

Compilation of Records of Surface Waters of the United States through September 1950

Part 3-B. Cumberland and Tennessee
River Basins

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1306



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Prepared under the direction of J. V. B. WELLS, chief, Surface Water Branch

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UNITED STATES DEPARTMENT OF THE INTERIOR

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PREFACE

This report contains summaries of streamflow records in the Cumberland and Tennessee River basins. It was prepared by the United States Geological Survey in the Water Resources Division, C. G. Paulsen, chief, under the general direction of J. V. B. Wells, chief, Surface Water Branch, and B. J. Peterson, chief, Basic Records Section.

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COMPILATION OF RECORDS OF SURFACE WATERS OF CUMBERLAND AND TENNESSEE RIVER BASINS, THROUGH 1950

PURPOSE AND SCOPE

This volume is one of a series of reports presenting monthly and yearly summaries of streamflow and reservoir data collected by the Geological Survey. Included with these data are some records furnished by other Federal, State, and private agencies.

The purpose of this series of reports is to make available in summarized form all of the surface-water records collected up to September 30, 1950.

The first known streamflow records to be systematically collected in the United States are those for Eaton and Madison Brooks in Madison County, N. Y., by John B. Jervis during 1835. Stream gaging by the United States Geological Survey was begun in 1888. At that time the Congress authorized the Irrigation Survey to be conducted by the Geological Survey in connection with special studies relating to irrigation. The work consisted of the measurement of stage and discharge of a few streams in the West. Since that time the work has expanded so that measurements of stage and discharge of streams and of stage and contents of lakes and reservoirs have been made at more than 12,000 gaging stations in the 48 states and the territories of Hawaii and Alaska, of which about 6,400 were in operation on September 30, 1950. The details of the records collected at those stations are contained in annual reports, bulletins, and water-supply papers, which have been issued usually on an annual basis. Most of the records collected over the years are found only in numerous individual volumes, many of which are out of print and difficult to obtain.

The records have been collected mainly in cooperation with State, municipal, and other Federal cooperating agencies and published in annual reports by the Geological Survey. This series of compilation reports has been prepared by the Geological Survey as a special project not included in the cooperative program.

The data presented in this series of reports consist of records of discharge of streams and contents of reservoirs summarized on a monthly and yearly basis. Results of miscellaneous discharge measurements and, in general, stage records have been excluded. Also included are bar charts showing the period of record covered by each gaging station and a map of the area showing the location of each station (pl. 1). The reports of this series are uniform in the type of data they contain and in the form of presentation.

In compiling the data for these summary reports, one important feature of the project was to review the analyses and computations originally made on the basis of all information now available. For some stations additional base data, obtained subsequently, allowed for reinterpretation and recomputation of more accurate records of discharge. All records were examined for major computation errors and tested wherever possible by comparison with records of discharge at other stations and weather data. Records that were found to be in need of substantial revision were recomputed or omitted if revision was not feasible. Estimates of discharge were made to fill short gaps to complete the continuity of the record, wherever practical.

Records furnished by other agencies are incorporated in these reports when they supplement records collected by the Geological Survey, and appeared consistent and reliable. Furnished records were reviewed in the same manner as Geological Survey records whenever base data were available and detailed study was feasible.

STREAM-GAGING PROGRAM

The area covered by this report (fig. 1), which includes the Cumberland and Tennessee River basins, extends from the western slopes of the Appalachian Mountains westward across the Cumberland Plateau to the eastern borders of the lower Mississippi River basin. The drainage area of the headwaters of the Tennessee River includes areas of the highest precipitation in the eastern part of the United States where the mean annual precipitation exceeds 80 inches in the highest altitudes. The control of floods, navigation, and water power provided the impetus for the earliest observation of stream flow in the area.

The earliest records on the streams in the area covered by this report were begun as records of stage by the Army Signal Corps from which records of discharge were later computed by the Geological Survey when sufficient discharge measurements became available to define the ratings. The first such gage was

established on the Tennessee River at Florence, Ala., in 1871. This was followed closely by gages on the Cumberland River at Nashville, Tenn., in 1873, Tennessee River at Chattanooga, Tenn., in 1874, and the Tennessee River at Johnsonville, Tenn., in 1875. The operation of these gages was taken over by the Weather Bureau in 1891.

The Geological Survey began to collect records of stream flow in the summer of 1893 when the first discharge measurement was made on the Tennessee River at Chattanooga, Tenn. In 1897 measurements were begun on a regular basis at this station, and records of discharges from January 1890 were computed and published using measurements made in 1893 by the U. S. Weather Bureau. At a later date this discharge record was extended back to the beginning of the gage-height record in 1874, and thus becomes the longest continuous record of discharge in the area. Similar discharge records have been compiled for the Tennessee River at Johnsonville, Tenn., since 1889, the Cumberland River at Nashville, Tenn., since 1893, and the Tennessee River at Florence, Ala., since 1894.

The work in Alabama and Tennessee by the Geological Survey was followed closely by the establishment of four stations in North Carolina during 1895-96, four stations in Virginia in 1907, and three stations in Kentucky in 1915. The first observation of discharge recorded in the area was made in 1883 by the Corps of Engineers, U. S. Army, on the Cumberland River at Nashville, Tenn., and from that date until 1909 the Corps of Engineers made many discharge measurements at several points on the Cumberland and Tennessee Rivers.

During the latter part of the nineteenth century water power became of major importance to the southeastern states, and in 1895 the Geological Survey began the first State cooperative stream-gaging program in the area with the State of North Carolina. This cooperation was continued through 1909. The rapid development of water power and the widespread movement for the acquisition by the Government of the forested lands within the Southern Appalachians for the conservation and regulation of the water supply and flow of streams resulted in a rapid expansion of the program on the headwaters during 1900. This expansion was augmented by cooperation with the U. S. Forest Service during 1907-9. In 1911 and 1918 the Geological Survey cooperated with the State of Tennessee on the establishment of several stations, and in 1918 the cooperative program with the State of North Carolina was resumed. Since then the program has expanded to include all the States in the area.

The area periodically has suffered heavy damage from disastrous floods. The outstanding floods that have occurred in and adjacent to the area in 1927, 1929, 1937, 1940, and 1948, and the droughts of 1925, 1931, and 1941 have provided further impetus for expanding the program.

The Corps of Engineers, Department of the Army, as the result of Congressional authorizations for surveys of the Tennessee and Cumberland Rivers and for making comprehensive reports on the rivers of the United States, supported a large expansion of the stream-gaging work during the years 1923-28, and again in the Cumberland River basin in 1936 with passage of the flood-control act. The initiation of these programs has had a significant effect in advancing stream-gaging activities in the area.

The establishment of the Tennessee Valley Authority in 1933 with broad authority to study and develop the Tennessee River basin, gave a large impetus to stream gaging. The cooperative program with that agency started in fiscal year 1934 and has been a substantial part of the total program since that time.

Numerous municipal and private organizations has assisted the Geological Survey in the stream-gaging program, as have several bureaus of the Federal Government. Details of their cooperation have been acknowledged in the annual water-supply papers.

DESCRIPTION OF DATA

The gaging-station records are arranged in downstream order. The order used in this report is the same as that adopted for use in the annual series of reports on surface-water supply beginning with the water year 1951. In this report, in a downstream along the main stem, all stations on a tributary entering above a main-stem station are listed before that station. If a tributary enters between two main-stem stations, it is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. To indicate the rank of any tributary on which a gaging station is situated and the stream to which it is immediately tributary, each indention in the listing of gaging stations in the bar chart (see p. 15), represents one rank. This downstream order and system of indention show which gaging stations are on tributaries between any two stations on a main stem and the rank of the tributary on which each gaging station is situated.

The order of listing used in the annual reports through the water year 1950 was different. In those reports all stations on the

main stem are listed first in order, proceeding from the headwaters toward the mouth, then all stations on the uppermost tributary from its source to mouth, followed by all stations from source to mouth on the tributaries to the tributary.

The data presented for most of the gaging stations comprise a description of the station, tables of monthly discharge and runoff, and a yearly summary table. The station description gives the location of the gaging station, drainage area, supplemental records available (for some stations), types and datums of gages, average discharge, extremes of discharge, and general remarks concerning the data. When records were furnished by another agency the fact is so stated.

The location of the gaging station and the drainage area are obtained from the best available maps. When more than one site was used and the difference in drainage areas is significant, the area for the latest site is shown first followed by the areas for other sites in chronological order. In some instances drainage-area figures have not been obtained because of the lack of suitable maps or because the boundaries cannot be defined, or the effective drainage area determined.

For some stations a paragraph headed "Supplemental records available", gives reference to records other than those given in the present report. Such records may consist of gage-height records for periods other than those for which discharge records are presented, records concerning quality of the water, or the results of periodic discharge measurements.

The gage described first is the present gage or the one used most recently. Information is then given in chronological order for all gages used earlier, giving changes in location, type of gage, or datum. The location or datum of all earlier gages is given with reference to the present or most recently used gage. The datum of the gage is the elevation of the zero of the gage above mean sea level. Where information as to datum is not available, the altitude of the gage is given. This may be determined from topographic maps, river-profile surveys, barometric levels, or where nothing better is available, by estimates based on average fall between a known elevation and the gage, or no other known factors. The degree of accuracy of an altitude determination is indicated by the source of the information and to some extent by the refinement to which the figure is given.

The average discharge for a station is the average of all complete water years and is published only if there are five or more complete water years of record. The years used to determine

the average are not necessarily consecutive. The average discharge is not published for some stations because of extensive changes in diversion or storage, or other water development, that have occurred upstream.

In general, the momentary maximum and minimum discharges and stages for the entire period of record are published in the "Extremes" paragraph. These are qualified if necessary according to the type of gage used and the completeness of the record. Maximum and minimum discharges at non-recording gaging stations are qualified as "observed" unless determined from a graph drawn through actual gage heights which approximates the actual hydrograph.

Under "Remarks" information is given on factors which affect the basinyield and runoff characteristics. These include upstream regulation, diversion, and utilization—a history of changes in these items is given when known. Also, references are made to the records of storage or diversion upstream, if published. When discharge records are furnished by another agency, credit is given under "Cooperation".

The streamflow data summarized in this paper are generally contained in two monthly tables and one yearly table. The first monthly table is a tabulation of monthly and yearly mean discharge in cubic feet per second. These figures represent discharge passing the station; they are unadjusted for storage or diversion upstream. Each monthly figure is the mean flow for the entire month; generally no record for part of a month is tabulated. Likewise, each yearly figure is the mean flow for a full year, and no figure is shown for a partial year. Usually the months are arranged on a water-year basis. Exceptions to this rule are made in connection with seasonal records wherein the months are grouped to give a complete season for each calendar year.

The second monthly table is a tabulation of monthly and yearly runoff, in inches. For streams that are subject to considerable regulation, the second table contains the adjusted runoff in inches. The table of runoff in inches is omitted if the data do not represent natural yield without a gross error, whether adjusted or unadjusted.

The third table contains a yearly summary of the streamflow data. The column headed "W. S. P. No." lists the number of the water-supply paper or other publication in which the figures of daily and monthly discharge are published; for early years for which daily discharges were not published, that column lists the report that contains daily gage heights, rating tables, and monthly

discharges. If a part of the record has been revised and published, then reference is made to both the original report and the one containing the revised record; if the daily discharge record for the entire year has been republished to include revisions, then only the later report is listed. For some stations the third table is omitted; however, the report containing records for any particular year can generally be found by reference to the tables given on p. 10.

In the third table the momentary maximum discharge for each water year and the date of its occurrence is given whenever obtainable. This is maximum discharge for the water year unless otherwise qualified. For non-recording gage records, momentary maximums were often obtained from graphs drawn through the gage readings. If a graph was not feasible, then the discharge was computed from the maximum gage height observed, provided it was believed to be of significant value. The momentary maximum discharge is given for some years for which the record, as shown in the first two tables, is incomplete. The maximum discharge when so given is believed to be representative of the absolute maximum for the water year and is not qualified in any way. Occasionally maximum daily discharges are tabulated, but only when it was not practicable to give momentary maximums and when figures may have general statistical value.

The minimum daily discharge for each water year is listed if known. The annual mean discharge listed in the third table is the same as that given in the yearly column in the first table.

Other data in these tables are given for both the water and calendar year and consist of annual mean discharge and runoff in inches.

Most canal and diversion records are given in a single table. There are some records for large canals, however, that are published in the same detail as those for streams. Records of reservoirs also are given in a single table which shows the contents at the end of each month.

Figures of discharge that have been revised as the result of the review made in connection with this compilation are so noted; however, revisions that have been previously published are not indicated as revisions in this report. Revised daily discharges made in connection with this compilation will be published in a later annual water-supply paper. If only annual maximum discharges are revised and no revision of daily discharge is made for a station, revised annual maximums are given only in this report and will not be republished in a later annual report. Revisions of figures of runoff in inches resulting solely from a

revision of the drainage area are not noted as such. Figures that represent corrections of typographical or computational errors where no figures of daily discharge have been revised or changed are indicated as "corrected" in this report. Estimates of discharge made to complete months or years for this report are noted as estimates and as "not previously published".

For a few stations, after reviewing the past records, it was found that part of the previously published records was grossly in error, yet the base data were such that the record could not be improved or revised. For such stations a note listing the periods of records which have been discredited and not republished is given with the records published herein. Stations for which the entire period of records previously published has been discredited are omitted from this report. The following table lists the stations so omitted.

Stations omitted from this report for which the entire record should not be used

Station	Period of record
Town Creek (Sinking Creek) at Lebanon, Tenn.....	1932-33; 1943-45
West Fork Stones River below Murfreesboro, Tenn.....	1934
Richland Creek near Nashville, Tenn.....	1938-40
Turnbull Creek at Kingston Springs, Tenn.....	1926-27
Nantahala River at Wesser, N. C.....	1920-21
Tuckasegee River near East Laport, N. C.....	1907- 9; 1920-26
Toccoa River at Butts Bridge, near Dial, Ga.....	1907- 8

In addition to the above, records of discharge for some other stations in the area, previously published by the Geological Survey in the annual series of reports, are omitted from this compilation. In general, the records of such stations either are too fragmentary to allow computation of monthly mean discharge, or are records that did not measure streamflow, total diversion, or return flow, and were considered not important enough to warrant publication in this report. These stations are listed in the following table.

Previously published records which are not compiled in this report

Station	Period of record
Ivy River at Democrat, N. C.....	1907
Nantahala River near Nantahala, N. C.....	1907- 9
Scott Creek near Dillsboro, N. C.....	1907- 8
Tusquitee Creek near Hayesville, N. C.....	1907- 9
Tennessee River at Danville, Tenn.....	1931-32

PUBLICATIONS

To facilitate publication of streamflow records, the area of the United States is divided into 14 parts whose boundaries coincide with certain natural drainage lines. Formerly, the annual series of water-supply papers on the surface-water supply of the United States was published in 14 volumes, one for each of the 14 parts. Beginning with the reports for 1951, the records are published in 18 volumes, including 2 volumes each for parts 1, 2, 3, and 6. This system is used in publishing the present series of compilation reports with the exception of part 11 which is published in 2 volumes for the compilation report series only. The boundaries of the various parts are indicated in the following list and on figure 1.

- Part 1. North Atlantic slope basins, in two volumes:
 - A, North Atlantic slope basins, Maine to Connecticut.
 - B, North Atlantic slope basins, New York to York River.
- 2. South Atlantic slope and eastern Gulf of Mexico basins, in two volumes:
 - A, South Atlantic slope basins, James River to Savannah River.
 - B, South Atlantic slope and eastern Gulf of Mexico basins, Ogeechee River to Pearl River.
- 3. Ohio River basin, in two volumes:
 - A, Ohio River basin except Cumberland and Tennessee River basins.
 - B, Cumberland and Tennessee River basins.
- 4. St. Lawrence River basin.
- 5. Hudson Bay and upper Mississippi River basins.
- 6. Missouri River basin, in two volumes:
 - A, Missouri River basin above Sioux City, Iowa.
 - B, Missouri River basin below Sioux City, Iowa.
- 7. Lower Mississippi River basin.
- 8. Western Gulf of Mexico basin.
- 9. Colorado River basin.
- 10. The Great Basin.
- 11. Pacific slope basins in California, in two volumes:
 - A, Coastal basin (excluding Central Valley).
 - B, Central Valley.
- 12. Pacific slope basins in Washington and upper Columbia River basin.
- 13. Snake River basin.
- 14. Pacific slope basins in Oregon and lower Columbia River basin.

Early records of the flow of streams in the United States are published in the reports listed below. In many of these reports records for years earlier than those indicated have been included for some streams.

Streamflow data for the years 1884-1901, in reports of the Geological Survey

(A = Annual Report; B = Bulletin; W = Water Supply Paper)

Report	Character of data	Year
10th A, pt. 2	Descriptive information only.	
11th A, pt. 2	Monthly discharge and descriptive information.....	1884 to September 1890.
12th A, pt. 2	do.....	1884 to June 30, 1891.
13th A, pt. 3	do.....	1884-92.
14th A, pt. 2	Monthly discharge.....	1888-93.
B 131.....	Descriptions, measurements, gage heights, and ratings.	1893-94.
16th A, pt. 2	Descriptive information only.	
B 140.....	Descriptions, measurements, gage heights, ratings, and monthly discharge.	1895.
W 11.....	Gage heights.....	1896.
18th A, pt 4	Descriptions, measurements, ratings, and monthly discharge.	1895-96.
W 15.....	Descriptions, measurements, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries above Kansas River.	1897.
W 16.....	Descriptions, measurements, and gage heights of streams west of the Mississippi River, except Missouri River and tributaries above Kansas River.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge.	1897.
W 27.....	Measurements, ratings, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries.	1898.
W 28.....	Measurements, ratings, and gage heights of streams west of the Mississippi River, except Missouri River and tributaries.	1898.
20th A, pt. 4	Monthly discharge.....	1898.
W 35 to 39.	Descriptions, measurements, gage heights, and ratings.	1899.
21st A, pt. 4	Monthly discharge.....	1899.
W 47 to 52.	Descriptions, measurements, gage heights, and ratings.	1900.
22d A, pt. 4.	Monthly discharge.....	1900.
W 65, 66.....	Descriptions, measurements, gage heights and ratings..	1901.
W 75.....	Monthly discharge.....	1901.

Reports on surface-water supply containing records from 1899 to 1950 for drainage basins in this report are listed in the following table. The data for any particular gaging station will, in general, be found in the reports covering the years during which the station was maintained.

Numbers of water-supply papers containing results of stream measurements in Cumberland and Tennessee River basins, 1899-1950

Year	W. S. P.	Year	W. S. P.	Year	W. S. P.	Year	W. S. P.	Year	W. S. P.
1899	36	1910	283	1921	523	1931	713	1941	923
1900	48	1911	303	1922	543	1932	728	1942	953
1901	65, 75	1912	323	1923	563	1933	743	1943	973
1902	83	1913	353	1924	583	1934	758	1944	1003
1903	98	1914	383	1925	603	1935	783	1945	1033
1904	128	1915	403	1926	623	1936	803	1946	1053
1905	169	1916	433	1927	643	1937	823	1947	1083
1906	205	1917	453	1928	663	1938	853	1948	1113
1907-8	243	1918	473	1929	683	1939	873	1949	1143
1909	263	1919-20	503	1930	698	1940	893	1950	1173

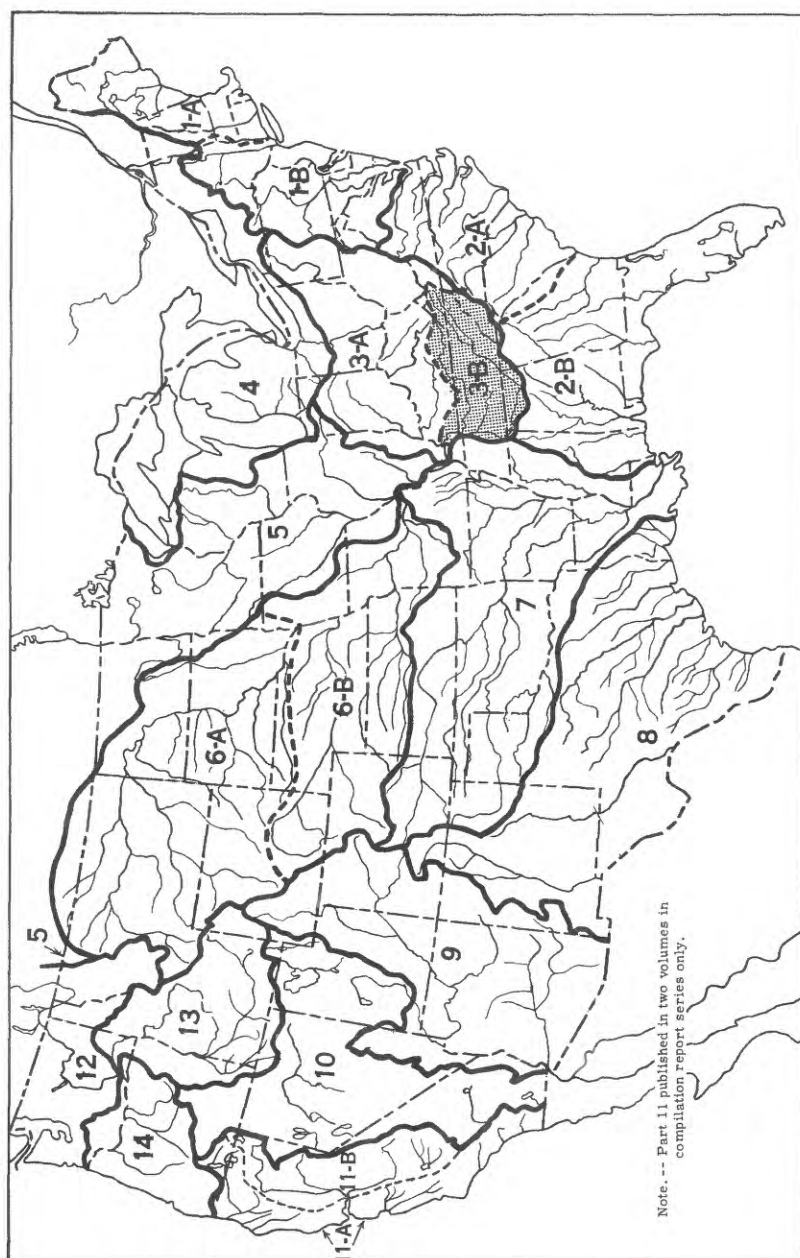


Figure 1. — Map of the United States showing areas covered by the annual reports on surface-water supply and also by the present series of compilation reports. The area covered by this report is shaded.

The records at most of the stations discussed in these reports extend over many years. Discharge measurements at many points other than regular gaging stations have been made each year and are published under "Miscellaneous discharge measurements", at the end of each report.

Reports also have been published that are compilations of records for various areas, usually a single State or drainage basin. These reports contain records previously published (some of which may have been revised), as well as some records not contained in the annual series of water-supply papers. The only such report for any part of the area covered by this report is Water-Supply Paper 197, "Water Resources of Georgia, 1895-1905".

Records of discharge have been published also in State reports. Some of these are not contained in the publications of the Geological Survey or are revisions of records previously published in its water-supply papers. The following table contains a list of these reports for the area covered by this report.

State reports containing compilations of records of discharge in Cumberland and Tennessee River basins

State	Period	Report	Issued by
Alabama.....	1895-1915	Bull. 17, Water powers of Alabama..	Geological Survey of Alabama.
Georgia.....	1895-1906	Bull. 16, Water powers of Georgia....	Geological Survey of Georgia.
Do.....	1907-19	Bull. 38, Water powers of Georgia....	Do.
Kentucky.....	1910-20	Surface waters of Kentucky.....	Kentucky Geological Survey.
North Carolina..	1895-98	Bull. 8, Water powers of North Carolina.	North Carolina Geological and Economic Survey.
Do.....	1889-1908	Bull. 20, Water powers of North Carolina.	Do.
Do.....	1889-1923	Bull. 34, Discharge records of North Carolina streams.	Department of Conservation and Development.
Do.....	1899-1936	Bull. 39, Discharge records of North Carolina streams ¹ .	Do.
Do.....	1857-1945	Hydraulic Data on the French Broad River basin.	Do.
Tennessee.....	1874-1924	Bull. 34, Water resources of Tennessee ² .	Department of Education.
Do.....	1920-30	Bull. 40, Surface waters of Tennessee.	Do.
Virginia.....	1895-1927	Bull. 31, Water resources of Virginia.	Virginia Geological Survey.
Do.....	1927-42	Bull. 7, Surface water supply of Virginia (New, Tennessee, and Big Sandy River basins).	Virginia Conservation Commission.
Do.....	1942-50	Bull. 15, Surface water Supply of Virginia (New, Big Sandy, and Tennessee River basins).	Virginia Department of Conservation and Development.

¹Contains maximum and minimum daily, weekly, and monthly discharge and yearly mean discharge.

²Includes records of discharge for all stations in North Carolina in the Tennessee River basin.

Detailed information on the stage and discharge of many streams during major floods has been included in special reports on these floods published by the Geological Survey. The more recent of these special reports also contain other pertinent hydrologic information and analyses and compilations of data relating to earlier notable floods. The following is a list of these reports:

Report

W. S. P. 334:	The Ohio Valley flood of March-April 1913.
W. S. P. 771:	Floods in the United States, magnitude and frequency.
W. S. P. 800:	The floods of March 1936, Part 3, Potomac, James, and upper Ohio Rivers.
W. S. P. 838:	Floods of Ohio and Mississippi Rivers, January-February 1937.
W. S. P. 847:	Maximum discharges at stream-measurement stations through September 1938.
W. S. P. 1066:	Floods of August 1940 in the southeastern States.
W. S. P. 1227-A:	Floods of March-April 1951 in Alabama and adjacent States.
Cir. 100:	Floods in Georgia, frequency and magnitude.
Cir. 342:	Floods in Alabama, frequency and magnitude.

HYDROLOGIC CONDITIONS

Streamflow, a residual of precipitation after other demands have been met, varies considerably from year to year and in different areas. Figure 2 (see following page) shows yearly discharge for three widely-separated gaging stations in the Cumberland and Tennessee River basins which are not seriously affected by regulation or diversions. These streams have runoff characteristics that are generally representative of others in their particular locale.

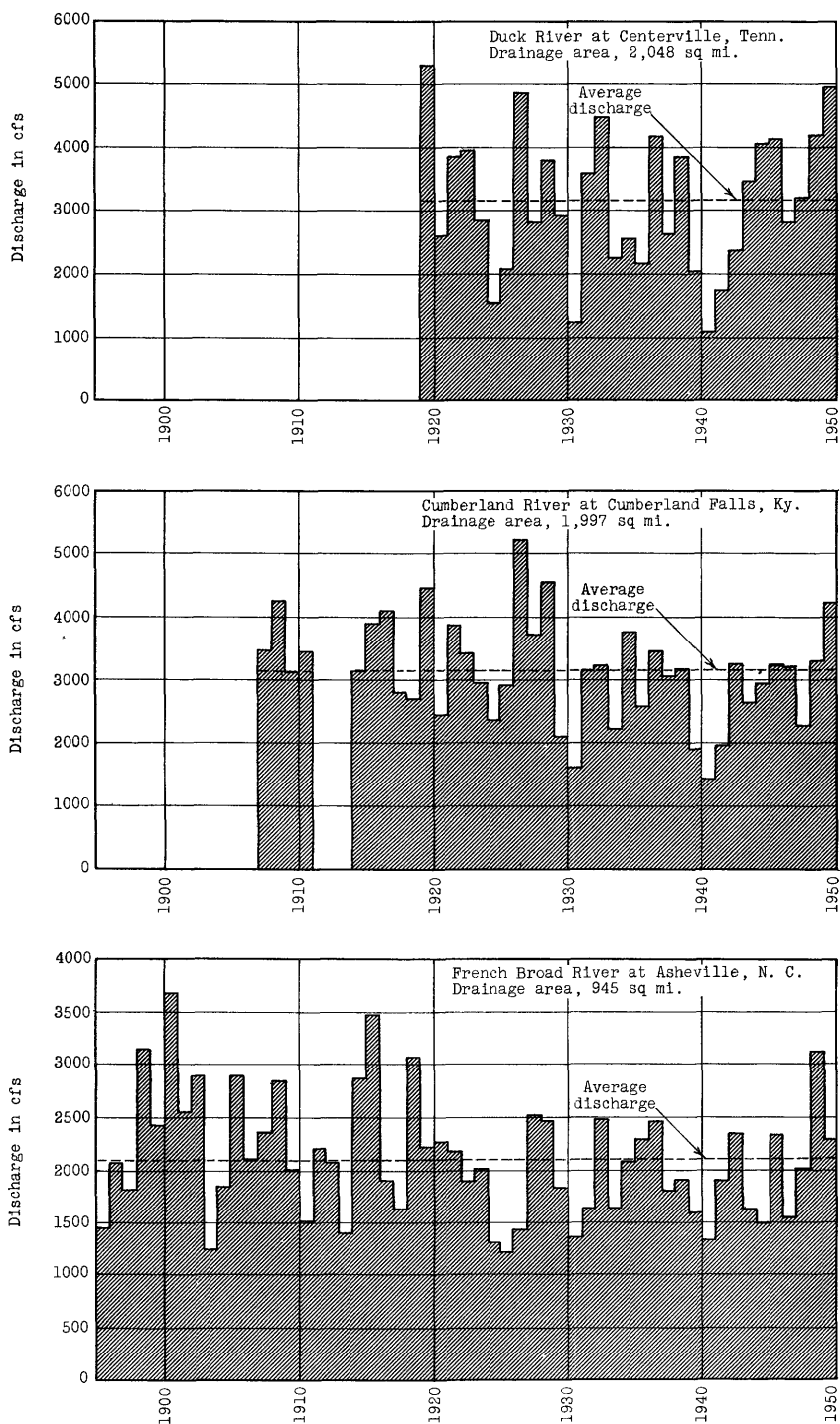


Figure 2.--Yearly discharge at three representative gaging stations in Cumberland and Tennessee River basins.

The following bar chart shows the period of record of discharge of streams and contents of reservoirs for all stations compiled in this report through September 30, 1950. Periods of record of stage only are not included. The stations are listed in downstream order (see p.) and are numbered consecutively. The number is used to identify the station on the map (pl.) showing location of gaging stations.

Bar chart of gaging-station records

Legend:  Streamflow  Reservoir contents

Period of record						Gaging station	Map no.	Page no.
1900	1910	1920	1930	1940	1950			
						Cumberland River basin:		
						Poor Fork (head of Cumberland River) at Harlan-Letcher County line, Ky.....	1	20
						Poor Fork at Cumberland, Ky.....	2	20
						Cumberland River near Harlan, Ky.....	3	21
						..Yellow Creek near Middlesboro, Ky.....	4	22
						Cumberland River at Pineville, Ky.....	5	23
						Cumberland River near Pineville, Ky.....	6	23
						Cumberland River at Barbourville, Ky.....	7	24
						Cumberland River at Cumberland Falls, Ky.....	8	25
						..Laurel River at Corbin, Ky.....	9	27
						..Laurel River near Vox, Ky.....	10	28
						..Rockcastle River at Billows, Ky.....	11	28
						..Rockcastle River at Rockcastle Springs, Ky.....	12	29
						..New River (head of South Fork Cumberland River) near New River, Tenn.....	13	30
						..New River at New River, Tenn.....	14	31
						Clear Fork:		
						White Oak Creek at Sunbright, Tenn.....	15	32
						Clear Fork near Robbins, Tenn.....	16	32
						Pine Creek:		
						Unnamed tributary to Pine Creek at Oneida, Tenn.....	17	33
						South Fork Cumberland River near Stearns, Ky.....	18	34
						South Fork Cumberland River at Nevelsville, Ky.....	19	35
						Cumberland River at Burnside, Ky.....	20	36
						Cumberland River near Jamestown, Ky.....	21	38
						Cumberland River near Rowena, Ky.....	22	39
						..East Fork Obey River near Jamestown, Tenn.....	23	40
						..West Fork Obey River near Alpine, Tenn.....	24	40
						..Obey River near Byrdstown, Tenn.....	25	41
						..Wolf River near Byrdstown, Tenn.....	26	43
						..Dale Hollow Reservoir near Celina, Tenn.....	27	44
						..Obey River below Dale Hollow Dam, Tenn.....	28	44
						Cumberland River at Celina, Tenn.....	29	45
						..Roaring River near Hilham, Tenn.....	30	47
						..Caney Fork at Clifty, Tenn.....	31	48
						..Bee Creek at Herbert, Tenn.....	32	49
						..Calfkiller River at Sparta, Tenn.....	33	50
						..Calfkiller River below Sparta, Tenn.....	34	51
						Collins River:		
						Barren Fork near Trousdale, Tenn.....	35	51
						Collins River near McMinnville, Tenn.....	36	52
						Collins River near Rowland, Tenn.....	37	54
						..Great Falls Lake near Rock Island, Tenn.....	38	55
						..Caney Fork near Rock Island, Tenn.....	39	55
						..Falling Water River near Cookeville, Tenn.....	40	57
						..Caney Fork near Silver Point, Tenn.....	41	58
						..Center Hill Reservoir at Center Hill Dam, near Smithville, Tenn.....	42	59
						..Caney Fork near Lancaster, Tenn.....	43	60
						Cumberland River at Carthage, Tenn.....	44	61
						Cumberland River at dam 3, near Old Hickory, Tenn.....	45	62
						Stones River:		
						West Fork Stones River near Murfreesboro, Tenn.....	46	63
						Stones River near Smyrna, Tenn.....	47	64
						Stones River above Donelson, Tenn.....	48	66
						Cumberland River at Nashville, Tenn.....	49	67
						..Harpeth River at Bellevue, Tenn.....	50	69
						..Harpeth River near Kingston Springs, Tenn.....	51	71
						Cumberland River at Clarksville, Tenn.....	52	72
						..Red River near Adams, Tenn.....	53	74
						..Sulphur Fork Red River near Adams, Tenn.....	54	75
						Cumberland River at Dover, Tenn.....	55	76
						..South Fork Little River at Hopkinsville, Ky.....	56	77
						..Little River near Cadiz, Ky.....	57	78
						Cumberland River at Smithland, Ky.....	58	78

COMPILATION OF SURFACE WATER RECORDS, PART 3B

Bar chart of gaging-station records--Continued

Period of record						Gaging station	Map no.	Page no.
1900	1910	1920	1930	1940	1950			
						Tennessee River basin:		
						French Broad River (head of Tennessee River) at Rosman, N. C.	59	80
						French Broad River at Calvert, N. C.	60	81
						..Catheys Creek near Brevard, N. C.	61	82
						..Davidson River near Davidson River, N. C.	62	83
						..Davidson River near Brevard, N. C.	63	84
						..Little River near Penrose, N. C.	64	85
						..Crab Creek near Penrose, N. C.	65	86
						..Little River at Calhoun, N. C.	66	86
						French Broad River at Blantyre, N. C.	67	87
						French Broad River at Horseshoe, N. C.	68	88
						..Boylston Creek near Horseshoe, N. C.	69	88
						..South Fork Mills River at The Pink Beds, N. C.	70	89
						..South Fork Mills River near Sitton, N. C.	71	90
						..North Fork Mills River at Pinkbed, N. C.	72	91
						..Mills River near Mills River, N. C.	73	92
						Mud Creek:		
						..Clear Creek near Hendersonville, N. C.	74	93
						..Mud Creek at Naples, N. C.	75	94
						..Cane Creek at Fletcher, N. C.	76	95
						French Broad River at Bent Creek, N. C.	77	95
						..Hominy Creek at Candler, N. C.	78	97
						Swannanoa River:		
						..North Fork Swannanoa River near Black Mountain, N.C.	79	97
						..Swannanoa River at Swannanoa, N. C.	80	99
						..Beetree Creek near Swannanoa, N. C.	81	100
						..Swannanoa River at Azalea, N. C.	82	101
						..Swannanoa River at Biltmore, N. C.	83	102
						French Broad River at Asheville, N. C.	84	103
						..Sandymush Creek near Alexander, N. C.	85	105
						..Ivy River near Marshall, N. C.	86	106
						French Broad River at Marshall, N. C.	87	107
						..Big Laurel Creek near Stackhouse, N. C.	88	108
						French Broad River at Hot Springs, N. C.	89	109
						French Broad River near Newport, Tenn.	90	110
						..Pigeon River at Canton, N. C.	91	112
						Richland Creek:		
						..Allen Creek near Hazelwood, N. C.	92	113
						..Richland Creek at Waynesville, N. C.	93	114
						..Pigeon River near Crabtree, N. C.	94	114
						..Jonathan Creek near Cove Creek, N. C.	95	115
						..Pigeon River near Hepco, N. C.	96	116
						..Cataloochee Creek near Cataloochee, N. C.	97	117
						..Pigeon River near Mount Sterling, N. C.	98	118
						..Pigeon River at Hartford, Tenn.	99	119
						..Pigeon River at Newport, Tenn.	100	120
						..North Toe River (head of Nolichucky River) at Altapass, N. C.	101	122
						..North Toe River at Spruce Pine, N. C.	102	123
						..South Toe River at Newdale, N. C.	103	124
						..Cane River near Sioux, N. C.	104	125
						..Nolichucky River at Poplar, N. C.	105	126
						..North Indian Creek near Unicoi, Tenn.	106	128
						..Nolichucky River at Embreeville, Tenn.	107	128
						..Nolichucky River below Nolichucky Dam, Tenn.	108	130
						..Lick Creek at Mohawk, Tenn.	109	132
						..Nolichucky River near Morristown, Tenn.	110	132
						Douglas Lake near Sevierville, Tenn.	111	134
						French Broad River below Douglas Dam, Tenn.	112	134
						Little Pigeon River:		
						..West Fork Little Pigeon River near Pigeon Forge, Tenn.	113	136
						..Little Pigeon River at Sevierville, Tenn.	114	136
						French Broad River near Knoxville, Tenn.	115	138
						..South Fork Holston River at Riverside, near Chilhowie, Va.	116	138
						..South Fork Holston River near Chilhowie, Va.	117	140
						Laurel Creek:		
						..Beaverdam Creek at Damascus, Va.	118	140
						..South Fork Holston River at Vestal, Va.	119	141
						..Middle Fork Holston River at Groseclose, Va.	120	142
						..Middle Fork Holston River at Sevenmile Ford, Va.	121	142
						..Middle Fork Holston River at Chilhowie, Va.	122	143
						..Middle Fork Holston River near Meadowview, Va.	123	144
						..South Fork Holston River at Bluff City, Tenn.	124	145
						..Beaver Creek near Wallace, Va.	125	148
						..Beaver Creek at Bristol, Tenn.	126	148
						..Watauga River near Sugar Grove, N. C.	127	149
						..Watauga River at North Carolina-Tennessee State line	128	149
						..Watauga River at Stump Knob, Tenn.	129	150
						..Elk River near Banner Elk, N. C.	130	151
						..Elk River near Elk Park, N. C.	131	152
						..Roan Creek near Neva, Tenn.	132	153
						..Roan Creek at Butler, Tenn.	133	154

Bar chart of gaging-station records--Continued

Period of record						Gaging station	Map no.	Page no.
1900	1910	1920	1930	1940	1950			
						Tennessee River basin--Continued		
						French Broad River--Continued		
						South Fork Holston River--Continued		
						Watauga River at Butler, Tenn.	134	155
						Watauga Lake near Elizabethton, Tenn.	135	156
						Watauga River below Wilbur Dam, Tenn.	136	157
						Doe River at Blevins, Tenn.	137	158
						Doe River at Elizabethton, Tenn.	138	158
						Watauga River at Elizabethton, Tenn.	139	160
						Brush Creek at Johnson City, Tenn.	140	161
						South Fork Holston River at Kingsport, Tenn.	141	162
						North Fork Holston River near Saltville, Va.	142	163
						North Fork Holston River at Mendota, Va.	143	165
						North Fork Holston River near Gate City, Va.	144	166
						Holston River at Surgoinsville, Tenn.	145	167
						Big Creek near Rogersville, Tenn.	146	168
						Holston River near Rogersville, Tenn.	147	169
						Holston River near Morristown, Tenn.	148	171
						Mossy Creek at Jefferson City, Tenn.	149	171
						Cherokee Lake near Jefferson City, Tenn.	150	172
						Holston River near Jefferson City, Tenn.	151	172
						Holston River near Knoxville, Tenn.	152	173
						Tennessee River:		
						First Creek at Mineral Springs Avenue, at Knoxville, Tenn.	153	174
1899						First Creek at Fifth Avenue, at Knoxville, Tenn.	154	175
						Tennessee River at Knoxville, Tenn.	155	175
						Little River at Walland, Tenn.	156	178
						Little River near Walland, Tenn.	157	178
						Pistol Creek at Maryville, Tenn.	158	180
						Fort Loudoun Lake near Lenoir City, Tenn.	159	180
						Little Tennessee River near Prentiss, N. C.	160	181
						Cullasaja River at Highlands, N. C.	161	181
						Cullasaja River at Cullasaja, N. C.	162	183
						Little Tennessee River at Franklin, N. C.	163	184
						Little Tennessee River at Iotla, N. C.	164	185
						Little Tennessee River at Etna, N. C.	165	186
						Little Tennessee River at Needmore, N. C.	166	187
						Little Tennessee River at Almond, N. C.	167	188
						Nantahala River near Rainbow Springs, N. C.	168	189
						Nantahala Lake near Topton, N. C.	169	189
						Nantahala River at Nantahala, N. C.	170	190
						Nantahala River at Almond, N. C.	171	191
						Little Tennessee River at Judson, N. C.	172	192
						Tuckasegee River:		
						West Fork Tuckasegee River:		
						Thorpe Lake near Glenville, N. C.	173	195
						Tuckasegee River at Tuckasegee, N. C.	174	195
						Scott Creek above Sylva, N. C.	175	196
						Scott Creek at Sylva, N. C.	176	197
						Tuckasegee River at Dillsboro, N. C.	177	198
						Oconaluftee River at Cherokee, N. C.	178	200
						Oconaluftee River at Birdtown, N. C.	179	201
1897						Tuckasegee River at Bryson City, N. C.	180	202
						Noland Creek near Bryson City, N. C.	181	204
						Hazel Creek at Proctor, N. C.	182	205
						Fontana Lake at Fontana Dam, N. C.	183	206
						Little Tennessee River at Fontana Dam, N. C.	184	206
						Snowbird Creek near Robbinsville, N. C.	185	207
						Santeetlah Lake near Robbinsville, N. C.	186	208
						Cheoah River at Johnson, N. C.	187	209
						Cheoah River at Tapoco, N. C.	188	210
						Little Tennessee River at Calderwood, Tenn.	189	211
						Tellico River at Tellico Plains, Tenn.	190	213
						Tellico River near Vonore, Tenn.	191	214
						Little Tennessee River at McGhee, Tenn.	192	215
						Tennessee River at Loudon, Tenn.	193	217
						Clinch River at Cedar Bluff, Va.	194	218
						Clinch River at Richlands, Va.	195	219
						Little River at Wardell, Va.	196	219
						Thompson Creek near Coulwood, Va.	197	220
						Clinch River at Cleveland, Va.	198	220
						Guest River at Coeburn, Va.	199	222
						Stony Creek at Fort Blackmore, Va.	200	222
						Clinch River at Clinchport, Va.	201	223
						Copper Creek near Gate City, Va.	202	223
						Clinch River at Speers Ferry, Tenn.	203	224
						Clinch River above Tazewell, Tenn.	204	226
						Powell River at Big Stone Gap, Va.	205	228
						South Fork Powell River at Big Stone Gap, Va.	206	229
						North Fork Powell River at Pennington Gap, Va.	207	229
						Powell River near Pennington Gap, Va.	208	230

Bar chart of gaging-station records--Continued

Period of record						Gaging station	Map no.	Page no.
1900	1910	1920	1930	1940	1950			
						Tennessee River basin--Continued		
						Clinch River--Continued		
						...Powell River near Jonesville, Va.....	209	231
						...Powell River near Arthur, Tenn.....	210	232
						...Norris Lake at Norris Dam, Tenn.....	211	233
						...Clinch River below Norris Dam, Tenn.....	212	234
						...Coal Creek at Lake City, Tenn.....	213	236
						Hinds Creek:		
						...Buffalo Creek at Norris, Tenn.....	214	237
						...Clinch River near Scarboro, Tenn.....	215	237
						...Emory River near Wartburg, Tenn.....	216	238
						Obed River:		
						...Daddys Creek near Grassy Cove, Tenn.....	217	239
						...Daddys Creek near Crab Orchard, Tenn.....	218	240
						...Emory River at Deermont, Tenn.....	219	241
						...Emory River at Oakdale, Tenn.....	220	242
						...Whites Creek near Glen Alice, Tenn.....	221	243
						...Whites Creek at Glen Alice, Tenn.....	222	244
						...Piney River at Spring City, Tenn.....	223	245
						Watts Bar Lake near Spring City, Tenn.....	224	245
						...Sewee Creek near Decatur, Tenn.....	225	246
						Tennessee River at Breedenton, Tenn.....	226	247
						...Richland Creek near Dayton, Tenn.....	227	248
						...Hiwassee River at Presley, Ga.....	228	249
						...Hightower Creek near Presley, Ga.....	229	250
						...Shooting Creek near Hayesville, N. C.....	230	250
						...Chatuge Lake near Hayesville, N. C.....	231	251
						...Hiwassee River below Chatuge Dam, near Hayesville, N. C.....	232	252
1897						...Hiwassee River below Hayesville, N. C.....	233	253
						...Hiwassee River above Murphy, N. C.....	234	254
						...Valley River at Andrews, N. C.....	235	256
						...Valley River at Tomotla, N. C.....	236	257
						...Nottely River near Blairsville, Ga.....	237	259
						...Coosa Creek near Blairsville, Ga.....	238	259
						...Youngcane Creek near Youngcane, Ga.....	239	260
						...Ivylog Creek near Ivylog, Ga.....	240	260
						...Nottely River near Ivylog, Ga.....	241	261
						...Nottely Lake near Ivylog, Ga.....	242	262
						...Nottely River at Nottely Dam, near Ivylog, Ga.....	243	262
						...Nottely River near Ranger, N. C.....	244	263
						...Hiwassee Lake at Hiwassee Dam, N. C.....	245	265
						...Hiwassee River at Hiwassee Dam, N. C.....	246	266
						...Apalachia Lake at Apalachia Dam, N. C.....	247	267
						...Turtletown Creek at Turtletown, Tenn.....	248	267
						...Hiwassee River near McFarland, Tenn.....	249	268
						...Hiwassee River near Reliance, Tenn.....	250	269
						...Toccoa River (head of Ocoee River) near Dial, Ga.....	251	271
1898						...Blue Ridge Lake near Blue Ridge, Ga.....	252	273
						...Toccoa River near Blue Ridge, Ga.....	253	274
						...Ocoee River at Copperhill, Tenn.....	254	276
						...Fightingtown Creek at McCaysville, Ga.....	255	277
						...Davis Mill Creek at Copperhill, Tenn.....	256	278
						...North Potato Creek near Ducktown, Tenn.....	257	278
						...Ocoee River at McHarg, Tenn.....	258	279
						...Brush Creek near Ducktown, Tenn.....	259	281
						...Ocoee No. 3 Lake near Ducktown, Tenn.....	260	281
						...Ocoee River at Emf, Tenn.....	261	282
						...Parksville Lake at Parksville, Tenn.....	262	284
1898						...Ocoee River at Parksville, Tenn.....	263	285
						...Hiwassee River at Charleston, Tenn.....	264	286
						Chickamauga Lake near Chattanooga, Tenn.....	265	288
1874						...South Chickamauga Creek near Chickamauga, Tenn.....	266	288
						Tennessee River at Chattanooga, Tenn.....	267	289
						...Lookout Creek near Wildwood, Ga.....	268	293
						...Hales Bar Lake near Chattanooga, Tenn.....	269	293
						Tennessee River at Hales Bar, near Chattanooga, Tenn.....	270	294
						...Sequatchie River near Whitwell, Tenn.....	271	295
						...Little Sequatchie River at Sequatchie, Tenn.....	272	297
						Tennessee River near Scottsboro, Ala.....	273	297
						...Short Creek near Albertville, Ala.....	274	298
						Tennessee River at Guntersville, Ala.....	275	298
						Guntersville Lake near Guntersville, Ala.....	276	299
						...Paint Rock River near Woodville, Ala.....	277	300
						...Flint River near Chase, Ala.....	278	301
						Tennessee River at Whitesburg, Ala.....	279	302
						Indian Creek:		
						...Huntsville Spring at Huntsville, Ala.....	280	304
						...Elk River at Estill Springs, Tenn.....	281	304
						...Boiling Fork Creek at Cowan, Tenn.....	282	306
						...Boiling Fork Creek at Winchester, Tenn.....	283	306
						...East Fork Mulberry Creek at Lynchburg, Tenn.....	284	306
						...Elk River above Fayetteville, Tenn.....	285	307

Bar chart of gaging-station records--Continued

Period of record						Gaging station	Map no.	Page no.
1900	1910	1920	1930	1940	1950			
						Tennessee River basin--Continued		
						..Elk River near Fayetteville, Tenn.....	286	308
						...Richland Creek near Pulaski, Tenn.....	287	308
						..Elk River near Prospect, Tenn.....	288	309
						..Elk River near Rogersville, Ala.....	289	311
						Wheeler Lake at Wheeler Dam, Ala.....	290	312
						..Big Nance Creek at Courtland, Ala.....	291	313
						..Big Nance Creek at Red Bank, Ala.....	292	313
						..Shoal Creek above Little Shoal Creek, at Lawrenceburg, Tenn.....	293	314
						..Shoal Creek at Lawrenceburg, Tenn.....	294	314
						..Shoal Creek at Iron City, Tenn.....	295	315
1894						Wilson Lake near Florence, Ala.....	296	316
						Tennessee River at Florence, Ala.....	297	317
						..Cypress Creek near Florence, Ala.....	298	320
						Spring Creek:		
						...Tuscumbia Spring at Tuscumbia, Ala.....	299	321
						..Bear Creek near Red Bay, Ala.....	300	321
						..Bear Creek at Bishop, Ala.....	301	322
						Pickwick Lake at Pickwick Landing Dam, Tenn.....	302	323
						Tennessee River at Savannah, Tenn.....	303	324
						..Horse Creek near Savannah, Tenn.....	304	325
						Tennessee River at Perryville, Tenn.....	305	325
						..Duck River near Manchester, Tenn.....	306	326
						...Little Duck River at Manchester, Tenn.....	307	326
						..Duck River below Manchester, Tenn.....	308	327
						..Duck River at Normandy, Tenn.....	309	328
						..Duck River near Shelbyville, Tenn.....	310	329
						..Duck River at Columbia, Tenn.....	311	330
						..Big Bigby Creek at Cross Bridges, Tenn.....	312	331
						..Duck River at Centerville, Tenn.....	313	332
						...Piney River at Vernon, Tenn.....	314	334
						..Duck River near Hurricane Mills, Tenn.....	315	335
						...Hurricane Creek at Hurricane Mills, Tenn.....	316	336
						..Buffalo River near Flat Woods, Tenn.....	317	337
						...Buffalo River near Lobelville, Tenn.....	318	338
1871						Tennessee River near Johnsonville, Tenn.....	319	340
						Trace Creek at Waverly, Tenn.....	320	342
						..Big Sandy River at Bruceton, Tenn.....	321	343
						..Big Sandy River at Big Sandy, Tenn.....	322	344
						Tennessee River near Buchanan, Tenn.....	323	345
						Kentucky Lake at Gilbertsville, Ky.....	324	346
						Tennessee River near Paducah, Ky.....	325	346
						..East Fork Clarks River near Benton, Ky.....	326	347

CUMBERLAND RIVER BASIN

1. Poor Fork at Harlan-Letcher County line, Ky.

Location.--Lat 37°00'00", long. 82°54'35", at private bridge in Letcher County, 0.1 mile upstream from Harlan-Letcher County line, 3 miles northeast of Benham, and 6.2 miles upstream from Looney Creek.

Drainage area.--51.4 sq mi.

Gage.--Staff gage attached to upstream end of face of left abutment. Datum of gage is 1,506.35 ft above mean sea level.

Extremes.--1940-43: Maximum gage height, 13.85 ft, from floodmark, July 8, 1942 (discharge not determined); minimum discharge not determined.
Maximum stage known, about 15 ft in January 1918.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1940	-	-	-	-	-	-	172	22.5	64.1	110	61.8	12.8	-
1941	3.04	4.69	8.27	25.3	15.8	103	83.4	14.9	11.2	136	9.05	4.75	35.1
1942	2.38	4.93	27.6	52.6	63.9	236	28.8	61.3	109	298	242	14.1	99.2
1943	16.8	46.2	219	124	153	248	170	38.7	39.7	75.4	10.1	2.93	95.2

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1940	-	-	-	-	-	-	3.72	0.51	1.39	2.49	1.39	0.28	-
1941	0.07	0.10	0.19	0.57	0.32	2.30	1.81	.33	.24	3.04	.20	.10	9.27
1942	.05	.11	.62	1.18	1.70	5.30	.63	1.83	2.36	6.69	5.44	.31	26.21
1943	.38	1.00	4.90	2.78	3.10	5.57	3.70	.87	.86	1.69	.23	.06	25.14

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1940	923	81,810	Apr. 20, 1940	-	-	-	-	-	-
1941	923	735	Mar. 11, 1941	1.3	35.1	0.683	9.27	36.7	9.69
1942	953	-	July 8, 1942	.9	99.2	1.93	26.21	120	31.71
1943	973	3,720	Apr. 19, 1943	1.3	95.2	1.85	25.14	-	-

a Maximum during period March to September.

2. Poor Fork at Cumberland, Ky.

Location.--Lat 36°58'25", long. 82°59'35", at Second Street Bridge at Cumberland, Harlan County, 0.1 mile upstream from Cloverlick Creek and 0.5 mile downstream from Looney Creek.

Drainage area.--82.1 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,415.15 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--10 years (1940-50), 135 cfs.

Extremes.--1940-50: Maximum discharge, 7,500 cfs Jan. 7, 1946 (gage height, 9.65 ft), from rating curve extended above 2,900 cfs by logarithmic plotting; minimum, 2.1 cfs Oct. 8, 9, 1941.

Flood in January 1927 reached a stage about 0.5 ft higher than that of Jan. 7, 1946 (discharge, 12,000 cfs, estimated by Corps of Engineers). Flood of July 1939 reached a stage of 9.3 ft, from floodmarks.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1940	-	-	-	-	-	-	280	42.8	91.4	178	100	23.3	-
1941	7.14	10.6	18.8	51.7	26.8	153	130	26.7	19.8	235	18.6	8.59	59.4
1942	4.80	11.2	49.2	86.0	156	400	52.9	123	158	391	282	26.7	148
1943	36.0	73.8	336	189	238	365	257	63.0	57.9	84.9	15.7	8.01	145
1944	10.1	17.2	29.3	91.9	410	375	208	132	23.6	8.71	15.5	34.1	112
1945	61.6	69.3	169	275	341	209	168	153	222	36.0	35.0	17.4	145
1946	11.4	128	207	433	273	248	167	173	49.3	103	97.1	18.7	159
1947	23.9	29.9	81.1	441	107	227	169	65.4	95.0	75.8	159	22.1	125
1948	12.1	21.7	35.5	60.7	467	323	242	79.7	21.8	13.6	21.3	19.0	108
1949	6.53	115	206	259	215	244	216	135	32.5	*209	127	30.2	*150
1950	84.9	192	266	*553	*464	254	122	256	131	49.6	35.9	57.3	*204

* Revised.

CUMBERLAND RIVER BASIN

21

Monthly and yearly runoff, in inches, of Poor Fork at Cumberland, Ky.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1940	-	-	-	-	-	-	3.80	0.60	1.24	2.50	1.41	0.32	-
1941	0.10	0.14	0.26	0.73	0.34	2.15	1.77	.38	.27	3.30	.26	.12	9.82
1942	.07	.15	.69	1.21	1.98	5.61	.72	1.72	2.14	5.48	3.96	.36	24.09
1943	.51	1.00	4.73	2.65	3.01	5.41	3.49	.88	.79	1.19	.22	.11	23.99
1944	.14	.23	.41	1.29	5.38	5.27	2.83	1.85	.32	.12	.22	.46	18.52
1945	.87	.94	2.38	3.87	4.32	2.93	2.29	2.15	3.02	.51	.49	.24	24.01
1946	.16	1.73	2.91	6.08	3.46	3.48	2.27	2.43	.67	1.45	1.36	.25	26.25
1947	.34	.41	1.14	6.19	1.36	3.19	2.30	.92	1.29	1.06	2.24	.30	20.74
1948	.17	.30	.50	.85	6.14	4.53	3.29	1.12	.30	.19	.30	.26	17.95
1949	.09	1.57	2.90	3.63	2.73	3.43	2.93	1.89	.44	*2.94	1.78	.41	*24.74
1950	1.19	2.61	3.74	*7.76	*5.89	3.57	1.66	3.59	1.78	.70	.50	.78	*33.77

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1940	893	a2,540	Apr. 20, 1940	-	-	-	-	-	-
1941	923	1,180	Mar. 11, 1941	3.8	59.4	0.724	9.82	61.8	10.23
1942	953	6,860	July 8, 1942	3.0	146	1.78	24.09	178	29.42
1943	973	4,220	Apr. 19, 1943	5.6	145	1.77	23.99	112	18.53
1944	1003	4,890	Feb. 17, 1944	4.3	112	1.36	18.52	132	21.93
1945	1033	2,820	Feb. 17, 1945	8.5	145	1.77	24.01	149	24.62
1946	1053	7,500	Jan. 7, 1946	7.0	159	1.94	26.25	141	23.34
1947	1083	2,820	Jan. 20, 1947	12	152	1.52	20.74	120	19.82
1948	1113	5,310	Feb. 14, 1948	2.5	108	1.32	17.95	130	21.84
1949	1143,1336	*3,640	Mar. 18, 1949	3.0	*150	*1.83	*24.74	*168	*27.72
1950	1173,1336	*4,390	Jan. 30, 1950	14	*204	*2.48	*33.77	-	-

* Revised.

a Maximum during period March to September.

3. Cumberland River near Harlan, Ky.

Location.--Lat 36°50'55", long. 83°21'20", on U. S. Highway 119 at Loyall, 1.6 miles upstream from Fourmile Branch, 2.0 miles downstream from confluence of Poor and Clover Forks, and 2 miles west of Harlan, Harlan County.

Drainage area.--374 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,140.10 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Mar. 4, 1941, staff gage at same site and datum.

Average discharge.--10 years (1940-50), 632 cfs.

Extremes.--1940-50: Maximum discharge, 37,900 cfs Jan. 8, 1946 (gage height, 22.81 ft); minimum, 6 cfs Oct. 16, 1948; minimum gage height, 0.41 ft July 31, 1944.

Floods of 1918 and 1929 reached stages of about 22 and 20.0 ft, respectively, from information by local residents.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1940	-	-	-	-	-	-	1,349	254	383	672	288	72.5	-
1941	19.6	38.6	95.1	253	105	625	545	119	141	1,414	94.8	36.4	293
1942	25.1	57.1	186	340	756	1,730	222	400	380	1,357	1,202	170	571
1943	243	404	1,895	1,041	1,064	1,799	1,175	240	154	191	113	29.8	695
1944	44.8	85.3	145	401	2,333	2,048	949	403	80.2	21.4	42.3	148	551
1945	159	254	699	1,298	1,691	887	767	910	786	106	143	47.9	639
1946	46.7	538	911	2,298	1,530	1,024	595	712	181	251	344	91.1	707
1947	182	243	514	2,488	1,047	798	384	836	783	569	78.0		705
1948	40.8	116	195	320	2,316	1,659	1,136	267	76.0	63.5	75.9	49.8	519
1949	13.4	538	988	1,608	1,108	1,184	1,201	616	138	791	383	75.8	720
1950	258	567	1,230	2,707	2,096	1,064	523	1,262	709	348	142	130	915

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1940	-	-	-	-	-	-	4.03	0.78	1.14	2.07	0.89	0.22	-
1941	0.06	0.12	0.29	0.78	0.29	1.93	1.63	.37	.42	4.36	.29	.11	10.65
1942	.08	.17	.57	1.05	2.10	5.33	.66	1.23	1.13	4.18	3.71	.51	20.72
1943	.75	1.21	5.64	3.21	2.96	5.54	3.50	.74	.46	.59	.35	.09	25.24
1944	.14	.25	.45	1.24	6.73	6.31	2.83	1.24	.24	.07	.13	.44	20.07
1945	.49	.76	2.16	4.00	4.71	2.74	2.29	2.80	2.35	.33	.44	.14	23.21
1946	.14	1.61	2.81	7.08	4.26	3.16	1.78	2.19	.54	.78	1.06	.27	25.68
1947	.50	.73	1.58	7.66	1.44	3.23	2.37	1.19	2.49	2.41	1.76	.23	25.59
1948	.13	.34	.60	.99	6.08	5.11	3.39	.62	.23	.20	.23	.15	18.87
1949	.04	1.60	3.05	4.96	3.69	3.65	3.58	1.90	.41	2.44	1.18	.23	26.13
1950	.79	1.69	3.79	8.34	5.84	3.28	1.56	3.89	2.11	1.07	.44	.39	33.19

CUMBERLAND RIVER BASIN

Yearly discharge, in cubic feet per second, of Cumberland River near Harlan, Ky.									
Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1940	893	210,500	Apr. 20, 1940	-	-	-	-	-	-
1941	923	8,140	July 4, 1941	13	293	0.783	10.65	303	11.00
1942	953	11,000	Mar. 17, 1942	13	571	1.53	20.72	763	27.70
1943	973	15,600	Apr. 19, 1943	14	695	1.86	25.24	504	18.28
1944	1003	27,700	Feb. 17, 1944	6.7	551	1.47	20.07	622	22.64
1945	1033	10,800	Feb. 17, 1945	18	639	1.71	23.21	671	24.36
1946	1053	37,900	Jan. 8, 1946	22	707	1.89	25.68	659	23.93
1947	1083	20,400	June 28, 1947	31	705	1.89	25.59	657	23.85
1948	1113	25,500	Feb. 14, 1948	7	519	1.39	18.87	618	22.49
1949	1143	14,200	Jan. 5, 1949	6	720	1.93	26.13	763	27.71
1950	1173	18,100	Jan. 30, 1950	28	915	2.45	33.19	-	-

a Maximum during period March to September.

4. Yellow Creek near Middlesboro, Ky.

Location.--Lat 36°39'05", long. 83°42'05", 0.4 mile upstream from Browne Branch, 3 miles north of Middlesboro, Bell County, and 5.2 miles upstream from Clear Fork.

Drainage area.--59.9 sq mi.

Supplemental records available.--Records of once-weekly water temperatures for period October 1949 to September 1950 are published in reports of Geological Survey.

Gage.--Water-stage recorder and concrete control. Datum of gage is 1,104.20 ft above mean sea level, Stange Hook datum. Prior to Jan. 7, 1941, staff gage at same site and datum.

Average discharge.--10 years (1940-50), 98.8 cfs.

Extremes.--1940-50: Maximum discharge, 6,160 cfs Jan. 7, 1946 (gage height, 20.92 ft); minimum daily, 1.6 cfs Aug. 11, 12, 1944.

Flood of March 1929 reached a stage of about 19.6 ft; flood of Feb. 3, 1939 reached a stage of 18.5 ft, from floodmarks.

