	686	1.67	1.86
May	4,550	550	1,600	3.90	4.50
June	3,290	795	1,240	3.02	3.37
July	2,130	710	982	2.40	2.77
August	975	475	629	1.53	1.76
September	1,070	365	537	1.31	1.46
October	752	295	385	.939	1.08
November	550	295	326	.795	.89
December	3,850	295	642	1.57	1.81
The year	4,550	295	823	2.01	27.25
1911					
January	5,510	590	1,100	2.68	3.09
February	2,760	710	1,110	2.71	2.82
March	1,670	630	844	2.06	2.38
April	5,730	795	2,100	5.12	5.71
May	1,860	630	878	2.14	2.47
June	795	370	488	1.19	1.33
July	2,760	335	627	1.53	1.76
August	1,610	270	435	1.06	1.22
September	630	270	340	.829	.92
October	930	205	402	.980	1.13
November	885	335	532	1.30	1.45
December	2,430	370	787	1.92	2.21
The year	5,730	205	804	1.96	26.49
1912					
January	3,650	590	1,040	2.54	2.93
February	3,470	710	1,420	3.46	3.73
March	10,500	1,220	2,410	5.88	6.78
April	2,270	1,110	1,540	3.76	4.20
May	3,290	690	1,170	2.85	3.29
June	2,000	570	863	2.10	2.34
July	6,170	610	1,450	3.54	4.08
August	1,210	372	584	1.42	1.64
September	3,470	320	528	1.29	1.44
October	1,020	320	432	1.05	1.21
November	690	352	424	1.03	1.15
December	1,530	352	568	1.39	1.60
The year	10,500	320	1,036	2.53	34.39

MONTHLY DISCHARGE OF HIWASSEE RIVER AT MURPHY, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1913					
January	3,470	570	1,050	2.56	2.95
February	3,650	770	1,190	2.90	3.02
March	12,600	850	2,720	6.63	7.64
April	1,750	770	1,120	2.73	3.05
May	2,580	570	841	2.05	2.36
June	2,930	455	774	1.89	2.11
July	1,110	290	447	1.09	1.26
August	610	260	384	.937	1.08
September	930	205	298	.727	.81
October	765	230	303	.739	.85
November	460	255	293	.715	.80
December	765	280	388	.946	1.09
The year	12,600	205	817	1.99	27.02
1914					
January	605	308	413	1.01	1.16
February	1,110	460	706	1.72	1.79
March	2,270	495	751	1.83	2.11
April	3,110	645	1,090	2.66	2.97
May	845	335	516	1.26	1 45
June	605	230	337	.822	.92
July	765	185	298	.727	.84
August	605	208	286	.698	.80
September	335	140	208	.507	.57
October	2,580	185	398	.971	1.12
November	5,090	230	503	1.23	1.37
December	5,450	605	1,650	4.02	4.64
The year	5,450	140	596	1.45	19.74
1915					
January	2,580	888	1,400	3.41	3.93
February	3,830	930	1,420	3.46	3.60
March	1,420	725	909	2.22	2.56
April	845	495	618	1.51	1.68
May	2,270	460	619	1.51	1.74
June	1,580	335	572	1.40	1.56
July	1,700	280	567	1.38	1.59
August	888	255	383	.934	1.08
September	605	230	327	.798	.89
October	2,930	395	763	1.86	2.14
November	1,810	365	591	1.44	1.61
December	12,300	395	1,770	4.32	4.98
The year	12,300	230	828	2.02	27.57

MONTHLY DISCHARGE OF HIWASSEE RIVER AT MURPHY, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1916					
January	2,270	1,160	1,480	3.61	4.16
February	7,070	940	1,590	3.88	4.18
March	1,720	760	1,030	2.51	2.89
April	985	590	776	1.89	2.11
May	5,450	440	987	2.41	2.78
June	3,290	670	1,080	2.63	2.93
July	9,950	510	2,540	6.20	7.15
August	2,750	590	1,130	2.76	3.18
September	1,940	408	572	1.40	1.56
October	2,000	375	495	1.21	1.40
November	850	408	520	1.27	1.42
December	1,770	510	733	1.79	2.06
The year	9,950	375	1,078	2.63	35.82
1917					
January	2,930	850	1,440	3.51	4.05
February	6,170	895	1,830	4.46	4.64
March	15,400	1,570	3,780	9.22	10.63
April	3,290	1,120	1,690	4.12	4.60
May	1,390	670	948	2.31	2.66
June	1,880	590	847	2.07	2.31
July	1,600	480	674	1.64	1.89
August	900	380	590	1.43	1.64
September	1,800	360	664	1.61	1.85
October	720	390	486	1.18	1.36
November	540	380	437	1.06	1.22
December	520	360	441	1.07	1.23
The year	15,400	360	1,152	2.80	38.08
1918					
January	4,500	430	1,202	2.90	3.37
February	3,100	880	1,300	3.17	3.65
March	960	620	807	1.96	2.26
April	1,300	660	870	2.12	2.44
May	1,500	640	960	2.34	2.69
June	1,000	540	705	1.71	1.97
July	1,600	410	628	1.53	1.76
August	660	310	409	.997	1.14
September	760	270	407	.992	1.14
October	8,320	290	989	2.41	2.77
November	2,040	550	832	2.03	2.26
December	13,100	550	1,730	4.22	4.86
The year	13,100	270	903	2.20	29.71

MONTHLY DISCHARGE OF HIWASSEE RIVER AT MURPHY, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1919					
January	4,110	975	1,620	3.95	4.55
February	2,880	885	1,310	3.20	3.33
March	3,050	975	1,580	3.85	4.44
April	1,750	795	1,070	2.61	2.91
May	1,890	630	903	2.20	2.54
June	2,040	475	770	1.88	2.10
July	2,540	550	838	2.04	2.35
August	885	405	511	1.25	1.44
September	475	225	301	.734	.82
October	1,270	225	380	.93	1.07
November	630	340	401	.98	1.09
December	6,280	405	1,090	2.66	3.07
The year	6,280	225	898	2.19	29.71
1920					
January	5,090	405	1,350	3.29	3.79
February	2,540	795	1,190	2.90	3.13
March	4,070	795	1,660	4.05	4.67
April	13,100	1,270	2,640	6.44	7.18
May	1,380	795	1,100	2.68	3.09
June	1,500	630	819	2.00	2.23
July	2,200	475	805	1.96	2.26
August	4,070	475	1,580	3.85	4.44
September	1,500	550	899	2.19	2.44
October	800	390	456	1.11	1.28
November	2,040	360	561	1.37	1.53
December	9,200	530	1,540	3.76	4.34
The year	13,100	360	1,217	2.97	40.38
1921					
January	2,800	750	1,310	3.20	3.69
February	7,560	920	2,080	5.07	5.28
March	1,690	830	1,040	2.54	2.93
April	2,180	785	1,130	2.76	3.08
May	2,180	830	1,050	2.56	2.95
June	740	475	584	1.42	1.58
July	920	355	515	1.26	1.45
August	1,010	380	528	1.29	1.49
September	920	240	356	.868	.97
October	620	240	318	.776	.89
November	1,920	330	778	1.90	2.12
December	2,760	510	918	2.24	2.58
The year	7,560	240	884	2.16	29.01

MONTHLY DISCHARGE OF HIWASSEE RIVER AT MURPHY, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1922					
January	13,800	660	2,390	5.83	6.72
February	5,960	1,100	1,700	4.15	4.32
March	5,960	1,380	2,490	6.07	7.00
April	2,760	1,280	1,780	4.34	4.84
May	4,680	920	1,610	3.93	4.53
June	2,600	660	1,060	2.59	2.89
July	1,380	580	747	1.82	2.10
August	700	380	473	1.15	1.33
September	995	335	446	1.09	1.22
October	825	270	346	.844	.97
November	540	250	299	.729	.81
December	9,940	270	1,530	3.73	4.30
The year	13,800	250	1,239	3.02	41.03
1923					
January	4,360	695	1,360	3.32	3.83
February	5,080	1,010	1,920	4.68	4.87
March	4,010	1,010	1,800	4.39	5.06
April	3,500	960	1,400	3.41	3.80
May	4,180	960	1,720	4.20	4.84
June	2,990	960	1,490	3.63	4.05
July	1,910	615	915	2.23	2.57
August	1,910	540	778	1.90	2.19
September	615	285	416	1.01	1.13
October	505	260	311	.759	.88
November	655	225	325	.793	.88
December	1,770	345	804	1.96	2.26
The year	5,080	225	1,103	2.69	36.36

HIWASSEE RIVER NEAR APALACHIA, TENN.

LOCATION. Close to North Carolina-Tennessee boundary, 1½ miles above station of Louisville and Nashville Railroad at Apalachia, Polk County.
DRAINAGE AREA. 1,042 square miles.
RECORDS AVAILABLE. January 1, 1914 to December 31, 1922.
GAGE. Vertical staff on right bank 700 feet below boundary crossing; read by Ethel Blackwell and Blanch Cole.
DISCHARGE MEASUREMENTS. Made from boat at gage section.
CHANNEL AND CONTROL. No information.
EXTREMES OF DISCHARGE. Maximum stage recorded, 10.50 feet April 2, 1920 (discharge, 24,144 second-feet); minimum stage, 0.0 foot September 18 and 29, and October 1 and 2, 1914 (discharge, 360 second-feet).
ICE. No information.
REGULATION. No information.
ACCURACY. One rating curve used over entire period of record. Records probably fair, but may be considerably in error for high and low stages.
COOPERATION. Daily-discharge record, and monthly values for maximum, minimum, and mean discharge and discharge per square mile furnished by Mr. J. A. Switzer, engineer for Thompson Power Co.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF HIWASSEE RIVER AT APALACHIA, TENN.

Week	Year								
	1914	1915	1916	1917	1918	1919	1920	1921	1922
1	1,181	2,295	3,582	3,755	1,272	5,802	1,546	2,518	2,018
2	961	2,389	3,415	2,662	2,423	2,962	1,874	3,721	3,313
3	797	2,904	3,131	4,206	2,549	2,829	2,781	3,548	8,109
4	907	3,333	3,636	4,029	2,927	4,253	5,412	2,592	7,583
5	1,265	3,582	5,960	4,712	6,985	3,007	3,939	2,559	3,366
6	1,726	3,169	3,646	3,046	2,818	2,517	3,357	8,535	3,496
7	1,529	2,826	2,638	2,971	3,452	3,156	2,582	5,234	6,963
8	1,920	2,751	2,402	7,879	3,610	4,003	3,535	4,023	3,471
9	1,492	2,638	2,931	9,395	2,411	3,496	2,475	3,231	5,096
10	1,373	2,963	2,807	7,475	2,262	5,497	3,086	2,726	6,692
11	2,166	2,365	2,250	4,857	2,068	3,696	4,048	2,538	5,658
12	1,657	2,239	2,017	9,209	2,079	2,971	4,458	2,697	4,181
13	2,054	2,190	2,399	8,621	1,815	3,289	6,354	2,359	5,385
14	1,945	2,057	2,108	6,189	2,082	2,604	12,824	2,508	4,621
15	2,458	1,959	2,048	4,602	2,457	2,888	4,873	2,230	3,707
16	3,509	1,619	1,901	3,438	2,358	3,249	4,064	3,979	4,615
17	2,111	1,537	1,749	3,369	2,310	2,619	3,923	3,218	3,812
18	1,867	1,501	1,619	3,305	2,479	2,634	3,194	2,597	6,181
19	1,697	3,046	1,437	2,694	2,483	3,119	3,009	2,516	4,451
20	1,400	1,982	1,474	2,280	2,604	2,379	2,892	2,550	3,075
21	1,144	1,667	4,422	2,190	2,799	2,097	2,698	2,900	3,112
22	998	1,611	2,350	2,202	1,779	1,843	2,336	2,118	3,044
23	1,108	1,637	2,007	2,742	1,815	1,611	2,289	1,920	4,158
24	861	1,635	3,473	2,536	1,626	1,602	1,759	1,730	3,565
25	1,053	1,364	2,379	2,193	2,000	1,969	2,356	1,807	2,819
26	659	1,254	2,115	1,806	2,259	3,222	1,857	1,657	2,199
27	587	2,371	1,733	1,610	1,642	2,675	1,791	3,315	2,261
28	788	1,719	8,550	1,400	1,254	1,994	1,519	1,575	2,202
29	1,551	1,291	5,439	2,122	1,354	2,135	3,657	1,964	2,406
30	678	998	4,727	1,945	1,834	1,894	1,850	1,697	2,013
31	760	925	3,123	1,565	1,541	1,510	1,345	1,653	1,556
32	1,135	815	3,428	1,728	1,080	1,616	3,699	2,025	1,603
33	971	1,203	2,510	1,737	1,035	1,774	7,640	2,246	1,464
34	659	1,239	2,130	1,336	961	1,411	4,648	1,656	1,431
35	760	979	1,777	2,009	934	1,635	2,967	1,437	1,383
36	523	1,080	1,677	1,758	1,071	1,089	2,550	1,181	1,144
37	514	961	1,576	1,345	905	1,071	3,809	971	1,443
38	642	944	1,336	1,364	1,191	888	2,243	971	1,343
39	514	751	1,496	1,781	1,053	797	1,874	1,720	934
40	788	2,897	1,272	1,382	834	879	1,739	1,629	989
41	605	1,401	1,181	1,117	788	1,108	1,537	1,035	1,191
42	2,281	1,849	1,496	1,126	852	1,369	1,409	925	1,016
43	934	1,758	1,208	1,336	2,372	2,680	1,465	952	1,099
44	760	1,218	1,484	1,428	6,545	1,327	1,492	1,609	907
45	898	1,071	1,199	1,181	1,952	1,144	1,428	1,318	907
46	1,294	1,543	1,559	1,149	1,799	1,520	1,978	2,373	943
47	1,071	1,858	1,559	1,080	1,788	1,135	1,676	2,505	1,007
48	2,664	1,409	1,723	1,205	2,099	1,529	1,733	3,607	1,062
49	5,066	1,190	1,635	1,053	1,657	2,648	2,213	2,789	2,732
50	2,011	1,437	1,839	1,190	2,904	4,542	4,362	1,835	3,756
51	1,758	6,349	1,792	1,299	7,029	2,306	3,427	1,924	6,704
52	6,054	6,791	2,761	1,086	4,138	1,721	3,792	3,486	2,229

MONTHLY DISCHARGE OF HIWASSEE RIVER AT APALACHIA, TENN.
[Drainage area, 1,042 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1914					
January	1,446	742	961	0.92	1.06
February	2,625	1,126	1,676	1.61	1 68
March	3,108	1,313	1,739	1.67	1.93
April	5,463	1,638	2,491	2.39	2.67
May	2,250	998	1,442	1.38	1.59
June	1,638	614	938	0.90	1.00
July	2,397	486	883	0.85	.980
August	1,701	550	876	0.84	.968
September	1,190	360	555	0.53	.591
October	6,693	360	1,116	1.07	1.23
November	7,761	678	1,246	1.20	1.34
December	12,405	1,638	3,786	3.63	4.18
The year	12,405	360	1,476	1.42	19.22
1915					
January	4,383	1,701	2,694	2.59	2 99
February	5,349	2,322	3,131	3.00	3.12
March	3,627	1,968	2,452	2.35	2.71
April	2,322	1,510	1,806	1.73	1.93
May	5,697	1,382	1,994	1.91	2.20
June	2,397	998	1,501	1.44	1.61
July	4,692	806	1,541	1.48	1.71
August	2,625	742	1.051	1.01	1.16
September	1,701	614	934	0.90	1.00
October	6,435	1,190	1,913	1.84	2.12
November	2.250	998	1.404	1.35	1.51
December	20,403	1,126	3,645	3.50	4.04
The year	20,403	614	2,006	1.93	26.10
1916					
January	5,124	2,547	3,367	3.23	3.72
February	12,663	2,178	3,584	3.44	3.71
March	4,284	1,899	2,525	2.42	2.79
April	2,250	1,638	1,944	1.86	2.08
May	10,986	1,382	2,298	2.20	2.54
June	5,937	1,767	2,482	2.38	2.66
July	15,759	1,510	4,873	4.67	5.38
August	3,807	1,701	2,586	2.48	2.86
September	2,625	1,190	1.533	1.47	1.64
October	2,625	1,126	1,319	1.26	1.45
November	2,625	1,126	1,478	1 42	1.58
December	5,349	1,446	2,020	1.94	2.24
The year	15,759	1,126	2,501	2.40	32.65

MONTHLY DISCHARGE OF HIWASSEE RIVER AT APALACHIA, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1917					
January	5,937	2,106	3,648	3.50	4.04
February	14,211	2,397	4,727	4.54	4.73
March	20,403	4,185	8,666	8.32	9.59
April	8,277	3,024	4,410	4.23	4.71
May	3,627	1,968	2,485	2.39	2.76
June	4,905	1,701	2,345	2.25	2.51
July	4,089	1,254	1,750	1.68	1.94
August	2,322	998	1,553	1.49	1.72
September	4,587	934	1,706	1.64	1.83
October	1,833	998	1,268	1.22	1.41
November	1,446	998	1,145	1.10	1.23
December	1,382	934	1,153	1.11	1.28
The year	20,403	934	2,905	2.79	37.76
1918					
January	11,373	1,126	3,088	2.96	3.41
February	8,019	2,322	3,368	3.23	3.36
March	2,472	1,638	2,092	2.01	2.32
April	3,550	1,701	2,295	2.20	2.46
May	4,089	1,638	2,488	2.39	2.76
June	2,547	1,382	1,829	1.74	1.94
July	4,284	1,062	1,639	1.57	1.81
August	1,767	806	1,072	1.03	1.19
September	1,968	678	1,047	1.00	1.12
October	19,113	742	2,128	2.04	2.35
November	4,797	1,510	2,116	2.03	2.27
December	19,113	1,510	3,805	3.65	4.21
The year	19,113	678	2,247	2.15	29.20
1919					
January	9,438	2,472	3,892	3.73	4.30
February	6,564	2,722	3,227	3.10	3.23
March	8,793	2,625	3,823	3.67	4.23
April	3,993	2,250	2,754	2.64	2.95
May	4,587	1,899	2,480	2.37	2.73
June	4,905	1,510	2,063	1.98	2.21
July	3,993	1,510	2,132	2.04	2.35
August	2,322	1,126	1,599	1.53	1.76
September	1,701	742	998	0.96	1.07
October	1,660	742	1,493	1.43	1.65
November	1,899	998	1,312	1.26	1.41
December	11,631	1,254	2,692	2.58	2.97
The year	11,631	742	2,372	2.27	30.86

MONTHLY DISCHARGE OF HIWASSEE RIVER AT APALACHIA, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
January	9,696	1,446	3,012	2.89	3.33
February	6,825	2,178	3,178	3.05	3.29
March	11,373	2,178	4,145	3.98	4.59
April	24,144	3,450	6,326	6.07	6.77
May	3,717	2,250	2,866	2.75	3.17
June	2,943	1,510	2,089	2.00	2.23
July	6,309	1,318	2,135	2.05	2.36
August	10,857	1,126	4,327	4.15	4.78
September	5,235	1,574	2,619	2.51	2.80
October	1,899	1,382	1,533	1.47	1.70
November	3,363	1,318	1,672	1.60	1.79
December	11,889	1,767	3,350	3.22	3.71
The year	24,144	1,126	3,104	2.98	40.52
1921					
January	5,349	2,178	3,052	2.93	3.38
February	19,113	2,397	5,170	4.96	5.17
March	3,900	1,833	2,628	2.52	2.91
April	6,564	2,037	2,981	2.86	3.19
May	4,383	2,037	2,587	2.48	2.86
June	2,037	1,574	1,806	1.73	1.93
July	2,250	1,254	1,685	1.62	1.87
August	3,450	1,382	1,580	1.52	1.75
September	2,781	870	1,222	1.17	1.31
October	2,106	870	1,131	1.09	1.26
November	5,580	1,254	2,371	2.27	2.53
December	7,761	1,574	2,575	2.47	2.85
The year	19,113	870	2,399	2.30	31.01
1922					
January	21,693	1,899	5,119	4.91	5.66
February	11,631	2,943	4,308	4.13	4.30
March	12,663	3,450	5,570	5.35	6.17
April	6,693	3,450	4,256	4.08	4.55
May	12,018	2,472	4,002	3.84	4.43
June	5,937	2.178	3,263	3.13	3.49
July	3,108	1,701	2,187	2.10	2.42
August	2,547	1,126	1,494	1.43	1.65
September	2,703	870	1,210	1.16	1.29
October	1,899	870	1,058	1.02	1.18
November	1,062	806	945	.91	1.02
December	14,598	998	3,641	3.49	4.02
The year	21,693	806	3,088	2.96	40.18

HIWASSEE RIVER AT RELIANCE, TENN.

LOCATION. At county highway bridge at Reliance, Polk County, one-fourth mile below Louisville and Nashville Railroad bridge, 1¼ miles below the mouth of Lost Creek, 1¾ miles above the mouth of Spring Creek and 14 miles above the confluence of Hiwassee and Ocoee rivers.

DRAINAGE AREA. 1,180 square miles.

RECORDS AVAILABLE. August 17, 1900 to December 31, 1913; and February 1, 1919, to December 31, 1923.*

GAGE. Chain gage attached to downstream railing of bridge, installed November 10, 1921; read by Warner Smith. Previous to this date gage was vertical staff in 2 sections, located 150 feet upstream from the Louisville and Nashville Railroad bridge. New gage was set so as to read about the same as the staff gage at a stage of 1.5 feet. There is practically no intervening drainage and the flow at both points is the same.

DISCHARGE MEASUREMENTS. Made from 5-span highway bridge during high and medium stages and from railroad bridge during low stages. Highway bridge section is rocky and shallow and is not suitable for stages below 2.0 feet. Railroad bridge makes a decided angle with the current and angle corrections are necessary.

CHANNEL AND CONTROL. Channel is wide and shallow, bed composed of coarse gravel and boulders. Right bank subject to overflow at stages above 8 feet; left bank high and is not overflowed. Control is coarse gravel and rock shoal at head of island 100 feet downstream from gage.

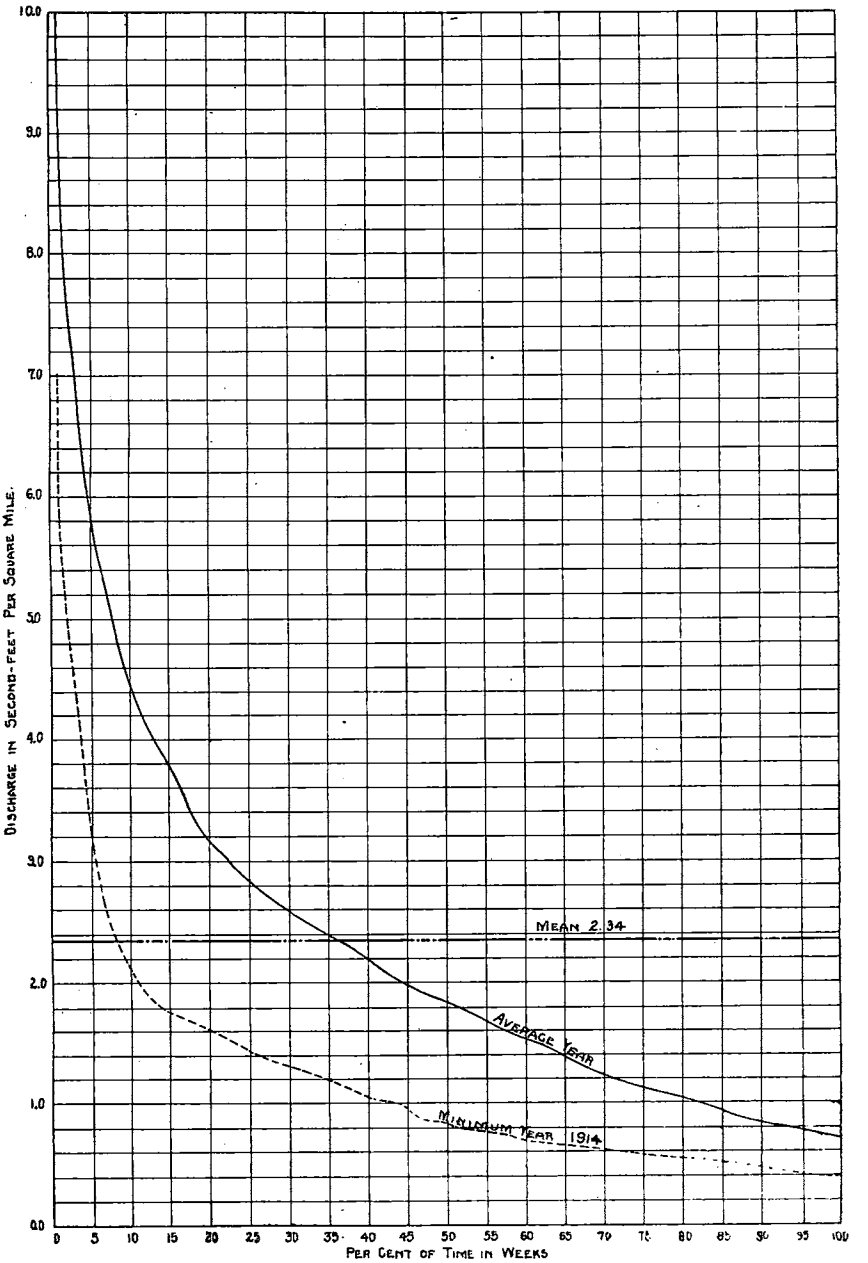
EXTREMES OF DISCHARGE. 1900-1913; 1919-1923: Maximum stage recorded, 15.2 feet November 19, 1906; minimum stage, 0.70 feet October 19-26, 1904 (discharge, 380 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. None of any consequence.

ACCURACY. Stage-discharge relation not permanent. Rating curves usually to March 31, well defined below 12,000 second-feet; extended above. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good for medium stages; fair above and probably good for low water.

*NOTE. The break in the record has been filled in for the tables with an estimate derived from a comparison of gage realtionship between a gage operated for the period January 1, 1914 to December 31, 1922 at Apalachia, Tenn., by the Thompson Power Co., and the gage at Reliance.



WEEKLY DURATION CURVES
FOR
HIWASSEE RIVER AT RELIANCE, TENN
1901-1923

MEAN WEEKLY DISCHARGE, IN SECOND-FEET.