Monthly and yearly mean discharge, in cubic feet per second													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1940	-	-	-	-	-	-	-	-	-	-	-	5.48	-
1941	3.45	5.35	25.4	28.8	14.9	91.1	130	17.2	16.4	193	52.9	9.81	49.5
1942	4.91	9.17	35.1	63.7	144	275	37.0	29.9	34.4	102	197	22.6	79.6
1943	17.5	31.9	315	144	174	254	200	77.8	59.4	27.3	14.5	6.51	110
1944	11.9	13.9	29.8	61.9	361	284	170	54.0	17.4	4.26	17.2	56.9	88.9
1945	24.5	45.3	94.0	209	279	132	152	127	105	25.2	24.9	7.51	101
1946	5.16	60.9	131	397	234	144	76.9	91.7	78.1	33.2	36.2	29.8	109
1947	65.7	66.3	95.2	449	76.2	151	116	67.6	30.0	174	105	8.91	118
1948	6.36	15.4	26.7	52.9	419	244	106	27.1	17.8	13.5	21.2	7.46	78.4
1949	4.74	143	152	321	175	185	165	70.7	14.1	94.1	14.6	6.40	112
1950	26.9	35.6	159	454	394	180	66.0	192	119	38.2	24.4	16.7	142

Monthly and yearly runoff, in inches													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1940	-	-	-	-	-	-	-	-	-	-	-	0.10	-
1941	0.07	0.10	0.49	0.55	0.26	1.75	2.43	0.33	0.31	3.72	1.02	.18	11.21
1942	.09	.17	.67	1.23	2.50	5.30	.69	.57	.64	1.97	3.79	.42	18.04
1943	.34	.59	6.06	2.77	3.02	4.90	3.72	1.50	1.11	.53	.28	.12	24.94
1944	.23	.26	.57	1.19	6.50	5.47	3.16	1.04	.32	.08	.33	1.06	20.21
1945	.47	.84	1.81	4.02	4.85	2.54	2.83	2.44	1.96	.49	.48	.14	22.87
1946	.10	1.14	2.52	7.64	4.08	2.77	1.43	1.77	1.46	.64	.70	.56	24.81
1947	1.26	1.24	1.83	8.64	1.33	2.90	2.16	1.30	.56	3.34	2.03	.17	26.76
1948	.12	.29	.51	1.02	7.55	4.69	1.97	.52	.33	.26	.41	.14	17.61
1949	.09	2.66	2.93	6.18	3.04	3.56	3.07	1.36	.26	1.81	.28	.12	25.36
1950	.52	.66	3.06	8.92	6.85	3.47	1.23	3.70	2.21	.74	.47	.31	32.14

Yearly discharge, in cubic feet per second									
Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1940	923	-	-	-	-	-	-	-	-
1941	923	2,200	Apr. 4, 1941	2.3	49.5	0.826	11.21	50.7	11.48
1942	953	2,790	Mar. 17, 1942	2.3	79.6	1.33	18.04	106	24.10
1943	973	2,880	Dec. 30, 1942	2.9	110	1.84	24.94	85.9	19.01
1944	1003	3,660	Feb. 17, 1944	1.6	88.9	1.48	20.21	98.0	22.27
1945	1033	1,790	Jan. 1, 1945	4.3	101	1.69	22.87	104	23.51
1946	1053	6,160	Jan. 7, 1946	3.4	109	1.82	24.81	112	25.38
1947	1083	3,080	Jan. 20, 1947	5.1	118	1.97	26.76	103	23.35
1948	1113	3,820	Feb. 14, 1948	3.4	78.4	1.31	17.81	99.3	22.57
1949	1143	3,480	Jan. 5, 1949	2.9	112	1.87	25.36	106	23.92
1950	1173	3,970	Jan. 30, 1950	6.0	142	2.37	32.14	-	-

5. Cumberland River at Pineville, Ky.

Location.--Lat 36°44'48", long. 83°41'34", 300 ft upstream from highway bridge, 300 ft downstream from Clear Creek, and 1 mile south of Pineville, Bell County.

Drainage area.--692 sq mi.

Gage.--Staff gage. Datum of gage is 984.28 ft above mean sea level.

Extremes.--1929-31: Maximum discharge, 23,400 cfs Apr. 22, 1931 (gage height, 17.76 ft, from graph based on gage readings); minimum, 7.3 cfs on Oct. 7, 1930 (gage height, 0.60 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1930	*138	2,240	1,280	827	1,880	1,840	727	785	93.5	50.9	29.5	15.5	*818
1931	12.0	79.6	266	557	1,040	1,280	2,980	1,250	280	346	641	138	735

* Not previously published; estimated on the basis of records for station at Barbourville.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1930	*0.23	3.62	2.13	1.38	2.83	3.07	1.17	1.30	0.15	0.09	0.05	0.02	*16.04
1931	0.02	.13	.44	.93	1.56	2.13	4.81	2.09	.45	.58	1.07	.22	14.43

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1930	698	*16,100	Nov. 18, 1929	9.2	*818	*1.18	*16.04	543	10.65	
1931	713	23,400	Apr. 22, 1931	7.3	735	1.06	14.43	-	-	

* Revised.

* Not previously published.

6. Cumberland River near Pineville, Ky.

Location (revised).--Lat 36°48'49" long. 83°45'56", at bridge on U. S. Highway 25E, 0.5 mile south of Flat Lick, 2.4 miles downstream from Greasy Creek, 4.7 miles upstream from Stinking Creek, and 5.0 miles northwest of Pineville, Bell County.

Drainage area.--822 sq mi.

Gage.--Water-stage recorder. Datum of gage is 955.45 ft above mean sea level, Sandy Hook datum. Prior to June 23, 1939, wire-weight gage at same site and datum. Since May 26, 1943, auxiliary staff gage 1.9 miles upstream at Kentucky Utilities Co. powerplant.

Average discharge.--12 years (1938-50), 1,255 cfs.

Extremes.--1938-50: Maximum discharge, 57,900 cfs Jan. 8, 1946 (gage height, 49.31 ft), from rating curve extended above 36,000 cfs on basis of slope-area determinations at gage heights 44.34, 47.3, and 49.31 ft; minimum, 6.1 cfs Sept. 17, 1939 (gage height, 4.78 ft).
Flood of 1929 reached a stage of 47.3 ft (discharge, 51,000 cfs).

Remarks.--Low flow regulated by powerplant, 1.9 miles upstream from station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1938	-	-	-	-	-	-	-	-	-	-	-	180	-
1939	57.6	422	1,134	2,044	5,789	2,465	2,031	558	339	800	93.8	25.1	1,285
1940	24.4	31.5	86.1	120	1,265	2,542	3,112	631	1,125	1,248	334	131	883
1941	32.4	56.5	21.9	425	205	1,333	1,487	242	316	3,076	296	91.0	654
1942	42.1	120	399	597	1,666	3,666	485	710	479	1,806	2,098	272	1,039
1943	345	653	4,086	1,968	2,252	3,595	2,437	629	333	299	241	47.7	1,403
1944	104	200	501	760	4,428	4,238	2,173	745	141	32.1	75.2	390	1,119
1945	338	484	1,231	2,601	3,370	1,915	1,759	1,834	1,337	203	295	69.7	1,273
1946	71.0	994	1,807	4,705	3,273	2,133	1,361	1,369	588	593	669	232	1,476
1947	476	610	1,057	5,366	1,145	2,085	1,633	897	2,162	1,761	1,554	168	1,586
1948	77.8	218	599	674	5,040	3,539	2,079	429	171	135	194	79.9	1,070
1949	31.8	1,175	1,953	3,445	2,358	2,452	2,458	987	221	1,351	476	123	1,414
1950	308	847	2,313	5,330	5,250	2,175	966	2,471	1,664	711	271	226	1,860

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1938	-	-	-	-	-	-	-	-	-	-	-	0.24	-
1939	0.08	0.57	1.59	2.87	7.33	3.49	2.76	0.78	0.46	1.12	0.13	.03	21.21
1940	.03	.04	.12	.17	1.66	3.56	4.22	.89	1.53	1.75	.47	.18	14.62
1941	.05	.08	.31	.60	.26	1.87	2.02	.34	.43	4.31	.42	.12	10.81
1942	.06	.16	.56	.98	2.11	5.14	.66	1.00	.65	2.53	2.94	.37	17.16
1943	.48	.86	5.73	2.76	2.85	5.04	3.31	.88	.43	.42	.34	.06	23.16
1944	.15	.27	.42	1.07	5.81	5.94	2.95	1.05	.19	.04	.11	.53	18.53
1945	.47	.66	1.73	3.65	4.27	2.68	2.39	2.57	1.81	.28	.41	.09	21.01

CUMBERLAND RIVER BASIN

Monthly and yearly runoff, in inches, of Cumberland River near Pineville, Ky.--Continued													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1946	0.10	1.35	2.53	6.60	4.15	2.99	1.85	1.92	0.80	0.83	0.94	0.31	24.57
1947	.67	.85	1.48	7.53	1.45	2.92	2.22	1.26	2.93	2.50	2.18	.23	26.20
1948	.11	.30	.56	.95	6.81	4.96	2.82	.60	.23	.19	.27	.11	17.71
1949	.04	1.59	2.74	4.83	2.99	3.44	3.34	1.38	.30	1.87	.67	.17	23.36
1950	.43	1.15	3.24	7.47	6.65	3.05	1.31	3.47	2.26	1.00	.38	.31	30.72

Yearly discharge, in cubic feet per second									
Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1938	853	-	-	-	-	-	-	-	-
1939	873,1053	41,600	Feb. 3, 4, 1939	7.3	1,285	1.56	21.21	1,161	19.16
1940	893	18,900	Apr. 20, 1940	9.8	883	1.07	14.62	897	14.87
1941	923	18,200	July 5, 1941	24	654	.795	10.81	675	11.15
1942	953	22,800	Mar. 17, 1942	19	1,039	1.26	17.16	1,420	23.45
1943	973	30,500	Dec. 30, 1942	15	1,403	1.71	23.16	1,025	16.93
1944	1003	35,700	Feb. 18, 1944	12	1,119	1.36	18.55	1,241	20.55
1945	1033	15,300	Feb. 18, 1945	22	1,273	1.55	21.01	1,342	22.13
1946	1053	57,900	Jan. 8, 1946	33	1,476	1.80	24.37	1,415	23.37
1947	1083	36,100	June 28, 1947	74	1,586	1.93	26.20	1,464	24.19
1948	1113	36,000	Feb. 14, 1948	17	1,070	1.30	17.71	1,276	21.11
1949	1143	21,900	Jan. 6, 1949	13	1,414	1.72	23.36	1,442	23.81
1950	1173	31,500	Jan. 31, 1950	60	1,860	2.26	30.72	-	-

† Corrected.

7. Cumberland River at Barbourville, Ky.

Location (revised).--Lat 36°51'45", long. 83°53'13", at bridge on State Highway 11, at Barbourville, Knox County, 0.4 mile upstream from Richland Creek.

Drainage area.--972 sq mi.

Supplemental records available.--Records of chemical analyses for the period October 1949 to August 1950, and water temperature for the year October 1949 to September 1950 are published in reports of the Geological Survey.

Gage.--Wire-weight gage and crest-stage indicator. Datum of gage is 943.23 ft above mean sea level, Sandy Hook datum. Prior to Oct. 1, 1931, staff or chain gage at same site, and at datum 1.0 ft higher.

Average discharge.--11 years (1922-31, 1948-50), 1,767 cfs.

Extremes.--1922-31, 1948-50: Maximum discharge (revised), 47,900 cfs May 31, 1927 (gage height, 35.0 ft, datum then in use), from rating curve extended above 21,000 cfs on the basis of logarithmic plotting; maximum gage height, 39.2 ft Mar. 24, 1929, datum then in use; minimum discharge observed, 0.2 cfs Oct. 5, 1930 (gage height, -0.25 ft, datum then in use).

Flood of January 1946 reached a stage of 42.8 ft, present datum.

Monthly and yearly mean discharge, in cubic feet per second													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1923	24.3	43.7	2,070	3,170	5,680	5,080	1,690	2,390	783	510	309	86.3	1,800
1924	22.4	113	1,670	4,780	2,760	2,380	1,950	2,850	1,720	672	154	466	1,630
1925	342	335	2,560	3,050	3,820	1,520	1,370	1,280	887	364	27.0	24.8	1,280
1926	895	2,670	878	2,300	3,900	1,950	1,390	2,140	444	305	1,110	677	1,540
1927	623	2,570	*9,400	2,350	5,300	2,950	4,360	3,410	*2,450	332	517	151	*2,850
1928	44.7	492	2,250	2,170	1,600	2,860	4,520	2,770	2,750	990	721	1,030	1,930
1929	660	*5,670	1,150	4,550	3,250	*7,670	2,450	4,820	541	919	158	203	*2,510
1930	179	5,070	1,650	1,120	2,760	2,430	983	888	121	62.8	30.3	15.8	1,100
1931	13.9	80.4	279	649	1,240	1,710	3,950	1,400	320	419	709	170	907
1948	-	-	-	-	-	-	*2,481	*515	*204	212	226	87.0	-
1949	36.1	234	2,182	4,260	2,683	3,086	3,005	1,146	249	424	500	142	1,659
1950	312	951	2,720	6,224	*6,892	2,408	1,108	2,909	2,022	909	344	308	*2,234

* Revised.

† Not previously published; estimated on the basis of records for station near Pineville.

Monthly and yearly runoff, in inches													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1923	0.03	0.05	2.46	3.76	6.08	6.02	1.94	2.84	0.90	0.61	0.37	0.10	25.12
1924	.03	.13	1.98	5.67	3.06	2.83	2.23	3.38	1.98	.80	.18	.54	22.81
1925	.41	.38	3.03	3.62	4.09	1.80	1.57	1.52	1.02	.43	.03	.03	17.93
1926	1.06	3.07	1.04	2.72	4.17	2.32	1.59	2.54	.51	.36	1.32	.78	21.48
1927	.74	2.95	*11.15	2.79	5.67	3.50	5.00	4.04	*2.81	.39	.61	.17	*39.82
1928	.06	.57	2.67	2.58	1.77	3.39	5.18	2.26	3.15	2.36	.85	1.19	27.04
1929	.78	*4.21	1.36	5.39	3.48	*9.10	2.82	5.72	.62	1.09	.19	.23	*34.99
1930	.21	3.53	1.95	1.33	2.95	2.88	1.13	1.05	.14	.07	.04	.02	15.30
1931	.02	.09	.33	.77	1.33	2.02	4.54	1.66	.37	.50	.84	.19	12.66
1948	-	-	-	-	-	-	*2.85	*.61	*.23	.25	.27	.10	-
1949	.04	1.42	2.59	5.05	2.87	3.66	5.45	1.36	.29	1.69	.59	.16	23.17
1950	.37	1.09	3.23	7.38	*7.38	2.86	1.27	3.45	2.32	1.08	.41	.35	*31.19

* Revised.

† Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second, of Cumberland River at Barbourville, Ky.

Yearly discharge, in cubic feet per second, of Cumberland River at Knoxville, Ky.									
Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1923	563, 603	28,200	Feb. 4, 1923	18'	1,800	1.85	25.12	1,770	24.76
1924	583, 603	*21,100	Jan. 4, 1924	17	1,630	1.68	22.81	1,750	24.49
1925	603	27,400	Dec. 9, 1924	4.4	1,280	1.32	17.93	1,380	19.28
1926	623	21,100	May 16, 1926	13	1,540	1.58	21.48	*2,230	*31.15
1927	643, 1336	*47,900	May 31, 1927	35	*2,850	*2.93	*39.82	*2,030	*28.27
1928	663	18,200	June 30, 1928	21	1,930	1.99	27.04	*2,150	*30.10
1929	683, 1336	*46,300	Mar. 23, 1929	47	*2,510	*2.58	*34.99	*2,460	*34.33
1930	698	18,500	Nov. 18, 1929	5	1,100	1.13	15.30	720	10.05
1931	713	23,100	Apr. 23, 1931	.5	907	.933	12.66	-	-
1948	1113	-	-	-	-	-	-	-	-
1949	1143	24,000	Jan. 6, 1949	14	1,659	1.71	23.17	1,705	23.81
1950	1173, 1336	*34,000	Feb. 2, 1950	72	*2,234	2.30	*31.19	-	-

* Revised.

8. Cumberland River at Cumberland Falls, Ky.

Location.--Lat 36°50'14", long. 84°20'36", on left bank 700 ft downstream from bridge on State Highway 90 and 1,200 ft upstream from Cumberland Falls, Whitley County.

Drainage area.--1,997 sq mi.

Gage.--Water-stage recorder. Datum of gage is 825.49 ft above mean sea level, Sandy Hook datum. Aug. 15, 1907, to Dec. 10, 1911, staff gage at site 300 ft downstream at different datum. Apr. 3, 1915, to Sept. 1, 1933, staff gage at site 500 ft downstream from present site at present datum.

Average discharge.--40 years (1907-11, 1914-50), 3,133 cfs.

Extremes.--1907-11, 1914-50: Maximum discharge, 59,600 cfs Jan. 28, 1918 (gage height, 15.5 ft, present site and datum); minimum, 8.5 cfs Sept. 19, 20, 1932 (gage height, 0.97 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	-	-	-	2,410	-
1908	610	4,280	2,250	4,940	8,530	8,470	7,220	3,230	501	1,120	284	443	3,470
1909	66.1	230	2,470	5,570	10,800	10,700	6,810	3,400	4,580	4,930	1,870	167	4,240
1910	169	263	863	5,830	4,980	2,420	4,510	6,620	3,240	4,020	2,030	2,490	3,110
1911	501	362	2,270	7,670	6,920	6,900	9,210	4,940	599	1,010	840	340	3,440
1912	1,510	2,360	-	-	-	-	-	-	-	-	-	-	-
1915	2,200	*285	*5,600	*7,700	*5,100	*3,050	1,210	2,290	2,910	3,300	2,600	993	*3,110
1916	3,180	4,940	10,500	9,680	4,350	4,350	3,020	1,030	1,780	1,350	2,110	297	3,900
1917	656	276	3,180	10,700	7,080	18,500	3,390	1,010	752	1,830	1,070	484	4,080
1918	692	428	599	10,200	5,400	3,340	5,960	4,180	1,010	919	299	537	2,790
1919	1,270	2,170	3,350	8,650	2,720	5,530	2,610	4,480	818	214	309	*67.5	2,700
1920	5,410	4,770	5,600	9,370	5,920	8,060	6,150	1,990	2,000	996	2,990	2,450	4,470
1921	247	966	4,300	4,280	5,720	3,740	5,130	1,620	407	797	1,380	771	2,430
1922	343	2,570	3,580	4,770	8,390	12,300	7,020	4,290	1,520	1,390	395	172	13,870
1923	62.7	77.7	4,270	5,940	9,590	10,100	3,480	4,250	1,500	1,090	772	185	3,420
1924	49	119	2,640	8,800	5,000	4,300	3,380	5,410	3,160	400	271	913	2,950
1925	696	702	4,410	5,900	7,210	3,080	2,550	2,350	1,020	627	37.3	23.0	2,360
1926	1,370	4,220	1,740	3,930	6,840	3,580	3,170	3,860	848	521	3,170	1,860	2,900
1927	1,290	4,840	17,600	4,180	9,950	6,300	7,650	4,390	4,430	656	1,170	226	5,200
1928	50.1	1,360	3,880	4,350	2,920	4,930	9,040	5,360	6,490	3,680	1,030	1,520	3,730
1929	1,360	5,420	2,190	8,050	5,710	15,600	4,260	8,920	1,030	1,340	326	355	4,550
1930	255	5,620	2,970	2,460	5,350	4,560	1,990	1,480	267	140	83.9	76.3	2,080
1931	30.8	131	630	1,300	2,220	3,200	6,780	2,410	550	785	1,260	267	1,620
1932	*98	*102	*5,500	*6,900	*10,900	*4,200	*4,900	*1,700	*1,450	*2,160	110	24.0	*3,140
1933	391	1,470	4,050	7,600	8,580	6,080	4,130	4,360	468	202	674	772	3,220
1934	47.8	55.0	574	2,198	2,535	13,950	3,818	800	581	636	1,085	246	2,219
1935	577	896	728	4,992	5,054	14,030	6,302	5,408	3,041	1,473	495	93.9	3,754
1936	25.8	1,037	1,455	5,890	4,148	9,537	7,824	417	103	96.3	61.9	160	2,557
1937	130	487	2,498	17,570	6,670	2,609	2,817	3,741	3,165	580	793	366	3,445
1938	777	595	2,243	5,349	4,632	5,720	5,829	3,370	3,123	3,66	2,098	455	3,039
1939	99.3	1,419	2,592	4,640	15,740	5,975	5,030	1,120	768	148	212	37.4	3,174
1940	35.7	44.2	141	285	2,036	5,465	7,102	1,627	2,556	909	475	181	1,906
1941	58.0	96.0	462	946	462	2,783	3,737	522	694	379	560	239	1,423
1942	64.9	283	1,015	1,532	3,725	6,824	1,048	1,204	686	252	4,171	458	1,963
1943	525	1,652	8,460	5,198	5,202	8,870	5,743	1,528	699	468	468	103	3,242
1944	151	433	635	1,860	9,100	10,930	5,661	1,737	260	47.5	141	920	2,630
1945	847	1,029	2,521	6,733	8,045	4,828	3,706	4,284	2,490	422	522	89.6	2,930
1946	80.3	1,786	3,762	11,090	7,399	5,338	2,602	2,753	1,703	1,136	1,103	509	3,255
1947	1,006	1,368	2,096	12,020	3,096	4,707	3,551	2,314	1,794	288	2,241	233	3,238
1948	98.1	272	666	1,239	11,190	7,930	4,108	777	308	387	520	104	2,263
1949	42.9	2,316	5,103	8,734	5,548	5,928	5,909	2,292	384	1,139	783	212	3,276
1950	314	1,397	4,431	11,810	13,460	4,622	2,082	6,156	3,972	1,747	601	686	4,222

* Revised.

† Corrected.

* Not previously published; estimated or partly estimated on basis of records for station at Burnside.

CUMBERLAND RIVER BASIN

Monthly and yearly runoff, in inches, of Cumberland River at Cumberland Falls, Ky.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	-	-	-	1.34	-
1908	0.35	2.39	1.30	2.85	4.61	4.89	4.03	1.86	0.28	0.65	0.16	.25	23.62
1909	.04	.13	1.42	3.22	5.64	5.99	3.81	1.96	2.56	2.85	1.08	.09	28.79
1910	.10	.15	.50	3.37	2.60	1.40	2.52	3.82	1.81	2.32	1.17	1.59	21.15
1911	.29	.20	1.31	4.43	3.61	3.98	5.15	2.85	.33	.58	.48	.19	23.40
1912	.87	1.32	-	-	-	-	-	-	-	-	-	-	-
1915	*1.27	*.16	*3.23	*4.45	*2.66	*1.76	.67	1.32	1.63	1.91	1.50	.55	*21.11
1916	1.83	2.76	6.07	5.59	2.35	2.51	1.69	.60	.99	.78	1.22	.17	26.56
1917	.38	.15	1.84	6.20	3.69	10.68	1.89	.58	.42	1.06	.62	.27	27.78
1918	.40	.24	.35	5.90	2.81	1.93	3.33	2.41	.56	.53	.17	.30	18.93
1919	.72	1.21	1.93	4.99	1.42	3.19	1.46	2.59	.46	.12	.18	.04	18.31
1920	1.97	2.66	3.23	5.41	3.19	4.65	3.44	1.15	1.12	.58	1.73	1.37	30.50
1921	.14	.54	2.48	2.47	2.98	2.16	2.87	.94	.23	.46	.80	.43	16.50
1922	.20	1.43	2.07	2.75	4.37	7.12	3.92	2.47	.85	.80	.23	.10	26.31
1923	.04	.04	2.47	3.43	5.00	5.83	1.94	2.45	.64	.63	.45	.10	23.22
1924	.03	.07	1.52	5.08	2.70	2.48	1.89	3.12	1.76	.81	.16	.51	20.12
1925	.40	.39	2.55	3.41	3.76	1.78	1.42	1.36	.57	.36	.02	.01	16.03
1926	.79	2.36	1.00	2.27	3.57	2.07	1.77	2.23	.47	.30	1.83	1.04	19.70
1927	.74	2.71	10.17	2.41	5.19	3.64	4.27	2.53	2.47	.38	.68	.13	35.32
1928	.03	.76	2.24	2.51	1.58	2.85	5.05	3.10	5.63	2.23	.59	.85	25.42
1929	.78	3.03	1.27	4.65	2.98	8.99	2.38	5.15	.58	.77	.19	.20	30.97
1930	.15	3.14	1.71	1.42	2.79	2.63	1.11	.86	.15	.08	.05	.04	14.13
1931	.02	.07	.36	.75	1.16	1.85	3.79	1.39	.31	.45	.73	.15	11.03
1932	*.06	*.06	*3.17	*3.98	*5.89	*2.42	*2.74	*.98	*.81	*1.24	.06	.01	*21.42
1933	.23	.82	2.34	4.39	4.47	3.51	2.31	2.52	.26	.12	.50	.43	21.90
1934	.03	.03	.33	1.27	1.32	8.06	2.13	.46	.32	.37	.63	.14	15.09
1935	.33	.50	.42	2.88	2.64	8.10	4.64	3.12	1.70	.85	.29	.05	25.52
1936	.01	.58	.84	3.40	2.24	5.51	4.37	.24	.06	.06	.04	.09	17.44
1937	.08	.27	1.44	10.15	3.48	1.51	1.57	2.16	1.77	.33	.46	.20	23.42
1938	.45	.33	1.29	3.09	2.42	3.30	3.26	1.95	1.74	1.37	1.21	.25	20.66
1939	.06	.79	1.50	2.68	8.21	3.45	2.81	.65	.43	.86	.12	.02	21.58
1940	.02	.02	.08	.16	1.10	3.15	3.97	.94	1.43	1.74	.27	.10	12.98
1941	.04	.05	.27	.55	.24	1.61	2.09	.30	.39	3.68	.32	.13	9.67
1942	.04	.16	.59	.88	1.94	3.94	.59	.69	.38	1.48	2.41	.24	13.34
1943	.30	.92	4.98	3.00	2.71	5.12	3.21	.86	.39	.27	.28	.06	22.02
1944	.09	.24	.37	1.07	4.91	6.51	3.16	1.00	.15	.03	.08	.51	17.92
1945	.49	.57	1.46	3.89	4.19	2.79	2.07	2.47	1.39	.24	.30	.05	19.91
1946	.05	1.00	2.17	6.40	3.86	3.08	1.45	1.59	.95	.66	.64	.28	22.13
1947	.58	.76	1.21	6.94	1.62	2.72	1.98	1.34	.97	2.48	1.29	.13	22.02
1948	.06	.15	.38	.72	6.04	4.58	2.29	.45	.17	.22	.30	.06	15.42
1949	.02	1.29	2.95	5.04	2.89	3.42	3.30	1.32	.21	1.23	.45	.12	22.24
1950	.18	.78	2.56	6.82	7.02	2.67	1.16	3.55	2.22	1.01	.35	.38	28.70

* Not previously published; estimated or partly estimated on basis of records for station at Burnside.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1907	453	-	-	-	-	-	-	-	-
1908	453	-	-	58	3,470	1.74	23.62	3,110	21.17
1909	453	-	-	55	4,240	2.12	28.79	4,110	27.95
1910	453	-	-	100	3,110	1.56	21.15	3,270	22.20
1911	453	-	-	111	3,440	1.72	23.40	-	-
1912	453	-	-	-	-	-	-	-	-
1915	433	-	-	-	*3,110	*1.56	*21.11	*3,990	*27.11
1916	433	45,200	Dec. 18, 1915	146	3,900	1.95	26.56	2,680	18.27
1917	453	47,000	Mar. 4, 1917	85	4,090	2.05	27.78	3,880	26.40
1918	473	59,600	Jan. 28, 1918	92	2,790	1.40	18.93	3,210	21.80
1919	503, 1386	37,200	Jan. 2, 3, 1919	*22	2,700	1.35	18.31	3,280	22.31
1920	503	43,500	Jan. 23, 1920	50	4,470	2.24	30.50	3,780	25.80
1921	523	28,200	Apr. 17, 1921	82	2,430	1.22	16.50	2,510	17.04
1922	543	38,600	Feb. 21, 1922	49	*3,870	*1.94	26.31	3,700	25.16
1923	563	30,900	Feb. 3, 4, 1923	34	3,420	1.71	23.22	3,280	22.29
1924	563	35,100	Jan. 3, 1924	26	2,950	1.48	20.12	3,210	21.85
1925	603	30,900	Feb. 16, 1925	12	2,360	1.18	16.03	2,480	16.84
1926	623	25,600	May 17, 1926	43	2,900	1.45	19.70	4,290	29.17
1927	643	51,900	Dec. 25, 1926	63	5,200	2.60	35.32	3,640	24.73
1928	663	31,600	June 30, 1928	25	3,730	1.87	25.42	4,030	27.47
1929	683	56,100	Mar. 23, 1929	63	4,550	2.28	30.97	4,540	30.89
1930	698	23,600	Nov. 18, 1929	18	2,080	1.04	14.13	1,410	9.58
1931	713	26,800	Apr. 23, 1931	18	1,620	.811	11.03	*2,040	*13.87
1932	728	-	-	-	*3,140	*1.57	*21.42	*3,160	*21.52
1933	743	23,600	(a)	37	3,220	1.61	21.90	2,781	18.90
1934	758	34,200	Mar. 3, 1934	38	2,219	1.11	15.09	2,347	15.95
1935	783	35,800	Mar. 28, 1935	30	3,754	1.88	25.52	3,780	25.70

* Revised.

† Corrected.

* Not previously published.

a Dec. 29, 1932, Feb. 21, Mar. 21, 1933.

Yearly discharge, in cubic feet per second, of Cumberland River at Cumberland Falls, Ky.--Continued

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1936	803	31,000	Apr. 6, 1936	15	2,557	1.28	17.44	2,609	17.80
1937	823	36,300	Jan. 2, 1937	43	3,445	1.73	23.42	3,487	23.70
1938	853	20,900	Jan. 23, 1938	84	3,039	1.52	20.66	3,079	20.94
1939	873	52,500	Feb. 3, 1939	18	3,174	1.59	21.58	2,847	19.35
1940	893	21,400	Apr. 23, 1940	18	1,906	.954	12.98	1,940	13.22
1941	923	27,300	July 6, 1941	44	1,423	.713	9.67	1,485	10.10
1942	953	21,700	Mar. 18, 1942	26	1,963	.983	13.34	2,747	18.65
1943	973	44,100	Dec. 30, 1942	42	3,242	1.62	22.02	2,445	16.62
1944	1003	33,000	Feb. 29, 1944	22	2,630	1.32	17.92	2,898	19.74
1945	1033	22,500	Jan. 1, 1945	54	2,930	1.47	19.91	3,033	20.61
1946	1053	54,200	Jan. 8, 1946	46	3,255	1.63	22.13	3,158	21.46
1947	1083	27,500	Jan. 2, 1947	130	3,238	1.62	22.02	2,950	20.06
1948	1113	44,800	Feb. 14, 1948	38	2,263	1.13	15.42	2,602	19.09
1949	1143	28,900	Jan. 6, 1949	16	3,276	1.64	22.24	3,166	21.50
1950	1173	50,100	Feb. 2, 1950	100	4,222	2.11	28.70	-	-

9. Laurel River at Corbin, Ky. 1/

Location (revised).--Lat 36°58'09", long. 84°07'38", 200 ft downstream from bridge on State Highway 312, three-quarters of a mile northwest of Corbin, Whitley County, and 1.0 mile downstream from Lynn Camp Creek.

Drainage area.--198 sq mi.

Gage.--Water-stage recorder. Datum of gage is 956.05 ft above mean sea level, Sandy Hook datum, Oct. 2, 1922, to Sept. 30, 1924, staff gage at site 200 ft upstream at datum 2.08 ft higher.

Average discharge.--10 years (1922-24, 1942-50), 354 cfs.

Extremes.--1922-24, 1942-50: Maximum discharge, 18,600 cfs Jan. 8, 1946 (gage height, 17.94 ft), from rating curve extended above 9,000 cfs by logarithmic plotting; no flow Oct. 5, 6, 1922, Nov. 3, 1923.

Maximum stage known, 19 ft, present datum, in 1911, 1913, and 1922, from information by Corps of Engineers.

Remarks.--Some regulation at low flow by city of Corbin water-supply reservoir 1.0 mile upstream.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1923	5.37	3.55	730	765	1,230	1,140	455	550	436	145	162	50.1	470
1924	1.63	43.3	924	1,360	745	591	397	729	627	400	165	203	517
1942	-	-	-	-	-	-	-	-	-	-	199	40.1	-
1943	51.2	386	1,044	326	440	990	608	175	82.7	40.0	35.9	3.82	349
1944	7.53	102	131	285	913	1,007	555	133	18.5	1.30	7.07	34.6	264
1945	21.3	36.0	224	716	894	607	202	335	194	31.5	15.4	1.66	270
1946	2.07	298	459	1,282	625	443	121	138	332	59.6	71.1	10.7	319
1947	36.3	108	236	1,290	258	432	218	295	383	457	193	10.1	328
1948	2.70	4.69	56.5	189	1,360	676	580	42.8	12.1	65.5	8.19	1.71	245
1949	2.14	208	592	837	566	584	527	112	6.00	134	31.4	3.39	299
1950	31.6	87.1	572	1,544	1,026	385	130	649	647	149	103	426	476

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1923	0.03	0.02	4.25	4.45	6.48	6.64	2.57	3.20	2.46	0.84	0.94	0.28	32.16
1924	.01	.24	5.38	7.92	4.06	3.44	2.23	4.24	3.54	2.33	.96	1.14	35.49
1942	-	-	-	-	-	-	-	-	-	-	1.16	.23	-
1943	.30	2.18	6.09	1.90	2.31	5.77	3.43	1.02	.47	.23	.21	.02	23.93
1944	.04	.58	.76	1.66	4.98	5.87	3.13	.78	.10	.008	.04	.19	18.14
1945	.12	.20	1.30	4.17	4.70	3.53	1.14	1.95	1.09	.18	.09	.009	18.48
1946	.01	1.68	2.67	7.46	3.29	2.58	.68	.80	1.87	.35	.41	.06	21.86
1947	.21	.61	1.37	7.51	1.36	2.51	1.23	1.71	2.16	2.66	1.12	.06	22.51
1948	.02	.03	.33	1.10	7.41	3.94	3.27	.25	.07	.38	.05	.01	18.86
1949	.01	1.17	3.45	4.87	2.98	3.40	2.97	.65	.03	.78	.18	.02	20.51
1950	.18	.49	3.33	8.99	5.40	2.24	.73	3.78	3.65	.87	.60	2.40	32.66

1/ Published as "near Otas" prior to 1954.

CUMBERLAND RIVER BASIN

Yearly discharge, in cubic feet per second, of Laurel River at Corbin, Ky.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1923	563	7,150	Feb. 3, 1923	0	470	2.37	32.16	488	33.49
1924	583	7,420	Jan. 3, 1924	0	517	2.61	35.49	-	-
1942	953	-	-	-	-	-	-	-	-
1943	975	6,980	Dec. 30, 1942	1.9	349	1.76	23.93	244	16.74
1944	1003	5,870	Feb. 18, 1944	.8	264	1.33	18.14	287	18.38
1945	1033	4,770	Feb. 22, Jan. 1	1.0	270	1.36	18.48	310	21.22
1946	1053	18,600	Jan. 8, 1946	1.3	319	1.61	21.86	287	19.69
1947	1083	8,030	June 29, 1947	2.8	328	1.66	22.51	302	20.70
1948	1113	12,800	Feb. 14, 1948	1.2	245	1.24	16.86	307	21.11
1949	1143	4,570	Jan. 6, 1949	1.4	299	1.51	20.51	290	19.88
1950	1173	6,880	Jan. 6, 1950	2.3	476	2.40	32.66	-	-

10. Laurel River near Vox, Ky.

Location (revised).--Lat 36°57'05", long. 84°13'30", at Whitman Ford, 1.9 miles downstream from Spruce Creek, 3 miles southwest of Vox, Laurel County, 9 miles above mouth, and 7 miles west of Corbin.

Drainage area.--239 sq mi.

Gage.--Staff gage. Datum of gage is 865.56 ft above mean sea level.

Extremes.--Maximum discharge, 5,500 cfs Mar. 28, 1931 (gage height, 9.8 ft from graph based on gage readings), from rating curve extended above 2,200 cfs; minimum, 1.3 cfs Sept. 10, 11, 1930 (gage height, 0.38 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1930	-	-	-	-	-	-	-	-	-	16.7	4.75	2.81	-
1931	3.64	4.28	10.0	91.5	324	564	549	181	18.7	113	117	8.33	164

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1930	-	-	-	-	-	-	-	-	-	0.08	0.02	0.01	-
1931	0.02	0.02	0.05	0.44	1.42	2.72	2.57	0.87	0.09	.55	.56	.04	9.35

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1930	698	-	-	-	-	-	-	-	-
1931	713	5,500	Mar. 28, 1931	1.7	164	0.686	9.35	-	-

11. Rockcastle River at Billows, Ky.

Location.--Lat 37°10'05", long. 84°17'25", at bridge on State Highway 80 at Billows, Rockcastle County, 1.0 mile downstream from Hawk Creek, 1.0 mile upstream from Pine Creek, and 13 miles west of London.

Drainage area.--607 sq mi.

Gage.--Water-stage recorder. Datum of gage is 802.90 ft above mean sea level, datum of 1929. Prior to Nov. 19, 1940, staff gage at same site and datum.

Average discharge.--14 years (1936-50), 887 cfs.

Extremes.--1936-50: Maximum discharge, 46,800 cfs June 29, 1947 (gage height, 45.48 ft); minimum observed, 1.1 cfs Sept. 22, 23, 1936.

Flood of January 1913 reached a stage of about 40 ft, from information by Corps of Engineers.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1936	-	-	-	-	-	-	-	-	-	-	14.6	4.95	-
1937	37.2	578	703	5,990	1,346	896	857	685	104	72.7	147	117	945
1938	229	92.6	836	922	1,038	2,646	1,000	898	800	359	1,031	164	820
1939	32.5	501	785	2,083	4,585	1,958	1,707	308	291	1,245	137	22.7	1,115
1940	20.4	20.3	85.5	246	1,320	1,646	1,655	379	326	64.5	149	71.2	494
1941	12.5	86.9	371	872	208	654	924	115	118	1,830	126	35.2	450
1942	10.8	127	541	649	969	1,558	765	193	897	931	891	378	658
1943	216	1,550	5,362	733	1,304	3,226	1,737	852	338	135	126	23.6	1,135
1944	24.9	146	289	713	2,123	3,111	1,807	481	111	10.8	52.7	712	748
1945	63.2	140	712	2,057	3,013	2,720	1,036	732	401	75.7	54.4	6.77	906
1946	12.2	466	824	2,463	1,821	1,407	367	1,251	1,318	329	348	52.2	884
1947	95.2	357	755	3,311	719	1,362	971	1,251	2,862	959	552	45.4	1,107
1948	20.9	58.6	186	729	3,592	2,169	2,716	371	95.3	479	122	11.5	866
1949	14.0	728	1,321	2,342	2,791	1,610	1,164	505	73.5	227	203	17.7	906
1950	124	209	1,444	4,607	3,167	1,319	697	1,147	1,874	1,138	423	590	1,386

Monthly and yearly runoff, in inches, of Rockcastle River at Billows, Ky.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1936	-	-	-	-	-	-	-	-	-	-	0.03	0.009	-
1937	0.07	1.08	1.34	11.38	2.31	1.32	1.57	1.26	0.19	0.14	.28	.21	21.13
1938	.44	.17	1.21	1.75	1.78	5.03	1.84	1.71	1.47	.68	1.96	.30	18.34
1939	.06	.92	1.49	3.96	7.87	3.72	3.14	.58	.53	2.37	.26	.04	24.94
1940	.04	.04	.16	.47	2.35	3.12	3.04	.72	.60	.12	.28	.13	11.07
1941	.02	.16	.70	1.66	.36	1.24	1.70	.22	.22	3.48	.24	.06	10.06
1942	.02	.23	1.03	1.23	1.66	2.96	1.41	.37	1.65	1.77	1.69	.69	14.71
1943	.41	2.85	6.39	1.39	2.24	6.13	3.19	1.62	.62	.26	.24	.04	25.38
1944	.05	.27	.55	1.35	3.77	5.91	3.32	.91	.20	.02	.10	.32	16.77
1945	.12	.26	1.35	3.91	5.17	5.17	1.90	1.39	.74	.14	.10	.01	20.26
1946	.02	.86	1.56	4.68	3.12	2.67	.68	2.38	2.42	.62	.66	.10	19.77
1947	.18	.66	1.43	6.29	1.23	2.59	1.79	2.38	5.26	1.82	1.05	.08	24.76
1948	.04	.10	.35	1.39	6.38	4.12	4.99	.71	.18	.91	.23	.02	19.42
1949	.03	1.34	2.51	4.45	4.79	3.06	2.14	.96	.14	.43	.39	.03	20.27
1950	.24	.38	2.74	8.75	5.43	2.51	1.28	2.18	3.45	2.16	.80	1.08	31.00

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1936	803	-	-	-	-	-	-	-
1937	823	19,400	Jan. 3, 1937	2.2	945	1.56	21.13	916
1938	853	113,100	Mar. 4, 1938	8.3	820	1.35	18.34	849
1939	873	32,200	Feb. 3, 1939	6.0	1,115	1.84	24.94	1,015
1940	893	16,300	Mar. 31, 1940	7.8	494	.814	11.07	523
1941	923	16,000	July 19, 1941	7.8	450	.741	10.06	467
1942	953	9,250	July 14, 1942	9.2	658	1.08	14.71	1,032
1943	973	25,900	Dec. 30, 1942	13	1,135	1.87	25.38	742
1944	1003	17,700	Apr. 12, 1944	4.6	748	1.23	16.77	787
1945	1033	27,600	Mar. 6, 1945	4.9	906	1.49	20.26	938
1946	1053	26,500	Jan. 8, 1946	7.0	884	1.46	19.77	876
1947	1083	46,800	June 29, 1947	21	1,107	1.82	24.76	1,028
1948	1113	35,700	Feb. 14, 1948	8.0	866	1.43	19.42	1,017
1949	1143	18,600	Feb. 15, 1949	8.8	906	1.49	20.27	883
1950	1173	22,700	Jan. 31, 1950	10	1,386	2.28	31.00	-

† Corrected.

12. Rockcastle River at Rockcastle Springs, Ky.

Location.--Lat 37°00'35", long. 84°18'55", at Rockcastle Springs, Laurel County, 3 miles (revised) downstream from Cane Creek and 5 miles upstream from mouth.

Drainage area.--746 sq mi.

Gage.--Staff gage. Datum of gage is 689.18 ft above mean sea level.

Average discharge.--9 years (1922-31), 1,093 cfs.

Extremes.--1922-31: Maximum discharge, 36,400 cfs Mar. 24, 1929 (gage height, 31.5 ft); minimum, 0.9 cfs Aug. 13, 1930 (gage height, -0.01 ft).

Remarks.--Gage site inundated in 1950 by Wolf Creek Reservoir.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1923	29.1	42.9	650	2,280	3,800	5,230	1,110	795	1,150	316	176	155	1,210
1924	29.7	86.3	920	4,360	1,930	1,530	1,070	2,130	952	698	137	246	1,260
1925	203	229	2,690	1,560	1,960	1,490	1,250	1,380	200	90.3	32.5	19.6	922
1926	460	1,610	464	1,980	1,750	1,060	955	665	214	94.6	407	450	835
1927	773	2,780	5,270	2,690	2,180	2,010	3,390	2,220	1,040	58.7	92.5	29.9	1,790
1928	28.5	1,140	860	1,760	1,100	1,670	1,850	1,040	3,360	1,450	238	161	1,220
1929	115	772	898	2,200	2,480	5,260	1,160	2,730	418	286	55.8	147	1,360
1930	166	1,360	1,120	1,480	1,990	1,520	391	1,040	89.6	29.6	10.7	6.24	743
1931	7.61	27.7	54.3	167	636	1,290	2,260	768	85.4	269	120	49.7	476

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1923	0.04	0.06	2.55	3.53	5.30	4.99	1.66	1.23	1.72	0.49	0.27	0.23	22.07
1924	.05	.13	2.96	6.73	2.79	2.36	1.60	3.29	1.43	1.08	.21	.57	23.00
1925	.31	.34	4.15	2.41	2.74	2.31	1.87	2.13	.30	.14	.05	.03	16.78
1926	.71	2.40	.72	3.06	2.45	1.64	1.43	1.03	.32	.15	.63	.67	15.21
1927	1.20	2.67	8.14	4.16	3.04	3.10	5.06	3.44	1.55	.09	.14	.04	32.63
1928	.04	1.71	1.33	2.72	1.58	2.58	2.77	1.60	5.02	.24	.37	.24	22.20
1929	.18	1.15	1.38	3.40	3.46	8.13	1.74	4.22	.62	.44	.09	.22	25.03
1930	.26	2.03	1.73	2.28	2.78	2.04	.58	1.60	.15	.05	.02	.009	13.51
1931	.01	.04	.08	.26	.89	1.99	3.38	1.19	.13	.42	.19	.07	8.65

CUMBERLAND RIVER BASIN

Yearly discharge, in cubic feet per second, of Rockcastle River at Rockcastle Springs, Ky.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1923	563	27,300	Feb. 3, 1923	11	1,210	1.62	22.07	1,240	22.56
1924	583	31,600	Jan. 3, 1924	15	1,260	1.69	23.00	1,352	24.66
1925	603	30,800	Dec. 9, 1924	9.5	922	1.24	16.78	869	15.81
1926	623	23,400	Jan. 22, 1926	16	855	1.12	15.21	1,283	23.39
1927	643	26,100	Dec. 22, 1926	14	1,790	2.40	32.63	1,304	23.70
1928	663	22,000	June 29, 1928	13	1,220	1.64	22.20	1,197	21.83
1929	683	36,400	Mar. 24, 1929	18	1,380	1.85	25.03	1,447	26.34
1930	698	9,680	May 19, 1930	1.0	743	.996	13.51	529	9.62
1931	713	11,900	Mar. 29, 1931	2.3	476	.638	8.65	-	-

13. New River near New River, Tenn.

Location.--Lat 36°23'12", long. 84°32'30", at highway bridge $1\frac{1}{2}$ miles east of town of New River, Scott County, and 2 miles upstream from mouth of Brimstone Creek.

Drainage area.--312 sq mi.

Gage.--Staff gage. Datum of gage is 1,095.84 ft above mean sea level. Prior to Mar. 23, 1929, chain gage at same site and datum. Mar. 23 to Apr. 9, 1929, U. S. Weather Bureau staff gage 2 miles downstream at different datum. Apr. 10 to May 29, 1929, temporary staff gage 100 ft upstream at same datum.

Average discharge.--12 years (1922-34), 632 cfs.

Extremes.--1922-34: Maximum discharge, 70,000 cfs Mar. 23, 1929 (gage height, 44.8 ft, from floodmarks), from rating curve extended above 12,000 cfs on basis of slope-area determination at peak flow; minimum observed, 0.2 cfs Aug. 6, 7, 1925 (gage height, 0.22 ft).

Flood of Mar. 23, 1929, is highest known.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1923	16.0	29.2	927	1,550	1,690	1,990	923	1,140	362	98.2	125	19.9	735
1924	3.05	24.7	711	1,760	1,210	842	970	1,350	310	187	55.8	201	633
1925	58.7	29.8	657	1,200	1,220	485	663	277	50.1	53.3	1.53	2.28	387
1926	539	904	561	726	1,060	775	657	431	109	99	811	147	566
1927	64.9	746	2,910	902	1,710	1,320	962	368	422	92.9	99.6	20.7	798
1928	8.12	230	1,240	806	522	1,080	1,660	736	2,260	529	238	437	810
1929	345	1,240	499	2,010	1,280	3,750	825	1,690	458	244	27.5	48.9	1,020
1930	29.6	1,600	711	504	1,120	1,200	352	281	24.6	14.4	6.51	31.0	484
1931	16.6	113	485	612	741	810	1,320	266	33.4	69.2	211	44.6	391
1932	6.90	22.5	350	1,470	2,160	657	948	259	74.8	323	30.3	9.67	605
1933	239	579	1,500	1,220	1,640	1,100	961	804	70.5	93.2	98.8	228	705
1934	6.34	23.0	408	888	554	2,112	455	116	107	420	265	40.8	452
1935	48.5	108	198	-	-	-	-	-	-	-	-	-	-

* Not previously published; estimated on the basis of weather records and records for Obey River near Byrdstown.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1923	0.06	0.10	3.42	5.73	5.64	7.36	3.30	4.21	1.29	0.36	0.48	0.07	432.00
1924	.01	.09	2.63	6.50	4.18	3.11	3.47	4.99	1.11	.69	.13	.72	27.63
1925	.22	.11	2.43	4.44	4.07	1.79	2.36	1.02	.18	.20	.006	.008	16.83
1926	1.99	3.24	2.08	2.69	3.54	2.86	2.35	1.59	.39	.37	3.00	.53	24.63
1927	.24	2.67	10.76	3.33	5.71	4.88	3.44	1.36	1.51	.34	.37	.07	34.68
1928	.03	.82	4.58	2.97	1.80	3.99	5.94	2.72	8.08	1.96	.88	1.56	35.33
1929	1.28	4.44	1.84	7.42	4.27	13.83	2.96	6.25	1.64	.90	.10	.18	45.11
1930	.11	5.72	2.63	1.87	3.74	4.44	1.26	1.04	.09	.05	.02	.11	21.08
1931	.06	.40	1.79	2.26	2.48	3.00	4.72	.98	.12	.26	.78	.16	17.01
1932	.03	.08	4.99	5.43	7.46	2.43	3.39	.96	.27	1.20	.11	.03	26.38
1933	.88	2.08	5.54	4.51	5.48	4.07	3.44	2.97	.25	.34	.37	.82	30.75
1934	.02	.08	1.51	3.29	1.85	7.80	1.63	.43	.38	1.56	.98	.15	19.68
1935	.18	.39	.73	-	-	-	-	-	-	-	-	-	-

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1923	563	a15,600	Mar. 7, 1923	-	735	2.36	432.00	716	31.15
1924	583	a17,700	May 30, 1924	1.9	633	2.04	27.63	634	27.66
1925	603	a16,200	Feb. 15, 1925	.2	387	1.24	16.83	491	21.38
1926	623	a13,800	Oct. 25, 1925	1.2	566	1.81	24.63	712	30.99
1927	643	a19,000	Dec. 25, 1926	13	798	2.56	34.68	608	26.45
1928	663	a36,700	June 29 or 30	2.5	810	2.60	35.33	858	37.46
1929	683	70,000	Mar. 23, 1929	3.6	1,020	3.27	45.11	1,042	46.01
1930	698	a13,000	Nov. 17, 1929	2.3	484	1.55	21.08	342	14.87

* Not previously published.

a Maximum observed.

Yearly discharge, in cubic feet per second, of New River near New River, Tenn.--Continued

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1931	713	a13,800	Apr. 22, 1931	4.5	391	1.25	17.01	456	19.86
1932	728	a24,100	Feb. 3, 1932	1.6	805	1.94	26.38	682	29.78
1933	743	a14,000	Dec. 28, 1932	1.9	705	2.26	30.75	548	23.86
1934	758	a21,000	Mar. 2, 1934	2.7	452	1.45	19.68	445	19.37
1935	783	-	-	-	-	-	-	-	-

a Maximum observed.

14. New River at New River, Tenn.

Location (revised).--Lat 36°23'08", long. 84°33'17", on left bank at town of New River, Scott County, 700 ft downstream from Phillips Creek, 1,000 ft downstream from bridge on U. S. Highway 27, 1.7 miles downstream from Brimstone Creek, and at mile 8.6.

Drainage area.--383 sq mi.

Supplemental records available.--Gage-height records collected in this vicinity since 1908 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 1,092.67 ft above mean sea level, datum of 1929.

Average discharge.--16 years (1934-50), 697 cfs.

Extremes.--1934-50: Maximum discharge, 44,300 cfs Feb. 3, 1939 (gage height, 33.58 ft); no flow Aug. 12, 13, 1944.

Maximum stage known, 41.2 ft Mar. 23, 1929, on U. S. Weather Bureau gage 1,200 ft upstream and at datum 3.41 ft higher.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	-	-	-	-	-	-	-
1935	64.3	136	227	1,023	1,336	2,415	1,670	1,021	262	187	45.3	55.5	696
1936	1.10	210	301	1,685	967	2,235	1,447	60.6	4.54	13.1	5.71	10.8	578
1937	35.4	158	1,461	4,206	1,482	632	856	1,202	856	76	124	40.8	928
1938	169	97.1	737	1,394	983	1,211	1,283	698	450	189	372	18.3	631
1939	2.38	187	455	1,195	3,891	1,541	930	307	98.9	96.8	37.0	5.17	707
1940	5.78	2.35	72.3	94.1	948	1,846	1,653	644	694	214	34.4	7.92	515
1941	3.93	47.6	139	251	112	817	1,316	96.6	85.0	1,338	91.3	34.1	363
1942	14.7	119	392	570	1,141	1,831	216	174	131	277	1,159	71.6	507
1943	54.4	295	2,820	907	1,432	1,826	1,343	495	91.6	112	121	187	806
1944	65.5	275	307	631	2,726	2,188	1,151	531	31.9	3.99	21.9	122	745
1945	221	709	968	1,484	2,041	1,082	1,140	1,267	724	85.5	192	5.54	820
1946	12.0	289	1,037	2,259	1,871	1,075	444	827	527	76.0	54.7	88.2	712
1947	140	401	634	2,932	5,400	1,223	812	642	91.0	229	33.6	7.88	645
1948	2.70	31.8	138	258	3,153	1,734	846	73.2	20.8	58.4	31.6	7.54	517
1949	3.01	1,389	1,568	2,727	1,347	1,145	863	335	58.7	544	115	33.6	842
1950	143	226	1,667	4,030	2,492	1,425	445	1,657	719	375	173	312	1,135

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	-	-	-	-	-	0.16	-
1935	0.19	0.40	0.68	3.08	5.63	7.28	4.87	3.08	0.76	0.56	0.14	.02	24.69
1936	.003	.61	.91	5.07	2.72	6.73	4.22	.18	.01	.04	.02	.03	20.54
1937	.11	.46	4.39	12.68	4.05	1.90	2.49	3.62	2.49	.23	.37	.12	32.89
1938	.51	.26	2.22	4.20	2.67	3.64	3.68	2.10	1.31	.57	1.12	.06	22.35
1939	.007	.54	1.37	3.60	10.58	4.64	2.73	.92	.29	.29	.11	.02	25.08
1940	.02	.007	.22	.28	2.67	5.56	4.61	1.94	2.02	.64	.10	.02	18.29
1941	.01	.14	.42	.76	.30	2.46	3.83	.29	.25	4.03	.27	.10	12.86
1942	.04	.35	1.18	1.72	3.10	5.51	.63	.52	.38	.83	3.49	.21	17.96
1943	.16	.86	8.50	2.72	3.89	5.50	3.91	1.49	.27	.34	.36	.54	28.54
1944	.20	.80	.92	1.89	7.68	6.59	3.35	1.60	.09	.01	.07	3.27	26.47
1945	.67	2.06	2.97	4.47	5.55	5.26	3.32	3.61	2.11	.26	.58	.02	29.08
1946	.04	.84	3.12	6.80	5.09	3.23	1.29	2.49	1.67	.23	.16	.26	25.22
1947	.42	1.17	1.91	8.83	1.47	3.68	2.36	1.93	.26	.69	.10	.02	22.84
1948	.01	.09	.41	.78	8.82	5.22	2.46	.22	.06	.18	.09	.02	18.36
1949	.01	4.04	4.72	8.21	3.66	3.45	2.51	1.01	.17	1.64	.35	.10	29.87
1950	.43	.66	5.02	12.13	6.77	4.29	1.30	4.99	2.09	1.13	.52	.91	40.24

Yearly discharge, in cubic feet per second, of New River at New River, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1934	758	-	-	-	-	-	-	-	-	-
1935	783	22,100	Mar. 12, 1935	0.7	696	1.82	24.69	703	24.94	
1936	803	22,200	Apr. 6, 1936	.2	578	1.51	20.54	675	23.98	
1937	823	31,200	Jan. 2, 1937	.3	928	2.42	32.89	873	30.94	
1938	853	11,400	Apr. 8, 1938	5.9	631	1.65	22.35	600	21.26	
1939	873	44,300	Feb. 3, 1939	1.2	707	1.85	25.08	660	23.41	
1940	893	15,200	Mar. 30, 1940	.6	515	1.34	18.29	524	18.61	
1941	923	20,000	Apr. 5, 1941	1.4	363	.948	12.86	391	13.86	
1942	953	17,800	Mar. 17, 1942	2.9	507	1.32	17.96	731	25.91	
1943	973	22,000	Dec. 29, 1942	9.6	806	2.10	28.54	591	20.94	
1944	1003	31,800	Sept. 30, 1944	.1	745	1.95	26.47	851	30.25	
1945	1033	15,400	Feb. 17, 1945	1.6	820	2.14	29.08	772	27.38	
1946	1053	33,800	Jan. 8, 1946	4.5	712	1.86	25.22	697	24.72	
1947	1083	19,400	Jan. 20, 1947	4.2	645	1.68	22.84	581	19.85	
1948	1113	33,500	Feb. 13, 1948	.4	517	1.35	18.36	749	26.62	
1949	1143	31,200	Jan. 5, 1949	.3	842	2.20	29.87	767	27.21	
1950	1173	24,000	Jan. 30, 1950	14	1,135	2.96	40.24	-	-	

15. White Oak Creek at Sunbright, Tenn.

Location.--Lat 36°14'38", long. 84°40'14", at bridge on U. S. Highway 27 in Sunbright, Morgan County, just downstream from mouth of Long Branch and half a mile upstream from mouth of Pigeon Branch.

Drainage area.--14.5 sq mi.

Gage.--Staff gage. Altitude of gage is 1,300 ft (from topographic map).

Extremes.--1932-33: Maximum discharge observed, 2,000 cfs Sept. 3, 1933 (gage height, 11.5 ft); minimum, 0.01 cfs July 28 to Aug. 4, Sept. 15-22, 24, 25, Oct. 1, 1932, June 24, July 6-10, 1933.

Maximum stage known, 17.45 ft Mar. 23, 1929 (discharge, 4,900 cfs, from rating curve extended above 160 cfs on basis of drainage area-runoff relationship and by logarithmic plotting).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	4.03	2.34	0.101	-
1933	2.65	18.1	73.3	35.8	66.9	32.0	39.8	27.1	1.16	5.79	6.22	51.0	29.7

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	0.32	0.19	0.01	-
1933	0.21	1.40	5.83	2.85	4.80	2.55	3.06	2.16	0.09	0.46	0.49	3.93	27.83

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1932	728	-	-	-	-	-	-	-	-
1933	743	±2,000	Sept. 3, 1933	0.01	29.7	2.05	27.83	-	-

* Not previously published.

16. Clear Fork near Robbins, Tenn.

Location (revised).--Lat 36°23'18", long. 84°37'49", on right bank 300 ft downstream from Burnt Mill Bridge, 3.3 miles northwest of Robbins, Scott County, and at mile 3.7.

Drainage area.--278 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,081.46 ft above mean sea level, Sandy Hook datum. Prior to Aug. 10, 1940, staff gage at site 300 ft upstream at datum 1.00 ft higher.

Average discharge.--20 years (1930-50), 442 cfs.

Extremes.--1930-50: Maximum discharge, 34,000 cfs Feb. 3, 1939 (gage height, 18.5 ft, from floodmarks, site and datum then in use), from rating curve extended above 14,000 cfs on basis of slope-area determination of peak flow; minimum observed, 0.2 cfs Sept. 19-21, 1932; minimum gage-height observed, 0.28 ft Oct. 1-3, 1936, site and datum then in use.

Monthly and yearly mean discharge, in cubic feet per second, of Clear Fork near Robbins, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	12.6	19.5	99.5	250	436	608	703	297	57.3	51.4	57.6	9.85	215
1932	6.40	11.6	746	1,080	1,990	468	623	198	53.8	131	19.3	3.97	438
1933	98.3	347	937	1,040	1,380	611	751	578	53.9	148	99.3	734	560
1934	17.6	38.1	179	631	429	1,954	369	186	89.3	125	67.6	43.4	346
1935	42.7	77.6	104	466	1,032	1,645	1,221	462	237	136	70.8	12.7	455
1936	7.73	79.7	202	873	557	1,484	1,177	72.6	9.58	10.9	11.5	4.42	374
1937	11.3	117	918	5,418	952	394	530	1,046	246	71.1	75.3	39.4	654
1938	59.3	50.2	281	801	637	627	752	602	290	265	203	18.1	382
1939	9.05	94.7	179	730	2,794	850	631	235	206	96.3	72.6	6.34	476
1940	6.54	7.78	36.4	47.5	480	1,244	996	536	486	185	191	62.9	356
1941	11.4	47.2	172	317	141	552	729	72.6	70.4	1,014	57.2	41.5	270
1942	10.9	59.5	235	363	764	1,137	152	103	51.6	42.1	643	54.3	300
1943	40.2	321	1,968	509	822	1,559	1,045	247	149	105	53.0	17.5	570
1944	12.1	38.5	100	332	1,980	1,477	781	267	29.0	6.40	11.3	573	460
1945	164	443	563	1,019	1,259	746	493	864	326	67.3	90.8	9.78	500
1946	10.5	295	771	1,599	1,266	698	307	282	312	22.2	18.4	26.9	463
1947	43.1	162	277	1,828	350	838	461	254	47.8	35.5	19.0	7.44	362
1948	3.15	12.6	37.2	100	2,124	1,056	374	64.1	26.9	34.9	37.4	8.84	316
1949	9.47	970	1,147	2,077	790	795	581	291	36.7	187	395	39.9	611
1950	83.3	193	862	2,956	1,830	873	273	1,034	441	125	72.7	166	739

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	0.05	0.08	0.41	1.04	1.64	2.52	2.82	1.23	0.23	0.21	0.24	0.04	10.51
1932	.03	.05	3.09	4.47	7.72	1.94	2.50	.82	.22	.54	.08	.02	21.48
1933	.41	1.40	3.88	4.31	5.16	2.54	3.01	2.40	.22	.61	.41	2.94	27.29
1934	.07	.15	.74	2.62	1.60	8.10	1.48	.77	.36	.52	.28	.17	16.86
1935	.18	.31	.43	1.94	3.86	6.82	4.90	1.91	.95	.56	.29	.05	22.20
1936	.03	.32	.84	3.62	2.16	6.15	4.72	.30	.04	.05	.05	.02	18.30
1937	.05	.47	3.80	14.18	3.56	1.64	2.13	4.34	.99	.30	.31	.16	31.93
1938	.25	.20	1.21	3.32	2.39	2.60	3.02	2.50	1.16	1.10	.84	.07	18.66
1939	.04	.38	.74	3.03	10.46	3.52	2.53	.98	.82	.40	.30	.03	23.23
1940	.03	.03	.15	.20	1.86	5.16	4.00	2.22	1.95	.77	.79	.25	17.41
1941	.05	.19	.71	1.31	.53	2.29	2.93	.30	.28	4.21	.24	.17	13.21
1942	.05	.24	.97	1.51	2.86	4.71	.61	.43	.21	.17	2.67	.22	14.65
1943	.17	1.29	8.16	2.11	3.08	6.46	4.20	1.02	.60	.44	.22	.07	27.82
1944	.05	.15	.42	1.38	7.69	6.13	3.13	1.11	.12	.03	.05	2.30	22.55
1945	.68	1.78	2.34	4.23	4.71	3.09	1.98	3.58	1.31	.28	.58	.04	24.40
1946	.04	1.18	3.20	6.63	4.74	2.89	1.23	1.17	1.25	.09	.08	.11	22.61
1947	.18	.65	1.15	7.58	1.31	3.48	1.85	1.05	.19	.15	.08	.03	17.70
1948	.01	.05	.15	.41	8.24	4.38	1.50	.27	.11	.14	.16	.04	15.46
1949	.04	3.89	4.76	8.61	2.96	3.30	2.33	1.21	.15	.78	1.64	.16	29.83
1950	.35	.78	3.57	12.26	6.86	3.62	1.10	4.29	1.77	.52	.30	.67	36.09

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1931	713	*6,130	Mar. 28, 1931	3.8	215	0.773	10.51	269	13.14
1932	728	20,400	Feb. 3, 1932	.2	439	1.58	21.48	490	24.00
1933	743	13,400	Sept. 4, 1933	2.9	560	2.01	27.29	463	22.56
1934	758	14,600	Mar. 3, 1934	12	346	1.24	16.86	345	16.82
1935	783	*9,750	Apr. 6, 1935	2.4	455	1.64	22.20	461	22.47
1936	803	*13,100	Apr. 6, 1936	.8	374	1.35	18.30	438	21.43
1937	823	*27,100	Jan. 2, 1937	.6	654	2.35	31.93	599	29.27
1938	853	4,870	Apr. 8, 1938	9.1	382	1.37	18.66	372	18.16
1939	873	34,000	Feb. 3, 1939	2.6	476	1.71	23.23	456	22.28
1940	893	9,320	Mar. 30, 1940	2.4	356	1.28	17.41	371	18.15
1941	923	8,190	July 4, 1941	8.4	270	.971	13.21	277	13.52
1942	953	6,740	Mar. 17, 1942	6.5	300	1.08	14.65	471	23.01
1943	973	*17,300	Dec. 29, 1942	6.1	570	2.05	27.82	385	18.82
1944	1003	*17,500	Feb. 17, 1944	2.0	460	1.65	22.55	546	26.73
1945	1033	7,650	Jan. 1, 1945	4.6	500	1.80	24.40	492	24.02
1946	1053	19,300	Jan. 7, 1946	4.8	463	1.67	22.61	413	20.17
1947	1083	9,910	Jan. 3, 1947	2.8	362	1.30	17.70	326	15.93
1948	1113	25,500	Feb. 13, 1948	.9	316	1.14	15.46	489	23.94
1949	1143	28,300	Jan. 5, 1949	.8	611	2.20	29.83	529	25.84
1950	1173	15,300	Jan. 30, 1950	15	739	2.66	36.09	-	-

* Revised.

17. Unnamed tributary to Pine Creek at Oneida, Tenn. 1/

Location (revised).--Lat 36°30'18", long. 84°30'32", at bridge on Vine Street, in Oneida, Scott County, 1,000 ft east of North Main Street.

Drainage area.--1.21 sq mi (revised).

Gage.--Staff gage. Altitude of gage is 1,440 ft (revised) from topographic map.

Extremes.--1932-33: Maximum gage height, 3.4 ft Sept. 3, 1933 (discharge not determined); no flow on many days.

Maximum stage known, about 4.5 ft Mar. 23, 1929 (discharge not determined).

1/ Formerly published as Pine Creek at Oneida.

CUMBERLAND RIVER BASIN

Monthly and yearly mean discharge, in cubic feet per second, of Unnamed tributary to Pine Creek at Oneida, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	0.645	0.395	0.191	-
1933	1.40	2.23	4.91	6.66	8.18	5.47	2.99	6.54	3.30	.073	2.84	8.09	4.36

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	0.61	0.38	0.18	-
1933	1.33	2.05	4.68	6.35	7.04	5.21	2.76	6.23	3.04	0.07	2.71	7.46	48.93

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1932	728	-	-	-	-	-	-	-	-	-
1933	743	(a)	Sept. 3, 1933	0	4.36	3.60	48.93	-	-	-

a Not determined.

18. South Fork Cumberland River near Stearns, Ky.

Location.--Lat 36°37'37" long. 84°32'00", at mouth of Bear Creek, 1,600 ft upstream from Salt Branch, and 5½ miles southwest of Stearns, McCreary County.

Drainage area.--942 sq mi, including that of Bear Creek.

Gage.--Water-stage recorder. Datum of gage is 764.81 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Oct. 6, 1942, staff gage at same site and datum.

Average discharge.--8 years (1942-50), 1,785 cfs.

Extremes.--1942-50: Maximum discharge, 69,600 cfs Feb. 13, 1948 (gage height, 38.50 ft); minimum, 11 cfs Oct. 4, 1948 (gage height, 1.62 ft).

Maximum stage known, 52.9 ft in March 1929, from information by local residents.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	161	1,132	6,968	1,965	3,013	5,101	3,499	1,061	331	278	261	264	2,002
1944	118	392	545	1,379	6,436	5,430	2,813	1,161	124	34.5	79.3	2,203	1,704
1945	678	1,448	2,126	3,662	4,794	2,568	2,060	2,838	1,281	255	373	52.9	1,827
1946	58.9	1,062	2,496	5,929	4,505	2,509	973	1,326	1,267	173	140	188	1,705
1947	263	706	1,157	6,758	1,269	2,713	1,621	1,207	234	427	116	51.1	1,368
1948	30.8	94.4	258	499	7,004	3,730	1,439	224	107	156	119	44.5	1,118
1949	33.3	2,910	3,638	6,335	2,810	2,918	1,971	854	173	1,045	678	132	1,958
1950	250	610	2,866	9,615	6,201	2,930	954	3,673	1,937	1,078	402	633	2,583

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	0.20	1.34	8.53	2.41	3.33	6.24	4.14	1.30	0.39	0.34	0.32	0.31	28.85
1944	.14	.46	.67	1.69	7.37	6.64	3.33	1.42	.15	.04	.10	2.61	24.62
1945	.83	1.71	2.60	4.48	5.30	3.14	2.44	3.47	1.52	.31	.46	.06	26.32
1946	.07	1.26	3.06	7.26	4.98	3.07	1.15	1.62	1.50	.21	.17	.22	24.57
1947	.32	.84	1.42	8.27	1.40	3.32	1.92	1.48	.28	.52	.14	.08	19.97
1948	.04	.11	.32	.61	8.02	4.57	1.70	.13	.19	.15	.05	.05	16.16
1949	.04	3.45	4.45	7.75	3.11	3.57	2.33	1.04	.20	1.28	.63	.16	28.21
1950	.31	.72	3.51	11.77	6.85	3.59	1.13	4.50	2.29	1.32	.49	.75	37.23

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1943	973	53,900	Dec. 29, 1942	38	2,002	2.13	28.85	1,392	20.05	
1944	1003	52,600	Feb. 18, 1944	18	1,704	1.81	24.62	1,972	28.49	
1945	1033	26,900	Jan. 1, 1945	37	1,827	1.94	26.32	1,774	25.57	
1946	1053	67,800	Jan. 8, 1946	39	1,705	1.81	24.57	1,580	22.76	
1947	1083	31,800	Jan. 3, 1947	31	1,386	1.47	19.97	1,239	17.86	
1948	1113	69,600	Feb. 13, 1948	14	1,118	1.19	16.16	1,635	23.63	
1949	1143	62,600	Jan. 5, 1949	12	1,958	2.08	28.21	1,722	24.81	
1950	1173	49,800	Jan. 30, 1950	76	2,583	2.74	37.23	-	-	

19. South Fork Cumberland River at Nevelsville, Ky.

Location.--Lat 36°50'25", long. 84°35'00", 0.5 mile west of Nevelsville, McCreary County, 0.7 mile downstream from Turkey Creek, and 1.8 miles downstream from Little South Fork.

Drainage area.--1,264 sq mi.

Gage.--Water-stage recorder. Datum of gage is 637.29 ft above mean sea level, Sandy Hook datum. Prior to Apr. 10, 1934, staff gage at site half a mile upstream at same datum. Apr. 10 to June 13, 1934, staff gage at latest site and same datum.

Average discharge.--35 years (1915-50), 2,190 cfs.

Extremes (revised).--1915-50: Maximum discharge, 130,000 cfs Mar. 23, 1929 (gage height, 69.0 ft at site then in use, from floodmark), from rating curve extended above 54,000 cfs on basis of velocity-area studies; minimum, 13 cfs Oct. 5, 6, 1936 (gage height, 1.37 ft); minimum gage height, 1.32 ft July 31, Aug. 1, 2, 1944, Oct. 1, 2, 1948.

Remarks.--Gage site inundated in 1950 by Wolf Creek Reservoir.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1915	-	-	-	-	-	-	919	1,340	2,160	2,790	2,160	1,140	-
1916	5,340	5,280	*5,890	7,170	2,430	2,720	1,850	1,120	1,450	1,390	1,520	212	*2,870
1917	171	147	*2,100	*6,900	4,460	11,200	2,850	573	432	2,570	995	471	*2,740
1918	682	401	532	*5,620	2,790	1,700	5,620	2,830	469	235	223	568	*1,790
1919	1,160	1,520	1,760	6,690	2,090	4,870	1,850	2,330	527	155	164	91.4	1,940
1920	2,430	3,790	4,240	*6,010	*5,250	5,570	*4,990	1,670	2,100	305	2,490	1,500	*3,350
1921	199	398	2,900	3,160	4,570	2,920	*4,110	833	255	199	411	831	*1,710
1922	279	2,350	2,940	3,720	4,860	*9,030	*6,280	2,580	2,900	1,560	818	290	*3,120
1923	134	174	4,010	*5,330	*5,830	*7,500	3,600	3,440	1,130	408	647	175	*2,690
1924	78.4	157	2,000	6,560	3,380	2,900	3,060	*4,870	1,260	1,200	183	337	*2,170
1925	196	193	*2,670	4,150	*4,580	1,880	1,970	1,100	224	168	40.3	*28.8	*1,420
1926	1,520	3,500	1,420	2,560	3,640	2,620	2,160	1,360	653	344	4,890	712	2,100
1927	462	3,250	*12,100	3,120	5,840	4,660	3,960	1,910	1,950	263	242	108	*3,140
1928	68.6	1,740	3,260	3,280	1,780	3,490	6,090	2,610	510	2,600	820	979	*2,930
1929	790	3,250	3,700	5,630	4,750	10,600	3,190	5,620	1,190	740	208	303	3,160
1930	200	4,210	2,260	1,960	4,400	4,260	1,400	1,410	204	71.3	60.2	137	1,690
1931	88.2	221	752	1,320	1,990	2,830	3,450	1,280	238	330	551	128	1,090
1932	*69	*105	*3,360	*4,700	*8,400	*2,100	*2,780	*925	*510	*625	199	136	*1,950
1933	934	2,140	4,060	5,240	5,720	3,390	3,420	3,480	336	450	561	11,850	2,610
1934	91.1	151	1,079	2,669	1,959	8,214	1,722	689	550	908	636	236	1,582
1935	274	396	543	2,653	4,074	8,562	5,555	2,616	1,989	786	327	108	2,263
1936	49.0	568	949	4,194	2,562	6,554	5,159	368	56.8	69.5	42.2	49.0	1,717
1937	111	622	3,262	14,620	4,475	1,679	2,078	3,682	1,701	345	440	177	2,769
1938	372	316	1,663	3,498	2,992	3,393	3,262	2,297	1,520	693	940	142	1,752
1939	51.7	597	1,051	3,437	11,940	4,736	3,243	985	481	389	219	40.2	2,197
1940	57.5	56.8	286	293	2,469	5,332	5,005	1,841	2,151	1,089	565	222	1,607
1941	62.9	166	496	1,091	498	2,168	3,639	382	436	4,292	320	239	1,155
1942	63.0	348	1,106	1,534	3,135	4,542	806	453	319	560	2,362	265	1,285
1943	194	1,593	8,667	2,454	3,618	6,418	4,339	1,438	465	318	328	733	2,526
1944	129	440	609	1,678	7,468	6,877	3,471	1,426	170	38.7	101	22,145	2,022
1945	872	1,550	2,670	4,870	6,120	3,210	2,360	3,300	1,360	272	354	54	2,227
1946	61.6	1,627	3,116	7,665	5,547	3,320	1,232	1,575	1,513	214	181	228	2,174
1947	283	801	1,351	8,247	1,750	3,463	2,100	1,547	310	547	151	70.1	1,728
1948	40.8	112	332	632	8,791	5,193	1,869	283	117	193	143	54.5	1,450
1949	40.03	3,315	4,514	7,717	5,627	3,689	3,033	1,194	192	1,182	865	146	2,476
1950	243	757	3,793	12,220	7,766	3,793	1,285	4,271	2,424	1,334	*538	*780	*3,254

* Revised.

* Not previously published; estimated on the basis of records for station near Stearns, Ky., and for Clear Fork near Robbins, Tenn.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1915	-	-	-	-	-	-	0.81	1.23	1.91	2.54	1.97	1.01	-
1916	3.05	*4.66	*5.37	6.54	2.07	2.48	1.64	1.02	1.28	1.27	1.39	.19	*30.96
1917	.16	.13	*1.91	*6.29	3.67	*10.20	2.51	.52	.38	2.34	.91	.42	*29.44
1918	.62	.35	.48	*5.13	2.29	1.55	4.96	2.58	.41	.21	.20	.32	*19.10
1919	1.06	1.34	1.80	6.10	1.72	4.44	1.63	2.13	.47	.14	.15	.08	20.86
1920	2.22	3.34	3.87	*5.48	*4.48	5.08	*4.40	1.52	1.86	.28	2.27	1.32	*36.12
1921	.18	.35	2.65	2.88	3.77	2.67	*3.63	.76	.22	.18	.37	.73	*18.39
1922	.25	2.08	2.68	3.39	4.00	*8.24	*5.54	2.35	2.56	1.43	.75	.26	*33.53
1923	.12	.15	3.66	*4.66	*4.81	*6.84	3.17	3.14	1.00	.37	.59	.15	*28.85
1924	.07	.14	1.63	*5.98	2.89	2.65	2.70	*4.44	1.11	1.10	.17	.30	*23.48
1925	.18	.17	*2.44	3.78	*3.77	1.71	1.74	1.01	.20	.15	.04	.03	*15.22
1926	1.38	3.08	1.29	2.33	3.00	2.39	1.91	1.24	.58	.31	4.46	.63	22.60
1927	.42	2.87	*11.07	2.84	4.81	4.25	3.49	1.74	1.72	.24	.22	.10	*33.77
1928	.08	*1.54	2.97	2.99	1.52	3.19	5.37	2.38	*7.51	2.37	.75	.86	*31.51
1929	.72	2.87	1.55	5.13	3.91	9.68	2.81	5.12	1.05	.67	.19	.27	33.97
1930	.18	3.72	2.06	1.79	3.63	3.89	1.23	1.28	.18	.06	.05	.12	18.19
1931	.08	.20	.69	1.20	1.64	2.58	3.05	1.17	.21	.30	.50	.11	11.73
1932	*.06	*.09	*3.06	*4.29	*7.17	*1.92	*2.45	*.84	*.27	*.57	.18	.12	*21.02
1933	.85	1.88	3.70	4.78	4.71	3.09	3.02	3.17	.30	.41	.51	1.63	28.05
1934	.08	.13	.98	2.43	1.61	7.49	1.52	.63	.49	.83	.58	.21	16.98
1935	.25	.35	.50	2.42	3.36	7.81	4.90	2.39	1.23	.72	.30	.10	24.33

* Revised.

* Not previously published; see footnote to preceding table.

CUMBERLAND RIVER BASIN

Monthly and yearly runoff, in inches, of South Fork Cumberland River at Nevelsville, Ky.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1936	0.04	0.50	0.87	3.83	2.19	5.98	4.55	0.34	0.05	0.06	0.04	0.04	18.49
1937	.10	.55	2.98	13.33	3.69	1.53	1.83	3.36	1.50	.31	.40	.16	29.74
1938	.34	.28	1.52	3.19	2.47	3.09	2.88	2.10	1.34	.63	.86	.13	18.83
1939	.05	.53	.96	3.13	9.84	4.32	2.86	.90	.42	.36	.20	.04	23.61
1940	.05	.05	.26	.27	2.11	4.86	4.42	1.68	1.90	.99	.51	.20	17.30
1941	.08	.15	.45	1.00	.41	1.98	3.27	.35	.39	3.91	.29	.21	12.41
1942	.06	.31	1.01	1.40	2.58	4.14	.71	.41	.28	.53	2.15	.23	13.79
1943	.18	1.41	8.09	2.24	2.98	5.85	3.83	1.51	.41	.29	.30	.24	27.13
1944	.12	.39	.56	1.53	6.37	6.27	3.06	1.30	.15	.04	.09	1.89	21.77
1945	.80	1.37	2.44	4.44	5.04	2.93	2.09	3.01	1.20	.25	.32	.05	23.94
1946	.06	1.44	2.84	6.99	4.57	3.03	1.09	1.44	1.34	.20	.17	.20	23.37
1947	.26	.71	1.23	7.52	1.44	3.16	1.85	1.41	.27	.50	.14	.06	18.55
1948	.04	.10	.30	.58	7.50	4.74	1.65	.26	.10	.18	.13	.05	15.63
1949	.04	2.93	4.12	7.04	2.99	3.55	2.68	1.09	.17	1.08	.79	.13	26.61
1950	.22	.67	3.46	11.15	6.41	3.46	1.14	3.90	2.14	1.22	*.49	*.69	*34.95

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1915	453	-	-	-	-	-	-	-
1916	453,1336	*a48,400	Nov. 15, 1915	107	*2,870	*2.27	*30.96	*1,860
1917	453,1336	*a45,200	Mar. 3, 1917	65	*2,740	*2.17	*29.44	*2,670
1918	473,1336	a84,300	Jan. 28, 1918	88	*1,790	*1.42	*19.10	*2,020
1919	503	a67,900	Jan. 2, 1919	50	1,940	1.53	20.86	2,450
1920	503,1336	*a46,600	Mar. 13, 1920	63	*3,350	*2.65	*36.12	*2,770
1921	523,1336	*a45,000	Apr. 17, 1921	82	*1,710	*1.35	*18.39	*1,880
1922	543,1336	*a45,400	Mar. 10, 1922	107	*3,120	*2.47	*33.53	*3,020
1923	563,1336	*a36,300	Mar. 7, 1923	92	*2,690	*2.13	*28.85	*2,510
1924	583,1336	*a46,400	May 30, 1924	54	*2,170	*1.72	*23.48	*2,240
1925	603,1336	*a36,900	Feb. 16, 1925	*17	*1,420	*1.12	*15.22	*1,690
1926	623	a67,500	Aug. 25, 1926	46	2,100	1.66	22.60	*2,900
1927	643,1336	*a50,600	Dec. 26, 1926	55	*3,140	*2.48	*35.77	*2,230
1928	663,1336	a88,700	June 30, 1928	51	*2,830	*2.33	*31.51	*2,980
1929	683	*130,000	Mar. 23, 1929	40	3,160	2.50	33.97	3,240
1930	696	a27,200	Nov. 18, 1929	14	1,690	1.34	18.19	1,230
1931	713	a23,100	Apr. 23, 1931	43	1,090	.862	11.73	*1,300
1932	728	-	-	-	*1,950	*1.54	*21.02	*2,250
1933	743	a27,500	Dec. 28, 1932	61	2,610	2.06	28.05	2,126
1934	758	a46,000	Mar. 5, 1934	78	1,582	1.25	16.98	1,572
1935	783	a4,600	Mar. 13, 1935	34	2,263	1.79	24.33	2,293
1936	803	51,800	Apr. 6, 1936	15	1,717	1.36	18.49	1,922
1937	823	*70,400	Jan. 2, 1937	14	2,769	2.19	29.74	2,630
1938	853	16,300	Apr. 9, 1938	59	1,752	1.39	18.83	1,696
1939	873	*95,600	Feb. 3, 1939	15	2,197	1.74	23.61	2,089
1940	893	39,200	Mar. 31, 1940	34	1,607	1.27	17.30	1,634
1941	923	55,000	July 5, 1941	40	1,155	.914	12.41	1,222
1942	953	27,300	Mar. 16, 1942	36	1,285	1.02	13.79	2,058
1943	973	*68,200	Dec. 30, 1942	45	2,526	2.00	27.13	1,724
1944	1003	58,800	Feb. 18, 1944	19	2,022	1.60	21.77	2,350
1945	1033	32,100	Jan. 1, 1945	41	2,227	1.76	23.94	2,202
1946	1053	88,200	Jan. 8, 1946	46	2,174	1.72	23.37	1,975
1947	1083	39,400	Jan. 5, 1947	44	1,728	1.37	18.55	1,564
1948	1113	84,900	Feb. 14, 1948	20	1,450	1.15	15.63	2,067
1949	1143	69,500	Jan. 6, 1949	19	2,476	1.98	26.61	2,222
1950	1173	52,200	Jan. 31, 1950	*86	*3,254	*2.56	*34.95	-

* Revised.

* Not previously published.

a Maximum observed discharge.

20. Cumberland River at Burnside, Ky.

Location.--Lat 36°59'21", long. 84°36'35" at bridge on U. S. Highway 27 at Burnside, Pulaski County, 100 ft upstream from South Fork, in pool formed by dam 21, 28 miles downstream.

Drainage area.--4,860 sq mi, approximately, including that of South Fork.

Supplemental records available.--Gage-height records collected in this vicinity since 1884 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 585.60 ft above mean sea level, Sandy Hook datum. Jan. 1, 1915, to Nov. 20, 1933, staff gage on piers of bridge over South Fork at same datum.

Average discharge.--36 years (1914-50), 7,631 cfs.

Extremes.--1914-50: Maximum discharge, 181,000 cfs Mar. 24, 1929 (gage height, 69.4 ft), from rating curve extended above 150,000 cfs; minimum, 41 cfs June 30, 1936. Maximum stage known, 72.4 ft in March 1826. Flood of Mar. 24, 1929, reached highest stage since 1884.

Remarks.--Gage site inundated by Wolf Creek Reservoir in which storage began in August 1950.

Monthly and yearly mean discharge, in cubic feet per second, of Cumberland River at Burnside, Ky.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1915	5,360	702	13,500	18,800	12,300	7,390	3,010	5,100	6,660	7,630	4,900	2,410	7,320
1916	7,960	14,200	24,300	24,000	9,610	9,340	6,490	3,120	4,010	3,160	4,430	733	9,310
1917	1,810	790	7,640	25,800	16,900	40,000	9,400	2,640	2,020	4,750	2,510	1,140	9,630
1918	1,960	1,230	1,730	22,100	13,500	7,590	14,300	10,300	1,920	1,490	686	1,500	6,490
1919	2,060	5,190	8,840	22,100	5,800	12,800	5,680	11,800	2,210	721	864	287	6,590
1920	8,490	15,000	17,100	25,000	14,700	18,500	15,200	6,150	5,970	1,790	5,380	4,740	11,500
1921	617	1,520	8,730	9,210	13,300	9,090	11,700	3,300	912	1,320	2,180	2,270	5,290
1922	1,050	5,950	10,000	11,800	18,200	31,500	16,500	9,120	5,680	3,520	1,660	748	9,600
1923	325	389	11,800	14,500	24,500	23,400	8,710	9,190	4,590	2,340	2,140	691	8,470
1924	261	380	7,860	24,300	12,900	10,900	8,920	13,500	6,740	3,880	643	1,540	7,670
1925	1,270	1,150	12,100	13,400	15,700	8,130	7,610	6,560	1,980	1,020	149	83.7	5,710
1926	3,760	10,600	4,520	10,900	13,900	8,800	7,470	5,840	1,890	908	8,620	4,570	6,760
1927	3,110	11,800	40,300	12,100	20,700	15,800	17,700	9,390	9,240	948	1,490	339	11,900
1928	160	6,150	8,070	12,200	7,450	12,300	18,200	10,500	18,100	12,400	2,940	2,880	9,220
1929	2,160	9,710	5,480	17,700	14,400	35,700	9,740	20,100	3,180	2,690	618	1,090	10,200
1930	675	12,800	7,610	7,810	14,000	11,400	4,410	4,640	689	326	213	269	5,340
1931	226	362	1,460	3,010	5,580	8,360	14,700	5,380	1,100	1,740	2,190	544	3,700
1932	281	292	13,400	16,700	26,600	10,200	11,900	4,170	3,490	5,250	476	170	7,680
1933	1,570	5,110	8,440	21,100	21,900	13,000	11,900	12,300	1,520	1,810	3,850	5,190	8,730
1934	235	314	4,712	8,209	7,235	33,590	7,543	2,090	1,669	2,083	2,265	681	5,911
1935	1,220	2,215	1,761	12,510	12,860	31,250	21,610	12,500	9,517	3,720	1,541	1,541	9,315
1936	120	2,997	4,269	15,580	8,883	21,140	18,500	1,194	219	353	154	219	6,128
1937	356	2,384	7,324	49,260	15,030	6,029	6,588	10,110	5,754	1,284	1,652	932	8,896
1938	1,726	1,160	5,762	12,020	10,770	16,010	11,890	7,800	7,981	4,166	5,491	1,063	7,141
1939	262	3,212	5,651	13,213	39,360	16,719	13,492	3,133	1,969	3,712	741	146	8,255
1940	123	145	626	1,043	7,492	15,300	17,690	4,661	5,866	4,351	1,339	592	4,909
1941	177	411	1,577	4,187	1,612	6,641	10,540	1,395	1,476	14,570	1,084	697	3,719
1942	160	912	3,433	4,869	9,951	15,650	3,877	2,074	2,233	4,285	6,248	1,278	4,734
1943	1,118	6,534	25,620	11,560	13,020	25,130	15,320	5,304	2,277	1,063	1,044	441	9,052
1944	328	1,212	1,688	5,483	22,790	27,560	14,630	4,588	735	133	407	5,024	6,817
1945	2,446	2,948	7,072	18,760	22,590	15,110	7,981	9,681	5,061	924	962	1,195	7,731
1946	182	5,003	9,912	27,810	18,350	13,230	4,723	6,745	6,546	1,835	1,782	867	8,040
1947	1,475	2,843	4,869	30,100	7,285	11,600	8,403	7,263	5,896	8,108	3,236	407	7,662
1948	173	472	1,340	3,618	30,520	19,620	13,510	1,690	734	1,450	929	193	6,081
1949	137	7,248	14,210	22,750	16,710	14,740	12,790	5,010	698	4,182	1,900	444	13,382
1950	799	2,791	11,920	35,130	29,920	11,930	5,089	13,690	12,260	5,360	2,134	2,180	11,020

† Corrected.

‡ Not previously published; estimated on the basis of records for upstream stations.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1915	1.27	0.16	3.20	4.46	2.63	1.75	0.69	1.21	1.53	1.81	1.16	0.55	20.42
1916	1.89	3.27	5.75	5.69	2.13	2.21	1.49	.74	.92	.75	1.05	.17	26.06
1917	.43	.18	1.81	6.13	3.62	9.48	2.16	.63	.46	1.13	.59	.26	26.88
1918	.47	.28	.41	5.23	2.89	1.80	3.29	2.44	.44	.35	.16	.34	18.10
1919	.49	1.19	1.62	5.25	1.24	3.05	1.39	2.75	.51	.17	.21	.07	17.85
1920	2.01	3.45	4.06	5.93	3.26	4.34	3.49	1.46	1.57	.42	1.28	1.09	32.16
1921	.15	.35	2.07	2.19	2.85	2.16	2.69	.78	.21	.31	.52	.12	14.80
1922	.25	1.37	2.38	2.79	3.89	7.48	3.80	2.16	1.30	.84	.39	.17	26.82
1923	.08	.09	2.81	3.43	5.26	5.55	2.00	2.18	1.05	.55	.51	.16	23.67
1924	.06	.09	1.86	5.76	2.86	2.59	2.05	3.20	1.55	.92	.15	.35	21.44
1925	.30	.26	2.87	3.17	†3.35	1.93	1.75	1.56	.45	.24	.04	.02	15.94
1926	.89	2.43	1.07	2.59	2.97	2.09	1.71	1.39	.43	.22	2.04	1.05	18.88
1927	.74	2.72	9.55	2.88	4.44	3.75	4.06	2.23	2.12	.22	.35	.08	33.14
1928	.04	1.41	1.91	2.90	1.65	2.92	4.17	2.49	4.15	2.93	.58	.66	25.81
1929	.51	2.23	1.30	4.21	3.09	8.47	2.24	4.77	.73	.69	.15	.25	28.64
1930	.16	2.93	1.81	1.85	2.99	2.71	1.01	1.10	.16	.08	.05	.06	14.91
1931	.05	.08	.35	.71	1.20	1.98	3.38	1.28	.25	.41	.52	.12	10.33
1932	.07	.07	3.16	3.97	5.91	2.42	2.72	.99	.80	1.24	.11	.04	21.50
1933	.37	1.17	2.00	5.00	4.69	3.09	2.73	2.91	.35	.43	.91	.73	24.38
1934	.06	.07	1.12	1.95	1.55	7.97	1.73	.50	.36	.49	.54	.16	16.52
1935	.29	.51	.42	2.97	2.76	7.41	4.96	2.97	2.18	.88	.32	.35	26.02
1936	.03	.69	1.01	3.70	1.97	5.02	4.25	.28	.05	.08	.04	.05	17.17
1937	.08	.55	1.74	11.69	3.22	1.43	1.51	2.40	1.32	.30	.39	.21	24.84
1938	.41	.27	1.57	2.85	2.31	3.80	2.73	1.85	1.63	.99	1.30	.24	19.95
1939	.06	.74	1.34	3.13	8.43	3.97	3.10	.74	.45	.88	.18	.03	23.05
1940	.03	.03	.15	.25	1.66	3.63	4.06	1.11	1.35	1.03	.32	.14	13.76
1941	.04	.09	.37	.99	.35	1.58	2.42	.33	.34	3.46	.26	.16	10.39
1942	.04	.21	.81	1.15	2.13	3.71	.89	.49	.51	1.02	1.96	.29	13.21
1943	.27	1.50	6.12	2.74	2.79	5.96	3.52	1.26	.52	.25	.25	.10	25.28
1944	.08	.28	.40	1.30	5.06	6.54	3.36	1.09	.17	.03	.10	.69	19.10
1945	.58	.68	1.68	4.45	4.84	3.58	1.83	2.30	1.16	.22	.23	.04	21.59
1946	.04	1.15	2.55	6.60	3.93	3.14	1.08	1.60	1.50	.44	.42	.20	22.45
1947	.35	.65	1.16	7.14	1.56	2.75	1.93	1.72	1.35	1.92	.77	.09	24.39
1948	.04	.11	.52	.86	6.77	4.66	3.10	.40	.17	.34	.22	.04	17.03
1949	.03	1.66	3.37	5.40	3.58	3.50	2.94	1.19	.21	.99	.45	.10	23.42
1950	.19	.64	2.83	8.33	6.41	2.83	1.17	3.29	2.82	1.27	.51	*.50	*30.79*

† Corrected.

‡ Not previously published; see footnote to preceding table.

CUMBERLAND RIVER BASIN

Yearly discharge, in cubic feet per second, of Cumberland River at Burnside, Ky.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1915	453	*76,500	Feb. 2, 1915	150	7,320	1.51	20.42	9,560	26.70
1916	453	*128,000	Dec. 19, 1915	398	9,310	1.92	26.06	6,280	17.57
1917	453	115,000	Jan. 5, 1917	329	9,630	1.98	26.88	9,170	25.62
1918	473	*176,000	Jan. 29, 1918	303	6,490	1.34	18.10	7,250	20.24
1919	503	*140,000	Jan. 2, 1919	115	6,390	1.31	17.85	8,620	24.07
1920	503	107,000	Jan. 24, 1920	175	11,500	2.37	32.16	9,000	25.21
1921	523	73,800	Apr. 17, 1921	240	5,290	1.09	14.80	5,800	16.23
1922	543	103,000	Mar. 11, 1922	240	9,600	1.98	26.82	9,240	25.80
1923	563	103,000	Feb. 4, 1923	175	8,470	1.74	23.67	8,130	22.70
1924	583	*127,000	Jan. 3, 1924	188	7,670	1.58	21.44	8,160	22.86
1925	603	96,100	Dec. 9, 1924	65	5,710	1.17	15.94	6,050	16.90
1926	623	73,000	Jan. 22, 1926	105	6,760	1.39	18.88	9,850	27.50
1927	643	*145,000	Dec. 25, 1926	150	11,900	2.45	33.14	410	23.49
1928	663	*127,000	June 30, 1928	150	9,220	1.90	25.81	9,470	26.49
1929	683	181,000	Mar. 24, 1929	150	10,200	2.10	28.64	10,550	29.50
1930	698	*57,800	Nov. 18, 1929	150	5,340	1.10	14.91	3,760	10.49
1931	713	50,300	Mar. 29, 1931	170	3,700	.761	10.33	4,720	13.15
1932	728	*124,000	Jan. 30, 1932	105	7,680	1.58	21.50	7,770	21.74
1933	743	81,100	Feb. 21, 1933	170	8,730	1.60	24.38	7,910	22.09
1934	758	*122,000	Mar. 4, 1934	180	5,911	1.22	16.52	5,900	16.49
1935	783	*122,000	Mar. 13, 1935	160	9,315	1.92	26.02	9,499	26.53
1936	803	*112,000	Apr. 7, 1936	52	6,128	1.26	17.17	6,356	17.81
1937	823	*134,000	Jan. 3, 1937	77	8,896	1.83	24.84	8,779	24.52
1938	853	43,200	Jan. 23, 1938	234	7,141	1.47	19.95	7,176	20.04
1939	873	*169,000	Feb. 4, 1939	85	8,255	1.70	23.05	7,564	21.12
1940	893	*78,600	Mar. 31, 1940	68	4,909	1.01	13.76	5,016	14.05
1941	923	73,700	July 5, 1941	146	3,719	.765	10.39	3,916	10.95
1942	953	53,600	Mar. 18, 1942	85	4,734	.974	13.21	7,179	20.04
1943	973	156,000	Dec. 30, 1942	156	9,052	1.86	25.28	6,498	18.15
1944	1003	114,000	Feb. 18, 1944	68	6,817	1.40	19.10	7,594	21.28
1945	1033	94,300	Jan. 1, 1945	114	7,731	1.59	21.59	7,949	22.19
1946	1053	173,000	Jan. 8, 1946	144	8,040	1.65	22.45	7,544	21.07
1947	1083	105,000	Jan. 3, 1947	271	7,662	1.58	21.39	7,057	19.70
1948	1113	178,000	Feb. 14, 1948	80	6,081	1.25	17.03	7,724	21.62
1949	1143	131,000	Jan. 6, 1949	84	8,382	1.72	23.42	7,878	22.02
1950	1173	120,000	Jan. 31, 1950	*213	*11,020	*2.27	*30.79	-	-

* Revised.

* Not previously published.

21. Cumberland River near Jamestown, Ky.

Location.--Lat 36°56', long. 85°00', 1.1 miles upstream from Wolf Creek and 6 miles south-east of Jamestown, Russell County.

Drainage area.--5,370 sq mi, approximately.

Gage.--Staff gage. Datum of gage is 562.00 ft above mean sea level, Sandy Hook datum. Since Oct. 1, 1938, auxiliary staff gage at lock 21, 10 miles upstream at datum 4.55 ft higher.

Extremes.--1938-40: Maximum discharge, 145,000 cfs (revised) Feb. 4, 1939; maximum gage height, 55.80 ft Feb. 4, 1939, from graph based on gage readings; minimum discharge observed, 54 cfs Sept. 25, 1939 (gage height, 1.31 ft).

Maximum stage known, 62.5 ft March 1826, from high-water profile.

Remarks.--Low-water flow may be slightly regulated by manipulation of dam 21. Gage site inundated in 1950 by Wolf Creek Reservoir.

Cooperation.--Records for water year 1938 computed by Corps of Engineers and reviewed by Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1938	-	-	-	-	-	-	-	-	-	-	6,330	1,368	-
1939	308	3,535	6,091	14,150	*42,710	18,250	14,920	3,292	2,043	4,043	790	144	*8,959
1940	136	170	647	1,119	8,018	16,150	19,660	4,740	5,970	4,328	1,402	718	5,225

* Revised mean daily discharge for Feb. 4, 1939, is 130,000 cfs.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1938	-	-	-	-	-	-	-	-	-	-	1.36	0.28	-
1939	0.07	0.73	1.30	3.04	*8.28	3.92	3.10	0.71	0.42	0.87	.37	.03	*22.64
1940	.03	.04	.14	.24	1.61	3.47	4.09	1.02	1.24	.93	.30	.15	13.26

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1938	853	-	-	-	-	-	-	-
1939	873	*145,000	Feb. 4, 1939	58	*8,959	*1.67	*22.64	*8,205
1940	893	75,200	Apr. 21, 1940	67	5,225	.973	13.26	-

* Revised.

22. Cumberland River near Rowena, Ky.

Location (revised).--Lat 36°53'02", long. 85°08'22", 1.5 miles downstream from Wolf Creek Dam, 1.9 miles upstream from Blackfish Creek, 1.9 miles west of Rowena, Russell County, and at mile 459.4.

Drainage area.--5,790 sq mi, approximately.

Gage.--Water-stage recorder. Datum of gage is 540.81 ft above mean sea level, Sandy Hook datum. Prior to Oct. 24, 1940, staff gage at same site and datum.

From Oct. 1, 1943, to Sept. 30, 1948, auxiliary staff gage at Rowena Ferry, 2.9 miles upstream.

Average discharge.--11 years (1939-50), 8,245 cfs (unadjusted).

Extremes.--1939-50: Maximum discharge, 162,000 cfs Jan. 9, 1946; maximum gage height, 64.82 ft Jan. 9, 1946; minimum daily discharge, 2 cfs Sept. 30, 1950, result of regulation.

Maximum stage known, 69.5 ft in March 1826, from profile of Cumberland River.

Remarks.--Flow regulated since July 1950 by Wolf Creek Reservoir.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1940	#208	#208	783	1,343	8,510	17,510	21,540	5,417	6,192	4,652	1,636	977	#5,716
1941	207	449	1,766	5,186	2,043	7,171	12,000	1,655	1,913	15,780	1,335	794	4,213
1942	211	1,081	3,773	5,542	10,920	17,000	4,742	2,288	2,588	4,622	8,799	1,370	5,227
1943	1,244	7,304	25,770	16,050	14,530	28,680	17,110	6,498	2,929	1,324	1,287	530	10,270
1944	394	1,398	1,847	6,551	23,670	32,560	17,260	5,031	959	182	587	2,920	7,716
1945	3,691	3,286	7,864	22,620	25,520	18,370	9,076	10,820	5,841	1,183	1,152	260	9,055
1946	231	6,134	11,090	32,540	19,630	15,580	5,493	7,617	8,000	2,256	2,253	1,063	9,285
1947	1,843	3,556	5,721	33,970	8,910	12,380	9,894	8,627	5,413	9,726	3,644	520	8,724
1948	243	529	1,537	4,345	34,550	22,110	15,640	2,074	956	1,953	1,329	258	7,008
1949	169	7,485	16,910	27,030	19,690	16,720	14,380	6,347	1,501	5,034	2,285	563	9,804
1950	1,119	3,508	13,940	41,210	40,860	13,420	6,402	15,890	15,850	6,048	2,922	4,885	13,680

* Revised.

† Not previously published; estimated on the basis of records at Burnside, Ky., and at Celina, Tenn.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1940	#0.04	#0.04	0.16	0.27	1.59	3.49	#4.15	1.08	1.19	0.93	0.33	0.19	#13.46
1941	.04	.09	.35	1.03	.37	1.43	2.31	.33	.37	3.14	.27	.15	9.88
1942	.04	.20	.75	1.10	1.96	3.38	.91	.46	.50	.92	1.75	.26	12.23
1943	.25	1.41	5.13	3.20	2.61	5.71	3.30	1.29	.56	.26	.26	.10	24.08
1944	.08	.27	.37	1.31	4.41	6.49	3.33	1.00	.18	.04	.12	.56	18.16
1945	.73	.63	1.57	4.50	4.59	3.66	1.75	2.15	1.13	.24	.23	.05	21.23
1946	.05	1.18	2.21	6.48	3.53	3.10	1.06	1.52	1.54	.45	.45	.20	21.77
1947	.37	.69	1.14	6.76	1.60	2.46	1.91	1.72	1.04	1.94	.73	1.10	20.46
1948	.05	.10	.31	.87	6.44	4.40	3.01	.41	.18	.39	.26	.05	16.47
1949	.03	1.44	3.37	5.38	3.54	3.33	2.77	1.26	.29	1.00	.46	.11	22.98

* Revised.

† Not previously published; see footnote for preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1940	893,1336	#67,200	Apr. 1, 1940	-	#5,716	#0.987	#13.46	#5,819	#13.70
1941	923	64,300	July 6, 1941	127	4,213	.727	9.88	4,435	10.39
1942	953	49,900	Mar. 18, 1942	125	5,227	.903	12.23	7,695	18.05
1943	973	146,000	Dec. 31, 1942	235	10,270	1.77	24.08	7,883	18.01
1944	1003	88,200	Feb. 19, 1944	77	7,716	1.33	18.16	8,660	20.37
1945	1033	83,800	Jan. 2, 1945	147	9,055	1.56	21.23	9,269	21.74
1946	1053	162,000	Jan. 9, 1946	157	9,285	1.60	21.77	8,754	20.53
1947	1083	82,200	Jan. 4, 1947	366	8,724	1.51	20.46	7,984	18.72
1948	1113	158,000	Feb. 15, 1948	102	7,008	1.21	16.47	8,873	20.85
1949	1143	100,000	Jan. 7, 1949	96	9,804	1.69	22.98	9,306	21.61
1950	1173	142,000	Feb. 2, 1950	82	13,680	2.38	32.33	-	-

* Revised.

† Not previously published.

a Affected by regulation of Wolf Creek Reservoir.

23. East Fork Obey River near Jamestown, Tenn.

Location.--Lat 36°24'58", long. 85°01'24", 300 ft upstream from bridge on State Highway 52, half a mile upstream from Poplar Cove Creek, 5 miles west of Jamestown, Fentress County, and at mile 12.5.

Drainage area.--204 sq mi.

Gage.--Water-stage recorder. Prior to Apr. 8, 1943, staff gage at site 200 ft upstream. Datum of gage is 680.30 ft above mean sea level, Sandy Hook datum.

Average discharge.--8 years (1942-50), 402 cfs.

Extremes.--1942-50: Maximum discharge, 28,300 cfs Feb. 13, 1948 (gage height, 27.20 ft), from rating curve extended above 22,000 cfs by logarithmic plotting; minimum, 3.6 cfs Sept. 26-28, 1948; minimum gage height, 1.09 ft Aug. 12, 13, 1944.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	*35.5	*272	*1,650	*425	*690	1,289	883	206	59.0	33.7	46.2	18.5	*467
1944	12.8	41.8	103	287	*1,601	1,185	602	207	27.8	9.73	16.7	*494	*377
1945	148	265	497	839	1,139	597	278	783	152	74.6	60.2	11.6	400
1946	15.6	418	697	1,297	1,058	600	295	151	101	19.7	17.3	14.2	387
1947	14.5	72.1	174	1,300	296	897	389	216	51.0	83.3	41.0	9.72	280
1948	4.78	13.8	62.9	134	1,548	768	237	68.5	31.1	28.9	25.4	9.52	238
1949	14.8	485	783	1,506	588	685	448	244	119	440	274	40.9	470
1950	161	189	587	2,253	1,410	671	241	777	461	194	110	136	596

* Revised.

* Not previously published; estimated on basis of records for Clear Fork near Robbins.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	*0.20	*1.49	*9.32	*2.40	*3.52	7.28	4.83	1.16	0.32	0.19	0.28	0.10	*31.07
1944	.07	.23	.52	1.62	*8.46	6.70	3.29	1.17	.15	.05	.09	*2.70	*25.05
1945	.84	1.45	2.81	4.74	5.82	3.38	1.52	4.43	.83	.42	.34	.06	26.64
1946	.09	2.28	3.94	7.33	5.40	3.39	1.61	.86	.55	.11	.10	.08	25.74
1947	.08	.39	.99	7.35	1.51	3.94	2.13	1.22	.28	.47	.23	.05	18.64
1948	.03	.08	.36	.76	8.18	4.34	1.30	.39	.17	.17	.14	.05	15.97
1949	.08	2.65	4.42	8.51	3.00	3.87	2.45	1.38	.65	2.49	1.55	.22	31.27
1950	.91	1.03	3.32	12.73	7.20	3.79	1.32	4.39	2.52	1.10	.62	.74	39.67

* Revised.

* Not previously published; estimated on basis of records for Clear Fork near Robbins.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1943	1003	-	Dec. 29, 1942*	-	*467	*2.29	*31.07	*315	*20.86
1944	(a)	*20,800	Feb. 17, 1944	6.2	*377	*1.85	25.05	*440	*29.33
1945	1033	8,440	Feb. 22, 1945	8.7	400	1.96	26.64	419	27.85
1946	1053	*21,000	Jan. 7, 1946	5.8	387	1.90	25.74	314	20.89
1947	1083	8,060	Jan. 15, 1947	4.9	280	1.37	18.64	265	17.65
1948	1113	28,300	Feb. 13, 1948	3.6	239	1.17	15.97	340	22.65
1949	1143	26,600	Jan. 5, 1949	4.8	470	2.30	31.27	442	29.38
1950	1173	13,700	Jan. 30, 1950	19	596	2.92	39.67	-	-

* Revised.

* Not previously published.

a WSP 1003, 1276.

24. West Fork Obey River near Alpine, Tenn.

Location.--Lat 36°23'50", long. 85°10'30", at bridge on State Highway 52, a quarter of a mile upstream from Nettiecarrier Creek, 2½ miles east of Alpine, Overton County, and 8 miles east of Livingston.

Drainage area.--108 sq mi (including 19 sq mi without surface drainage).

Gage.--Water-stage recorder. Datum of gage is 684.18 ft above mean sea level, Sandy Hook datum.

Average discharge.--8 years (1942-50), 172 cfs.

Extremes.--1942-50: Maximum discharge, 14,000 cfs (revised) Jan. 7, 1946 (gage height, 15.56 ft); minimum, 2.8 cfs Oct. 15, 16, 1948; minimum gage height, 0.59 ft Sept. 25-28, 1948.

Monthly and yearly mean discharge, in cubic feet per second, of West Fork Obey River near Alpine, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	*14.0	*155	*580	132	251	511	385	129	24.4	11.3	14.9	12.4	*185
1944	10.0	16.7	42.1	95.1	592	517	254	74.3	14.9	10.4	22.7	183	151
1945	49.5	88.3	214	387	527	276	109	267	88.7	29.8	20.3	6.26	170
1946	8.89	166	258	*657	480	302	116	39.5	37.8	9.68	14.6	7.01	*173
1947	6.03	28.5	60.2	481	99.9	283	203	98.0	40.0	62.3	27.4	7.55	117
1948	4.03	8.61	37.2	91.5	*720	360	126	23.5	12.3	16.2	12.5	5.09	*116
1949	5.28	200	325	585	288	350	208	68.5	122	218	111	17.8	208
1950	52.6	55.3	218	1,024	680	300	96.3	345	265	76.4	36.2	39.4	264

* Revised.

* Not previously published; estimated on basis of weather records and records for station Roaring River near Hilham.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	*0.15	*1.60	*6.19	1.41	2.42	5.46	3.98	1.37	0.25	0.12	0.16	0.13	*23.24
1944	.11	.17	.45	.99	5.91	5.51	2.62	.79	.15	.11	.24	1.89	18.94
1945	.53	.91	2.29	4.14	5.08	2.95	1.13	2.85	.92	.32	.22	.06	21.40
1946	.09	1.71	2.76	*7.01	4.63	3.23	1.20	.42	.39	.10	.16	.07	*21.77
1947	.06	.29	.64	5.14	.96	3.03	2.10	1.05	.41	.66	.29	.08	14.71
1948	.04	.09	.40	.98	*7.19	3.84	1.30	.25	.13	.17	.13	.05	*14.57
1949	.06	2.06	3.47	6.24	2.78	3.74	2.15	.73	1.27	2.33	1.18	.18	26.19
1950	.56	.57	2.33	10.93	6.56	3.20	.99	3.69	2.74	.82	.39	.41	33.19

* Revised.

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1943	1003	*5,020	Dec. 28, 1942	-	*185	*1.71	*23.24	128	16.03
1944	1003	*7,430	Feb. 17, 1944	4.8	151	1.40	18.94	174	21.94
1945	1033	*5,740	Feb. 22, 1945	4.7	170	1.57	21.40	177	22.23
1946	1053, 1386	*14,000	Jan. 7, 1946	3.2	*173	*1.60	*21.77	*145	*18.20
1947	1083	3,450	Jan. 15, 1947	3.5	117	1.08	14.71	113	14.25
1948	1113, 1386	*11,100	Feb. 13, 1948	3.0	*116	*1.07	*14.57	*156	*19.63
1949	1143	6,670	Jan. 5, 1949	3.0	208	1.93	26.19	191	24.06
1950	1173	5,250	Jan. 31, Feb. 1	7.8	264	2.44	33.19	-	-

* Revised.

* Not previously published.

25. Obey River near Byrdstown, Tenn. 1/

Location.--Lat 36°32'12", long. 85°10'25", at bridge on State Highway 42, 1.8 miles upstream from Eagle Creek, and 3.4 miles southwest of Byrdstown, Pickett County.

Drainage area.--452 sq mi.

Gage.--Water-stage recorder. Datum of gage is 577.08 ft above mean sea level, Sandy Hook datum. Prior to Nov. 16, 1933, chain gage and Nov. 16, 1933, to May 9, 1938, water-stage recorder at site a quarter of a mile downstream at same datum.

Average discharge.--25 years (1918-43), 748 cfs.

Extremes.--1919-43: Maximum discharge, 35,000 cfs June 29, 1928, and Mar. 23, 1929 (gage height, 36.7 ft at described site, from gage-relation curve), from rating curve extended above 14,000 cfs on the basis of slope-area computations from cross sections and profiles furnished by Corps of Engineers, U. S. Army; minimum observed, 7 cfs Nov. 3, 1920 (gage height, 0.90 ft).

1/ Published as "near Boom" prior to 1926.

CUMBERLAND RIVER BASIN

Monthly and yearly mean discharge, in cubic feet per second, of Obey River near Byrdstown, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1919	*410	*540	*630	*2,350	*740	*1,750	448	508	139	53.7	68.1	41.8	*643
1920	835	1,970	1,570	*1,970	*1,890	1,610	*2,260	833	500	63.2	525	1,020	*1,250
1921	63.8	67.0	792	1,020	1,650	1,070	1,305	218	55.6	215	228	178	566
1922	86.5	854	*1,120	1,320	1,630	*4,090	*1,950	1,120	498	334	518	96.0	*1,130
1923	38.4	52.2	1,410	*2,610	*2,180	*2,840	1,470	702	288	86.7	394	159	*978
1924	25.2	32.6	864	*2,140	1,380	1,030	778	*1,540	466	319	92.8	49.5	*727
1925	20.3	34.5	485	1,070	*1,420	792	808	400	86.2	44.6	19.6	64.3	*431
1926	646	1,440	473	*1,050	998	885	652	409	368	174	1,320	215	*716
1927	161	1,090	*4,350	1,030	2,100	1,590	1,190	730	831	115	318	53.1	*1,130
1928	39.1	318	748	1,110	539	1,300	2,180	797	*2,950	1,220	284	243	*975
1929	115	*718	604	*1,810	*1,430	*3,300	*1,170	*1,660	284	247	153	131	*969
1930	100	1,410	742	829	*1,630	*1,650	599	322	66.7	30.1	29.6	22.4	*611
1931	28.5	35.4	100	261	617	*940	847	590	70.3	87.2	92.7	26.2	*306
1932	23.4	28.7	1,430	*1,840	*3,180	1,040	1,410	525	153	233	95.8	52.1	*825
1933	300	472	1,280	1,840	*2,130	*1,320	1,270	1,250	129	204	225	*110	*954
1934	43.7	63.1	303	*778	*733	*3,280	699	475	410	311	456	140	*643
1935	111	239	229	1,126	1,795	*2,970	*2,050	418	566	241	135	45.9	*820
1936	26.4	155	243	1,055	815	*2,390	*1,600	137	36.9	30.9	18.9	32.7	*543
1937	30.5	157	839	*4,630	*1,730	521	703	*1,290	*521	129	134	85.3	*897
1938	122	122	577	1,128	1,042	1,207	877	614	416	336	597	129	596
1939	49.6	312	447	1,340	*3,633	1,515	1,346	425	324	186	81.5	21.3	787
1940	23.6	24.0	105	96.5	989	1,904	1,838	686	341	193	131	44.1	528
1941	24.4	55.5	202	474	225	721	1,418	140	196	1,253	146	87.4	413
1942	31.3	97.9	291	495	970	1,445	376	187	91.4	232	613	99.6	409
1943	75.6	651	2,810	675	1,125	2,436	1,654	522	152	83.7	88.3	43.3	860

* Revised.

* Not previously published; estimated based on the records for Cumberland River at Nevelsville, Ky.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1919	*1.05	*1.33	*1.60	*6.00	*1.71	*4.46	1.11	1.29	0.34	0.14	0.17	0.10	*19.30
1920	2.13	4.86	4.01	*5.02	*4.51	4.09	*5.58	2.12	1.23	.16	1.34	2.53	*37.58
1921	.16	.17	2.02	2.61	3.80	2.73	3.22	.56	.14	.55	.58	.44	16.98
1922	.22	2.11	*2.86	3.37	3.73	*10.43	*4.81	2.85	1.23	.85	1.32	.24	*34.02
1923	.10	.13	3.59	*5.51	*5.03	*7.25	3.64	1.79	.71	.22	1.00	.39	*29.36
1924	.06	.06	2.20	*5.46	3.29	2.64	1.92	*3.92	1.15	.81	.24	.12	*21.89
1925	.05	.09	1.24	2.74	*3.28	2.02	1.99	1.02	.21	.11	.05	.16	*12.96
1926	1.65	3.55	1.21	*2.68	2.30	2.21	1.61	1.04	.91	.44	3.38	.53	*21.51
1927	.41	2.69	*11.09	2.63	4.83	4.06	2.93	1.87	2.05	.29	.81	.13	*33.79
1928	.10	.78	1.91	2.84	1.28	3.32	5.38	2.03	*7.29	3.11	.72	.60	*29.36
1929	.29	*1.77	1.54	*4.61	*3.29	*8.42	*2.89	*4.23	.65	.63	.39	.37	*29.08
1930	.25	3.48	1.89	2.11	*3.76	*4.21	1.48	.82	.17	.08	.08	.06	*18.39
1931	.07	.09	.25	.67	1.43	*2.40	2.09	1.51	.17	.22	.24	.06	*9.20
1932	.06	.07	3.64	*4.69	*7.59	2.65	3.48	1.34	.38	.59	.24	.13	*24.86
1933	.77	1.16	3.26	4.69	*4.90	*3.37	3.14	3.18	.32	.52	.57	*2.74	*28.62
1934	.11	.16	.77	*1.98	*1.69	*8.37	1.73	1.21	1.01	.79	1.16	.35	*19.33
1935	.28	.59	.58	2.87	4.13	*7.57	*5.06	1.07	1.40	.61	.34	.11	*24.61
1936	.07	.38	.62	2.69	1.94	*6.08	*3.95	.35	.09	.08	.05	.08	*16.38
1937	.08	.39	2.14	*11.80	*3.99	1.33	1.74	*3.29	*1.28	.33	.34	.21	*26.92
1938	.31	.30	1.47	2.88	2.40	3.08	2.16	1.57	1.03	.86	1.52	.32	17.90
1939	.13	.77	1.14	3.42	8.37	3.86	3.32	1.08	.80	.47	.21	.05	23.62
1940	.06	.06	.27	.25	2.36	4.86	4.54	1.75	.84	.49	.33	.11	15.92
1941	.06	.14	.51	1.21	.52	1.84	3.50	.36	.48	3.20	.37	.22	12.41
1942	.08	.24	.74	1.26	2.24	3.69	.93	.48	.23	.59	1.56	.25	12.29
1943	.19	1.61	7.17	1.72	2.59	6.21	4.08	1.33	.38	.21	.23	.11	25.83

* Revised.

* Not previously published; computed based on records for Cumberland River at Nevelsville, Ky.

Yearly discharge, in cubic feet per second, of Obey River near Byrdstown, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1919	523	-	-	-	*643	*1.42	*19.30	*876	*26.32
1920	523,1276	*22,600	Feb. 22, 1920*	18	*1,250	*2.77	*37.58	*961	*28.93
1921	523	6,690	Apr. 17, 1921	7	566	1.25	16.98	*660	*19.82
1922	543,1276	*34,500	Mar. 2, 1922	12	*1,130	*2.50	*34.02	*1,090	*32.65
1923	563,1276	*15,200	Jan. 28, 1923	21	*978	*2.16	*29.36	*929	*27.88
1924	583,1276	*18,400	Jan. 3, 1924	10	*727	*1.61	*21.89	*695	*20.93
1925	603,1276	*9,280	Feb. 16, 1925	13	*431	*.954	*12.96	*599	*17.99
1926	623,1276	*9,630	Jan. 22, 1926	40	*716	*1.58	*21.51	*976	*29.29
1927	643,1276	*22,100	Dec. 22, 1926	31	*1,130	*2.50	*33.79	746	22.39
1928	663,1276	35,000	June 29, 1928	26	*975	*2.16	*29.36	*1,000	*30.17
1929	683,1276	35,000	Mar. 23, 1929	19	*969	*2.14	*29.08	*1,040	*31.10
1930	698,1276	*11,000	Mar. 19, 1930	12	*611	*1.35	*18.39	*438	*13.18
1931	713,1276	*10,100	Mar. 28, 1931	13	*308	*.677	*9.20	*418	*12.56
1932	728,1276	*22,900	Jan. 30, 1932	12	*825	*1.83	*24.86	*872	*26.28
1933	743,1276	*15,600	Sept. 4, 1933	26	*954	*2.11	*28.62	*816	*24.47
1934	758,1276	*19,000	Mar. 3, 1934	33	*643	*1.42	*19.33	*657	*19.74
1935	783,1276	*17,200	Mar. 12, 1935	22	*820	*1.81	*24.61	*807	*24.23
1936	803,1276	16,900	Mar. 26, 1936	10	*543	*1.20	*16.38	*594	*17.92
1937	823,1276	*28,800	Jan. 2, 1937	14	*897	*1.98	26.92	*879	*26.39
1938	853	4,380	Jan. 22, 1938	30	596	1.32	17.90	594	17.86
1939	873	28,600	Feb. 3, 1939	16	787	1.74	23.62	732	21.97
1940	893	14,100	Mar. 30, 1940	15	528	1.17	15.92	539	16.24
1941	923	15,300	July 4, 1941	22	413	.914	12.41	425	12.76
1942	953	5,730	Mar. 17, 1942	21	409	.905	12.29	672	20.20
1943	973	21,300	Dec. 29, 1942	21	860	1.90	25.83	-	-

* Revised.

* Not previously published.

a Maximum observed.

26. Wolf River near Byrdstown, Tenn.

Location.--Lat 36°33'40", long, 85°04'20", half a mile upstream from Widow Creek, 3 miles east of Byrdstown, Pickett County, and 5 miles upstream from Lick Creek.

Drainage area.--105 sq mi.

Gage.--Water-stage recorder. Datum of gage is 707.54 ft above mean sea level, Sandy Hook datum.

Average discharge.--8 years (1942-50), 175 cfs.

Extremes.--1943-50: Maximum discharge, 13,300 cfs Jan. 7, 1946 (gage height, 8.94 ft), from rating curve extended above 7,300 cfs by logarithmic plotting; minimum, 5.1 cfs Sept. 26, 1948; minimum gage height, 0.90 ft Aug. 27, Oct. 8, 1946, Sept. 20, Oct. 4, 7, 8, 14, 15, 1947.

Remarks.--Some regulation by gristmills upstream.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	*22.0	*122	*610	*180	*275	*495	*345	*96	*37.1	32.7	23.3	*9.03	*187
1944	9.34	14.8	31.7	113	522	594	264	83.6	18.6	8.09	22.7	144	151
1945	55.1	83.9	239	446	608	256	130	221	109	34.8	10.9	7.20	181
1946	8.76	190	237	726	455	266	95.1	48.3	40.8	16.0	18.6	10.7	175
1947	15.4	35.8	71.5	572	124	262	154	107	59.3	114	25.7	11.0	130
1948	9.29	15.0	30.5	78.4	626	442	116	30.8	16.2	15.2	10.1	7.16	114
1949	10.4	159	259	551	310	391	254	89.2	24.1	159	53.3	14.2	189
1950	21.7	39.4	190	1,040	606	313	107	255	392	204	80.7	57.1	274

* Revised.

* Not previously published; estimated on basis of records for Clear Fork near Robbins.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	*0.24	*1.30	*6.70	*1.98	*2.73	*5.44	*3.67	*1.05	*0.39	0.36	0.26	*0.10	*24.22
1944	.10	.16	.35	1.24	5.36	6.53	2.81	.92	.20	.09	.25	1.54	19.55
1945	.60	.89	2.62	4.89	6.03	2.81	1.38	2.43	1.15	.38	.12	.08	23.38
1946	.10	2.02	2.61	7.98	4.51	2.92	1.01	.53	.43	.18	.20	.11	22.60
1947	.17	.38	.79	6.28	1.22	2.88	1.63	1.18	.63	1.25	.28	.12	16.81
1948	.10	.16	.34	.86	6.43	4.86	1.23	.34	.17	.17	.11	.08	14.85
1949	.11	1.69	2.85	6.05	3.07	4.29	2.70	.98	.26	1.75	.59	.15	24.49
1950	.24	.42	2.09	11.41	6.01	3.43	1.14	2.80	4.17	2.24	.89	.61	35.45

* Revised.

* Not previously published; estimated on basis of records for Clear Fork near Robbins.

CUMBERLAND RIVER BASIN

Yearly discharge, in cubic feet per second, of Wolf River near Byrdstown, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1943	1003, 1276	-	-	-	187	1.78	24.22	128	16.59
1944	1003	10,900	Feb. 17, 1944	5.6	151	1.44	19.55	178	23.05
1945	1033	10,900	Feb. 22, 1945	5.2	181	1.72	23.38	186	24.00
1946	1053	13,300	Jan. 7, 1946	5.5	175	1.67	22.60	149	19.21
1947	1083	3,860	Jan. 15, 1947	5.4	130	1.24	16.81	124	16.07
1948	1113	10,200	Feb. 13, 1948	5.3	114	1.09	14.85	146	18.90
1949	1143	6,640	Jan. 5, 1949	5.8	189	1.80	24.49	175	22.59
1950	1173	7,150	June 10, 1950	6.4	274	2.61	35.45	-	-

* Not previously published.

27. Dale Hollow Reservoir near Celina, Tenn.

Location.--Lat 36°32'19", long. 85°27'05", at Dale Hollow Dam on Obey River, 3 miles east of Celina, Clay County, and 7.3 miles upstream from mouth.

Drainage area.--935 sq mi.

Gage.--Water-stage recorder. Datum of gage is mean sea level, Sandy Hook datum. Prior to June 25, 1946, staff gage at same site and datum.

Extremes.--1943-50: Maximum contents, 780,000 cfs-days Feb. 10, 1950 (elevation, 657.8 ft); minimum observed (after first filling), 428,000 cfs-days Sept. 11, 1944 (elevation, 630.63 ft).

Remarks.--Reservoir is formed by concrete gravity dam. Spillway is equipped with 6 tainter gates each 12 ft high by 60 ft wide. Storage began Aug. 30, 1943, and water in reservoir first reached minimum pool elevation May 7, 1944. Total capacity at elevation 663.0 ft (top of gates) is 860,000 cfs-days, of which 178,000 cfs-days between elevations 663.0 ft (top of gates) and 651.0 ft (crest of spillway) is reserved for flood control, and 250,000 cfs-days between elevations 651.0 ft and 631.0 ft (ordinary minimum pool) is used for power production. Reservoir is used for flood control, navigation and power.

Cooperation.--Records furnished by Corps of Engineers, U. S. Army.