Week	Year										
	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910.
1	.....	2,677	4,557	3,107	929	1,670	5,933	5,203	6,041	2,771	2,193
2	.....	11,287	2,711	2,461	846	5,804	3,366	3,277	6,436	2,290	2,761
3	.....	3,721	2,513	1,830	1,276	2,517	2,843	2,937	4,224	5,196	2,107
4	.....	3,069	2,984	1,577	2,686	1,323	7,526	2,573	2,951	2,310	2,750
5	.....	4,620	8,527	2,280	1,116	1,226	3,329	4,701	3,694	1,919	2,103
6	.....	4,393	3,809	6,876	1,587	6,696	2,333	5,149	3,423	5,440	2,197
7	.....	3,137	2,737	9,601	1,369	3,997	1,987	2,881	6,980	8,943	3,046
8	.....	2,264	3,280	4,259	3,393	6,890	1,959	2,660	4,074	7,404	3,456
9	.....	1,964	12,286	11,437	1,913	2,573	2,363	4,803	3,554	4,601	3,944
10	.....	3,207	5,184	7,987	3,059	2,466	2,586	3,963	3,177	5,901	2,730
11	.....	2,766	5,284	6,730	2,713	2,346	3,976	3,516	4,187	12,264	2,300
12	.....	2,360	4,116	10,234	5,610	2,873	4,823	2,647	8,256	4,736	1,879
13	.....	11,453	7,289	8,157	3,847	2,117	4,203	2,536	4,927	5,743	1,654
14	.....	6,954	4,600	6,594	2,220	1,909	3,160	2,581	3,394	3,790	1,507
15	.....	4,177	3,953	7,789	2,844	2,291	4,604	2,410	2,744	3,420	1,484
16	.....	10,001	3,201	5,380	1,784	1,974	3,720	2,729	4,344	3,083	3,343
17	.....	4,656	2,637	3,826	1,884	2,807	2,676	3,520	4,506	3,870	2,216
18	.....	3,169	2,817	3,056	1,419	3,156	2,436	2,646	3,379	7,840	1,851
19	.....	2,637	2,233	2,536	2,636	2,747	2,184	3,636	3,573	4,003	6,107
20	.....	4,239	2,260	2,214	1,586	3,561	1,609	2,927	2,739	3,181	3,021
21	.....	12,151	1,903	1,884	1,191	3,879	1,699	2,573	2,414	11,013	8,229
22	.....	4,293	1,617	3,486	1,364	2,284	1,801	3,474	2,221	4,519	3,411
23	.....	3,326	1,571	4,837	1,300	1,529	1,976	3,297	2,656	9,623	4,547
24	.....	4,149	1,443	2,807	936	1,309	3,689	2,621	2,020	4,870	4,076
25	.....	3,370	1,426	1,941	1,013	1,963	2,270	2,263	1,603	3,889	3,030
26	.....	3,237	1,471	2,323	1,240	1,743	2,393	2,514	1,271	4,269	3,127
27	.....	2,607	1,303	1,827	929	1,676	1,610	1,956	2,390	3,639	4,353
28	.....	1,970	1,563	3,074	1,024	2,824	3,530	2,591	2,194	5,000	3,883
29	.....	2,089	1,177	2,044	762	1,961	7,894	2,071	1,461	2,826	3,006
30	.....	1,689	941	1,397	973	1,229	3,844	1,537	1,209	2,989	2,620
31	.....	1,511	1,050	1,957	987	1,026	4,426	2,859	1,219	2,881	2,617
32	.....	4,566	847	1,477	1,794	1,660	2,916	1,467	1,609	2,396	3,640
33	.....	13,364	793	1,426	1,413	1,900	2,506	2,563	994	2,301	2,263
34	1,233	13,219	746	1,181	1,015	1,571	3,240	2,109	2,030	1,604	2,006
35	1,220	5,520	981	907	924	1,129	4,923	1,394	1,317	1,449	2,267
36	1,036	3,286	893	842	858	1,017	3,323	1,243	1,616	1,379	2,129
37	2,749	2,749	993	888	583	870	2,961	1,403	941	1,449	1,569
38	1,566	4,386	1,046	938	513	755	4,160	1,733	802	1,734	1,256
39	1,113	2,506	1,347	694	486	640	5,201	2,730	736	1,629	1,354
40	979	2,039	1,067	590	446	925	10,226	1,844	699	1,116	1,224
41	1,289	1,964	1,143	944	413	1,302	4,196	1,470	1,026	1,354	1,396
42	1,159	1,757	1,091	1,011	389	878	3,807	1,243	774	3,057	1,083
43	2,756	1,549	884	631	391	843	2,844	1,329	1,329	1,264	1,039
44	1,501	1,506	884	779	438	815	2,314	1,269	1,437	1,210	1,085
45	1,463	1,463	1,070	931	541	788	2,050	1,706	1,040	1,129	1,033
46	1,243	1,534	1,029	1,231	570	720	2,437	1,714	1,113	1,124	988
47	1,437	1,509	1,290	1,024	618	854	15,583	3,863	900	1,180	968
48	4,204	1,400	2,393	756	704	935	3,446	2,597	2,371	1,083	1,187
49	3,299	1,571	2,923	735	1,657	6,276	3,060	1,704	4,511	2,077	4,513
50	1,833	9,516	1,529	821	842	3,811	3,521	3,424	2,586	2,764	1,534
51	2,691	3,087	3,213	1,009	756	2,960	5,009	2,711	2,753	1,760	1,323
52	2,866	11,504	2,114	1,046	1,869	3,216	5,933	4,050	2,751	2,113	1,694

OF HIWASSEE RIVER AT RELIANCE, TENN.

Year													Week
1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	
7,489	3,330	2,424	993	2,360	4,136	4,479	1,084	7,620	1,327	2,759	1,886	4,049	1
2,349	2,424	2,533	781	2,493	3,927	2,871	2,661	3,276	1,756	4,581	3,776	1,960	2
1,811	1,981	2,736	684	3,207	3,559	5,110	2,750	3,117	2,746	4,274	10,329	2,026	3
1,703	1,509	5,321	770	3,846	4,264	4,873	3,349	5,167	7,486	2,819	9,987	5,240	4
2,036	4,629	4,069	1,106	4,250	8,157	5,869	9,761	3,307	4,451	2,804	3,396	4,841	5
5,497	1,937	2,810	1,624	3,596	4,310	3,417	3,066	2,660	3,897	12,674	3,754	6,221	9
3,423	3,363	4,837	1,374	3,091	2,851	3,359	4,080	4,051	2,527	6,304	6,650	6,334	7
2,601	4,789	2,920	1,850	3,007	2,514	11,271	4,197	4,744	3,889	5,337	3,810	2,924	8
2,531	5,934	6,529	1,320	2,836	3,276	14,350	2,524	4,230	2,606	3,580	6,044	3,013	9
2,233	3,614	2,779	1,201	3,259	3,067	13,173	2,513	8,201	3,479	2,883	8,446	4,414	10
1,866	6,184	14,057	2,173	2,459	2,291	6,097	2,034	4,337	5,307	2,494	7,070	7,146	11
2,021	4,586	5,130	1,497	2,277	1,960	13,894	2,049	3,347	5,603	2,420	5,350	5,096	12
3,093	11,061	12,074	2,026	2,206	2,493	12,459	1,686	4,101	7,429	3,003	6,061	3,350	13
7,257	4,974	3,923	1,864	2,017	2,089	8,174	2,064	2,870	21,151	2,779	5,089	3,343	14
7,560	3,370	3,249	2,620	1,881	2,006	5,731	2,576	3,099	5,847	2,060	4,043	4,901	15
5,289	3,679	2,809	4,089	1,423	1,800	3,951	2,447	3,599	5,063	5,164	5,321	3,777	16
3,321	6,409	2,367	2,097	1,360	1,594	3,824	2,361	2,451	4,560	3,576	4,140	3,359	17
2,789	4,837	2,007	1,760	1,331	1,424	3,583	2,609	2,860	3,677	2,694	6,270	3,236	18
2,231	3,706	2,001	1,549	3,430	1,276	2,919	2,597	3,459	3,393	2,880	5,097	3,129	19
1,946	2,694	1,843	1,234	1,914	1,301	2,339	2,810	2,441	3,274	2,836	3,576	5,126	20
2,150	2,101	4,439	950	1,521	5,700	2,204	3,096	2,170	2,843	3,139	3,309	4,406	21
1,569	3,379	2,106	806	1,439	2,440	2,224	1,637	1,776	2,391	2,131	3,171	6,576	22
1,363	2,233	2,689	929	1,519	1,954	3,009	1,687	1,484	2,331	1,677	3,521	3,829	23
1,137	3,257	1,675	731	1,507	4,070	2,691	1,490	1,413	1,670	1,546	3,293	4,126	24
1,343	2,033	1,566	901	1,197	2,466	2,216	1,947	1,607	2,913	1,441	2,429	2,829	25
979	2,884	1,313	573	1,071	2,104	1,671	2,346	4,176	2,177	1,453	2,094	3,936	26
943	3,341	1,373	517	2,513	1,587	1,423	1,510	2,793	1,739	1,263	2,099	2,704	27
1,351	3,350	1,307	665	1,584	12,550	1,223	1,070	2,127	1,481	1,384	1,949	2,651	28
1,457	2,954	923	1,459	1,109	6,943	2,154	1,177	2,647	3,690	2,110	2,161	3,237	29
1,338	1,914	1,283	590	816	5,891	1,866	1,734	1,771	1,980	1,436	2,059	2,590	30
1,077	1,834	1,246	652	766	3,493	1,397	1,391	1,384	1,337	1,504	1,271	2,297	31
1,044	1,753	1,199	988	699	3,733	1,614	886	1,491	4,313	1,651	1,293	2,479	32
878	1,609	983	816	1,091	2,651	1,626	888	1,289	11,560	2,474	1,236	2,346	33
700	1,514	926	574	1,083	2,120	1,154	804	1,192	5,953	1,509	1,091	2,196	34
810	1,128	715	648	809	1,634	2,097	765	1,493	3,247	1,341	1,068	1,669	35
1,070	1,001	675	485	913	1,524	1,640	906	913	2,944	973	911	1,503	36
782	1,050	695	478	829	1,401	1,167	786	936	4,546	884	1,228	1,223	37
774	1,457	929	586	818	1,159	1,190	1,045	721	2,236	918	995	1,243	38
684	1,913	718	485	640	1,368	1,745	883	691	1,727	1,631	852	1,107	39
601	1,367	845	714	3,257	1,089	1,204	701	715	1,620	1,411	725	914	40
908	978	668	531	1,221	988	921	677	906	1,373	949	1,037	878	41
2,533	1,990	616	2,450	1,796	1,377	939	730	1,076	1,286	862	788	924	42
971	1,281	964	774	1,656	1,017	1,156	2,544	2,947	1,249	815	879	935	43
772	1,093	776	653	1,028	1,319	1,254	9,440	1,114	1,236	1,481	718	972	44
1,205	1,499	785	758	877	1,005	987	1,874	994	1,176	1,066	736	1,059	45
1,577	1,191	825	1,195	1,409	1,403	941	1,684	1,383	1,527	2,094	822	854	46
1,437	1,063	731	878	1,580	1,440	885	1,649	958	1,496	2,363	759	1,010	47
1,130	1,016	824	3,087	1,244	1,586	868	2,107	1,235	1,693	4,014	835	1,114	48
930	2,174	1,014	6,616	979	1,499	859	1,496	2,610	2,237	3,101	2,977	2,363	49
949	1,381	886	1,956	1,267	1,749	996	3,283	6,083	7,106	1,661	4,246	1,630	50
1,517	1,370	790	1,610	9,231	1,656	1,117	10,446	2,166	5,586	1,824	7,860	2,071	51
3,954	1,779	1,068	8,181	8,460	3,035	892	5,041	1,556	4,789	3,465	2,341	2,471	52

MONTHLY DISCHARGE OF HIWASSEE RIVER AT RELIANCE, TENN.
[Drainage area, 1,180 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1900					
September	7,640	870	1,610	1.36	1.52
October	9,300	870	1,540	1.31	1.51
November	11,600	1,080	2,030	1.72	1.92
December	5,450	1,480	2,620	2.22	2.56
1901					
January	30,800	1,800	5,010	4.25	4.90
February	12,600	1,480	3,450	2.92	3.04
March	34,600	1,800	4,590	3.89	4.48
April	25,000	3,350	6,280	5.32	5.94
May	37,500	2,170	5,470	4.64	5.35
June	7,250	2,380	3,580	3.03	3.38
July	3,620	1,480	2,110	1.79	2.06
August	33,700	1,340	8,190	6.94	8.00
September	8,450	2,380	3,350	2.84	3.17
October	2,380	1,340	1,790	1.52	1.75
November	1,980	1,340	1,490	1.26	1.41
December	32,200	1,340	6,260	5.31	6.12
The year	37,500	1,340	4,298	3.64	49.60
1902					
January	6,870	2,170	3,320	2.81	3.24
February	38,000	2,380	5,730	4.86	5.06
March	20,200	2,840	6,070	5.14	5.92
April	6,140	2,380	3,630	3.08	3.44
May	3,620	1,640	2,210	1.87	2.16
June	1,980	1,200	1,490	1.26	1.41
July	2,380	870	1,240	1.05	1.21
August	1,200	700	875	.742	.86
September	1,980	780	1,050	.890	.99
October	1,640	870	1,030	.873	1.01
November	5,450	870	1,350	1.14	1.27
December	5,790	1,340	2,390	2.03	2.34
The year	38,000	700	2,532	2.14	28.91
1903					
January	6,500	1,550	2,200	1.87	2.16
February	32,100	1,740	6,900	5.85	6.09
March	26,900	3,900	8,600	7.29	8.40
April	14,500	3,090	5,860	4.97	5.55
May	3,900	1,740	2,400	2.04	2.35
June	7,640	1,740	3,200	2.72	3.03
July	5,450	1,200	2,070	1.75	2.02
August	2,840	885	1,390	1.18	1.36
September	1,550	590	843	.714	.80
October	2,370	590	789	.669	.77
November	2,840	735	979	.830	.93
December	1,550	590	893	.757	.87
The year	32,100	590	3,010	2.55	34.33

MONTHLY DISCHARGE OF HIWASSEE RIVER AT RELIANCE, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1904					
January	7,690	655	1,400	1.19	1.37
February	5,800	895	1,960	1.66	1.79
March	10,500	1,520	3,560	3.02	3.48
April	3,480	1,520	2,210	1.87	2.09
May	6,170	895	1,630	1.38	1.59
June	2,160	833	1,170	.992	1.11
July	1,440	550	930	.778	.91
August	3,780	770	1,280	1.08	1.24
September	1,260	460	625	.530	.59
October	460	380	412	.349	.40
November	895	420	562	.476	.53
December	4,090	655	1,280	1.08	1.24
The year	10,500	380	1,418	1.20	16.34
1905					
January	15,400	1,100	2,680	2.27	2.62
February	22,700	1,100	4,880	4.14	4.31
March	5,090	1,830	2,450	2.08	2.40
April	7,300	1,520	2,320	1.97	2.20
May	8,080	1,940	3,170	2.69	3.10
June	2,400	1,260	1,640	1.39	1.55
July	6,540	1,100	1,910	1.62	1.87
August	3,190	895	1,500	1.27	1.46
September	1,520	602	832	.705	.79
October	2,920	602	976	.827	.95
November	1,100	712	803	.681	.76
December	15,400	962	3,840	3.25	3.75
The year	22,700	602	2,250	1.91	25.76
1906					
January	21,200	1,940	4,810	4.08	4.70
February	3,330	1,720	2,200	1.86	1.94
March	9,280	1,720	3,680	3.12	3.60
April	7,880	2,400	3,580	3.03	3.38
May	3,480	1,260	1,940	1.64	1.89
June	7,690	1,340	2,540	2.15	2.40
July	15,000	1,430	4,090	3.47	4.00
August	8,880	2,050	3,540	3.00	3.46
September	14,200	2,050	3,970	3.36	3.75
October	15,000	2,400	4,990	4.23	4.88
November	55,200	1,940	5,580	4.73	5.28
December	10,100	2,650	4,160	3.53	4.07
The year	55,200	1,260	3,757	3.18	43.35

MONTHLY DISCHARGE OF HIWASSEE RIVER AT RELIANCE, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
January	8,080	2,340	3,390	2.87	3.31
February	11,700	2,570	4,000	3.39	3.53
March	7,690	2,230	3,470	2.94	3.39
April	5,300	2,120	2,830	2.40	2.68
May	4,510	2,120	2,870	2.43	2.80
June	6,000	2,120	2,920	2.47	2.76
July	8,880	1,380	2,290	1.94	2.24
August	4,510	1,300	1,890	1.60	1.84
September	5,820	1,000	1,740	1.47	1.64
October	2,340	1,140	1,440	1.22	1.41
November	10,900	1,140	2,350	1.99	2.22
December	8,480	1,550	2,950	2.50	2.88
The year	11,700	1,000	2,678	2.27	30.70
1908					
January	15,000	2,640	4,710	3.99	4.60
February	12,100	2,870	4,600	3.90	4.21
March	24,400	2,870	4,970	4.21	4.85
April	9,280	2,500	3,740	3.17	3.54
May	4,770	2,260	2,920	2.47	2.85
June	3,840	1,190	1,920	1 63	1.82
July	3,990	1,040	1,770	1.50	1.73
August	3,000	890	1,450	1.23	1.42
September	3,840	690	1,020	.864	.96
October	3,140	690	1,050	.890	1.03
November	1,360	820	1,000	.847	.94
December	11,300	1,270	3,330	2.82	3.25
The year	24,400	690	2,707	2.29	31.20
1909					
January	11,100	1,890	3,030	2.57	2.96
February	27,000	1,700	6,300	5.34	5.56
March	36,500	3,300	6,830	5.79	6.68
April	5,310	2,840	3,600	3.05	3.40
May	25,000	2,950	6,340	5.37	6.19
June	22,500	3,420	5,630	4.77	5.32
July	8,000	2,080	3,510	2.97	3.42
August	4,170	1,360	2,180	1.85	2.13
September	3,660	1,210	1,540	1.31	1.46
October	8,000	998	1,650	1.40	1.61
November	1,360	1,060	1,140	.966	1.08
December	5,940	998	2,100	1.78	2.05
The year	36,500	998	3,654	3.10	41.86

MONTHLY DISCHARGE OF HIWASSEE RIVER AT RELIANCE, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1910					
January	4,720	1,700	2,430	2.06	2.38
February	8,370	1,890	2,730	2.31	2.40
March	6,270	1,530	2,540	2.15	2.48
April	5,620	1,360	2,120	1.80	2.01
May	11,600	1,700	4,750	4.03	4.65
June	8,740	2,400	3,650	3.09	3.45
July	5,940	2,290	3,430	2.91	3.36
August	6,270	1,620	2,470	2.09	2.41
September	5,310	1,210	1,770	1.50	1.67
October	1,620	998	1,180	1.00	1.15
November	1,530	930	1,040	.881	.98
December	18,500	930	2,170	1.84	2.12
The year	18,500	930	2,523	2.14	29.06
1911					
January	17,500	1,620	3,220	2.73	3.15
February	12,900	1,800	3,390	2.87	2.99
March	4,170	1,700	2,330	1.97	2.27
April	17,500	2,080	5,680	4.81	5.37
May	2,950	1,530	2,170	1.84	2.12
June	1,890	930	1,240	1.05	1.17
July	1,990	805	1,240	1.05	1.21
August	1,360	638	889	.753	.87
September	2,290	638	844	.715	.80
October	9,510	538	1,210	1.03	1.19
November	2,500	690	1,280	1.08	1.20
December	7,290	868	1,850	1.57	1.81
The year	17,500	538	2,112	1.79	24.15
1912					
January	11,600	1,360	2,750	2.33	2.69
February	12,000	1,700	3,960	3.36	3.62
March	33,000	3,180	6,020	5.10	5.88
April	9,120	3,060	4,760	4.03	4.50
May	7,290	1,620	3,300	2.80	3.23
June	4,720	1,620	2,580	2.19	2.44
July	4,440	1,530	2,800	2.37	2.73
August	2,610	1,140	1,600	1.36	1.57
September	3,910	868	1,330	1.13	1.26
October	5,310	930	1,370	1.16	1.34
November	2,720	998	1,200	1.02	1.14
December	3,910	998	1,640	1.39	1.60
The year	33,000	868	2,776	2.35	32.00

MONTHLY DISCHARGE OF HIWASSEE RIVER AT RELIANCE, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1913					
January	8,740	1,890	3,410	2.89	3.33
February	14,700	2,400	4,100	3.47	3.61
March	29,500	2,290	8,050	6.82	7.86
April	7,290	2,190	3,200	2.71	3.02
May	11,100	1,620	2,540	2.15	2.48
June	4,720	930	1,830	1.55	1.73
July	2,720	690	1,220	1.03	1.19
August	1,620	690	1,030	.873	1.01
September	1,700	638	750	.636	.71
October	1,530	538	783	.664	.77
November	1,060	638	752	.637	.71
December	1,360	748	961	.814	.94
The year	29,500	538	2,386	2.02	27.36
1914					
January	1,290	638	805	.682	.79
February	2,840	930	1,550	1.31	1.36
March	3,420	1,140	1,630	1.38	1.59
April	6,940	1,450	2,650	2.25	2.51
May	2,290	805	1,280	1.08	1.24
June	1,450	538	794	.673	.75
July	2,500	445	790	.669	.77
August	1,530	490	751	.636	.73
September	998	400	512	.434	.48
October	8,740	400	1,070	.907	1.05
November	10,300	585	1,190	1.01	1.13
December	19,500	1,450	4,680	3.97	4.58
The year	19,500	400	1,475	1.25	16.98
1915					
January	5,310	1,530	2,920	2.47	2.85
February	6,940	2,400	3,550	3.01	3.13
March	4,170	1,890	2,570	2.18	2.51
April	2,400	1,360	1,690	1.43	1.60
May	7,290	1,210	1,980	1.68	1.94
June	2,500	805	1,350	1.14	1.27
July	5,940	690	1,450	1.23	1.42
August	2,840	638	908	.769	.89
September	1,530	538	798	.676	.75
October	8,370	998	1,900	1.61	1.86
November	2,290	805	1,240	1.05	1.17
December	35,500	868	4,850	4.11	4.74
The year	35,500	538	2,101	1.78	24.13

MONTHLY DISCHARGE OF HIWASSEE RIVER AT RELIANCE, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1916					
January	6,600	2,720	3,870	3.28	3.78
February	20,000	2,190	4,340	3.68	3.97
March	5.310	1,800	2,680	2.27	2.62
April	2,290	1,450	1,860	1.58	1.76
May	16,600	1,060	2,500	2.12	2.44
June	7,640	1,620	2,630	2.23	2.49
July	26,500	1,360	6,360	5.39	6.21
August	4,440	1,530	2,760	2.34	2.70
September	2,840	998	1,370	1.16	1.29
October	2,840	930	1,150	.975	1.12
November	2,840	930	1,320	1.12	1.25
December	6,940	1,290	1,990	1.69	1.95
The year	26,500	930	2,736	2.32	31.58
1917					
January	7,640	2,080	4,300	3.64	4.20
February	23,500	2,500	6,100	5.17	5.38
March	35,500	5,010	12,800	10.8	12.45
April	11,600	3,300	5,440	4.61	5.14
May	4,170	1,890	2,620	2.22	2.56
June	6,270	1,530	2,430	2.06	2.30
July	5,010	1,060	1,640	1.39	1.60
August	2,400	805	1,410	1.19	1.37
September	5,620	748	1,630	1.38	1.54
October	1,700	805	1,080	.915	1.05
November	1,290	805	954	.808	.90
December	1,210	748	961	.814	.94
The year	35,500	748	3,447	2.92	39.43
1918					
January	17,500	930	3,740	3.17	3.66
February	11,100	2,400	3,900	3.31	3.45
March	2,610	1,450	2,070	1.75	2.02
April	3,910	1,530	2,350	1.99	2.22
May	5,010	1,450	2,630	2.33	2.57
June	2,720	1,210	1,730	1.47	1.64
July	5,310	868	1,530	1.30	1.50
August	1,620	690	902	.764	.88
September	1,890	585	891	.755	.84
October	33,000	638	2,670	2.26	2.61
November	5,940	1,360	2,120	1.80	2.01
December	33,000	1,360	4,850	4.11	4.74
The year	33,000	585	2,449	2.08	28.14

MONTHLY DISCHARGE OF HIWASSEE RIVER AT RELIANCE, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1919					
January	13,300	2,610	4,690	3.97	4.58
February	7,710	2,400	3,820	3.24	3.37
March	13,600	2,770	4,890	4.14	4.77
April	4,660	2,290	3,000	2.54	2.83
May	5,620	1,800	2,630	2.23	2.57
June	5,160	1,290	2,110	1.79	2.00
July	4,780	1,290	2,270	1.92	2.21
August	2,460	905	1,380	1.17	1.35
September	1,450	638	849	.719	.802
October	8,180	585	1,380	1.17	1.35
November	1,740	930	1,120	.95	1.06
December	17,600	1,090	2,950	2.50	2.88
The year	17,600	585	2,591	2.20	29.77
1920					
January	12,400	1,210	3,460	2.93	3.38
February	7,460	2,080	3,480	2.95	3.18
March	17,300	2,080	4,990	4.23	4.88
April	55,400	3,960	8,930	7.57	8.45
May	4,300	2,330	3,170	2.69	3.10
June	3,910	1,530	2,230	1.89	2.11
July	7,460	1,360	2,150	1.82	2.10
August	16,300	1,210	5,690	4.82	5.56
September	7,360	1,700	2,860	2.42	2.70
October	1,700	1,140	1,370	1.16	1.34
November	2,500	1,060	1,420	1.20	1.34
December	24,200	1,530	4,720	4.00	4.61
The year	55,400	1,060	3,706	3.14	42.75
1921					
January	7,360	2,330	3,550	3.01	3.47
February	31,500	2,500	6,870	5.82	6.06
March	3,780	2,080	2,750	2.33	2.69
April	9,120	1,800	3,390	2.87	3.20
May	5,620	1,930	2,810	2.38	2.74
June	2,190	1,290	1,570	1.33	1.48
July	2,400	1,060	1,570	1.33	1.53
August	3,860	1,150	1,720	1.46	1.68
September	2,590	880	1,100	.932	1.04
October	2,080	759	1,010	.848	.98
November	7,410	824	2,250	1.91	2.13
December	7,700	1,330	2,590	2.19	2.53
The year	31,500	759	2,598	2.20	29.53

MONTHLY DISCHARGE OF HIWASSEE RIVER AT RELIANCE, TENN.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1922					
January	29,400	1,770	6,220	5.27	6.08
February	13,800	3,110	4,390	3.72	3.87
March	20,000	3,860	6,850	5.81	6.70
April	8,000	3,480	4,760	4.03	4.50
May	12,300	2,630	4,350	3.69	4.25
June	6,540	1,880	2,920	2.47	2.76
July	2,750	1,430	2,030	1.72	1.98
August	1,880	904	1,190	1.01	1.16
September	2,630	792	988	.837	.93
October	1,920	704	844	.715	.82
November	992	718	764	.647	.72
December	21,700	746	4,080	3.46	3.99
The year	29,400	704	3,282	2.78	37.76
1923					
January	12,300	1,700	3,400	2.88	3.32
February	11,000	2,510	4,990	4.23	4.40
March	13,500	2,630	4,790	4.06	4.68
April	11,000	2,790	3,820	3.24	3.62
May	9,520	2 670	4,430	3.75	4.32
June	6,990	2,550	3,860	3.27	3.65
July	5,780	1,770	2,790	2.36	2.72
August	3,920	1,580	2,220	1.88	2.17
September	1,770	1,020	1.280	1.08	1.20
October	1,100	860	918	.778	.90
November	1,520	822	998	.846	.94
December	4,110	1,030	2,000	1.69	1.95
The year	13,500	822	2,958	2.51	33.87

SHOOTING CREEK NEAR HAYESVILLE, N. C.

LOCATION. At steel highway bridge on new road being built from Hayesville to Franklin, N. C., 100 feet downstream from new concrete highway bridge, 5 miles from Hiwassee River and 7½ miles southeast of Hayesville, Clay County.

DRAINAGE AREA. 37.9 square miles (measured on topographic maps).

RECORDS AVAILABLE. August 15, 1922 to December 31, 1923.

GAGE. Chain gage attached to upstream handrail of bridge; read by Mrs. Lena Kitchens.

DISCHARGE MEASUREMENTS. Made from downstream side of bridge to which gage is attached.

CHANNEL AND CONTROL. Bed of stream composed of gravel and sand; probably shifting. Left bank is high, rocky and not subject to overflow. Right bank is fairly high and rarely subject to overflow. Control is a gravel and boulder shoal 75 feet below gage; probably permanent.

EXTREMES OF DISCHARGE. 1922-1923: Maximum stage recorded, 6.80 feet, morning reading December 17, 1922 (discharge, 2,380 second-feet); minimum stage recorded, 1.72 feet, evening reading October 5, 1922 (discharge, 20 second-feet).

ICE. Stage-discharge relation probably never affected by ice.

REGULATION. Probably negligible.

ACCURACY. Stage-discharge relation permanent. Rating curve is well defined between 40 and 300 second-feet and is an extension above. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF SHOOTING CREEK NEAR HAYESVILLE, N. C.

Week	Year		Week	Year	
	1922	1923		1922	1923
1		172	27		98
2		88	28		99
3		101	29		115
4		191	30		96
5		204	31		69
6		226	32		151
7		290	33		73
8		129	34	39	64
9		136	35	33	61
10		153	36	34	49
11		268	37	58	38
12		201	38	36	52
13		130	39	27	31
14		127	40	28	27
15		173	41	29	24
16		141	42	26	31
17		124	43	29	27
18		112	44	24	35
19		110	45	25	33
20		164	46	28	43
21		151	47	39	28
22		271	48	58	37
23		157	49	125	83
24		149	50	198	75
25		128	51	368	83
26		117	52	116	119

MONTHLY DISCHARGE OF SHOOTING CREEK NEAR HAYESVILLE, N. C.
[Drainage area, 37.9 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1922					
August 15-31	52	31	39.1	1.03	0.65
September	195	25	38.4	1.01	1.13
October	54	21	27.8	0.734	.85
November	88	24	29.2	.770	.86
December	1,470	27	195	5.15	5.94
1923					
January	329	79	141.	3.72	4.29
February	745	117	211	5.57	5.80
March	344	113	182	4.80	5.53
April	314	106	140	3.69	4.12
May	446	98	159	4.20	4.84
June	243	98	146	3.85	4.30
July	184	65	100	2.64	3.04
August	320	51	86.5	2.28	2.63
September	142	28	42.8	1.13	1.26
October	58	23	28.2	.744	.86
November	78	27	35.0	.923	1.03
December	218	38	87.9	2.32	2.68
The year	745	23	113.3	2.99	40.38

TUSQUITEE CREEK NEAR HAYESVILLE, N. C.

LOCATION. At wagon bridge, 2½ miles above the mouth of the creek and 3 miles northeast of Hayesville, Clay County.

DRAINAGE AREA. 40 square miles.

RECORDS AVAILABLE. May 20, 1907 to December 31, 1909, when station was discontinued.

GAGE. Vertical staff attached to left bank bridge abutment; read by T. C. Moore.

DISCHARGE MEASUREMENTS. Made from the bridge.

CHANNEL AND CONTROL. Rocky, rough and fairly permanent. Control not known.

EXTREMES OF DISCHARGE. Maximum stage recorded, 5.0 feet March 13, 1909 (discharge, 938 second-feet); minimum stage, 1.0 foot October 2 to 8 and 19 to 22 and November 27 to 30, 1908 (discharge, 30 second-feet).

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

REGULATION. Probably none.

ACCURACY. Stage-discharge relation fairly permanent. Rating curves well defined for medium stages, fairly well defined for low water and extended to high water. Gage probably read to half-tenths once a day. Daily discharge ascertained by applying daily gage height to rating table. Records fair except for high water which may be badly in error.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF TUSQUITEE CREEK NEAR HAYESVILLE, N. C.

Week	Year			Week	Year		
	1907	1908	1909		1907	1908	1909
1		212	142	27	75	98	132
2		188	98	28	105	102	169
3		163	245	29	99	76	114
4		137	103	30	148	65	105
5		132	77	31	104	47	112
6		126	198	32	74	66	85
7		234	294	33	122	51	79
8		147	320	34	151	114	62
9		134	222	35	81	70	51
10		147	210	36	67	63	47
11		175	460	37	69	46	53
12		380	222	38	153	39	66
13		193	255	39	147	40	50
14		136	161	40	97	31	39
15		122	141	41	68	43	79
16		157	119	42	51	34	65
17		226	195	43	64	50	46
18		146	261	44	87	53	39
19		167	149	45	106	43	40
20		140	158	46	97	56	47
21	107	130	367	47	146	39	45
22	239	231	200	48	116	93	37
23	159	142	338	49	78	250	114
24	117	112	168	50	182	137	77
25	99	81	184	51	106	133	60
26	93	67	123	52	185	136	74

MONTHLY DISCHARGE OF TUSQUITEE CREEK NEAR HAYESVILLE, N. C.
[Drainage area, 40 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1907					
June	468	83	139	3.48	3.88
July	590	68	110	2.75	3.17
August	215	60	106	2.65	3.06
September	422	46	106	2.65	2.96
October	120	46	69	1.73	1.99
November	255	53	117	2.93	3.27
December	467	76	136	3.40	3.92
1908					
January	280	111	169	4.23	4.88
February	407	111	160	4.00	4.31
March	685	120	215	5.38	6.20
April	496	102	161	4.03	4.50
May	636	102	165	4.13	4.76
June	202	60	105	2.63	2.93
July	190	53	82	2.05	2.36
August	160	40	71	1.78	2.05
September	102	35	48	1.20	1.34
October	102	30	42	1.05	1.21
November	84	30	43	1.08	1.21
December	775	68	169	4.23	4.88
The year	775	30	119	2.98	40.63
1909					
January	408	84	141	3.53	4.07
February	468	64	246	6.15	6.40
March	938	138	274	6.85	7.90
April	351	99	162	4.05	4.52
May	465	108	222	5.55	6.40
June	715	117	210	5.25	5.86
July	255	70	126	3.15	3.63
August	215	52	80	2.00	2.31
September	117	41	53	1.33	1.48
October	295	36	55	1.38	1.59
November	92	36	43	1.08	1.21
December	408	36	78	1.95	2.25
The year	938	36	141	3.52	47.62

VALLEY RIVER AT TOMOTLA, N. C.

LOCATION. At steel highway bridge 600 feet from Tomotla postoffice, Cherokee County, on Southern Railway 5 miles northeast of Murphy, half a mile upstream from Rodgers Creek, and 1 mile downstream from Colvards Creek.

DRAINAGE AREA. 105 square miles (measured on topographic map).

RECORDS AVAILABLE. June 29, 1904 to December 31, 1909; January 21, 1914 to April 30, 1917; October 29, 1918 to December 31, 1923.

GAGE. In two sections; lower section, 0.0 to 5.4 feet, is on a sloping timber which is bolted to marble bedrock; upper section, 5.4 to 10.0 feet, is a vertical rod bolted to a timber on old bridge pier. The lower section is the same gage which was in use when station was discontinued in 1909. Both sections repaired in 1918; gage datum unchanged. Gage read by J. T. Hayes.

DISCHARGE MEASUREMENTS. Made from single-span steel highway bridge gage.

CHANNEL AND CONTROL. Bed of channel composed of gravel which remains permanent for ordinary stages but shifts during big floods. Control is at a rock ledge just below bridge. Formation of gravel bars changes control occasionally.

EXTREMES OF DISCHARGE. 1904-1909, 1914-1917, and 1918-1923: Maximum stage recorded, 17.3 feet November 19, 1906 (discharge 7,780 second-feet; discharge previously published is in error); minimum discharge, 22 second-feet October 28 to November 2, 1904.

ICE. Stage-discharge relation not affected by ice.

DIVERSIONS. None.

REGULATION. Negligible.

ACCURACY. Stage-discharge relation not permanent as floods cause changes in gravel bars at the control; fairly permanent between shifts. Rating curves usually well defined for medium and low stages and extended above. Gage read to tenths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except for extremely low and high stages for which they are fair.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF VALLEY RIVER AT TOMOTLA, N. C.

Week	Year															
	1904	1905	1906	1907	1908	1909	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
1	-----	153	649	624	552	291	-----	336	445	588	-----	758	140	293	269	503
2	-----	635	351	446	534	223	-----	291	535	352	-----	299	250	498	573	211
3	-----	230	377	429	414	506	-----	361	446	610	-----	296	414	440	1,470	262
4	-----	104	731	433	298	227	109	559	441	623	-----	457	1,092	472	983	699
5	-----	106	356	519	386	145	109	614	736	801	-----	295	526	298	426	739
6	-----	787	266	704	329	593	360	357	428	386	-----	231	337	1,079	471	769
7	-----	547	209	347	659	1,084	313	279	320	406	-----	351	245	602	747	997
8	-----	1,011	238	294	369	811	489	288	261	1,163	-----	488	421	519	447	341
9	-----	308	321	621	336	501	213	324	350	2,226	-----	414	298	369	783	337
10	-----	324	300	639	364	610	204	389	357	-----	-----	737	340	259	995	525
11	-----	275	447	475	389	1,103	356	226	269	659	-----	387	664	213	794	969
12	-----	386	466	296	848	449	195	204	212	1,080	-----	248	678	237	579	621
13	-----	275	499	278	437	618	367	204	286	1,237	-----	293	746	281	744	372
14	-----	219	376	313	298	354	305	190	243	693	-----	205	1,885	240	555	403
15	-----	285	592	270	252	288	292	197	232	501	-----	286	578	177	371	549
16	-----	227	354	270	411	245	487	140	196	327	-----	321	446	524	612	424
17	-----	277	306	437	428	274	243	141	175	275	-----	188	494	384	441	324
18	-----	337	285	266	296	499	195	124	151	-----	-----	271	384	274	778	273
19	-----	246	245	388	338	301	201	298	122	-----	-----	326	328	385	534	300
20	-----	349	184	308	235	279	130	155	114	-----	-----	203	286	348	320	518
21	-----	288	150	260	219	902	99	114	372	-----	-----	170	225	263	258	371
22	-----	197	182	435	183	387	80	116	177	-----	-----	141	179	193	234	511
23	-----	128	125	254	193	747	91	96	167	-----	-----	109	171	162	292	312
24	-----	104	498	279	166	352	78	137	434	-----	-----	98	125	137	398	400
25	-----	126	378	239	166	319	80	91	259	-----	-----	110	219	123	516	214
26	-----	276	256	279	112	351	72	83	178	-----	-----	348	131	145	187	266
27	60	216	207	192	191	415	69	242	151	-----	-----	178	163	109	241	248
28	68	849	438	255	197	384	71	160	449	-----	-----	138	146	184	188	161
29	64	283	659	185	122	223	169	123	449	-----	-----	149	450	183	189	168
30	70	162	366	180	108	251	62	75	443	-----	-----	114	185	165	141	195
31	72	116	423	201	105	195	64	72	266	-----	-----	90	123	169	99	147
32	94	197	315	118	137	188	99	68	244	-----	-----	105	474	279	92	187
33	248	375	269	179	89	219	105	72	203	-----	-----	86	1,207	305	91	156
34	125	231	334	205	189	152	84	76	144	-----	-----	82	507	194	92	136
35	86	138	349	129	125	118	91	81	121	-----	-----	87	292	158	86	113
36	69	108	331	127	121	102	59	74	109	-----	-----	69	284	119	80	102
37	53	87	203	105	58	138	55	61	91	-----	-----	57	536	100	85	79
38	48	75	414	242	58	383	50	108	91	-----	-----	53	289	87	97	77
39	44	66	581	211	58	217	56	69	90	-----	-----	43	199	167	69	72
40	44	87	809	161	58	89	68	203	75	-----	-----	51	147	129	65	58
41	36	152	454	128	73	193	62	83	72	-----	-----	79	122	84	76	52
42	27	74	355	101	58	158	289	106	89	-----	-----	101	106	76	65	56
43	26	108	251	109	99	99	82	177	75	-----	-----	321	112	70	76	54
44	28	67	205	119	82	86	65	91	90	-----	570	113	116	193	59	73
45	48	72	168	217	72	86	101	74	81	-----	145	92	103	117	61	63
46	49	62	342	197	94	86	81	188	148	-----	139	106	181	357	76	56
47	55	99	1,878	408	72	92	84	170	151	-----	150	86	135	357	69	78
48	138	136	427	239	99	86	148	118	176	-----	227	141	143	721	129	85
49	240	909	351	199	576	262	598	95	167	-----	139	304	216	478	377	168
50	136	390	421	317	204	300	224	135	177	-----	308	557	733	217	530	140
51	91	545	665	279	214	156	174	704	170	-----	826	274	485	235	803	152
52	243	397	685	508	222	144	989	792	403	-----	467	159	530	598	242	256

MONTHLY DISCHARGE OF VALLEY RIVER AT TOMOTLA, N. C.
[Drainage area, 106 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1904					
July	126	50	65.6	0.619	0.71
August	1,000	72	133	1.25	1.44
September	72	44	55.2	.521	.58
October	44	22	32.9	.31	.36
November	357	22	59.5	.56	.63
December	452	88	181	1.71	1.97
1905					
January	2,430	66	262	2.47	2.85
February	2,610	100	642	6.06	6.31
March	740	205	312	2.94	3.39
April	672	192	265	2.50	2.79
May	672	192	281	2.65	3.06
June	550	91	154	1.45	1.62
July	3,430	138	361	3.41	3.93
August	672	100	221	2.08	2.40
September	138	50	86.4	.815	.91
October	432	58	102	.962	1.11
November	192	58	85.2	.804	.90
December	2,560	128	502	4.74	5.46
The year	3,430	50	272.8	2.57	34.73
1906					
January	1,590	242	514	4.85	5.59
February	360	192	250	2.36	2.46
March	880	242	425	4.01	4.62
April	1,180	285	403	3.80	4.24
May	375	134	204	1.92	2.21
June	1,100	102	310	2.92	3.26
July	1,260	156	395	3.73	4.30
August	672	217	322	3.04	3.50
September	1,340	156	373	3.52	3.93
October	1,760	205	442	4.17	4.81
November	7,780	156	663	6.25	6.97
December	990	285	521	4.92	5.67
The year	7,780	102	402	3.79	51.56
1907					
January	808	382	483	4.56	5.26
February	990	266	449	4.24	4.42
March	952	225	480	4.53	5.22
April	604	212	321	3.03	3.38
May	774	212	306	2.89	3.33
June	740	212	297	2.80	3.12
July	472	140	211	1.99	2.29
August	308	102	160	1.51	1.74
September	952	86	168	1.58	1.76
October	212	86	123	1.16	1.34
November	774	102	253	2.39	2.67
December	1,500	140	323	3.05	3.52
The year	1,500	86	298	2.81	38.05

MONTHLY DISCHARGE OF VALLEY RIVER AT TOMOTLA, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1908					
January	952	252	432	4.08	4.70
February	1,710	294	437	4.12	4.44
March	1,500	294	495	4.67	5.38
April	706	212	347	3.27	3.65
May	536	186	259	2.44	2.81
June	280	102	162	1.53	1.71
July	352	102	150	1.42	1.64
August	308	72	133	1.25	1.44
September	225	58	75.6	.713	0.80
October	140	58	73.9	.697	.80
November	130	72	78.1	.737	.82
December	1,890	86	285	2.69	3.10
The year	1,890	58	244	2.30	31.29
1909					
January	916	151	299	2.82	3.25
February	2,110	120	697	6.58	6.85
March	2,520	294	676	6.38	7.36
April	952	212	316	2.98	3.32
May	1,710	212	463	4.37	5.04
June	1,540	266	452	4.26	4.75
July	880	186	308	2.91	3.36
August	266	120	178	1.68	1.94
September	880	86	203	1.92	2.14
October	442	72	130	1.23	1.42
November	111	86	87.4	.825	.92
December	672	86	205	1.93	2.22
The year	2,520	72	335	3.16	42.57
1914					
January	140	78	104	0.981	0.47
February	970	92	332	3.13	3.26
March	690	166	259	2.44	2.81
April	830	157	334	3.15	3.51
May	349	78	147	1.39	1.60
June	140	54	81.1	.765	.85
July	290	54	89.9	.848	.98
August	235	54	91.6	.864	1.00
September	72	45	55.7	.525	.59
October	830	45	120	1.13	1.30
November	257	65	93.3	.880	.98
December	3,200	148	492	4.64	5.35
The year	3,200	45	183	1.73	22.70

MONTHLY DISCHARGE OF VALLEY RIVER AT TOMOTLA, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1915					
January	970	226	389	3.67	4.23
February	1,160	226	381	3.59	3.87
March	760	179	270	2.55	2.94
April	327	116	168	1.58	1.76
May	620	98	165	1.56	1.80
June	314	68	105	.991	1.11
July	725	68	143	1.35	1.56
August	136	56	73.7	.695	.80
September	400	46	78.3	.739	.82
October	498	68	138	1.30	1.50
November	415	68	133	1.25	1.40
December	3,200	82	422	3.98	4.59
The year	3,200	46	206	1.94	26.38
1916					
January	1,040	325	458	4.32	4.98
February	2,130	225	423	3.99	4.30
March	550	175	304	2.87	3.31
April	275	155	210	1.98	2.21
May	795	95	191	1.80	2.08
June	760	135	252	2.38	2.66
July	655	115	362	3.42	3.94
August	325	115	192	1.81	2.09
September	175	60	97.8	.923	1.03
October	165	60	81.4	.768	.89
November	385	75	128	1.21	1.35
December	1,000	135	231	2.18	2.51
The year	2,130	60	244	2.30	31.35
1917					
January	1,360	225	541	5.10	5.88
February	2,490	250	740	6.98	7.27
March					
April	1,000	250	448	4.23	4.72
1918					
October 29-31	1,160	798	964	9.10	1.01
November	424	106	178	1.68	1.87
December	3,250	122	395	3.73	4.30
1919					
January	1,640	220	441	4.16	4.80
February	734	209	355	3.35	3.49
March	1,000	220	417	3.93	4.53
April	559	140	247	2.33	2.60
May	514	140	231	2.18	2.51
June	484	91	162	1.53	1.71
July	266	91	143	1.35	1.56
August	242	64	90.5	.854	.98
September	84	40	57.3	.541	.60
October	544	34	135	1.27	1.46
November	220	77	104	.981	1.09
December	1,440	119	307	2.90	3.34
The year	1,640	34	224	2.12	28.67

MONTHLY DISCHARGE OF VALLEY RIVER AT TOMOTLA, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
January	2,260	122	487	4.59	5.29
February	768	182	354	3.15	3.40
March	1,350	232	557	5.25	6.05
April	4,910	384	832	7.85	8.76
May	448	182	288	2.72	3.14
June	368	119	163	1.54	1.72
July	905	122	226	2.13	2.46
August	2,030	106	563	5.31	6.12
September	1,230	160	322	3.04	3.39
October	202	94	119	1.12	1.29
November	438	94	139	1.31	1.46
December	2,750	134	470	4.43	5.11
The year	4,910	94	377	3.55	48.19
1921					
January	948	236	373	3.52	4.06
February	3,050	248	635	5.99	6.24
March	408	160	256	2.42	2.79
April	1,100	160	331	3.12	3.48
May	770	191	303	2.86	3.30
June	248	109	146	1.38	1.54
July	298	102	161	1.52	1.75
August	600	117	228	2.15	2.48
September	324	74	120	1.13	1.26
October	248	67	94.1	.888	1.02
November	1,250	94	351	3.31	3.69
December	1,490	170	406	3.83	4.42
The year	3,050	67	284	2.68	36.03
1922					
January	4,550	236	786	7.42	8.55
February	1,540	378	523	4.93	5.13
March	2,120	408	803	7.60	8.76
April	948	298	510	4.81	5.37
May	1,490	224	442	4.17	4.81
June	1,250	151	275	2.59	2.89
July	350	109	184	1.74	2.01
August	116	80	92.1	.869	1.00
September	197	65	82.3	.776	.87
October	121	56	69.4	.655	.76
November	116	56	67.3	.635	.71
December	2,700	68	467	4.41	5.08
The year	4,550	56	359	3.38	41.41

MONTHLY DISCHARGE OF VALLEY RIVER AT TOMOTLA, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1923					
January	1,540	185	435	4.10	4.73
February	2,620	280	688	6.49	6.76
March	1,290	280	591	5.58	6.43
April	984	294	417	3.93	4.38
May	876	230	396	3.74	4.31
June	556	185	312	2.94	3.28
July	456	120	192	1.81	2.09
August	280	102	150	1.42	1.64
September	114	62	84	.792	.88
October	84	48	56.2	.530	.61
November	185	51	71	.670	.75
December	424	71	175	1.65	1.90
The year	2,620	48	297	2.80	37.76

NOTTELY RIVER NEAR RANGER, N. C.

LOCATION. At highway bridge half a mile below Ranger, Cherokee County, and a fourth of a mile below Louisville and Nashville Railroad bridge. It is 8 miles above mouth of the river.

DRAINAGE AREA. 272 square miles (measured on topographic maps).

RECORDS AVAILABLE. January 17, 1901 to December 31, 1905; January 22, 1914 to April 30, 1917; October 20, 1918 to December 31, 1923.

GAGE. Chain gage attached to downstream side of steel highway bridge; installed October 28, 1918; read by A. D. Kilpatrick. Gage used in 1901-1905, was a vertical staff fastened to a pier of old wooden bridge at same site; that used from January 22, 1914 to April 30, 1917, and October 20-27, 1918, was vertical staff fastened to tree on left bank 75 feet above bridge. Datum of gages unchanged.

DISCHARGE MEASUREMENTS. Made from highway bridge.

CHANNEL AND CONTROL. Channel straight for 50 feet above and below gage. Bed composed of gravel, sand and boulders; practically permanent. Right bank high and not subject to overflow; left bank is overflowed at stages above 18 feet. Control is rock riffle 300 feet downstream and probably permanent.

EXTREMES OF DISCHARGE. Maximum stage recorded, 21.0 feet February 23, 1902 (discharge, from logarithmic extension of rating curve, 9,800 second-feet); minimum stage, 2.1 feet July 2, 3, August 9, September 9-11, 14-16, 29, 30, October 1-4, 1914 (discharge, 89 second-feet).

ICE. Stage-discharge relation not affected by ice.

REGULATION. Operation of small mills may cause slight diurnal fluctuations, but probably not enough to affect accuracy of results, except possibly at extremely low water.

ACCURACY. Stage-discharge relation not permanent. Six rating curves used with dates and definition as follows: February 16, 1901 to December 31, 1905, well defined below 2,500 second-feet and extended above logarithmicly; January 22 to September 30, 1924, fairly well defined between 125 and 650 second-feet; October 1, 1914 to April 30, 1917, fairly well defined between 125 and 800 second-feet and extended beyond; October 20, 1918 to September 30, 1920, fairly well defined between 150 and 2,200 second-feet and extended above; October 1, 1920 to December 17, 1922, well defined below 2,500 second-feet and extended above; December 18 to 31, 1923 well defined for same limit. Gage probably read to tenths once daily with few exceptions when it was read twice daily. Daily discharge ascertained by applying gage height to rating table. Records for 1901-1905, good below 2,500 second-feet; for 1914-1917, fair below 1,000 second-feet; for 1918-1920, good below 2,500 second-feet and fair above; for 1921-1923 records good.

NOTE. Water level above top of gage October 15, November 30, December 4, 25, 1914; December 18, 29, 1915; February 20, July 9-12, 1916; February 20, March 1, 4, 5, 24, and 27, 1917; discharge estimated from notes made by observer.

MEAN WEEKLY DISCHARGE, IN SECOND-FEET, OF NOTTELY RIVER AT RANGER, N. C.