Contents, in thousands of cfs-days, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1943	-	-	-	-	-	-	-	-	-	-	4.58	6.81
1944	*8.42	*11.9	*20.8	*51.5	*198.2	*353.8	*425.1	*442.3	*432.8	*432.6	*443.5	451.3
1945	433.7	433.1	469.3	445.6	559.5	497.9	463.2	461.1	439.9	437.3	437.8	437.6
1946	438.1	441.3	487.2	611.5	569.2	557.2	574.2	597.9	612.4	613.4	608.2	596.2
1947	597.1	585.3	560.4	699.3	569.2	573.2	606.7	640.7	649.6	669.7	648.4	623.9
1948	577.8	539.0	548.9	551.3	689.0	701.7	656.9	664.7	666.5	654.9	659.6	658.2
1949	659	710	684	683	669	681	653	648	641	638	586	525
1950	509	492	518	723	675	670	644	656	652	650	614	587

* Revised.

Note.--Contents at 12 p.m. Prior to May 1946 midnight elevations obtained by interpolating between readings at 4 p.m. August to September 1943, readings at 7 a.m. October 1943 to May 1944, and readings at 8 a.m. June 1944 to April 1946.

28. Obey River below Dale Hollow Dam, Tenn.1/

Location.--Lat 36°32'12", long. 85°27'22", 1,200 ft downstream from Dale Hollow Dam, 3 miles east of Celina, Clay County, 7.1 miles upstream from mouth, and 24 miles downstream from Wolf River.

Drainage area.--935 sq mi. At site used prior to September 1943, 929 sq mi.

Supplemental records available.--Apr. 15, 1930, to Sept. 30, 1931 (gage heights only) at site 500 ft downstream from upper site, by Corps of Engineers, U. S. Army.

Gage.--Water-stage recorder. Datum of gage is 500.00 ft above sea level, Sandy Hook datum. Auxiliary gage is water-stage recorder on Cumberland River at Celina, at mouth of Obey River. Datum of auxiliary gage is 489.46 ft above sea level, Sandy Hook datum. Jan. 24, 1939, to Nov. 22, 1940, wire-weight gage, and Nov. 23, 1940, to Sept. 30, 1942, water-stage recorder at site 5.2 miles upstream at datum 512.46 ft above mean sea level, Sandy Hook datum. Apr. 15, 1930, to Sept. 30, 1931, staff gage 500 ft downstream from upper site at datum 514.02 ft above mean sea level, Sandy Hook datum.

Average discharge.--12 years (1938-50), 1,273 cfs (unadjusted).

Extremes.--1938-50: Maximum discharge, 41,400 cfs Feb. 4, 1939, site and datum then in use, from rating curve extended above 20,000 cfs; maximum gage height, 43.40 ft, present site and datum, Jan. 12, 1946 (backwater from Cumberland River); minimum discharge determined, 0.04 cfs Oct. 7, 1943 (discharge measurement); minimum gage height observed, 1.75 ft Oct. 24, 1939, site and datum then in use.

Remarks.--Flow completely regulated by Dale Hollow Reservoir beginning Aug. 30, 1943 (see preceding station). Since September 1943 figures of discharge are computed only when there is flow from Dale Hollow Reservoir; at other times discharge is negligible.

1/ Published as "near Celina" prior to September 1943.

Monthly and yearly mean discharge, in cubic feet per second, of Obey River below Dale Hollow Dam, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1939	*105	*640	*920	*2,727	7,178	3,431	2,962	861	512	338	173	48.5	*1,619
1940	64.2	50.1	209	177	2,165	3,657	4,193	1,375	682	372	293	128	1,107
1941	62.1	125	433	944	439	1,217	2,752	306	793	2,826	268	174	864
1942	85.9	200	602	993	1,971	2,737	968	338	165	369	1,015	192	800
1943	*155	*1,330	*5,750	*1,370	*2,300	*5,000	*3,380	*1,070	*312	*172	*180	(a)	*1,753
1944	(a)	(a)	(a)	(a)	(a)	(a)	(a)	109	339	10.4	700	1,456	158
1945	1,010	842	1,283	4,195	1,121	4,009	2,064	2,049	1,585	456	496	.6	1,562
1946	2,31	975	788	2,337	5,290	2,898	270	6.5	54.3	(a)	209	423	1,160
1947	4.45	878	1,548	720	5,482	2,062	425	(a)	15.0	(a)	1,003	691	1,039
1948	1,448	1,275	22.8	785	1,375	3,378	2,442	7.29	19.9	487	(a)	(a)	934
1949	(a)	79.75	788	5,545	2,953	2,669	2,881	858	1,021	1,147	2,177	2,049	2,097
1950	1,007	923	1,126	2,545	6,626	2,435	1,627	2,206	3,145	1,650	1,744	1,413	2,172

* Not previously published; estimated on the basis of records for station near Byrdstown.
a Discharge negligible; Dale Hollow Dam closed.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1939	*0.13	*0.77	*1.14	*3.38	8.05	4.26	3.56	1.07	0.61	0.42	0.21	0.06	*23.66
1940	.08	.06	.26	.22	2.51	4.54	5.04	1.71	.82	.46	.36	.15	16.21
1941	.08	.15	.54	1.17	.49	1.51	3.30	.38	.95	3.51	.33	.21	12.62
1942	.11	.24	.75	1.23	2.21	3.40	1.19	.42	.20	.46	1.26	.23	11.70
1943	*.19	*1.60	*7.14	*1.70	*2.58	*6.20	*4.06	*1.33	*.37	*.21	*.22	*.11	*25.71

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year			
		Observed				Adjusted 1/			Observed	Adjusted 1/		
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	
		Discharge	Date									
1939	873	41,400	Feb. 4, 1939	*36	*1,619	-	*1.74	*23.66	*1,507	-	*22.02	
1940	893	21,100	Mar. 31, 1940	33	1,107	-	1.19	16.21	1,131	-	16.58	
1941	923	23,400	July 5, 1941	55	864	-	.930	12.62	887	-	12.95	
1942	953	10,300	Mar. 18, 1942	49	800	-	.861	11.70	*1,336	-	*19.53	
1943	-	-	-	-	*1,753	*1,759	*1.89	*25.70	*1,142	*1,186	*17.33	
1944	1003	6,040	Sept. 1, 1944	-	158	1,371	1.47	19.96	421	1,647	23.98	
1945	1033	6,000	Mar. 12, 1945	-	1,562	1,525	1.63	22.13	1,527	1,576	22.89	
1946	1053	6,150	Feb. 14, 1946	-	1,160	1,594	1.70	23.14	1,134	1,335	19.38	
1947	1063	9,020	Feb. 4, 1947	-	1,039	1,115	1.19	16.18	1,065	1,033	15.00	
1948	1113	7,900	Feb. 26, 1948	-	954	1,028	1.10	14.97	1,033	1,402	20.40	
1949	1143	15,500	Jan. 6, 1949	-	2,097	1,732	1.85	25.15	2,025	1,571	22.80	
1950	1173	314,000	Feb. 17, 1950	-	2,172	2,342	2.50	34.00	-	-	-	

1/Adjusted for change in contents of Dale Hollow Reservoir since September 1943; no regulation prior to that date.

* Not previously published.

a Maximum daily discharge.

29. Cumberland River at Celina, Tenn.

Location.--Lat 36°33'20", long. 85°30'47", at bridge on State Highway 52 at Celina, Clay County, 600 ft downstream from Obey River.

Drainage area.--7,320 sq mi, approximately.

Supplemental records available.--Gage-height records collected in this vicinity since December 1903 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 488.97 ft above mean sea level, datum of 1929 supplementary adjustment of 1936. Prior to Nov. 20, 1930, staff gage at site 400 ft downstream at same datum.

Average discharge.--28 years (1922-50), 11,190 cfs (unadjusted).

Extremes.--1922-50: Maximum discharge, 145,000 cfs Dec. 29, 1926; maximum gage height, 57.25 ft Dec. 29, 1926, from graph based on gage readings; minimum discharge observed, 69 cfs Sept. 2, 11-14, 26, 1925 (gage height, 0.20 ft).
Maximum stage known, 59.2 ft in March 1826.

Remarks.--Flow regulated since July 1950 by Wolf Creek Reservoir, and since August 1943 by Dale Hollow Reservoir (see p. 44).

Monthly and yearly mean discharge, in cubic feet per second, of Cumberland River at Celina, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1923	436	534	20,120	23,450	38,840	37,550	14,590	12,840	6,809	3,336	3,781	1,274	13,510
1924	350	595	11,400	38,710	18,730	15,220	13,050	18,630	11,490	*5,165	1,023	1,795	*11,360
1925	1,488	1,414	16,490	17,980	22,060	11,800	10,580	9,818	2,657	1,517	296	177	7,953
1926	5,303	15,550	6,761	16,830	18,520	13,120	11,010	7,405	3,454	1,489	14,320	7,450	10,040
1927	5,034	17,590	58,800	23,370	30,320	25,350	24,800	12,790	15,720	1,703	2,456	853	18,150
1928	568	7,526	10,230	18,730	10,740	18,240	27,120	15,320	26,070	23,507	3,803	4,030	13,790
1929	2,801	12,320	7,966	25,830	17,790	56,570	15,360	31,970	4,782	4,809	1,554	1,753	15,350
1930	1,179	17,510	10,510	12,810	21,340	17,360	7,095	7,462	1,345	579	351	467	8,076
1931	293	594	1,768	4,350	8,302	12,500	21,420	8,444	1,787	2,422	2,996	1,036	5,462
1932	429	467	22,440	23,210	46,730	15,200	19,670	7,083	4,467	9,918	909	502	12,470
1933	2,564	7,471	11,970	34,240	36,740	21,100	18,270	20,260	2,577	3,350	6,289	5,432	14,070
1934	495	765	7,657	12,350	9,239	51,300	10,620	3,650	4,002	3,602	3,750	1,594	9,170
1935	2,108	3,485	2,579	20,870	19,110	47,300	35,190	16,850	15,610	5,640	3,348	3,685	14,610
1936	346	4,273	6,113	23,110	12,530	32,380	30,080	2,185	471	665	306	376	9,593
1937	574	4,060	9,250	76,890	22,180	8,115	8,577	15,400	8,482	2,302	2,103	1,555	13,300
1938	2,995	1,937	8,888	18,310	15,500	23,450	15,270	8,346	11,480	5,515	8,050	2,043	10,130
1939	540	4,360	7,134	17,930	58,700	25,330	21,170	5,220	2,936	4,714	1,427	275	12,160
1940	325	297	1,082	1,696	12,550	21,370	29,540	7,275	7,164	5,143	1,869	1,224	7,410
1941	311	648	2,045	6,825	2,768	8,684	16,000	2,262	3,187	19,280	1,670	1,143	5,425
1942	323	1,301	4,415	7,113	14,390	21,270	7,004	2,993	5,989	9,989	7,938	7,713	6,482
1943	1,472	9,272	26,860	25,090	18,830	37,010	21,130	9,609	3,929	1,699	1,836	591	13,710
1944	397	1,421	1,668	7,329	24,700	37,140	20,210	5,699	1,518	260	1,047	4,694	8,775
1945	5,833	4,184	9,402	30,980	28,760	25,220	11,660	13,590	7,821	1,780	1,133	298	11,640
1946	267	8,747	12,640	40,230	26,560	21,230	6,095	8,340	8,634	2,310	2,601	1,516	11,530
1947	1,715	4,825	7,395	37,410	16,230	15,280	12,090	10,120	4,409	11,710	4,754	1,344	10,610
1948	1,703	1,828	1,763	5,972	39,830	28,680	20,380	2,277	1,025	2,627	1,545	303	8,860
1949	175	5,968	23,930	35,490	25,710	21,360	18,210	8,794	4,957	7,229	4,640	2,736	13,220
1950	1,969	4,816	17,010	46,830	52,120	17,080	9,432	19,550	21,570	9,057	5,653	6,584	17,430

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1923	0.08	0.08	3.17	3.69	5.53	5.91	2.22	2.02	1.04	0.53	0.60	0.19	25.06
1924	.06	.09	1.80	6.10	2.76	2.40	1.99	2.93	1.75	*.81	.16	.27	*21.12
1925	.23	.22	2.60	2.83	3.14	1.86	1.61	1.55	.41	.24	.05	.03	14.77
1926	.84	2.37	1.06	2.65	2.63	2.07	1.68	1.17	.53	.23	2.26	1.14	18.63
1927	.79	2.68	9.26	3.68	4.31	3.99	3.78	2.01	2.40	.27	.39	.10	33.66
1928	.06	1.15	1.61	2.95	1.58	2.87	4.13	2.41	3.97	3.68	.60	.61	25.62
1929	.44	1.88	1.25	4.07	2.53	8.91	2.34	5.04	.73	.76	.24	.27	28.46
1930	.19	2.67	1.66	2.02	3.04	2.73	1.08	1.18	.21	.09	.06	.07	15.00
1931	.05	.09	.28	.69	1.18	1.97	3.27	1.33	.27	.38	.47	.16	10.14
1932	.07	.07	3.53	3.66	6.89	2.39	3.00	1.12	.68	1.56	.14	.08	23.19
1933	.40	1.14	1.88	5.39	5.23	3.32	2.78	3.19	.39	.53	.99	.83	26.07
1934	.08	.12	1.21	1.94	1.31	8.08	1.62	.57	.61	.57	.59	.21	16.81
1935	.33	.53	.41	3.29	2.72	7.45	5.36	2.65	2.38	.89	.53	.56	27.10
1936	.05	.65	.96	3.64	1.85	5.10	4.59	.34	.07	.10	.05	.06	17.46
1937	.09	.62	1.46	12.11	3.15	1.28	1.31	2.43	1.29	.36	.33	.24	24.67
1938	.47	.30	1.40	2.88	2.21	3.69	2.33	1.31	1.75	.87	1.27	.31	18.79
1939	.09	.66	1.12	2.82	8.35	3.99	3.23	.82	.45	.74	.22	.04	22.53
1940	.05	.05	.17	.27	1.85	3.37	4.50	1.15	1.09	.81	.29	.19	13.79
1941	.05	.10	.32	1.07	.39	1.37	2.44	.36	.49	3.04	.26	.17	10.06
1942	.05	.20	.70	1.12	2.05	3.35	1.07	.42	.46	.79	1.57	.26	12.04
1943	.23	1.41	4.23	3.95	2.68	5.83	3.22	1.51	.60	.27	*1.31	*1.2	*24.34

* Revised.

† Corrected for adjustment for storage in Dale Hollow Reservoir; previously published figures in WSP 973 are unadjusted.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted ^{1/}			Observed		Adjusted ^{1/}
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1923	893	93,300	Feb. 6, 1923	350	13,510	-	1.85	25.06	12,770	-	23.68
1924	893, 1278	100,000	Jan. 6, 1924	215	*11,360	-	1.55	*21.12	*11,950	-	*22.22
1925	893	76,400	Dec. 11, 1924	69	7,953	-	1.09	14.77	8,612	-	15.99
1926	893	74,300	Jan. 23, 1926	295	10,040	-	1.37	18.63	14,600	-	27.09
1927	893	145,000	Dec. 29, 1926	350	18,150	-	2.48	33.66	12,800	-	23.75
1928	893	92,200	July 2, 1928	295	13,790	-	1.88	25.62	14,193	-	26.37
1929	893	125,000	Mar. 27, 1929	405	15,350	-	2.10	28.46	15,850	-	29.41
1930	893	54,100	Nov. 20, 1929	195	8,076	-	1.10	15.00	5,868	-	10.90
1931	893	56,600	Mar. 30, 1931	245	5,462	-	.746	10.14	7,218	-	13.39
1932	893	107,000	Feb. 4, 1932	245	12,470	-	1.70	23.19	12,340	-	22.94
1933	893	86,600	Feb. 21, 1933	477	14,070	-	1.92	26.07	12,970	-	24.06
1934	893	86,890	Mar. 6, 1934	287	9,120	-	1.25	16.91	9,049	-	16.77
1935	893	91,700	Mar. 15, 1935	304	14,610	-	2.00	27.10	14,830	-	27.49
1936	893	88,800	Apr. 9, 1936	195	9,393	-	1.28	17.46	9,660	-	17.97
1937	893	128,000	Jan. 23, 1937	195	13,300	-	1.82	24.67	13,300	-	24.67
1938	893	55,000	Mar. 6, 1938	370	10,130	-	1.38	18.79	19,973	-	*18.49
1939	893	112,000	Feb. 7, 1939	175	12,160	-	1.66	22.53	11,298	-	10.93
1940	893	69,000	Apr. 1, 1940	178	7,410	-	1.01	13.79	7,520	-	13.99

^{1/}Adjusted for change in contents in Dale Hollow Reservoir since August 1943, and Wolf Creek Reservoir since August 1950. No regulation prior to August 1943.

* Revised.

† Corrected.

Yearly discharge, in cubic feet per second, of Cumberland River at Celina, Tenn.--Continued												
Year	W.S.P. no.	Water year ending Sept. 30							Calendar year			
		Observed				Adjusted ¹			Observed		Adjusted ¹	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	
		Discharge	Date									
1941	923	66,100	July 6, 1941	223	5,425	-	.741	10.06	5,681	-	10.54	
1942	953	50,500	Mar. 19, 1942	223	6,482	-	.886	12.04	9,141	-	16.96	
1943	973	120,000	Jan. 2, 1943	338	13,110	†13,130	†1.79	†24.34	10,240	10,290	19.09	
1944	1003	75,000	Feb. 21, 1944	97	6,775	9,988	1.36	18.57	10,120	11,340	21.09	
1945	1033	72,600	Jan. 4, 1945	148	11,640	11,610	1.59	21.52	11,820	11,670	22.01	
1946	1053	134,000	Jan. 12, 1946	176	11,530	11,970	1.64	22.19	10,890	11,090	20.56	
1947	1083	69,600	Jan. 5, 1947	400	10,610	10,690	1.46	19.82	9,889	9,857	18.28	
1948	1113	122,000	Feb. 17, 1948	142	8,860	8,954	1.22	16.65	10,950	11,320	21.05	
1949	1143	80,100	Jan. 8, 1949	103	13,220	12,860	1.76	23.85	12,690	12,240	22.69	
1950	1173	124,000	Feb. 5, 1950	584	17,430	17,710	2.42	32.84	-	-	-	

¹ Adjusted for change in contents in Dale Hollow Reservoir since August 1943, and Wolf Creek Reservoir since August 1950. No regulation prior to August 1943.

† Corrected.

30. Roaring River near Hilham, Tenn.

Location.--Lat 36°20'24", long. 85°25'46", 800 ft downstream from Crawford Mill, a quarter of a mile downstream from bridge on State Highway 136, 1½ miles upstream from Flat Creek, 4 miles south of Hilham, Overton County, and 15 miles north of Cookeville.

Drainage area.--70.8 sq mi.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 770 ft (by barometer). Nov. 8, 1933, to Sept. 23, 1940, staff gage at same site and datum. Concrete control installed Sept. 21, 1940. July 25 to Nov. 7, 1933, staff gage 150 ft downstream at different datum. June 23, 1932, to July 24, 1933, staff gage at site 800 ft upstream at different datum.

Average discharge.--19 years (1931-50), 107 cfs.

Extremes.--1931-50: Maximum discharge, 5,460 cfs Jan. 7, 1946 (gage height, 9.28 ft); minimum daily, 2.5 cfs Sept. 30, Oct. 2, 5, 6, 1936.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	†9.4	†10.6	†183	†260	†425	†135	†182	†68.5	†27.6	23.1	19.4	14.9	†112
1933	38.6	51.4	155	225	349	245	133	212	28.7	59.1	40.0	166	141
1934	13.4	14.8	42.0	89.7	80.6	444	95.3	39.6	47.0	18.9	38.4	24.7	79.4
1935	16.5	36.3	25.1	129	233	427	279	65.2	98.6	60.4	31.2	10.5	117
1936	10.4	27.4	26.0	142	85.3	388	279	24.5	9.79	11.4	4.42	3.24	84.3
1937	4.56	18.0	64.7	836	303	82.7	61.8	189	112	34.5	19.1	12.8	143
1938	25.1	14.4	79.6	147	142	208	112	72.4	57.7	33.1	120	53.4	88.5
1939	18.9	61.0	72.8	187	575	226	202	73.4	132	51.1	26.1	9.78	133
1940	17.2	7.68	25.2	20.0	163	289	306	104	49.4	28.5	31.7	14.9	87.5
1941	7.22	10.3	20.4	49.4	27.6	57.5	169	27.3	46.6	192	33.0	13.1	54.6
1942	7.33	†11.0	33.9	59.1	107	177	63.4	22.8	17.0	44.4	77.0	16.8	†52.9
1943	13.5	103	395	103	134	373	247	103	30.7	14.9	15.1	10.4	129
1944	7.02	11.1	21.4	66.4	369	370	170	45.5	17.0	16.4	29.2	115	102
1945	52.6	72.0	154	283	405	177	81.3	152	68.1	21.4	13.0	8.09	122
1946	7.02	108	154	455	280	192	75.4	43.6	57.3	14.2	12.2	7.73	116
1947	6.73	30.8	40.2	357	82.7	141	101	77.5	35.5	46.5	27.5	10.5	80.1
1948	6.54	8.35	25.5	56.0	44	192	92.4	22.4	13.7	34.4	24.3	7.63	75.5
1949	6.32	128	235	354	193	205	127	50.0	130	128	44.2	15.2	135
1950	32.4	37.8	104	699	388	166	64.4	196	238	130	50.3	43.7	178

* Revised.

† Not previously published; estimated on basis of records for station Obey River near Byrdstown.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	†0.15	†0.17	†2.97	†4.23	†6.47	†2.20	†2.87	†1.12	†0.44	†0.38	0.32	0.23	†21.55
1933	.63	.81	2.52	3.67	5.13	3.99	2.10	3.45	.45	.96	.65	2.61	26.97
1934	.22	.23	.68	1.16	1.19	7.23	1.51	.64	.74	.31	.62	.39	15.22
1935	.27	.57	.41	2.10	3.42	6.95	4.40	1.06	1.55	.98	.51	.17	22.39
1936	.17	.43	.42	2.32	1.29	6.32	4.40	.40	.15	.19	.07	.05	16.21
1937	.07	.28	1.05	13.61	4.46	1.02	.97	3.08	1.76	.56	.31	.20	27.37
1938	.41	.23	1.30	2.39	2.09	3.38	1.76	1.18	.91	.54	1.96	.84	16.99
1939	.31	.96	1.19	3.04	8.45	3.68	3.19	1.20	2.08	.83	.42	1.15	25.50
1940	.28	.12	.41	.33	2.48	4.70	4.82	1.69	.78	.46	.52	.24	16.83
1941	.12	.16	.33	.80	.41	.94	2.67	.44	.73	3.12	.54	.21	10.47
1942	.12	†.17	.55	.96	1.58	2.89	1.00	.37	.27	.72	1.25	.26	†10.14
1943	.22	1.63	6.44	1.68	1.98	6.07	3.89	1.68	.48	.24	.25	.16	24.72
1944	.11	.18	.35	1.08	5.62	6.02	2.68	.71	.27	.27	.48	1.80	19.57
1945	.86	1.13	2.51	4.61	5.95	2.88	1.28	2.47	1.07	.35	.21	.13	23.45
1946	.11	1.70	2.50	7.41	4.12	3.13	1.19	.71	.90	.23	.20	.12	22.32
1947	.11	.49	.66	5.81	1.22	2.29	1.60	1.26	.56	.76	.45	.17	15.38
1948	.11	.13	.42	.91	6.72	3.12	1.46	.37	.22	.56	.40	.12	14.54
1949	.10	2.02	3.83	5.76	2.85	3.34	2.00	.81	2.05	2.09	.72	.24	25.81
1950	.53	.60	1.69	11.38	5.70	2.70	1.01	3.20	3.75	2.11	.82	.69	34.18

* Revised.

† Corrected.

† Not previously published; estimated on basis of records for station Obey River near Byrdstown.

CUMBERLAND RIVER BASIN

Yearly discharge, in cubic feet per second, of Roaring River near Hilham, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1932	728	-	-	-	\$112	\$1.58	\$21.55	\$116	\$22.22
1933	743	a4,330	Mar. 19, 1933	6.5	141	1.99	26.97	128	24.14
1934	758	a3,200	Mar. 3, 1934	7.0	79.4	1.12	15.22	80.0	15.34
1935	783	a4,050	Mar. 12, 1935	4.7	117	1.65	22.39	116	22.16
1936	803	4,340	Apr. 8, 1936	2.5	84.3	1.19	16.21	86.4	16.59
1937	823	4,920	Jan. 2, 1937	2.5	143	2.02	27.37	146	27.91
1938	853	835	Aug. 11, 1938	4.8	88.5	1.25	16.99	91.3	17.51
1939	873	5,120	Feb. 3, 1939	4.1	133	1.88	25.50	124	23.85
1940	893	2,500	Mar. 30, 1940	5.1	87.5	1.24	16.83	86.5	16.83
1941	923	2,860	July 4, 1941	3.6	54.6	.771	10.47	\$55.8	\$10.70
1942	953,1276	955	Mar. 17, 1942	5.0	\$52.9	\$7.747	\$10.14	91.8	17.59
1943	973	2,990	Mar. 20, 1943	5.8	129	1.82	24.72	89.0	17.07
1944	1033	3,860	Feb. 17, 1944	5.2	102	1.44	19.57	122	23.43
1945	1033	3,760	Feb. 22, 1945	5.8	122	1.72	23.45	121	23.26
1946	1053	5,460	Jan. 7, 1946	4.7	116	1.64	22.32	101	19.27
1947	1083	1,930	Jan. 15, 1947	4.4	80.1	1.13	15.38	77.0	14.78
1948	1143	4,350	Feb. 13, 1948	5.5	75.5	1.07	14.54	103	19.83
1949	1143	4,790	June 28, 1949	5.2	135	1.91	25.81	118	22.68
1950	1173	3,260	Jan. 31, 1950	9.1	178	2.51	34.18	-	-

* Revised.

† Not previously published.

a Observed.

31. Caney Fork at Clifty, Tenn.

Location.--Lat 35°53'29", long. 85°13'03", in Cumberland County, 50 ft (revised) below county highway bridge, 200 ft (revised) upstream from Pilot Falls, 0.75 mile south of Clifty, White County (corrected), and 3 miles upstream from Clifty Creek.

Drainage area.--114 sq mi.

Gage.--Water-stage recorder on right bank. Altitude of gage is about 1,510 ft (from topographic map). Prior to Apr. 12, 1933, staff gage, and Apr. 12, 1933, to June 3, 1940, water-stage recorder, 50 ft upstream on downstream side of left bridge abutment at same datum.

Average discharge.--18 years (1930-48), 207 cfs.

Extremes.--1930-48: Maximum discharge, 15,500 cfs Feb. 13, 1948 (gage height, 7.00 ft, from floodmarks), from rating curve extended above 4,200 cfs on basis of slope-area and contracted-opening determinations of peak flow; no flow Sept. 19-24, Oct. 3, 1936.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	30.7	75.5	224	249	365	283	269	162	8.92	9.30	10.4	4.05	140
1932	1.05	3.10	680	444	887	162	408	150	13.6	52.9	14.6	2.67	231
1933	207	182	500	464	735	353	352	255	11.0	8.5	20.3	49.1	259
1934	9.85	11.0	172	420	199	987	170	168	108	9.98	51.8	2.78	192
1935	2.58	24.7	96.6	337	445	559	547	142	99	7.46	26.2	.733	189
1936	.43	104	202	647	366	699	525	24.3	2.35	28.8	1.52	.08	217
1937	5.24	79.3	526	1,283	412	232	235	301	36.3	20.9	51.5	9.43	267
1938	24.8	23.1	204	454	305	349	401	396	198	65.4	177	50.5	221
1939	4.78	66.0	143	447	1,282	483	350	110	85.7	39.0	7.56	2.56	245
1940	.322	.340	13.7	45.3	455	663	323	221	93.1	35.1	18.1	9.68	155
1941	2.83	17.9	109	215	80.1	283	451	34.5	7.16	92.1	12.9	2.13	109
1942	.297	12.5	131	212	436	565	89.9	55.8	47.4	74.7	448	19.9	172
1943	26.1	123	1,042	245	451	495	443	107	8.59	7.43	2.04	1.08	245
1944	.46	16.5	74.2	202	981	687	468	119	5.47	.85	.87	210	227
1945	51.3	85.9	352	422	640	377	324	532	39.3	77.6	30.9	2.80	243
1946	5.84	228	498	612	588	299	233	212	132	8.56	1.39	18.0	234
1947	27.1	164	220	877	196	391	214	175	36.6	14.5	15.0	2.32	196
1948	.27	3.40	59.7	122	1,073	619	341	70.6	6.40	21.1	1.70	.41	190
1949	.40	.432	630	667	471	370	301	132	70.1	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	0.31	0.74	2.28	2.51	3.33	2.88	2.63	1.64	0.09	0.09	0.10	0.04	16.60
1932	.01	.03	6.88	4.48	8.21	1.64	3.97	1.52	.13	.53	.15	.03	27.58
1933	2.10	1.78	5.06	4.69	6.72	3.57	3.45	2.58	.11	.09	.21	.48	30.84
1934	.10	.11	1.74	4.25	1.82	9.78	1.66	1.70	1.04	.10	.52	.03	22.85
1935	.03	.24	.98	3.41	4.06	5.65	5.36	1.44	.97	.07	.27	.01	22.49
1936	.004	1.02	2.04	6.55	3.48	7.07	5.13	.25	.02	.29	.02	.0008	25.85
1937	.05	.78	5.32	12.98	3.76	2.35	2.30	3.04	.35	.21	.52	.09	31.75
1938	.25	.23	2.06	4.59	2.79	3.53	3.93	4.01	1.93	.66	1.79	.49	26.26
1939	.05	.65	1.45	4.52	11.71	4.88	3.42	1.12	.84	.39	.08	.03	29.14
1940	.003	.003	.14	.46	4.30	6.70	3.16	2.23	.91	.35	.18	.09	18.53

Yearly discharge, in cubic feet per second, of Bee Creek at Herbert, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1930	713	-	-	-	-	-	-	-	-
1931	713	1,840	Mar. 28, 1931	0	104	0.963	13.12	124	15.51
1932	728	*5,360	Apr. 25, 1932	0	195	1.81	24.62	243	30.65
1933	743	6,450	Feb. 14, 1933	0.7	254	2.35	31.94	184	23.12
1934	758	7,120	Mar. 3, 1934	1.2	183	1.89	22.93	193	24.27
1935	783	6,240	Mar. 12, 1935	.01	171	1.58	21.48	183	22.99
1936	803	5,580	Mar. 24, 1936	0	231	2.14	29.07	247	31.13
1937	823	6,680	Jan. 2, 1937	0	238	2.20	29.90	-	-
1938	823	-	-	-	-	-	-	-	-

* Revised.

33. Calfkiller River at Sparta, Tenn.

Location.--Lat 35°56'02", long. 85°27'32", at Sparta Water Co.'s pumping station, at Sparta, White County, 1 mile upstream from Town Creek and 7 miles downstream from Cherry Creek.

Drainage area.--150 sq mi.

Gage.--Staff gage. Altitude of gage is about 850 ft (from topographic map).

Average discharge.--8 years (1932-40), 309 cfs.

Extremes.--1932-41: Maximum discharge, 11,100 cfs Jan. 2, 1937 (gage height, 21.90 ft); minimum observed, 3.2 cfs Sept. 25, 26, 1935; minimum gage height observed, 1.60 ft Sept. 27, 1937, (result of powerplant operation).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	168	89.2	39.7	-
1933	196	286	600	753	984	475	525	386	83.4	93.3	182	292	401
1934	39.3	51.9	193	386	261	1,217	361	227	99.4	70.4	66.0	36.8	252
1935	36.6	76.9	114	418	655	797	696	203	150	85.2	150	26.6	281
1936	24.5	87.2	118	566	505	888	767	79.2	37.2	50.1	33.4	18.7	284
1937	32.1	70.7	479	1,995	641	311	336	549	86.6	59.5	80.5	33.0	352
1938	51.7	59.1	214	542	484	479	565	287	218	158	328	67.7	287
1939	28.3	125	185	619	1,646	689	586	215	216	136	44.5	24.5	367
1940	20.5	20.7	59.6	69.6	570	880	602	286	157	99.3	89.1	37.9	240
1941	22.5	52.5	139	286	125	367	616	87.9	62.6	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	1.29	0.69	0.30	-
1933	1.57	2.13	4.61	5.79	6.83	3.66	3.90	2.96	0.62	.72	1.40	2.18	36.31
1934	.30	.39	1.49	2.96	1.81	9.35	2.96	1.74	.74	.54	.51	.27	22.79
1935	.28	.57	.86	3.22	4.55	6.12	5.18	1.56	1.12	.65	1.15	.20	25.48
1936	.19	.65	.91	4.35	3.64	6.83	5.70	.61	.28	.39	.26	.14	23.95
1937	.25	.53	3.68	14.53	4.45	2.39	2.50	4.22	.64	.46	.62	.25	34.52
1938	.40	.44	1.64	4.16	3.36	3.68	4.21	2.21	1.62	1.21	2.52	.50	25.95
1939	.22	.93	1.42	4.76	11.43	5.30	4.36	1.65	1.61	1.04	.34	.18	33.24
1940	.16	.15	.46	.53	4.10	6.76	4.48	2.20	1.17	.76	.68	.28	21.73
1941	.17	.39	1.07	2.20	.87	2.82	4.58	.68	.47	-	-	-	-

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1932	728	-	-	-	-	-	-	-	-
1933	743	4,600	Feb. 20, 1933	21	401	2.67	36.31	334	30.24
1934	758	7,420	Mar. 3, 1934	21	252	1.68	22.79	247	22.34
1935	783	5,830	Mar. 12, 1935	4.0	281	1.87	25.48	282	25.50
1936	803	7,200	Apr. 6, 1936	6.4	284	1.76	23.95	294	26.66
1937	823	11,100	Jan. 2, 1937	13	382	2.55	34.52	360	32.54
1938	853	72,750	Apr. 8, 1938	23	287	1.91	25.95	298	26.04
1939	873	10,300	Feb. 3, 1939	18	367	2.45	33.24	347	31.44
1940	893	5,420	Mar. 30, 1940	14	240	1.60	21.73	249	22.59
1941	923	5,780	Apr. 5, 1941	-	-	-	-	-	-

† Corrected.

34. Calfkilker River below Sparta, Tenn.

Location (revised).--Lat 35°54'31", long. 85°28'46", 0.75 mile downstream from abandoned hydroelectric powerplant of Tennessee Valley Authority, 1½ miles downstream from Town Creek, 1½ miles southwest of Sparta, White County, and at mile 9.0.

Drainage area.--178 sq mi.

Gage.--Water-stage recorder. Altitude of gage is 820 ft (from topographic map).

Average discharge.--10 years (1940-50), 360 cfs.

Extremes.--1940-50: Maximum discharge, 14,600 cfs Jan. 5, 1949 (gage height, 25.80 ft); minimum, 16 cfs Nov. 10, 12-14, 1947.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1940	-	-	-	-	-	-	-	-	-	-	-	45.5	-
1941	28.9	56.5	141	307	147	394	669	106	81.3	341	71.5	37.2	199
1942	28.2	50.9	143	248	510	779	197	128	64.0	194	295	65.5	224
1943	60.2	234	1,537	422	660	918	690	258	84.3	61.6	41.5	38.1	400
1944	21.9	47.2	112	252	1,335	1,041	587	215	69.6	36.8	75.4	533	356
1945	255	176	462	731	1,019	668	275	763	163	145	109	43.4	398
1946	37.9	387	704	1,130	1,049	619	368	270	198	67.2	48.8	49.6	407
1947	38.6	170	260	1,190	352	645	364	213	91.9	144	51.0	26.3	296
1948	22.4	22.0	64.5	133	1,679	980	472	165	85.6	84.5	45.9	29.3	301
1949	26.0	457	817	1,718	775	707	530	237	121	272	134	54.4	487
1950	48.2	94.8	404	1,753	1,589	728	252	706	384	169	200	174	536

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1940	-	-	-	-	-	-	-	-	-	-	-	0.29	-
1941	0.19	0.35	0.91	1.99	0.86	2.55	4.19	0.69	0.51	2.21	0.46	.23	15.14
1942	.18	.32	.92	1.61	2.98	5.05	1.24	.83	.40	1.26	1.91	.41	17.11
1943	.39	1.47	8.66	2.73	3.86	5.95	4.32	1.67	.53	.40	.27	.24	30.49
1944	.14	.30	.72	1.63	8.09	980	3.68	1.39	.44	.24	.49	3.34	27.21
1945	1.65	1.10	2.99	4.73	5.96	4.33	1.72	4.94	1.02	.94	.70	.27	30.35
1946	.25	2.43	4.56	7.32	6.14	4.01	2.30	1.75	1.24	.44	.32	.31	31.07
1947	.25	1.06	1.68	7.71	2.06	4.17	2.28	1.38	.58	.93	.33	.16	22.59
1948	.14	.14	.42	.86	10.17	5.70	2.96	1.07	.54	.55	.30	.18	23.03
1949	.17	2.86	5.29	11.13	4.54	4.58	3.32	1.53	.76	1.76	.87	.34	37.15
1950	.31	.59	2.82	11.35	8.30	4.71	1.58	4.57	2.41	1.09	1.29	1.09	40.91

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1940	923	-	-	-	-	-	-	-	-
1941	923	5,920	Apr. 5, 1941	24	199	1.36	15.14	198	15.11
1942	953	4,150	Mar. 17, 1942	24	224	1.26	17.11	344	26.21
1943	973	7,760	Dec. 28, 1942	27	400	2.25	30.49	277	21.13
1944	1003	10,700	Sept. 30, 1944	18	356	2.00	27.21	416	31.79
1945	1033	4,580	Feb. 17, 1945	35	358	2.24	30.35	418	31.85
1946	1053	8,480	Jan. 8, 1946	25	407	2.29	31.07	352	26.82
1947	1083	4,740	Jan. 2, 1947	25	296	1.66	22.59	266	20.30
1948	1113	13,700	Feb. 13, 1948	16	301	1.69	23.03	401	30.65
1949	1145	14,600	Jan. 5, 1949	22	487	2.74	37.15	424	32.35
1950	1173	8,380	Jan. 31, 1950	29	536	3.01	40.91	-	-

35. Barren Fork near Trousdale, Tenn. 1/

Location (revised).--Lat 35°39'55", long. 85°53'00", on left bank 15 ft downstream from County Highway Bridge on Trousdale-McMinnville Pike, 3½ miles east of Trousdale, Warren County, 4.5 miles downstream from Bullpen Creek (formerly called Figgs Branch), 6 miles west of McMinnville, and 6.2 miles upstream from Hickory Creek.

Drainage area.--132 sq mi.

Gage.--Water-stage recorder. Altitude of gage is 950 ft (from river-profile map). Prior to May 27, 1940, staff gage at site 200 ft downstream at same datum.

Average discharge.--18 years (1932-50), 215 cfs.

Extremes.--1932-50: Maximum discharge, 32,000 cfs Feb. 13, 1948 (gage-height, 16.99 ft), from rating curve extended above 9,000 cfs on basis of slope-area and contracted-opening determinations of peak flow; minimum, 32 cfs Oct. 13, 1941; minimum gage-height, 0.98 ft Sept. 22, 23, 1941.

1/ Published 1932 as "at McMinnville".

Monthly and yearly mean discharge, in cubic feet per second, of Barren Fork near Trousdale, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	200	175	63.6	-
1933	168	159	417	358	634	378	316	214	84.7	71.2	113	83.1	247
1934	48.9	65.1	105	148	91.1	713	147	85.9	211	71.9	60.6	50.3	151
1935	54.3	77.8	61.4	158	300	468	413	98.9	69.9	173	74.4	44.0	163
1936	51.0	110	74.7	253	223	472	562	94.4	59.4	162	55.0	52.3	180
1937	68.9	110	303	1,278	352	197	168	421	89.0	65.0	126	84.2	275
1938	95.3	66.1	120	363	246	364	372	260	217	185	175	122	216
1939	64.8	230	158	352	1,190	467	345	112	161	83.3	200	57.3	279
1940	54.3	50.7	54.1	54.7	308	579	304	155	84.0	92.4	121	55.1	159
1941	51.7	62.9	66.1	103	84.4	144	219	64.5	70.9	81.7	60.8	38.7	87.2
1942	35.1	41.7	61.0	93.0	287	380	132	110	70.7	109	298	69.5	140
1943	41.9	72.0	496	184	370	380	329	176	89.7	79.5	80.6	97.6	199
1944	54.4	74.3	84.7	206	749	785	387	155	65.3	63.5	55.4	320	249
1945	89.0	67.7	250	466	788	360	215	395	109	70.3	77.7	55.2	242
1946	53.7	214	509	709	679	345	200	182	230	93.2	64.3	79.8	278
1947	57.2	150	143	752	252	265	179	154	94.3	148	61.8	49.5	192
1948	45.8	54.4	73.1	98.3	186	556	242	95.3	107	83.2	59.8	49.1	217
1949	47.5	232	428	1,009	424	404	284	190	175	173	101	63.7	295
1950	62.7	71.1	159	1,164	854	497	177	217	128	120	89.6	91.1	300

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	1.75	1.53	0.54	-
1933	1.46	1.34	3.64	3.12	5.00	3.30	2.67	1.87	0.72	.62	.99	.70	25.43
1934	.43	.55	.92	1.29	.72	6.23	1.24	.75	1.78	.63	.53	.43	15.50
1935	.47	.66	.54	1.21	2.36	4.09	3.49	.86	.59	1.51	.65	.37	16.80
1936	.45	.93	.65	2.21	1.82	4.13	4.75	.82	.50	1.42	.48	.44	18.60
1937	.60	.92	2.65	11.16	3.01	1.72	1.42	3.68	.75	.57	1.10	.71	28.30
1938	.83	.56	1.05	3.17	1.94	3.18	3.14	2.27	1.83	1.62	1.53	1.03	22.15
1939	.57	1.94	1.58	3.07	9.39	4.08	2.91	.98	1.36	.73	1.75	.48	28.64
1940	.47	.43	.47	.48	2.52	5.06	2.57	1.36	.71	.81	1.06	.47	16.41
1941	.45	.53	.58	.90	.67	1.26	1.85	.56	.60	.71	.53	.33	8.97
1942	.31	.35	.53	.81	2.27	3.32	1.12	.96	.60	.95	2.60	.59	14.41
1943	.37	.61	4.34	1.61	2.92	3.31	2.78	1.54	.76	.69	.70	.82	20.45
1944	.48	.63	.74	1.80	6.12	6.85	3.27	1.36	.72	.55	.48	.70	25.70
1945	.78	.57	2.18	4.07	6.22	3.14	1.82	3.45	.92	.61	.68	.47	24.91
1946	.47	1.81	4.44	6.19	5.36	3.01	1.69	1.59	1.95	.81	.56	.67	28.55
1947	.50	1.27	1.25	6.57	1.99	2.31	1.52	1.35	.80	1.29	.54	.42	19.81
1948	.40	.46	.64	.86	9.69	4.86	2.05	.83	.90	.73	.52	.42	22.36
1949	.41	1.96	3.74	8.81	3.35	3.53	2.40	1.66	1.48	1.51	.88	.54	30.27
1950	.55	.60	1.39	10.17	6.74	4.34	1.49	1.89	1.08	1.04	.78	.77	50.84

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1932	728	-	-	-	-	-	-	-	-
1933	743	*6,800	Oct. 16, 1932	49	247	1.87	25.43	203	20.89
1934	758	*7,900	Mar. 24, 1934	40	153	1.14	15.50	148	15.27
1935	783	*10,000	Apr. 5, 1935	36	163	1.23	16.80	167	17.16
1936	803	*10,800	Apr. 6, 1936	36	180	1.36	18.60	201	20.75
1937	823	15,800	Jan. 2, 1937	42	275	2.08	28.30	258	26.56
1938	853	3,150	Jan. 22, 1938	50	216	1.64	22.15	230	23.60
1939	873	*11,400	Feb. 15, 1939	54	279	2.11	28.64	254	26.12
1940	893	3,260	Mar. 12, 1940	45	159	1.20	16.41	161	16.60
1941	923	2,150	Apr. 4, 1941	34	87.2	.661	8.97	83.6	8.60
1942	953	3,650	Aug. 19, 1942	32	140	1.06	14.41	180	18.54
1943	973	8,530	Dec. 28, 1942	37	199	1.51	20.45	165	16.98
1944	1003	14,500	Sept. 29, 1944	50	249	1.89	25.70	266	27.58
1945	1033	9,650	Feb. 17, 1945	48	242	1.83	24.91	273	28.10
1946	1053	9,460	Jan. 8, 1946	46	278	2.11	28.55	242	24.85
1947	1063	4,540	Jan. 2, 1947	45	192	1.45	19.81	178	18.29
1948	1113	32,000	Feb. 13, 1948	44	217	1.64	22.36	261	26.97
1949	1143	18,200	Jan. 5, 1949	44	295	2.23	30.27	260	26.70
1950	1173	8,810	Jan. 30, 1950	53	300	2.27	30.84	-	-

* Revised.

36. Collins River near McMinnville, Tenn.

Location.--Lat 35°42'32", long. 85°43'46", on left bank 10 ft downstream from bridge on U. S. Highway 70S, 1½ miles downstream from Barren Fork, and 2½ miles northeast of McMinnville, Warren County.

Drainage area.--624 sq mi.

Gage.--Water-stage recorder. Datum of gage is 825.78 ft above sea level, datum of 1929. Prior to Oct. 16, 1926, chain gage on upstream side of bridge, at same datum.

Average discharge.--26 years (1924-50), 1,116 cfs.

Extremes.--1925-50: Maximum discharge, 75,300 cfs, Mar. 23, 1929 (gage height 39.1 ft), from rating curve extended above 32,000 cfs on basis of slope-area determination of peak flow; minimum, 35 cfs Sept. 21, 1930; minimum gage-height, 0.70 ft Oct. 16, 1931. Maximum stage known, that of Mar. 23, 1929.

Monthly and yearly mean discharge, in cubic feet per second, of Collins River near McMinnville, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	\$121	*95	*358	*1,750	*840	*640	*1,170	*788	189	190	76	63	*522
1926	774	*1,780	906	1,110	1,240	1,160	772	*446	1,660	254	969	334	*946
1927	117	873	5,600	1,980	3,180	2,560	2,620	633	356	201	428	118	1,550
1928	102	699	1,620	2,180	1,040	2,980	3,330	1,060	4,220	1,500	425	681	1,630
1929	814	1,755	2,580	2,699	2,370	6,279	1,875	2,682	781	568	562	402	1,803
1930	301	2,860	1,110	979	2,420	2,700	865	828	221	128	96.5	116	1,040
1931	104	116	300	581	817	1,020	979	504	110	123	118	160	409
1932	63.5	69.0	2,210	2,130	3,650	959	2,390	1,310	367	1,070	242	118	1,210
1933	833	1,006	2,750	1,967	3,750	*1,796	1,619	1,601	241	218	382	350	*1,363
1934	101	122	582	1,193	559	5,081	859	469	957	348	343	211	892
1935	196	490	442	1,030	1,953	2,890	2,832	679	346	341	207	86.6	950
1936	100	*522	637	1,886	1,495	3,176	2,599	326	127	663	133	112	*980
1937	218	585	1,809	6,165	2,110	1,125	791	1,720	224	157	341	208	1,290
1938	386	198	668	1,888	1,280	1,868	2,172	1,468	1,041	935	585	220	1,059
1939	98.7	443	503	1,634	6,564	2,874	1,938	487	1,005	474	434	116	1,344
1940	86.4	84.3	107	126	1,917	3,053	1,678	*668	294	666	426	255	*756
1941	99.9	176	267	791	390	1,129	1,616	225	168	410	294	164	477
1942	84.6	164	679	642	1,942	2,352	558	542	319	403	1,439	315	782
1943	141	316	3,835	1,315	2,129	2,086	1,850	580	254	464	193	161	1,123
1944	92.4	165	266	978	3,882	4,115	2,058	680	208	115	109	711	1,103
1945	250	136	858	1,970	3,763	1,992	1,516	2,069	330	170	291	719	1,107
1946	142	939	2,751	3,294	3,534	1,710	1,177	1,166	2,413	357	140	265	1,479
1947	193	881	920	4,423	1,195	1,587	1,025	570	292	281	136	95.2	969
1948	71.2	118	303	446	5,697	3,067	1,701	278	220	233	184	92.0	1,014
1949	90.3	1,862	2,745	5,565	2,500	1,881	1,721	946	414	1,145	385	175	1,618
1950	355	650	1,319	5,960	4,331	3,104	755	853	382	313	500	996	1,615

* Revised.

* Not previously published; estimated on the basis of records for Sequatchie River near Whitwell.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	*0.22	*0.17	*0.66	*3.23	*1.41	*1.19	*2.10	*1.45	0.34	0.35	0.14	0.11	*11.37
1926	1.43	*3.18	1.67	2.05	2.07	2.14	1.38	*.82	2.97	.47	1.79	.60	*20.57
1927	.22	1.56	10.3	3.63	5.31	4.73	4.69	1.16	.64	.37	.79	.21	33.68
1928	.19	1.25	3.00	4.02	1.80	5.51	5.96	1.96	7.54	2.40	.79	1.22	35.64
1929	1.50	3.14	1.53	4.99	3.96	11.60	3.35	4.96	1.40	1.05	1.04	.72	39.24
1930	.56	5.11	2.05	1.81	4.04	4.99	1.55	1.53	.40	.24	.18	.21	22.67
1931	.19	.21	.55	1.07	1.36	1.88	1.75	.93	.20	.23	.22	.29	8.88
1932	.12	.12	4.08	3.93	6.31	1.78	4.27	2.42	.66	1.97	.45	.21	26.32
1933	1.53	1.80	5.08	3.63	6.26	*3.32	2.89	2.96	.43	.40	.71	.63	*29.64
1934	.19	.22	.71	2.20	.93	9.39	1.54	.87	1.71	.64	.63	.38	19.41
1935	.36	.68	.82	1.90	3.26	5.34	5.06	1.26	.62	.63	.58	.16	20.67
1936	.18	*.93	1.18	3.48	2.59	5.86	4.65	.60	.23	1.22	.25	.20	*21.37
1937	.40	1.05	3.34	11.39	3.52	2.08	1.42	3.18	.40	.29	.63	.37	28.07
1938	.71	.35	1.23	3.49	2.14	3.45	3.88	2.71	1.86	1.73	1.08	.39	23.02
1939	.18	.79	.93	3.02	10.95	5.31	3.47	.90	1.80	.88	.80	.21	29.24
1940	.16	.15	.20	.23	3.51	5.64	3.00	*1.23	.53	1.23	.79	.46	*16.93
1941	.18	.31	.49	1.46	.65	2.09	2.89	.41	.30	.76	.54	.29	10.37
1942	.16	.29	1.25	1.19	3.24	4.34	1.00	1.00	.57	.74	2.66	.56	17.00
1943	.26	.56	7.09	2.43	3.89	3.85	3.31	1.07	.45	.86	.37	.29	24.43
1944	.17	.30	.49	1.81	6.71	7.60	3.68	1.26	.37	.21	.20	1.27	24.07
1945	.46	.24	1.58	3.64	6.28	3.68	2.71	3.82	.59	.31	.54	.21	24.06
1946	.26	1.68	5.08	6.09	5.90	3.16	2.10	2.19	4.31	.66	.26	.47	32.16
1947	.36	1.58	1.70	8.17	1.99	2.93	1.83	1.05	.52	.52	.25	.17	21.07
1948	.13	.21	.56	.82	9.85	5.67	3.04	.51	.59	.43	.34	.16	22.11
1949	.17	5.33	5.07	10.28	4.17	3.47	3.08	1.75	.74	2.12	.71	.31	35.20
1950	.66	3.16	2.44	11.01	7.23	5.73	1.35	1.60	.68	.58	.92	1.78	35.14

* Revised.

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1925	603, 1276	-	-	-	*522	*0.837	*11.37	*763	*16.60	
1926	623, 1276	*14,100	June 23, 1926	55	*946	*1.52	*20.57	*1,214	*26.41	
1927	643	31,300	Dec. 26, 1926	68	1,550	2.48	33.68	1,195	26.00	
1928	663	*50,100	June 29, 1928	74	1,650	2.21	35.64	1,712	37.37	
1929	683, 873	75,300	Mar. 23, 1929	130	1,803	2.89	39.24	1,875	40.79	
1930	698	13,000	Nov. 15, 1929	46	1,040	1.67	22.67	730	15.90	
1931	713	5,530	Mar. 28, 1931	44	409	.655	8.88	563	12.25	
1932	728	18,200	Apr. 25, 1932	47	1,210	1.94	26.32	1,395	30.41	
1933	(a)	19,600	Feb. 15, 1933	86	*1,363	*2.18	*29.64	*1,027	*22.35	
1934	758, 873	25,900	Mar. 25, 1934	56	892	1.43	19.41	935	20.35	
1935	783, 873	25,900	Apr. 6, 1935	70	950	1.52	20.67	*961	*20.90	
1936	803, 1276	18,900	Apr. 6, 1936	61	*980	1.57	*21.37	1,094	23.87	
1937	823, 873	33,700	Jan. 2, 1937	75	1,290	2.07	28.07	1,176	25.57	
1938	853	9,000	Apr. 9, 1938	96	1,059	1.70	23.02	1,041	22.63	
1939	873	31,500	Feb. 4, 1939	61	1,344	2.15	29.24	1,280	27.85	
1940	893, 1276	10,700	Mar. 30, 1940	45	*776	1.24	*16.93	798	17.40	

* Revised.

* Not previously published.

a WSP 743, 873, 1276.

Yearly discharge, in cubic feet per second, of Collins River near McMinnville, Tenn.--Continued

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1941	923	12,500	Apr. 5, 1941	68	477	0.764	10.37	510	11.09
1942	953	12,600	Mar. 17, 1942	67	782	1.25	17.00	1,067	23.21
1943	973	29,700	Dec. 29, 1942	70	1,123	1.80	24.43	803	17.48
1944	1003	24,800	Mar. 29, 1944	70	1,103	1.77	24.07	1,164	25.39
1945	1033	23,600	Feb. 18, 1945	88	1,107	1.77	24.06	1,324	28.80
1946	1053	28,100	Jan. 8, 1946	95	1,479	2.37	32.16	1,323	28.78
1947	1083	12,900	Jan. 2, 1947	81	969	1.55	21.07	843	18.33
1948	1113	59,400	Feb. 13, 1948	60	1,014	1.62	22.11	1,366	29.78
1949	1143	46,500	Jan. 5, 1949	76	1,618	2.59	35.20	1,420	30.89
1950	1173	26,400	Jan. 31, 1950	120	1,615	2.59	35.14	-	-

37. Collins River near Rowland, Tenn.

Location.--Lat 35°46'39" long. 85°41'40", at Hennessee's bridge, 1 mile downstream from Mountain Creek, 2½ miles northwest of Rowland, Warren County, 5 miles southwest of Rock Island, and at mile 7.5.

Drainage area.--740 sq mi (revised).

Gage.--Chain gage. Datum of gage is 795.86 ft above mean sea level.

Average discharge.--8 years (1916-24), 1,544 cfs.

Extremes.--1916-24: Maximum discharge, 34,000 cfs Apr. 2, 1920 (gage height, 16.66 ft, corrected); minimum observed, 60 cfs Nov. 10, 1922 (gage height, 0.95 ft).

Flood in 1854 reached a stage of 32.6 ft, from information by local residents; (estimated discharge, 82,200 cfs). Flood in 1902 reached a stage of 27.2 ft, from information by local residents (estimated discharge, 66,600 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1916	-	-	-	-	-	-	1,200	643	1,170	3,020	627	329	-
1917	206	166	1,240	3,360	2,360	7,760	2,450	591	1,010	1,620	633	874	1,860
1918	557	454	651	3,940	2,450	919	3,300	1,700	438	251	182	175	1,240
1919	431	963	987	3,620	1,450	3,480	1,050	1,180	496	240	218	174	1,190
1920	662	1,140	2,410	2,050	2,320	3,980	3,930	1,390	1,420	588	2,650	1,130	1,970
1921	*258	246	1,270	1,340	3,920	1,360	2,930	732	314	448	812	517	1,160
1922	305	1,720	1,450	2,360	2,390	6,110	3,320	1,690	1,700	512	342	175	1,840
1923	124	115	2,950	2,050	4,150	3,680	1,920	2,470	1,250	786	1,500	522	1,780
1924	173	190	1,610	3,510	2,180	2,180	1,840	2,420	724	477	222	157	1,510
1925	137	130	348	-	-	-	-	-	-	-	-	-	-

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1916	-	-	-	-	-	-	1.81	1.00	1.76	4.70	0.98	0.50	-
1917	0.32	0.25	1.94	5.24	3.32	12.09	3.70	.92	1.52	2.53	.99	1.32	34.14
1918	.87	.68	1.01	6.14	3.45	1.43	4.97	2.66	.66	.39	.28	.26	22.80
1919	.67	1.45	1.54	5.64	2.04	5.43	1.59	1.83	.75	.37	.34	.26	21.91
1920	1.03	1.72	3.75	3.19	3.38	6.20	5.93	2.17	2.15	.92	4.13	1.71	36.28
1921	*.40	.37	1.98	2.09	5.52	2.12	4.41	1.14	.47	.70	1.26	.78	21.24
1922	.48	2.60	2.26	3.67	3.37	9.52	5.01	2.63	2.57	.80	.53	.26	33.70
1923	.19	.17	4.60	3.20	5.84	5.74	2.90	3.84	1.68	1.22	2.33	.79	32.70
1924	.27	.29	2.51	5.47	3.18	3.40	2.77	3.76	1.09	.74	.35	.24	24.07
1925	.21	.20	.54	-	-	-	-	-	-	-	-	-	-

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1916	453	-	-	-	-	-	-	-	-
1917	453	28,900	Mar. 4, 1917	120	1,860	2.51	34.14	1,860	34.19
1918	473	23,200	Jan. 28, 1918	97	1,240	1.68	22.80	1,300	23.90
1919	503	*23,500	Jan. 2, 1919	83	1,190	1.61	21.91	1,350	24.75
1920	503	34,000	Apr. 2, 1920	115	1,970	2.66	36.28	*1,770	*32.53
1921	523, 1276	*25,500	Apr. 16, 1921	155	1,160	1.57	21.24	1,300	23.83
1922	543	31,200	Mar. 2, 1922	115	1,840	2.49	33.70	1,820	33.32
1923	563	18,500	Aug. 14, 1923	68	1,780	2.41	32.70	1,680	30.81
1924	583	18,300	Jan. 3, 1924	91	1,510	1.77	24.07	1,190	21.95
1925	603	-	-	-	-	-	-	-	-

* Revised.

* Not previously published.

38. Great Falls Lake near Rock Island, Tenn. 1/

Location.--Lat 35°48'10", long. 85°38'00", at penstock inlet on Collins River, 800 ft southwest of powerhouse of Tennessee Valley Authority, 1.9 miles northwest of Rock Island, Warren County, 2.4 miles upstream from Great Falls Dam on Caney Fork, and at mile 2.3.

Drainage area.--1,640 sq mi, approximately.

Gage.--Remote indicator gage. Datum of gage is mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1917-50: Maximum 12 p.m. elevation, 817.48 ft Mar. 23, 1929 (contents not determined); minimum 12 p.m. contents, 1,700 cfs-days Aug. 19, 1918 (elevation 756.3 ft).

Remarks.--Reservoir is formed by concrete gravity dam. Spillway is equipped with 18 tainter gates each 14 ft high by 25 ft wide. Dam completed and storage began Dec. 8, 1916; dam redesigned and crest raised 35 ft in 1925. Total capacity at elevation 804.9 ft (top of gates) is 27,400 cfs-days, of which 24,900 cfs-days is controlled storage above elevation 762.0 ft (minimum pool). Reservoir is used primarily for power.

Cooperation.--Records furnished by Tennessee Valley Authority.

Water year	Contents, in thousands of cfs-days, on last day of month											
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1917	-	-	-	2.4	2.0	2.0	2.3	4.3	3.4	3.4	2.2	4.5
1918	4	3.3	4.5	3.6	4.0	4.8	4.0	4.7	4.4	4.1	2.2	3.6
1919	4.1	4.9	4.6	4.6	4.3	4.5	4.7	4.4	4.6	4.0	4.3	2.1
1920	4.7	4.4	4.4	4.2	4.8	4.6	4.4	4.8	4.1	2.6	5.1	4.6
1921	4.2	4.6	4.7	4.5	4.5	4.8	4.6	4.6	4.4	4.3	4.3	4.2
1922	2.4	4.9	4.7	4.6	4.3	4.7	4.9	4.4	4.8	4.4	4.4	3.6
1923	2.3	2.7	4.5	4.5	4.6	4.6	4.1	4.5	4.7	4.1	4.0	4.7
1924	3.9	2.7	4.0	4.2	4.3	4.2	4.2	4.1	2.9	3.6	3.8	3.6
1925	2.6	3.5	3.3	3.8	9.1	14.4	20.6	19.2	11.5	10.2	3.1	2.6
1926	27.8	24.9	21.7	26.3	27.3	27.9	19.1	23.5	25.2	25.8	28.4	9.7
1927	11.0	28.2	28.5	27.8	27.8	27.9	21.5	21.8	24.9	15.7	10.6	10.8
1928	7.5	15.7	27.9	28.2	20.3	28.2	28.2	27.5	28.3	26.2	21.4	15.6
1929	17.8	28.1	13.7	28.0	27.5	23.0	27.5	26.2	28.4	27.3	19.2	12.2
1930	9.3	27.9	27.9	18.6	28.1	28.0	9.4	19.9	10.6	6.2	6.4	4.3
1931	2.2	3.6	7.5	6.1	28.2	27.7	27.8	9.3	10.3	14.4	14.5	11.3
1932	3.3	2.7	28.3	27.8	28.3	28.2	28.3	22.4	14.4	18.5	16.1	4.9
1933	28.2	28.2	28.4	28.1	28.1	28.5	27.9	22.5	19.5	20.1	24.5	14.7
1934	3.3	2.7	5.2	6.0	28.2	28.1	14.8	10.8	22.3	14.5	24.4	12.9
1935	4.6	2.9	5.0	23.0	28.0	27.8	27.0	15.2	12.9	16.8	11.7	5.8
1936	3.7	15.2	4.3	18.4	26.7	27.9	16.5	7.9	9.7	13.9	15.2	13.2
1937	7.3	3.0	28.2	28.4	27.8	26.5	19.9	20.4	16.9	22.2	22.6	22.0
1938	15.5	8.7	28.2	28.4	26.1	26.8	25.9	28.4	22.6	26.0	21.9	21.5
1939	17.7	7.4	17.2	28.5	28.0	28.3	27.5	16.7	19.5	14.2	13.4	10.3
1940	8.1	5.3	2.6	2.9	28.3	27.9	27.1	25.7	26.4	23.0	27.7	10.9
1941	8.8	6.6	12.0	14.7	4.0	12.9	15.8	8.8	8.2	18.1	12.4	3.6
1942	3.3	6.6	11.2	9.4	27.7	27.9	5.9	19.1	7.6	11.3	25.2	5.3
1943	4.9	8.1	28.6	28.4	19.2	28.3	28.0	9.0	7.3	16.7	5.6	4.8
1944	3.9	3.3	8.2	5.0	28.3	28.1	27.8	13.1	4.0	4.9	3.5	27.6
1945	3.3	3.6	27.4	18.4	28.3	20.6	28.3	9.8	3.7	4.9	3.2	3.9
1946	4.0	18.0	15.3	16.3	17.0	24.3	21.2	22.6	13.7	9.8	8.6	14.1
1947	7.2	13.4	27.2	27.0	18.3	21.9	13.1	19.6	22.5	21.3	16.0	5.5
1948	3.9	4.0	7.8	6.2	27.9	27.2	13.0	11.8	16.0	11.6	10.6	10.8
1949	9.5	27.4	28.0	28.1	27.5	28.5	26.8	11.6	17.8	16.4	13.3	10.1
1950	20.3	17.9	26.1	28.0	25.4	27.9	18.6	22.8	14.6	16.9	25.4	15.2

Note.--Contents at 12 p.m.