Week	Year														
	1901	1902	1903	1904	1905	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
1	------	816	418	216	303	------	616	842	844	-----	1,309	307	573	364	665
2	------	616	528	185	1,110	------	476	687	679	-----	719	365	1,015	797	383
3	------	435	419	339	539	------	733	584	748	-----	652	518	1,015	2,042	368
4	------	543	363	458	291	211	997	835	1,031	-----	1,213	1,605	632	1,376	691
5	------	1,564	775	278	281	259	1,033	1,577	917	-----	754	1,242	608	593	686
6	------	804	1,286	386	1,024	357	733	806	647	-----	656	949	2,534	769	1,088
7	------	569	1,189	305	672	295	581	569	674	-----	827	613	1,153	1,634	943
8	500	686	786	675	914	310	675	449	1,932	-----	1,169	759	1,185	762	498
9	453	2,609	2,113	391	500	273	621	587	2,546	-----	880	633	817	848	589
10	629	1,052	1,436	811	489	262	666	644	1,917	-----	1,686	677	633	1,556	719
11	547	1,067	1,124	500	449	409	519	513	1,115	-----	990	1,069	592	1,211	1,403
12	714	866	2,073	872	748	307	477	429	2,051	-----	774	1,006	677	1,064	907
13	1,741	1,544	1,290	671	397	318	446	509	1,897	-----	912	1,710	639	1,435	613
14	1,252	842	1,053	539	381	344	413	511	1,443	-----	719	2,941	554	1,165	604
15	774	787	1,598	572	427	636	352	429	1,151	-----	817	1,218	511	918	1,008
16	1,307	655	1,028	397	410	948	334	395	904	-----	914	1,088	844	1,185	691
17	850	581	765	414	449	387	331	355	801	-----	608	989	886	932	753
18	646	577	633	351	611	388	291	341	-----	-----	613	819	583	1,619	771
19	556	474	589	454	722	301	686	317	-----	-----	961	875	650	1,099	673
20	614	554	513	315	689	241	412	295	-----	-----	598	768	695	1,037	931
21	2,301	376	453	267	669	205	319	856	-----	-----	560	721	840	838	1,103
22	879	367	1,054	429	457	183	364	434	-----	-----	452	647	507	1,303	1,520
23	765	367	1,340	577	326	196	320	359	-----	-----	395	637	421	874	842
24	981	298	711	230	291	178	357	948	-----	-----	372	452	384	770	908
25	776	291	457	224	489	158	319	605	-----	-----	438	575	387	582	660
26	694	324	646	327	385	116	281	562	-----	-----	739	474	386	474	942
27	688	236	466	188	493	109	408	511	-----	-----	841	436	289	474	650
28	453	452	729	212	842	385	350	3,471	-----	-----	485	383	303	506	667
29	896	357	553	225	356	297	230	1,136	-----	-----	638	990	566	598	845
30	436	216	312	220	250	127	195	911	-----	-----	477	421	369	482	575
31	382	236	642	275	220	134	194	727	-----	-----	346	322	1,136	319	488
32	1,334	273	338	452	363	211	178	689	-----	-----	313	1,043	366	378	529
33	2,936	185	432	304	405	193	186	668	-----	-----	301	2,117	371	369	596
34	2,803	163	291	243	230	136	186	458	-----	-----	305	1,179	279	367	665
35	1,216	217	243	221	236	154	186	405	-----	-----	405	676	258	306	462
36	791	228	237	269	243	114	198	388	-----	-----	230	664	207	257	429
37	759	245	220	160	154	94	189	345	-----	-----	259	678	211	339	328
38	1,245	247	297	113	130	135	192	278	-----	-----	196	461	213	298	313
39	599	241	201	152	130	117	376	481	-----	-----	181	395	408	237	300
40	539	214	176	111	222	122	1,106	288	-----	-----	215	367	319	258	266
41	535	241	254	103	432	117	297	265	-----	-----	244	685	218	329	251
42	449	265	223	103	176	866	597	455	-----	-----	222	316	208	235	277
43	371	185	185	103	205	168	404	271	------	721	536	401	205	271	275
44	384	154	210	108	194	143	312	488	------	1,882	284	374	306	222	286
45	367	302	240	121	188	146	230	409	------	469	227	295	261	217	307
46	384	216	267	135	154	258	349	377	------	416	341	776	545	215	260
47	406	359	226	116	130	189	307	443	------	403	227	375	443	261	333
48	380	395	176	151	182	875	265	565	------	649	269	405	618	234	294
49	380	646	172	319	1,484	1,592	244	394	------	367	849	541	538	728	651
50	1,420	484	163	230	623	454	301	397	------	885	1,031	1,436	309	899	548
51	551	731	321	201	710	381	1,528	389	------	2,117	437	606	462	1,259	597
52	2,251	549	354	329	743	1,081	1,395	648	------	968	315	793	587	688	468

MONTHLY DISCHARGE OF NOTTELY RIVER AT RANGER, N. C.
[Drainage area, 272 square miles]

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1901					
February 16-28	620	470	514	1.89	0.91
March	4,900	440	850	3.12	3.60
April	2,500	620	1,030	3.79	4.23
May	5,800	410	1,020	3.75	4.32
June	1,660	530	815	3.00	3.35
July	3,000	380	616	2.26	2.61
August	5,440	301	1,860	6.82	7.89
September	3,600	530	866	3.18	3.55
October	745	350	463	1.70	1.96
November	560	380	386	1.42	1.58
December	9,100	380	1,140	4.19	4.83
1902					
January	1,380	277	640	2.35	2.71
February	9,800	560	1,210	4.45	4.63
March	5,080	745	1,220	4.49	5.18
April	920	560	720	2.65	2.96
May	780	350	474	1.74	2.01
June	500	277	325	1.19	1.33
July	815	207	309	1.14	1.31
August	500	141	216	.794	.92
September	380	163	237	.871	.97
October	410	121	217	.798	.92
November	990	121	294	1.08	1.20
December	1,340	277	586	2.15	2.48
The year	9,800	121	537	1.98	26.62
1903					
January	560	325	434	1.60	1.84
February	7,350	410	1,270	4.67	4.86
March	5,680	780	1,490	5.48	6.32
April	2,400	650	1,110	4.08	4.55
May	1,140	410	576	2.12	2.44
June	1,860	410	858	3.15	3.51
July	1,180	277	508	1.87	2.16
August	1,660	229	398	1.46	1.68
September	560	185	238	.875	.98
October	560	163	208	.765	.88
November	560	163	291	1.07	1.19
December	500	163	250	.919	1.06
The year	7,350	163	636	2.34	31.47

MONTHLY DISCHARGE OF NOTTELY RIVER AT RANGER, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1904					
January	885	163	296	1.09	1.26
February	1,100	253	427	1.57	1.69
March	2,250	325	675	2.48	2.86
April	1,100	350	478	1.76	1.96
May	1,020	253	366	1.35	1.56
June	1,780	185	341	1.25	1.40
July	620	103	211	.776	.89
August	885	185	313	1.15	1.33
September	590	103	175	.643	.72
October	121	103	105	.386	.44
November	277	103	125	.460	.51
December	780	141	266	.978	1.13
The year	2,250	103	315	1.16	15.75
1905					
January	3,800	253	536	1.97	2.27
February	3,200	253	750	2.76	2.87
March	1,860	380	517	1.90	2.19
April	745	325	425	1.56	1.74
May	1,500	410	649	2.39	2.76
June	885	277	369	1.36	1.52
July	2,600	207	472	1.74	2.01
August	620	185	290	1.07	1.23
September	380	121	176	.647	.72
October	1,500	121	252	.926	1.07
November	207	121	166	.610	.68
December	4,000	185	840	3.09	3.56
The year	4,000	121	453	1.67	22.62
1914					
January 22-31	254	182	206	0.757	0.28
February	406	234	314	1.15	1.20
March	800	244	313	1.15	1.33
April	1,910	265	570	2.10	2.34
May	565	182	266	.978	1.13
June	223	106	166	.610	.68
July	483	89	219	.805	.93
August	431	89	168	.618	.71
September	162	89	118	.434	.48
October	2,980	89	298	1.10	1.27
November	3,780	143	303	1.11	1.24
December	4,180	359	884	3.25	3.75

MONTHLY DISCHARGE OF NOTTELY RIVER AT RANGER, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1915					
January	1,620	265	708	2.60	3.00
February	1,980	265	768	2.82	2.94
March	862	410	537	1.97	2.27
April	437	310	359	1.32	1.47
May	1,230	265	422	1.55	1.79
June	687	223	321	1.18	1.32
July	653	182	292	1.07	1.23
August	223	162	186	.684	.79
September	1,540	162	236	.868	.97
October	2,420	182	587	2.12	2.44
November	524	202	288	1.06	1.18
December	4,580	223	845	3.11	3.58
The year	4,580	162	462	1.70	27.98
1916					
January	1,230	494	720	2.65	3.06
February	3,780	310	718	3.01	3.25
March	862	410	559	2.06	2.38
April	721	334	442	1.55	1.73
May	1,500	265	455	1.67	1.92
June	1,620	359	607	2.23	2.49
July	6,580	334	1,420	5.22	6.02
August	1,120	359	592	2.18	2.51
September	1,620	244	377	1.39	1.55
October	1,190	265	315	1.16	1.34
November	862	265	467	1.72	1.92
December	1,620	334	472	1.74	2.01
The year	6,580	244	595	2.19	30.18
1917					
January	1,380	465	802	2.95	3.40
February	4,580	524	1,090	4.01	4.18
March	5,780	524	2,010	7.39	8.52
April	2,020	755	1,080	3.97	4.43
1918					
October 20-31	5,100	184	1,280	4.71	2.10
November	1,250	276	529	1.94	2.16
December	6,300	313	1,040	3.82	4.40
1919					
January	2,350	574	954	3.51	4.05
February	2,100	540	866	3.18	3.31
March	2,550	642	1,060	3.90	4.50
April	1,450	574	754	2.77	3.09
May	2,150	448	659	2.42	2.79
June	1,030	313	481	1.77	1.98
July	2,250	313	587	2.16	2.49
August	880	228	337	1.24	1.43
September	478	174	226	.831	.93
October	1,250	164	300	1.10	1.27
November	540	174	368	1.35	1.51
December	3,900	288	657	2.42	2.79
The year	3,900	164	604	2.22	34.14

MONTHLY DISCHARGE OF NOTTELY RIVER AT RANGER, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1920					
January	2,800	288	735	2.70	3.11
February	3,200	478	832	3.06	3.30
March	2,550	478	1,020	3.75	4.32
April	6,110	642	1,540	5.66	6.32
May	1,100	642	779	2.86	3.30
June	1,030	418	581	2.14	2.39
July	1,610	313	538	1.98	2.28
August	2,800	288	1,140	4.19	4.83
September	1,570	338	598	2.20	2.46
October	732	278	357	1.30	1.50
November	1,920	256	450	1.64	1.83
December	5,100	326	814	2.97	3.42
The year	6,110	256	782	2.88	39.06
1921					
January	1,700	326	794	2.90	3.34
February	5,500	553	1,400	5.11	5.32
March	1,060	522	645	2.35	2.71
April	1,370	460	698	2.55	2.84
May	1,290	352	676	2.47	2.85
June	522	302	400	1.46	1.63
July	1,030	256	387	1.41	1.63
August	732	236	344	1.26	1.45
September	732	181	259	.945	1.05
October	460	198	239	.872	1.01
November	1,100	226	439	1.60	1.78
December	1,100	278	489	1.78	2.05
The year	5,500	181	564	2.07	27.66
1922					
January	5,450	302	1,090	3.98	4.59
February	3,700	522	948	3.46	3.60
March	4,350	695	1,280	4.67	5.38
April	1,650	806	1,060	3.87	4.32
May	4,500	587	1,070	3.91	4.51
June	1,250	378	715	2.61	2.91
July	1,410	302	502	1.83	2.11
August	587	278	352	1.28	1.48
September	522	216	284	1.04	1.16
October	732	207	270	.985	1.14
November	460	207	229	.836	.93
December	3,500	216	847	3.09	3.56
The year	5,450	207	721	2.63	35.69

MONTHLY DISCHARGE OF NOTTELY RIVER AT RANGER, N. C.—*Continued*

Month	Discharges in Second-feet				Run-off in Inches
	Maximum	Minimum	Mean	Per Square Mile	
1923					
January	1,650	319	531	1.94	2.24
February	2,480	436	812	2.96	3.08
March	2,190	489	875	3.19	3.68
April	2,240	489	765	2.79	3.11
May	2,100	574	984	3.59	4.14
June	2,100	489	877	3.20	3.57
July	1,700	436	670	2.45	2.82
August	1,700	364	561	2.05	2.36
September	698	276	346	1.26	1.41
October	341	245	267	.982	1.13
November	489	255	300	1.10	1.23
December	1,560	276	544	2.00	2.31
The year	2,480	245	628	.29	31.08

TABLE 4

MISCELLANEOUS DISCHARGE MEASUREMENTS ROANOKE RIVER BASIN

Date	Stream	Location	Disc. Cu. Ft. Per Sec.	Method of Measuring	Authority
April 19, 1914	Beaver Island Creek	Highway Bridge at Michaels Mill, near Madison, N. C.	27	Current Meter	U. S. G. S. w. s. p. 382
April 19, 1914	Beaver Island Creek	Highway Bridge at Michaels Mill, near Madison, N. C.	27	Current Meter	B. M. Hall, Jr.
April 4, 1923	Dan River	Dam site, 5 miles west of Walnut Cove	650	Floats	C. C. Babb
June 7, 1904	Mayo River	Madison, N. C.	244	Current Meter	U. S. G. S. w. s. p. 126
September 27, 1904	Mayo River	Madison, N. C.	202	Current Meter	U. S. G. S. w. s. p. 126
April 16, 1904	Mayo River	Madison, N. C.	281	Current Meter	U. S. G. S. w. s. p. 126
June 21, 1906	Mayo River	Madison, N. C.	485	Current Meter	U. S. G. S. w. s. p. 203
February 12, 1910	Quankee Creek	Near Halifax, N. C.	51	Floats	J. J. Wells
September 11, 1909	Roanoke River	At R. R. Bridge, 5/8 mile southwest of Randolph, Va.	2,200	Current Meter	U. S. G. S. w. s. p. 262
December 10, 1911	Roanoke River	At Weldon, N. C.	3,440	Current Meter	U. S. G. S. w. s. p. 322
March 18, 1912	Roanoke River	At Weldon, N. C.	162,000	Current Meter	U. S. G. S. w. s. p. 322
June 19, 1918	Roanoke River	Former gaging station at Sou. R. R. Bridge at Randolph, Va.	1,430	Current Meter	U. S. G. S. w. s. p. 472
February 25, 1912	Roanoke River	Weldon, N. C.	19,700	Current Meter	U. S. G. S. w. s. p. 322
February 27, 1912	Roanoke River	Weldon, N. C.	37,600	Current Meter	U. S. G. S. w. s. p. 322
February 29, 1912	Roanoke River	Weldon, N. C.	44,900	Current Meter	U. S. G. S. w. s. p. 322
March 4, 1912	Roanoke River	Weldon, N. C.	10,200	Current Meter	U. S. G. S. w. s. p. 322
March 17, 1912	Roanoke River	Weldon, N. C.	98,800	Current Meter	U. S. G. S. w. s. p. 322
March 18, 1912	Roanoke River	Weldon, N. C.	158,000	Current Meter	U. S. G. S. w. s. p. 322
March 19, 1912	Roanoke River	Weldon, N. C.	123,000	Current Meter	U. S. G. S. w. s. p. 322
March 20, 1912	Roanoke River	Weldon, N. C.	26,600	Current Meter	U. S. G. S. w. s. p. 322
March 20, 1912	Roanoke River	Weldon, N. C.	27,000	Current Meter	U. S. G. S. w. s. p. 322
March 21, 1912	Roanoke River	Weldon, N. C.	15,600	Current Meter	U. S. G. S. w. s. p. 322

MISCELLANEOUS DISCHARGE MEASUREMENTS TAR RIVER BASIN

March 3, 1920	Swift Creek	Hillards Mill site	58.08	Current Meter	J. J. Wells
December 20, 1912	Stony Creek	Near mouth 1/4 mile above Hopedale Mills	25	Current Meter	B. M. Hall
May 23, 1919	Stony Creek	2 miles above Tar River	79.0	Current Meter and Floats	J. J. Wells
August 28, 1919	Tar River	Davenport Creek	194.8	Current Meter	J. J. Wells
December 30, 1916	Tar River	Rocky Mount Mills	636	Bamboo Float	J. J. Wells

MISCELLANEOUS DISCHARGE MEASUREMENTS NEUSE RIVER BASIN

Date	Stream	Location	Disc. Cu. Ft. Per Sec.	Method of Measuring	Authority
October 10, 1911	Eno River	Above old dam, Durham Water Co.	6.36	Float	W. M. Piatt
----------, 1916	Flat River	Durham	7.76	Weir	G. C. White
----------, 1919	Flat River	Durham	6.2	Pumping	J. C. Michie
October --, 1921	Flat River	Durham	2.28	Venturi Meter	D. M. Williams
January 4, 1924	Middle Creek	McColloughs Mill near Smithfield	75.9	Current Meter	Smith & Saville
May 13, 1924	Neuse River	Bacon Rind, N. C.	2,475	Current Meter	Martin & Winslow
Draught, 1921	Walnut Creek	Just above Lake Raleigh impounding reservoir	.113	Weir	E. B. Bain

MISCELLANEOUS DISCHARGE MEASUREMENTS CAPE FEAR RIVER BASIN

June 29, 1918	Beaver Creek	Just below Beaver Lake at bridge on Fayetteville-Carthage Road	10.2	Current Meter	U. S. G. S. w. s. p. 472
May 27, 1903	Big Rockfish Creek	McNeils	351	Current Meter	U. S. G. S. w. s. p. 98
June 29, 1918	Cape Fear River	Highway Bridge at Fayetteville	1,650	Current Meter	U. S. G. S. w. s. p. 472
October 15, 1912	Haw River	Tail Race Lower Dam, Va. Cotton Mills	328	Current Meter	B. M. Hall, Jr.
December 20, 1912	Haw River	Head Race Hopedale Mills	17.5	Current Meter	B. M. Hall, Jr.
Aver. Yr.	Little River		80	Estimated	B. M. Hall, Jr.
Min. Low Yr.	Lower Little River	Reaves Bridge near Linden, N. C.	50	Estimated	B. M. Hall, Jr.
October 1, 1902	Lower Little River	Near Manchester, N. C.	491	Current Meter	U. S. G. S. w. s. p. 98
October 2, 1902	Lower Little River	Near Manchester, N. C.	410	Current Meter	U. S. G. S. w. s. p. 98
June 29, 1918	Lower Little River	Lemonts Bridge 4 miles upstream from Manchester	188	Current Meter	U. S. G. S. w. s. p. 472
June 29, 1918	Lower Little River	Highway Bridge at Manchester	213	Current Meter	U. S. G. S. w. s. p. 472
August 14, 1919	Lower Little River	Reaves Bridge near Linden	745	Current Meter	B. M. Hall, Jr.
August 16, 1919	Lower Little River	Reaves Bridge near Linden	322	Current Meter	B. M. Hall, Jr.
May 27, 1903	Little Rockfish Creek	McNeils, N. C.	143	Current Meter	U. S. G. S. w. s. p. 98
July 1, 1918	Little Rockfish Creek	Rickfish Bridge ½ mile above the mouth	73	Current Meter	U. S. G. S. w. s. p. 472
September, 1920	Morgan Creek	Carboro, N. C.	0.63	Weir	G. M. Braune
September 6, 1902	Rockfish Creek	Near Brunt, N. C.	318	Current Meter	U. S. G. S. w. s. p. 98
October 16, 1902	Rockfish Creek	Near Brunt, N. C.	440	Current Meter	U. S. G. S. w. s. p. 98
May 27, 1903	Rockfish Creek	Near Brunt, N. C.	563	Current Meter	U. S. G. S. w. s. p. 98
July 1, 1918	Rockfish Creek	Rockfish Bridge ½ mile upstream from mouth of Little Rockfish Creek	254	Current Meter	U. S. G. S. w. s. p. 472
June 21, 1906	South Buffalo Creek	Near Greensboro, N. C.	7.6	Current Meter	U. S. G. S. w. s. p. 203

June 27, 1900	Ararat River	Greensboro and Wilkesboro R. R. trestle	801.0	Current Meter	U. S. G. S. w. s. p. 63
July 11, 1900	Ararat River	Greensboro and Wilkesboro R. R. trestle	317.1	Current Meter	U. S. G. S. w. s. p. 63
August 2, 1900	Ararat River	Greensboro and Wilkesboro R. R. trestle	265.44	Current Meter	U. S. G. S. w. s. p. 63
September 29, 1900	Ararat River	Greensboro and Wilkesboro R. R. trestle	243.0	Current Meter	U. S. G. S. w. s. p. 63
October 31, 1900	Ararat River	Greensboro and Wilkesboro R. R. trestle	307.0	Current Meter	U. S. G. S. w. s. p. 63
November 10, 1903	Ararat River	Mt. Airy below Lovells & Stewarts Creek	200	Current Meter	U. S. G. S. w. s. p. 98
November 11, 1903	Ararat River	Mt. Airy above Lovells & Stewarts Creek	71	Current Meter	U. S. G. S. w. s. p. 98
April 21, 1904	Ararat River	Near Siloam, N. C.	277	Current Meter	U. S. G. S. w. s. p. 126
June 9, 1904	Ararat River	Near Siloam, N. C.	306	Current Meter	U. S. G. S. w. s. p. 126
September 24, 1904	Ararat River	Near Siloam, N. C.	170	Current Meter	U. S. G. S. w. s. p. 126
January 5, 1905	Ararat River	Near Siloam, N. C.	209	Current Meter	U. S. G. S. w. s. p. 167
August 24, 1905	Ararat River	Near Siloam, N. C.	604	Current Meter	U. S. G. S. w. s. p. 167
September 27, 1900	Bug Bugaboo Creek	Ford of road from Roaring River to Elkin	30	Current Meter	U. S. G. S. w. s. p. 63
June 25, 1900	Big Elkin River	Greensboro and Wilkesboro R. R. Bridge	65.0	Current Meter	U. S. G. S. w. s. p. 63
July 9, 1900	Big Elkin River	Greensboro and Wilkesboro R. R. Bridge	29.0	Current Meter	U. S. G. S. w. s. p. 63
August 4, 1900	Big Elkin River	Greensboro and Wilkesboro R. R. Bridge	24.0	Current Meter	U. S. G. S. w. s. p. 63
September 27, 1900	Big Elkin River	Greensboro and Wilkesboro R. R. Bridge	27.0	Current Meter	U. S. G. S. w. s. p. 63
June 20, 1900	Elk Creek	¼ mile above ford	119.0	Current Meter	U. S. G. S. w. s. p. 63
July 13, 1900	Elk Creek	¼ mile above ford	61.0	Current Meter	U. S. G. S. w. s. p. 63
August 6, 1900	Elk Creek	¼ mile above ford	37.0	Current Meter	U. S. G. S. w. s. p. 63
September 26, 1900	Elk Creek	¼ mile above ford	30.0	Current Meter	U. S. G. S. w. s. p. 63
March 22, 1921	Elk Creek	Elksville, Wilkes County, N. C.	139	Float	C. C. Babb
April 19, 1904	Elkin Creek	Elkin, N. C.	24	Current Meter	U. S. G. S. w. s. p. 126
June 9, 1904	Elkin Creek	Elkin, N. C.	27	Current Meter	U. S. G. S. w. s. p. 126
June 26, 1900	Fisher River	Greensboro and Wilkesboro R. R. trestle	549	Current Meter	U. S. G. S. w. s. p. 63
July 10, 1900	Fisher River	Greensboro and Wilkesboro R. R. trestle	172	Current Meter	U. S. G. S. w. s. p. 63
August 3, 1900	Fisher River	Greensboro and Wilkesboro R. R. trestle	126	Current Meter	U. S. G. S. w. s. p. 63
September 28, 1900	Fisher River	Greensboro and Wilkesboro R. R. trestle	119	Current Meter	U. S. G. S. w. s. p. 63
November 1, 1900	Fisher River	Greensboro and Wilkesboro R. R. trestle	235	Current Meter	U. S. G. S. w. s. p. 63
April 20, 1904	Fisher River	Near Crutchfield, N. C.	156	Current Meter	U. S. G. S. w. s. p. 126
September 24, 1904	Fisher River	Near Crutchfield, N. C.	80	Current Meter	U. S. G. S. w. s. p. 126
June 21, 1900	Louis Fork of Yadkin River	Footbridge on Mt. Pleasant road	127	Current Meter	U. S. G. S. w. s. p. 63
July 13, 1900	Louis Fork of Yadkin River	Footbridge on Mt. Pleasant road	99	Current Meter	U. S. G. S. w. s. p. 63
August 6, 1900	Louis Fork of Yadkin River	Footbridge on Mt. Pleasant road	69	Current Meter	U. S. G. S. w. s. p. 63

MISCELLANEOUS DISCHARGE MEASUREMENTS YADKIN RIVER BASIN—*Continued*

Date	Stream	Location	Disc. Cu. Ft. Per Sec.	Method of Measuring	Authority
September 26, 1900	Louis Fork of Yadkin River	Footbridge on Mt. Pleasant road	63	Current Meter	U. S. G. S. w. s. p. 63
November 10, 1903	Lovells Creek	Mt. Airy	44	Current Meter	U. S. G. S. w. s. p. 98
June 26, 1900	Mitchell River	Greensboro and Wilkesboro R. R. bridge	393.1	Current Meter	U. S. G. S. w. s. p. 63
July 10, 1900	Mitchell River	Greensboro and Wilkesboro R. R. bridge	139.2	Current Meter	U. S. G. S. w. s. p. 63
Aug. 3, 1900	Mitchell River	Greensboro and Wilkesboro R. R. bridge	119.0	Current Meter	U. S. G. S. w. s. p. 63
September 28, 1900	Mitchell River	Greensboro and Wilkesboro R. R. bridge	160.0	Current Meter	U. S. G. S. w. s. p. 63
November 1, 1900	Mitchell River	Greensboro and Wilkesboro R. R. bridge	216.0	Current Meter	U. S. G. S. w. s. p. 63
April 20, 1904	Mitchell River	At Burch, N. C.	96.0	Current Meter	U. S. G. S. w. s. p. 126
September 23, 1904	Mitchell River	At Burch, N. C.	69.0	Current Meter	U. S. G. S. w. s. p. 126
April 27, 1905	Mitchell River	At Burch, N. C.	125.0	Current Meter	U. S. G. S. w. s. p. 167
June 23, 1900	Mulberry River	Trestle of Greensboro and Wilkesboro division of Sou. R. R.	108.4	Current Meter	U. S. G.S. w. s. p. 63
July 3, 1900	Mulberry River	Trestle of Greensboro and Wilkesboro division of Sou. R. R.	50.3	Current Meter	U. S. G. S. w. s. p. 63
August 4, 1900	Mulberry River	Trestle of Greensboro and Wilkesboro division of Sou. R. R.	39.25	Current Meter	U. S. G. S. w. s. p. 63
September 27, 1900	Mulberry River	Trestle of Greensboro and Wilkesboro division of Sou. R. R.	61.2	Current Meter	U. S. G. S. w. s. p. 63
November 2, 1900	Mulberry River	Trestle of Greensboro and Wilkesboro division of Sou. R. R.	55.0	Current Meter	U. S. G. S. w. s. p. 63
November 7, 1903	Mulberry Creek	Near North Wilkesboro, N. C.	47.0	Current Meter	U. S. G. S. w. s. p. 98
April 19, 1904	Mulberry River	Near North Wilkesboro, N. C.	41.0	Current Meter	U. S. G. S. w. s. p. 126
June 8, 1904	Mulberry River	Near North Wilkesboro, N. C.	61.0	Current Meter	U. S. G. S. w. s. p. 126
September 22, 1904	Mulberry River	Near North Wilkesboro, N. C.	29.0	Current Meter	U. S. G. S. w. s. p. 126
January 4, 1905	Mulberry River	Near North Wilkesboro, N. C.	28.0	Current Meter	U. S. G. S. w. s. p. 167
April 26, 1905	Mulberry River	Near North Wilkesboro, N. C.	61.0	Current Meter	U. S. G. S. w. s. p. 167
June 25, 1900	Roaring River	Greensboro and Wilkesboro R. R. bridge	520.2	Current Meter	U. S. G. S. w. s. p. 63
July 9, 1900	Roaring River	Greensboro and Wilkesboro R. R. bridge	161.4	Current Meter	U. S. G. S. w. s. p. 63
August 4, 1900	Roaring River	Greensboro and Wilkesboro R. R. bridge	117.0	Current Meter	U. S. G. S. w. s. p. 63
September 27, 1900	Roaring River	Greensboro and Wilkesboro R. R. bridge	109.0	Current Meter	U. S. G. S. w. s. p. 63
November 2, 1900	Roaring River	Greensboro and Wilkesboro R. R. bridge	197.0	Current Meter	U. S. G. S. w. s. p. 63