39. Caney Fork near Rock Island, Tenn.

Location.--Lat 35°48'26", long. 85°37'44", 180 ft downstream from powerhouse of Tennessee Valley Authority, half a mile downstream from dam at mouth of Collins River, 1 mile northwest of Rock Island, Warren County, 64 miles upstream from Center Hill Dam, and at mile 90.3.

Drainage area.--1,640 sq mi, approximately.

Supplemental records available.--Gage-height records collected in this vicinity since Mar. 1, 1927, are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 650.09 ft above mean sea level, datum of 1929 or 650.46 ft (corrected) above mean sea level, Sandy Hook datum. Prior to Mar. 31, 1924, water-stage recorder at sites from one-half mile upstream to 100 ft downstream from powerplant, at different datums. Apr. 12, 1925, to Sept. 9, 1930, water-stage recorder at present site at datum 2.00 ft higher.

Average discharge.--36 years (1914-50), 3,223 cfs.

Extremes.--1911-50: Maximum discharge, 210,000 cfs Mar. 23, 1929 (gage height, 40.6 ft, present datum, from floodmarks), from rating curve extended above 110,000 cfs; minimum daily 40 cfs July 25, 1948.

Maximum stage known, that of Mar. 23, 1929.

1/ Published as Great Falls Reservoir prior to 1954.

39. Caney Fork near Rock Island, Tenn.--Continued

Remarks.--Flow regulated by Great Falls Lake, beginning Dec. 8, 1916 (see elsewhere in this report).

Cooperation.--Records prior to Jan. 1, 1915, furnished by H. M. Byllesby and Co., and those for Jan. 1, 1915, to Mar. 26, 1916, furnished by Tennessee Power Co.

Monthly and yearly mean discharge, in cubic feet per second											
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	The year
1912	-	-	7,730	5,810	6,910	13,200	14,900	5,050	1,180	2,470	681
1913	671	353	1,710	16,100	8,160	15,400	3,500	-	-	432	319
1914	307	311	342	1,040	4,690	3,500	4,460	1,070	-	-	777
1915	1,420	401	8,800	8,700	7,170	3,160	2,300	1,080	1,730	3,320	1,360
1916	4,870	6,790	9,630	13,300	4,450	4,750	3,010	1,430	2,550	6,800	1,500
1917	559	432	31,830	8,790	6,040	17,500	5,330	1,380	2,080	3,840	1,310
1918	1,420	968	1,530	9,560	8,490	2,770	9,250	4,100	1,080	621	495
1919	1,440	2,690	2,270	9,480	3,150	10,000	2,020	1,530	799	639	582
1920	1,200	2,600	6,830	5,850	6,500	10,300	9,210	2,600	4,470	1,060	8,810
1921	627	536	3,530	4,150	12,600	3,310	7,020	1,270	650	760	960
1922	4410	2,450	3,120	6,190	5,360	15,700	10,800	4,510	3,520	1,550	1,120
1923	372	322	6,270	5,740	10,900	11,600	3,380	4,840	2,650	1,670	2,740
1924	383	475	3,570	6,490	4,130	3,960	3,620	5,170	1,610	849	414
1925	196	165	790	3,310	4,360	1,580	3,010	2,130	599	495	444
1926	1,550	4,610	3,000	3,170	3,430	3,270	2,740	1,330	2,690	570	4,060
1927	387	2,400	14,400	5,210	8,720	6,650	6,710	2,330	1,220	547	1,760
1928	369	1,360	3,300	4,880	2,820	6,320	7,980	2,660	9,810	3,470	1,150
1929	1,390	4,260	2,840	6,360	6,780	18,700	4,000	6,930	2,180	2,090	1,730
1930	763	6,760	3,270	3,210	6,810	7,560	3,270	1,800	774	386	323
1931	425	360	1,020	2,180	2,040	3,160	2,970	2,320	248	184	292
1932	431	175	5,770	5,700	10,600	2,710	5,930	3,030	942	1,760	787
1933	1,300	2,480	6,800	9,950	10,400	4,350	5,030	4,290	731	490	892
1934	689	335	1,135	3,651	1,055	13,900	2,976	1,829	1,759	1,218	1,050
1935	831	1,189	1,229	2,597	5,122	7,697	7,161	2,214	1,029	512	873
1936	287	996	2,301	5,279	3,991	8,544	7,846	1,096	230	1,497	247
1937	555	1,414	4,523	16,700	5,852	3,203	2,672	4,562	737	251	999
1938	1,117	705	1,331	5,314	3,964	5,102	5,513	4,368	2,978	1,863	2,322
1939	317	1,358	1,120	4,215	17,030	7,005	4,828	1,904	1,776	1,316	822
1940	252	294	380	402	3,908	7,868	4,622	2,173	1,107	1,578	919
1941	302	500	747	2,276	1,569	2,853	4,944	914	594	1,697	887
1942	205	230	1,546	2,091	4,330	6,621	2,283	759	1,163	1,367	3,170
1943	391	890	10,180	3,479	6,514	5,646	5,393	2,478	737	755	948
1944	261	429	603	2,661	9,957	9,934	5,322	2,170	814	246	365
1945	1,690	631	2,151	5,580	8,922	5,498	3,461	6,576	1,167	711	951
1946	323	1,887	6,862	9,356	8,708	4,145	3,368	2,633	4,042	829	389
1947	670	1,726	1,971	10,900	3,451	4,353	3,205	1,426	625	773	515
1948	245	247	555	1,287	13,310	7,930	4,854	959	480	762	439
1949	220	4,136	7,198	13,240	6,199	4,893	4,335	2,769	950	3,290	1,221
1950	569	1,671	3,356	14,880	12,080	7,222	2,369	3,085	1,891	896	1,316

* Revised.

† Corrected.

* Not previously published; estimated on basis of records for station near Silver Point, for periods May to June 1923; April 1924 to April 1925, and August to September 1925; and for station Sequatchie River near Whitwell, for period May to December 1921; Dec. 8-31, 1917 from partial records.

Monthly and yearly runoff, in inches											
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	The year
1912	-	-	5.43	4.08	4.54	9.28	10.14	3.55	0.80	1.74	0.48
1913	0.47	0.24	1.20	11.32	5.19	10.83	2.38	-	-	.30	.22
1914	.22	.21	.24	.73	2.98	2.46	3.04	.75	-	-	.55
1915	1.00	.27	6.19	6.11	4.55	2.22	1.56	.76	1.17	2.33	.96
1916	3.42	4.62	6.77	9.35	2.92	3.34	2.05	1.01	1.73	4.78	1.05
1917	.39	.29	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second											
Year	W.S.P. no.	Water year ending Sept. 30						Calendar year			
		Observed			Adjusted ¹			Observed		Adjusted ¹	
		Discharge	Maximum	Minimum	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
1912	433	a107,000	Apr. 2, 1912	-	-	-	-	-	-	-	-
1913	433	a87,000	Jan. 24, 1913	-	-	-	-	-	-	-	-
1914	433	a28,600	Feb. 1, 1914	-	-	-	-	-	-	-	-
1915	433	a54,000	Dec. 25, 1914	220	3,483	-	2.12	28.80	4,371	-	36.16
1916	433	a49,800	Nov. 15, 1915	430	15,019	-	3.06	41.63	3,472	-	28.86
1917	453	b57,200	Mar. 4, 1917	-	4,196	4,209	2.57	34.89	4,288	4,300	35.56
1918	473	b90,000	Jan. 28, 1918	140	3,360	3,357	2.05	27.83	3,565	3,566	29.46
1919	523	b57,200	Jan. 2, 1919	175	12,941	12,937	1.79	24.30	3,301	3,301	27.28
1920	523	b70,700	Apr. 2, 1920	140	15,149	15,156	3.14	44.74	4,652	4,652	38.66

¹ Adjusted for change in contents in Great Falls Lake since December 1916; no regulation prior to that date.

* Revised.

† Corrected.

* Not previously published.

a Maximum daily discharge.

b Not previously published; furnished by Tennessee Valley Authority.

Yearly discharge, in cubic feet per second, of Caney Fork near Rock Island, Tenn.--Continued

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year			
		Observed				Adjusted ¹		Observed		Adjusted ¹	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff ¹ in inches
		Discharge	Date								
1921	523	b61,700	Apr. 17, 1921	-	\$2,930	\$2,927	1.78	\$24.16	\$3,033	\$3,033	\$25.11
1922	543	b64,000	Mar. 2, 1922	-	\$4,605	\$4,603	\$2.81	\$38.14	\$4,695	\$4,694	\$38.82
1923	563	b39,200	Feb. 3, 1923	-	\$4,260	\$4,257	\$2.60	\$35.29	\$4,044	\$4,043	\$33.53
1924	583	b31,700	Jan. 3, 1924	-	\$2,582	\$2,579	\$1.57	\$21.37	\$2,306	\$2,304	\$19.05
1925	603	32,400	Apr. 28, 1925	-	\$1,421	\$1,418	\$0.865	\$11.74	\$2,089	\$2,139	\$17.65
1926	623	31,300	Aug. 21, 1926	100	\$2,692	\$2,711	\$1.65	\$22.40	3,577	\$3,396	\$28.10
1927	643	79,900	Dec. 25, 1926	76	\$4,211	\$4,214	\$2.57	\$34.89	3,184	\$3,183	\$26.33
1928	663	71,900	Dec. 29, 1928	80	\$3,824	\$3,838	\$2.34	\$31.85	4,109	\$4,071	\$33.76
1929	683	210,000	Mar. 23, 1929	120	\$4,878	\$4,867	\$2.97	\$40.32	5,064	\$5,103	\$42.22
1930	698	51,400	Feb. 14, 1930	110	2,910	\$2,889	\$1.76	\$23.89	2,165	\$2,109	\$17.51
1931	713	20,600	Mar. 29, 1931	60	\$1,296	\$1,315	\$0.802	\$10.89	1,685	\$1,742	\$14.39
1932	728	38,800	Apr. 25, 1932	58	\$3,188	\$3,170	\$1.93	\$26.27	3,538	\$3,538	\$29.40
1933	743	56,700	Feb. 15, 1933	82	\$3,651	\$3,678	\$2.24	\$30.41	2,942	\$2,879	\$23.89
1934	758, 1276	66,800	Mar. 3, 1934	89	\$2,576	\$2,581	\$1.57	\$21.31	\$2,666	\$2,666	\$22.13
1935	763	57,900	Apr. 6, 1935	120	2,555	\$2,535	\$1.55	\$21.04	2,584	\$2,582	\$21.31
1936	803	55,000	Apr. 6, 1936	93	2,713	\$2,733	\$1.67	\$22.73	2,958	\$3,023	\$25.05
1937	823, 1276	80,000	Jan. 2, 1937	92	\$3,498	\$3,516	\$2.14	\$29.05	\$3,217	\$3,217	\$26.61
1938	853	27,900	Apr. 8, 1938	134	2,927	\$2,926	\$1.78	\$24.16	2,896	\$2,866	\$23.76
1939	873	87,900	Feb. 3, 1939	90	\$3,411	\$3,381	\$2.06	\$27.96	3,255	\$3,215	\$26.61
1940	893	34,400	Mar. 30, 1940	96	2,063	2,055	1.25	17.01	2,105	2,131	17.70
1941	923	47,300	Apr. 5, 1941	128	1,494	1,474	.899	12.20	1,531	1,522	12.60
1942	953	37,500	Mar. 17, 1942	130	2,089	2,108	1.29	17.45	2,892	2,940	24.33
1943	973	76,900	Dec. 29, 1942	190	3,137	3,136	1.91	25.95	2,275	2,219	18.37
1944	1003	55,700	Mar. 29, 1944	155	2,817	2,879	1.76	23.90	3,103	3,155	26.19
1945	1033	49,100	Feb. 17, 1945	138	3,123	3,058	1.86	25.31	3,493	3,460	28.64
1946	1053	64,000	Jan. 8, 1946	84	3,545	3,572	2.18	29.57	3,145	3,178	26.30
1947	1083	38,100	Jan. 2, 1947	72	2,522	2,498	1.52	20.68	2,244	2,190	18.13
1948	1113	115,000	Feb. 13, 1948	70	2,562	2,576	1.57	21.38	3,441	3,496	29.02
1949	1143	98,700	Jan. 5, 1949	75	4,083	4,081	2.49	33.78	3,584	3,578	29.62
1950	1173	77,200	Jan. 30, 1950	68	4,313	4,327	2.64	35.82	-	-	-

¹Adjusted for change in contents in Great Falls Lake since December 1916; no regulation prior to that date.

* Revised.

† Corrected.

* Not previously published.

b Not previously published; furnished by Tennessee Valley Authority.

Note.--Figures for discharge in cubic feet per second per square mile and runoff in inches for months December 1916 to September 1939, for the water years 1917-39, and for the calendar years 1934-38 previously published in water-supply papers have been found subject to error because of regulation in Great Falls Lake. The monthly figures are not published herein and should not be used. Adjusted annual figures supersede unadjusted figures previously published.

40. Falling Water River near Cookeville, Tenn.

Location.--Lat 36°04'00", long. 85°31'30", at Burgess Mill in White County, 1 mile upstream from Post Oak Creek and 5 miles south of Cookeville, Putnam County.

Drainage area.--67.0 sq mi, of which 21.1 sq mi do not contribute directly to surface runoff.

Gage.--Staff gage. Datum of gage is 893.49 ft above mean sea level, datum of 1929, supplementary adjustment of 1936 (levels by Corps of Engineers).

Average discharge.--18 years (1932-50), 109 cfs.

Extremes.--1932-50: Maximum discharge, 5,130 cfs Feb. 3, 1939 (gage height, 23.10 ft, from graph based on gage readings); minimum observed, 0.9 cfs Oct. 15, 1936 (gage height, 1.13 ft).

Floods of June 28, 1928, and Mar. 23, 1929, reached stages of 24.1 ft (discharge 5,630 cfs), and 23.5 ft, from floodmarks (discharge, 5,330 cfs), respectively.

Monthly and yearly mean discharge, in cubic feet per second											
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1932	-	-	-	-	-	216	-	-	-	30.8	14.5
1933	41.7	63.9	194	277	366	216	142	187	32.7	62.2	206
1934	13.1	11.9	43.6	127	91.1	486	74.4	57.0	44.4	20.8	10.3
1935	7.27	28.4	16.5	103	192	274	235	54.7	64.0	31.7	48.3
1936	5.82	34.3	37.0	187	122	347	280	24.9	9.20	7.73	3.82
1937	2.18	7.96	93.6	820	248	66.2	122	250	65.1	36.6	27.1
1938	23.5	9.30	76.7	179	164	151	115	94.4	99.3	43.1	156
1939	15.0	74.6	71.4	210	652	224	210	78.9	149	29.9	15.1
1940	4.38	4.15	13.3	12.3	144	273	211	89.0	30.7	17.9	33.2
1941	4.71	12.2	31.5	67.7	34.1	81.3	185	24.4	52.5	106	24.8
1942	6.16	11.3	43.6	65.5	136	201	58.6	28.5	21.6	40.6	131
1943	10.9	97.9	463	122	155	303	225	100	30.0	14.1	22.5
1944	7.99	19.0	42.5	101	515	372	182	50.8	15.8	7.44	12.8
1945	66.1	56.8	143	276	335	178	79.8	253	72.2	18.4	14.4
1946	6.33	93.5	185	437	300	187	80.7	35.5	41.4	13.3	8.85
1947	7.25	37.5	56.1	366	88.8	159	96.4	64.5	44.4	68.1	21.8
1948	6.17	7.29	22.2	56.3	501	225	99.0	20.5	23.1	20.5	7.31
1949	5.39	133	234	459	203	200	137	61.2	41.8	77.7	30.4
1950	13.4	25.4	104	686	472	190	88.9	261	140	110	41.7

† Corrected.

Monthly and yearly runoff, in inches, of Falling Water River near Cookeville, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	0.53	0.25	0.21	-
1933	0.72	1.06	3.34	4.77	5.69	3.72	2.36	3.23	0.54	1.07	.56	3.43	30.49
1934	.23	.20	.75	2.19	1.42	8.36	1.24	.98	.74	.36	.18	.27	16.92
1935	.13	.47	.28	1.78	2.98	4.71	3.91	.94	1.07	.55	.83	.12	17.77
1936	.10	.57	.64	3.22	1.96	5.97	4.67	.43	.15	.13	.07	.04	17.95
1937	.04	.13	1.61	14.11	3.85	1.14	2.03	4.30	1.08	.63	.47	.15	29.54
1938	.40	.15	1.32	3.08	2.55	2.60	1.91	1.62	1.65	.74	2.68	.37	19.07
1939	.26	1.24	1.23	3.61	10.14	3.88	3.49	1.36	2.47	.52	.26	.10	28.54
1940	.08	.07	.23	.21	2.32	4.70	3.52	1.53	.51	.31	.57	.17	14.22
1941	.08	.20	.54	1.16	.53	1.40	3.09	.42	.87	1.82	.43	.20	10.74
1942	.11	.19	.75	1.13	2.11	3.45	.98	.49	.36	.70	2.26	.28	12.81
1943	.19	1.63	7.97	2.09	2.41	5.22	3.74	1.73	.50	.24	.39	.44	26.55
1944	.14	.32	.73	1.73	8.29	6.41	3.03	.87	.26	.13	.22	2.75	24.88
1945	1.14	.95	2.46	4.74	5.20	3.06	1.33	4.35	1.20	.32	.25	.10	25.10
1946	.11	1.56	3.18	7.52	4.66	3.21	1.34	.61	.69	.23	.15	.16	23.41
1947	.13	.62	.97	6.85	1.35	2.72	1.60	1.11	.74	1.52	.37	.12	17.90
1948	.11	.12	.58	.97	6.07	3.86	1.65	.35	.43	.40	.35	.12	18.81
1949	.09	2.21	4.03	7.90	3.15	3.44	2.29	1.05	.70	1.34	.52	.22	26.94
1950	.23	.42	1.78	11.81	7.33	3.26	1.48	4.49	2.32	1.89	.72	1.07	36.80

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1932	728	-	-	-	-	-	-	-	-
1933	743	3,540	Sept. 4, 1933	5.0	151	2.25	30.49	131	26.55
1934	758	3,780	Mar. 2, 1934	4.4	83.4	1.24	16.92	82.0	16.62
1935	785	2,610	Apr. 6, 1935	2.5	87.8	1.31	17.77	89.7	18.20
1936	803	2,970	Apr. 6, 1936	1.3	88.4	1.32	17.95	90.7	18.42
1937	823	4,380	Jan. 2, 1937	1.1	146	2.18	29.54	146	29.63
1938	853	1,500	Aug. 2, 1938	4.1	94.2	1.41	19.07	96.4	19.93
1939	873	5,130	Feb. 3, 1939	3.8	141	2.10	28.54	129	26.19
1940	893	2,300	Mar. 30, 1940	2.9	70.0	1.04	14.22	72.2	14.66
1941	923	2,480	Apr. 4, 1941	3.6	53.0	.791	10.74	54.1	10.97
1942	953	1,090	Aug. 9, 1942	4.0	85.1	.942	12.81	106	21.55
1943	973	3,460	Dec. 28, 1942	5.1	131	1.96	26.55	88.5	17.95
1944	1003	4,050	Feb. 18, 1944	4.8	122	1.82	24.88	139	28.24
1945	1033	2,790	Jan. 1, 1945	4.8	124	1.85	25.10	125	25.40
1946	1053	4,950	Jan. 8, 1946	4.8	116	1.73	23.41	100	20.26
1947	1083	*2,300	Jan. 2, 1947	5.6	88.3	1.32	17.90	82.9	16.79
1948	1113	5,100	Feb. 13, 1948	3.6	82.7	1.23	16.81	111	22.53
1949	1143	4,720	Jan. 5, 1949	2.8	†135	1.99	26.94	114	23.04
1950	1173	3,950	Feb. 2, 1950	9.4	182	2.72	36.80	-	-

* Revised.

† Corrected.

41. Caney Fork near Silver Point, Tenn.

Location.--Lat 36°02'30", long. 85°49'00", at bridge on State Highway 56, 6 miles north of Smithville, De Kalb County, 7 miles southwest of Silver Point, Putnam County, 12 miles downstream from Falling Water River, 15 miles upstream from Center Hill Dam, 49 miles downstream from Great Falls Dam and at mile 41.6.

Drainage area.--2,100 sq mi, approximately.

Gage.--Water-stage recorder. Datum of gage is 496.44 ft above mean sea level, Sandy Hook datum. Nov. 23, 1923, to July 28, 1926, staff gage and July 29, 1926, to Feb. 4, 1939, water-stage recorder at site 3.3 miles upstream at Johnson's Ferry at datum 3.16 ft higher. Datum of old gage was 597.598 ft, 1889 construction datum.

Average discharge.--25 years (1922-47), 3,627 cfs (unadjusted).

Extremes.--1922-48: Maximum discharge, 178,000 cfs Mar. 23, 1929 (gage height, 58.6 ft, present site and datum, from floodmarks), from rating curve extended above 50,000 cfs (30 ft) on basis of computed areas and flood profiles at gage heights of 40 ft and 60 ft at site and datum then in use; minimum daily, 25 cfs Nov. 4, 25, 26, 1924, Sept. 30, 1925.

Maximum stage known, that of Mar. 23, 1929.

Remarks.--Low flow regulated by Great Falls Lake (see elsewhere in this report), and by small powerplants on Falling Water River.

Monthly and yearly mean discharge, in cubic feet per second, of Caney Fork near Silver Point, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1923	*475	*410	7,035	6,427	12,700	11,930	5,249	6,161	3,578	1,936	3,720	1,182	*5,014
1924	458	501	4,582	10,750	6,630	6,236	4,610	6,585	2,057	1,082	528	361	3,694
1925	250	210	1,007	4,216	5,558	2,015	3,830	2,726	920	627	528	289	1,823
1926	2,003	5,261	2,685	3,453	3,359	3,627	2,752	1,479	2,899	784	4,588	2,309	2,924
1927	576	2,527	18,550	5,925	9,612	7,508	7,646	2,439	1,510	901	2,155	614	4,980
1928	421	1,503	3,325	5,939	3,097	7,211	9,844	3,265	11,850	5,814	1,625	2,353	4,678
1929	1,682	5,158	3,270	8,078	7,589	21,290	4,860	8,693	2,606	2,119	2,282	1,424	5,764
1930	988	7,778	3,816	3,877	8,047	8,941	3,757	2,196	1,098	603	414	682	3,481
1931	598	484	1,120	2,340	2,440	3,870	3,420	2,670	459	385	418	493	1,560
1932	596	239	6,560	7,010	13,300	3,270	7,500	3,870	1,270	2,290	1,090	930	*3,964
1933	1,820	3,100	7,750	7,580	*12,180	5,740	5,810	4,970	1,030	823	1,400	2,450	*4,508
1934	867	556	1,500	4,272	1,491	16,810	3,530	2,246	2,342	1,444	1,401	1,250	3,170
1935	881	1,367	1,417	3,101	6,229	9,312	8,464	2,464	1,457	762	1,244	586	3,083
1936	418	1,318	2,781	6,602	4,723	11,270	9,835	1,398	339	1,677	366	352	3,421
1937	840	1,565	4,673	23,430	7,657	4,128	3,652	6,475	1,178	546	1,309	691	4,669
1938	1,374	890	1,707	6,643	5,250	6,276	6,595	5,030	3,799	2,297	3,478	865	3,678
1939	531	1,633	1,561	5,493	21,500	8,648	5,801	2,237	2,217	*1,594	976	512	*4,288
1940	309	374	498	504	4,582	9,414	6,069	2,658	1,338	1,721	1,000	1,429	2,483
1941	373	611	820	2,465	1,747	3,212	5,715	1,077	811	2,315	1,055	825	1,749
1942	287	315	1,681	2,481	5,326	8,064	2,642	854	1,209	1,462	4,002	1,555	2,478
1943	529	1,214	12,730	4,701	7,642	7,167	6,532	3,175	847	831	983	510	3,892
1944	348	511	676	3,257	12,610	12,960	6,740	2,543	878	337	445	2,222	3,589
1945	2,740	938	2,770	7,873	11,550	6,959	4,072	8,721	1,600	854	1,094	442	4,095
1946	428	2,612	8,802	12,790	11,090	5,695	4,055	3,187	4,577	885	496	474	4,556
1947	707	2,003	2,303	13,500	4,425	5,665	3,771	1,812	820	1,156	664	649	3,127
1948	336	345	671	1,741	17,440	10,320	6,493	1,299	-	-	-	-	-

* Revised.

* Not previously published; estimated on basis of records for station near Rock Island.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year				
		Observed				Adjusted/			Observed		Adjusted/		
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches		
		Discharge	Date										
1923	563, 853	46,000	Feb. 4, 1923	-	\$5,014	5,017	2.39	32.43	4,803	4,802	31.04		
1924	583, 853	50,900	Jan. 4, 1924	180	3,694	3,691	1.76	23.92	3,358	3,356	21.75		
1925	603, 853	44,900	Apr. 29, 1925	25	1,823	1,820	.867	11.77	2,530	2,580	16.68		
1926	623, 853	29,500	Oct. 26, 1925	70	2,924	2,944	1.40	19.03	3,926	3,945	25.50		
1927	643, 853	101,000	Dec. 26, 1926	184	4,980	4,983	2.37	32.21	3,590	3,588	23.19		
1928	663, 853	76,700	June 30, 1928	150	4,678	4,691	2.23	30.41	5,079	5,040	32.67		
1929	683, 853	178,000	Mar. 23, 1929	300	5,764	5,754	2.74	37.19	5,967	6,006	38.82		
1930	698, 853	42,300	Feb. 14, 1930	201	3,481	3,460	1.65	22.36	2,620	2,584	16.57		
1931	713	19,200	Mar. 29, 1931	141	1,560	1,574	.750	10.18	1,997	2,054	13.28		
1932	728, 1276	49,800	Apr. 26, 1932	122	*3,964	3,957	1.88	25.58	*4,403	4,403	28.54		
1933	743, 1276	61,200	Feb. 15, 1933	260	*4,508	4,534	2.16	29.31	*3,686	3,623	23.42		
1934	758	75,600	Mar. 4, 1934	188	3,170	3,174	1.51	20.52	3,230	3,230	20.88		
1935	783, 853	63,700	Apr. 6, 1935	233	3,063	3,063	1.46	19.80	3,155	3,153	20.38		
1936	803, 853	62,100	Apr. 1, 1936	170	3,421	3,401	1.62	22.04	3,620	3,686	23.89		
1937	823, 853	97,800	Jan. 3, 1937	237	4,669	4,693	2.23	30.34	4,424	4,424	28.60		
1938	853	28,400	Apr. 9, 1938	378	3,678	3,676	1.75	23.76	3,671	3,641	23.54		
1939	873, 1276	95,900	Feb. 4, 1939	305	*4,288	4,257	2.03	27.52	*4,059	4,019	25.98		
1940	893	39,900	Mar. 31, 1940	185	2,483	2,485	1.18	16.06	2,535	2,561	16.61		
1941	923	38,400	Apr. 5, 1941	255	1,749	1,729	.823	11.17	1,791	1,789	11.56		
1942	953	37,700	Mar. 18, 1942	195	2,478	2,483	1.18	16.05	3,511	3,559	23.00		
1943	978	88,900	Dec. 30, 1942	321	3,892	3,891	1.85	25.15	2,795	2,739	17.71		
1944	1003	57,000	Mar. 30, 1944	236	3,589	3,651	1.74	23.67	4,004	4,057	26.29		
1945	1033	50,900	Feb. 18, 1945	240	4,095	4,031	1.92	26.05	4,549	4,515	29.19		
1946	1053	72,300	Jan. 9, 1946	170	4,556	4,584	2.18	29.63	3,978	4,010	25.92		
1947	1083	42,200	Jan. 3, 1947	200	3,127	3,104	1.48	20.06	2,820	2,767	17.89		
1948	1113	123,000	Feb. 14, 1948	-	-	-	-	-	-	-	-		

1/Adjusted for change in contents in Great Falls Lake.

* Revised.

* Not previously published.

Note.--Figures of discharge in cubic feet per second per square mile and runoff in inches for months December 1922 to September 1939 and for the water years and calendar years prior to 1940, previously published in water-supply papers, have been found subject to error because of regulation in Great Falls Lake. The monthly figures are not published herein and should not be used. Adjusted annual figures included herein prior to 1940 are not previously published.

42. Center Hill Reservoir at Center Hill Dam, near Smithville, Tenn.

Location.--Lat 36°05'48", long. 85°49'38", at Center Hill Dam on Caney Fork, 10 miles north of Smithville, De Kalb County, 14 miles southeast of Carthage, Smith County (corrected), and at mile 26.6.

Drainage area.--2,195 sq mi.

Gage.--Water-stage recorder. Elevation of gage is mean sea level, Sandy Hook datum. Prior to Mar. 14, 1949, staff gage a quarter of a mile upstream at same datum.

Extremes.--1949-50: Maximum contents, 1,005,000 cfs-days Feb. 10, 1950 (elevation 680.6 ft); minimum observed (after first filling), 171,000 cfs-days Dec. 1, 2, 1949 (elevation, 576.1 ft).

42. Center Hill Reservoir at Center Hill Dam, near Smithville, Tenn.--Continued

Remarks.--Reservoir is formed by concrete dam with earth embankment. Spillway equipped with 8 taintor gates, 37 ft high and 50 ft wide. Closure of dam was made Nov. 27, 1948; water in reservoir first reached minimum pool elevation Jan. 11, 1949. Total capacity at elevation 685.0 ft (top of gates) is 1,055,000 cfs-days, of which 385,000 cfs-days between elevation 685.0 ft (top of gates) and 648.0 ft (crest of spillway) is reserved for flood control, and 248,000 cfs-days between elevations 648.0 ft (crest of spillway) and 618.0 ft (ordinary minimum pool) will be used for power production. Reservoir is used for navigation, flood control, and power.

Cooperation.--Records furnished by Corps of Engineers.

Contents, in thousands of cfs-days, on last day of month												
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1949	a4.0	a102	a192	a506	a459	379	302	313	206	210	203	208
1950	229	172	232	804	658	624	674	696	667	624	676	773

a Interpolated from 8 a.m. readings.

Note.--Contents at 12 p.m.

43. Caney Fork near Lancaster, Tenn.^{1/}

Location.--Lat 36°08'52", long. 85°50'34", at county bridge 1.5 miles northeast of Lancaster, Smith County, 1.9 miles upstream from Smith Fork, 8.8 miles (corrected) downstream from Center Hill Dam, and at mile 17.8.

Drainage area.--2,230 sq mi, approximately.

Gage.--Water-stage recorder. Datum of gage is 462.38 ft above mean sea level, Sandy Hook datum. Base gage for station on Cumberland River at Carthage is used as auxiliary gage for this station.

Average discharge.--6 years (1944-50), 4,174 cfs (unadjusted).

Extremes.--(1944-50): Maximum discharge, 119,000 cfs Feb. 14, 1948; maximum gage height, 53.44 ft Feb. 14, 1948; minimum daily discharge, 25 cfs Aug. 14, 1950

Remarks.--Flow regulated by Great Falls Lake for period of record and Center Hill Reservoir since October 1948 (see pp. 55 and 59).

Monthly and yearly mean discharge, in cubic feet per second													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1944									970	360	516	2,336	-
1945	3,104	1,048	2,832	8,541	12,000	7,207	4,130	9,044	1,748	877	1,104	442	4,304
1946	432	2,735	8,888	13,330	11,370	5,976	4,099	3,257	4,500	928	513	475	4,674
1947	706	2,072	2,332	13,870	4,502	5,633	3,764	1,906	879	1,386	710	627	3,205
1948	316	332	733	1,887	18,640	10,340	6,296	1,356	777	1,100	692	370	3,505
1949	313	1,931	6,690	7,937	9,993	9,521	8,359	3,110	5,198	4,169	1,833	510	4,933
1950	198	3,798	2,468	3,164	22,730	10,050	1,210	4,056	3,594	3,088	83.3	81.3	4,420

Yearly discharge, in cubic feet per second												
Year	W.S.P. no.	Water year ending Sept. 30								Calendar year		
		Observed				Adjusted				Observed		Adjusted
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches		Mean	Mean	Runoff in inches
		Discharge	Date									
1944	1003	-	-	-	-	-	-	-	-	-	-	-
1945	1033	44,200	Feb. 19, 1945	220	4,304	4,239	1.90	25.80	4,730	4,696	28.59	-
1946	1053	65,800	Jan. 9, 1946	172	4,674	4,701	2.11	28.62	4,086	4,118	25.07	-
1947	1083	45,900	Jan. 3, 1947	210	3,205	3,181	1.43	19.37	2,893	2,839	17.28	-
1948	1113	119,000	Feb. 14, 1948	92	3,505	3,520	1.58	21.48	4,141	4,720	28.81	-
1949	1143	811,800	Jan. 27, 1949	-	4,933	5,501	2.47	33.48	4,718	4,822	29.36	-
1950	1173	438,400	Feb. 16, 1950	25	4,420	5,982	2.68	36.41	-	-	-	-

a Maximum daily discharge; gage affected by backwater from Cumberland River.

Note.--Part of table adjusted for change in contents in Great Falls Lake since 1944-50 and Center Hill Reservoir since October 1948.

^{1/} Published as Caney Fork below Center Hill Dam, near Lancaster, after September 1950.

44. Cumberland River at Carthage, Tenn.

Location.--Lat 36°14'42", long. 85°57'15", at Cordell Hull bridge on State Highway 25 at Carthage, Smith County, 1 mile downstream from Caney Fork, 8½ miles upstream from lock and dam 7, and at mile 308.2.

Drainage area.--10,700 sq mi, approximately.

Supplemental records available.--Gage-height records collected in this vicinity since Feb. 10, 1885, are contained in reports of U. S. Weather Bureau.

Gage.--Water stage recorder. Datum of gage is 437.67 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to May 12, 1936, staff and wire weight gage at site 1,000 ft downstream at same datum; May 12 to July 17, 1936, wire weight gage at present site and datum. Auxiliary staff gage at upper lock at Dam 7. Datum of gage is 438.69 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--28 years (1922-50), 17,040 cfs (unadjusted).

Extremes.--1922-50: Maximum discharge, 210,000 cfs (revised) Dec. 30, 1926; maximum gage height, 59.8 ft Dec. 30, 1926, from graph based on gage readings; minimum discharge, 304 cfs Oct. 29, 1940.

Remarks.--Flow regulated since July 1950 by Wolf Creek Reservoir, since August 1943 by Dale Hollow Reservoir (see p. 44), for period of record by Great Falls Lake (see p. 55), and since November 1948 by Center Hill Reservoir (see p. 59).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1923	1,164	1,095	30,120	34,050	60,300	59,040	23,380	21,580	11,660	6,136	9,083	3,159	21,540
1924	1,264	1,575	18,090	55,970	28,530	24,330	19,820	28,220	16,580	7,095	2,012	2,151	17,150
1925	1,855	1,765	19,570	25,080	31,640	16,070	16,110	14,360	3,745	2,533	897	676	11,100
1926	9,239	24,430	11,730	24,410	25,190	19,950	16,100	10,100	7,298	2,474	21,810	11,150	15,250
1927	6,285	22,770	32,750	38,920	49,540	42,130	38,540	16,590	22,080	3,358	5,362	1,401	*27,370
1928	1,125	10,320	15,200	30,090	16,250	29,740	44,200	22,220	44,100	36,420	6,363	7,600	21,950
1929	1,129	19,820	13,220	40,440	28,090	86,440	25,060	48,900	6,875	6,116	4,507	3,357	24,400
1930	2,554	29,690	16,940	21,230	55,360	31,920	13,230	10,770	2,716	1,290	906	1,343	13,860
1931	1,135	1,297	2,968	7,515	12,650	18,480	28,780	12,900	2,655	3,109	3,510	1,499	7,981
1932	1,052	810	34,290	33,710	71,440	20,250	32,620	13,340	5,115	15,070	2,245	1,512	19,100
1933	5,038	11,670	21,360	48,340	55,350	31,770	27,780	29,610	4,145	5,063	8,339	9,519	21,310
1934	1,394	1,558	10,690	18,470	11,300	79,410	16,550	6,360	7,327	5,407	5,359	3,019	14,030
1935	3,192	5,210	4,151	27,920	29,220	64,620	52,570	21,140	19,420	6,590	5,155	4,514	20,230
1936	975	5,796	8,640	31,820	18,210	47,770	47,510	3,933	873	2,560	729	711	14,130
1937	1,363	6,685	14,670	12,600	38,100	12,900	12,740	26,810	11,680	3,329	3,532	2,501	20,560
1938	4,502	3,095	11,650	27,690	24,180	33,270	23,750	13,530	16,580	6,243	13,620	3,253	15,260
1939	1,310	7,278	9,531	27,110	69,490	41,350	32,450	8,694	6,128	6,582	2,735	877	18,970
1940	670	760	1,661	2,265	19,090	33,630	41,400	12,090	9,460	7,270	2,955	2,920	11,110
1941	733	1,342	3,008	10,100	5,152	13,070	23,890	4,191	5,413	24,200	3,311	2,132	8,067
1942	1,282	7,797	7,117	11,580	22,750	32,740	11,580	4,010	4,566	7,865	15,950	3,698	10,240
1943	2,102	11,670	40,250	36,260	31,260	48,610	31,050	16,330	5,960	2,924	3,327	1,396	19,250
1944	628	2,203	2,774	13,010	41,620	57,340	31,750	9,609	2,984	721	1,984	9,046	14,390
1945	10,380	6,363	14,170	46,140	46,380	36,490	17,980	26,140	10,970	2,996	2,375	809	18,310
1946	761	14,120	24,840	61,250	40,990	31,330	11,980	13,450	14,570	3,648	3,441	2,076	18,440
1947	2,474	8,269	11,240	55,580	23,050	23,610	18,870	14,070	5,240	15,390	5,803	2,363	15,510
1948	1,986	2,420	3,173	9,138	63,520	42,000	28,640	4,120	1,981	4,072	2,014	797	13,510
1949	554	8,322	34,150	47,140	36,510	33,150	28,800	14,010	12,460	12,890	7,873	3,493	19,970
1950	2,797	9,266	21,590	57,450	60,320	29,980	12,430	25,390	27,410	14,130	7,076	7,572	24,270

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1923	0.13	0.11	3.25	3.67	5.87	6.36	2.44	2.33	1.22	0.66	0.98	0.33	27.35
1924	.14	.16	1.95	6.03	2.88	2.62	2.07	3.04	1.73	.76	.22	.22	21.82
1925	.20	.18	2.11	2.70	3.10	1.73	1.68	1.55	.39	.27	.10	.07	14.08
1926	1.00	2.55	1.26	2.63	2.45	2.15	1.68	1.09	.76	.27	2.35	1.16	19.35
1927	.68	2.37	*8.92	4.19	4.82	4.54	4.02	1.79	2.30	.36	.58	.15	*34.72
1928	.12	1.06	1.64	3.24	1.64	3.20	4.61	2.39	4.60	3.92	.69	.79	27.92
1929	.55	2.08	1.42	4.36	2.73	9.31	2.61	5.27	.90	.87	.49	.35	30.94
1930	.28	3.12	1.82	2.29	3.44	3.44	1.38	1.16	.28	.14	.10	.14	17.59
1931	.12	.14	.32	.79	1.23	1.99	3.00	1.39	.28	.33	.38	.16	10.13
1932	.11	.08	3.69	3.63	7.20	2.18	3.40	1.44	.53	1.82	.24	.16	24.28
1933	.54	1.22	2.30	5.21	5.39	3.42	2.90	3.19	.43	.55	.90	.99	27.04
1934	.15	.16	1.15	2.03	1.10	8.56	1.73	.69	.76	.58	.58	.31	17.60
1935	.34	.54	.45	3.01	2.84	6.96	5.48	2.28	2.03	.71	.56	.47	25.67
1936	.11	.60	.95	3.43	1.84	5.15	4.95	.42	.09	.28	.06	.07	17.97
1937	.15	.70	1.58	12.13	3.71	1.39	1.33	2.89	1.22	.36	.38	.26	26.10
1938	.49	.32	1.26	3.00	2.35	3.59	2.48	1.46	1.73	.89	1.47	.34	19.38
1939	.14	.76	1.05	2.92	8.71	4.46	3.58	.94	*.64	.71	.29	.09	24.07
1940	.07	.08	.18	.24	1.92	3.62	4.32	1.30	.99	.76	.32	.30	14.12
1941	.06	.14	.32	1.09	.50	1.41	2.49	.45	.56	2.61	.36	.22	10.23
1942	.07	.19	.77	1.22	2.21	3.53	1.21	.43	.48	.78	1.72	.39	13.00
1943	.23	1.24	4.34	3.91	3.04	5.24	3.24	1.76	.62	.32	*7.34	*1.15	*24.43

* Revised.

† Corrected for adjustment for change in contents in Dale Hollow Reservoir and Great Falls Lake; previously published figures in WSP 973 are unadjusted.

Yearly discharge, in cubic feet per second, of Cumberland River at Carthage, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30										Calendar year		
		Observed					Adjusted 1/					Observed		Adjusted 1/
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date											
1923	893	129,000	Feb. 5, 1923	659	21,540	-	2.01	27.35	20,570	-	26.11	-	-	-
1924	893	135,000	Jan. 5, 1924	694	17,150	-	1.60	21.82	17,340	-	22.06	-	-	-
1925	893	90,300	Feb. 18, 1925	434	11,100	-	1.04	14.08	12,930	-	16.40	-	-	-
1926	893	93,900	Jan. 24, 1926	778	15,250	-	1.43	19.35	20,890	-	26.51	-	-	-
1927	893, 1276	210,000	Dec. 30, 1926	648	27,370	-	2.56	34.72	20,170	-	25.59	-	-	-
1928	893	139,000	July 1, 1928	452	21,350	-	2.05	27.92	22,910	-	29.13	-	-	-
1929	893	187,000	Mar. 24, 1929	718	24,400	-	2.28	30.94	25,320	-	32.11	-	-	-
1930	893	82,700	Feb. 15, 1930	490	13,860	-	1.30	17.59	10,200	-	12.95	-	-	-
1931	893	73,300	Mar. 30, 1931	530	7,981	-	.746	10.13	10,590	-	13.43	-	-	-
1932	893	149,000	Feb. 4, 1932	604	19,100	-	1.79	24.28	19,240	-	24.46	-	-	-
1933	893	121,000	Feb. 21, 1933	930	21,510	-	1.99	27.04	19,260	-	24.44	-	-	-
1934	893	154,000	Mar. 4, 1934	750	14,030	-	1.31	17.80	13,930	-	17.67	-	-	-
1935	893	127,000	Mar. 14, 1935	880	20,230	-	1.89	25.67	20,490	-	26.00	-	-	-
1936	893	132,000	Mar. 28, 1936	455	14,130	-	1.32	17.97	14,730	-	18.74	-	-	-
1937	893	172,000	Jan. 26, 1937	442	20,560	-	1.92	26.10	20,280	-	25.74	-	-	-
1938	893	82,300	Jan. 25, 1938	854	15,260	-	1.43	19.38	15,160	-	19.24	-	-	-
1939	893	148,000	Feb. 5, 1939	549	18,970	-	1.77	24.07	17,710	-	22.47	-	-	-
1940	893	98,000	Apr. 1, 1940	469	11,110	-	1.04	14.12	11,280	-	14.33	-	-	-
1941	923	78,000	Apr. 7, 1941	366	8,067	-	.754	10.23	8,448	-	10.72	-	-	-
1942	953	74,000	Mar. 13, 1942	496	10,240	-	.957	13.00	14,000	-	17.78	-	-	-
1943	973	153,000	Dec. 31, 1942	724	19,250	119,240	11.80	24.43	15,170	15,200	19.28	-	-	-
1944	1003	99,400	Mar. 1, 1944	404	14,590	15,670	1.46	19.93	16,510	17,800	22.64	-	-	-
1945	1033	110,000	Feb. 22, 1945	469	18,310	18,210	1.70	23.10	19,030	19,050	24.17	-	-	-
1946	1053	152,000	Jan. 13, 1946	496	18,440	18,900	1.77	23.98	16,950	17,180	21.80	-	-	-
1947	1083	96,200	Jan. 21, 1947	1,080	15,510	15,560	1.45	19.74	14,300	14,220	18.04	-	-	-
1948	1113	176,000	Feb. 15, 1948	438	13,510	13,620	1.27	17.32	16,490	17,440	22.19	-	-	-
1949	1143	85,400	Jan. 9, 1949	464	19,970	20,170	1.89	25.59	29,170	18,820	23.87	-	-	-
1950	1173	128,000	Feb. 7, 1950	1,380	24,270	26,110	2.44	33.13	-	-	-	-	-	-

1/ Adjusted for change in contents in Dale Hollow Reservoir and Great Falls Lake since August 1943, in Center Hill Reservoir since November 1948, and in Wolf Creek Reservoir since August 1950. Prior to August 1943 the effect of regulation was minor.

* Revised.

† Corrected for adjustment for change in contents in Dale Hollow Reservoir and Great Falls Lake; previously published figures in WSP 973 are unadjusted.

45. Cumberland River at dam 3, near Old Hickory, Tenn.

Location (revised).--Lat 36°16'26", long. 86°38'39", at intake tower, 800 ft upstream from dam 3, 1 mile north of Old Hickory, Davidson County, 2.0 miles upstream from site of Old Hickory Dam, 3.7 miles downstream from Drake Creek, and at mile 218.3.

Drainage area.--11,700 sq mi, approximately.

Gage.--Water-stage recorder. Datum of gage is 390.85 ft above mean sea level, Sandy Hook datum. Prior to Nov. 15, 1933, staff gage at site 800 ft downstream at same datum. Nov. 15, 1933, to Sept. 30, 1942, water-stage recorder at site 200 ft downstream at same datum.

Average discharge.--14 years (1931-42, 1947-50), 17,950 cfs (unadjusted).

Extremes.--1931-42, 1947-50: Maximum discharge, 173,000 cfs Jan. 29, 1937; maximum gage height, 47.40 ft Jan. 29, 1937; minimum daily discharge, 86 cfs Aug. 15, 1936; minimum gage height observed, 6.3 ft Oct. 10, 1931, caused by manipulation of valves in Lock 3. Maximum stage known, 51.2 ft Dec. 31, 1926, from floodmarks (discharge, 200,000 cfs).

Remarks.--Flow regulated since July 1950 by Wolf Creek Reservoir, since August 1943 by Dale Hollow Reservoir (see p. 44), for period of record by Great Falls Lake (see p. 55), since November 1948 by Center Hill Reservoir (see p. 59), and by navigation pools above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	943	841	37,500	34,660	83,290	19,800	36,180	14,700	4,782	15,550	2,475	1,898	20,820
1933	5,685	11,900	20,790	52,140	62,550	34,250	29,320	32,500	4,915	5,181	8,623	10,260	22,950
1934	1,694	2,241	12,400	20,580	9,911	84,410	18,960	6,662	7,589	5,472	5,398	3,148	14,990
1935	3,161	5,292	4,022	32,490	29,800	65,930	56,010	21,180	19,550	7,159	5,668	4,840	21,190
1936	947	6,018	9,260	33,690	19,500	48,110	54,350	4,219	933	2,770	742	707	15,080
1937	1,366	7,478	15,300	119,100	47,250	13,130	15,110	31,060	12,660	3,509	3,598	2,615	22,460
1938	4,974	3,267	13,380	31,340	26,850	36,270	24,690	14,050	17,400	8,695	14,740	3,618	16,600
1939	1,349	7,849	9,897	31,260	96,690	42,400	35,730	9,609	7,048	7,110	3,752	811	20,590
1940	675	782	1,696	2,571	21,340	37,670	47,060	13,400	9,965	7,627	2,976	3,162	12,330
1941	789	1,478	3,449	11,340	5,875	13,930	24,420	4,461	6,005	26,500	3,448	2,271	8,662
1942	595	1,819	7,943	15,020	25,790	35,820	13,260	3,974	4,574	7,539	17,460	3,784	11,250
1948	1,850	2,467	3,675	10,680	71,680	47,180	31,070	4,138	2,148	3,940	2,824	750	14,960
1949	479	8,769	38,950	53,410	43,120	36,470	30,440	15,480	16,980	13,650	7,141	3,680	22,280
1950	2,979	9,474	24,710	68,530	90,780	32,100	14,040	26,980	28,310	14,820	8,434	9,408	27,160

Monthly and yearly runoff, in inches, of Cumberland River at dam 3, near Old Hickory, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	0.09	0.08	3.70	3.42	7.68	1.95	3.45	1.45	0.46	1.53	0.24	0.18	24.23
1933	.56	1.14	2.05	5.14	5.57	3.37	2.80	3.20	.47	.51	.85	.98	26.64
1934	.17	.21	1.22	2.03	.88	8.32	1.81	.66	.72	.54	.53	.30	17.39
1935	.31	.50	.40	3.20	2.65	6.50	5.34	2.09	1.86	.71	.56	.46	24.58
1936	.09	.57	.91	3.32	1.80	4.74	5.18	.42	.09	.27	.07	.07	17.53
1937	.13	.71	1.51	11.74	4.20	1.29	1.25	3.06	1.21	.35	.35	.25	26.05
1938	.49	.31	1.32	3.09	2.39	3.57	2.37	1.38	1.66	.88	1.45	.34	19.25
1939	.13	.75	.98	3.08	8.61	4.18	3.41	.95	.67	.70	.37	.08	23.91
1940	.07	.07	.17	.25	1.97	3.71	4.49	1.32	.95	.75	.29	.30	14.34
1941	.08	.14	.34	1.09	.52	1.37	2.33	.44	.57	2.61	.34	.22	10.05
1942	.06	.17	.78	1.31	2.29	3.51	1.26	.39	.44	.74	1.72	.36	13.03

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted 1/			Observed	Adjusted 1/	
		Momentary maximum		Minimum	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date	day							
1932	923	148,000	Feb. 7, 1932	520	20,820	-	1.78	24.23	20,710	-	24.11
1933	923	124,000	Feb. 21, 1933	1,180	22,950	-	1.96	26.64	21,110	-	24.49
1934	923	125,000	Mar. 8, 1934	172	14,990	-	1.28	17.39	14,650	-	17.00
1935	923	115,000	Mar. 17, 1935	919	21,190	-	1.81	24.58	21,500	-	24.94
1936	923	119,000	Mar. 31, 1936	86	15,080	-	1.29	17.53	15,740	-	18.31
1937	923	173,000	Jan. 29, 1937	531	22,460	-	1.92	26.05	22,260	-	25.82
1938	923	77,200	Jan. 26, 1938	860	16,600	-	1.42	19.25	16,370	-	18.99
1939	923	140,000	Feb. 11, 1939	554	20,590	-	1.76	23.91	19,260	-	22.36
1940	923	88,400	Apr. 2, 1940	490	12,330	-	1.05	14.34	12,550	-	14.59
1941	923	70,800	Apr. 8, 1941	255	8,662	-	.740	10.05	9,056	-	10.50
1942	953	68,700	Mar. 20, 1942	358	11,250	-	.962	13.03	-	-	-
1948	1113	152,000	Feb. 18, 1948	141	14,960	15,070	1.29	17.53	18,350	19,300	22.45
1949	1143	83,100	Jan. 27, 1949	389	22,280	22,490	1.92	26.09	21,540	20,990	24.36
1950	1173	135,000	Feb. 10, 1950	1,480	27,160	29,000	2.48	33.64	-	-	-

1/Adjusted for change in contents in Dale Hollow Reservoir and Great Falls Lake since 1947, in Center Hill Reservoir since November 1948, and in Wolf Creek Reservoir since August 1950. Prior to October 1942 the effect of regulation was minor.

46. West Fork Stones River near Murfreesboro, Tenn.

Location.--Lat 35°49'20", long. 86°25'03", at bridge on State Highway 99, three-quarters of a mile downstream from Middle Fork and 2½ miles southwest of Murfreesboro, Rutherford County.

Drainage area.--119 sq mi.

Gage.--Water stage recorder. Datum of gage is 567.02 ft above mean sea level, datum of 1929. Prior to July 1, 1934, staff gage at same site and datum.

Average discharge.--19 years (1931-50), 211 cfs.

Extremes.--1931-50: Maximum discharge, 38,000 cfs Feb. 13, 1948 (gage height, 22.73 ft, from floodmarks), from rating curve extended above 12,400 cfs on basis of contracted-opening determination at gage heights 21.33 and 22.73 ft; minimum, 0.4 cfs Oct. 9, 1935; minimum gage height, 0.56 ft Oct. 9, 1935, Oct. 6, 7, 1940. Maximum stage known, 25.0 ft in March 1902.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	*2.1	*7.5	*660	*535	*730	*205	*480	*122	*28	177	29.2	15.8	*248
1933	195	139	584	316	817	360	170	308	20.6	42.1	84.7	90.2	258
1934	8.13	144	270	203	126	1,264	79.4	17.7	88.7	14.4	34.3	8.90	190
1935	10.9	79.9	29.5	232	469	534	455	79.7	78.8	12.2	12.7	1.85	164
1936	1.69	128	47.0	314	197	434	436	13.9	2.53	176	22.1	6.85	148
1937	91.9	366	482	1,354	362	102	73.7	426	32.0	5.29	57.9	52.9	285
1938	135	35.4	172	501	241	283	172	129	149	19.5	148	16.5	167
1939	4.87	152	96.5	528	1,111	427	367	52.8	172	49.7	80.6	4.11	248
1940	1.28	1.48	27.8	43.8	504	652	404	103	14.9	5.52	12.7	1.58	146
1941	.76	15.6	42.0	90.1	38.5	110	207	11.4	3.40	279	108	8.44	76.7
1942	1.14	36.0	167	220	380	393	112	62.0	40.3	15.8	137	48.1	133
1943	8.59	91.0	564	112	283	395	165	111	19.7	14.7	106	108	164
1944	8.81	39.1	102	298	1,017	834	258	168	32.5	3.21	5.60	684	286
1945	83.2	42.2	452	545	995	269	131	438	74.5	14.1	24.5	4.34	252
1946	10.8	501	698	932	664	358	99.1	185	34.2	84.2	5.99	2.24	296
1947	2.05	273	160	750	180	241	136	258	181	80.1	25.5	2.23	190
1948	.97	18.9	135	190	1,123	491	170	20.4	4.65	45.2	26.0	2.07	182
1949	2.00	430	584	788	356	377	190	97.3	218	68.1	6.21	277	277
1950	68.2	73.8	196	1,571	807	458	62.1	153	69.1	25.7	10.1	113	299

* Not previously published; estimated on basis of records for station at Stones River near Smyrna.

CUMBERLAND RIVER BASIN

Monthly and yearly runoff, in inches, of West Fork Stones River near Murfreesboro, Tenn.												
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	The year
1932	±0.02	±0.07	±6.40	±5.19	±6.61	±1.98	±4.50	±1.19	±0.26	1.72	0.28	±28.37
1933	1.89	1.31	5.66	3.07	7.15	3.49	1.60	2.99	.19	.41	.82	29.43
1934	.08	1.35	2.62	1.97	1.10	12.24	.74	.17	.83	.14	.33	21.65
1935	.11	.75	.29	2.25	4.10	5.18	4.26	.77	.74	.12	.12	18.71
1936	.02	1.21	.46	3.04	1.79	4.21	4.08	.13	.02	1.71	.21	16.94
1937	.89	3.44	4.67	13.14	3.16	.99	.69	4.12	.30	.05	.56	32.51
1938	1.30	.31	1.67	4.85	2.11	2.74	1.61	1.25	1.40	.19	1.43	19.01
1939	.05	1.45	.93	5.11	9.72	4.14	3.44	.51	1.61	.48	.78	28.24
1940	.01	.01	.27	.42	4.57	6.32	3.79	1.00	.14	.05	.12	16.71
1941	.007	.15	.41	.87	.34	1.06	1.94	.11	.03	2.70	1.05	8.75
1942	.01	.36	1.62	2.13	3.32	3.81	1.05	.60	.38	.15	1.33	15.21
1943	.08	.85	5.47	1.08	2.47	3.82	1.55	1.07	.18	.14	1.02	18.73
1944	.09	.37	.99	2.88	9.22	8.08	2.42	1.82	.30	.03	.05	32.65
1945	.81	.40	4.38	5.28	8.70	2.60	1.22	4.25	.70	.14	.24	28.76
1946	.10	4.70	6.76	9.03	5.81	3.47	.93	1.79	.32	.82	.06	33.81
1947	.02	2.56	1.55	7.27	1.40	2.34	1.27	2.50	1.70	.78	.25	21.66
1948	.009	.18	1.31	1.84	10.17	4.75	1.60	.20	.04	.44	.25	20.81
1949	.02	4.03	5.66	7.63	3.11	3.65	1.78	.94	2.05	2.00	.66	31.59
1950	.66	.69	1.90	15.22	7.08	4.44	.58	1.49	.65	.25	.10	34.10

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second								
Year	W.S.P. no.	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1932	783	-	-	-	±248	±2.06	±28.37	±30.74
1933	783	11,400	Feb. 14, 1933	5.8	258	2.17	29.43	21.6
1934	783	±15,600	Mar. 24, 1934	2.7	190	1.60	21.65	18.75
1935	783	11,500	Apr. 5, 1935	.6	164	1.38	18.71	19.25
1936	803	8,630	Apr. 6, 1936	.4	148	1.24	16.94	24.25
1937	823	±17,800	Jan. 2, 1937	1.6	285	2.39	32.51	26.79
1938	853	±8,640	Jan. 22, 1938	3.0	167	1.40	19.01	18.14
1939	873	±16,900	Feb. 3, 1939	1.4	248	2.08	28.24	26.12
1940	893	±7,600	Mar. 12, 1940	.5	146	1.23	16.71	16.99
1941	923	±8,990	July 4, 1941	.6	76.7	.645	8.75	89.2
1942	953	6,220	Mar. 17, 1942	.9	133	1.12	15.21	19.62
1943	973	8,020	Dec. 28, 1942	3.4	164	1.38	18.73	13.78
1944	1003	30,000	Sept. 29, 1944	.8	286	2.40	32.66	36.80
1945	1033	23,100	Feb. 22, 1945	2.0	252	2.12	28.76	34.73
1946	1053	18,100	Jan. 7, 1946	1.6	296	2.49	33.81	26.38
1947	1083	-	Jan. 2, 1947	.7	190	1.60	21.66	19.03
1948	1113	38,000	Feb. 13, 1948	.6	182	1.53	20.81	29.02
1949	1143	8,850	Nov. 28, 1948	1.0	277	2.33	31.59	25.13
1950	1173	12,200	Jan. 30, 1950	1.5	299	2.51	34.10	-

* Revised.

* Not previously published.

47. Stones River near Smyrna, Tenn.

Location.--Lat 36°00'00", long. 86°27'35", at highway bridge at Jefferson Springs, 1½ miles downstream from confluence of East and West Forks of Stones River, 3½ miles upstream from Falls Creek, and 3½ miles northeast of Smyrna, Rutherford County.

Drainage area.--552 sq mi.

Gage.--Water-stage recorder. Datum of gage is 459.76 ft above mean sea level, Sandy Hook datum. July 30, 1925, to May 28, 1927, tape gage and May 29 to July 11, 1927, staff gage at bridge 30 ft upstream at same datum.

Average discharge.--25 years (1925-50), 931 cfs.

Extremes.--1925-50: Maximum discharge, 54,100 cfs Feb. 13, 1948 (gage height, 41.03 ft, from floodmark), from rating curve extended above 26,000 cfs on basis of slope-area determination at gage height 36.5 ft, from profile and map prepared by Corps of Engineers; minimum observed, 0.8 cfs Aug. 17, 22, 1925 (gage height, 0.50 ft). Maximum stage known, 43.4 ft in March 1902.

Monthly and yearly mean discharge, in cubic feet per second												
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	The year
1925	-	-	-	-	-	-	-	-	-	-	20.1	8.11
1926	911	2,380	649	984	565	735	467	91.5	610	105	1,350	502
1927	326	1,400	4,920	1,420	1,930	2,170	2,210	631	211	190	497	42.4
1928	76.1	408	807	1,560	393	1,600	1,900	729	3,460	764	153	227
1929	161	484	475	1,780	1,980	4,575	997	1,890	813	420	90.6	1,139
1930	296	1,510	895	1,350	2,190	1,820	647	745	124	32.1	35.5	33.4
1931	41.0	101	200	404	697	1,270	831	298	56.0	80.3	42.3	41.2
1932	20.0	51.5	3,040	2,470	3,350	941	2,210	568	146	731	162	71.1
1933	911	668	2,140	1,530	3,400	1,740	1,090	1,320	113	317	394	633
1934	88.7	640	1,131	960	560	4,113	433	114	458	147	258	57.6
1935	44.1	309	151	1,112	2,072	2,564	1,727	296	387	174	133	27.3

Monthly and yearly mean discharge, in cubic feet per second, of Stones River near Smyrna, Tenn.--Con.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1936	34.9	449	176	1,346	845	2,321	2,172	104	26.4	688	116	31.6	690
1937	247	1,392	1,896	6,671	1,821	561	401	2,063	165	85	283	124	1,313
1938	375	116	744	2,023	1,151	1,355	901	389	516	138	887	143	728
1939	40.4	836	453	2,200	5,169	1,879	1,565	197	553	281	514	37.9	1,115
1940	14.9	14.7	104	138	1,777	2,739	2,060	608	95.9	114	86.2	16.5	642
1941	14.4	87.2	189	358	172	513	1,009	73.8	35.4	1,293	347	60.0	348
1942	15.2	151	667	899	1,728	1,725	602	214	114	137	1,097	205	*624
1943	68.5	673	2,605	647	1,509	2,132	615	766	116	109	249	625	842
1944	51.9	153	425	1,231	4,305	3,744	1,504	694	138	40.0	33	2,034	1,165
1945	559	307	1,841	2,668	3,973	1,463	752	2,120	388	86.2	125	41.9	1,180
1946	52.7	1,892	2,632	4,080	2,644	1,695	521	934	252	287	82.2	58.4	1,256
1947	29.2	1,251	679	3,325	737	1,107	653	869	386	509	142	29.8	613
1948	12.1	119	520	838	5,173	2,172	788	111	43.6	136	97.6	27.9	619
1949	19.1	1,585	2,156	3,071	1,722	1,706	1,023	561	936	1,129	298	49.6	1,187
1950	307	330	947	*6,417	*4,706	1,828	324	677	329	192	61.4	368	*1,358

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	-	-	-	-	-	-	-	-	-	-	0.04	0.02	-
1926	1.90	4.81	1.36	2.05	1.06	1.53	0.94	0.19	1.24	0.22	2.82	1.01	19.13
1927	.68	2.83	10.27	2.96	3.64	4.53	4.46	1.31	.43	.40	1.04	.09	32.64
1928	.16	.82	1.68	3.26	.77	3.34	3.84	1.52	7.00	1.59	.32	.46	24.76
1929	.34	.98	.99	3.71	3.55	9.55	2.02	3.94	1.64	.88	.19	.21	28.00
1930	.62	3.06	1.87	2.82	4.14	3.80	1.30	1.56	.25	.07	.07	.07	19.63
1931	.09	.20	.42	.84	1.31	2.65	1.68	.62	.11	.17	.09	.08	8.26
1932	.04	10	6.35	5.15	6.50	1.96	4.46	1.19	.29	1.52	.38	.14	28.08
1933	1.90	1.40	4.47	3.19	6.42	3.63	2.20	2.76	.23	.66	.82	1.28	28.96
1934	.19	1.29	2.36	2.01	1.05	8.59	.87	.24	.93	.31	.54	.12	18.50
1935	.09	.62	.32	2.32	3.90	5.40	3.49	.62	.78	.36	.28	.06	18.24
1936	.07	.91	.37	2.81	1.65	4.84	4.39	.22	.05	1.39	.24	.06	17.00
1937	.52	2.81	3.95	13.93	3.44	1.18	.81	4.31	.33	.18	.59	.25	32.30
1938	.78	.23	1.55	4.23	2.17	2.83	1.82	.81	1.04	.29	1.85	.29	17.89
1939	.08	1.69	.95	4.59	9.76	3.92	3.16	.41	1.12	.59	1.07	.08	27.41
1940	.03	.03	.22	.29	3.47	5.72	4.16	1.27	.19	.24	.18	.03	15.83
1941	.03	.18	.39	.75	.32	1.07	2.04	.15	.07	2.70	.72	.12	8.54
1942	.03	.31	1.39	1.88	3.26	3.60	1.22	.45	.23	.29	*2.29	.41	*15.36
1943	.14	1.36	5.44	1.35	2.47	4.45	1.64	1.60	.23	.23	.52	1.26	20.69
1944	.11	.31	.89	2.57	8.41	7.82	2.64	1.45	.28	.08	.07	4.11	28.74
1945	1.17	.62	3.84	5.57	7.50	3.05	1.52	4.43	.78	.18	.26	.08	29.00
1946	.11	3.82	5.50	8.52	4.99	3.54	1.05	1.95	.51	.60	.17	.12	30.88
1947	.06	2.53	1.42	6.94	1.39	2.31	1.32	1.81	.78	1.06	.30	.06	19.98
1948	.03	.24	1.09	1.75	10.11	4.54	1.59	.23	.09	.28	.20	.06	20.21
1949	.04	3.20	4.50	6.41	3.25	3.56	2.07	1.17	1.89	2.36	.62	.10	29.17
1950	.64	.67	1.98	*13.40	*8.88	3.82	.66	1.41	.66	.40	.13	.74	*33.39

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1925	603	-	-	-	-	-	-	-	-
1926	623	21,900	Nov. 12, 1925	3.6	778	1.41	19.13	1,011	24.84
1927	643	*27,900	Dec. 28, 1926	17	1,330	2.41	32.64	877	21.52
1928	663	33,900	June 29, 1928	15	1,000	1.81	24.76	989	24.41
1929	853, 953	45,000	Mar. 23, 1929	10	1,139	2.06	28.00	1,270	31.24
1930	698	20,200	Feb. 13, 1930	7.0	798	1.45	19.63	601	14.80
1931	713	15,300	Mar. 28, 1931	10	337	.611	8.26	572	14.04
1932	728	28,400	Dec. 14, 1931	10	1,140	2.07	28.08	1,192	29.36
1933	743	*29,800	Mar. 19, 1933	22	1,180	2.14	28.96	1,018	25.03
1934	758, 953	31,500	Mar. 25, 1934	30	752	1.36	18.50	638	15.69
1935	783, 953	31,100	Mar. 12, 1935	12	742	1.34	18.24	755	18.56
1936	803, 953	26,500	Apr. 6, 1936	6.5	690	1.25	17.00	931	22.93
1937	823, 953	44,000	Jan. 2, 1937	17	1,313	2.38	32.30	1,121	27.58
1938	853	17,700	Aug. 1, 1938	28	728	1.32	17.69	734	18.05
1939	873	36,400	Feb. 3, 1939	15	1,115	2.02	27.41	1,016	24.97
1940	893	16,500	Mar. 30, 1940	6.0	642	1.16	15.83	655	16.15
1941	923	16,900	July 4, 1941	7.5	348	.630	8.54	394	9.67
1942	953, 1276	13,900	Mar. 17, 1942	10	*624	1.13	*15.36	*836	*20.57
1943	973	24,700	Dec. 28, 1942	7.2	942	1.55	20.69	615	15.06
1944	1003	44,100	Sept. 30, 1944	16	1,665	2.11	28.74	1,341	33.06
1945	1033	40,200	Feb. 22, 1945	21	1,180	2.14	29.00	1,334	32.80
1946	1053	44,500	Jan. 8, 1946	20	1,256	2.28	30.88	1,035	25.46
1947	1083	25,800	Jan. 2, 1947	17	813	1.47	19.98	705	17.33
1948	1113	54,100	Feb. 13, 1948	8.8	819	1.48	20.21	1,079	26.59
1949	1143	*19,400	Nov. 28, 1948	14	1,187	2.15	29.17	1,075	24.72
1950	1173, 1436	*26,100	Jan. 31, 1950	24	*1,358	*2.46	*33.39	-	-

* Revised.

† Corrected.

48. Stones River above Donelson, Tenn. 1/

Location.--Lat 36°04'23" (revised), long. 86°33'30", half a mile downstream from Hurricane Creek, 3.3 miles upstream from county highway bridge at Couchville, 8 $\frac{1}{2}$ miles southeast of Donelson, Davidson County, and at mile 17.7.

Drainage area.--834 sq mi. At site used prior to Oct. 1, 1940, 880 sq mi.

Gage.--Water-stage recorder. Auxiliary staff or wire-weight gage at county highway bridge at Couchville, 3.3 miles downstream. Datum of each gage is 400.00 ft above mean sea level, Sandy Hook datum. Prior to Oct. 1, 1940 wire-weight gage at mile 7.15 and auxiliary gage at mile 3.9, both at datum 18 ft lower.

Average discharge.--12 years (1938-50), 1,355 cfs.

Extremes.--1938-50: Maximum discharge, 68,700 cfs Feb. 14, 1948; maximum gage height, 58.46 ft Feb. 14, 1948; minimum discharge, 10 cfs Sept. 21, 22, 24, 1940; minimum gage height, 10.73 ft Sept. 21, 22, 1940, present site and datum.
Maximum stage known, about 59.6 ft in March 1902 (discharge, 73,000 cfs), from high-water profile by Corps of Engineers, present site and datum.

Monthly and yearly mean discharge, in cubic feet per second													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1939	\$58.0	\$1,200	\$655	\$3,150	7,612	2,779	2,249	226	912	405	1,169	44.0	\$1,663
1940	20.9	20.7	162	173	2,558	3,972	3,134	896	140	158	130	28.3	942
1941	17.2	142	389	514	242	693	1,470	110	64.7	1,846	634	92.6	521
1942	21.5	229	948	1,363	2,507	2,423	905	245	134	185	1,781	289	912
1943	76.5	955	3,633	943	1,872	3,591	1,107	970	159	145	517	861	1,219
1944	75.8	191	602	1,736	5,982	5,042	1,714	904	206	57.3	195	2,234	1,559
1945	984	415	2,616	3,933	5,229	1,914	980	2,786	605	106	150	66.0	1,632
1946	72.4	2,701	3,380	6,026	3,238	2,656	919	1,245	343	292	89.6	67.5	1,748
1947	42.9	1,807	931	4,864	1,012	1,627	1,109	1,420	507	818	166	36.2	1,200
1948	15.9	183	694	1,252	7,573	3,235	1,110	133	51.5	162	145	74.1	1,194
1949	22.6	2,206	3,393	4,494	2,498	2,379	1,403	799	1,670	1,520	426	65.9	1,738
1950	367	460	1,486	8,968	6,733	2,328	449	897	565	391	225	642	1,936

* Not previously published; estimated on the basis of records for station near Smyrna.

Monthly and yearly runoff, in inches													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1939	#0.08	#1.52	#.86	#4.13	9.01	3.64	2.85	0.30	1.16	0.53	1.53	0.06	#25.67
1940	.03	.03	.21	.23	3.13	5.20	3.97	1.17	.18	.21	.17	.04	14.57
1941	.02	.19	.54	.71	.30	.96	1.97	.15	.09	2.55	.88	.12	8.48
1942	.03	.31	1.31	1.88	3.13	3.35	1.21	.34	.18	.26	2.46	.39	14.85
1943	.11	1.28	5.02	1.30	2.34	4.96	1.48	1.34	.21	.20	.44	1.15	19.83
1944	.10	.26	.83	2.40	7.74	6.97	2.29	1.25	.27	.08	.27	2.99	25.45
1945	1.36	.55	3.62	5.44	6.53	2.65	1.31	3.85	.81	.15	.21	.09	26.57
1946	.10	3.61	4.67	8.33	4.04	3.67	1.23	1.72	.46	.40	.12	.09	28.44
1947	.06	2.42	1.29	6.72	1.26	2.25	1.48	1.96	.68	1.13	.23	.05	19.53
1948	.02	.25	.96	1.73	9.79	4.47	1.48	.18	.07	.22	.20	.10	19.47
1949	.03	2.95	4.69	6.21	3.12	3.29	1.88	1.10	2.23	2.10	.59	.09	28.28
1950	.51	.62	2.05	12.40	8.41	3.22	.60	1.24	.76	.54	.31	.86	31.52

* Not previously published; estimated on the basis of records for station near Smyrna.

Yearly discharge, in cubic feet per second										
Year	W.S.P. no.	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff inches	Mean	Runoff in inches	
		Discharge	Date							
1939	873	-	-	-	\$1,663	\$1.89	\$25.67	\$1,518	\$23.48	
1940	893	27,000	Mar. 30, 1940	11	942	1.07	14.57	\$971	\$15.05	
1941	923	21,900	July 5, 1941	13	521	.625	8.48	576	9.38	
1942	953	15,200	Mar. 17, 1942	16	912	1.09	14.85	1,204	19.61	
1943	973	24,900	Dec. 28, 1942	38	1,219	1.46	19.83	898	14.61	
1944	1003	42,600	Sept. 30, 1944	18	1,559	1.87	25.45	1,825	29.79	
1945	1033	41,700	Feb. 22, 1945	22	1,632	1.96	26.57	1,807	29.42	
1946	1053	56,700	Jan. 8, 1946	23	1,748	2.10	28.44	1,464	23.83	
1947	1083	27,500	Jan. 2, 1947	19	1,200	1.44	19.53	1,044	16.99	
1948	1113, 1143	68,700	Feb. 14, 1948	12	1,194	1.43	19.47	1,589	25.91	
1949	1143	23,900	Nov. 29, 1948	18	1,738	2.08	26.28	1,462	23.79	
1950	1173	34,400	Jan. 31, 1950	32	1,936	2.32	31.52	-	-	

* Not previously published.

1/ Published as "near Donelson" prior to Oct. 1, 1940, and as "above Donelson" since April 1940 (records since Oct. 1, 1940, used herein).

49. Cumberland River at Nashville, Tenn.

Location.--Lat 36°09'45", long. 85°46'17", at Sparkman Street Bridge in Nashville, Davidson County, 2.7 miles upstream from lock and dam 1, 3.3 miles downstream from Mill Creek, and at mile 191.1.

Drainage area.--12,860 sq mi, approximately.

Supplemental records available.--Gage-height records collected in this vicinity since 1873 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 368.17 ft above mean sea level, Sandy Hook datum. Prior to Apr. 20, 1940, staff gage at foot of Broad Street, 400 ft (revised) downstream, operated by U. S. Weather Bureau at same datum. Since Nov. 1, 1931, auxiliary gage is upper staff gage at lock 1 at datum 0.34 ft lower.

Average discharge.--58 years (1892-1950), 20,150 cfs (unadjusted).

Extremes.--1892-1950: Maximum discharge, 203,000 cfs Jan. 1, 1927 (gage-height, 56.2 ft); minimum daily, 60 cfs Oct. 19, 1935; minimum gage height observed, 6.1 ft Oct. 19, 1935. Flood in 1793 reached a stage of 58.5 ft, referred to U. S. Weather Bureau gage and datum, from miscellaneous old records.

Remarks.--Flow regulated since July 1950 by Wolf Creek Reservoir, since August 1943 by Dale Hollow Reservoir (see p. 44), since December 1916 by Great Falls Lake (see p. 55), and since November 1948 by Center Hill Reservoir (see p. 59).

Monthly and yearly mean discharge, in cubic feet per second													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1893	977	2,580	20,200	9,620	53,200	27,600	22,800	29,100	32,700	4,750	3,960	1,660	17,200
1894	1,920	1,980	9,870	17,100	60,500	27,600	26,400	14,000	3,520	4,570	1,830	1,480	13,900
1895	766	1,040	7,950	45,000	12,400	47,100	29,800	17,300	4,940	7,390	4,800	3,240	15,200
1896	913	1,670	9,220	9,480	37,000	39,900	45,300	5,480	9,780	33,200	5,140	1,450	16,500
1897	2,250	7,720	19,800	18,900	47,700	88,500	57,300	27,700	3,740	12,600	5,780	1,650	24,400
1898	797	1,060	11,000	60,100	13,300	21,200	37,600	14,500	4,270	3,860	18,600	2,930	15,800
1899	8,420	1,320	12,900	54,900	61,700	85,100	55,100	28,600	4,640	3,640	3,350	1,180	27,500
1900	1,110	1,190	11,500	17,900	34,600	31,500	23,600	6,440	17,900	14,600	6,340	2,150	13,900
1901	2,110	23,300	19,700	25,100	20,200	14,800	58,800	21,000	12,700	3,580	37,400	16,100	21,200
1902	3,560	2,020	25,300	33,500	40,400	57,500	44,500	16,700	3,270	5,550	2,600	2,140	19,700
1903	4,620	7,480	47,200	24,200	63,200	71,900	57,100	9,300	21,600	5,250	5,030	1,810	26,300
1904	1,560	4,160	12,700	21,000	9,780	46,100	17,800	14,200	13,500	4,420	2,950	1,800	12,500
1905	1,060	958	8,050	14,900	31,000	32,400	12,700	18,100	10,800	12,300	7,750	4,930	12,800
1906	8,870	6,230	34,100	32,900	12,000	29,700	35,200	8,210	5,380	11,300	11,100	15,400	17,600
1907	22,000	22,800	26,700	43,500	24,400	58,900	20,700	27,800	21,600	4,450	2,970	7,260	23,600
1908	3,910	13,900	13,900	26,600	41,400	36,600	32,300	25,000	8,050	6,080	3,080	3,900	17,800
1909	929	1,800	9,220	26,000	47,000	58,000	29,000	26,100	23,500	22,200	8,660	3,140	*21,200
1910	1,730	1,770	6,700	34,300	32,800	14,800	20,700	31,100	23,900	27,500	8,030	7,960	17,500
1911	5,200	2,120	11,800	31,900	48,300	25,200	60,800	25,100	5,450	4,600	4,390	2,410	18,700
1912	2,960	8,710	40,500	38,500	40,100	65,300	76,900	45,800	8,380	20,900	4,550	3,020	29,600
1913	1,820	1,860	11,500	98,000	39,300	60,500	35,800	11,300	8,650	2,350	2,000	899	22,800
1914	925	1,610	2,970	4,530	22,500	21,100	50,000	18,100	3,610	6,270	5,680	5,210	11,800
1915	12,900	2,510	32,200	53,400	42,400	17,000	9,430	10,500	18,600	18,200	9,940	11,300	19,800
1916	22,200	44,600	52,200	84,700	25,600	24,400	18,900	8,630	18,000	23,400	14,200	3,500	28,400
1917	4,390	2,110	14,300	71,700	41,200	108,000	39,500	7,270	9,650	14,900	9,350	5,800	27,400
1918	6,630	5,040	5,490	37,100	68,300	17,600	39,800	23,200	5,840	4,360	2,500	4,950	18,000
1919	6,140	18,500	18,200	68,600	16,300	44,900	16,900	25,300	8,240	2,900	3,140	1,880	19,400
1920	22,700	39,700	55,500	59,700	48,200	53,900	60,300	20,800	21,100	5,890	20,200	17,300	35,400
1921	3,240	2,950	21,200	23,600	44,300	32,000	37,600	9,670	3,190	†4,240	7,420	7,010	16,200
1922	5,090	20,400	29,000	34,800	36,900	37,500	42,800	31,200	14,200	11,600	6,160	3,020	26,900
1923	1,260	1,260	33,800	36,000	72,800	70,700	28,200	25,200	14,100	6,300	11,400	3,420	25,100
1924	1,420	1,770	22,600	66,500	32,900	29,400	21,100	30,400	21,200	7,780	2,360	2,240	20,000
1925	2,330	1,890	22,600	28,800	38,000	19,500	17,400	18,900	3,820	3,570	1,200	796	13,100
1926	9,400	28,000	14,500	28,400	26,900	22,600	18,400	10,700	9,420	3,580	24,800	13,800	17,400
1927	7,690	26,400	83,700	63,100	52,600	54,000	45,700	15,600	24,800	4,370	6,330	1,780	32,100
1928	1,460	11,400	15,800	35,100	18,700	31,500	46,700	24,700	49,700	45,900	6,890	9,360	24,800
1929	6,120	20,200	15,200	42,100	31,800	92,400	58,600	9,560	9,630	5,540	3,970	5,700	27,700
1930	3,100	34,800	19,100	27,100	40,900	37,300	14,900	13,100	3,210	1,410	1,170	1,540	16,300
1931	1,330	1,760	3,630	8,830	15,300	20,000	32,500	14,100	2,960	5,330	3,870	1,810	9,080
1932	1,028	1,065	39,360	37,160	88,280	21,120	38,970	16,250	4,922	16,260	2,789	1,888	22,180
1933	6,945	12,300	21,730	52,980	67,960	36,380	30,500	34,130	5,312	5,452	9,257	9,934	24,160
1934	1,877	3,170	14,700	22,240	9,909	87,940	20,180	6,775	8,043	5,736	5,561	3,508	15,930
1935	3,267	5,616	4,208	34,200	31,550	68,310	61,910	20,980	19,600	7,244	5,971	4,688	22,220
1936	946	6,467	9,636	34,640	19,940	50,500	60,170	4,521	997	3,913	944	725	16,080
1937	1,835	9,180	16,900	129,600	53,740	13,850	13,160	34,200	12,690	3,475	3,803	3,300	24,590
1938	5,636	3,684	13,950	34,560	27,960	37,720	25,400	14,230	17,910	9,402	15,280	3,899	17,440
1939	1,417	7,904	10,070	34,320	109,800	47,040	37,470	10,040	7,972	7,610	4,919	874	22,680
1940	667	834	1,782	3,036	23,150	40,620	52,430	14,490	10,190	7,953	3,227	3,187	13,380
1941	850	1,674	3,899	11,190	6,310	14,260	26,120	4,765	6,079	28,070	4,082	2,391	9,164
1942	670	2,074	9,025	15,030	23,890	39,010	15,100	4,128	4,661	7,813	19,230	4,093	12,410
1943	2,158	13,190	41,100	45,040	35,320	62,980	36,250	19,230	6,583	2,917	3,796	2,534	22,570
1944	908	2,397	3,522	16,480	50,300	69,050	40,090	12,420	3,374	2,731	11,260	17,640	24,840
1945	14,070	7,030	17,830	57,380	52,820	45,040	20,080	32,000	12,110	3,185	2,593	1,124	21,980
1946	886	19,420	30,300	75,810	48,480	38,230	14,640	15,820	15,130	3,996	3,589	2,115	22,260
1947	2,490	10,800	13,630	68,410	26,320	27,060	22,400	18,060	6,275	16,710	5,871	2,373	18,390
1948	1,905	2,687	4,629	13,060	80,030	52,370	33,480	4,350	2,258	4,048	2,921	957	16,620
1949	579	11,420	44,930	59,770	46,700	39,960	32,560	17,110	19,260	15,530	7,579	3,806	24,840
1950	3,231	10,240	27,300	76,270	99,750	55,050	15,050	28,530	29,400	15,660	9,228	10,760	29,620

* Revised.
† Corrected.

CUMBERLAND RIVER BASIN

Monthly and yearly runoff, in inches, of Cumberland River at Nashville, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1893	0.09	0.22	1.81	0.86	4.31	2.48	1.98	2.61	2.83	0.43	0.36	0.14	18.12
1894	.17	.17	.88	1.53	4.89	2.48	2.29	1.26	.31	.41	.16	.13	14.68
1895	.07	.09	.71	4.04	1.00	4.22	2.59	1.56	.43	.86	.43	.28	16.08
1896	.08	.14	.83	.85	3.11	3.57	3.93	.49	.85	2.97	.46	.13	17.41
1897	.20	.67	1.78	1.70	3.86	7.93	4.98	2.48	.32	1.13	.52	.14	25.71
1898	.07	.09	.99	5.38	1.07	1.90	3.26	1.30	.37	.35	1.67	.25	16.70
1899	.76	1.15	1.15	4.92	5.00	7.63	4.78	2.56	.40	.33	.30	.10	29.08
1900	.10	.10	1.03	1.60	2.80	2.82	2.05	.58	1.55	1.31	.57	.19	14.70
1901	.19	2.02	1.76	2.25	1.64	1.33	5.10	1.88	1.10	.32	3.36	1.40	22.35
1902	.32	.18	2.27	3.00	3.27	5.15	3.86	1.50	.28	.50	.23	.19	20.75
1903	.41	.85	4.23	2.17	5.11	6.44	4.95	.83	1.87	.47	.45	.16	27.74
1904	.14	.36	1.14	1.88	.82	4.13	1.54	1.27	1.17	.40	.26	.16	13.27
1905	.09	.08	.72	1.34	2.51	2.90	1.10	1.63	.94	1.10	.69	.43	13.53
1906	.79	.54	3.06	2.94	.97	2.65	3.06	.74	.47	1.01	1.00	1.33	18.56
1907	1.97	1.98	2.39	3.90	1.97	5.28	1.80	2.49	1.86	.40	.27	.63	24.94
1908	.35	1.20	1.24	2.38	3.46	3.27	2.80	2.24	.70	.54	.28	.34	18.80
1909	.08	.16	.83	*2.33	3.80	5.20	2.51	2.34	2.04	1.99	.78	.27	*22.33
1910	.16	.15	.60	3.07	2.62	1.33	1.80	2.79	2.08	2.46	.72	.69	18.47
1911	.47	.18	1.06	2.86	3.92	2.26	5.28	2.25	.47	.41	.39	.21	49.76
1912	.27	.75	3.63	3.45	3.36	5.86	6.67	4.10	.73	1.87	.41	.26	31.36
1913	.16	.16	1.03	8.78	3.18	5.42	3.10	1.02	.75	.21	.18	.08	24.07
1914	.08	.14	.27	.41	1.82	1.89	4.34	1.63	.31	.56	.50	.45	12.40
1915	1.15	.22	2.88	4.78	3.43	1.52	.82	.94	1.62	1.63	.89	.98	20.86
1916	1.98	3.86	4.67	7.59	2.15	2.18	1.64	.77	1.55	2.10	1.27	.30	30.06
1917	.39	.18	1.28	6.42	3.33	9.68	3.42	.65	.84	1.34	.84	.50	28.87
1918	.80	.44	.49	3.32	5.53	1.58	3.45	2.08	.51	.39	.22	.43	19.04
1919	.55	1.60	1.63	6.14	1.32	4.02	1.47	2.27	.72	.26	.28	.16	20.42
1920	2.03	3.44	4.97	5.34	4.04	4.82	5.22	1.87	1.83	.53	1.81	1.50	37.40
1921	.29	.26	1.90	2.11	3.58	2.87	3.26	.87	.28	†.38	.66	.61	†17.07
1922	.46	1.77	2.59	3.12	2.99	7.84	3.72	2.80	1.23	1.04	.55	.26	28.37
1923	.11	.11	3.03	3.23	5.89	6.34	2.44	2.28	1.23	.56	1.02	.30	26.52
1924	.13	.15	2.03	5.96	2.76	2.64	1.83	2.72	1.84	.70	.21	.19	21.16
1925	.21	.16	2.03	2.58	3.07	1.75	1.51	1.70	.33	.32	.11	.07	13.64
1926	.84	2.43	1.30	2.55	2.18	2.03	1.60	.96	.82	.30	2.22	1.19	18.42
1927	.69	2.29	7.50	5.66	4.26	4.84	3.96	1.40	2.15	.39	.57	.15	33.86
1928	.13	.99	1.42	3.15	1.56	2.82	4.05	2.21	4.31	4.12	.62	.81	26.19
1929	.55	1.75	1.36	3.77	2.57	8.28	3.35	5.01	.83	.86	.48	.34	29.15
1930	.28	3.02	1.72	2.43	3.31	3.34	1.29	1.18	.28	.13	.10	.13	17.21
1931	.12	.15	.33	.79	1.24	1.80	2.82	1.27	.26	.32	.35	.16	9.61
1932	.09	.09	3.53	3.33	7.40	1.89	3.38	1.46	.43	1.46	.25	.16	23.47
1933	.62	1.07	1.95	4.75	5.50	3.26	2.65	3.06	.46	.49	.83	.86	25.50
1934	.17	.28	1.32	1.99	.80	7.88	1.75	.61	.70	.51	.50	.30	16.81
1935	.29	.49	.38	3.08	2.55	6.12	5.37	1.88	1.70	.65	.54	.41	23.46
1936	.08	.56	.86	3.11	1.67	4.53	5.22	.41	.09	.35	.08	.06	17.02
1937	.16	.80	1.52	11.62	4.35	1.24	1.14	3.09	1.10	.31	.34	.29	25.96
1938	.51	.32	1.25	3.10	2.26	3.38	2.20	1.28	1.55	.84	1.37	.34	18.40
1939	.13	.69	.90	3.08	8.69	4.22	3.25	.90	.69	.68	.44	.08	23.95
1940	.06	.07	.16	.27	1.94	3.64	4.55	1.30	.88	.71	.29	.28	14.15
1941	.08	.15	.35	1.00	.51	1.28	2.27	.43	.53	2.52	.37	.21	9.70
1942	.06	.18	.81	1.35	2.34	3.50	1.31	.37	.40	.70	1.72	.36	13.10
1943	.19	1.14	3.68	4.04	2.86	5.64	3.14	1.72	.57	.26	a.32	a.22	a23.78

* Revised.

† Corrected.

a Adjusted for change in contents in Dale Hollow Reservoir and Great Falls Lake; previously published figures in WSP 973 are unadjusted.

Yearly discharge, in cubic feet per second												
Year	W.S.P. no.	Water year ending Sept. 30							Calendar year			
		Observed				Adjusted ¹			Observed		Adjusted ¹	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	
		Discharge	Date									
1893	(a)	118,000	Feb. 22, 1893	610	17,200	-	1.34	18.12	16,300	-	-	17.22
1894	(a)	122,000	Feb. 9, 1894	1,020	13,900	-	1.08	14.68	13,600	-	-	14.33
1895	(a)	84,800	Mar. 25, 1895	650	15,200	-	1.18	16.08	15,400	-	-	16.26
1896	(a)	*126,000	Apr. 7, 1896	740	16,500	-	1.28	17.41	18,000	-	-	19.01
1897	(a)	*148,000	Mar. 20, 1897	900	24,400	-	1.90	25.71	22,900	-	-	24.21
1898	(a)	*111,000	Jan. 23, 1898	740	15,800	-	1.23	16.70	17,600	-	-	18.61
1899	(a)	117,000	Feb. 11, 1899	1,020	27,500	-	2.14	29.08	25,800	-	-	27.25
1900	(a)	65,300	Feb. 13, 1900	1,020	13,900	-	1.08	14.70	16,500	-	-	17.44
1901	(a)	114,000	Aug. 21, 1901	1,230	21,200	-	1.65	22.35	20,000	-	-	21.15
1902	(a)	137,000	Apr. 4, 1902†	1,310	19,700	-	1.53	20.75	22,100	-	-	23.27
1903	(a)	116,000	Mar. 9, 1903†	1,230	26,300	-	2.05	27.74	22,800	-	-	24.09
1904	(a)	106,000	Mar. 27, 1904	1,230	12,500	-	.972	13.27	11,800	-	-	12.52
1905	(a)	80,400	Mar. 14, 1905	735	12,800	-	.995	13.53	16,100	-	-	17.03

¹ Adjusted for change in contents in Dale Hollow Reservoir and Great Falls Lake since August 1943, in Center Hill Reservoir since November 1948, and in Wolf Creek Reservoir since August 1950. Prior to August 1943 the effect of regulation was minor.

† Corrected.

* Not previously published.

a Tennessee Division of Geology, Bull. 34.

CUMBERLAND RIVER BASIN

Monthly and yearly mean discharge, in cubic feet per second, of Harpeth River at Bellevue, Tenn.--Con

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1926	101	614	305	799	377	441	325	56.2	155	18.8	663	147	354
1927	140	939	3,974	903	1,184	2,343	2,579	529	150	35.3	76.9	11.2	1,073
1928	46.1	242	298	817	409	648	873	443	1,834	532	125	196	537
1929	338	137	217	991	1,345	2,691	761	1,189	268	132	28.5	31.9	676
1930	42.6	680	370	1,510	1,360	1,400	395	835	77.5	27.5	96.0	101	554
1931	114.2	998.5	1,195	2,290	630	1,000	370	177	38.2	55.0	27.0	2.8	266
1932	31.9	441.0	1,200	1,924	2,647	609	1,373	489	80.6	239	33.2	57.3	718
1933	466	261	642	1,026	2,461	1,193	1,040	1,489	62.3	120	104	264	769
1934	39.4	141	806	776	308	2,062	300	70.8	155	77.5	99.8	55.8	411
1935	31.6	169	134	1,041	1,147	1,685	1,528	189	146	260	55.2	12.5	529
1936	21.3	66.4	41.3	430	350	1,460	1,435	87.1	21.4	177	21.8	5.76	343
1937	55.4	357	590	4,305	948	345	284	1,693	85.3	30.7	38.3	30.9	734
1938	108	52.0	366	1,451	619	851	491	192	249	67.7	130	66.5	389
1939	16.9	150	101	1,408	2,781	899	955	144	488	78.1	36.4	2.88	564
1940	3.19	10.4	32.3	40.5	817	1,647	1,545	372	62.7	45.0	27.0	10.2	382
1941	3.16	64.2	161	164	90.2	167	325	38.7	14.9	348	226	28.8	137
1942	5.82	59.8	213	440	887	931	477	97.7	33.6	119	465	79.5	314
1943	24.4	190	1,144	332	728	1,684	407	154	60.3	140	25.1	231	426
1944	26.5	38.6	135	583	2,328	1,856	988	556	55.6	15.8	174	903	614
1945	329	109	1,102	1,783	2,082	905	454	1,246	357	106	128	46.8	715
1946	31.5	959	1,385	2,717	1,377	1,236	579	287	83.5	232	162	27.7	755
1947	17.0	495	382	1,966	414	701	776	821	254	188	75.0	16.2	511
1948	8.24	29.1	126	511	3,182	1,866	577	66.7	17.7	24.0	17.5	1.28	*525
1949	3.34	548	1,187	1,811	1,024	1,030	690	362	888	313	91.0	16.6	662
1950	54.8	93.5	655	3,939	5,606	1,075	281	208	217	186	73.6	337	879

* Revised.

* Not previously published; estimated or partly estimated on basis of record for Kingston Springs.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1920	-	-	-	-	-	-	-	1.45	0.86	0.45	0.76	1.20	-
1921	0.11	0.17	1.25	1.76	3.53	2.61	2.42	.76	.21	.29	.69	.88	14.68
1922	.29	2.03	1.61	2.36	2.34	8.05	3.51	2.88	.71	.74	.57	.08	24.97
1923	.01	.06	2.00	2.47	3.66	6.32	3.24	2.26	1.09	.44	1.27	.66	23.48
1924	.03	.15	2.85	5.05	3.25	1.79	.85	1.07	.34	.48	.16	.07	16.09
1925	.01	.11	.98	2.21	2.91	1.68	2.60	1.31	.16	.09	.05	.009	12.12
1926	.28	1.67	.86	2.25	.96	1.24	.89	.16	.42	.05	1.86	.40	11.04
1927	.39	2.56	11.18	2.54	3.01	6.59	7.02	1.49	.41	.10	.22	.03	35.54
1928	.13	.66	.84	2.30	1.08	1.82	2.37	1.25	4.99	1.50	.35	.53	17.82
1929	.95	.37	.61	2.79	3.42	7.57	2.07	3.34	.73	.37	.08	.09	22.39
1930	.12	1.85	1.04	3.58	3.45	3.94	1.07	2.35	.21	*.08	*.27	*.27	*18.33
1931	*.04	*.27	*.55	*.79	*1.60	*2.81	*1.93	*.50	*.10	*.15	*.08	*.01	*8.83
1932	*.01	*.11	*.37	5.41	6.86	1.73	3.74	1.38	.22	.67	.09	.16	*23.83
1933	1.31	.71	2.37	2.89	6.25	3.35	2.83	4.19	1.17	.34	.29	.77	25.47
1934	1.11	.39	2.30	2.21	7.79	5.88	.83	.20	.43	.22	.28	.15	13.79
1935	.09	.47	.38	2.97	2.96	4.81	4.22	.54	.40	.74	.16	.03	17.77
1936	.06	.18	.12	1.22	.93	4.16	3.96	.25	.06	.51	.06	.02	11.53
1937	.16	.99	1.68	12.34	2.45	.98	.78	4.83	.24	.09	.11	.08	24.73
1938	.31	.14	1.05	4.14	1.59	2.43	1.35	.55	.69	.19	.37	.24	15.06
1939	.05	.41	.29	4.02	7.17	2.57	2.36	.41	1.35	.22	.10	.008	11.96
1940	.009	.03	.09	.12	2.18	4.70	4.27	1.06	.17	.13	.08	.03	12.87
1941	.009	.18	.46	.47	.23	.48	.90	.11	.04	.99	.65	.08	4.60
1942	.02	.17	.61	1.26	2.29	2.66	1.32	.28	.09	.34	1.33	.22	10.59
1943	.07	.53	3.27	.95	1.88	4.80	1.12	.44	.17	.40	.07	.64	14.34
1944	.08	.11	.39	1.66	6.21	4.73	2.73	1.59	.15	.05	.50	2.49	20.69
1945	.94	.30	3.15	5.09	5.37	2.58	1.28	3.56	.98	.30	.36	.13	24.02
1946	.09	2.65	3.95	7.75	3.55	3.53	1.60	.82	.23	.66	.46	.08	25.37
1947	.05	1.37	1.09	5.61	1.07	2.00	2.14	2.34	.70	.54	.21	.04	17.16
1948	.02	.08	.36	1.46	*8.49	5.33	1.59	.19	.05	.07	.05	.004	*17.69
1949	.01	1.51	3.39	5.17	2.64	2.94	1.91	1.03	2.45	.89	.26	.05	22.25
1950	.16	.26	1.87	11.24	9.30	3.07	.78	.59	.60	.53	.21	.93	29.54

* Revised.

* Not previously published; estimated or partly estimated on basis of record for Kingston Springs.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1920	953	-	-	-	-	-	-	-	-
1921	953	7,740	Apr. 17, 1921	6.7	444	1.08	14.68	516	17.08
1922	953	13,400	Mar. 10, 1922	2.0	754	1.84	24.97	698	23.11
1923	953	8,580	Mar. 22, 1923	0	710	1.73	23.48	739	24.44
1924	953	11,300	Jan. 4, 1924	2.3	485	1.18	16.09	427	14.16
1925	953	8,300	Apr. 10, 1925	.5	366	.893	12.12	417	13.83
1926	953	7,250	Jan. 22, 1926	4.6	334	.815	11.04	675	22.36
1927	953	18,800	Mar. 13, 1927	7.0	1,073	2.62	35.54	695	23.04
1928	953	11,600	June 29, 1928	12	537	1.31	17.82	546	18.12
1929	953	20,200	Mar. 23, 1929	2.4	676	1.65	22.39	*709	*23.47
1930	953	-	-	-	*554	*1.35	*18.33	*489	*16.18

* Not previously published; estimated or partly estimated on basis of record for Kingston Springs.

Yearly discharge, in cubic feet per second, of Harpeth River at Belleview, Tenn.--Continued

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1931	-	-	-	-	*266	*.649	*8.83	*346	*11.46
1932	953	d13,700	Feb. 4, 1932	-	*718	*1.75	*23.83	745	24.73
1933	953	13,700	Feb. 20, 1933	7	769	1.68	25.47	720	23.88
1934	953	11,100	Mar. 25, 1934	8.6	411	1.02	13.79	356	11.93
1935	953	15,000	Mar. 13, 1935	6.8	529	1.31	17.77	512	17.19
1936	803	9,880	Apr. 7, 1936	1.8	343	.849	11.53	416	14.00
1937	823	17,300	Jan. 3, 1937	1.8	754	1.82	24.73	695	23.35
1938	853	10,200	Jan. 22, 1938	8.6	589	.983	13.06	368	12.30
1939	873	10,200	Feb. 15, 1939	1.6	564	1.40	18.96	546	18.34
1940	893	9,780	Apr. 19, 1940	2.3	382	.946	12.87	397	13.39
1941	923	3,520	July 4, 1941	1.2	137	.339	4.60	141	4.75
1942	953	4,360	Apr. 9, 1942	2.6	314	.777	10.59	406	13.66
1943	973	9,930	Mar. 13, 1943	3.8	426	1.05	14.34	328	11.05
1944	1003	13,700	Feb. 18, 1944	3.0	614	1.52	20.69	727	24.50
1945	1033	12,700	Jan. 1, 1945	12	715	1.77	24.02	783	26.32
1946	1053	19,300	Jan. 8, 1946	12	755	1.87	25.37	631	21.19
1947	1083	9,740	Jan. 15, 1947	4.8	511	1.26	17.16	450	15.11
1948	1113, 1386	*40,000	Feb. 13, 1948	.3	*525	*1.30	*17.69	*657	*22.14
1949	1143	8,820	Jan. 6, 1949	.4	662	1.64	22.25	584	19.63
1950	1173	15,600	Feb. 1, 1950	6.4	879	2.18	29.54	-	-

* Revised.

* Not previously published.

d Maximum during period January to September.

51. Harpeth River near Kingston Springs, Tenn.

Location.--Lat 36°07'18", long. 87°05'56", 400 ft upstream from bridge on U. S. Highway 70, 2 miles northeast of Kingston Springs, Cheatham County, and 3 miles downstream from Turnbull Creek.

Drainage area.--697 sq mi.

Gage.--Water-stage recorder. Datum of gage is 447.81 ft above mean sea level, Sandy Hook datum. Prior to Jan. 23, 1939, staff gage at site 150 ft downstream at same datum.

Average discharge.--26 years (1924-50), 925 cfs.

Extremes.--1924-50: Maximum discharge, 60,000 cfs Jan. 7, 1946 (gage height, 32.20 ft); minimum, 12 cfs Sept. 18, 1939; minimum gage height observed, 0.26 ft Sept. 24, 1931.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	*33.1	*101	*568	*1,330	*1,940	*1,030	*1,620	*790	*131	*84.1	*51.2	31.0	*635
1926	253	862	400	1,240	627	760	596	168	485	85.4	1,100	220	566
1927	298	1,470	6,270	1,570	2,060	3,821	3,940	1,010	336	109	201	51.4	1,763
1928	172	419	392	1,380	875	1,040	1,330	1,020	2,850	698	202	566	907
1929	522	340	480	1,520	2,020	3,870	1,300	2,000	454	197	92.3	96.8	1,070
1930	108	1,160	630	2,220	2,300	2,370	668	1,410	163	75.4	193	200	952
1931	52.5	197	347	474	1,080	1,710	1,220	316	95.9	122	74.4	31.5	472
1932	28.9	101	2,040	3,190	4,440	1,170	2,430	881	200	526	114	138	1,260
1933	613	435	1,430	1,930	3,990	2,150	2,060	2,828	153	322	250	398	1,366
1934	102	231	1,354	1,353	590	3,548	532	164	429	165	160	124	738
1935	99.9	314	269	2,422	1,798	2,605	2,420	523	264	349	113	44.6	930
1936	50.4	133	94.8	648	572	2,487	2,092	232	61.4	349	68.9	30.7	568
1937	91.2	413	692	6,975	1,410	514	565	2,563	182	111	80.4	94.8	1,148
1938	225	126	573	2,157	972	1,478	845	473	536	425	333	179	694
1939	57.9	225	190	2,161	4,419	1,527	1,535	361	903	178	115	25.0	950
1940	35.1	65.4	105	116	1,243	2,692	2,492	643	138	124	74.4	41.0	644
1941	37.5	160	320	347	187	279	461	99.3	66.3	546	392	76.7	249
1942	44.8	131	337	675	1,324	1,548	957	184	80.6	156	645	137	514
1943	72.9	302	1,921	523	1,162	2,950	792	362	152	147	109	323	735
1944	65.1	102	258	698	3,292	2,839	2,059	982	117	69.4	432	1,089	1,007
1945	713	215	1,616	3,183	3,190	1,434	907	2,204	583	183	338	124	1,234
1946	103	1,464	1,732	5,151	2,150	2,045	920	460	171	374	242	83.2	1,240
1947	67.9	596	556	3,243	628	979	1,514	1,205	382	292	164	65.1	811
1948	54.8	114	248	969	5,396	2,915	1,073	171	74.8	77.4	48.7	31.3	913
1949	39.8	968	1,849	3,047	1,732	1,825	1,285	636	2,006	453	193	72.6	1,172
1950	171	224	1,365	5,963	6,078	1,815	545	516	407	343	244	675	1,503

† Corrected.

* Not previously published; estimated, or partly estimated, on the basis of records for station at Belleview.

CUMBERLAND RIVER BASIN

Monthly and yearly runoff, in inches, of Harpeth River near Kingston Springs, Tenn.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	\$0.06	\$0.16	\$0.99	\$2.24	\$2.94	\$1.73	\$2.63	\$1.33	\$0.21	\$0.14	\$0.09	0.05	\$12.57
1926	.42	1.40	.67	2.08	.95	1.28	.97	.28	.79	.14	1.84	.36	11.18
1927	.50	2.39	10.53	2.64	3.12	6.47	6.42	1.70	.55	.18	.34	.08	34.86
1928	.29	.68	.66	2.32	1.37	1.74	2.16	1.71	4.63	1.18	.34	.92	18.00
1929	.88	.55	.81	2.55	3.06	6.49	2.11	3.36	.74	.33	.15	.16	21.19
1930	.18	1.89	1.06	3.72	3.49	3.98	1.08	2.36	.26	.13	.32	.32	18.79
1931	.09	.32	.58	.80	1.64	2.87	1.99	.53	.16	.21	.12	.05	9.36
1932	.05	.16	3.42	5.35	6.97	1.96	3.95	1.48	.32	.88	.19	.22	24.95
1933	1.03	.71	2.40	3.24	6.05	3.61	3.35	4.75	.25	.54	.42	.65	27.00
1934	.17	.37	2.27	2.27	.89	5.95	.86	.28	.70	.31	.30	.20	14.57
1935	.17	.51	.45	4.06	2.72	4.37	3.93	.88	.43	.59	.19	.07	18.37
1936	.08	.22	.16	1.09	.90	4.17	3.40	.39	.10	.59	.12	.05	11.27
1937	.15	.67	1.16	11.70	2.13	.86	.92	4.30	.30	.19	.13	.15	22.66
1938	.38	.20	.96	3.62	1.47	2.48	1.37	.79	.87	.71	.56	.29	13.70
1939	.10	.37	.32	3.63	6.70	2.56	2.49	.61	1.47	.30	.19	.04	18.78
1940	.06	.11	.18	.19	1.95	4.52	4.05	1.08	.22	.21	.12	.07	12.76
1941	.06	.26	.54	.58	.28	.47	.75	.17	.11	.92	.66	.12	4.92
1942	.08	.21	.57	1.13	2.01	2.60	1.55	.31	.15	.26	1.08	.22	10.17
1943	.12	.49	3.22	.88	1.76	4.95	1.29	.61	.25	.25	.18	.52	14.52
1944	.11	.17	.43	1.51	5.17	4.76	3.34	1.65	.19	.12	.73	.18	19.96
1945	1.20	.35	3.05	5.34	4.84	2.41	1.47	3.70	.95	.31	.57	.20	24.39
1946	.17	2.38	2.91	8.64	3.26	3.43	1.49	.77	.28	.63	.41	.14	24.51
1947	.11	.97	.93	5.44	.95	1.64	2.46	2.02	.62	.49	.27	.11	16.01
1948	.09	.18	.42	1.62	8.47	4.89	1.74	.29	.12	.13	.08	.05	18.08
1949	.07	1.57	3.10	5.11	2.63	3.06	2.09	1.07	3.26	.76	.32	.12	23.16
1950	.29	.36	2.29	10.01	9.21	3.05	.88	.87	.66	.57	.41	1.10	29.70

† Corrected.

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1925	603	-	-	-	\$635	\$0.924	\$12.57	\$701	\$13.85
1926	623	15,500	Jan. 22, 1926	34	566	.824	11.18	1,119	22.11
1927	643, 953	33,500	Mar. 13, 1927	30	1,763	2.57	34.86	1,167	23.13
1928	663	12,900	June 29, 1928	52	907	1.32	18.00	938	18.61
1929	683	20,000	Mar. 23, 1929	34	1,070	1.56	21.19	1,119	22.08
1930	698	17,700	May 18, 1930	32	952	1.39	18.79	844	16.65
1931	713	9,760	Mar. 28, 1931	20	472	.687	9.36	606	12.00
1932	728	34,500	Feb. 3, 1932	21	1,260	1.83	24.95	1,286	25.46
1933	743, 953	32,900	Feb. 20, 1933	52	1,366	1.99	27.00	1,299	25.67
1934	758	19,400	Mar. 3, 1934	46	738	1.07	14.57	853	12.89
1935	953	27,100	Jan. 20, 1935	21	950	1.35	18.37	896	17.70
1936	803, 953	16,200	Apr. 9, 1936	18	568	.827	11.27	645	12.79
1937	823	31,600	Jan. 20, 1937	24	1,148	1.67	22.66	1,126	22.22
1938	853	13,700	Jan. 22, 1938	42	694	1.01	13.70	656	12.95
1939	873	16,400	Feb. 15, 1939	16	950	1.38	18.78	927	18.34
1940	893	18,000	Mar. 30, 1940	22	644	.937	12.76	670	13.27
1941	923	4,880	July 5, 1941	26	249	.362	4.92	248	4.92
1942	953	8,100	Apr. 9, 1942	32	514	.748	10.17	666	13.14
1943	973	19,700	Mar. 19, 1943	26	735	1.07	14.52	577	11.40
1944	1003	16,400	Mar. 19, 1944	26	1,007	1.47	19.96	1,203	23.85
1945	1033	39,900	Jan. 1, 1945	66	1,234	1.80	24.39	1,277	25.25
1946	1053	60,000	Jan. 7, 1946	52	1,240	1.80	24.51	1,066	21.06
1947	1083	25,300	Jan. 15, 1947	43	811	1.18	16.01	744	14.69
1948	1113	47,000	Feb. 14, 1948	23	913	1.33	18.08	1,181	22.13
1949	1143	29,000	June 15, 1949	33	1,172	1.71	23.16	1,081	21.36
1950	1173	31,300	Feb. 9, 1950	60	1,503	2.19	29.70	-	-

* Not previously published.

52. Cumberland River at Clarksville, Tenn.

Location.--Lat 36°31'20", long. 87°22'40", at Louisville & Nashville Railroad bridge at Clarksville, Montgomery County, 1½ miles upstream from Red River, 18.0 miles upstream from lock and dam C, and at mile 126.5.

Drainage area.--16,000 sq mi, approximately (includes that of Red River).

Supplemental records available.--Gage-height records collected in this vicinity since Dec. 1, 1900, are contained in reports of U. S. Weather Bureau.

Gage.--U. S. Weather Bureau staff gage. Datum of gage is 330.86 ft above mean sea level, datum of 1929. Prior to Feb. 1, 1931, inclined staff gage at boat landing a quarter of a mile downstream at datum 0.09 ft lower. Auxiliary gage at lock and dam C, 18 miles downstream at datum 5.01 ft higher.

Average discharge.--20 years (1924-44), 23,560 cfs.

Extremes.--1924-44: Maximum discharge, 290,000 cfs Jan. 24, 1937; maximum gage height, 65.7 ft Jan. 25, 1937, from floodmark; minimum discharge observed, 323 cfs Nov. 23, 1939, caused by manipulation of wickets at navigation dams; minimum gage height observed, 12.3 ft Oct. 7, 24, 1935.

Remarks.--Flow regulated by Great Falls Lake (see p. 55) and since August 1943 by Dale Hollow Reservoir (see p. 44).

Monthly and yearly mean discharge, in cubic feet per second, of Cumberland River at Clarksville, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	2,950	2,250	26,300	31,700	47,900	25,400	21,500	22,500	4,640	4,490	1,510	1,100	15,900
1926	9,810	31,700	18,100	34,900	30,900	27,400	23,900	12,700	11,000	4,180	26,400	16,000	20,500
1927	10,200	31,000	96,400	81,300	64,900	81,500	66,300	21,800	30,600	6,020	7,660	2,440	42,400
1928	3,770	13,300	17,700	40,700	24,400	36,300	52,400	31,300	68,000	58,600	9,050	10,600	30,300
1929	7,910	22,800	18,300	47,200	41,500	106,000	56,800	69,100	12,400	11,700	6,150	4,200	33,700
1930	3,540	36,500	22,600	38,300	49,800	44,400	19,300	18,600	4,760	2,110	1,650	2,080	20,100
1931	1,640	2,160	4,300	9,910	18,100	25,300	38,300	17,500	4,450	4,160	4,580	2,450	11,000
1932	1,270	1,560	47,300	54,100	12,000	27,100	51,300	26,400	6,400	21,000	4,040	2,920	29,300
1933	8,870	14,900	24,600	71,700	80,900	51,100	46,100	47,500	7,530	6,570	11,000	13,600	31,800
1934	2,583	4,504	19,820	27,690	11,120	101,600	32,340	8,663	11,650	7,302	7,525	4,941	20,100
1935	3,958	7,568	4,872	50,850	40,160	85,300	63,460	27,950	24,890	9,541	6,984	6,282	29,250
1936	1,288	6,470	9,425	37,620	22,840	53,540	76,740	6,098	6,979	2,012	1,375		18,820
1937	3,559	12,220	18,800	157,500	70,220	17,480	15,720	46,250	14,690	4,867	4,859	4,429	30,770
1938	7,396	3,980	17,540	42,720	36,080	46,380	51,070	16,960	21,390	12,540	20,630	6,159	21,860
1939	1,812	9,188	10,590	42,260	24,600	58,270	48,030	12,840	10,670	8,764	5,635	1,099	27,130
1940	885	1,049	2,229	3,679	27,400	50,570	65,370	18,840	11,220	8,559	3,586	3,435	16,300
1941	901	2,257	5,546	13,370	7,750	16,240	27,550	5,471	6,516	31,020	5,193	2,608	10,400
1942	809	2,507	9,871	18,000	3,780	45,740	22,900	5,943	5,444	8,591	21,230	4,703	14,950
1943	2,562	14,580	44,100	48,090	40,520	75,740	40,120	23,930	9,021	3,644	4,303	3,519	25,820
1944	1,231	2,724	4,338	19,330	54,040	80,330	51,370	16,300	3,949	1,123	3,326	12,580	20,740

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	0.21	0.16	1.90	2.28	3.12	1.83	1.51	1.63	0.32	0.32	0.11	0.08	13.47
1926	.71	2.21	1.30	2.51	2.01	1.97	1.67	.92	.77	.30	1.90	1.12	17.39
1927	.74	2.16	6.95	6.58	4.23	5.88	4.63	1.57	2.13	.43	.55	.17	36.02
1928	.27	.95	1.28	2.94	1.65	2.62	3.66	2.26	4.61	4.23	.65	.74	25.84
1929	.57	1.58	1.31	3.40	2.70	7.63	3.96	4.98	.86	.84	.44	.29	28.56
1930	.25	2.54	1.63	2.76	3.24	3.20	1.35	1.34	.33	.15	.12	.14	17.05
1931	.12	.15	.31	.71	1.18	1.82	2.67	1.26	.31	.30	.33	.17	9.33
1932	.09	.11	3.41	3.90	7.55	1.92	3.58	1.90	.45	1.51	.29	.20	24.91
1933	.64	1.04	1.78	5.16	5.27	3.68	3.21	3.42	.53	.47	.79	.95	26.94
1934	.19	.31	1.42	1.99	.72	7.32	2.25	.62	.81	.53	.54	.34	17.04
1935	.28	.53	.35	3.67	2.64	6.15	5.83	2.02	1.74	.69	.50	.44	24.84
1936	.09	.45	.68	2.71	1.54	3.86	5.36	.44	.15	.50	.15	.10	16.03
1937	.26	.85	1.36	11.35	4.57	1.26	1.10	3.33	1.02	.35	.35	.31	26.11
1938	.53	.28	1.26	3.08	2.35	3.34	2.17	1.22	1.49	.90	1.49	.43	18.54
1939	.13	.64	.76	3.04	8.11	4.20	3.35	.92	.74	.63	.41	.08	23.01
1940	.06	.07	.16	.27	1.85	3.64	4.56	1.36	.78	.62	.26	.24	13.87
1941	.06	.16	.40	.96	.50	1.17	1.92	.39	.45	2.24	.37	.18	8.80
1942	.06	.17	.71	1.30	2.26	3.30	1.60	.43	.38	.62	1.53	.33	12.69
1943	.18	1.02	3.18	3.47	2.64	5.46	2.60	1.72	.63	.26	a.29	a.25	a21.90

a Adjusted for change in contents in Dale Hollow Reservoir and Great Falls Lake; previously published figures in WSP 973 are unadjusted.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year			
		Observed			Adjusted ^{1/}			Observed		Adjusted ^{1/}	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1925	603	114,000	Feb. 23, 1925	780	15,900	-	0.995	13.47	18,160	-	15.42
1926	623	106,000	Jan. 23, 1926	1,150	20,500	-	1.28	17.39	27,130	-	23.02
1927	643	216,000	Jan. 2, 1927	1,560	42,400	-	2.65	36.02	33,750	-	28.65
1928	663	136,000	July 1, 1928	1,560	30,300	-	1.90	25.84	31,500	-	26.82
1929	683	175,000	Apr. 1, 1929	1,560	33,700	-	2.11	28.56	34,800	-	29.52
1930	698	87,000	Feb. 18, 1930	780	20,100	-	1.26	17.05	15,580	-	13.21
1931	713	80,700	Apr. 2, 1931	960	11,000	-	.688	9.33	14,572	-	12.36
1932	728	161,000	Feb. 7, 1932	850	29,300	-	1.83	24.91	29,150	-	24.76
1933	743	151,000	Feb. 22, 1933	2,000	31,800	-	1.98	26.94	29,940	-	25.40
1934	758	142,000	Mar. 10, 1934	1,150	20,100	-	1.26	17.04	19,220	-	16.28
1935	783	147,000	Apr. 8, 1935	610	29,250	-	1.83	24.84	29,320	-	24.90
1936	803	134,000	Apr. 13, 1936	600	18,820	-	1.18	16.03	20,280	-	17.28
1937	823	290,000	Jan. 24, 1937	1,020	30,770	-	1.92	26.11	30,510	-	25.71
1938	853	102,000	Jan. 26, 1938	2,050	21,860	-	1.37	18.54	21,220	-	18.00
1939	873	164,000	Feb. 12, 1939	370	27,130	-	1.70	23.01	25,670	-	21.77
1940	893	108,000	Apr. 4, 1940	340	16,300	-	1.02	13.87	16,680	-	14.20
1941	923	74,200	Apr. 9, 1941	359	10,400	-	.650	8.80	10,780	-	9.12
1942	953	87,100	Apr. 9, 1942	449	14,950	-	.934	12.69	19,000	-	16.13
1943	973	138,000	Mar. 20, 1943	1,290	25,820	25,810	1.61	21.90	21,360	21,390	18.15
1944	1003	124,000	Feb. 29, 1944	452	20,740	22,020	1.38	18.73	-	-	-

^{1/}Adjusted for change in contents in Dale Hollow Reservoir and Great Falls Lake since August 1943. Prior to that date the effect of regulation was minor.

Note.--Monthly figures of discharge, in cubic feet per second per square mile, and runoff, in inches, previously published in water-supply papers for the period August 1943 to September 1944, may be subject to considerable error because of changes in contents in upstream reservoirs. These figures are not included herein and should not be used.

CUMBERLAND RIVER BASIN

53. Red River near Adams, Tenn.

Location.--Lat 36°35'25", long. 87°05'25", at bridge on U. S. Highway 41, 0.5 mile downstream from Elk Creek, 1.5 miles (revised) northwest of Adams, Robertson County, and at mile 33.0.

Drainage area.--678 sq mi.

Gage.--Water-stage recorder. Datum of gage is 398.34 ft above mean sea level, Sandy Hook datum. Prior to Oct. 8, 1926, chain gage and Oct. 8, 1926, to Nov. 13, 1939, water-stage recorder at site half a mile downstream at same datum.

Average discharge.--30 years (1920-50), 988 cfs.

Extremes.--1920-50: Maximum discharge, 42,000 cfs Jan. 23, 1937 (gage height, 37.5 ft, from floodmarks, converted to present site by relation curve), from rating curve extended above 25,000 cfs; minimum, 30 cfs Sept. 10, 1925 (gage height, 1.30 ft, site then in use).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1920	-	-	-	-	-	-	-	-	-	375	638	734	-
1921	138	107	238	664	1,622	2,461	2,125	474	378	189	192	320	735
1922	177	1,189	1,058	1,237	1,256	3,812	1,928	1,584	813	1,465	284	107	1,245
1923	77.9	101	677	2,660	3,389	3,927	1,871	580	557	403	2,230	460	1,400
1924	203	183	2,259	4,281	1,871	1,234	918	1,335	719	320	142	379	1,156
1925	97.8	123	2,072	703	2,376	1,347	1,062	599	323	186	91.2	68.4	745
1926	339	1,504	715	1,685	802	764	1,451	308	306	172	879	223	761
1927	1,039	1,707	4,946	3,500	2,140	4,380	3,110	1,250	1,250	330	218	108	2,003
1928	447	375	436	967	970	869	*961	923	4,610	2,330	420	195	*1,121
1929	440	247	551	1,480	2,110	2,730	2,110	2,540	678	449	244	155	1,140
1930	129	603	715	2,530	2,210	903	455	997	283	108	91.7	76.0	751
1931	51.4	55.3	60.5	89.2	298	968	736	299	229	202	220	124	277
1932	78.8	119	2,110	4,500	2,910	1,340	2,280	1,750	455	378	44.0	181	1,430
1933	181	262	188	2,450	2,740	1,820	2,310	1,720	345	253	187	189	1,070
1934	139	180	866	921	667	2,629	674	247	637	254	440	246	661
1935	242	234	216	3,006	1,672	3,344	2,870	1,300	1,158	597	333	358	1,276
1936	103	159	160	971	735	1,655	1,784	294	115	315	165	78.1	544
1937	161	328	710	9,999	2,038	792	534	2,129	515	235	178	88.1	1,483
1938	286	145	930	1,515	1,304	1,566	873	554	564	916	1,960	1,181	983
1939	185	206	190	1,777	4,748	2,833	1,940	589	409	205	265	65.0	1,093
1940	71.7	62.8	73.2	102	843	1,782	2,126	891	270	185	135	68.2	548
1941	52.4	140	348	541	346	224	325	119	160	865	198	67.2	283
1942	82.4	126	241	805	1,354	1,245	1,826	522	204	342	115	588	1,483
1943	152	583	1,563	872	1,093	3,305	1,078	1,279	800	234	81.2	186	938
1944	80.2	109	121	473	1,617	2,653	2,030	834	233	117	178	373	730
1945	399	154	529	3,259	2,282	2,375	794	1,022	407	216	114	91.5	966
1946	85.2	230	409	1,664	2,408	1,874	805	430	162	124	89.5	101	689
1947	57.5	94.0	351	2,210	591	331	2,221	1,397	544	217	172	76.6	689
1948	88.5	118	138	457	3,188	2,730	1,720	374	231	208	118	50.4	775
1949	44.4	234	3,000	3,634	3,592	2,330	1,592	652	1,124	555	734	182	1,545
1950	204	181	2,780	6,666	4,790	2,073	1,117	1,309	1,162	772	721	2,625	2,019

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1920	-	-	-	-	-	-	-	-	-	0.64	1.08	1.21	-
1921	0.23	0.18	0.40	1.13	2.49	4.18	3.50	0.81	0.62	.32	.33	.53	14.72
1922	.30	1.96	1.80	2.10	1.93	6.48	3.17	2.69	1.34	2.49	.48	.18	24.92
1923	.13	.17	1.15	4.52	5.21	6.68	3.08	.95	.92	.69	3.79	.76	28.05
1924	.35	.30	3.84	7.28	2.98	2.10	1.51	2.27	1.18	.54	.24	.62	23.21
1925	.17	.20	3.52	1.20	3.65	2.29	1.75	1.02	.53	.32	.16	.11	14.92
1926	.58	2.48	1.22	2.87	1.23	1.30	2.39	.52	.50	.29	1.49	.37	15.24
1927	1.77	2.81	8.41	5.95	3.29	7.45	5.12	2.13	2.05	.56	.37	.18	40.08
1928	.76	.62	.74	1.65	1.54	1.48	*1.58	1.57	7.59	3.97	.71	.32	*22.53
1929	.75	.41	.94	2.51	3.24	4.65	3.47	4.32	1.12	.76	.42	.26	22.85
1930	.22	.99	1.21	4.30	3.40	1.53	.75	1.70	.47	.18	.16	.12	15.03
1931	.09	.09	.10	.15	.46	1.65	1.22	.51	.38	.34	.37	.20	5.56
1932	.13	.20	3.58	7.66	4.63	2.68	3.75	2.97	.75	1.66	.75	.26	28.62
1933	.31	.43	.83	4.16	4.21	3.08	3.80	2.93	.57	.43	.32	.28	21.36
1934	.24	.30	1.48	1.57	1.02	4.47	1.11	.42	1.05	.43	.75	.40	13.24
1935	.41	.39	.37	5.11	2.57	5.68	4.72	2.21	1.91	1.02	.57	.59	25.55
1936	.18	.26	.27	1.65	1.17	2.81	2.94	.50	.19	.54	.28	.13	10.92
1937	.27	.54	1.21	16.95	3.13	1.35	.88	3.62	.85	.40	.30	.15	29.65
1938	.49	.24	1.58	2.58	2.00	2.66	1.44	.94	.93	1.56	3.33	1.94	19.69
1939	.31	.54	.32	3.02	7.29	4.82	3.19	1.00	.67	.35	.45	.11	21.87
1940	.12	.10	.12	.17	1.34	3.03	3.50	1.52	.44	.31	.23	.11	10.99
1941	.09	.23	.59	.92	.53	.38	.53	.20	.26	1.47	.34	.11	5.65
1942	.14	.21	.41	1.37	2.08	2.12	3.01	.89	.33	.45	.58	.19	11.78
1943	.26	.96	2.66	1.48	1.69	5.62	1.77	2.17	1.32	.40	.14	.31	18.78
1944	.14	.18	.21	.80	2.57	4.51	3.34	1.42	.38	.20	.30	.61	14.66
1945	.68	.25	.90	5.54	3.51	4.04	1.31	1.74	.67	.37	.19	.15	19.35
1946	.14	.58	.70	2.83	3.70	3.19	1.32	.73	.27	.21	.15	.17	13.79
1947	.10	.15	.60	3.76	.91	.56	3.66	2.37	.90	.37	.29	.13	13.80
1948	.15	.19	.23	.78	5.07	4.64	2.83	.64	.38	.35	.20	.08	15.54
1949	.08	2.03	5.10	6.18	5.52	3.96	2.62	1.11	1.85	.94	1.25	.30	30.94
1950	.35	.30	4.73	11.34	7.36	3.52	1.84	2.23	1.91	1.31	1.23	4.32	40.44

* Revised.