April 24, 1904	Roaring River	At Roaring River, N. C.	125.0	Current Meter	U. S. G. S. w. s. p. 126
June 9, 1904	Roaring River	At Roaring River, N. C.	178.0	Current Meter	U. S. G. S. w. s. p. 126
September 23, 1904	Roaring River	At Roaring River, N. C.	72.0	Current Meter	U. S. G. S. w. s. p. 126
January 4, 1905	Roaring River	At Roaring River, N. C.	73.0	Current Meter	U. S. G. S. w. s. p. 167
April 26, 1905	Roaring River	At Roaring River, N. C.	113.0	Current Meter	U. S. G. S. w. s. p. 167
August 23, 1905	Roaring River	At Roaring River, N. C.	211.0	Current Meter	U. S. G. S. w. s. p. 167
June 23, 1900	Reddie River	North Wilkesboro	218.1	Current Meter	U. S. G. S. w. s. p. 63
July 12, 1900	Reddie River	North Wilkesboro	98.1	Current Meter	U. S. G. S. w. s. p. 63
August 4, 1900	Reddie River	North Wilkesboro	93.0	Current Meter	U. S. G. S. w. s. p. 63
October 1, 1900	Reddie River	North Wilkesboro	60.2	Current Meter	U. S. G. S. w. s. p. 63
April 18, 1904	Reddie River	North Wilkesboro	75.0	Current Meter	U. S. G. S. w. s. p. 126
June 9, 1904	Reddie River	North Wilkesboro	153.0	Current Meter	U. S. G. S. w. s. p. 126
September 23, 1904	Reddie River	North Wilkesboro	80.0	Current Meter	U. S. G. S. w. s. p. 126
January 4, 1905	Reddie River	North Wilkesboro	82.0	Current Meter	U. S. G. S. w. s. p. 167
August 23, 1905	Reddie River	North Wilkesboro	261.0	Current Meter	U. S. G. S. w. s. p. 167
June 19, 1906	Reddie River	North Wilkesboro	270.0	Current Meter	U. S. G. S. w. s. p. 203
June 21, 1900	Stony Creek	Footbridge at Colberts	78.4	Current Meter	U. S. G. S. w. s. p. 63
July 13, 1900	Stony Creek	Footbridge at Colberts	80.5	Current Meter	U. S. G. S. w. s. p. 63
August 6, 1900	Stony Creek	Footbridge at Colberts	50.0	Current Meter	U. S. G. S. w. s. p. 63
September 26, 1900	Stony Creek	Footbridge at Colberts	31.10	Current Meter	U. S. G. S. w. s. p. 63
November 10, 1903	Stewarts Creek	Mt. Airy, N. C.	87.0	Current Meter	U. S. G. S. w. s. p. 98
June 21, 1900	Yadkin River	Wilkesboro, N. C.	780.0	Current Meter	U. S. G. S. w. s. p. 49
June 23, 1900	Yadkin River	Wilkesboro, N. C.	1,737.0	Current Meter	U. S. G. S. w. s. p. 49
July 4, 1900	Yadkin River	Wilkesboro, N. C.	663.0	Current Meter	U. S. G. S. w. s. p. 49
July 12, 1900	Yadkin River	Wilkesboro, N. C.	488.2	Current Meter	U. S. G. S. w. s. p. 49
August 6, 1900	Yadkin River	Wilkesboro, N. C.	386.0	Current Meter	U. S. G. S. w. s. p. 49
October 1, 1900	Yadkin River	Wilkesboro, N. C.	369.1	Current Meter	U. S. G. S. w. s. p. 49
November 4, 1900	Yadkin River	Wilkesboro, N. C.	1,331.0	Current Meter	U. S. G. S. w. s. p. 49
June 20, 1900	Yadkin River	Second ford below Patterson's Mill, N. C.	182.0	Current Meter	U. S. G. S. w. s. p. 49
July 14, 1900	Yadkin River	Second ford below Patterson's Mill, N. C.	100.3	Current Meter	U. S. G. S. w. s. p. 49
August 7, 1900	Yadkin River	Second ford below Patterson's Mill, N. C.	76.2	Current Meter	U. S. G. S. w. s. p. 49
September 26, 1900	Yadkin River	Second ford below Patterson's Mill, N. C.	43.0	Current Meter	U. S. G. S. w. s. p. 49
July 11, 1900	Yadkin River	Siloam	1,367	Current Meter	U. S. G. S. w. s. p. 63
August 3, 1900	Yadkin River	Siloam	1,218	Current Meter	U. S. G. S. w. s. p. 63
October 31, 1900	Yadkin River	Siloam	1,469	Current Meter	U. S. G. S. w. s. p. 63
April 15, 1901	Yadkin River	Siloam	5,237	Current Meter	U. S. G. S. w. s. p. 63
October 20, 1902	Yadkin River	R. R. bridge near Rockingham	3,476	Current Meter	U. S. G. S. w. s. p. 98
April 21, 1904	Yadkin River	Crutchfield, N. C.	1,023	Current Meter	U. S. G. S. w. s. p. 126
July 21, 1919	Yadkin River	Badin, N. C.	92,857	Turbine discharge and gates	McNeely Dubose

MISCELLANEOUS DISCHARGE MEASUREMENTS YADKIN RIVER BASIN—*Continued*

Date	Stream	Location	Disc. Cu. Ft. Per Sec.	Method of Measuring	Authority
April 23, 1920	Yadkin River	U. S. G. S. Gaging Station at Donnaha, N. C.	2,440	Current Meter	U. S. G. S. w. s. p. 502
July 12, 1920	Yadkin River	U. S. G. S. Gaging Station at Donnaha, N. C.	6,570	Current Meter	U. S. G. S. w. s. p. 502
July 15, 1920	Yadkin River	U. S. G. S. Gaging Station at Donnaha, N. C.	2,730	Current Meter	U. S. G. S. w. s. p. 502
August 26, 1920	Yadkin River	U. S. G. S. Gaging Station at Dohhaha, N. C.	13,800	Current Meter	U. S. G. S. w. s. p. 502
September 11, 1920	Yadkin River	U. S. G. S. Gaging Station at Donnaha, N. C.	2,170	Current Meter	U. S. G. S. w. s. p. 502
October 26, 1921	Yadkin River	Badin, N. C.	1,300	Turbine discharge and Lake Volumes	McNeely Dubose

MISCELLANEOUS DISCHARGE MEASUREMENTS CATAWBA RIVER BASIN

June 14, 1900	Buck Creek	⅛ mile above mouth at main ford	51.91	Current Meter	U. S. G. S. w. s. p. 63
August 20, 1900	Buck Creek	⅛ mile above mouth at main ford	41.4	Current Meter	U. S. G. S. w. s. p. 63
June 14, 1900	Cane Creek	Lowest ford of main Morganton road	18.58	Current Meter	U. S. G. S. w. s. p. 63
June 18, 1900	Cane Creek	Lowest ford of main Morganton road	28.45	Current Meter	U. S. G. S. w. s. p. 63
August 17, 1900	Cane Creek	Lowest ford of main Morganton road	7.2	Current Meter	U. S. G. S. w. s. p. 63
Summers, 1921-1922	Cabin Creek	Just below mouth of Mill Creek, Moore County, N. C.	6	Weir	Harwood Beebe
November 13, 1903	Catawba River	Mt. Holly, N. C.	1,192	Current Meter	U. S. G. S. w. s. p. 98
December 3, 1903	Catawba River	Belmont, N. C.	1,393	Current Meter	U. S. G. S. w. s. p. 98
March 5, 1904	Catawba River	Near Belmont, N. C.	684	Current Meter	U. S. G. S. w. s. p. 127
March 4, 1904	Catawba River	Near Belmont, N. C.	2,181	Current Meter	U. S. G. S. w. s. p. 127
August 22, 1911	Catawba River	Rock Hill Station	1,415		
March 16, 1912	Catawba River	Rock Hill Station	161,300	Estimated	
March 16, 1912	Catawba River	Catawba Station	146,000	Weir	
March 16, 1912	Catawba River	Rocky Creek Station	197,600	Weir	
June 29, 1918	Catawba River	Highway bridge at Bridgewater, N. C.	333	Current Meter	U. S. G. S. w. s. p. 472
June 28, 1900	Clear Creek	200 feet above ford of main road	25.25	Current Meter	U. S. G. S. w. s. p. 63
August 28, 1900	Clear Creek	200 feet above ford of main road	12.0	Current Meter	U. S. G. S. w. s. p. 63
June 28, 1900	Crib Creek	Near ford of main road	28.03	Current Meter	U. S. G. S. w. s. p. 63
August 28, 1900	Crib Creek	Near ford of main road	10.0	Current Meter	U. S. G. S. w. s. p. 63
June 28, 1900	Curtis Creek	200 feet above ford of Oldfort road	82.11	Current Meter	U. S. G. S. w. s. p. 63
August 20, 1900	Curtis Creek	200 feet above ford of Oldfort road	16.50	Current Meter	U. S. G. S. w. s. p. 63

November 11, 1923	Henry Fork	Morganton water supply	.029	Venturi Meter	H. L. Milner
October 16, 1913	Hunting Creek	Rear of tannery, Morganton, N. C.	4.01	Weir	H. L. Milner
November 13, 1905	Green River	Near Flat Rock, N. C.	73	Current Meter	U. S. G. S. w. s. p. 168
November 13, 1905	Green River	Near Flat Rock, N. C.	72	Current Meter	U. S. G. S. w. s. p. 168
June 13, 1906	Green River	Near Flat Rock, N. C.	657	Current Meter	U. S. G. S. w. s. p. 204
September 14, 1906	Green River	Near Flat Rock, N. C.	158	Current Meter	U. S. G. S. w. s. p. 204
June 28, 1900	Jarrett Creek	Near Oldfort	17.0	Current Meter	U. S. G. S. w. s. p. 63
February 13, 1903	John River	Morganton	1,192	Current Meter	U. S. G. S. w. s. p. 98
June 21, 1900	Linville River	At Linville, N. C.	21.0	Current Meter	U. S. G. S. w. s. p. 63
June 24, 1900	Linville River	At Linville, N. C.	90.22	Current Meter	U. S. G. S. w. s. p. 63
October 18, 1904	Linville River	½ mile above Falls	18.5	Weir	H. L. Millner
June 27, 1918	Linville River	1 mile above mouth at Bridgewater, N. C.	125	Current Meter	U. S. G. S. w. s. p. 472
June 13, 1900	Lower Creek	2 miles above mouth	209.0	Current Meter	U. S. G. S. w. s. p. 63
July 6, 1900	Lower Creek	2 miles above mouth	132.0	Current Meter	U. S. G. S. w. s. p. 63
August 8, 1900	Lower Creek	2 miles above mouth	69.0	Current Meter	U. S. G. S. w. s. p. 63
September 24, 1900	Lower Creek	2 miles above mouth	56.0	Current Meter	U. S. G. S. w. s. p. 63
June 14, 1900	Muddy Creek	Bridgewater, N. C.	161.9	Current Meter	U. S. G. S. w. s. p. 63
June 16, 1900	Muddy Creek	Bridgewater, N. C.	618.0	Current Meter	U. S. G. S. w. s. p. 63
July 10, 1910	Muddy Creek	Bridgewater, N. C.	119.2	Current Meter	U. S. G. S. w. s. p. 63
August 17, 1900	Muddy Creek	Bridgewater, N. C.	98.6	Current Meter	U. S. G. S. w. s. p. 63
September 21, 1900	Muddy Creek	Bridgewater, N. C.	101.7	Current Meter	U. S. G. S. w. s. p. 63
September 25, 1900	Mulberry Creek	At mouth	17.0	Current Meter	U. S. G. S. w. s. p. 63
November 6, 1900	Mulberry Creek	At mouth	39.0	Current Meter	U. S. G. S. w. s. p. 63
July 3, 1900	North Fork of Catawba River	First ford above mouth	240.2	Current Meter	U. S. G. S. w. s. p. 63
August 18, 1900	North Fork of Catawba River	First ford above mouth	67.3	Current Meter	U. S. G. S. w. s. p. 63
September 21, 1900	North Fork of Catawba River	First ford above mouth	61.69	Current Meter	U. S. G. S. w. s. p. 63
June 14, 1900	Paddy Creek	Near Bridgewater, N. C.	19.78	Current Meter	U. S. G. S. w. s. p. 63
June 16, 1900	Paddy Creek	Near Bridgewater, N. C.	203.67	Current Meter	U. S. G. S. w. s. p. 63
July 10, 1900	Paddy Creek	Near Bridgewater, N. C.	11.5	Current Meter	U. S. G. S. w. s. p. 63
August 17, 1900	Paddy Creek	Near Bridgewater, N. C.	7.0	Current Meter	U. S. G. S. w. s. p. 63
June 14, 1900	Silver Creek	Near Morganton	124.0	Current Meter	U. S. G. S. w. s. p. 63
August 10, 1900	Silver Creek	Near Morganton	48.4	Current Meter	U. S. G. S. w. s. p. 63
September 24, 1900	Silver Creek	Near Morganton	56.0	Current Meter	U. S. G. S. w. s. p. 63
June 14, 1901	Silver Creek	Near Morganton	995.0	Current Meter	U. S. G. S. w. s. p. 63
June 20, 1900	Steel Creek	Footbridge 100 yards above mouth	100.21	Current Meter	U. S. G. S. w. s. p. 63

MISCELLANEOUS DISCHARGE MEASUREMENTS CATAWBA RIVER BASIN—*Continued*

Date	Stream	Location	Disc. Cu. Ft. Per Sec.	Method of Measuring	Authority
March 4, 1904	South Fork Catawba River	Near Belmont, N. C.	629	Current Meter	U. S. G. S. w. s. p. 127
June 15, 1900	Turkey Cove Creek	Just above second ford	21.48	Current Meter	U. S. G. S. w. s. p. 63
June 26, 1900	Turkey Cove Creek	Just above second ford	164.8	Current Meter	U. S. G. S. w. s. p. 63
June 13, 1900	Upper Creek	¼ mile above mouth	182.4	Current Meter	U. S. G. S. w. s. p. 63
July 6, 1900	Upper Creek	¼ mile above mouth	50.0	Current Meter	U. S. G. S. w. s. p. 63
August 8, 1900	Upper Creek	¼ mile above mouth	85.05	Current Meter	U. S. G. S. w. s. p. 63
September 24, 1900	Upper Creek	¼ mile above mouth	60.0	Current Meter	U. S. G. S. w. s. p. 63
June 20, 1900	Upper Creek	Ford at Henderson's Mill	20.42	Current Meter	U. S. G. S. w. s. p. 63
June 20, 1900	Upper Creek	Upper Creek Falls	27.0	Current Meter	U. S. G. S. w. s. p. 63
November 6, 1900	Wilson Creek	At mouth	208.0	Current Meter	U. S. G. S. w. s. p. 63
October 22, 1921	Wilson Creek	In gorge above Adako	54.4	Current Meter	H. L. Millner

MISCELLANEOUS DISCHARGE MEASUREMENTS BROAD RIVER BASIN

October 6, 1900	Broad River	Near mouth Buffalo Creek	145.4	Current Meter	U. S. G. S. w. s. p. 49
October 6, 1900	Broad River	Bridge at Batcave, N. C.	62.4	Current Meter	U. S. G. S. w. s. p. 49
October 18, 1900	Broad River	McClure's Bridge	434	Current Meter	U. S. G. S. w. s. p. 63
August 9, 1901	Broad River	McClure's Bridge	683.5	Current Meter	U. S. G. S. w. s. p. 63
August 10, 1901	Broad River	Near Chimney Rock	247.6	Current Meter	U. S. G. S. w. s. p. 63
August 21, 1900	Broad River	Bridge at Batcave, N. C.	50.1	Current Meter	U. S. G. S. w. s. p. 63
August 21, 1900	Broad River	Bridge at Batcave, N. C.	48.0	Current Meter	U. S. G. S. w. s. p. 49
August 22, 1900	Broad River	Near mouth Buffalo Creek	57.1	Current Meter	U. S. G. S. w. s. p. 49
August 25, 1900	Broad River	McClure's Bridge, N. C.	434.0	Current Meter	U. S. G. S. w. s. p. 63
August 28, 1900	Broad River	Ford 1 mile above mouth of Second Broad	649.00	Current Meter	U. S. G. S. w. s. p. 63
September 20, 1916	Broad River	99 Island Dam	186,230	Weir	Mees & Mees
September 20, 1916	Broad River	Gaston Shoals	176,950	Weir	Mees & Mees
September 20, 1916	Broad River	Parr Shoals	252,500	Weir	Mees & Mees
August 22, 1901	Buffalo Creek	15 yards below main ford	17.0	Current Meter	U. S. G. S. w. s. p. 63

August 24, 1900	Cane Creek	1 mile above mouth	17.0	Current Meter	U. S. G. S. w. s. p. 63
August 23, 1900	Cathey Creek	At mouth	42	Current Meter	U. S. G. S. w. s. p. 63
September 3, 1900	Cove Creek	Near mouth	19.2	Current Meter	U. S. G. S. w. s. p. 63
August 22, 1900	Cove Creek	Bridge at Rutherfordton road	69.3	Current Meter	U. S. G. S. w. s. p. 49
October 6, 1900	Cove Creek	Bridge at Rutherfordton road	86.0	Current Meter	U. S. G. S. w. s. p. 49
September 6, 1900	Fall Creek	Bridge on road to Lima, N. C.	15.0	Current Meter	U. S. G. S. w. s. p. 49
August 30, 1900	First Broad River	Near mouth	285.3	Current Meter	U. S. G. S. w. s. p. 49
October 10, 1900	First Broad River	Near mouth	266.4	Current Meter	U. S. G. S. w. s. p. 49
September 3, 1900	Green River	Near Saluda, on Howard Gap road	74.1	Current Meter	U. S. G. S. w. s. p. 63
August 25, 1900	Green River	Cox's Bridge	299.0	Current Meter	U. S. G. S. w. s. p. 63
October 8, 1900	Green River	Cox's Bridge	255.4	Current Meter	U. S. G. S. w. s. p. 63
August 9, 1901	Green River	Cox's Bridge	833.2	Current Meter	U. S. G. S. w. s. p. 63
August 21, 1900	Hickory Nut Creek	At mouth	15.2	Current Meter	U. S. G. S. w. s. p. 49
August 23, 1900	Hollins Creek	At mouth	14.3	Current Meter	U. S. G. S. w. s. p. 49
August 25, 1900	Maple Creek	Near mouth	8.4	Current Meter	U. S. G. S. w. s. p. 49
September 7, 1900	Middle Saluda Creek	1 mile above mouth, North Carolina	68.0	Current Meter	U. S. G. S. w. s. p. 49
October 13, 1900	Middle Saluda Creek	1 mile above mouth, North Carolina	55.0	Current Meter	U. S. G. S. w. s. p. 49
August 25, 1900	Mountain Creek	Near mouth	55.3	Current Meter	U. S. G. S. w. s. p. 49
October 8, 1900	Mountain Creek	Near mouth	70.2	Current Meter	U. S. G. S. w. s. p. 49
September 7, 1900	North Saluda Creek	Iron Bridge at Marietta, N. C.	58.2	Current Meter	U. S. G. S. w. s. p. 49
October 13, 1900	North Saluda Creek	Iron Bridge at Marietta, N. C.	80.0	Current Meter	U. S. G. S. w. s. p. 49
September 6, 1900	North Saluda Creek	Bridge on Lime-Cleveland Mills road, N. C.	56.1	Current Meter	U. S. G. S. w. s. p. 49
September 6, 1900	North Saluda Creek	2 miles below Humphrey's store, N. C.	26.1	Current Meter	U. S. G. S. w. s. p. 49
August 23, 1900	Puzzle Creek	Near mouth	10.0	Current Meter	U. S. G. S. w. s. p. 49
August 21, 1900	Reedy Patch Creek	At mouth	13.0	Current Meter	U. S. G. S. w. s. p. 49
August 24, 1900	Robersons Creek	At mouth	24.0	Current Meter	U. S. G. S. w. s. p. 49
August 24, 1900	Second Broad River	Bridge on Rutherfordton-Morganton road	55.0	Current Meter	U. S. G. S. w. s. p. 49
October 4, 1900	Second Broad River	Bridge on Rutherfordton-Morganton road	64.0	Current Meter	U. S. G. S. w. s. p. 49
August 13, 1901	Second Broad River	Iron Bridge near Bostic Station	273.3	Current Meter	U. S. G. S. w. s. p. 63
August 23, 1900	Second Broad River	1½ miles east of Forest City	153.3	Current Meter	U. S. G. S. w. s. p. 49
October 5, 1900	Second Broad River	1½ miles east of Forest City	188.3	Current Meter	U. S. G. S. w. s. p. 49
September 7, 1900	South Saluda Creek	Freeman Bridge below mouth of Middle Saluda Creek, N. C.	223.0	Current Meter	U. S. G. S. w. s. p. 49
October 14, 1900	South Saluda Creek	Freeman Bridge below mouth of Middle Saluda Creek, N. C.	171.0	Current Meter	U. S. G. S. w. s. p. 49
September 7, 1900	South Saluda Creek	2 miles above mouth of Middle Saluda Creek, N. C.	188.0	Current Meter	U. S. G. S. w. s. p. 49
October 14, 1900	South Saluda Creek	2 miles above mouth of Middle Saluda Creek, N. C.	134.0	Current Meter	U. S. G. S. w. s. p. 49
August 31, 1900	Whiteoak Creek	½ mile above mouth	64.0	Current Meter	U. S. G. S. w. s. p. 63
Summer, 1921	Vaughn Creek	N. C.-S. C. state line, Polk County, N. C.	7	Weir	Harwood Beebe

MISCELLANEOUS DISCHARGE MEASUREMENTS SOUTH FORK NEW RIVER BASIN

Date	Stream	Location	Disc. Cu. Ft. Per Sec.	Method of Measuring	Authority
July 19, 1900	Beaver Creek	At mouth	22.4	Current Meter	U. S. G. S. w. s. p. 63
July 23, 1900	East Fork New River	Ford of Boone-Aho road	10.4	Current Meter	U. S. G. S. w. s. p. 63
October 24, 1900	East Fork New River	Ford of Boone-Aho road	109.0	Current Meter	U. S. G. S. w. s. p. 63
July 24, 1900	Elk Creek	Elk Crossroads	10.0	Current Meter	U. S. G. S. w. s. p. 63
July 23, 1900	Flannery Fork New River	Ford of Boone-Blowing Rock road	10.4	Current Meter	U. S. G. S. w. s. p. 63
October 24, 1900	Flannery Fork New River	Ford of Boone-Blowing Rock road	107.0	Current Meter	U. S. G. S. w. s. p. 63
July 24, 1900	Gap Creek	⅛ mile above mouth	23.4	Current Meter	U. S. G. S. w. s. p. 63
July 18, 1900	Meat Camp Creek	¼ mile below Moretz	35.3	Current Meter	U. S. G. S. w. s. p. 63
October 25, 1900	Meat Camp Creek	¼ mile below Moretz	89.0	Current Meter	U. S. G. S. w. s. p. 63
June 24, 1901	Meat Camp Creek	¼ mile below Moretz	164.0	Current Meter	U. S. G. S. w. s. p. 63
July 23, 1900	Middle Fork New River	Ford of Boone-Aho road	24.4	Current Meter	U. S. G. S. w. s. p. 63
October 24, 1900	Middle Fork New River	Ford of Boone-Aho road	234.0	Current Meter	U. S. G. S. w. s. p. 63
July 27, 1900	Mulberry Creek	Near mouth	109.0	Current Meter	U. S. G. S. w. s. p. 63
July 18, 1900	Old Field Creek		19.4	Current Meter	U. S. G. S. w. s. p. 63
July 28, 1900	Prather Creek	1½ mile below Scottville	25.0	Current Meter	U. S. G. S. w. s. p. 63
July 28, 1900	South Fork New River	New River	751.0	Current Meter	U. S. G. S. w. s. p. 63
October 28, 1900	South Fork New River	New River	1,635.0	Current Meter	U. S. G. S. w. s. p. 63
June 27, 1901	South Fork New River	New River	1,976.0	Current Meter	U. S. G. S. w. s. p. 63
July 18, 1900	South Fork New River	New River	165.0	Current Meter	U. S. G. S. w. s. p. 63

October 25, 1900	South Fork New River	New River	741.1	Current Meter	U. S. G. S. w. s. p. 63
June 24, 1901	South Fork New River	New River	968.0	Current Meter	U. S. G. S. w. s. p. 63
June 24, 1901	South Fork New River	Ford near mouth of Middle Fork of New River near Boone	159.0	Current Meter	U. S. G. S. w. s. p. 63
September 21, 1919	New-South Fork	Highway bridge 3 miles south of Boone	12.0	Current Meter	C. C. Babb
September 21, 1919	New River-South Fork		12.0	Current Meter	H. A. Underwood
June 24, 1901	West Fork	Near Boone	108	Current Meter	U. S. G. S. w. s. p. 63
July 29, 1924	Long Hope Creek	Ashe County just above Falls	12.5	Weir	H. C. London
August 15, 1921	Long Hope Creek	Ashe County just above Falls	18.9	Weir	H. C. London

Miscellaneous Discharge Measurements North Fork New River Basin

July 20, 1900	Big Laurel Creek	100 yards above mouth	26.2	Current Meter	U. S. G. S. w. s. p. 63
October 26, 1900	Big Laurel Creek	100 yards above mouth	80.4	Current Meter	U. S. G. S. w. s. p. 63
July 20, 1900	Buffalo Creek	⅛ mile above mouth	44.0	Current Meter	U. S. G. S. w. s. p. 63
October 26, 1900	Buffalo Creek	⅛ mile above mouth	67.0	Current Meter	U. S. G. S. w. s. p. 63
June 20, 1901	Buffalo Creek	Near Jefferson	140.0	Current Meter	U. S. G. S. w. s. p. 63
July 24, 1900	Elk Creek	Elk Crossroads, N. C.	10.0	Current Meter	U. S. G. S. w. s. p. 49
July 29, 1900	Fox Creek	¼ mile above mouth, Va.	85.0	Current Meter	U. S. G. S. w. s. p. 49
October 28, 1900	Fox Creek	¼ mile above mouth, Va.	144.0	Current Meter	U. S. G. S. w. s. p. 49
July 25, 1900	Helton Creek	Below Peasley's Mill	30.0	Current Meter	U. S. G. S. w. s. p. 63
October 27, 1900	Helton Creek	Below Peasley's Mill	105.0	Current Meter	U. S. G. S. w. s. p. 63
July 25, 1900	Horse Creek	¼ mile above mouth	34.3	Current Meter	U. S. G. S. w. s. p. 63
October 27, 1900	Horse Creek	¼ mile above mouth	140.0	Current Meter	U. S. G. S. w. s. p. 63
June 25, 1901	Horse Creek	¼ mile above mouth	444.0	Current Meter	U. S. G. S. w. s. p. 63
July 31, 1900	Little River	Ford of Independence Old-town road, Va.	199.0	Current Meter	U. S. G. S. w. s. p. 49
October 29, 1900	Little River	Ford of Independence Old-town road, Va.	318.2	Current Meter	U. S. G. S. w. s. p. 49
July 28, 1900	North Fork of New River	Weaversford	536.0	Current Meter	U. S. G. S. w. s. p. 63
October 27, 1900	North Fork of New River	Weaversford	708.0	Current Meter	U. S. G. S. w. s. p. 63

MISCELLANEOUS DISCHARGE MEASUREMENTS NORTH FORK OF NEW RIVER BASIN—*Continued*

Date	Stream	Location	Disc Cu. Ft. Per Sec.	Method of Measuring	Authority
June 27, 1901	North Fork of New River	Weaversford	1,377.0	Current Meter	U. S. G. S. w. s. p. 63
June 20, 1901	North Fork of New River	Below mouth of Laurel Creek	313.0	Current Meter	U. S. G. S. w. s. p. 63
July 21, 1900	North Fork of New River	1 mile below Creston	49.3	Current Meter	U. S. G. S. w. s. p. 63
October 26, 1900	North Fork of New River	1 mile below Creston	194.0	Current Meter	U. S. G. S. w. s. p. 63
June 20, 1901	North Fork of New River	1 mile below Creston	196.0	Current Meter	U. S. G. S. w. s. p. 63
July 20, 1900	North Fork of New River	½ mile from Creston on road to Solitude	32.2	Current Meter	U. S. G. S. w. s. p. 63
July 31, 1900	Peach Bottom Creek	200 yards above mouth, Va.	21.4	Current Meter	U. S. G. S. w. s. p. 49
October 29, 1900	Peach Bottom Creek	200 yards above mouth, Va.	36.0	Current Meter	U. S. G. S. w. s. p. 49
July 20, 1900	Three Top Creek	Creston	130.0	Current Meter	U. S. G. S. w. s. p. 63
July 21, 1900	Three Top Creek	Creston	37.0	Current Meter	U. S. G. S. w. s. p. 63
July 28, 1900	Wilson Creek	2 miles above mouth, Va.	35.1	Current Meter	U. S. G. S. w. s. p. 49
October 28, 1900	Wilson Creek	2 miles above mouth, Va.	78.0	Current Meter	U. S. G. S. w. s. p. 49

MISCELLANEOUS DISCHARGE MEASUREMENTS WATAUGA RIVER BASIN

August 9, 1900	Beaver Dam Creek	Near Leander, N. C.	7.0	Current Meter	U. S. G. S. w. s. p. 49
October 6, 1900	Beaver Dam Creek	Near Leander, N. C.	8.0	Current Meter	U. S. G. S. w. s. p. 49
August 9, 1900	Beech Creek	Above mouth of Fogey Creek, N. C.	7.3	Current Meter	U. S. G. S. w. s. p. 49
October 6, 1900	Beech Creek	Above mouth of Fogey Creek, N. C.	7.4	Current Meter	U. S. G. S. w. s. p. 49
August 9, 1900	Big Dry Run	⅛ mile above mouth, N. C.	0.85	Current Meter	U. S. G. S. w. s. p. 49
August 4, 1900	Blevins Creek	Cranberry, N. C.	5.05	Current Meter	U. S. G. S. w. s. p. 49