Yearly discharge, in cubic feet per second, of Red River near Adams, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1920	953	-	-	-	-	-	-	-	-
1921	953	6,950	Mar. 25, 1921	64	735	1.08	14.72	897	17.97
1922	953	12,100	Mar. 10, 1922	40	1,245	1.84	24.92	1,115	22.31
1923	953	13,800	Feb. 3, 1923	66	1,400	2.06	28.05	1,552	31.09
1924	953	19,000	Jan. 3, 1924	67	1,156	1.71	23.21	1,127	22.61
1925	953	22,400	Dec. 8, 1924	30	745	1.10	14.92	763	15.31
1926	953	16,000	Jan. 22, 1926	53	761	1.12	15.24	1,196	23.95
1927	953	24,400	Dec. 22, 1926	68	2,003	2.95	40.08	1,460	29.21
1928	663, 1276	*16,900	June 30, 1928	115	*1,121	1.65	*22.53	*1,120	*22.51
1929	683	16,300	Feb. 26, 1929	95	1,140	1.68	22.85	1,157	23.17
1930	698	9,740	Jan. 9, 1930	39	751	1.11	15.03	644	12.89
1931	713	3,410	Mar. 28, 1931	34	277	.409	5.56	459	9.19
1932	728	*22,100	Jan. 30, 1932	44	1,430	2.11	28.62	1,308	26.28
1933	743	12,300	Feb. 20, 1933	78	1,070	1.58	21.36	1,090	21.81
1934	758	9,300	Mar. 3, 1934	86	661	.975	13.24	819	12.39
1935	783	*20,800	Jan. 21, 1935	103	1,276	1.88	25.55	1,253	25.09
1936	803	9,110	Mar. 27, 1936	44	544	.802	10.92	609	12.23
1937	823	42,000	Jan. 23, 1937	49	1,483	2.19	29.65	1,497	29.94
1938	853	13,100	Aug. 1, 1938	62	983	1.45	19.69	917	18.35
1939	873	15,500	Feb. 4, 1939	46	1,093	1.61	21.87	1,062	21.24
1940	893	8,180	Apr. 20, 1940	39	548	.808	10.99	576	11.56
1941	923	5,170	July 4, 1941	44	283	.417	5.65	275	5.50
1942	953	14,000	Apr. 10, 1942	44	588	.867	11.78	743	14.80
1943	973	17,300	Mar. 20, 1943	45	938	1.38	18.78	770	15.43
1944	1003	13,500	Feb. 29, 1944	61	730	1.08	14.66	796	15.96
1945	1033	16,300	Jan. 1, 1945	62	966	1.42	19.35	936	18.74
1946	1053	9,600	Mar. 27, 1946	56	689	1.02	13.79	670	13.42
1947	1083	13,500	Apr. 16, 1947	43	689	1.02	13.80	675	13.52
1948	1113	20,700	Feb. 14, 1948	33	775	1.14	15.54	1,105	22.16
1949	1143	16,000	Dec. 16, 1948	35	1,545	2.28	30.94	1,453	29.11
1950	1173	20,800	Dec. 13, 1949	102	2,019	2.98	40.44	-	-

* Revised.

54. Sulphur Fork Red River near Adams, Tenn.

Location.--Lat 36°31'00", long. 87°03'40", 1,000 ft downstream from highway bridge, 2½ miles downstream from Millers Creek, 4½ miles south of Adams, Robertson County, and at mile 8.75.

Drainage area.--185 sq mi.

Gage.--Water-stage recorder. Datum of gage is 424.36 ft above mean sea level, Sandy Hook datum. Prior to Nov. 26, 1940, wire weight gage at site 1,000 ft upstream, at same datum.

Average discharge.--12 years (1938-50), 234 cfs.

Extremes.--1938-50: Maximum discharge, 12,700 cfs Feb. 13, 1948 (gage height, 22.21 ft); minimum, 1.8 cfs Sept. 27, 1948; minimum gage height, 3.67 ft Sept. 26-28, 1941. Maximum stage known, 25.1 ft in June 1934, from floodmarks.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1939	*44.8	*51.0	*46.3	*48.0	1,472	807	454	111	154	126	99.2	12.9	*314
1940	17.1	16.8	23.0	28.1	269	469	626	165	45.4	27.9	30.1	11.3	143
1941	9.35	40.1	85.7	172	76.2	82.9	93	25	73.9	138	71.1	10.7	73.3
1942	11.3	31.9	62.5	245	339	332	359	104	45.6	102	193	32	154
1943	49.0	131	461	144	272	850	180	420	169	40.9	18.6	65.1	234
1944	17.6	37.7	57.3	182	674	778	544	164	32.1	16.7	21.5	42.7	212
1945	179	40.2	254	696	799	557	225	423	101	36.0	14.4	23.9	294
1946	17.7	89.7	150	533	637	535	155	174	57.6	33.1	33.8	29.4	202
1947	15.7	34.9	102	705	122	99.3	574	279	156	67.6	39.1	11.7	184
1948	16.7	31.7	31.7	152	1,046	546	215	52.3	25.3	14.8	8.41	8.02	175
1949	8.04	270	724	1,077	609	563	353	112	259	75.8	52.8	18.3	343
1950	57.0	36.7	768	1,742	1,225	473	226	369	104	170	237	433	484

* Not previously published; estimated or partly estimated on the basis of records for station on Red River near Adams.

CUMBERLAND RIVER BASIN

Monthly and yearly runoff, in inches, of Sulphur Fork Red River near Adams, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1939	*0.28	*0.51	*0.29	*2.99	8.28	5.03	2.74	0.69	0.93	0.79	0.62	0.08	*23.03
1940	.11	.10	.14	.18	1.57	2.92	3.78	1.03	.27	.17	.19	.07	10.53
1941	.06	.24	.53	1.07	.43	.52	.56	.16	.45	.86	.44	.06	5.38
1942	.07	.19	.39	1.53	1.91	2.07	2.17	.65	.27	.64	1.21	.19	11.29
1943	.31	.79	2.87	.90	1.53	5.30	1.08	2.61	1.02	.25	.12	.39	17.17
1944	.11	.23	.36	1.13	3.93	4.85	3.28	1.02	.19	.10	.13	.26	15.59
1945	1.12	.24	1.58	5.58	4.50	3.47	1.36	2.63	.61	.22	.09	.14	21.54
1946	.11	.54	.93	3.32	3.58	3.33	.94	1.09	.35	.21	.21	.18	14.79
1947	.10	.21	.64	4.38	.68	.61	3.46	1.74	.94	.42	.24	.07	13.49
1948	.10	.19	.20	.94	6.10	3.40	1.30	.33	.15	.09	.05	.05	12.90
1949	.05	1.63	4.51	6.71	3.43	3.51	2.13	.70	1.56	.47	.33	.11	25.14
1950	.36	.22	4.79	10.86	6.89	2.95	1.36	2.30	.63	1.06	1.48	2.61	35.51

* Not previously published; estimated or partly estimated on the basis of records for station on Red River near Adams.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1939	873	6,790	Feb. 3, 1939	-	*3.14	*1.70	*23.03	*307	*22.50
1940	893	3,830	Mar. 30, 1940	8.5	143	.773	10.53	150	11.01
1941	923	2,930	July 4, 1941	5.4	73.3	.396	5.38	70.8	5.20
1942	953	4,840	Apr. 9, 1942	5.8	154	.832	11.29	199	14.61
1943	973	6,680	Mar. 19, 1943	9.0	234	1.26	17.17	189	13.90
1944	1003	7,760	Feb. 29, 1944	6.4	212	1.15	15.59	243	17.83
1945	1033	8,560	Jan. 1, 1945	6.4	294	1.59	21.54	275	20.18
1946	1053	5,250	Mar. 26, 1946	7.2	202	1.09	14.79	193	14.16
1947	1083	6,990	Apr. 16, 1947	8.0	184	.995	13.49	178	13.03
1948	1113	12,700	Feb. 13, 1948	1.9	175	.946	12.90	253	18.60
1949	1143	7,110	Jan. 5, 1949	4.8	343	1.85	25.14	331	24.32
1950	1173	10,100	Dec. 12, 1949	13	484	2.62	35.51	-	-

* Not previously published.

55. Cumberland River at Dover, Tenn.

Location.--Lat 36°29'26", long. 87°50'20", at bridge on U. S. Highway 79 at Dover, Stewart County, 0.1 mile upstream from Dyer Creek, 0.6 mile upstream from Indian Creek, 0.8 mile upstream from lock and dam D, 19.7 miles below lock and dam C, and at mile 88.8.

Drainage area.--16,530 sq mi, approximately.

Gage.--Water-stage recorder. Datum of gage is 324.25 ft above mean sea level, Sandy Hook datum. Staff gage above spillway at lock and dam D, at same datum, used during periods of crest-wicket manipulation. Auxiliary staff gage, 19.7 miles upstream, below spillway at lock and dam C, at datum 0.05 ft higher.

Average discharge.--13 years (1937-50), 23,900 cfs (unadjusted).

Extremes.--1937-50: Maximum discharge, 188,000 cfs Feb. 15, 1950; maximum gage height, 48.13 ft Feb. 16, 1950; minimum daily discharge, 414 cfs Oct. 4, 1947; minimum gage height observed, 7.10 ft (upper lock D gage) Sept. 16, 1947. 1916-37: Maximum gage height observed, 56.8 ft Jan. 25, 1937, at lock D; minimum observed, 6.8 ft in September 1925, at lock D. Both extremes from unpublished records of Corps of Engineers.

Remarks.--Low flows (generally below 10,000 cfs) are regulated at dam D by crest-wicket manipulation. Some regulation by navigation dams on Cumberland River and since July 1950 by Wolf Creek Reservoir, since August 1943 by Dale Hollow Reservoir (see p. 44), since December 1916 by Great Falls Lake (see p. 55), and since November 1948 by Center Hill Reservoir (see p. 59).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1938	7,570	4,519	18,380	43,420	38,550	48,480	32,060	17,750	21,540	13,110	21,770	6,744	22,770
1939	1,864	9,640	10,730	42,110	30,300	62,070	49,720	13,730	10,970	9,158	5,673	1,037	28,210
1940	1,084	1,058	2,363	3,737	27,970	51,080	68,740	19,480	11,520	8,658	3,634	3,484	16,800
1941	965	2,454	5,691	13,710	8,118	16,890	27,410	5,751	6,786	30,560	5,228	2,698	10,530
1942	867	2,645	10,220	18,570	35,060	46,500	24,260	6,240	5,647	8,758	21,510	4,745	*15,330
1943	2,579	14,750	43,040	52,360	39,540	78,470	41,400	24,890	9,354	3,616	4,348	3,408	26,470
1944	1,244	2,926	4,378	19,210	53,480	85,920	55,160	16,920	4,173	1,272	3,454	12,530	21,580
1945	17,240	7,878	18,640	77,290	58,880	66,060	25,190	41,370	14,440	4,097	3,331	1,534	27,910
1946	1,293	22,210	33,950	91,610	61,450	50,570	20,050	18,000	16,400	4,991	4,152	2,608	27,120
1947	2,910	11,680	18,810	80,680	30,350	29,870	33,030	24,910	8,753	17,900	6,752	2,811	22,140
1948	2,290	3,544	5,785	15,730	94,500	65,260	43,940	5,996	3,017	5,051	3,561	1,094	20,460
1949	711	15,900	55,900	75,810	65,250	60,390	41,610	20,320	25,560	17,920	9,458	4,351	31,770
1950	4,190	11,360	37,850	107,400	34,100	45,780	21,220	36,290	32,520	18,150	13,310	20,240	39,640

* Revised.

Monthly and yearly runoff, in inches, of Cumberland River at Dover, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1938	0.53	0.31	1.28	3.03	2.43	3.38	2.16	1.24	1.45	0.91	1.52	.46	18.70
1939	.13	.65	.75	2.94	8.21	4.33	3.36	.96	.74	.64	.40	.07	23.18
1940	.08	.07	.17	.26	1.83	3.56	4.64	1.36	.78	.60	.25	.24	13.84
1941	.07	.17	.40	.96	.51	1.16	1.85	.40	.46	2.13	.36	.18	8.65
1942	.06	.18	.71	1.30	2.21	3.24	1.64	.44	.58	.61	*1.50	.32	*12.59
1943	.18	1.00	3.00	3.65	2.49	5.47	2.79	1.74	.63	.25	a.23	a.23	a21.72

* Revised.

a Adjusted for change in contents in Dale Hollow Reservoir and Great Falls Lake; previously published figures in WSP 973 are unadjusted.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30										Calendar year	
		Observed					Adjusted 1/					Observed	Adjusted 1/
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean	Mean
		Discharge	Date										
1938	853	104,000	Jan. 27, 1938	1,320	22,770	-	1.38	18.70	22,060	-	18.11	-	-
1939	873	171,000	Feb. 16, 1939	558	28,210	-	1.71	23.18	26,730	-	21.97	-	-
1940	893	110,000	Apr. 4, 1940	569	16,800	-	1.02	13.84	17,180	-	14.16	-	-
1941	923	71,800	Apr. 10, 1941	438	10,530	-	.657	8.65	10,920	-	8.96	-	-
1942	943	1276	83,600	Apr. 10, 1942	540	*15,330	*.927	*12.59	*19,260	-	*15.82	-	-
1943	973	143,000	Mar. 21, 1943	1,040	26,470	26,460	1.60	21.72	22,110	22,140	18.18	-	-
1944	1003	129,000	Mar. 1, 1944	522	21,580	22,860	1.38	18.82	24,550	25,840	21.28	-	-
1945	1033	144,000	Mar. 1, 1945	829	27,910	27,810	1.68	22.84	29,040	29,050	23.86	-	-
1946	1053	168,000	Jan. 13, 14, 1946	461	27,120	27,590	1.67	22.65	24,860	25,090	20.60	-	-
1947	1083	112,000	Jan. 24, 1947	1,050	22,140	22,190	1.34	18.22	20,550	20,470	16.81	-	-
1948	1113	117,000	Feb. 17, 1948	414	20,460	20,570	1.24	16.94	25,800	26,550	21.86	-	-
1949	1143	120,000	Jan. 29, 1949	450	31,770	31,970	1.95	26.25	30,160	29,810	24.48	-	-
1950	1173	188,000	Feb. 15, 1950	2,110	39,640	41,470	2.51	34.06	-	-	-	-	-

1/Adjusted for change in contents in Dale Hollow Reservoir and Great Falls Lake since August 1943, in Center Hill Reservoir since November 1948, and in Wolf Creek Reservoir since August 1950. Prior to August 1943 the effect of regulation was minor. Adjusted figures 1943-47 have not been previously published and supersede unadjusted figures previously published.

* Revised.

Note.--Previously published monthly figures of discharge, in cubic feet per second per square mile, and runoff, in inches, for the period August 1943 to September 1948, may be subject to considerable error because of changes in contents in upstream reservoirs. These figures are not included herein and should not be used.

56. South Fork Little River at Hopkinsville, Ky.

Location.--Lat 36°50'22", long. 87°28'52", at bridge on U. S. Highway 41A, 1 mile (revised) south of city limits of Hopkinsville, Christian County, and 6 miles upstream from North Fork.

Drainage area.--46.2 sq mi.

Gage.--Water-stage recorder and concrete control. Datum of gage is 499.71 ft above mean sea level, datum of 1929. Prior to Dec. 22, 1949, wire-weight gage at same site and datum.

Extremes.--1949-50: Maximum discharge, 2,250 cfs Feb. 14, 1950 (gage height, 12.55 ft); minimum observed, 0.1 cfs Oct. 22, 1949 (gage height, 0.5 ft).
Maximum stage known, 20.4 ft in January 1937, from floodmark.

Remarks.--Some regulation at low flow by Western State Hospital, 2 miles above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	6.05	8.47	158	452	308	105	47.9	115	102	25.6	80.1	148	129

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	0.15	0.20	3.94	11.27	6.94	2.63	1.16	2.86	2.46	0.64	2.00	3.57	37.82

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30										Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date										
1950	1173	2,250	Feb. 14, 1950		0.3	129	2.79	37.82	-	-	-	-	-

CUMBERLAND RIVER BASIN

57. Little River near Cadiz, Ky.

Location.--Lat. 36°46'40", long. 87°43'18", at highway bridge, 50 ft downstream from Casey Creek and 8½ miles southeast of Cadiz, Trigg County.

Drainage area.--249 sq mi.

Gage.--Water-stage recorder. Datum of gage is 391.54 ft above mean sea level, unadjusted. Prior to July 31, 1945, wire-weight gage at same site and datum.

Average discharge.--10 years (1940-50), 331 cfs.

Extremes.--1940-50: Maximum discharge, 11,400 cfs Feb. 15, 1949 (gage height, 19.58 ft); minimum observed, 1.0 cfs Oct. 3, 1941.

Remarks.--Some regulation at low flow by small mill at Pee Dee, 5 miles above station.

Monthly and yearly mean discharge, in cubic feet per second													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1940	-	-	-	-	-	753	816	376	121	53.2	62.3	22.3	-
1941	12.6	14.1	66.1	104	56.0	28.1	37.5	21.4	42.5	276	27.4	15.7	58.9
1942	36.2	33.4	53.4	212	542	583	875	207	65.5	89.7	175	44.6	240
1943	25.6	70.9	275	160	191	873	290	262	248	69.2	36.5	38.5	212
1944	12.3	18.8	17.8	39.8	478	852	627	373	84.3	70.7	96.8	235	239
1945	31.9	30.9	204	973	693	1,172	614	464	277	130	34.5	52.3	389
1946	28.7	101	142	877	1,234	840	342	223	91.0	41.3	31.0	41.0	327
1947	24.7	63.4	166	667	193	110	560	468	240	55.6	52.0	22.4	219
1948	67.9	88.3	72.9	140	566	1,167	718	229	296	200	60.5	32.5	302
1949	25.2	880	1,321	1,180	1,720	1,005	614	201	403	159	221	57.7	640
1950	71.3	78.4	658	2,168	1,706	684	366	582	468	188	381	925	684

Monthly and yearly runoff, in inches													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1940	-	-	-	-	-	3.48	3.65	1.74	0.54	0.25	0.29	0.10	-
1941	0.06	0.06	0.31	0.48	0.23	.13	.17	.10	.19	1.28	.13	.07	3.21
1942	.17	.15	.25	.98	2.27	2.70	3.92	.96	.29	.42	.81	.20	13.12
1943	.12	.32	1.27	.74	.80	4.04	1.29	1.21	1.11	.32	.17	.17	11.56
1944	.06	.08	.08	.18	2.07	3.85	2.81	1.73	.38	.33	.45	1.05	13.07
1945	.15	.14	.94	4.51	2.90	5.43	2.76	2.14	1.24	.60	.16	.22	21.19
1946	.13	.45	.66	4.06	5.16	3.88	1.53	1.03	.41	.19	.14	.18	17.82
1947	.11	.28	.77	3.09	.81	.51	2.51	2.17	1.07	.26	.24	.10	11.91
1948	.31	.40	.34	.65	2.45	5.40	3.22	1.06	1.33	.92	.28	.15	16.51
1949	.12	3.94	6.12	5.37	7.19	4.65	2.75	.93	1.81	.73	1.02	.26	34.89
1950	.33	.35	3.04	10.04	7.13	3.17	1.64	2.70	2.10	.87	1.76	4.14	37.27

Yearly discharge, in cubic feet per second									
Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1940	893	*3,880	-	-	-	-	-	-	-
1941	923	2,870	July 11, 1941	6.6	58.9	0.237	3.21	61.4	3.35
1942	953,1173	7,300	Apr. 10, 1942	3.6	240	0.964	13.12	261	14.26
1943	975,1173	5,700	Mar. 19, 1943	13	212	0.851	11.56	185	10.07
1944	1003	4,250	Feb. 29, 1944	4.0	239	0.96	13.07	258	14.08
1945	1033	5,140	Mar. 17, 1945	11	389	1.56	21.19	389	21.20
1946	1053	6,530	Jan. 8, 1946	16	327	1.31	17.82	326	17.74
1947	1083	3,850	Jan. 3, 1947	10	219	.88	11.91	217	11.81
1948	1113	5,020	Mar. 27, 1948	10	302	1.21	16.51	469	25.64
1949	1143,1173	11,400	Feb. 15, 1949	21	640	2.57	34.89	522	28.43
1950	1173	6,180	Sept. 3, 1950	36	684	2.75	37.27	-	-

* Revised; maximum during period February to September.

58. Cumberland River at Smithland, Ky.

Location.--Lat 37°08'45", long. 88°24'25", at bridge on U. S. Highway 60 at Smithland, Livingston County, 1 mile downstream from McCormick Creek and 2.8 miles upstream from mouth.

Drainage area.--18,080 sq mi, approximately.

Supplemental records available. Records of chemical analyses and water temperature for the period October 1949 to September 1950 are published in reports of Geological Survey.

Gage.--Water-stage recorder. Datum of gage is 300.00 ft above mean sea level, Sandy Hook datum. Prior to Aug. 4, 1945, wire-weight gage at same site and datum. Auxiliary gages as follows: Prior to Oct. 1, 1944, wire-weight gage at Eureka, 28.7 miles upstream; Oct. 1 to Nov. 19, 1944, staff gage and since Nov. 20, 1944, water-stage recorder at Dycusburg, 16.8 miles upstream. During periods of crest-wicket operation staff gage above spillway at lock and dam F, 40.8 miles upstream used since July 1, 1940, at datum 302.86 ft above mean sea level, Sandy Hook datum.

Average discharge.--10 years (1940-50), 26,740 cfs (unadjusted).

58. Cumberland River at Smithland, Ky.--Continued

Extremes.--1939-50: Maximum discharge, 201,000 cfs Feb. 18, 1950; maximum gage height, 43.10 ft Feb. 13, 1950; minimum discharge not determined.

Maximum stage known, 51.1 ft January to February 1937, backwater from Ohio River.

Remarks.--Some regulation by navigation dams on Cumberland River and the following reservoirs: Wolf Creek Reservoir since Aug. 7, 1950, Dale Hollow Reservoir (see p. 44) since Aug. 30, 1943, Great Falls Lake (see p. 55) since 1916, and Center Hill Reservoir (see p. 59) since Nov. 27, 1948.

Monthly and yearly mean discharge, in cubic feet per second											
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1939	-	-	-	-	-	73,720	54,970	18,950	13,830	11,010	-
1940	-	-	-	-	-	54,180	73,080	25,730	14,470	*9,310	*4,118
1941	*1,176	*2,668	*6,238	*14,440	*9,051	*17,030	*27,990	*6,098	*7,307	*30,140	*5,538
1942	*1,150	*2,988	*10,420	*20,130	39,000	51,660	*1,030	*8,974	*6,157	*9,542	*22,330
1943	*2,792	*15,060	42,660	*80,190	42,780	81,450	47,310	*28,180	*10,420	*4,148	*4,698
1944	1,381	3,217	4,768	20,140	47,540	93,270	63,330	22,070	4,795	1,813	4,138
1945	18,860	8,450	18,650	84,250	54,710	81,050	33,130	45,420	16,430	4,738	3,725
1946	1,634	23,140	36,340	99,420	67,750	56,480	24,670	20,930	17,950	5,328	4,565
1947	3,159	11,820	16,730	82,490	35,950	31,830	38,750	29,050	11,360	18,960	7,052
1948	2,694	3,861	6,120	16,320	95,390	74,950	50,890	7,353	3,792	5,888	3,658
1949	917	17,550	62,320	79,550	80,980	58,070	47,750	22,430	27,230	19,310	10,610
1950	4,637	12,050	40,520	16,500	52,300	53,590	26,090	40,900	33,080	20,840	16,310

* Revised.

* Not previously published; computed from records of gage heights and wicket operation at lock and dam F and furnished by Corps of Engineers.

Monthly and yearly runoff, in inches											
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1939	-	-	-	-	-	4.70	3.39	1.21	0.85	0.70	-
1940	-	-	-	-	-	3.45	4.51	1.64	.89	*.59	*0.26
1941	*0.07	*0.16	*0.40	*0.92	*0.52	*1.09	*1.73	*.39	*.45	*1.92	*.35
1942	*.07	*.18	*.66	*1.28	2.25	3.29	*1.91	*.44	*.38	*.61	*1.42
1943	*.18	*.93	2.72	*3.84	2.46	5.19	2.92	*1.80	*.64	*.26	*.30
1944	.09	.20	.30	1.28	2.84	5.95	3.91	1.41	.30	.12	.26
1945	1.20	.52	1.19	5.37	3.15	5.17	2.04	2.90	1.01	.30	.24
1946	.10	1.43	2.32	6.34	3.90	3.60	1.52	1.33	1.11	.34	.29
1947	.20	.75	1.07	5.26	2.07	2.03	2.39	1.86	.70	1.21	.45
1948	.17	1.24	.35	1.04	5.69	4.78	3.14	.47	.23	.38	.23
1949	.06	1.08	3.97	5.06	4.66	3.70	2.95	1.43	1.68	1.23	.68

* Revised.

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second											
Year	W.S.P. no.	Water year ending Sept. 30						Calendar year			
		Observed			Adjusted ^{1/}			Observed		Adjusted ^{1/}	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1939	973	170,000	Feb. 18, 1939	-	-	-	-	-	-	-	-
1940	1336	107,000	Apr. 7, 1940	-	-	-	-	-	-	-	-
1941	1336	69,500	Apr. 10, 1941	*520	*10,920	-	*0.604	*8.19	*11,300	-	*8.47
1942	1336	92,200	Apr. 11, 1942	*540	*17,090	-	*.945	*12.81	*20,960	-	*15.73
1943	1336	134,000	Mar. 22, 1943	*500	*28,610	-	*1.58	*21.47	*24,300	-	*18.23
1944	1003	129,000	Mar. 4, 1944	453	23,150	-	1.28	17.44	26,240	-	19.76
1945	1033	146,000	Mar. 4, 1945	983	30,920	-	1.71	23.21	32,170	-	24.15
1946	1053	169,000	Jan. 21, 22, 1946	641	29,920	-	1.65	22.45	27,450	-	20.60
1947	1083	110,000	Jan. 8, 1947	998	24,170	-	1.34	18.15	22,580	-	16.95
1948	1113	166,000	Feb. 23, 1948	467	22,380	-	1.24	16.84	28,110	-	21.15
1949	1143	110,000	Jan. 31, 1949	670	35,690	-	1.97	26.79	33,700	33,350	25.04
1950	1173	201,000	Feb. 18, 1950	2,230	44,500	46,330	2.56	34.79	-	-	-

^{1/}Adjusted for change in contents in Wolf Creek, Dale Hollow, Great Falls and Center Hill Reservoirs since October 1949. Regulation was only minor prior to that date.

* Not previously published.

59. French Broad River at Rosman, N. C.

Location.--Lat 35°08'32" long. 82°49'28", at bridge on U. S. Highway 178 at Rosman, Transylvania County, 1.0 mile upstream from East Fork, and at mile 216.4 (corrected).

Drainage area.--67.9 sq mi.

Supplemental records available.--Records of chemical analyses and water temperatures for water year 1946 are published in WSP 1050.

Gage.--Water-stage recorder. Datum of gage is 2,173.83 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to June 30, 1909, staff gage 500 ft downstream at different datum. Jan. 1, 1936, to July 6, 1937, wire-weight gage at present site and datum.

Average discharge.--16 years (1907-8, 1935-50), 242 cfs.

Extremes.--1907-9, 1935-50: Maximum discharge, 9,410 cfs Aug. 30, 1940 (gage height, 11.86 ft), from rating curve extended above 3,300 cfs on basis of slope-area determination of peak flow; minimum, 23 cfs Jan. 3, 1940 (gage height, 1.51 ft), result of freezeup.

Maximum stage known, 13.9 ft in July 1916, from floodmarks.

Monthly and yearly mean discharge, in cubic feet per second.													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	\$175	166	127	117	167	-
1908	118	229	355	368	603	393	407	385	263	231	299	189	319
1909	305	179	308	299	484	415	357	551	882	-	-	-	-
1936	\$98.0	\$204	\$149	470	351	259	545	192	123	98.2	119	119	\$226
1937	359	187	300	672	437	251	272	211	142	108	181	200	276
1938	329	193	187	196	162	206	222	177	208	327	334	191	229
1939	98.5	148	114	228	648	456	292	216	188	142	237	112	237
1940	75.5	68.2	72.6	91.3	164	193	336	183	142	122	475	215	178
1941	105	161	211	198	134	184	230	114	92.6	296	182	107	168
1942	85.0	107	246	208	298	339	195	356	304	217	226	310	241
1943	162	128	431	441	377	339	310	317	237	335	183	130	283
1944	101	118	110	177	284	410	361	246	153	122	104	101	190
1945	80.8	99.4	125	156	216	230	329	255	140	124	108	176	169
1946	133	168	276	562	433	457	328	350	184	177	121	115	275
1947	127	141	135	372	209	221	325	196	180	110	97.1	82.1	183
1948	173	261	182	182	351	388	322	175	134	254	356	227	250
1949	129	568	439	415	390	304	367	350	308	456	408	315	370
1950	322	297	306	294	305	330	224	158	247	176	149	447	271

* Not previously published; estimated or partly estimated on basis of records for stations at Calvert and at Asheville.

Monthly and yearly runoff, in inches													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	2.97	2.73	2.15	1.98	2.74	-
1908	2.00	3.77	6.02	6.25	9.59	6.68	6.69	6.53	4.32	3.92	5.08	3.11	63.96
1909	5.17	2.94	5.24	5.08	7.42	7.05	5.86	9.36	14.50	-	-	-	-
1936	\$1.66	\$3.35	\$2.53	7.98	5.57	4.40	8.96	3.27	2.02	1.67	2.02	1.96	\$45.39
1937	6.10	3.07	5.10	11.41	6.71	4.27	4.48	3.58	2.33	1.83	3.08	3.29	55.25
1938	5.59	3.17	3.17	3.33	2.49	3.49	3.65	3.01	3.41	5.56	5.67	3.14	45.68
1939	1.67	2.43	1.94	3.87	9.93	7.75	4.80	3.67	3.09	2.41	4.02	1.84	47.42
1940	1.28	1.12	1.23	1.55	2.61	3.28	5.52	3.11	2.33	2.06	8.06	3.54	35.69
1941	1.79	2.64	3.58	3.37	2.05	3.12	3.78	1.94	1.52	5.03	3.09	1.76	33.67
1942	1.44	1.76	4.18	3.54	4.57	5.76	3.21	6.04	4.99	3.68	3.83	5.10	48.10
1943	2.75	2.11	7.32	7.49	5.77	5.76	5.10	5.38	3.90	5.69	3.11	2.13	56.51
1944	1.71	1.93	1.86	3.00	4.51	6.97	5.94	4.18	2.51	2.08	1.77	1.66	38.12
1945	1.37	1.63	2.12	2.65	3.31	3.90	5.41	4.33	2.30	2.11	1.84	2.88	33.85
1946	2.25	2.76	4.69	9.54	6.64	7.76	5.38	5.95	3.02	3.00	2.06	1.89	54.94
1947	2.16	2.32	2.29	6.32	3.20	3.75	5.34	3.33	2.96	1.88	1.65	1.35	36.55
1948	2.93	4.29	3.09	3.10	5.57	6.59	5.29	2.96	2.20	4.31	6.04	3.74	50.11
1949	2.19	9.33	7.45	7.05	5.98	5.17	6.03	5.94	5.05	7.73	6.93	5.17	74.02
1950	5.47	4.89	5.19	4.99	4.68	5.60	3.68	2.68	4.06	2.99	2.54	7.35	\$48.12

* Not previously published; estimated or partly estimated on basis of records for stations at Calvert and at Asheville.

Yearly discharge, in cubic feet per second								
Year	W.S.P. no.	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1907	(a)	*11,930	Sept. 23, 1907	-	-	-	-	-
1908	(a)	*6,000	Feb. 15, 1908	90	319	4.70	63.96	327
1909	(a)	*4,350	June 4, 1909	-	-	-	-	65.52
1936	803	*4,280	Apr. 6, 1936	65	*226	*33.3	*45.39	260
1937	823	2,560	Oct. 9, 1936	86	276	4.06	55.25	265
1938	853	5,400	Oct. 19, 1937	109	229	3.37	45.68	199
1939	873, 893	6,100	Aug. 18, 1939	80	237	3.49	47.42	225
1940	893	9,410	Aug. 30, 1940	55	178	2.62	35.69	200
1941	923	1,970	July 7, 1941	74	168	2.47	33.67	165
1942	953	5,740	May 20, 1942	68	241	3.55	48.10	265

* Revised.

* Not previously published.

a Tennessee Division of Geology, Bull. 34.

b Maximum during period May to September.

Yearly discharge, in cubic feet per second, of French Broad River at Rosman, N. C.--Continued

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1943	973	4,940	Dec. 29, 1942	93	283	4.17	56.51	249	49.83
1944	1003	1,340	Mar. 29, 1944	52	190	2.80	38.12	188	37.74
1945	1033	2,360	Apr. 17, 1945	62	169	2.49	33.85	192	38.43
1946	1053	2,460	Feb. 10, 1946	83	275	4.05	54.94	260	52.01
1947	1063	2,730	Jan. 20, 1947	67	183	2.70	36.55	201	40.09
1948	1113	3,620	Aug. 3, 1948	65	250	3.68	50.11	293	58.77
1949	1143	4,080	June 16, 1949	111	370	5.45	74.02	353	70.60
1950	1173	5,700	Sept. 1, 1950	102	271	3.99	54.12	-	-

60. French Broad River at Calvert, N. C.

Location.--Lat 35°08'55", long. 82°47'59", at township bridge, 0.8 mile southeast of railroad station at Calvert, Transylvania County, 1.4 miles downstream from East Fork, and at mile 214.0.

Drainage area.--103 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,154.63 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Prior to July 5, 1932, staff gage and July 5, 1932, to May 16, 1934, chain gage at same site and datum.

Average discharge.--26 years (1924-50), 350 cfs.

Extremes.--1924-50: Maximum discharge, 16,100 cfs Aug. 15, 1928 (gage height, 13.0 ft), from rating curve extended above 3,600 cfs and verified by slope-area determination of 12,200 cfs at gage height 11.66 ft; minimum, 54 cfs Sept. 17-23, 1925; minimum gage height, 0.26 ft Dec. 17, 1943.

Maximum stage known, about 13.5 ft (revised) July 1916, from French Broad River profile by Tennessee Valley Authority.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	248	171	435	585	407	284	231	176	131	95.3	66.7	65.6	241
1926	88.6	259	124	346	410	324	356	185	132	138	212	201	230
1927	144	344	412	320	301	424	293	218	208	175	157	130	260
1928	173	236	468	295	300	357	539	501	462	315	839	555	420
1929	440	301	237	393	526	1,055	511	543	398	322	193	466	448
1930	538	644	410	332	332	330	247	270	177	117	87.6	144	302
1931	98.8	212	280	312	223	344	602	371	204	173	188	112	258
1932	87.1	97.8	536	661	523	401	345	379	401	197	186	155	331
1933	716	564	700	627	504	468	508	497	243	183	172	256	453
1934	134	123	149	289	211	668	350	292	438	255	279	338	294
1935	449	417	498	712	408	426	404	322	219	272	362	226	394
1936	155	322	236	757	566	412	894	308	195	157	175	194	363
1937	640	306	466	1,022	722	418	444	337	235	177	290	305	446
1938	544	324	290	292	251	321	329	258	306	474	472	290	347
1939	156	242	198	350	91	434	355	299	232	401	197	364	271
1940	136	114	119	148	278	296	453	258	214	186	700	349	271
1941	184	270	311	303	219	288	326	187	156	460	255	160	261
1942	130	165	370	316	462	545	311	529	423	354	395	460	371
1943	253	220	621	623	549	522	510	484	373	468	274	200	425
1944	140	170	163	270	430	624	550	384	244	190	163	168	291
1945	139	172	204	236	326	346	458	365	209	196	167	253	255
1946	196	242	408	828	662	680	495	526	301	281	188	179	415
1947	205	249	231	543	312	329	444	281	264	172	146	120	274
1948	256	405	274	279	505	581	470	277	206	337	486	323	366
1949	184	796	625	634	606	480	594	563	482	751	659	547	576
1950	520	470	473	477	481	502	359	252	405	336	257	673	433

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	2.78	1.85	4.86	6.55	4.11	3.18	2.50	1.97	1.41	1.07	0.75	0.71	31.74
1926	.99	2.80	1.39	3.87	4.15	3.63	3.86	2.07	1.43	1.55	2.37	2.18	30.29
1927	1.61	3.73	4.62	3.58	3.04	4.74	3.17	2.44	2.25	1.95	1.76	1.40	34.29
1928	1.94	2.55	5.23	3.30	3.14	3.99	5.84	5.60	5.01	3.53	9.39	6.01	55.53
1929	4.92	3.26	2.66	4.39	5.32	11.80	5.53	6.08	4.31	3.60	2.16	1.05	59.08
1930	6.02	6.98	4.59	3.72	3.35	3.69	2.67	3.03	1.92	1.31	.98	1.56	39.82
1931	1.11	2.30	2.91	3.49	2.25	3.86	6.52	4.15	2.20	1.94	2.10	1.21	34.04
1932	.98	1.06	6.00	7.40	5.48	4.48	3.74	4.24	4.34	2.20	2.09	1.68	43.69
1933	8.01	6.11	7.84	7.02	5.10	5.23	5.50	5.57	2.63	2.05	1.93	2.77	59.76
1934	1.50	1.33	1.67	3.24	2.13	7.48	3.80	3.27	4.74	2.86	3.13	3.66	38.81
1935	5.03	4.52	5.57	7.97	4.13	4.77	4.37	3.60	2.37	3.04	4.05	2.45	51.87
1936	1.73	3.49	2.64	8.48	5.93	4.61	9.68	3.45	2.11	1.75	1.96	2.10	47.93
1937	7.16	3.31	5.21	11.44	7.30	4.68	4.81	3.77	2.54	1.98	3.25	3.50	58.75
1938	6.09	3.51	3.25	3.26	2.54	3.60	3.56	2.88	3.31	5.30	5.28	3.15	45.73
1939	1.74	2.62	2.21	3.92	9.25	7.07	4.70	3.98	3.24	2.59	4.48	2.13	47.95
1940	1.52	1.23	1.34	1.66	2.92	3.32	4.90	2.88	2.32	2.08	7.84	3.78	35.79

TENNESSEE RIVER BASIN

Water year	Monthly and yearly runoff, in inches, of French Broad River at Calvert, N. C.--Continued												
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1941	2.06	2.92	3.48	3.39	2.22	3.23	3.54	2.10	1.68	5.15	2.86	1.73	34.36
1942	1.45	1.78	4.14	3.54	4.67	6.10	3.37	5.93	4.58	3.96	4.43	4.98	48.93
1943	2.84	2.38	6.95	6.97	5.55	5.84	5.52	5.42	4.04	5.24	3.07	2.17	55.99
1944	1.57	1.85	1.82	3.02	4.50	6.98	5.95	4.30	2.64	2.13	1.83	1.82	38.41
1945	1.56	1.86	2.28	2.64	3.29	3.87	4.96	4.09	2.27	2.19	1.87	2.74	33.62
1946	2.20	2.62	4.57	9.27	6.69	7.61	5.36	5.88	3.26	3.14	2.10	1.93	54.63
1947	2.30	2.70	2.58	6.08	3.15	3.68	4.81	3.14	2.86	1.92	1.63	1.30	36.15
1948	2.86	4.39	3.06	3.12	5.29	6.50	5.09	3.10	2.23	3.77	5.44	3.49	48.34
1949	2.06	8.62	7.00	7.09	6.13	5.38	6.44	6.30	5.22	8.41	7.58	5.93	75.96
1950	5.82	5.09	5.30	5.34	4.87	5.61	3.89	2.82	4.38	3.76	2.88	7.28	57.04

Yearly discharge, in cubic feet per second										
Year	W.S.P. no.	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1925	603, 803	4,490	Dec. 8, 1924	54	241	2.34	31.74	208	27.43	
1926	623, 803	*5,330	Jan. 18, 1926	61	230	2.23	30.29	266	35.07	
1927	643	*1,940	Nov. 9, 1926	97	260	2.52	34.29	258	34.05	
1928	663, 803	16,100	Aug. 15, 1928	88	420	4.08	55.53	429	56.65	
1929	683, 803	4,730	Sept. 26, 1929	144	448	4.35	59.08	500	65.83	
1930	698	2,430	Oct. 2, 1929	67	302	2.93	39.82	217	28.55	
1931	713, 803	*4,410	Apr. 22, 1931	83	258	2.50	34.04	271	35.76	
1932	728	*3,400	Dec. 14, 1931*	73	331	3.21	43.69	436	57.61	
1933	743, 803	*11,200	Oct. 17, 1932	124	453	4.40	59.76	321	42.30	
1934	758, 803	3,100	Sept. 29, 1934	103	294	2.85	38.81	375	49.43	
1935	703, 803	5,870	Jan. 9, 1935	154	394	3.83	51.87	339	44.61	
1936	803	5,100	Apr. 6, 1936	99	363	3.52	47.93	422	55.75	
1937	823	3,880	Oct. 9, 1936	140	446	4.33	58.75	424	55.92	
1938	853	5,580	Oct. 19, 1937	162	347	3.37	45.73	300	39.45	
1939	873	8,000	Aug. 18, 1939	140	364	3.53	47.93	345	45.45	
1940	893	12,300	Aug. 13, 1940	90	271	2.63	35.79	304	40.16	
1941	923	2,450	July 7, 1941	120	261	2.53	34.36	252	33.27	
1942	953	6,510	May 20, 1942	104	371	3.60	48.93	408	53.73	
1943	973	5,810	Dec. 29, 1942	145	425	*4.13	55.99	372	49.06	
1944	1003	2,010	Mar. 29, 1944	95	291	2.83	38.41	294	38.87	
1945	1033	2,610	Apr. 17, 1945	102	255	2.48	33.62	283	37.31	
1946	1053	3,750	Feb. 10, 1946	130	415	4.03	54.63	401	52.82	
1947	1083	3,600	Jan. 20, 1947	97	274	2.66	36.15	295	38.88	
1948	1113	4,120	Aug. 3, 1948	91	366	3.55	48.34	422	55.71	
1949	1143	5,190	June 16, 1949	152	576	5.59	75.96	565	74.49	
1950	1173	6,140	Sept. 1, 1950	189	433	4.20	57.04	-	-	

* Revised.
† Corrected.

61. Catheys Creek near Brevard, N. C.

Location.--Lat 35°12'40", long. 82°47'00", 1,200 ft downstream from Kuykendall Creek, 0.9 mile upstream from U. S. Highway 64, 2.1 miles upstream from mouth, and 3.2 miles southwest of Brevard, Transylvania County.

Drainage area.--11.7 sq mi. At sites used prior to Jan. 10, 1947, 12.1 sq mi.

Supplemental records available.--Records of chemical analyses for the water year 1947 are published in WSP 1102.

Gage.--Water-stage recorder. Datum of gage is 2,230.42 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Prior to Oct. 2, 1946, at site 0.9 mile downstream at datum 57.79 ft lower. Oct. 2, 1946, to Jan. 9, 1947, at site 0.8 mile downstream from present gage at datum 55.11 ft lower.

Average discharge.--6 years (1944-50), 39.6 cfs.

Extremes.--1944-50: Maximum discharge, 1,250 cfs July 12, 1949 (gage height, 4.35 ft), from rating curve extended above 300 cfs by logarithmic plotting; minimum, 8.9 cfs Feb. 1, 1945, result of freezeup.

Monthly and yearly mean discharge, in cubic feet per second													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	*13.1	16.6	19.8	24.1	32.5	35.0	41.3	34.6	21.1	19.4	19.4	23.8	*25.0
1946	19.9	23.7	41.6	81.4	67.1	73.7	62.8	56.8	31.3	25.4	17.5	15.5	45.0
1947	21.2	24.1	19.8	54.8	33.9	35.5	45.8	30.1	26.4	17.9	14.3	13.9	26.1
1948	26.7	43.8	29.4	28.2	52.4	58.6	50.0	27.6	23.2	33.5	55.8	35.2	38.6
1949	22.2	77.9	63.2	64.0	62.1	50.5	60.4	57.3	52.4	94.9	63.3	48.1	59.7
1950	47.2	47.3	44.5	44.5	46.3	48.8	37.7	29.0	46.7	33.2	26.9	67.8	43.2

* Not previously published; estimated on basis of records for French Broad River at Rosman.

Monthly and yearly runoff, in inches, of Catheys Creek near Brevard, N. O.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	1.24	1.53	1.89	2.29	2.80	3.33	3.81	3.30	1.95	1.82	1.84	2.19	27.99
1946	1.90	2.19	3.96	7.76	5.78	7.02	5.79	5.41	2.89	2.42	1.67	1.43	48.22
1947	2.02	2.23	1.88	5.40	3.02	3.50	4.37	2.96	2.51	1.76	1.41	1.33	32.39
1948	2.64	4.18	2.90	2.77	4.83	5.77	4.77	2.72	2.21	3.30	5.50	3.36	44.95
1949	2.18	7.43	6.23	6.31	5.53	4.97	5.76	5.65	5.00	9.35	6.24	4.58	69.23
1950	4.65	4.51	4.38	4.39	4.12	4.81	3.60	2.85	4.45	3.27	2.65	6.47	50.15

* Not previously published; estimated on basis of records for French Broad River at Rosman.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1945	1033	207	Apr. 17, 1945	11	25.0	2.07	27.99	28.0	31.38
1946	1053	333	Feb. 10, 1946	12	43.0	3.55	48.22	41.3	46.30
1947	1083	401	Jan. 20, 1947	11	28.1	2.39	32.39	31.0	35.68
1948	1113	675	Aug. 3, 1948	11	38.6	3.30	44.95	43.9	51.07
1949	1143	1,250	July 12, 1949	20	59.7	5.10	69.23	57.7	66.93
1950	1173	794	Aug. 31, 1950	19	43.2	3.69	50.15	-	-

* Not previously published.

62. Davidson River near Davidson River, N. C.

Location.--Lat 35°17'12", long. 82°44'15", 500 ft upstream from Avery Creek, 2.4 miles upstream from State Highway 280, and 3.8 miles upstream from village of Davidson River, Transylvania County.

Drainage area.--31.0 sq mi.

Gage.--Staff gage. Datum of gage not determined.

Extremes.--1904-9: Maximum stage observed, 5.80 ft Jan. 22, 1906 (discharge, not determined); minimum discharge, 32 cfs Sept. 2, 6, 7, 21, 1907 (gage height, 0.70 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1904	-	-	-	-	-	-	-	-	73	55.4	117	67.3	-
1905	39.7	47.0	59.9	117	140	120	95.9	128	94.1	227	161	66.5	108
1906	50.7	41.3	118	297	130	177	152	102	293	226	182	360	177
1907	325	191	162	101	82.8	85.5	89.9	108	88.9	60.4	51.1	82.7	119
1908	44.1	84.5	166	163	237	165	156	142	102	122	185	110	139
1909	114	84.6	106	124	204	188	154	275	257	-	-	-	-

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1904	-	-	-	-	-	-	-	-	2.62	2.06	4.35	2.42	-
1905	1.48	1.70	2.22	4.35	4.71	4.46	3.45	4.76	3.39	8.44	5.98	2.40	47.34
1906	1.89	1.48	4.39	11.04	4.36	6.58	5.47	3.79	10.54	8.40	6.77	12.94	77.65
1907	12.11	6.87	6.03	3.76	2.78	3.18	3.24	4.01	3.20	2.25	1.90	2.98	152.31
1908	1.64	3.05	6.17	6.06	8.25	6.13	5.61	5.28	3.67	4.54	6.88	3.96	61.24
1909	4.24	3.05	3.94	4.61	6.85	6.99	5.54	10.23	9.25	-	-	-	-

† Corrected.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1904	(a)	-	-	-	-	-	-	-	-
1905	(a)	-	-	38	108	3.48	47.34	113	49.70
1906	(a)	-	-	38	177	5.71	77.65	217	94.90
1907	243	-	-	32	119	3.84	152.31	87.1	38.16
1908	243	-	-	38	139	4.48	61.24	140	61.16
1909	263	-	-	-	-	-	-	-	-

† Corrected.

a Tennessee Division of Geology, Bull. 34.

63. Davidson River near Brevard, N. C.

Location.--Lat 35°16'23", long. 82°42'21", 150 ft upstream from State Highway 280. 2.0 miles upstream from mouth, 2.1 miles downstream from Avery Creek, and 3½ miles northeast of Brevard, Transylvania County.

Drainage area.--40.4 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,115.13 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Apr. 4, 1929, staff gage at site 50 ft downstream at same datum. Apr. 4, 1929, to May 17, 1934, chain gage at site 50 ft downstream at same datum.

Average discharge.--30 years (1920-50), 130 cfs.

Extremes.--1920-50: Maximum discharge, 8,400 cfs Aug. 15, 1928 (gage height, 11.8 ft), from rating curve extended above 1,300 cfs; minimum, 15 cfs Sept. 19-21, 1925 (gage height, 0.34 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	*82.0	*95.0	*125	160	208	128	175	170	134	162	140	89.7	*147
1922	61.6	92.7	150	173	193	292	240	253	203	135	75.7	50.2	160
1923	53.6	39.0	96.1	111	135	195	175	293	209	100	100	*92.8	133
1924	52.0	73.2	120	228	152	155	202	133	90.4	154	84.5	130	131
1925	83.3	52.0	138	221	136	117	90.4	69.5	53.1	39.9	24.0	34.4	88.2
1926	33.3	77.0	*48.6	124	159	119	138	67.9	51.7	62.6	81.5	112	*88.9
1927	66.0	182	181	127	121	194	12	12	71.7	106	93.8	67.5	115
1928	71.9	78.1	117	113	126	197	210	184	171	404	297	180	180
1929	162	103	83.4	190	232	466	186	185	156	106	76.0	194	178
1930	219	249	158	117	110	129	98.5	115	69.6	53.1	44.9	86.7	121
1931	41.5	88.7	128	105	82.1	135	235	126	73.2	57.9	84.2	41.3	99.8
1932	28.6	30.9	169	268	159	146	137	132	125	79.6	117	54.1	121
1933	334	224	323	232	187	177	191	207	84.1	68.9	75.2	129	186
1934	54.2	58.3	59.6	122	75.2	248	124	92.7	144	97.6	75.8	101	105
1935	144	136	141	271	140	145	130	112	66.6	88.0	171	93.2	137
1936	49.0	102	75.9	282	205	155	326	102	63.1	53.2	54.6	57.8	127
1937	204	90.9	172	374	234	130	149	118	80.3	64.5	109	149	156
1938	202	105	102	106	97.3	127	120	99.0	128	147	125	73.1	120
1939	42.5	68.1	58.4	129	363	222	146	104	97.5	67.3	109	49.6	120
1940	33.4	30.5	31.7	40.9	78.0	113	177	87.7	66.3	65.9	279	113	93.1
1941	52.1	74.3	109	104	66.5	104	109	54.6	40.5	142	71.6	38.4	80.8
1942	31.3	42.5	125	110	159	194	101	222	127	122	122	131	124
1943	77.4	63.1	230	205	199	184	185	213	156	168	88.7	60.6	152
1944	44.0	51.9	49.8	89.9	164	245	214	150	104	62.5	57.6	58.5	107
1945	47.6	52.6	71.3	96.9	134	131	188	124	66.8	61.0	72.5	116	96.4
1946	73.7	89.7	147	288	227	240	177	181	90.8	86.4	52.3	56.8	142
1947	71.0	83.2	70.2	225	107	113	161	92.3	78.8	48.5	38.6	32.6	95.4
1948	95.0	152	91.2	88.0	106	182	171	87.1	82.0	168	131	159	140
1949	75.5	313	228	214	214	181	201	181	246	271	229	162	208
1950	166	161	154	146	156	185	121	85.0	120	81.7	65.9	273	143

* Revised.

* Not previously published; estimated or partly estimated on basis of records for French Broad River at Asheville.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	*2.34	*2.62	*6.41	4.58	5.37	3.66	4.83	4.84	3.71	4.62	3.99	2.48	*49.43
1922	1.76	2.56	4.29	4.94	4.98	8.35	6.62	7.22	5.62	3.86	2.16	1.39	53.75
1923	1.53	1.08	2.74	3.17	3.48	5.57	4.83	8.35	5.77	2.86	2.68	*2.56	*44.80
1924	1.48	2.02	3.43	6.50	4.07	4.41	5.57	3.81	2.50	4.38	2.41	3.59	44.17
1925	2.38	1.44	3.93	6.31	3.52	3.34	2.50	1.98	1.47	1.14	.69	.95	29.65
1926	.95	2.13	*1.39	3.53	4.10	3.41	3.80	1.94	1.43	1.79	2.33	3.08	*29.88
1927	1.88	4.48	5.17	3.62	3.13	5.54	3.08	2.09	1.99	3.02	2.68	1.86	38.53
1928	2.05	2.16	3.33	3.33	3.00	3.58	5.45	5.98	5.07	4.87	11.53	8.19	60.54
1929	4.63	2.86	2.38	5.41	5.99	13.29	5.14	5.28	4.31	3.03	2.17	5.34	59.83
1930	6.25	6.89	4.51	3.33	2.84	3.67	2.72	3.29	1.92	1.52	1.28	2.39	40.61
1931	1.18	2.45	3.66	2.98	2.12	3.84	6.50	3.59	2.02	1.65	2.40	1.14	33.53
1932	.82	.85	4.82	7.63	4.25	4.18	3.78	3.78	3.46	2.27	3.35	1.49	40.68
1933	9.53	6.19	9.22	6.62	4.83	5.05	5.28	5.90	2.32	1.97	2.15	3.57	62.63
1934	1.55	1.61	1.70	3.49	1.94	7.08	3.43	2.65	3.97	2.79	2.16	2.78	35.15
1935	4.11	3.74	4.04	7.74	3.62	4.13	3.60	3.20	1.84	2.51	4.88	2.57	45.98
1936	1.40	2.83	2.17	8.06	5.47	4.44	9.01	2.90	1.74	1.52	1.56	1.60	42.70
1937	5.82	2.51	4.91	10.68	6.03	3.71	4.12	3.37	2.22	1.84	3.11	4.12	52.44
1938	5.76	2.90	2.90	3.02	2.51	3.62	3.31	2.82	3.54	4.20	3.56	2.02	40.16
1939	1.21	1.89	1.67	3.68	9.35	6.34	4.03	2.96	2.69	1.92	3.11	1.37	40.22
1940	.95	.84	.90	1.17	2.08	3.22	4.89	2.50	1.83	1.88	7.95	3.12	51.33
1941	1.49	2.05	3.11	2.98	1.71	2.96	3.01	1.56	1.12	4.06	2.04	1.06	27.15
1942	.89	1.17	3.57	3.14	4.11	5.55	2.80	6.34	3.51	3.47	3.49	3.62	41.66
1943	2.21	1.74	6.56	5.84	5.14	5.25	5.10	6.08	4.30	4.79	2.53	1.67	51.21
1944	1.26	1.43	1.42	2.57	4.39	7.00	5.90	4.27	2.87	1.78	1.64	1.62	36.15
1945	1.36	1.45	2.03	2.77	3.46	3.75	5.19	3.53	1.84	1.74	2.07	3.20	32.39
1946	2.10	2.48	4.20	8.22	5.65	6.85	4.88	5.17	2.51	2.47	1.49	1.57	47.79
1947	2.03	2.30	2.00	6.43	2.78	3.22	4.46	2.63	2.18	1.38	1.10	.90	31.39
1948	2.71	4.18	2.60	2.51	5.22	5.48	4.73	2.77	2.26	4.73	5.46	4.39	47.04
1949	2.15	8.65	6.50	6.09	5.50	4.60	5.55	5.16	6.80	7.72	6.54	4.47	69.73
1950	4.74	4.46	4.39	4.17	4.02	5.28	3.35	2.42	3.32	2.33	1.88	7.54	47.90

* Revised.

* Not previously published; estimated or partly estimated on basis of records for French Broad River at Asheville.

Yearly discharge, in cubic feet per second, of Davidson River near Brevard, N. C.

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1921	523,1356	*3,780	Dec. 14, 1920	68	*147	*3.64	*49.43	139		46.67
1922	543	*1,690	Dec. 17, 1921	42	160	3.96	53.75	150		50.49
1923	563,1356	*2,590	May 29, 1923	37	133	3.29	*44.80	*138		*46.38
1924	583	*2,950	Jan. 11, 1924	46	131	3.24	44.17	134		44.99
1925	603	*1,390	Dec. 8, 1924	15	88.2	2.18	29.65	*78.4		*26.37
1926	623,1356	*2,360	Jan. 18, 1926	18	*88.9	*2.20	*29.88	110		36.94
1927	643	*2,150	Nov. 15, 1926	44	115	2.85	38.53	109		36.54
1928	663	8,400	Aug. 15, 1928	38	180	4.46	60.54	181		60.87
1929	683	*3,160	Mar. 14, 1929*	56	178	4.41	59.83	201		67.61
1930	698	*1,630	Oct. 21, 1929	32	121	3.00	40.61	90.0		30.25
1931	713	*1,880	Apr. 22, 1931	27	99.8	2.47	33.53	97.4		32.73
1932	728	*1,280	Jan. 13, 1932	24	121	3.00	40.68	176		59.13
1933	743	6,130	Oct. 16, 1932	42	186	4.60	62.63	127		42.55
1934	758	1,070	Mar. 3, 1934	40	105	2.65	35.15	126		42.18
1935	783	3,700	Jan. 8, 1935	47	137	3.39	45.98	120		40.49
1936	803	2,780	Apr. 6, 1936	28	127	3.14	42.70	147		49.54
1937	823	2,110	Oct. 16, 1936	45	156	3.86	52.44	151		50.76
1938	853	3,450	Oct. 18, 1937	50	120	2.97	40.16	99.4		33.37
1939	873	3,650	Aug. 18, 1939	37	120	2.97	40.22	114		38.14
1940	893	6,100	Aug. 13, 1940	26	93.1	2.30	31.33	105		35.29
1941	923	701	July 19, 1941	30	80.8	2.00	27.15	77.8		26.13
1942	953	5,110	May 20, 1942	24	124	3.07	41.66	139		46.54
1943	973	2,930	Dec. 29, 1942	44	152	3.76	51.21	133		44.81
1944	1003	870	Mar. 29, 1944	31	107	2.65	36.15	109		36.88
1945	1033	2,140	Apr. 17, 1945	35	96.4	2.39	32.39	108		36.33
1946	1053	1,670	Feb. 10, 1946	36	142	3.51	47.79	135		45.34
1947	1083	2,180	Jan. 20, 1947	24	95.4	2.31	31.39	103		34.55
1948	1113	2,930	Sept. 6, 1948	23	140	3.47	47.04	165		54.85
1949	1143	6,800	June 16, 1949	62	208	5.15	69.73	197		66.02
1950	1173	3,340	Aug. 31, 1950	41	143	3.54	47.90	-		-

* Revised.

* Not previously published.

64. Little River near Penrose, N. C.

Location.--Lat 35°13'23", long. 82°38'07", 0.4 mile downstream from Cascade Lake Dam, 1.2 miles upstream from Hart Branch, 2.2 miles upstream from Crab Creek, and 3.3 miles south of Penrose, Transylvania County.

Drainage area.--41.4 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,099.60 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years (1942-50), 159 cfs.

Extremes.--1942-50: Maximum discharge, 2,730 cfs Dec. 29, 1942 (gage height, 9.44 ft); minimum, 0.3 cfs Oct. 24, 1943, Oct. 5, 1947; minimum gage height, 0.16 ft Oct. 5, 1947.

Floods of July 1916 and August 1928 reached stages of about 14 and 13.5 ft, respectively, from flood profiles by Tennessee Valley Authority.

Remarks.--Considerable diurnal fluctuation and regulation at low flow by powerplant at Cascade Lake (capacity, about 500 cfs-days).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	102	90.0	282	236	208	216	206	199	132	180	104	77.3	170
1944	45.4	65.5	67.4	143	176	288	214	150	102	59.1	44.5	58.1	117
1945	55.7	92.8	99.2	113	142	159	182	121	62.6	108	84.7	114	111
1946	91.0	100	209	394	301	305	184	202	116	108	73.3	58.4	178
1947	107	138	118	231	131	131	175	104	107	87.5	52.2	50.2	119
1948	163	245	129	135	222	272	192	86.3	76.6	124	207	138	166
1949	72.6	371	246	213	235	183	280	233	229	317	280	246	242
1950	237	197	169	164	167	183	133	91.3	170	155	88.9	262	168

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1943	973	2,730	Dec. 29, 1942	1.3	170	4.11	55.59	145
1944	1003	873	Mar. 29, 1944	.3	117	2.83	36.65	123
1945	1033	656	Sept. 17, 1945	2.3	111	2.68	36.35	124
1946	1053	1,560	Jan. 7, 1946	3.5	178	4.30	58.40	175
1947	1083	1,060	Jan. 20, 1947	7.6	119	2.87	39.13	154
1948	1113	1,240	Oct. 17, 1947	1.4	166	4.01	54.44	178
1949	1143	2,450	June 16, 1949	6.9	242	5.85	79.29	235
1950	1173	1,310	Sept. 1, 1950	10	168	4.06	55.05	-

Note.--Monthly figures for discharge in cfs per sq mi and runoff in inches previously published in water-supply papers have been found subject to error because of regulation by Cascade Lake. These figures are discredited and should not be used.

TENNESSEE RIVER BASIN

65. Crab Creek near Penrose, N. C.

Location.--Lat 35°14'02", long. 82°36'39", 0.4 mile downstream from Henderson County line, 1.6 miles upstream from mouth, and 3 miles southeast of Penrose, Transylvania County.

Drainage area.--10.9 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,107.43 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years (1942-50), 31.6 cfs.

Extremes.--1942-50: Maximum discharge, 1,000 cfs May 14, 1943 (gage height, 7.00 ft), from rating curve extended above 450 cfs on basis of channel-conveyance study; minimum, 6.9 cfs Sept. 9, 1944 (gage height, 0.49 ft); minimum daily, 8.3 cfs Oct. 5, 6, 1947. Maximum stage known, about 10.5 ft July 1916, from flood profile by Tennessee Valley Authority.

Monthly and yearly mean discharge, in cubic feet per second													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	22.0	19.0	47.8	47.8	44.4	44.0	41.8	50.8	37.4	44.4	24.6	16.5	36.7
1944	13.8	15.9	15.2	24.6	36.6	60.4	47.7	36.7	26.0	17.1	13.2	12.5	26.6
1945	13.2	17.0	18.7	13.0	28.3	31.2	32.2	25.7	14.5	21.5	20.5	25.2	22.2
1946	17.5	18.0	38.5	60.7	57.0	61.1	40.4	40.1	23.0	19.6	16.8	13.8	33.8
1947	28.0	25.3	21.6	45.2	25.5	29.0	33.1	20.8	19.3	17.5	13.9	10.1	24.1
1948	30.4	41.4	25.7	24.7	45.4	50.6	41.0	24.1	18.7	21.3	32.8	21.8	31.4
1949	15.2	63.1	44.6	40.8	44.0	35.3	49.8	43.4	37.3	62.1	58.9	55.7	45.8
1950	43.1	38.5	32.3	34.3	31.4	36.7	26.8	23.5	29.7	30.7	19.9	40.8	32.3

Monthly and yearly runoff, in inches													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	2.32	1.95	5.06	5.06	4.24	4.66	4.28	5.38	3.83	4.70	2.60	1.69	45.77
1944	1.46	1.63	1.61	2.61	3.62	6.38	4.89	3.89	2.66	1.80	1.59	1.28	33.22
1945	1.39	1.74	1.98	2.01	2.71	3.30	3.30	2.72	1.48	2.28	2.16	2.58	27.65
1946	1.86	1.85	4.07	6.42	5.45	6.47	4.13	4.24	2.35	2.07	1.78	1.41	42.10
1947	2.96	2.59	2.29	4.78	2.44	3.06	3.39	2.20	1.98	1.85	1.47	1.04	30.05
1948	3.21	4.24	2.72	2.62	4.49	5.35	4.19	2.55	1.91	2.25	3.47	2.23	39.23
1949	1.61	6.46	4.72	4.32	4.21	3.73	5.10	4.59	3.82	6.56	6.23	5.70	57.05
1950	4.55	3.94	3.42	3.62	3.00	3.88	2.74	2.49	3.04	3.24	2.11	4.18	40.21

Yearly discharge, in cubic feet per second											
Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1943	973	1,000	May 14, 1943	13	36.7	3.37	45.77	33.0	41.14		
1944	1003	308	May 20, 1944	8.5	26.6	2.44	33.22	26.9	33.63		
1945	1033	396	Aug. 17, 1945	9.2	22.2	2.04	27.65	24.3	30.32		
1946	1053	396	Feb. 10, 1946	11	33.8	3.10	42.10	33.9	42.16		
1947	1083	428	Oct. 8, 1946	9.0	24.1	2.21	30.05	26.0	32.38		
1948	1113	369	Aug. 3, 1948	8.3	31.4	2.88	39.23	33.5	41.85		
1949	1143	707	Aug. 28, 1949	13	45.8	4.20	57.05	45.1	56.17		
1950	1173	347	July 12, 1950	13	32.3	2.96	40.21	-	-		

66. Little River at Calhoun, N. C.

Location.--Lat 35°15'15", long. 82°38'34", 75 ft upstream from county bridge, 1.1 miles (revised) upstream from mouth, 1.3 miles (revised) downstream from Crab Creek, and 0.5 mile west of Calhoun, Transylvania County.