August 10, 1900	Boone Fork of Watauga River	Shull's Mill, N. C.	12.0	Current Meter	U. S. G. S. w. s. p. 49
October 7, 1900	Boone Fork of Watauga River	Shull's Mill, N. C.	13.0	Current Meter	U. S. G. S. w. s. p. 49
July 19, 1900	Brush Creek	Near Carter, Tenn.	10.03	Current Meter	U. S. G. S. w. s. p. 49
August 16, 1900	Brush Creek	Near Carter, Tenn.	9.47	Current Meter	U. S. G. S. w. s. p. 49
September 24, 1900	Brush Creek	Near Carter, Tenn.	5.14	Current Meter	U. S. G. S. w. s. p. 49
August 12, 1900	Brushy Fork of Cove Creek	At mouth, N. C.	5.19	Current Meter	U. S. G. S. w. s. p. 49
August 2, 1900	Buffalo Creek	At mouth, Tennessee	20.0	Current Meter	U. S. G. S. w. s. p. 49
October 4, 1900	Buffalo Creek	At mouth, Tennessee	10.0	Current Meter	U. S. G. S. w. s. p. 49
August 10, 1900	Cove Creek	At mouth, N. C.	12.0	Current Meter	U. S. G. S. w. s. p. 49
October 7, 1900	Cove Creek	At mouth, N. C.	14.0	Current Meter	U. S. G. S. w. s. p. 49
August 12, 1900	Cove Creek	Above mouth of Bushy Fork, N. C.	23.0	Current Meter	U. S. G. S. w. s. p. 49
August 4, 1900	Cranberry Creek	Cranberry, N. C.	5.09	Current Meter	U. S. G. S. w. s. p. 49
August 6, 1900	Dark Ridge Creek	½ mile above mouth, Tenn.	3.0	Current Meter	U. S. G. S. w. s. p. 49
July 30, 1900	Doe Creek	Mouth of Doe (town), Tenn.	59.0	Current Meter	U. S. G. S. w. s. p. 49
August 13, 1900	Doe Creek	Mouth of Doe (town), Tenn.	26.2	Current Meter	U. S. G. S. w. s. p. 49
October 9, 1900	Doe Creek	Mouth of Doe (town), Tenn.	28.38	Current Meter	U. S. G. S. w. s. p. 49
August 13, 1900	Doe Creek	Ivyspring Post Office, Tenn.	9.00	Current Meter	U. S. G. S. w. s. p. 49
August 2, 1900	Doe River	Above Elizabethton, Tenn.	143.4	Current Meter	U. S. G. S. w. s. p. 49
August 17, 1900	Doe River	Above Elizabethton, Tenn.	106.0	Current Meter	U. S. G. S. w. s. p. 49
October 5, 1900	Doe River	Above Elizabethton, Tenn.	82.0	Current Meter	U. S. G. S. w. s. p. 49
December 31, 1900	Doe River	Above Elizabethton, Tenn.	304.0	Current Meter	U. S. G. S. w. s. p. 49
August 3, 1900	Doe River	Near Allentown, Tenn.	72.0	Current Meter	U. S. G. S. w. s. p. 49
August 18, 1900	Doe River	Near Allentown, Tenn.	50.0	Current Meter	U. S. G. S. w. s. p. 49
October 5, 1900	Doe River	Near Allentown, Tenn.	39.3	Current Meter	U. S. G. S. w. s. p. 49
August 3, 1900	Doe River	2 miles below Roan Mountain, Tenn.	41.3	Current Meter	U. S. G. S. w. s. p. 49
October 23, 1906	Doe River	Elizabethton, Tenn.	318	Current Meter	U. S. G. S. w. s. p. 205
August 10, 1900	Dutch Creek	Valle Cruces, N. C.	11.0	Current Meter	U. S. G. S. w. s. p. 49
October 7, 1900	Dutch Creek	Valle Cruces, N. C.	6.0	Current Meter	U. S. G. S. w. s. p. 49
August 6, 1900	Elk Creek	½ mile below mouth of the Little Elk, Tenn.	64.0	Current Meter	U. S. G. S. w. s. p. 49
August 9, 1900	Fogey Creek	At mouth, N. C.	1.4	Current Meter	U. S. G. S. w. s. p. 49
October 6, 1900	Fogey Creek	At mouth, N. C.	2.4	Current Meter	U. S. G. S. w. s. p. 49
August 13, 1900	Forge Creek	Near mouth, Tenn.	7.0	Current Meter	U. S. G. S. w. s. p. 49
August 2, 1900	Gap Creek	At mouth, Tenn.	7.0	Current Meter	U. S. G. S. w. s. p. 49
October 4, 1900	Gap Creek	At mouth, Tenn.	3.0	Current Meter	U. S. G. S. w. s. p. 49

MISCELLANEOUS DISCHARGE MEASUREMENTS WATAUGA RIVER BASIN—*Continued*

Date	Stream	Location	Disc. Cu. Ft. Per Sec.	Method of Measuring	Authority
September 20, 1919	Laurel Creek	Mouth	8.0	Float	C. C. Babb
September 21, 1919	Laurel Creek	Mouth	8.0	Current Meter	H. A. Underwood
August 10, 1900	Laurel Creek (lower)	At mouth, N. C.	4.0	Current Meter	U. S. G. S. w. s. p. 49
October 7, 1900	Laurel Creek (lower)	At mouth, N. C.	3.09	Current Meter	U. S. G. S. w. s. p. 49
August 10, 1900	Laurel Creek (upper)	At mouth, N. C.	10.0	Current Meter	U. S. G. S. w. s. p. 49
October 7, 1900	Laurel Creek (upper)	At mouth, N. C.	6.0	Current Meter	U. S. G. S. w. s. p. 49
August 3, 1900	Laurel Fork of Doe River	Allentown, Tenn.	30.0	Current Meter	U. S. G. S. w. s. p. 49
August 17, 1900	Laurel Fork of Doe River	Allentown, Tenn.	15.0	Current Meter	U. S. G. S. w. s. p. 49
October 5, 1900	Laurel Fork of Doe River	Allentown, Tenn.	9.0	Current Meter	U. S. G. S. w. s. p. 49
December 29, 1900	Laurel Fork of Doe River	Allentown, Tenn.	27.0	Current Meter	U. S. G. S. w. s. p. 49
August 3, 1900	Little Doe River	Allentown, Tenn.	35.0	Current Meter	U. S. G. S. w. s. p. 49
October 5, 1900	Little Doe River	Allentown, Tenn.	17.0	Current Meter	U. S. G. S. w. s. p. 49
December 29, 1900	Little Doe River	Allentown, Tenn.	28.3	Current Meter	U. S. G. S. w. s. p. 49
August 6, 1900	Little Elk Creek	At mouth, N. C.	6.0	Current Meter	U. S. G. S. w. s. p. 49
July 30, 1900	Mill Creek	At mouth, Tenn.	13.0	Current Meter	U. S. G. S. w. s. p. 49
August 11, 1900	Moody Mill Creek	At mouth, N. C.	4.0	Current Meter	U. S. G. S. w. s. p. 49
August 12, 1900	North Fork Elk Creek	At Banners Elk, N. C.	7.0	Current Meter	U. S. G. S. w. s. p. 49
October 8, 1900	North Fork Elk Creek	At Banners Elk, N. C.	4.0	Current Meter	U. S. G. S. w. s. p. 49
August 12, 1900	Rockhouse Creek	At mouth, N. C.	16.3	Current Meter	U. S. G. S. w. s. p. 49
October 18, 1900	Rockhouse Creek	At mouth, N. C.	0.8	Current Meter	U. S. G. S. w. s. p. 49
July 30, 1900	Roan Creek	Above mouth of Mill Creek, Tenn.	60.3	Current Meter	U. S. G. S. w. s. p. 49
August 13, 1900	Roan Creek	Key Station, Tenn.	5.2	Current Meter	U. S. G. S. w. s. p. 49
August 3, 1900	Shell Creek	At mouth, Tenn.	14.0	Current Meter	U. S. G. S. w. s. p. 49
August 2, 1900	Sinking Creek	Lower ford of Johnson City-Elizabethton road, Tenn.	5.0	Current Meter	U. S. G. S. w. s. p. 49
October 4, 1900	Sinking Creek	Lower ford of Johnson City-Elizabethton road, Tenn.	4.0	Current Meter	U. S. G. S. w. s. p. 49

August 11, 1900	South Fork of Elk Creek	At Banners Elk, N. C.	9.38	Current Meter	U. S. G. S. w. s. p. 49
October 8, 1900	South Fork of Elk Creek	At Banners Elk, N. C.	8.48	Current Meter	U. S. G. S. w. s. p. 49
August 3, 1900	Stony Creek	½ mile above mouth, Tenn.	44.0	Current Meter	U. S. G. S. w. s. p. 49
October 5, 1900	Stony Creek	½ mile above mouth, Tenn.	16.0	Current Meter	U. S. G. S. w. s. p. 49
December 31, 1900	Stony Creek	½ mile above mouth, Tenn.	48.0	Current Meter	U. S. G. S. w. s. p. 49
July 29, 1900	Town Creek	At Shoun Crossroads, Tenn.	29.2	Current Meter	U. S. G. S. w. s. p. 49
August 13, 1900	Town Creek	At Shoun Crossroads, Tenn.	6.0	Current Meter	U. S. G. S. w. s. p. 49
July 16, 1900	Watauga River	Elizabethton, Tenn.	450.0	Current Meter	U. S. G. S. w. s. p. 49
August 2, 1900	Watauga River	Elizabethton, Tenn.	593.0	Current Meter	U. S. G. S. w. s. p. 49
August 16, 1900	Watauga River	Elizabethton, Tenn.	403.0	Current Meter	U. S. G. S. w. s. p. 49
October 5, 1900	Watauga River	Elizabethton, Tenn.	348.0	Current Meter	U. S. G. S. w. s. p. 49
November 7, 1900	Watauga River	Elizabethton, Tenn.	993.0	Current Meter	U. S. G. S. w. s. p. 49
December 28, 1900	Watauga River	Elizabethton, Tenn.	533.0	Current Meter	U. S. G. S. w. s. p. 49
December 31, 1900	Watauga River	Elizabethton, Tenn.	973.0	Current Meter	U. S. G. S. w. s. p. 49
July 16, 1900	Watauga River	Watauga Falls, N. C.	79.0	Current Meter	U. S. G. S. w. s. p. 49
August 10, 1900	Watauga River	Watauga Falls, N. C.	53.0	Current Meter	U. S. G. S. w. s. p. 49
October 7, 1900	Watauga River	Watauga Falls, N. C.	60.0	Current Meter	U. S. G. S. w. s. p. 49
August 11, 1900	Watauga River	1 mile above Shull's Mill, N. C.	19.0	Current Meter	U. S. G. S. w. s. p. 49
September 20, 1919	Watauga River	½ mile below Laurel Creek	37.8	Current Meter	C. C. Babb
September 21, 1919	Watauga River	Laurel Creek	37.8	Current Meter	H. H. Underwood
September 21, 1919	Watauga River	Watauga Falls	115.0	Current Meter	H. H. Underwood
September 21, 1919	Watauga River	Shull's Mill	29.0	Current Meter	H. H. Underwood
April 2, 1921	Watauga River	Elizabethton, Tenn.	1,950.0	Current Meter	U. S. G. S. w. s. p. 523
April 25, 1921	Watauga River	Elizabethton, Tenn.	1,110	Current Meter	U. S. G. S. w. s. p. 523
July 25, 1921	Watauga River	Elizabethton, Tenn.	2,330	Current Meter	U. S. G. S. w. s. p. 523
August 3, 1900	Wilson Creek	1 mile above mouth, Tenn.	5.0	Current Meter	U. S. G. S. w. s. p. 49
June 18, 1920	Wilson Creek	Mortime Iron Bridge	70.0	Floats	C. C. Babb
April 13, 1921	Wilson Creek	Below Harper Creek	82.0	Floats	C. C. Babb
April 14, 1921	Wilson Creek	Mortime Iron Bridge	52.0	Floats	C. C. Babb

MISCELLANEOUS DISCHARGE MEASUREMENTS NOLICHUCKY RIVER BASIN

Date	Stream	Location	Disc. Cu. Ft. Per Sec.	Method of Measuring	Authority
September 2, 1900	Bald Creek	Near Burnsville, N. C.	16.25	Current Meter	U. S. G. S. w. s. p. 63
October 18, 1900	Bald Creek	Near Burnsville, N. C.	9.97	Current Meter	U. S. G. S. w. s. p. 63
September 2, 1900	Bald Mt. Creek	1 mile above mouth, N. C.	19.7	Current Meter	U. S. G. S. w. s. p. 63
October 17, 1900	Bald Mt. Creek	1 mile above mouth, N. C.	10.6	Current Meter	U. S. G. S. w. s. p. 63
October 20, 1900	Bear Creek	Flat Rock	3.73	Current Meter	U. S. G. S. w. s. p. 63
August 26, 1900	Bear Creek	Flat Rock	4.67	Current Meter	U. S. G. S. w. s. p. 63
August 26, 1900	Beaver Creek	Near Spruce Pine, N. C.	3.29	Current Meter	U. S. G. S. w. s. p. 63
October 21, 1900	Beaver Creek	Near Spruce Pine, N. C.	3.08	Current Meter	U. S. G. S. w. s. p. 63
September 2, 1900	Big Creek	At mouth, N. C.	5.67	Current Meter	U. S. G. S. w. s. p. 63
October 17, 1900	Big Creek	At mouth, N. C.	2.0	Current Meter	U. S. G. S. w. s. p. 63
August 24, 1900	Big Rock Creek	Ford of Huntdale-Bakersville road, N. C.	51.3	Current Meter	U. S. G. S. w. s. p. 63
October 19, 1900	Big Rock Creek	Ford of Huntdale-Bakersville road, N. C.	24.5	Current Meter	U. S. G. S. w. s. p. 63
September 1, 1900	Bowlems Creek	Near Burnsville, N. C.	3.45	Current Meter	U. S. G. S. w. s. p. 63
October 18, 1900	Bowlems Creek	Near Burnsville, N. C.	4.02	Current Meter	U. S. G. S. w. s. p. 63
August 30, 1900	Brown Creek	Ford of Micaville-Marion road, N. C.	4.94	Current Meter	U. S. G. S. w. s. p. 63
October 26, 1900	Brown Creek	Ford of Micaville-Marion road, N. C.	9.43	Current Meter	U. S. G. S. w. s. p. 63
August 25, 1900	Brush Creek	Lower ford of Burnsville-Spruce Pine road, N. C.	4.37	Current Meter	U. S. G. S. w. s. p. 63
October 20, 1900	Brush Creek	Lower ford of Burnsville-Spruce Pine road, N. C.	0.72	Current Meter	U. S. G. S. w. s. p. 63
August 30, 1900	Cane Branch	Ford of Micaville-Marion road, N. C.	2.98	Current Meter	U. S. G. S. w. s. p. 53
October 26, 1900	Cane Branch	Ford of Micaville-Marion road, N. C.	8.59	Current Meter	U. S. G. S. w. s. p. 63
August 24, 1900	Cane Creek	½ mile above mouth, N. C.	11.78	Current Meter	U. S. G. S. w. s. p. 63
October 19, 1900	Cane Creek	½ mile above mouth, N. C.	9.92	Current Meter	U. S. G. S. w. s. p 63
October 21, 1901	Cane Creek	Bakersville, N. C.	22.86	Current Meter	U. S. G S. w. s. p 63
October 22, 1901	Cane Creek	Bakersville, N. C.	21.05	Current Meter	U. S. G. S. w. s. p. 63
September 1, 1900	Caney River	Near Big Tom Wilson's, N. C.	17.11	Current Meter	U. S. G. S. w. s. p. 63
October 18, 1900	Caney River	Near Big Tom Wilson's, N. C.	13.9	Current Meter	U. S. G. S. w. s. p. 63
August 24, 1900	Caney River	Huntdale, N. C.	89.9	Current Meter	U. S. G. S. w. s. p. 63
September 3, 1900	Caney River	Huntdale, N. C.	62.77	Current Meter	U. S. G. S. w. s. p. 63
October 17, 1900	Caney River	Huntdale, N. C.	58.3	Current Meter	U. S. G. S. w. s. p. 63
September 1, 1900	Cattail Creek	Near Burnsville	2.77	Current Meter	U. S. G. S. w. s. p. 63

October 18, 1900	Cattail Creek	Near Burnsville	4.69	Current Meter	U. S. G. S. w. s. p. 63
August 31, 1900	Colbert Creek	Ford of Micaville-Marion road, N. C.	2.51	Current Meter	U. S. G. S. w. s. p. 63
October 26, 1900	Colbert Creek	Ford of Micaville-Marion road, N. C.	7.24	Current Meter	U. S. G. S. w. s. p. 63
August 25, 1900	Crabtree Creek	Ford of Burnsville-Spruce Pine road, N. C.	15.2	Current Meter	U. S. G. S. w. s. p. 63
October 20, 1900	Crabtree Creek	Ford of Burnsville-Spruce Pine road, N. C.	14.55	Current Meter	U. S. G. S. w. s. p. 63
September 2, 1900	Elk Shoal Creek	At mouth, N. C.	1.29	Current Meter	U. S. G. S. w. s. p. 63
September 1, 1900	Elk Fork Creek	Near Big Tom Wilson's, N. C.	4.78	Current Meter	U. S. G. S. w. s. p. 63
October 18, 1900	Elk Fork Creek	Near Big Tom Wilson's, N. C.	1.49	Current Meter	U. S. G. S. w. s. p. 63
August 26, 1900	Grassy Creek	Spruce Pine, N. C.	6.09	Current Meter	U. S. G. S. w. s. p. 63
October 20, 1900	Grassy Creek	Spruce Pine, N. C.	9.15	Current Meter	U. S. G. S. w. s. p. 63
August 27, 1900	Henson's Creek	At mouth, N. C.	4.8	Current Meter	U. S. G. S. w. s. p. 63
August 23, 1900	Hollow Poplar Creek	Ford of Erwin-Bakersville road, N. C.	5.98	Current Meter	U. S. G. S. w. s. p. 63
October 16, 1900	Hollow Poplar Creek	Ford of Erwin-Bakersville road, N. C.	2.61	Current Meter	U. S. G. S. w. s. p. 63
August 28, 1900	Horse Creek	At mouth, N. C.	9.03	Current Meter	U. S. G. S. w. s. p. 63
October 24, 1900	Horse Creek	At mouth, N. C.	40.53	Current Meter	U. S. G. S. w. s. p. 63
September 3, 1900	Jack Creek	At mouth, N. C.	8.71	Current Meter	U. S. G. S. w. s. p. 63
November 19, 1900	Jack Creek	At mouth, N. C.	6.83	Current Meter	U. S. G. S. w. s. p. 63
August 27, 1900	Kentucky Fork of North Toe	At mouth, N. C.	9.7	Current Meter	U. S. G. S. w. s. p. 63
September 2, 1900	Little Bald Mt. Creek	At mouth, N. C.	2.12	Current Meter	U. S. G. S. w. s. p. 63
October 17, 1900	Little Bald Mt. Creek	At mouth, N. C.	2.61	Current Meter	U. S. G. S. w. s. p. 63
August 30, 1900	Little Crabtree Creek	Just above lower ford of Micaville-Spruce Pine road	17.54	Current Meter	U. S. G. S. w. s. p. 63
October 27, 1900	Little Crabtree Creek	Just above lower ford of Micaville-Spruce Pine road	21.67	Current Meter	U. S. G. S. w. s. p. 63
August 30, 1900	Locust Creek	At mouth, N. C.	3.83	Current Meter	U. S. G. S. w. s. p. 63
October 26, 1900	Locust Creek	At mouth, N. C.	7.96	Current Meter	U. S. G. S. w. s. p. 63
August 31, 1900	Middle Creek	Ford of Micaville-Marion road, N. C.	3.78	Current Meter	U. S. G. S. w. s. p. 63
October 26, 1900	Middle Creek	Ford of Micaville-Marion road, N. C.	9.20	Current Meter	U. S. G. S. w. s. p. 63
July 2, 1900	North Toe River	Near Spruce Pine	323	Current Meter	U. S. G. S. w. s. p. 63
August 26, 1900	North Toe River	Near Spruce Pine	105	Current Meter	U. S. G. S. w. s. p. 63
August 27, 1900	North Toe River	Plum Tree, N. C.	79	Current Meter	U. S. G. S. w. s. p. 63
August 27, 1900	North Toe River	Ford of Linville-Cranberry road, N. C.	18	Current Meter	U. S. G. S. w. s. p. 63
October 21, 1900	North Toe River	Near Spruce Pine	78	Current Meter	U. S. G. S. w. s. p. 63
October 25, 1900	North Toe River	Near Spruce Pine	570	Current Meter	U. S. G. S. w. s. p. 63
November 10, 1920	North Toe River	Green Mountain, N. C.	241	Current Meter	U. S. G. S. w. s. p. 523
September 3, 1900	Pigeon Creek	At mouth, N. C.	1.65	Current Meter	U. S. G. S. w. s. p. 63

MISCELLANEOUS DISCHARGE MEASUREMENTS NOLICHUCKY RIVER BASIN—*Continued*

Date	Stream	Location	Disc. Cu. Ft. Per Sec.	Method of Measuring	Authority
October 19, 1900	Pigeon Creek	At mouth, N. C.	1.26	Current Meter	U. S. G. S. w. s. p. 63
October 19, 1900	Pigeon Roost Creek	At mouth, N. C.	4.12	Current Meter	U. S. G. S. w. s. p. 63
August 24, 1900	Pigeon Roost Creek	At mouth, N. C.	14.5	Current Meter	U. S. G. S. w. s. p. 63
August 27, 1900	Plumtree Creek	Plumtree, N. C.	8.09	Current Meter	U. S. G. S. w. s. p. 63
September 2, 1900	Price Creek	Near Burnsville, N. C.	9.46	Current Meter	U. S. G. S. w. s. p. 63
October 18, 1900	Price Creek	Near Burnsville, N. C.	8.35	Current Meter	U. S. G. S. w. s. p. 63
August 27, 1900	Roaring Creek	At mouth, N. C.	15.57	Current Meter	U. S. G. S. w. s. p. 63
August 31, 1900	Rock Creek	Ford of Micaville-Marion road, N. C.	6.92	Current Meter	U. S. G. S. w. s. p. 63
October 26, 1900	Rock Creek	Ford of Micaville-Marion road, N. C.	28.68	Current Meter	U. S. G. S. w. s. p. 63
August 31, 1900	South Toe River	1 mile above mouth of Three Fork Creek, N. C.	26.0	Current Meter	U. S. G. S. w. s. p. 63
October 26, 1900	South Toe River	1 mile above mouth of Three Fork Creek, N. C.	101.0	Current Meter	U. S. G. S. w. s. p. 63
July 1, 1900	South Toe River	Ford of Micaville-Spruce Pine road, N. C.	220.8	Current Meter	U. S. G. S. w. s. p. 63
August 25, 1900	South Toe River	Ford of Micaville-Spruce Pine road, N. C.	79.8	Current Meter	U. S. G. S. w. s. p. 63
August 30, 1900	South Toe River	Ford of Micaville-Spruce Pine road, N. C.	86.23	Current Meter	U. S. G. S. w. s. p. 63
October 27, 1900	South Toe River	Ford of Micaville-Spruce Pine road, N. C.	282.9	Current Meter	U. S. G. S. w. s. p. 63
August 25, 1900	Snow Creek	Wing, N. C.	2.0	Current Meter	U. S. G. S. w. s. p. 63
August 27, 1900	Squirrel Creek	¼ mile above mouth	11.2	Current Meter	U. S. G. S. w. s. p. 63
August 31, 1900	Three Fork Creek	¼ mile above mouth	9.49	Current Meter	U. S. G. S. w. s. p. 63
August 26, 1900	Threemile Creek	Near Old Post Office at Elsie, N. C.	2.63	Current Meter	U. S. G. S. w. s. p. 63
October 21, 1900	Threemile Creek	Near Old Post Office at Elsie, N. C.	3.57	Current Meter	U. S. G. S. w. s. p. 63
August 24, 1900	Toe River	Huntdale, N. C.	381	Current Meter	U. S. G. S. w. s. p. 63
October 17, 1900	Toe River	Near Huntdale, N. C.	301	Current Meter	U. S. G. S. w. s. p. 63
August 27, 1900	Whiteoak Creek	At mouth, N. C.	3.36	Current Meter	U. S. G. S. w. s. p. 63
August 30, 1900	Whiteoak Creek	At mouth, N. C.	4.40	Current Meter	U. S. G. S. w. s. p. 63
October 26, 1900	Whiteoak Creek	At mouth, N. C.	19.86	Current Meter	U. S. G. S. w. s. p. 63

September 18, 1920	Avery Creek	Bridge on road from Mills River to Asheville	11.31	Current Meter	U. S. G. S. w. s. p. 63
May 19, 1904	Avery Creek	Davidsons River, N. C.	14.0	Current Meter	U. S. G. S. w. s. p. 128
July 19, 1904	Avery Creek	Davidsons River, N. C.	8.0	Current Meter	U. S. G. S. w. s. p. 128
August 17, 1904	Avery Creek	Davidsons River, N. C.	14.5	Current Meter	U. S. G. S. w. s. p. 128
October 4, 1904	Avery Creek	Davidsons River, N. C.	6.8	Current Meter	U. S. G. S. w .s. p. 128
December 8, 1904	Avery Creek	Davidsons River, N. C.	6.3	Current Meter	U. S. G. S. w. s. p. 128
April 13, 1905	Avery Creek	Davidsons River, N. C.	23.0	Current Meter	U. S. G. S. w. s. p. 169
June 23, 1905	Avery Creek	Davidsons River, N. C.	18.0	Current Meter	U. S. G. S. w. s. p. 169
Nov. 14, 1905	Avery Creek	Davidsons River, N. C.	7	Current Meter	U. S. G. S. w. s. p. 169
June 15, 1906	Avery Creek	Davidsons River, N. C.	169	Current Meter	U. S. G. S. w. s. p. 205
September 12, 1900	Beaverdam Creek	50 yards above mouth	1.46	Current Meter	U. S. G. S. w. s. p. 63
October 30, 1900	Beaverdam Creek	50 yards above mouth	4.10	Current Meter	U. S. G. S. w. s. p. 63
September 17, 1900	Big Ivy River	⅛ mile below mouth of Bull Creek	47.59	Current Meter	U. S. G. S. w. s. p. 63
October 29, 1900	Big Ivy River	⅛ mile below mouth of Bull Creek	41.72	Current Meter	U. S. G. S. w. s. p. 63
September 8, 1900	Big Laurel Creek	200 yards above mouth	49.0	Current Meter	U. S. G. S. w. s. p. 63
September 18, 1900	Big Laurel Creek	200 yards above mouth	55.0	Current Meter	U. S. G. S. w. s. p. 63
September 8, 1900	Big Pine Bluff	100 yards above mouth	4.85	Current Meter	U. S. G. S. w. s. p. 63
October 31, 1900	Big Pine Creek	100 yards above mouth	4.45	Current Meter	U. S. G. S. w. s. p. 63
September 17, 1900	Boylston Creek	Near mouth	28.65	Current Meter	U. S. G. S. w. s. p. 63
September 18, 1900	Caney Creek	Bridge on Westfall's place	60.0	Current Meter	U. S. G. S. w. s. p. 63
September 13, 1900	Cathey Creek	Ford of Brevard-Jeptha road	30.2	Current Meter	U. S. G. S. w. s. p. 63
September 17, 1900	Davidsons River	Near mouth	151.77	Current Meter	U. S. G. S. w. s. p. 63
September 17, 1900	Davidsons River	Near mouth	70.20	Current Meter	U. S. G. S. w. s. p. 63
October 15, 1900	East Fork French Broad River	Near mouth	46.0	Current Meter	U. S. G. S. w. s. p. 63
September 20, 1900	Flat Creek	2 miles below Black Mountain Station	22.83	Current Meter	U. S. G. S. w. s. p. 63
September 11, 1900	Flat Creek	At mouth	5.33	Current Meter	U. S. G. S. w. s. p. 63
October 29, 1900	Flat Creek	At mouth	5.0	Current Meter	U. S. G. S. w. s. p. 63
September 7, 1900	French Broad	½ mile above Hot Springs	938	Current Meter	U. S. G. S. w. s. p. 63
September 12, 1900	French Broad	Alexander, N. C.	840	Current Meter	U. S. G. S. w. s. p. 63
September 13, 1900	French Broad	Near Carson Creek	266	Current Meter	U. S. G. S. w. s. p. 63
September 14, 1900	French Broad	Eastatoe Bridge, N. C.	113	Current Meter	U. S. G. S. w. s. p. 63
September 17, 1900	French Broad	Penrose, N. C.	1,160	Current Meter	U. S. G. S. w. s. p. 63

MISCELLANEOUS DISCHARGE MEASUREMENTS FRENCH BROAD RIVER BASIN—*Continued*

Date	Stream	Location	Disc. Cu. Ft. Per Sec.	Method of Measuring	Authority
September 18, 1900	French Broad	Fanning Bridge, N. C.	1,161	Current Meter	U. S. G. S. w. s. p. 63
October 15, 1900	French Broad	Eastatoe Bridge, N. C.	102	Current Meter	U. S. G. S. w. s. p. 63
October 15, 1900	French Broad	Near Carson Creek	206	Current Meter	U. S. G. S. w. s. p. 63
October 29, 1900	French Broad	Alexander	2,068	Current Meter	U. S. G. S. w. s. p. 63
October 27, 1900	French Broad	Fanning Bridge, N. C.	614	Current Meter	U. S. G. S. w. s. p. 63
May 20, 1904	French Broad	Alexander, N. C.	1,329	Current Meter	U. S. G. S w. s. p. 128
August 23, 1919	French Broad	Alexander, N. C.	862	Current Meter	U. S. G. S. w. s. p. 503
November 5, 1920	French Broad	Marshall, N. C.	1,210	Current Meter	U. S. G. S. w. s. p. 523
September 19, 1900	Hominy Creek	Asheville	80.0	Current Meter	U. S. G. S. w. s. p. 63
October 17, 1900	Hominy Creek	Asheville	24.0	Current Meter	U. S. G. S. w. s. p. 63
September 17, 1900	King Creek	Brevard road	15.46	Current Meter	U. S. G. S. w. s. p. 63
September 16, 1900	Lees Creek	Olivette	3.95	Current Meter	U. S. G. S. w. s. p. 63
October 30, 1900	Lees Creek	Olivette	2.29	Current Meter	U. S. G. S. w. s. p. 63
September 17, 1900	Little River Creek	¾ mile above mouth	182.8	Current Meter	U. S. G. S. w. s. p. 63
October 16, 1900	Little River Creek	¾ mile above mouth	69.2	Current Meter	U. S. G. S. w. s. p. 63
September 8, 1900	Little Pine Creek	100 yards above mouth	3.33	Current Meter	U. S. G. S. w. s. p. 63
October 31, 1900	Little Pine Creek	100 yards above mouth	6.0	Current Meter	U. S. G. S. w. s. p. 63
September 14, 1900	Middle Fork of French Broad	Bridge 20 yards above ford	77.0	Current Meter	U. S. G. S. w. s. p. 63
September 17, 1900	Mills River	Bridge on Old Haywood road	211.64	Current Meter	U. S. G. S. w. s. p. 63
October 17, 1900	Mills River	Bridge on Old Haywood road	94.0	Current Meter	U. S. G. S. w. s. p. 63
September 18, 1900	Mud Creek	Near mouth	108.0	Current Meter	U. S. G. S. w. s. p. 63
September 12, 1900	Newfound Creek	At mouth	9.41	Current Meter	U. S. G. S. w. s. p. 63
September 16, 1900	Newfound Creek	¾ mile above mouth	34.16	Current Meter	U. S. G. S. w. s. p. 63
October 30, 1900	Newfound Creek	¾ mile above mouth	20.23	Current Meter	U. S. G. S. w. s. p. 63
September 14, 1900	North Fork of French Broad	200 yards above mouth of West Fork	100.6	Current Meter	U. S. G. S. w. s. p. 63
October 15, 1900	North Fork of French Broad	200 yards above mouth of West Fork	51.8	Current Meter	U. S. G. S. w. s. p. 63

September 16, 1900	North Fork of French Broad	Bridge on Brevard-Webster road	107.48	Current Meter	U. S. G. S. w. s. p. 6
September 16, 1900	North Fork of French Broad	Ford on road between Tucker and Shoal creeks	75.0	Current Meter	U. S. G. S. w. s. p. 63
October, 1922	North Fork Mills River	Hendersonville Intake Dam	5.7	Weir	S. H. Wright
May, 1923	North Fork Mills River	Hendersonville Intake Dam	501	Weir	S. H. Wright
September 20, 1900	North Fork Swannanoa River	3 miles above Swannanoa	21.45	Current Meter	U. S. G. S. w. s. p. 63
September 8, 1900	Pawpaw Creek	1 mile above mouth	0.35	Current Meter	U. S. G. S. w. s. p. 63
September 12, 1900	Reems Creek	At mouth	4.89	Current Meter	U. S. G. S. w. s. p. 63
October 30, 1900	Reems Creek	At mouth	9.0	Current Meter	U. S. G. S. w. s. p. 63
September 12, 1900	Sandymush Creek	Bailey	21.72	Current Meter	U. S. G. S. w. s. p. 63
September 17, 1900	Sandymush Creek	Bailey	55.23	Current Meter	U. S. G. S. w. s. p. 63
October 30, 1900	Sandymush Creek	Bailey	45.0	Current Meter	U. S. G. S. w. s. p. 63
September 7, 1900	Shutin Creek	Near Hot Springs	0.45	Current Meter	U. S. G. S. w. s. p. 63
September 14, 1900	So. Fork of French Broad River	Footbridge at ford of main road	71.0	Current Meter	U. S. G. S. w. s. p. 63
September 7, 1900	Spring Creek	Near Hot Springs	15.0	Current Meter	U. S. G. S. w. s. p. 63
November 1, 1900	Spring Creek	Near Hot Springs	16.0	Current Meter	U. S. G. S. w. s. p. 63
September 19, 1900	Swannanoa River	Biltmore	76.33	Current Meter	U. S. G. S. w. s. p. 63
September 16, 1900	Tucker Creek	200 yards above mouth	28.0	Current Meter	U. S. G. S. w. s. p. 63
September 16, 1900	Turkey Creek	Blackwell Springs	35.24	Current Meter	U. S. G. S. w. s. p. 63
October 30, 1900	Turkey Creek	Blackwell Springs	16.24	Current Meter	U. S. G. S. w. s. p. 63
September 10, 1900	Walnut Creek	At mouth	1.36	Current Meter	U. S. G. S. w. s. p. 63
October 31, 1900	Walnut Creek	At mouth	2.24	Current Meter	U. S. G. S. w. s. p. 63
September 14, 1900	West Fork of French Broad River	Near mouth	149.0	Current Meter	U. S. G. S. w. s. p. 63

MISCELLANEOUS DISCHARGE MEASUREMENTS LITTLE TENNESSEE RIVER BASIN

Date	Stream	Location	Disc. Cu. Ft. Per Sec.	Method of Measuring	Authority
April 20, 1907	Soco Creek	Cherokee, N. C.	96	Current Meter	U. S. G. S. w. s. p. 243
August 27, 1907	Soco Creek	Cherokee, N. C.	29	Current Meter	U. S. G. S. w. s. p. 243
October 19, 1907	Soco Creek	Cherokee, N. C.	36	Current Meter	U. S. G. S. w. s. p. 243

MISCELLANEOUS DISCHARGE MEASUREMENTS TUCKASEGEE RIVER BASIN

August 26, 1907	Savannah Creek	At mouth near Dillsboro	45	Current Meter	U. S. G. S. w. s. p. 243

MISCELLANEOUS DISCHARGE MEASUREMENTS CHEOAH RIVER BASIN

August 24, 1907	Snowbird Creek	Millsaps, N. C.	109	Current Meter	U. S. G. S. w. s. p. 243
October 16, 1907	Snowbird Creek	Millsaps, N. C.	99	Current Meter	U. S. G. S. w. s. p. 243

MISCELLANEOUS DISCHARGE MEASUREMENTS HIWASSEE RIVER BASIN

July 27, 1900	Arququah Creek	Caldwell, Ga.	18.8	Current Meter	U. S. G. S. w. s. p. 49
January 15, 1901	Arququah Creek	At Choestoe road	40.0	Current Meter	U. S. G. S. w. s. p. 63
August 21, 1901	Arququah Creek	3¾ miles southeast of Blairsville, Ga.	96.0	Current Meter	U. S. G. S. w. s. p. 63
August 2, 1900	Bell Creek	Hiwassee, Ga.	20.6	Current Meter	U. S. G. S. w. s. p. 49
January 10, 1901	Big Creek	Near mouth	86.0	Current Meter	U. S. G. S. w. s. p. 63
August 1, 1900	Brasstown Creek	Brasstown, Ga.	94.4	Current Meter	U. S. G. S. w. s. p. 49
January 18, 1901	Brasstown Creek	At bridge near mouth	149.0	Current Meter	U. S. G. S. w. s. p. 63
May 13, 1904	Brasstown Creek	Brasstown, N. C.	82	Current Meter	U. S. G. S. w. s. p. 128

August 22, 1907	Brasstown Creek	Brasstown, N. C.	104	Current Meter	U. S. G. S. w. s. p. 243
July 28, 1900	Butternut Creek	Blairsville, Ga.	29.3	Current Meter	U. S. G. S. w. s. p. 49
January 14, 1901	Butternut Creek	Just below bridge at mouth	32.0	Current Meter	U. S. G. S. w. s. p. 63
July 30, 1900	Camp Creek	Camp Creek, Ga.	13.7	Current Meter	U. S. G. S. w. s. p. 49
August 4, 1900	Centers Creek	Mountain Scene, Ga.	23.9	Current Meter	U. S. G. S. w. s. p. 49
August 18, 1900	Childers Creek	Near Reliance, Tenn.	6.8	Current Meter	U. S. G. S. w. s. p. 49
July 26, 1900	Choestoe Creek	Choestoe, Ga.	17.3	Current Meter	U. S. G. S. w. s. p. 49
August 21, 1901	Choestoe Creek	5¼ miles southeast Choestoe, Ga.	160.0	Current Meter	U. S. G. S. w. s. p. 63
August 21, 1901	Christopher Creek	2½ miles southeast Blairsville, Ga.	39.1	Current Meter	U. S. G. S. w. s. p. 63
August 26, 1901	Cinth Creek	2 miles north of Mountain Scene, Ga.	89.0	Current Meter	U. S. G. S. w. s. p. 63
August 18, 1900	Conasauga Creek	Mecca, Tenn.	25.0	Current Meter	U. S. G. S. w. s. p. 49
September 3, 1900	Conasauga Creek	Near Jalapa, Tenn.	20.2	Current Meter	U. S. G. S. w. s. p. 49
July 28, 1900	Coosa Creek	Coosa Creek, Ga.	99.6	Current Meter	U. S. G. S. w. s. p. 49
January 14, 1901	Coosa Creek	Bridge about 2½ miles from mouth	75.0	Current Meter	U. S. G. S. w. s. p. 63
January 12, 1901	Copper Creek	Bridge 1 mile above mouth	387.0	Current Meter	U. S. G. S. w. s. p. 63
August 20, 1901	Copper Creek	Near fork between Gaddistown and Blairsville, Ga.	251.5	Current Meter	U. S. G. S. w. s. p. 63
August 17, 1900	Ellis Creek	Near Reliance, Tenn.	2.0	Current Meter	U. S. G. S. w. s. p. 49
August 12, 1901	Fightingtown Creek	8 miles from mouth	236.0	Current Meter	U. S. G. S. w. s. p. 63
August 21, 1907	Fires Creek	At mouth above Murphy, N. C.	108	Current Meter	U. S. G. S. w. s. p. 243
August 3, 1900	Fodder Creek	Hiwassee, Ga.	19.0	Current Meter	U. S. G. S. w. s. p. 49
August 26, 1901	Fodder Creek	3 miles southeast of Hiwassee, Ga.	110.7	Current Meter	U. S. G. S. w. s. p. 63
August 21, 1901	Foun Creek	6 miles southeast of Blairsville, Ga.	279.0	Current Meter	U. S. G. S. w. s. p. 63
January 25, 1901	Greasy Creek	Near mouth	88.0	Current Meter	U. S. G. S. w. s. p. 63
August 27, 1903	Hanging Dog Creek	Near Murphy	48	Current Meter	U. S. G. S. w. s. p. 98
May 14, 1904	Hanging Dog Creek	Near Murphy	68	Current Meter	U. S. G. S. w. s. p. 128
January 24, 1901	Hemptown Creek	Just above mouth of Youngstone Creek	159.0	Current Meter	U. S. G. S. w. s. p. 63
August 4, 1900	High Shoals Creek	Mountain Scene, Ga.	18.5	Current Meter	U. S. G. S. w. s. p. 49
August 3, 1900	Hightower Creek	Osborn, Ga.	73.0	Current Meter	U. S. G. S. w. s. p. 49
January 22, 1901	Hiwassee River	Bridge 1½ miles below Hiwassee, Ga.	306.0	Current Meter	U. S. G. S. w. s. p. 63
January 21, 1901	Hiwassee River	Just above mouth of Hightower Creek	152.0	Current Meter	U. S. G. S. w. s. p. 63
August 26, 1901	Hiwassee River	1 mile northwest of Hiwassee, Ga.	1,039.0	Current Meter	U. S. G. S. w. s. p. 63
August 27, 1901	Hiwassee River	¾ mile north of Mountain Scene, Ga.	92.0	Current Meter	U. S. G. S. w. s. p. 63
August 2, 1900	Hiwassee River	Hiwassee, Ga.	337.8	Current Meter	U. S. G. S. w. s. p. 49
August 26, 1901	Hog Creek	1½ miles northwest of Hiwassee, Ga.	42.0	Current Meter	U. S. G. S. w. s. p. 63
August 2, 1900	Hog Creek	Hiwassee, Ga.	15.0	Current Meter	U. S. G. S. w. s. p. 49
January 24, 1901	Hothouse Creek	About 2 miles above mouth	75.0	Current Meter	U. S. G. S. w. s. p. 63
January 16, 1901	Ivy Log Creek	¼ mile above mouth	33.9	Current Meter	U. S. G. S. w. s. p. 63

MISCELLANEOUS DISCHARGE MEASUREMENTS HIWASSEE RIVER BASIN—*Continued*

Date	Stream	Location	Disc. Cu. Ft. Per Sec.	Method of Measuring	Authority
July 30, 1900	Ivy Log Creek	Ivy Log, Ga.	32.7	Current Meter	U. S. G. S. w. s. p. 49
July 27, 1900	Level Land Creek	Choestoe, Ga.	29.5	Current Meter	U. S. G. S. w. s. p. 49
August 2, 1900	Long Bullet Creek	Twine, N. C.	11.9	Current Meter	U. S. G. S. w. s. p. 49
August 26, 1901	Long Bullet Creek	3 miles northwest of Hiwassee, Ga.	26.0	Current Meter	U. S. G. S. w. s. p. 63
August 17, 1900	Lost Creek	Near Reliance, Tenn.	7.7	Current Meter	U. S. G. S. w. s. p. 49
September 4, 1900	Lost Creek	Near Reliance, Tenn.	6.5	Current Meter	U. S. G. S. w. s. p. 49
December 5, 1903	Martin Creek	Near Murphy	4.0	Current Meter	U. S. G. S. w. s. p. 98
January 12, 1901	Mill Creek	At mouth	122.0	Current Meter	U. S. G. S. w. s. p. 63
August 3, 1900	Mill Creek	Hiwassee, Ga.	22.3	Current Meter	U. S. G. S. w. s. p. 49
August 23, 1901	Miller Creek	¼ mile northeast of Blairsville, Ga.	87.0	Current Meter	U. S. G. S. w. s. p. 63
July 31, 1900	Mocassin Creek	Ivy Log, Ga.	12.8	Current Meter	U. S. G. S. w. s. p. 49
August 20, 1901	Mulky Creek	Near fork between Gaddistown and Blairsville, Ga.	75.0	Current Meter	U. S. G. S. w. s. p. 63
August 20, 1901	Nickle Creek	¼ mile south of Gaddistown, Ga.	12.8	Current Meter	U. S. G. S. w. s. p. 63
January 11, 1901	Noontootly Creek	At foot log ½ mile from mouth	207.0	Current Meter	U. S. G. S. w. s. p. 63
July 31, 1900	Nottely River	Thompson's bridge, Ga.	462.0	Current Meter	U. S. G. S. w. s. p. 49
January 14, 1901	Nottely River	Bridge 1½ miles from Blairsville, Ga.	450.0	Current Meter	U. S. G. S. w. s. p. 63
January 15, 1901	Nottely River	At foot log just above mouth of Stink Creek	131.0	Current Meter	U. S. G. S. w. s. p. 63
January 17, 1901	Nottely River	At Thompson's bridge, Ivy Log, Ga.	616.0	Current Meter	U. S. G. S. w. s. p. 63
August 20, 1901	Nottely River	1 mile southwest of Blairsville, Ga.	955.0	Current Meter	U. S. G. S. w. s. p. 63
July 26, 1900	Nottely River	Choestoe, Ga.	46.8	Current Meter	U. S. G. S. w. s. p. 49
July 28, 1900	Nottely River	Blairsville, Ga.	505.1	Current Meter	U. S. G. S. w. s. p. 49
January 26, 1901	Okoee River	Parksville, Tenn.	1,602.0	Current Meter	U. S. G. S. w. s. p. 63
August 3, 1900	Owl Creek	Hiwassee, Ga.	12.3	Current Meter	U. S. G. S. w. s. p. 49
August 27, 1901	Owl Creek	1 mile north of Mountain Scene, Ga.	87.1	Current Meter	U. S. G. S. w. s. p. 63
July 31, 1900	Rapier Creek	Ranger, N. C.	22.0	Current Meter	U. S. G. S. w. s. p. 49
January 12, 1901	Rock Creek	Near mouth	132.0	Current Meter	U. S. G. S. w. s. p. 63
August 3, 1900	Scataway Creek	Visage, Ga.	3.2	Current Meter	U. S. G. S. w. s. p. 49
January 11, 1901	Skeenah Creek	1 mile above mouth	109.0	Current Meter	U. S. G. S. w. s. p. 63
August 17, 1900	Spring Creek	At mouth, Tenn.	6.8	Current Meter	U. S. G. S. w. s. p. 49
September 4, 1900	Spring Creek	At mouth, Tenn.	4.3	Current Meter	U. S. G. S. w. s. p. 49

August 18, 1900	Spring Creek	Springtown, Tenn.	4.0	Current Meter	U. S. G. S. w. s. p. 49
January 10, 1901	Stanley Creek	1 mile above mouth	49.0	Current Meter	U. S. G. S. w. s. p. 63
January 15, 1901	Stink Creek	1 mile above mouth	48.0	Current Meter	U. S. G. S. w. s. p. 63
August 21, 1901	Stink Creek	Near Choestoe, Ga.	167.0	Current Meter	U. S. G. S. w. s. p. 63
July 27, 1900	Stink Creek	Caldwell, Ga.	22.8	Current Meter	U. S. G. S. w. s. p. 49
January 14, 1901	Suches Creek	Near mouth	64.0	Current Meter	U. S. G. S. w. s. p. 63
August 20, 1901	Suches Creek	1 mile northeast of Gaddistown, Ga.	144.0	Current Meter	U. S. G. S. w. s. p. 63
January 11, 1901	Toccoa River	At Van Sant's Bridge	2,475.0	Current Meter	U. S. G. S. w. s. p. 63
January 12, 1901	Toccoa River	1½ miles above mouth Copper Creek	396.0	Current Meter	U. S. G. S. w. s. p. 63
January 12, 1901	Toccoa River	Just above mouth of Mill Creek	43.0	Current Meter	U. S. G. S. w. s. p. 63
January 14, 1901	Toccoa River	Just below Suches Creek	175.0	Current Meter	U. S. G. S. w. s. p. 63
September 19, 1901	Toccoa River	1¼ miles south of Gaddistown, Ga.	67.4	Current Meter	U. S. G. S. w. s. p. 63
August 20, 1901	Toccoa River	1 mile southeast of Gaddistown, Ga.	147.6	Current Meter	U. S. G. S. w. s. p. 63
July 27, 1900	Town Creek	Caldwell, Ga.	55.6	Current Meter	U. S. G. S. w. s. p. 49
January 15, 1901	Town Creek	¼ mile from mouth	85.0	Current Meter	U. S. G. S. w. s. p. 63
August 22, 1901	Weaver Creek	2 miles from mouth	97.0	Current Meter	U. S. G. S. w. s. p. 63
August 20, 1901	Williams Creek	½ mile south of Gaddistown, Ga.	22.8	Current Meter	U. S. G. S. w. s. p. 63
July 27, 1900	Wolf Creek	Caldwell, Ga.	20.0	Current Meter	U. S. G. S. w. s. p. 49
January 15, 1901	Wolf Creek	On south side of Nottely River	55.0	Current Meter	U. S. G. S. w. s. p. 63
July 30, 1900	Young Cone Creek	Near mouth, Ga.	81.3	Current Meter	U. S. G. S. w. s. p. 49
January 16, 1901	Young Cone Creek	1 mile above mouth	94.0	Current Meter	U. S. G. S. w. s. p. 63

TABLE 5

Measurements of Stream Flow in 1925 Drought, Made by U. S. Geological Survey

NOTE. *Shows measurements made at regular gaging stations of U. S. Geological Survey.

Date	Stream	Location	Discharge Sec. Ft.	Drainage Area Sq. Mi.
1925				
August 19	Ararat River	Mt. Airy, N. C.	27.3	
August 25	Beaverdam Creek	Above Beaver Lake at Asheville, N. C.	.76	
October 5	Big Cold Creek	Concord, N. C.	1.60	
*August 5	Broad River	Boiling Springs, N. C.	1,360	
August 5	Broad River	Lake Lure dam at Chimney Rock, N. C.	46.6	
*September 10	Broad River	Boiling Springs, N. C.	228	
August 14	Cane Creek	Near Burnsville, N. C.	4.66	
August 25	Cane Creek	Route 29 crossing at Fletcher, N. C.	9.68	
August 8	Chattooga River	Tallulah Falls, Ga.	185	256
August 31	Congaree Creek	Near Cary, S. C.	130	
August 14	Coosawattee River	Carters, Ga.	119	531
August 15	Coosawattee River	Carters, Ga.	226	531
August 15	Coosawattee River	Carters, Ga.	279	531
August 14	Crabtree Creek	Near Spruce Pine, N. C.	9.42	
*August 7	Cullasagee River	Cullasaja, N. C.	33.8	87
*September 9	Cullasagee River	Cullasaja, N. C.	21.1	87
*August 19	Dan River	Asbury, N. C.	39.0	46
*August 20	Dan River	Asbury, N. C.	32.9	46
*August 20	Dan River	Asbury, N. C.	12.7	46
*August 20	Dan River	Francisco, N. C.	51.1	155
*August 20	Dan River	Pine Hall, N. C.	146	459
*August 20	Dan River	Pine Hall, N. C.	202	459
*September 30	Davidson River	Brevard, N. C.	22.0	41
*October 7	Deep River	Ramseur, N. C.	10.4	343
*August 20	Deep River West Branch	High Point, N. C.	5.91	33
*October 6	Deep River West Branch	High Point, N. C.	3.97	33
*October 30	Deep River West Branch	High Point, N. C.	9.03	33
*August 19	Fisher River	Dobson, N. C.	21.1	109

*October 10	Fishing Creek	Enfield, N. C.	64.0	
*August 21	Flat River	Bahama, N. C.	6.49	
*August 21	Flat River	At dam near Bahama	12.4	
*October 8	Flat River	Bahama, N. C.	2.00	
*August 4	French Broad	Asheville, N. C.	353.0	949
*August 25	French Broad	Asheville, N. C.	252.0	949
*September 30	French Broad	Calvert, N. C.	71.4	104
*September 30	French Broad	Blantyre, N. C.	250.0	296
*September 30	French Broad, North Fork	Rosman, N. C.	27.6	66
*August 1	Henry Fork	Henry River, N. C.	28.4	78.9
*October 31	Henry River	Henry River, N. C.	74.3	78.9
*October 31	Henry River	Above dam at Henry River	29.3	74.2
*August 5	Hiwassee River	Murphy, N. C.	167	410
*September 10	Hiwassee River	Murphy, N. C.	74.0	410
August 29	Hominy Creek	Near Asheville, N. C.	13.9	
August 22	Horsepen Creek	Battle Ground, N. C.	3.61	
August 14	Ivy River, Big	At fork above mouth of Little Ivy	4.29	
August 1	Johns River	Collettsville, N. C.	17.2	69
August 1	Linville River	Branch, N. C.	17.0	65
*October 11	Little Creek	Zebulon, N. C.	.319	
September 30	Little River	Near Penrose, N. C.	66.8	
*August 4	Little Tennessee River	Judson, N. C.	371	670
*August 7	Little Tennessee River	Franklin, N. C.	131	297
*September 9	Little Tennessee River	Franklin, N. C.	96.2	297
*September 11	Little Tennessee River	Judson, N. C.	263	670
*September 10	Long Creek	Gastonia, N. C.	4.89	
*October 4	Long Creek	Gastonia, N. C.	6.22	
*August 26	Mills River	Mills River, N. C.	20.6	67.5
*September 30	Mills River	Mills River, N. C.	25.7	67.5
August 19	Mitchells River	Burch, N. C.	36.5	
*October 11	Moccasin Creek	Taylors Mill near Middlesex, N. C.	2.14	
*August 21	Morgan Creek	Chapel Hill, N. C.	.72	29
*October 8	Morgan Creek	Chapel Hill, N. C.	.59	29
*October 30	Morgan Creek	Chapel Hill, N. C.	1.78	29
August 25	Mud Creek	Near Hillgirt, N. C.	25.2	
*August 4	Nantahala River	Almond, N. C.	124	177

TABLE 5—*Continued*

Date	Stream	Location	Discharge Sec. Ft.	Drainage Area Sq. Mi.
*September 9	Nantahala River	Almond, N. C.	80.7	177
*April 22	New River, North Fork	Warrensville, N. C.	113	95.9
*July 6	New River, North Fork	Warrensville, N. C.	86.0	95.9
*August 16	New River, North Fork	Warrensville, N. C.	44.5	95.9
August 18	New River, North Fork	Crumpler, N. C.	97.7	279
*April 23	New River, South Fork	Near Jefferson, N. C.	243	208
*July 6	New River, South Fork	Near Jefferson, N. C.	144	208
August 15	New River, South Fork	Near Boone, N. C.	7.30	----------
*August 16	New River, South Fork	Near Jefferson, N. C.	112	208
*August 17	New River, South Fork	Fleetwood, N. C.	48.6	----------
August 18	New River, South Fork	Near Crumpler, N. C.	132	325
August 18	New River, South Fork	Near Crumpler, N. C.	129	325
*August 18	New River, South Fork	Near Jefferson, N. C.	87.9	142
*August 5	Nottely River	Ranger, N. C.	97.3	272
*September 10	Nottely River	Ranger, N. C.	57.8	272
*August 3	Oconalufty River	Cherokee, N. C.	88.8	133
*September 8	Oconalufty River	Cherokee, N. C.	64.0	133
*September 10	Pacolet River, North	Tryon, N. C.	12.8	49
*September 11	Pigeon, River†	Mt. Sterling, N. C.	398	----------
*September 21	Pigeon River†	Mt. Sterling, N. C.	63.1	----------
*September 23	Pigeon River†	Crabtree, N. C.	47.2	244
September 22	Pigeon River, East Fork	1 mile above mouth of Crawford Creek	8.31	----------
September 22	Pigeon River, East Fork	1 mile above mouth of Crawford Creek	8.35	----------
September 22	Pigeon River, East Fork	1500 feet downstream from mouth Hungry Creek	13.1	----------
September 11	Pigeon River, West Fork	Spruce, N. C.	11.0	----------
September 21	Pigeon River, West Fork	Spruce, N. C.	10.8	----------
August 29	Raccoon Creek	Near Waynesville, N. C.	2.14	----------
August 22	Reedy Fork	Near Summerfield, N. C.	7.06	----------
August 19	Reddies River	Near North Wilkesboro, N. C.	35.7	93
August 31	Reems Creek	Near Weaversville, N. C.	1.71	----------
*October 10	Roanoke River	Old Gaston, N. C.	1,820	8,350

August 19	Roaring River	Near Roaring River, N. C.	309	
August 31	Saluda River	Near Columbia, S. C.	179	
September 8	Saluda River	Columbia, S. C.	198	
September 8	Saluda River	Lexington Power Co., dam site, Lexington, S. C.	1.37	
September 10	Sandy Run Creek	Boiling Springs, N. C.	17.4	
*September 1	Santee River	Ferguson, S. C.	2,850	14,800
September 2	Santee River	St. Stephens, S. C.	3,120	
August 5	Second Broad	Cliffside, N. C.	508	
August 19	Snow Creek	Burch, N. C.	6.57	
September 8	Soco Creek	Near Cherokee, N. C.	15.0	
*September 9	Sugar Creek	Charlotte, N. C.	2.61	41.4
*September 9	Sugar Creek	Charlotte, N. C.	2.55	41.4
August 22	Third Creek	Statesville, N. C.	19.9	69
August 14	Toe River, North	Above mouth Beaver Creek at Spruce Pine	41.1	130
*August 14	Toe River, North	Spruce Pine, N. C.	46.2	130
August 14	Toe River, South	Near Micaville, N. C.	16.8	
August 20	Town Fork Creek	Walnut Cove, N. C.	18.6	
*August 3	Tuckasegee River	East LaPort, N. C.	86.8	200
*August 4	Tuckasegee River	Bryson, N. C.	362	673
*September 7	Tuckasegee River	East LaPort, N. C.	63.9	200
*September 8	Tuckasegee River	Bryson, N. C.	36.9	673
August 10	Tugalo River	Hartwell, Ga.	337	
August 10	Tugalo River	Hartwell, Ga.	383	
*August 6	Valley River	Tomotla, N. C.	32.8	106
*Septemger 10	Valley River	Tomotla, N. C.	23.9	106
*August 15	Watauga River	Above Valle Crucis, N. C.	8.93	29
*August 1	Wilson Creek	Adako, N. C.	24.7	66
*August 18	Yadkin River	North Wilkesboro, N. C.	230	500
*August 19	Yadkin River	North Wilkesboro, N. C.	178	500
*August 22	Yadkin River	Salisbury, N. C.	990	3,400
*October 5	Yadkin River	High Rock, N. C.	1,290	3,930
*October 6	Yadkin River	Salisbury, N. C.	971	3,400

NOTE. † = Measurements made by engineers of Phoenix Utility Co.

TABLE 6

CONVENIENT EQUIVALENTS

The following is a list of convenient equivalents for use in hydraulic computations:—

Table for converting velocity in feet per second into velocity in miles per hour

1 foot per second = 0.681818 mile per hour, or very nearly ⅔ mile per hour. 1 mile per hour = 1.4666 feet per second, or very nearly 1½ feet per second. In computing the table the values 0.68182 and 1.4667 were used.

Units	Tenths									
	0	1	2	3	4	5	6	7	8	9
0	0.000	0.068	0.136	0.205	0.273	0.341	0.409	0.477	0.545	0.614
1	0.682	0.750	0.818	0.886	0.955	1.020	1.090	1.160	1.230	1.300
2	1.360	1.430	1.500	1.570	1.640	1.700	1.770	1.840	1.910	1.980
3	2.050	2.110	2.180	2.250	2.320	2.390	2.450	2.520	2.590	2.660
4	2.730	2.800	2.860	2.930	3.000	3.070	3.140	3.200	3.270	3.340
5	3.410	3.480	3.550	3.610	3.680	3.750	3.820	3.890	3.950	4.020
6	4.090	4.160	4.230	4.300	4.360	4.430	4.500	4.570	4.640	4.700
7	4.770	4.840	4.910	4.980	5.050	5.110	5.180	5.250	5.320	5.390
8	5.450	5.520	5.590	5.660	5.730	5.800	5.860	5.930	6.000	6.070
9	6.140	6.200	6.270	6.340	6.410	6.480	6.550	6.610	6.680	6.750

*Table for converting discharge in second-feet per square mile into run-off in depth in inches over the area**

Discharge in Second-feet Per Square Mile	Run-off Depth in Inches				
	1 day	28 days	29 days	30 days	31 days
1	0.03719	1.041	1.079	1.116	1.153
2	0.07438	2.083	2.157	2.231	2.306
3	0.11157	3.124	3.236	3.347	3.459
4	0.14876	4.465	4.314	4.463	4.612
5	0.18595	5.207	5.393	5.578	5.764
6	0.22314	6.248	6.471	6.694	6.917
7	0.26033	7.289	7.550	7.810	8.070
8	0.29752	8.331	8.628	8.926	9.223
9	0.33471	9.372	9.707	10.041	10.376

*Table for converting discharge in second-feet into run-off in acre-feet**

Discharge in Second-feet	Run-off in Acre-feet				
	1 day	28 days	29 days	30 days	31 days
1	1.983	55.54	57.52	59.50	61.49
2	3.967	111.10	115.00	119.00	123.00
3	5.950	166.60	172.60	178.50	184.50
4	7.934	222.10	230.10	238.00	246.00
5	9.917	277.70	287.60	297.50	307.40
6	11.900	333.20	345.10	357.00	368.90
7	13.880	388.80	402.60	416.50	430.40
8	15.870	444.30	460.20	476.00	491.90
9	17.850	499.80	517.70	535.50	553.40

*Table for converting discharge in second-feet into run-off in millions of gallons**

Discharge in Second-feet	Run-off in Millions of Gallons				
	1 day	28 days	29 day	30 days	31 days
1	.6463	18.10	18.74	19.39	20.04
2	1.2926	36.19	37.49	38.78	40.07
3	1.9389	54.29	56.23	58.17	60.11
4	2.5852	72.39	74.97	77.56	80.14
5	3.2315	90.48	93.71	96.95	100.18
6	3.8778	108.58	112.46	116.33	120.21
7	4.5241	126.67	131.20	135.72	140.25
8	5.1704	144.77	149.94	155.11	160.28
9	5.8167	162.87	168.68	174.50	180.32

*Table for converting discharge in second-feet into run-off in millions of cubic feet**

Discharge in Second-feet	Run-off in Millions of Cubic Feet				
	1 day	28 days	29 days	30 days	31 days
1	0.0864	2.419	2.506	2.592	2.678
2	0.1728	4.838	5.012	5.184	5.356
3	0.2592	7.257	7.518	7.776	8.034
4	0.3456	9.676	10.024	10.368	10.712
5	0.4320	12.095	12.530	12.960	13.390
6	0.5184	14.514	15.036	15.552	16.068
7	0.6048	16.933	17.542	18.144	18.746
8	0.6912	19.352	20.048	20.736	21.424
9	0.7776	21.771	22.554	23.328	24.102

*NOTE. For part of a month multiply value for one day by the number of days.

1 second-foot equals 7.48 United States gallons per second; equals 448.8 gallons per minute; equals 646,317 gallons for one day.

1 second-foot for one year covers 1 square mile 1.131 feet deep, or 13.572 inches deep.

1 second-foot for one year equals 0.000214 cubic mile; equals 31,536,000 cubic feet.

1 second-foot equals about 1 acre-inch per hour; equals about 2 acre-feet per 24 hours.

1 second-foot falling 10 feet equals 1.136 horse-power.

100 United States gallons per minute equals 0.223 second-foot.

100 United States gallons per minute for one day equals 0.44 acre-feet.

1 million United States gallons per day equals 1.55 second-feet.

I million United States gallons equals 3.07 acre-feet.

1 million cubic feet equals 22.95 acre-feet.

1 acre-foot equals 325,850 gallons; equals 43,560 cubic feet.

1 inch deep on 1 square mile equals 2,323,200 cubic feet.

1 inch deep on 1 square mile equals 0.0737 second-foot per year.

1 acre equals 43,560 square feet.

1 acre equals 209 feet square, nearly.

1 cubic foot equals 7.48 gallons.

1 cubic foot of water weights 62.4 pounds.

1 cubic mile equals 147,198,000,000 cubic feet.

1 cubic mile equals 4,667 second-feet for one year.

1 gallon equals 8.36 pounds of water.

1 gallon equals 231 cubic inches (liquid measure).

1 kilometer equals 3,281 feet; equals five-eighths mile, nearly.

1 foot per second equals 0.68 mile per hour.

1 atmosphere equals 14.7 pounds per square inch; 1 ton per square foot; 1 kilogram per square centimeter.

Acceleration of gravity equals 32.16 feet per second every second.

1 horse-power equals 550 foot-pounds per second.

1 horse-power equals 746 watts; equals 0.746 kilowatt.

1 horse-power equals 1 second-foot falling 8.8 feet.

1⅓ horse-power equals about 1 kilowatt.

Publications and Investigations of the Water Resources Division

PUBLICATIONS

1. Circular 2. The Power Situation in North Carolina, 1921. *Out of print.*
2. Circular 6. The Power Situation in North Carolina, 1922. *Out of print.*
3. Circular 10. The Power Situation in North Carolina, 1919-1923.
4. Economic Paper 53. Water-powers of Surry and Wilkes counties.
5. Economic Paper 54. Water-power Investigation of Deep River.
6. The Power Situation in North Carolina, 1924.

N. C. REPORTS NOW BEING COMPLETED

Water-power Investigation of Cherokee and Clay counties.
Water-power Investigation of Dan River in Stokes County.
Floods on the Cape Fear River System.
Rainfall in North Carolina.

INVESTIGATIONS NOW IN PROGRESS

Water-power Survey of New River, and Watauga River.
Evaporation Studies on Piedmont Reservoirs.
Floods on North Carolina Streams.
Periodicity of Rainfall in North Carolina.

INDEX

STATE OF NORTH CAROLINA
DEPARTMENT OF
CONSERVATION AND DEVELOPMENT

ROANOKE RIVER BASIN

No.	Stream	Location
1	Roanoke River	Roanoke, Va.
2	Roanoke River	Randolph, Va.
3	Roanoke River	Old Gaston, N. C.
4	Roanoke River	Neal, N. C.
5	Dan River	Pinnacles, Va.
6	Dan River	Joyce's Mill, Asbury, N. C.
7	Dan River	George's Mill, Francisco, N. C.
8	Dan River	Pine Hall, N. C.
9	Dan River	Madison, N. C.
10	Dan River	South Boston, Va.

TAR RIVER BASIN

11	Tar River	Tarboro, N. C.
12	Fishing Creek	Brick School, Enfield, N. C.

NEUSE RIVER BASIN

13	Neuse River	Selma, N. C.
14	Moccasin Creek	Taylor's Mill, Middlesex, N. C.
15	Little Creek	Zebulon, N. C.
109	Flat River	Bahama, N. C.
114	Flat River	Bahama, N. C.

CAPE FEAR RIVER BASIN

17	Haw River	Moncure, N. C.
18	Morgans Creek	Chapel Hill, N. C.
19	Deep River	High Point, N. C.
20	Deep River	Ramseur, N. C.
21	Deep River	Cumnock, N. C.
22	Deep River	Moncure, N. C.
23	Cape Fear River	Lillington, N. C.
24	Cape Fear River	Fayetteville, N. C.

YADKIN RIVER BASIN

25	Yadkin River	North Wilkesboro, N. C.
26	Yadkin River	Donnaha, N. C.
27	Yadkin River	Salisbury, N. C.
28	Yadkin River	High Rock, N. C.
29	Yadkin River	Norwood, N. C.
30	Yadkin River	Pee Dee, N. C.
31	Fisher River	Dobson, N. C.
32	Ararat River	Pilot Mountain, N. C.

SANTEE RIVER BASIN

34	Santee River	Ferguson, S. C.
119	Santee River	St. Stephens, S. C.
35	Catawba River	Old Fort, N. C.
36	Catawba River	Morgantown, N. C.
37	Catawba River	Rhodhiss, N. C.
38	Catawba River	Catawba, N. C.
39	Catawba River	Rock Hill, S. C.
40	Mill Creek	Old Fort, N. C.
41	Linville River	Branch, N. C.
42	Linville River	Fonta Flord, N. C.
43	Linville River	Bridgewater, N. C.
44	John River	Morganton, N. C.
45	John River	Colletsville, N. C.
46	Sugar Creek	Charlotte, N. C.
47	Third Creek	Statesville, N. C.
48	Wilson Creek	Adako, N. C.
49	Broad River	Uree, N. C.
50	Green River	Saluda, N. C.
51	Second Broad River	Logan's Store, N. C.
52	North Pacolet River	Tryon, N. C.
111	Sandy Run	Boiling Springs, N. C.
112	Second Broad River	Cliffside, N. C.
113	Broad River	Boiling Springs, N. C.
115	Henry Fork	Henry River, N. C.
116	Saluda River	Columbia, S. C.

KANAWHA RIVER BASIN

53	New River, North Fork	Warrensville, N. C.
54	New River, North Fork	Crumpler, N. C.
55	New River, South Fork	Crumpler, N. C.
56	New River, South Fork	Jefferson, N. C.
118	New River, South Fork	Bowie, N. C.

TENNESSEE RIVER BASIN

No.	Stream	Location
59	Watauga River	Butler, Tenn.
60	Watauga River	Elizabethton, Tenn.
61	Doe River	Valley Forge, Tenn.
62	Nolichucky River	Embreeville, Tenn.
63	Nolichucky River	Greeneville, Tenn
64	North Toe River	Spruce Pine, N. C
65	French Broad River	Rosman, N. C.
66	French Broad River	Calvert, N. C.
67	French Broad River	Blantyre, N. C.
68	French Broad River	Horseshoe, N. C.
69	French Broad River	Asheville, N. C.
70	French Broad River	Old Town, Newport, Tenn.
71	French Broad River	Dandridge, Tenn.
72	Davidson River	Davidson River, N. C.
73	Davidson River	Brevard, N. C.
74	Little River	Calhoun, N. C.
75	Mills River, South Fork	Sitton, N. C.
76	Mills River, North Fork	Pinkston, N. C.
77	Mills River	Mills River, N. C.
78	Mud Creek	Naples, N. C.
79	Swannanoa River	Swannanoa, N. C.
80	Swannanoa River	Biltmore, N. C.
81	Ivy River	Democrat, N. C.
82	Pigeon River	Canton, N. C.
83	Pigeon River	Crabtree, N. C.
120	Pigeon River	Mt. Sterling, N. C.
84	Pigeon River	Newport, Tenn.
85	Little Pigeon River	Sevierville, Tenn.
86	Little Tennessee River	Franklin, N. C.
87	Little Tennessee River	Almond, N. C.
88	Little Tennessee River	Judson, N. C.
89	Little Tennessee River	Calderwood, Tenn.
90	Little Tennessee River	McGhee, Tenn.
91	Cullasagee River	Cullasagee, N. C.
92	Oconalufty River	Cherokee, N. C.
93	Tuckaseegee River	East Laport, N. C.
94	Tuckaseegee River	Bryson, N. C.
95	Scotts Creek	Dillsboro, N. C.
96	Nantahala River	Nantahala, N. C.
97	Nantahala River	Wesser, N. C.
98	Nantahala River	Almond, N. C.
99	Cheoah River	Millsaps, N. C.
100	Cheoah River	Johnson, N. C.
101	Hiwassee River	Hayesville, N. C.
102	Hiwassee River	Murphy, N. C.
103	Hiwassee River	Apalachia, N. C.
104	Hiwassee River	Reliance, Tenn.
105	Shooting Creek	Hayesville, N. C.
106	Tusquitee Creek	Hayesville, N. C.
107	Valley River	Tomotla, N. C.
108	Nottely River	Ranger, N. C.

SAVANNAH RIVER BASIN

110	Tugaloo River	Hartwell, Ga.

MOBILE RIVER BASIN

117	Coosawattee River	Carters, Ga.

EXPLANATION

- ○ ACTIVE GAGING STATION
- ● DISCONTINUED GAGING STATION
- ▲ GAGING STATION ESTABLISHED SINCE JAN. 1, 1924
- ✕ RECORDS OF STAGE (MOSTLY U. S. W. B.)
- ■ DEVELOPED WATER POWER OF 1,000 H. P. AND OVER

MAP OF
NORTH CAROLINA
SHOWING LOCATION OF
PRINCIPAL RIVER BASINS
GAGING STATIONS
AND
DEVELOPED WATER POWER OVER 1,000 H. P.

PREPARED BY
NORTH CAROLINA DEPARTMENT OF CONSERVATION AND DEVELOPMENT
W. D. HARRIS, DIRECTOR
THORNDYKE SAVILLE, CHIEF HYDRAULIC ENGINEER

Scale 1/1,000,000
0 10 20 30 40 50 100 Miles

Records of Discharge of North Carolina Streams.

Key to Map	Stream	Station	State	Drainage Area in Sq. Miles
	ROANOKE RIVER BASIN			
1	ROANOKE RIVER	ROANOKE	VIRGINIA	388
2	ROANOKE RIVER	RANDOLPH	VIRGINIA	3076
3	ROANOKE RIVER	OLD GASTON	NORTH CAROLINA	8350
4	ROANOKE RIVER	NEAL	NORTH CAROLINA	8717
5	DAN RIVER	PINNACLES	VIRGINIA	35
6	DAN RIVER	JOYCE'S MILL NEAR ASBURY	NORTH CAROLINA	46
7	DAN RIVER	GEORGE'S MILL NEAR FRANCISCO	NORTH CAROLINA	155
8	DAN RIVER	PINE HALL	NORTH CAROLINA	459
9	DAN RIVER	MADISON	NORTH CAROLINA	605
10	DAN RIVER	SOUTH BOSTON	VIRGINIA	2750
	TAR RIVER BASIN			
11	TAR RIVER	TARBORO	NORTH CAROLINA	2290
12	FISHING CREEK	BRICK SCHOOL NEAR ENFIELD	NORTH CAROLINA	
	NEUSE RIVER BASIN			
13	NEUSE RIVER	SELMA	NORTH CAROLINA	1240
14	MOCCASSIN CREEK	TAYLOR'S MILL NEAR MIDDLESEX	NORTH CAROLINA	
15	LITTLE CREEK	ZEBULON	NORTH CAROLINA	
16				
	CAPE FEAR RIVER BASIN			
17	HAW RIVER	MONCURE	NORTH CAROLINA	1600
18	MORGANS CREEK	CHAPEL HILL	NORTH CAROLINA	29
19	DEEP RIVER	HIGH POINT	NORTH CAROLINA	33
20	DEEP RIVER	RAMSEUR	NORTH CAROLINA	343
21	DEEP RIVER	CUMNOCK	NORTH CAROLINA	1110
22	DEEP RIVER	MONCURE	NORTH CAROLINA	1400
23	CAPE FEAR RIVER	LILLINGTON	NORTH CAROLINA	3530
24	CAPE FEAR RIVER	FAYETTEVILLE	NORTH CAROLINA	4290
	YADKIN RIVER BASIN			
25	YADKIN RIVER	NORTH WILKESBORO	NORTH CAROLINA	500
26	YADKIN RIVER	DONNAHA	NORTH CAROLINA	1600
27	YADKIN RIVER	SALISBURY	NORTH CAROLINA	3400
28	YADKIN RIVER	HIGH ROCK	NORTH CAROLINA	3930
29	YADKIN RIVER	NORWOOD	NORTH CAROLINA	4614
30	YADKIN RIVER	PEE DEE	NORTH CAROLINA	6830
31	FISHER RIVER	DOBSON	NORTH CAROLINA	109
32	ARARAT RIVER	PILOT MOUNTAIN	NORTH CAROLINA	250
33				
	SANTEE RIVER BASIN			
34	SANTEE RIVER	FERGUSON	SOUTH CAROLINA	14800
35	CATAWBA RIVER	OLD FORT	NORTH CAROLINA	14.7
36	CATAWBA RIVER	MORGANTOWN	NORTH CAROLINA	758
37	CATAWBA RIVER	RHODHISS	NORTH CAROLINA	1180
38	CATAWBA RIVER	CATAWBA	NORTH CAROLINA	1514
39	CATAWBA RIVER	ROCK HILL	SOUTH CAROLINA	3050
40	MILL CREEK	OLD FORT	NORTH CAROLINA	21.2
41	LINVILLE RIVER	BRANCH	NORTH CAROLINA	65
42	LINVILLE RIVER	FONTA FLORA	NORTH CAROLINA	67
43	LINVILLE RIVER	BRIDGEWATER	NORTH CAROLINA	86
44	JOHN RIVER	MORGANTON	NORTH CAROLINA	218
45	JOHN RIVER	COLLETTSVILLE	NORTH CAROLINA	69
46	SUGAR CREEK	CHARLOTTE	NORTH CAROLINA	41.4
47	THIRD CREEK	McHENRY'S BRIDGE ~ STATESVILLE	NORTH CAROLINA	69
48	WILSON CREEK	ADAKO	NORTH CAROLINA	66
49	BROAD RIVER	UREE	NORTH CAROLINA	100
50	GREEN RIVER	SALUDA	NORTH CAROLINA	51
51	SECOND BROAD RIVER	LOGANS STORE	NORTH CAROLINA	98
52	NORTH PACOLET RIVER	TRYON	NORTH CAROLINA	49
	KANAWHA RIVER BASIN			
53	NEW RIVER, NORTH FORK	WARRENSVILLE	NORTH CAROLINA	95.9
54	NEW RIVER, NORTH FORK	CRUMPLER	NORTH CAROLINA	279
55	NEW RIVER, SOUTH FORK	CRUMPLER	NORTH CAROLINA	325
56	NEW RIVER, SOUTH FORK	JEFFERSON	NORTH CAROLINA	208
57				
58				
	TENNESSEE RIVER BASIN			
59	WATAUGA RIVER	BUTLER	TENNESSEE	427
60	WATAUGA RIVER	ELIZABETHTON	TENNESSEE	475
61	DOE RIVER	VALLEY FORGE	TENNESSEE	132
62	NOLICHUCKY RIVER	EMBREEVILLE	TENNESSEE	795
63	NOLICHUCKY RIVER	GREENEVILLE	TENNESSEE	1100
64	NORTH TOE RIVER	SPRUCE PINE	NORTH CAROLINA	130
65	FRENCH BROAD RIVER	ROSMAN	NORTH CAROLINA	66
66	FRENCH BROAD RIVER	CALVERT	NORTH CAROLINA	104
67	FRENCH BROAD RIVER	BLANTYRE	NORTH CAROLINA	296
68	FRENCH BROAD RIVER	HORSESHOE	NORTH CAROLINA	325
69	FRENCH BROAD RIVER	ASHEVILLE	NORTH CAROLINA	949
70	FRENCH BROAD RIVER	OLD TOWN NEAR NEWPORT	TENNESSEE	1740
71	FRENCH BROAD RIVER	DANDRIDGE	TENNESSEE	4450
72	DAVIDSON RIVER	DAVIDSON RIVER	NORTH CAROLINA	31
73	DAVIDSON RIVER	BREVARD	NORTH CAROLINA	41
74	LITTLE RIVER	CALHOUN	NORTH CAROLINA	59
75	MILLS RIVER, SOUTH FORK	SITTON	NORTH CAROLINA	40.5
76	MILLS RIVER, NORTH FORK	PINKBED	NORTH CAROLINA	24
77	MILLS RIVER	MILLS RIVER	NORTH CAROLINA	67.5
78	MUD CREEK	NAPLES	NORTH CAROLINA	112
79	SWANNANOA RIVER	SWANNANOA	NORTH CAROLINA	60
80	SWANNANOA RIVER	BILTMORE	NORTH CAROLINA	128
81	IVY RIVER	DEMOCRAT	NORTH CAROLINA	164
82	PIGEON RIVER	CANTON	NORTH CAROLINA	134
83	PIGEON RIVER	CRABTREE	NORTH CAROLINA	244
84	PIGEON RIVER	NEWPORT	TENNESSEE	655
85	LITTLE PIGEON RIVER	SEVIERVILLE	TENNESSEE	346
86	LITTLE TENNESSEE RIVER	FRANKLIN	NORTH CAROLINA	297
87	LITTLE TENNESSEE RIVER	ALMOND	NORTH CAROLINA	453.28
88	LITTLE TENNESSEE RIVER	JUDSON	NORTH CAROLINA	670
89	LITTLE TENNESSEE RIVER	CALDERWOOD	TENNESSEE	1870
90	LITTLE TENNESSEE RIVER	McGHEE	TENNESSEE	2470
91	CULLASAGEE RIVER	CULLASAJA	NORTH CAROLINA	87
92	OCONALUFTY RIVER	CHEROKEE	NORTH CAROLINA	133
93	TUCKASEEGEE RIVER	EAST LAPORT	NORTH CAROLINA	200
94	TUCKASEEGEE RIVER	BRYSON	NORTH CAROLINA	673
95	SCOTTS CREEK	DILLSBORO	NORTH CAROLINA	
96	NANTAHALA RIVER	NANTAHALA	NORTH CAROLINA	144
97	NANTAHALA RIVER	WESSER	NORTH CAROLINA	160
98	NANTAHALA RIVER	ALMOND	NORTH CAROLINA	177
99	CHEOAH RIVER	MILLSAPS	NORTH CAROLINA	
100	CHEOAH RIVER	JOHNSON	NORTH CAROLINA	175.25
101	HIWASSEE RIVER	HAYESVILLE	NORTH CAROLINA	190
102	HIWASSEE RIVER	MURPHY	NORTH CAROLINA	410
103	HIWASSEE RIVER	APALACHIA	NORTH CAROLINA	1042
104	HIWASSEE RIVER	RELIANCE	TENNESSEE	1180
105	SHOOTING CREEK	HAYESVILLE	NORTH CAROLINA	37.9
106	TUSQUITEE CREEK	HAYESVILLE	NORTH CAROLINA	40.
107	VALLEY RIVER	TOMOTLA	NORTH CAROLINA	106
108	NOTTELY RIVER	RANGER	NORTH CAROLINA	272