Drainage area.--60.1 sq mi (revised).

Supplemental records available.--July 1904 to August 1905, and July 1946 to September 1947, discharge measurements only.

Gage.--Staff gage. Datum of gage is 2,077.18 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Aug. 31, 1905, a reference mark on wooden bridge about 75 ft downstream from described site, at different datum. May 4, 1907, to June 30, 1908, staff gage 0.1 mile upstream from described site, at different datum.

Extremes.--1907-8: Maximum gage height observed, 10.0 ft Feb. 15, 1908 (discharge not determined); minimum daily discharge (estimated), 46 cfs Oct. 14 to Nov. 1, 1907.

Monthly and yearly mean discharge, in cubic feet per second													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	139	134	86	74.7	96.8	-
1908	56.9	184	404	322	1494	306	298	223	123	-	-	-	-

† Corrected.

Monthly and yearly runoff, in inches													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	2.67	2.47	1.65	1.43	1.79	-
1908	1.09	3.42	7.74	6.18	8.87	5.88	5.53	4.28	2.28	-	-	-	-

Note.--Records of daily discharge published in Tennessee Division of Geology, Bull. 34.

67. French Broad River at Blantyre, N. C.

Location--Lat 35°17'56", long. 82°37'27", at highway bridge 700 ft east of Blantyre railroad station, Transylvania County, 3.4 miles downstream from Little River, and at mile 183.7.

Drainage area--296 sq mi.

Gage--Water-stage recorder. Datum of gage is 2,060.32 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to July 5, 1930, chain gage at same site and datum.

Average discharge--30 years (1920-50), 952 cfs.

Extremes--1920-50: Maximum discharge, 26,500 cfs Aug. 16, 1928 (gage height, 22.9 ft), from rating curve extended above 11,500 cfs; minimum, 143 cfs Sept. 21, 1925 (gage height, 1.83 ft).

Maximum stage known, 27.1 ft in July 1916, from floodmarks.

Remarks--Considerable diurnal fluctuation at low flow since 1938 caused by powerplant above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	#630	#715	#1,410	1,200	1,570	902	1,150	1,130	902	882	954	717	#1,010
1922	589	808	998	1,220	1,380	2,060	1,690	1,740	1,230	970	538	360	1,130
1923	397	283	668	805	935	1,240	1,050	1,720	1,400	738	679	682	883
1924	419	638	1,010	1,650	1,160	1,280	1,670	1,040	781	1,240	634	949	1,040
1925	719	471	1,030	1,680	966	797	+630	504	359	290	191	187	652
1926	279	579	385	929	1,010	889	957	496	353	408	565	648	621
1927	389	878	1,010	788	774	1,090	759	530	496	600	402	343	671
1928	446	533	1,250	780	851	950	1,340	1,400	1,160	956	2,260	1,600	1,130
1929	1,070	728	588	961	1,290	2,870	1,200	1,290	1,020	761	491	1,340	1,130
1930	1,690	1,650	1,070	846	857	843	628	790	485	366	283	528	836
1931	292	579	804	788	582	944	1,530	958	529	425	526	300	688
1932	244	252	1,300	1,780	1,150	1,020	857	1,020	1,040	582	713	406	859
1933	1,650	1,650	2,140	1,710	1,420	1,160	1,460	1,390	722	568	618	857	1,300
1934	446	398	884	692	1,800	848	1,030	848	1,300	708	783	971	860
1935	1,241	998	1,165	1,879	1,091	1,121	1,047	871	586	686	969	634	1,026
1936	373	950	673	2,212	1,587	1,201	2,509	850	534	417	437	385	1,006
1937	1,689	747	1,152	2,783	1,787	1,036	1,144	887	643	485	816	868	1,168
1938	1,537	847	742	779	694	919	868	676	858	1,078	1,101	668	900
1939	380	620	520	930	2,509	1,736	1,104	880	709	540	1,055	453	943
1940	512	272	301	410	809	736	1,176	658	546	502	2,233	1,006	746
1941	449	664	819	794	561	775	823	458	364	1,087	601	347	647
1942	280	385	935	794	1,234	1,466	793	1,684	980	943	1,061	1,268	984
1943	644	556	1,773	1,759	1,491	1,438	1,326	1,333	1,040	1,338	724	500	1,161
1944	372	452	432	785	1,182	1,767	1,495	1,075	716	485	437	457	803
1945	399	539	616	665	962	995	1,191	901	490	547	556	766	717
1946	533	642	1,234	2,344	1,861	1,920	1,343	1,410	782	721	504	465	1,144
1947	636	738	841	1,609	861	921	1,213	752	664	476	360	307	763
1948	780	1,292	786	788	1,486	1,560	1,325	752	558	851	1,245	877	1,028
1949	500	2,175	1,664	1,580	1,628	1,228	1,556	1,559	1,404	2,214	1,827	1,447	1,564
1950	1,356	1,311	1,199	1,207	1,177	1,367	949	663	1,079	910	584	1,796	1,131

† Corrected.

* Not previously published; estimated or partly estimated on basis of records for station at Asheville.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	#2.45	#2.70	#5.51	4.67	5.52	3.52	4.34	4.40	3.40	3.44	3.71	2.70	#46.36
1922	2.29	5.05	3.85	4.75	4.95	8.03	6.37	6.78	4.54	3.78	2.10	1.36	51.88
1923	1.54	1.07	2.61	3.14	3.29	4.84	3.96	6.69	5.28	2.87	2.64	2.57	40.50
1924	1.64	2.41	3.93	6.42	4.23	4.98	6.29	4.05	2.94	4.83	2.47	3.58	47.77
1925	2.80	1.77	4.01	6.55	3.40	3.10	†2.37	1.96	1.35	1.13	.74	.71	†29.89
1926	1.09	2.19	1.50	3.62	3.55	3.46	3.60	1.94	1.33	1.59	2.20	2.44	28.51
1927	1.51	3.31	3.93	3.07	2.72	4.24	2.86	2.06	1.87	2.34	1.57	1.29	30.77
1928	1.76	2.01	4.80	3.04	3.11	3.70	5.05	5.45	4.37	3.72	8.81	6.04	51.84
1929	4.14	2.74	2.29	3.75	4.54	11.17	4.52	5.03	3.85	2.96	1.91	5.05	51.97
1930	6.58	6.21	4.16	3.30	3.02	3.29	2.36	3.08	1.83	1.43	1.10	1.99	38.35
1931	1.14	2.19	3.14	3.07	2.05	3.68	5.77	3.74	2.00	1.66	2.05	1.13	31.62
1932	.95	.95	5.06	6.93	4.20	3.98	3.24	3.98	3.92	2.27	2.78	1.73	39.99
1933	7.14	6.21	8.34	6.66	5.00	4.60	5.50	5.42	2.72	2.29	2.41	3.24	59.53
1934	1.73	1.50	1.81	3.37	2.44	7.01	3.88	3.30	4.90	2.76	3.06	3.66	39.42
1935	4.83	3.76	4.54	7.32	3.84	4.37	3.95	3.39	2.21	2.68	3.77	2.39	47.05
1936	1.45	3.56	2.62	8.61	5.78	4.68	9.48	3.31	2.01	1.63	1.71	1.45	46.29
1937	6.58	2.81	4.48	10.84	6.29	4.04	4.31	3.46	2.42	1.89	3.18	3.27	53.57
1938	5.99	3.19	2.89	3.03	2.44	3.57	3.27	2.63	3.24	4.20	4.29	2.52	41.26
1939	1.48	2.33	2.03	3.62	8.63	6.76	4.16	3.42	2.68	2.10	4.10	1.71	43.22
1940	1.22	1.02	1.17	1.60	2.95	2.87	4.43	2.56	2.06	1.95	8.70	3.79	34.32
1941	1.75	2.50	3.19	3.09	1.98	3.02	3.10	1.79	1.37	4.23	2.34	1.31	29.67
1942	1.09	1.45	3.64	3.09	4.34	5.71	2.95	6.56	3.69	3.67	4.13	4.78	45.10
1943	2.51	2.10	6.80	6.85	5.24	5.60	5.00	5.19	3.92	5.21	2.82	1.89	53.23
1944	1.45	1.70	1.68	3.06	4.31	6.88	5.64	4.19	2.70	1.89	1.70	1.72	36.92
1945	1.55	2.03	2.40	2.59	3.38	3.87	4.49	3.51	1.85	2.13	2.16	2.89	32.85
1946	2.07	2.42	4.80	9.13	6.55	7.48	5.06	5.49	2.95	2.81	1.96	1.75	52.47
1947	2.48	2.78	2.50	6.27	3.03	3.59	4.57	2.85	2.50	1.86	1.40	1.16	34.99
1948	3.04	4.87	2.99	3.07	5.41	6.49	4.99	2.83	2.10	3.31	4.85	3.31	47.26
1949	1.95	8.20	6.48	6.16	5.73	7.18	5.87	6.07	5.29	8.62	7.12	5.45	71.72
1950	5.28	4.94	4.67	4.70	4.14	5.32	3.58	2.58	4.07	3.55	6.22	6.77	51.67

† Corrected.

* Not previously published; estimated or partly estimated on basis of records for station at Asheville.

TENNESSEE RIVER BASIN

Yearly discharge, in cubic feet per second, of French Broad River at Blantyre, N. C.									
Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1921	523, 923	5,170	Dec. 14, 1920	484	1,010	3.41	46.36	980	44.92
1922	543, 923	4,840	Mar. 28, 1922	294	1,130	3.82	51.88	1,040	47.88
1923	563, 923	5,220	May 30, 1923	239	883	2.98	40.50	943	43.26
1924	583	4,470	Jan. 17, 1924	353	1,040	3.51	47.77	1,050	48.37
1925	603	4,280	Dec. 9, 1924	144	652	2.20	429.89	569	426.09
1926	623	5,100	Jan. 19, 1926	172	621	2.10	28.51	708	32.48
1927	643	3,700	Nov. 18, 1926	242	671	2.27	30.77	667	30.57
1928	663	26,500	Aug. 16, 1928	248	1,130	3.82	51.84	1,140	52.48
1929	683, 923	10,600	Mar. 14, 1929	364	1,130	3.82	51.97	1,300	59.73
1930	698	5,420	Oct. 2, 1929	226	856	2.82	38.35	607	27.87
1931	713	3,960	Apr. 22, 1931	242	688	2.32	31.62	699	32.11
1932	728	4,280	Dec. 14, 1931	202	869	2.94	39.99	1,190	54.72
1933	743, 923	15,600	Oct. 17, 1933	423	1,300	4.39	59.53	935	42.88
1934	758	6,110	Mar. 5, 1934	327	860	2.91	39.42	1,036	47.51
1935	783	8,040	Jan. 10, 1935	391	1,026	3.47	47.05	906	41.57
1936	803	9,470	Apr. 7, 1936	220	1,006	3.40	46.29	1,142	52.51
1937	823	6,560	Jan. 3, 1937	333	1,168	3.95	55.57	1,129	51.76
1938	853, 923	9,470	Oct. 20, 1937	434	900	3.04	41.26	764	35.03
1939	873	6,180	Aug. 19, 1939	282	943	3.19	43.22	890	40.79
1940	893, 923	20,800	Aug. 14, 1940	221	746	2.52	34.32	834	38.35
1941	923	3,580	July 7, 1941	260	647	2.19	29.67	620	28.41
1942	953	12,800	May 21, 1942	214	984	3.32	45.10	1,100	50.43
1943	973	13,800	Dec. 30, 1942	310	1,161	3.92	53.23	1,015	46.55
1944	1003	4,220	Mar. 30, 1944	244	803	2.71	36.92	828	38.07
1945	1033	3,360	Feb. 22, 1945	279	717	2.42	32.85	789	36.16
1946	1053	8,720	Jan. 8, 1946	310	1,144	3.86	52.47	1,111	50.94
1947	1073	5,400	Jan. 20, 1947	219	763	2.58	34.99	832	38.13
1948	1113	4,720	Aug. 5, 1948	190	1,028	3.47	47.26	1,152	52.99
1949	1143	8,010	July 13, 1949	371	1,564	5.28	71.72	1,526	69.98
1950	1173	5,180	Sept. 9, 1950	423	1,131	3.82	51.87	-	-

† Corrected.

* Not previously published.

68. French Broad River at Horseshoe, N. C.

Location.--Lat 35°20'41", long. 82°33'37", at bridge 0.25 mile west of railroad station at Horseshoe, Henderson County, 2.5 miles upstream from Boylston Creek, and at mile 173.3.

Drainage area.--326 sq mi (revised).

Gage.--Staff gage. Altitude of gage is 2,040 ft (from topographic map).

Extremes.--1904-6: Maximum discharge (revised), 6,400 cfs Jan. 23, 1906 (gage height, 17.2 ft), from rating curve extended above 1,500 cfs; minimum, 242 cfs Oct. 17-25, 1904 (gage height, 0.30 ft).

Monthly and yearly mean discharge, in cubic feet per second													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1905	256	346	480	917	1,190	994	751	1,280	1,050	1,960	1,610	732	965
1906	643	449	1,400	2,380	1,390	1,700	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1905	0.91	1.18	1.70	3.24	3.82	3.52	2.57	4.51	3.61	6.93	5.70	2.51	40.20
1906	2.27	1.54	4.95	8.42	4.45	6.03	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second									
Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1905	(a)	45,800	July 14, 1905†	242	965	2.96	40.20	1,080	45.17
1906	(a)	46,400	Jan. 23, 1906†	408	-	-	-	-	-

* Revised.

† Corrected.

‡ Not previously published.

a Tennessee Division of Geology, Bull. 34.

b Maximum during period October to March.

69. Boylston Creek near Horseshoe, N. C.

Location.--Lat 35°22'10", long. 82°33'50", 100 ft upstream from county highway bridge, 1.7 miles upstream from mouth, and 2 miles north of Horseshoe, Henderson County.

Drainage area.--14.8 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,069.39 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years (1942-50), 36.8 cfs.

Extremes.--1942-50: Maximum discharge, 662 cfs Nov. 28, 1948 (gage height, 5.10 ft); minimum, 6.8 cfs Dec. 17, 18, 1943 (gage height, 0.52 ft), result of freezeup; minimum daily, 9.5 cfs Dec. 16, 17, 24, 1943.

Monthly and yearly mean discharge, in cubic feet per second, of Boylston Creek near Horseshoe, N.C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	#26.4	#21.6	#55.1	61.3	56.5	54.2	45.8	33.5	37.7	44.0	29.5	16.2	#40.1
1944	16.4	17.6	14.5	26.4	45.2	67.7	52.8	41.0	33.9	21.3	15.8	18.0	30.8
1945	18.1	18.3	20.7	22.1	35.7	34.5	31.1	28.5	18.1	23.2	20.0	30.7	25.0
1946	19.7	20.1	41.4	75.0	71.2	66.4	48.1	51.2	31.4	25.3	20.0	18.6	40.6
1947	33.0	28.7	25.0	68.8	32.8	34.8	40.3	26.7	23.2	20.8	16.6	11.7	30.2
1948	26.3	44.9	26.8	27.9	54.9	54.8	42.0	33.2	26.6	31.5	39.2	28.5	36.3
1949	19.5	72.9	52.0	54.8	57.3	44.7	54.2	54.8	41.2	81.4	63.7	47.0	55.6
1950	46.9	44.9	37.7	39.4	35.6	48.6	32.6	29.0	34.3	32.4	21.5	48.2	37.6

* Not previously published; estimated on basis of record for Mills River near Mills River.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	#2.06	#1.63	#4.29	4.77	3.98	4.22	3.45	2.61	2.84	3.42	2.30	1.22	#36.79
1944	1.28	1.33	1.13	2.06	3.29	5.28	3.98	3.20	2.56	1.66	1.23	1.35	28.35
1945	1.41	1.38	1.61	1.72	2.51	2.68	2.34	2.22	1.36	1.81	1.56	2.31	22.91
1946	1.54	1.52	3.23	5.84	5.01	5.17	3.63	3.99	2.36	1.97	1.56	1.40	37.22
1947	2.57	2.17	1.95	5.36	2.31	2.71	3.04	2.08	1.75	1.62	1.30	.88	27.74
1948	2.05	3.38	2.09	2.18	4.00	4.27	3.16	2.59	2.00	2.45	3.05	2.15	33.37
1949	1.52	5.49	4.05	4.27	4.03	3.49	4.09	4.27	3.11	6.34	4.96	3.54	49.16
1950	3.65	3.38	2.94	3.07	2.51	3.79	2.46	2.26	2.59	2.52	1.67	3.63	34.47

* Not previously published; estimated on basis of record for Mills River near Mills River.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1943	973	380	Dec. 29, 1942	12	#40.1	#2.71	#36.79	35.5	32.55
1944	1003	292	Mar. 20, 1944	9.5	30.8	2.08	28.35	31.5	29.01
1945	1033	252	July 2, 1945	11	25.0	1.69	22.91	27.0	24.80
1946	1053	659	Feb. 10, 1946	15	40.6	2.74	37.22	41.0	37.62
1947	1083	575	Jan. 20, 1947	9.6	30.2	2.04	27.74	31.2	28.57
1948	1113	336	Mar. 27, 1948	9.6	36.3	2.45	33.37	40.1	36.91
1949	1143	662	Nov. 28, 1948	18	53.6	3.62	49.16	52.4	48.07
1950	1173	385	July 25, 1950	17	37.6	2.54	34.47	-	-

* Not previously published.

70. South Fork Mills River at The Pink Beds, N. C.

Location.--Lat 35°21'58", long. 82°44'22", at The Pink Beds in Pisgah National Forest, 400 ft downstream from Thompson Creek and 9 miles north of Brevard, Transylvania County.

Drainage area.--9.99 sq mi.

Gage.--Water-stage recorder. Datum of gage is 3,138.38 ft above mean sea level, datum of 1929. Prior to Mar. 31, 1926, staff gage at site 300 ft upstream at same datum.

Average discharge.--24 years (1925-49), 30.6 cfs.

Extremes.--1925-49: Maximum discharge, 2,220 cfs Aug. 15, 1928 (gage height, 8.0 ft), from rating curve extended above 425 cfs on basis of slope-area and contracted-opening determinations at gage height 7.42 ft; minimum, 1.6 cfs Sept. 3, 1930.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1926	#5.70	#15.5	#9.90	#26.3	#34.5	34.3	37.7	18.1	10.9	13.1	15.7	8.54	#19.1
1927	8.09	31.9	36.1	26.2	26.8	42.9	21.6	14.4	16.1	13.0	19.3	7.55	22.0
1928	15.4	17.6	54.0	34.0	24.7	29.2	48.2	50.0	51.0	34.2	84.4	51.7	41.3
1929	29.4	18.1	14.6	#35.3	46.2	11.6	33.3	55.9	32.4	15.0	8.71	30.9	#36.3
1930	57.9	54.5	32.0	22.9	21.5	24.3	17.0	16.2	8.62	4.84	2.89	10.2	22.8
1931	4.96	17.3	20.6	27.5	18.3	30.5	49.5	29.2	14.7	11.9	20.3	8.88	21.1
1932	5.32	6.26	41.9	65.3	35.8	33.8	29.8	33.6	31.0	20.7	26.4	12.9	28.6
1933	67.5	60.6	72.1	49.4	39.1	42.3	43.9	37.4	14.1	13.9	16.1	37.9	41.2
1934	12.3	11.9	11.5	35.4	23.0	64.8	33.3	20.0	47.9	22.0	12.2	20.0	26.2
1935	27.7	30.1	30.7	68.9	34.2	42.3	34.3	23.1	12.6	18.7	46.6	25.5	33.0
1936	10.8	23.7	18.7	77.8	51.0	43.9	73.6	20.2	12.9	10.4	14.9	15.2	31.0
1937	71.5	22.4	49.6	108	54.9	27.7	37.2	22.1	14.9	10.2	20.5	31.8	39.1
1938	53.4	25.5	25.0	26.0	21.8	32.5	30.3	27.7	40.3	38.5	32.0	14.0	30.7
1939	7.28	20.5	15.7	39.4	108	56.9	32.7	21.5	24.7	13.2	22.1	9.71	30.4
1940	6.41	5.80	6.44	8.49	22.0	34.0	54.0	20.5	21.9	18.8	105	32.0	28.0
1941	11.8	18.2	34.0	25.1	14.0	24.2	28.3	13.3	7.21	29.1	21.1	7.48	19.6
1942	6.43	11.3	45.5	32.4	46.2	60.6	26.0	58.8	30.8	22.1	27.2	30.2	32.9
1943	17.2	13.3	64.3	55.0	49.6	48.2	47.6	55.5	37.1	39.0	18.2	9.48	37.9
1944	7.36	10.8	10.8	26.3	45.8	68.5	49.7	28.5	16.9	11.0	8.75	11.1	24.5
1945	11.1	13.5	17.4	25.6	36.0	32.9	51.1	32.7	16.6	12.6	10.7	33.4	24.3
1946	19.6	26.7	38.2	82.8	57.1	67.7	43.5	49.2	19.4	26.2	11.0	11.0	37.7
1947	24.2	24.2	19.9	64.4	28.6	30.2	45.2	19.8	14.5	7.33	5.47	5.33	24.1
1948	31.4	50.5	25.6	21.4	53.6	54.1	39.5	25.6	19.5	29.9	24.1	37.8	34.3
1949	14.8	30.8	58.0	49.8	49.1	39.4	48.8	43.1	56.6	55.4	49.9	33.5	48.9

* Corrected.

* Not previously published; estimated or partly estimated on basis of records for Davidson River near Brevard.

TENNESSEE RIVER BASIN

Monthly and yearly runoff, in inches, of South Fork Mills River at The Pink Beds, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1926	*0.66	*1.73	*1.14	*3.04	*3.60	3.95	4.21	2.09	1.21	1.51	1.82	0.95	*25.91
1927	.97	3.56	4.16	3.03	2.79	4.95	2.41	1.66	1.80	1.50	2.23	.84	29.86
1928	1.33	1.96	6.23	3.92	2.67	3.36	5.38	5.77	5.70	3.95	9.74	5.78	56.23
1929	3.40	2.02	1.69	14.08	4.82	13.35	3.72	6.45	3.62	1.73	1.00	3.45	*49.33
1930	6.68	6.09	3.70	2.64	2.24	2.80	1.90	1.87	.96	.56	.33	1.14	30.91
1931	.57	1.93	2.37	3.18	1.91	3.52	5.52	3.37	1.64	1.37	2.34	.99	28.71
1932	.61	.70	4.84	7.53	3.86	3.90	3.33	3.88	3.47	2.39	3.05	1.44	39.00
1933	7.79	6.77	8.32	5.70	4.08	4.88	4.90	4.32	1.57	1.60	1.86	4.24	56.03
1934	1.42	1.33	1.33	4.09	2.40	7.48	3.72	2.30	5.35	2.54	1.41	2.23	35.60
1935	3.19	3.36	3.54	7.95	3.57	4.88	3.83	2.67	1.41	2.16	5.37	2.85	44.78
1936	1.25	2.65	2.16	8.98	5.50	5.06	8.22	2.33	1.44	1.20	1.72	1.70	42.21
1937	8.26	2.50	5.72	12.22	5.73	3.19	4.15	2.55	1.66	1.18	2.36	3.55	53.07
1938	6.17	2.84	2.88	3.00	2.27	3.75	3.38	3.19	4.50	4.44	3.70	1.56	41.68
1939	.84	2.29	1.81	4.54	11.25	6.57	3.65	2.48	2.76	1.52	2.55	1.08	41.34
1940	.74	.65	.74	.98	2.58	3.92	6.03	2.36	2.45	2.17	12.12	3.57	38.11
1941	1.36	2.03	3.92	2.90	1.46	2.80	3.16	1.54	.81	3.36	2.43	.84	26.61
1942	.74	1.27	5.02	3.74	4.82	7.00	2.91	6.70	3.44	2.55	3.13	3.38	44.70
1943	1.98	1.49	7.42	6.35	5.17	5.57	5.32	6.40	4.14	4.50	*2.10	1.06	51.50
1944	.85	1.21	1.24	3.04	4.94	7.91	5.55	3.29	1.89	1.27	1.01	1.24	33.44
1945	1.28	1.51	2.01	2.96	3.75	3.79	5.71	3.78	1.85	1.46	1.24	3.72	33.06
1946	2.26	2.98	4.40	9.55	5.95	7.81	4.86	5.68	2.16	3.02	1.27	1.23	51.17
1947	2.79	2.70	2.29	7.43	2.98	3.48	5.05	2.29	1.62	.85	.63	.60	32.71
1948	3.62	5.64	2.96	2.47	5.79	6.25	4.41	2.96	2.18	3.45	2.78	4.22	46.73
1949	1.71	10.14	6.70	5.74	5.12	4.43	5.45	4.97	6.32	6.39	5.76	3.74	66.47

† Corrected.

* Not previously published; estimated or partly estimated on basis of records for Davidson River near Brevard.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1926	623	-	-	-	*19.1	*1.91	*25.91	*22.8	*31.05
1927	643	-	Nov. 15, 1926	5.2	22.0	2.20	29.86	22.9	31.17
1928	663	2,220	Aug. 15, 1928	4.8	41.3	4.13	56.23	39.3	53.38
1929	683, 1336	700	Mar. 13, 1929	4.8	*36.3	*3.63	*49.33	*43.2	*58.69
1930	698	541	Oct. 21, 1929	1.9	22.8	2.28	30.91	14.2	19.31
1931	713	284	Apr. 22, 1931	4.2	21.1	2.11	28.71	22.1	29.99
1932	728	579	July 16, 1932	*4.4	28.6	2.86	39.00	40.9	55.73
1933	745	787	Oct. 17, 1932	7.8	41.2	4.12	56.03	27.4	37.23
1934	758	331	Mar. 3, 1934	6.8	26.2	2.62	35.60	30.6	41.61
1935	783	679	Jan. 8, 1935	7.0	33.0	3.30	44.78	30.0	40.75
1936	803	386	Apr. 6, 1936	4.1	31.0	3.10	42.21	38.6	52.63
1937	823	833	Oct. 16, 1936	6.7	39.1	3.91	53.07	35.7	48.48
1938	853	638	Oct. 18, 1937	9.2	30.7	3.07	41.68	25.6	34.73
1939	873	560	Jan. 30, 1939	6.2	30.4	3.04	41.34	28.4	38.53
1940	893	1,610	Aug. 13, 1940	4.5	28.0	2.80	38.11	31.8	43.29
1941	923	330	Aug. 4, 1941	4.5	19.6	1.96	26.61	19.4	26.33
1942	953	490	May 20, 1942	3.8	32.9	3.29	44.70	35.7	48.56
1943	973	618	Dec. 29, 1942	6.1	37.9	3.79	51.50	32.3	43.91
1944	1003	309	Mar. 19, 1944	4.1	24.5	2.45	33.44	25.6	34.94
1945	1033	434	Apr. 17, 1945	5.6	24.3	2.43	33.06	27.9	37.90
1946	1053	395	Mar. 14, 1946	5.9	37.7	3.77	51.17	36.3	49.51
1947	1083	504	Jan. 20, 1947	2.8	24.1	2.41	32.71	27.3	37.15
1948	1113	658	Sept. 6, 1948	3.7	34.3	3.43	46.73	38.9	53.06
1949	1143	1,850	June 16, 1949	11	48.9	4.89	66.47	-	-

† Corrected.

* Not previously published.

71. South Fork Mills River near Sitton, N. C.

Location.--Lat 35°22'55", long. 82°36'48" at Mills River Church, 0.7 mile northeast of former post office of Sitton, Henderson County, and 2.2 miles upstream from confluence with North Fork.

Drainage area.--41.0 sq mi (revised).

Gage.--Staff gage at described site Jan. 6 to Sept. 30, 1926. Altitude of gage is 2,140 ft (from topographic map). Staff gage at same site at different datum June 1, 1904, to June 30, 1909.

Average discharge.--6 years (1904-9, 1925-26), 147 cfs.

Extremes.--1904-9, 1925-26: Maximum discharge, 3,560 cfs Jan. 22, 1906 (gage height, 8.6 ft, revised), from rating curve extended above 800 cfs by logarithmic plotting; minimum, 22 cfs July 19-22, 1926.

Monthly and yearly mean discharge, in cubic feet per second, of South Fork Mills River near Sitton, N.C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1904	-	-	-	-	-	-	-	-	90.7	66.4	104	70.9	-
1905	36.2	50.8	63.1	137	172	154	112	161	142	294	174	89.7	132
1906	71.4	53.5	153	331	142	203	181	118	358	205	209	391	201
1907	402	243	181	139	106	113	118	165	144	92.9	66.8	90.9	156
1908	53.2	108	179	183	276	194	157	146	91.4	137	231	131	157
1909	137	120	143	129	184	189	144	217	292	183	129	120	165
1926	442.5	476.0	458.0	4120	112	98.7	114	56.4	39.3	43.7	46.3	53.5	469.8

* Not previously published; estimated or partly estimated on basis of records for French Broad River at Asheville and Mills River near Mills River.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1904	-	-	-	-	-	-	-	-	2.47	1.87	2.92	1.93	-
1905	1.02	1.38	1.77	3.86	4.37	4.32	3.04	4.54	3.86	8.27	4.88	2.44	43.75
1906	2.01	1.45	4.30	9.30	3.61	5.61	4.93	3.32	9.73	5.77	5.87	10.63	66.62
1907	11.30	6.62	5.08	3.91	2.70	3.17	3.21	4.64	3.92	2.61	1.88	2.47	51.51
1908	1.49	2.95	5.02	5.14	7.25	5.47	4.27	4.10	2.49	3.85	6.50	3.57	52.10
1909	3.86	3.28	4.02	3.63	4.68	5.32	3.92	6.10	7.95	5.15	3.63	3.27	54.79
1926	1.20	2.07	1.63	2.85	2.84	2.78	3.10	1.59	1.07	1.23	1.30	1.46	23.12

* Not previously published; estimated or partly estimated on basis of records for French Broad River at Asheville and Mills River near Mills River.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1904	(a)	-	-	46	-	-	-	-	-
1905	(a)	2,550	July 12, 1905	33	132	3.22	43.75	143	47.34
1906	(a)	3,560	Jan. 22, 1906	46	201	4.90	66.62	247	81.86
1907	(a)	2,550	Oct. 3, 1906	36	156	3.80	51.51	115	37.98
1908	(a)	3,300	Feb. 15, 1908	44	157	3.82	52.10	162	53.78
1909	(a)	4,270	June 4, 1909	60	165	4.02	54.79	-	-
1926	623	4,190	Jan. 18, 1926	22	469.8	1.70	23.12	-	-

* Revised.

* Corrected.

* Not previously published.

a Tennessee Division of Geology, Bull. 34.

b Maximum during period October to June.

c Minimum during period October to June.

d Maximum during period January to September.

e Minimum during period January to September.

72. North Fork Mills River at Pinkbed, N. C.

Location.--Lat 35°23'37", long. 82°37'30", at highway bridge 0.7 mile southeast of former post office at Pinkbed, Henderson County, 1.0 mile upstream from confluence with South Fork, and 3.2 miles west of Mills River.

Drainage area.--23.1 sq mi (revised).

Gage.--Staff gage. Altitude of gage is 2,140 ft (from topographic map).

Average discharge.--5 years (1904-9), 77.6 cfs.

Extremes.--1904-9: Maximum discharge observed, 1,900 cfs (corrected) Jan. 22, 1906 (gage height, 5.5 ft, corrected), from rating curve extended above 400 cfs; minimum, 16 cfs Sept. 29 to Nov. 2, Nov. 9-12, Nov. 24 to Dec. 2, Dec. 19, 23, 1904.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1904	-	-	-	-	-	-	-	-	35.9	26.5	40.6	24.8	-
1905	16.0	21.9	24.7	56.9	55.6	66.2	53.3	67.4	71.0	160	84.3	51.9	61.0
1906	43.5	32.1	71.0	175	85.2	94.6	94.8	59.7	185	93.2	85.7	178	99.6
1907	208	93.2	70.8	65.4	53.8	52.0	60.5	74.6	60.2	143.7	32.0	38.3	71.2
1908	28.5	42.1	70.3	74.5	133	77.2	78.2	72.6	48.5	58.0	80.3	56.3	68.1
1909	78.5	62.5	68.4	72.6	96.6	109	88.9	122	145	191.0	163.5	158.5	187.9

* Corrected.

* Not previously published; estimated or partly estimated on basis of records for French Broad River at Asheville.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1904	-	-	-	-	-	-	-	-	1.73	1.32	2.03	1.20	-
1905	0.80	1.06	1.23	2.84	2.51	3.31	2.57	3.36	3.43	8.01	4.21	2.51	35.84
1906	2.17	1.55	3.54	8.74	3.75	4.72	4.58	2.98	8.94	4.65	4.28	8.61	58.51
1907	10.37	4.50	3.53	3.26	2.42	2.60	2.92	3.72	2.91	2.18	1.60	1.85	41.86
1908	1.42	2.03	3.51	3.72	6.28	3.85	3.78	3.62	2.34	2.89	4.01	2.72	40.12
1909	3.92	3.02	3.41	3.62	4.35	5.42	4.28	6.07	6.99	4.54	3.17	2.83	51.63

* Not previously published; estimated or partly estimated on basis of records for French Broad River at Asheville.

TENNESSEE RIVER BASIN

Yearly discharge, in cubic feet per second, of North Fork Mills River at Pinkbed, N. C.

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Maximum observed		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1904	(a)	-	-	16	-	-	-	-	-
1905	(a)	1,150	July 12, 1905	16	61.0	2.64	35.84	68.1	40.01
1906	(a)	†1,900	Jan. 22, 1906	28	99.6	4.31	58.51	119	69.65
1907	(a)	†775	Oct. 3, 1906	24	71.2	3.08	41.86	51.8	30.42
1908	(a)	775	Feb. 15, 1908	28	68.1	2.95	40.12	73.8	43.51
1909	(a)	b626	Oct. 29, June 4	-	†87.9	†3.81	†51.63	-	-

† Corrected.

‡ Not previously published.

a Tennessee Division of Geology, Bull. 34.

b Maximum observed during period October to June.

73. Mills River near Mills River, N. C.

Location.--Lat 35°23'45", long. 82°35'25", 1.5 miles downstream from confluence of North and South Forks, 2 miles upstream from village of Mills River, Henderson County, and 4.5 miles northwest of Horseshoe.

Drainage area.--66.7 sq mi.

Supplemental records available.--Records of chemical analyses for the water year 1947 are published in WSP 1102.

Gage.--Water-stage recorder. Datum of gage is 2,088.47 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Oct. 1, 1926, staff gage at site 500 ft upstream at datum 2.97 ft higher.

Average discharge.--19 years (1924-26, 1933-50), 160 cfs.

Extremes.--1924-26, 1933-50: Maximum discharge, 13,400 cfs Aug. 30, 1940 (gage height, 13.62 ft), by slope-area method; minimum, 16 cfs Dec. 24, 1943 (gage height, 1.33 ft), result of freezeup.

Remarks.--City of Hendersonville diverts from tributaries an average of 2 cfs for water supply.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	93.9	68.0	155	247	158	137	110	109	65.0	48.8	25.4	22.8	103
1926	32.2	65.5	48.4	*144	159	150	173	89.8	59.2	57.2	62.7	71.0	*92.1
1934	†70.5	†76.0	†77.5	†160	†99.0	†335	†165	†122	214	147	103	116	*141
1935	158	138	166	359	203	203	193	152	96.2	103	170	116	172
1936	62.3	120	91.8	364	255	229	415	156	90.4	76.6	113	76.5	170
1937	338	143	226	534	325	190	214	161	130	91.4	124	178	221
1938	250	146	125	133	118	164	157	141	190	198	156	90.6	156
1939	55.6	99.6	80.0	163	448	301	185	138	132	80.9	137	66.9	155
1940	42.2	39.9	40.7	52.7	104	132	220	108	83.2	83.0	506	212	135
1941	85.5	99.2	140	130	86.9	135	162	91.6	64.9	205	164	65.6	120
1942	50.1	67.2	159	142	206	272	152	290	194	142	172	203	171
1943	120	93.9	274	291	270	252	253	265	206	246	122	72.8	205
1944	54.3	64.0	59.3	108	184	304	289	179	115	75.3	62.4	61.8	129
1945	61.8	63.4	78.7	103	153	158	220	171	93.9	95.3	85.5	185	122
1946	118	126	199	424	339	351	264	273	144	134	74.8	64.2	209
1947	115	109	94.9	290	149	157	213	123	95.3	60.6	47.5	33.7	124
1948	119	219	122	115	251	246	220	139	106	149	133	179	166
1949	87.4	390	296	274	268	212	280	283	312	298	326	240	272
1950	206	230	198	196	188	225	166	126	148	115	89.9	340	185

* Revised.

‡ Not previously published; estimated on basis of records for Davidson River near Brevard.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	1.62	1.14	2.68	4.26	2.47	2.37	1.84	1.66	1.09	0.64	0.44	0.38	21.01
1926	.56	1.10	.84	*2.49	2.48	2.60	2.89	1.55	.99	.99	1.08	1.19	*18.76
1934	†1.22	†1.27	†1.34	†2.77	†1.55	†5.79	†2.76	†2.11	3.58	2.53	1.78	1.94	†28.64
1935	2.73	2.30	2.88	6.20	3.17	3.51	3.22	2.63	1.61	1.79	2.94	1.94	34.92
1936	1.08	2.01	1.59	6.30	4.13	3.95	6.95	2.69	1.51	1.32	1.96	1.28	34.77
1937	5.84	2.39	3.91	9.24	5.07	3.29	3.58	2.78	2.18	1.56	2.14	2.99	44.98
1938	4.32	2.44	2.16	9.29	1.84	2.84	2.62	2.43	3.18	3.42	2.70	1.22	31.76
1939	.96	1.66	1.38	2.81	7.00	5.20	3.09	2.39	2.21	1.40	2.37	1.12	31.59
1940	.73	.67	.70	.91	1.68	2.28	3.68	1.86	1.39	1.44	8.74	3.55	27.63
1941	1.48	1.66	2.41	2.26	1.36	2.34	2.71	1.56	1.09	3.55	2.83	1.10	24.40
1942	.87	1.12	2.75	2.45	3.22	4.71	2.55	5.01	3.24	2.45	2.97	3.40	34.74
1943	2.07	1.57	4.74	5.02	4.21	4.36	4.23	4.56	3.45	4.25	2.10	1.22	41.80
1944	.94	1.07	1.02	1.87	2.98	5.25	4.63	3.09	1.93	1.30	1.08	1.03	26.39
1945	1.07	1.06	1.36	1.78	2.40	2.72	3.68	2.96	1.57	1.65	1.48	3.10	24.83

* Revised.

‡ Not previously published; estimated on basis of records for Davidson River near Brevard.

Monthly and yearly runoff, in inches, of Mills River near Mills River, N. C.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1946	2.03	2.12	3.44	7.33	5.29	6.06	4.41	4.71	2.41	2.31	1.29	1.07	42.47
1947	1.98	1.83	1.64	5.01	2.32	2.72	3.57	2.13	1.56	1.05	.82	.66	25.29
1948	2.05	3.66	2.11	2.00	4.06	4.26	3.69	2.40	1.78	2.58	2.31	3.00	33.90
1949	1.51	6.52	5.12	4.73	4.18	3.67	4.68	4.89	5.21	5.15	5.83	4.02	55.31
1950	3.56	3.85	3.42	3.38	2.94	3.90	2.78	2.19	2.47	1.98	1.55	5.69	37.71

* Revised.

* Not previously published; estimated on basis of records for Davidson River near Brevard.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1925	603	1,600	Dec. 8, 1924	20	103	1.54	21.01	88.8	18.07
1926	623,1276	2,670	Jan. 18, 1926	21	*92.1	*1.38	*18.76	-	-
1934	758	-	-	-	*141	*2.11	*28.64	*161	*32.72
1935	783, 923	3,560	Jan. 9, 1935	59	172	2.58	34.92	156	31.69
1936	803	1,850	Apr. 6, 1936	45	170	2.55	34.77	207	42.23
1937	823, 923	3,560	Oct. 16, 1936	72	221	3.31	44.98	205	41.76
1938	853,1003	2,340	Oct. 19, 1937	65	156	2.34	31.76	132	26.84
1939	873, 923	2,600	Aug. 18, 1939	50	155	2.32	31.59	146	29.69
1940	1003	13,400	Aug. 30, 1940	29	135	2.02	27.63	152	31.08
1941	1003	900	Aug. 4, 1941	45	120	1.80	24.40	116	23.59
1942	1003	2,730	May 20, 1942	38	171	2.56	34.74	189	38.38
1943	1003	2,670	Dec. 29, 1942	54	205	3.07	41.80	179	36.45
1944	1003	935	Mar. 20, 1944	32	129	1.93	26.39	132	26.85
1945	1033	995	Apr. 17, 1945	45	122	1.83	24.83	142	28.93
1946	1053	1,820	Feb. 10, 1946	48	209	3.13	42.47	198	40.33
1947	1083	2,310	Jan. 20, 1947	31	124	1.86	25.29	156	27.66
1948	1113	2,630	Sept. 6, 1948	50	166	2.49	33.90	192	39.23
1949	1143	5,330	June 16, 1949	73	272	4.08	55.31	260	52.99
1950	1173	1,460	Sept. 1, 1950	67	185	2.77	37.71	-	-

* Revised.

* Not previously published.

74. Clear Creek near Hendersonville, N. C.

Location.--Lat 35°21'14", long. 82°26'40", at county highway bridge, 0.6 miles upstream from Allen Branch, 1.0 mile downstream from Wolfpen Creek, 1.2 miles upstream from mouth, and 2.7 miles northeast of Hendersonville, Henderson County.

Drainage area.--42.2 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,071.98 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--6 years (1944-50), 81.1 cfs.

Extremes.--1944-50: Maximum discharge, 4,020 cfs Aug. 28, 1949 (gage height, 10.50 ft), from rating curve extended above 2,500 cfs on basis of velocity-area studies; minimum, 18 cfs Sept. 5, 6, 1947.

Floods of July 1916 and Aug. 13, 1940, reached stages of 16 ft and 12 ft, respectively, from flood profiles by Tennessee Valley Authority.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	*50	*43	*46	*45	*83	*78	*73	*56	*32.3	52.3	45.0	121	*60.1
1946	49.3	48.8	120	159	154	144	107	91.9	69.2	57.2	37.7	31.4	88.8
1947	52.4	49.6	39.6	120	51.0	64.0	63.8	41.9	47.3	45.0	31.8	26.2	52.8
1948	88.2	106	56.7	56.5	118	109	85.3	45.8	53.8	73.4	91.9	58.3	78.4
1949	37.3	129	94.2	88.8	106	85.2	108	129	89.4	172	190	96.7	111
1950	116	106	78.9	86.3	85.2	114	69.5	66.9	71.1	117	57.6	178	95.5

* Not previously published; estimated or partly estimated on basis of records for Mud Creek at Naples.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	*1.37	*1.14	*1.26	*1.23	*2.05	*2.13	*1.93	*1.53	*0.85	1.43	1.23	3.19	*19.35
1946	1.35	1.29	3.28	4.35	3.79	3.92	2.84	2.51	1.83	1.56	1.03	.83	28.58
1947	1.43	1.31	1.08	3.29	1.26	1.75	1.69	1.14	1.25	1.23	.87	.69	16.99
1948	2.43	2.81	1.55	1.54	3.02	2.99	2.25	1.25	1.42	1.00	2.51	1.54	25.29
1949	1.02	5.41	2.57	2.43	2.61	2.33	2.68	3.52	2.66	4.71	5.18	2.56	35.56
1950	3.17	2.79	2.15	2.36	2.10	3.12	1.84	1.83	1.88	3.20	1.57	4.70	30.71

* Not previously published; estimated or partly estimated on basis of records for Mud Creek at Naples.

TENNESSEE RIVER BASIN

Yearly discharge, in cubic feet per second, of Clear Creek near Hendersonville, N. C.									
Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1945	1033	8719	Sept. 8, 1945	-	\$60.1	\$1.42	\$19.34	\$66.8	\$21.49
1946	1053	1,480	Feb. 10, 1946	25	88.8	2.10	25.58	82.3	26.48
1947	1083	749	Jan. 20, 1947	20	52.8	1.25	16.99	62.0	19.94
1948	1113	972	Aug. 4, 1948	20	78.4	1.86	25.29	79.2	25.52
1949	1143	4,020	Aug. 28, 1949	33	111	2.63	35.56	114	36.67
1950	1173	1,590	Sept. 8, 1950	38	95.5	2.26	30.71	-	-

* Not previously published.

a Maximum during period June to September.

75. Mud Creek at Naples, N. C.

Location.--Lat 35°22'52", long. 82°29'54", at bridge on old Asheville-Hendersonville highway, 100 ft downstream from Byers Creek, 0.8 mile south of Naples, Henderson County, and 2.2 miles upstream from mouth.

Drainage area.--109 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,047.48 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. May 10 to Dec. 31, 1907, staff gage at same site and at different datum.

Average discharge.--12 years (1938-50), 209 cfs.

Extremes.--1907, 1938-50: Maximum discharge, 10,800 cfs Aug. 13, 1940 (gage height, 13.07 ft); minimum, 30 cfs Sept. 17, Oct. 15, 28, Dec. 6, 1907.

Floods of July 1916 and August 1928 reached stages of 21 ft and 15 ft, respectively, from information by Tennessee Valley Authority.

Remarks.--Occasional regulation by many small reservoirs and recreational ponds. Mud Creek receives sewage from city of Hendersonville, which diverts its water supply from tributaries of Mills River.

Monthly and yearly mean discharge, in cubic feet per second													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	197	103	94.5	94.5	-
1908	62.3	198	471	-	-	-	-	-	-	-	-	-	-
1939	65.6	114	112	209	527	360	183	148	128	102	191	80.6	183
1940	60.4	59.1	64.9	95.8	194	137	181	102	124	106	697	184	168
1941	89.8	128	221	168	123	177	184	93.3	82.1	253	177	70.5	148
1942	64.5	87.3	190	146	252	364	149	440	210	121	131	246	200
1943	109	101	361	352	285	298	281	210	228	400	154	114	238
1944	89.6	123	118	192	302	412	282	162	135	96.7	70.6	74.6	172
1945	144	124	135	130	240	225	211	161	96.3	145	138	284	169
1946	133	142	334	481	446	414	279	272	169	155	111	98.6	252
1947	169	157	138	370	166	201	202	128	172	136	97.2	71.7	168
1948	262	308	177	176	366	353	262	146	135	163	249	176	230
1949	103	433	287	261	312	246	316	341	236	452	535	289	318
1950	348	301	246	243	232	313	188	184	204	308	141	403	259

Monthly and yearly runoff, in inches													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	2.01	1.08	1.00	0.97	-
1908	0.66	2.02	4.99	-	-	-	-	-	-	-	-	-	-
1939	.69	1.17	1.19	2.21	5.03	3.80	1.87	1.57	1.30	1.08	2.02	.82	22.75
1940	.64	.60	.69	1.01	1.92	1.45	1.86	1.08	1.26	1.12	7.37	1.88	20.88
1941	.95	1.31	2.34	1.78	1.18	1.87	1.88	.99	.84	2.67	1.88	.72	18.41
1942	.68	.89	2.01	1.54	2.41	3.95	1.52	4.65	2.15	1.28	1.39	2.51	24.58
1943	1.15	1.03	3.82	1.72	2.53	3.16	2.67	2.22	2.34	4.23	1.63	1.18	29.68
1944	.95	1.26	1.25	2.03	2.99	4.47	2.89	1.76	1.38	1.02	.75	.76	21.51
1945	1.52	1.27	1.43	1.38	2.29	2.38	2.16	1.71	.99	1.53	1.46	2.90	21.02
1946	1.41	1.45	3.53	5.09	4.27	4.38	2.85	2.87	1.73	1.63	1.17	1.01	31.39
1947	1.79	1.60	1.45	3.91	1.59	2.13	2.07	1.35	1.76	1.44	1.03	.73	20.85
1948	2.77	3.16	1.88	1.86	3.62	3.74	2.68	1.54	1.39	1.72	2.63	1.80	28.79
1949	1.09	4.43	3.04	2.76	2.98	2.61	3.23	3.60	2.42	4.79	5.66	2.95	39.56
1950	3.68	3.08	2.60	2.57	2.22	3.31	1.92	1.95	2.09	3.25	1.49	4.12	32.28

Yearly discharge, in cubic feet per second									
Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1907	243	-	-	-	-	-	-	-	-
1908	243	-	-	-	-	-	-	-	-
1939	873	1,520	Mar. 1, 1939	62	183	1.68	22.75	174	21.63
1940	893, 923	10,800	Aug. 13, 1940	50	168	1.54	20.88	189	23.55

Yearly discharge, in cubic feet per second, of Mud Creek at Naples, N. C.--Continued								
Year	W.S.P. no.	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					Runoff in inches
1941	923	1,480	Dec. 28, 1940	58	148	1.36	18.41	139
1942	953	8,880	May 20, 1942	51	200	1.83	24.88	219
1943	973	3,070	Dec. 29, 1942	84	238	2.18	29.66	218
1944	1003	1,430	Mar. 30, 1944	53	172	1.58	21.51	178
1945	1033	1,440	Sept. 18, 1945	71	169	1.55	21.02	186
1946	1053	2,800	Feb. 11, 1946	80	252	2.31	31.39	240
1947	1083	1,930	Jan. 21, 1947	60	168	1.54	20.85	191
1948	1113	1,910	Aug. 4, 1948	59	230	2.11	28.79	237
1949	1143	5,740	Aug. 29, 1949	89	318	2.92	39.56	324
1950	1173	2,470	Sept. 9, 1950	103	259	2.38	32.28	-

76. Cane Creek at Fletcher, N. C.

Location.--Lat 35°26'08" long. 82°29'23", at county highway bridge, 0.5 mile upstream from Hooper Creek, 0.5 mile northeast of Fletcher, Henderson County, and 0.8 mile downstream from county line.

Drainage area.--63.1 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,072.22 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years (1942-50), 85.0 cfs.

Extremes.--1942-50: Maximum discharge, 2,770 cfs (revised) Aug. 28, 1949 (gage height, 8.45 ft); minimum, 17 cfs Sept. 6, 1947 (gage height, 0.41 ft). Floods of July 1916 and Aug. 30, 1940, reached stages of 14.8 ft and 9.4 ft, respectively, from high-water marks and flood profiles by Tennessee Valley Authority.

Monthly and yearly mean discharge, in cubic feet per second												
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1943	38.9	38.3	111	156	112	121	97.4	83.9	63.6	111	46.8	31.9
1944	31.5	36.8	35.0	54.6	119	152	118	71.8	50.1	41.2	38.3	33.7
1945	49.2	39.2	45.8	51.6	89.0	90.0	86.3	73.1	44.5	48.5	42.0	86.0
1946	57.6	65.6	130	196	186	175	134	110	64.2	67.0	45.4	35.0
1947	60.4	52.2	49.6	159	64.1	85.1	83.8	48.8	56.0	39.2	31.5	34.4
1948	85.2	116	61.9	64.1	144	125	100	54.0	45.9	49.9	82.0	41.6
1949	33.2	126	99.3	92.3	120	110	129	149	110	196	196	106
1950	122	117	88.5	108	95.0	152	92.8	78.3	73.5	68.6	45.6	129
											The year	
												84.3
												64.7
												61.9
												105
												65.7
												80.6
												122
												97.5

Monthly and yearly runoff, in inches												
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1943	0.71	0.68	2.03	2.85	1.85	2.20	1.72	1.53	1.13	2.03	0.85	0.56
1944	.57	.65	.60	1.00	2.03	2.78	2.08	1.31	.89	.75	.70	.60
1945	.90	.69	.84	.94	1.47	1.64	1.53	1.34	.79	.89	.77	1.52
1946	1.05	1.16	2.38	3.57	3.07	3.19	2.37	2.00	1.14	1.22	.83	.62
1947	1.10	.92	.91	2.90	1.06	1.55	1.48	.89	.99	.72	.57	.61
1948	1.56	2.06	1.13	1.17	2.46	2.29	1.77	.99	.81	.91	1.50	.74
1949	.61	2.22	1.81	1.69	1.99	2.02	2.28	2.73	1.94	3.58	3.58	1.88
1950	2.22	2.07	1.62	1.98	1.57	2.78	1.64	1.43	1.30	1.25	.83	2.29
											The year	
												18.14
												13.96
												13.32
												22.60
												13.70
												17.39
												26.33
												20.98

Yearly discharge, in cubic feet per second								
Year	W.S.P. no.	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					Runoff in inches
1943	973	*2,200	Jan. 19, 1943	25	84.3	1.34	18.14	76.9
1944	1003	680	Mar. 27, 1944	24	64.7	1.03	13.96	67.5
1945	1033	1,000	Mar. 26, 1945	27	61.9	.981	13.32	71.9
1946	1053	*2,410	Feb. 10, 1946	30	105	1.66	22.60	97.4
1947	1083	1,420	Jan. 20, 1947	19	63.7	1.01	13.70	72.1
1948	1113	1,360	Mar. 27, 1948	25	80.6	1.28	17.39	80.1
1949	1143	*2,770	Aug. 28, 1949	29	122	1.93	26.33	128
1950	1173	1,680	Mar. 13, 1950	33	97.5	1.55	20.98	-

* Revised.

77. French Broad River at Bent Creek, N. C.

Location.--Lat 35°30'07" long. 82°35'35", 50 ft downstream from Bent Creek, 6 miles upstream from Hominy Creek, 7 miles south of Asheville, Buncombe County, and at mile 157.7.

Drainage area.--676 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,995.91 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--17 years (1933-50), 1,665 cfs.

TENNESSEE RIVER BASIN

77. French Broad River at Bent Creek, N. C.--Continued

Extremes.--1933-50: Maximum discharge, 23,600 cfs Aug. 14, 1940 (gage height, 12.6 ft); minimum, 355 cfs Oct. 13, 1941; minimum gage height, 2.22 ft Oct. 13, 1941, Oct. 6, 7, 1947.

Maximum stage known, about 27.3 ft July 15, 1916, from floodmarks. Flood of August 1928 reached a stage of about 16.1 ft, from floodmarks.

Remarks.--Some diurnal fluctuation at low flow caused by powerplant above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	\$750	\$630	\$720	\$1,250	\$1,120	\$2,870	\$1,830	\$1,450	2,210	1,270	1,300	1,540	\$1,410
1935	1,976	1,553	1,963	3,336	1,871	1,978	1,855	1,528	1,062	1,225	1,453	1,075	1,742
1936	642	1,651	1,138	4,008	2,756	2,435	4,602	1,571	1,016	867	1,018	781	1,867
1937	3,148	1,318	2,093	5,123	3,117	1,838	2,026	1,801	1,258	983	1,328	1,582	2,114
1938	2,555	1,404	1,291	1,377	1,210	1,885	1,475	1,201	1,443	1,920	1,590	1,071	1,523
1939	595	1,005	877	1,554	4,220	2,965	1,789	1,513	1,301	987	1,757	779	1,595
1940	523	472	539	720	1,373	1,207	1,886	1,060	906	895	3,676	1,964	1,267
1941	830	1,088	1,427	1,314	914	1,281	1,387	781	632	1,872	1,178	587	1,111
1942	473	665	1,506	1,335	2,098	2,533	1,319	2,986	1,634	1,422	1,629	2,018	1,634
1943	1,099	950	2,600	3,161	2,497	2,466	2,218	2,091	1,822	2,449	1,276	858	1,958
1944	652	798	738	1,341	2,013	3,017	2,466	1,713	1,208	823	685	731	1,347
1945	770	825	947	1,096	1,652	1,651	1,853	1,444	843	1,019	966	1,595	1,219
1946	988	1,141	2,192	3,899	3,278	3,252	2,296	2,317	1,325	1,241	908	779	1,964
1947	1,191	1,232	1,084	2,874	1,457	1,611	1,912	1,177	1,162	868	657	534	1,313
1948	1,381	2,194	1,302	1,292	2,585	2,688	2,214	1,226	1,005	1,428	1,982	1,442	1,724
1949	862	3,457	2,732	2,478	2,667	2,026	2,561	2,706	2,282	3,701	3,404	2,420	2,607
1950	2,252	2,349	1,987	2,010	1,888	2,359	1,539	1,214	1,728	1,672	956	2,944	1,906

* Not previously published; estimated or partly estimated on basis of records for station at Asheville.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	\$1.28	\$1.04	\$1.23	\$2.13	\$1.73	\$4.49	\$3.02	\$2.47	3.64	2.16	2.22	2.53	\$28.34
1935	3.37	2.56	3.35	5.69	2.88	3.37	3.06	2.61	1.75	2.09	2.48	1.77	34.98
1936	1.09	2.72	1.94	6.84	4.40	4.15	7.60	2.68	1.66	1.48	1.74	1.29	37.61
1937	5.37	2.19	3.57	8.74	4.80	3.14	3.35	2.73	2.08	1.64	2.26	2.61	42.47
1938	4.36	2.32	2.20	2.35	1.86	2.87	2.43	2.05	2.38	3.27	2.71	1.76	30.56
1939	1.01	1.66	1.50	2.65	6.50	5.06	2.96	2.58	2.14	1.88	3.00	1.29	32.02
1940	.89	.78	.92	1.23	2.19	2.06	3.11	1.81	1.50	1.53	6.27	3.24	25.53
1941	1.42	1.80	2.43	2.24	1.41	2.18	2.29	1.34	1.04	3.19	2.01	.97	22.32
1942	.81	1.10	2.57	2.28	3.23	4.32	2.18	5.09	2.70	2.43	2.78	3.33	32.62
1943	1.87	1.57	4.43	5.39	3.85	4.21	3.66	3.57	3.01	4.18	2.18	1.42	39.34
1944	1.11	1.32	1.26	2.29	3.21	5.15	4.10	2.92	1.99	1.40	1.17	1.21	27.13
1945	1.31	1.36	1.62	1.87	2.54	2.82	3.06	2.46	1.39	1.74	1.68	2.63	24.48
1946	1.68	1.89	3.74	6.65	5.05	5.55	3.79	3.95	2.19	2.12	1.55	1.29	39.44
1947	2.03	2.03	1.85	4.90	2.24	2.75	3.16	2.01	1.92	1.48	1.12	.88	26.37
1948	2.36	3.62	2.22	2.20	4.12	4.58	3.65	2.09	1.66	2.44	3.38	2.38	34.70
1949	1.47	5.71	4.66	4.23	4.11	3.46	4.23	4.62	3.77	6.31	5.80	3.99	52.36
1950	3.84	3.68	3.39	3.43	2.91	4.02	2.54	2.07	2.85	2.85	1.63	4.86	38.27

* Not previously published; estimated or partly estimated on basis of records for station at Asheville.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1934	758	-	-	-	\$1,410	\$2.09	\$28.34	\$1,697	\$34.07
1935	783	12,300	Jan. 9, 1935	657	1,742	2.58	34.98	1,567	31.45
1936	803	13,200	Apr. 7, 1936	490	1,867	2.76	37.61	2,133	42.98
1937	823	11,900	Jan. 3, 1937	694	2,114	3.13	42.47	2,003	40.23
1938	853	11,600	Oct. 20, 1937	661	1,523	2.25	30.56	1,289	25.85
1939	873	8,250	Aug. 18, 1939	490	1,595	2.36	32.02	1,516	30.44
1940	893	23,600	Aug. 14, 1940	430	1,267	1.87	25.53	1,419	28.59
1941	923	5,700	Dec. 29, 1940	452	1,111	1.64	22.32	1,053	21.15
1942	953	19,600	May 21, 1942	352	1,634	2.42	32.82	1,903	36.21
1943	973	16,100	Dec. 30, 1942	600	1,956	2.90	39.34	1,750	35.16
1944	1003	7,300	Mar. 30, 1944	464	1,347	1.99	27.13	1,377	27.73
1945	1033	6,200	Sept. 17, 1945	526	1,219	1.80	24.48	1,369	27.49
1946	1053	10,700	Jan. 9, 1946	599	1,964	2.91	39.44	1,894	38.05
1947	1083	9,540	Jan. 20, 1947	409	1,313	1.94	26.37	1,427	28.66
1948	1113	7,170	Feb. 14, 1948	358	1,724	2.55	34.70	1,904	38.34
1949	1143	10,200	Nov. 29, 1948	680	2,607	3.86	52.36	2,571	51.63
1950	1173	8,220	Sept. 9, 1950	750	1,906	2.82	38.27	-	-

* Not previously published.

78. Hominy Creek at Candler, N. C.

Location.--Lat 35°32'28", long. 82°40'35", 0.1 mile downstream from Pole Creek and 1 mile east of Candler, Buncombe County.

Drainage area.--79.8 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,065.83 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years (1942-50), 95.3 cfs.

Extremes.--1942-50: Maximum discharge, 6,800 cfs June 16, 1949 (gage height, 13.25 ft); minimum, 15 cfs Nov. 8, 1944, Nov. 4, 1946; minimum gage height, 0.82 ft Nov. 4, 1946. Flood of Aug. 30, 1940, reached a stage of 18.0 ft, from floodmarks (discharge, 13,100 cfs by conveyance method).

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	49.4	42.2	112	122	122	139	139	109	104	145	65.9	41.9	99.2
1944	36.2	40.7	37.4	55.9	117	155	121	81.8	55.6	45.9	35.9	33.7	67.7
1945	36.8	34.5	44.2	54.5	88.8	78.2	115	88.4	56.1	54.2	36.2	72.8	63.0
1946	53.7	60.8	112	204	199	215	162	157	90.3	87.9	50.0	41.1	119
1947	69.3	47.9	48.3	144	89.9	86.1	104	63.2	51.6	47.1	36.4	28.4	66.4
1948	71.5	113	58.0	61.1	151	118	119	80.3	59.7	66.7	75.1	81.2	87.4
1949	45.9	180	143	130	144	109	142	145	213	152	214	141	146
1950	120	146	106	131	123	163	107	88.9	93.3	66.0	57.5	164	114

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	0.71	0.59	1.61	1.78	1.59	2.00	1.94	1.57	1.45	2.10	0.95	0.59	16.86
1944	.52	.57	.54	.81	1.58	2.23	1.69	1.18	.78	.66	.52	.47	11.55
1945	.53	.48	.64	.79	1.16	1.13	1.61	1.28	.78	.78	.52	1.02	10.72
1946	.78	.85	1.62	2.95	2.60	3.10	2.27	2.27	1.26	1.27	.72	.58	20.27
1947	1.00	.67	.70	2.08	.91	1.24	1.46	.91	.72	.68	.53	.40	11.30
1948	1.03	1.58	.84	.88	2.04	1.71	1.66	1.16	.84	.96	1.08	1.14	14.92
1949	.66	2.51	2.07	1.88	1.88	1.58	1.99	2.09	2.97	2.20	3.09	1.97	24.89
1950	1.73	2.05	1.53	1.89	1.60	2.36	1.49	1.28	1.30	.95	.83	2.29	19.30

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1943	973	1,520	June 28, 1943	36	99.2	1.24	16.86	91.6	15.58	
1944	1003	935	July 19, 1944	23	67.7	.848	11.55	67.9	11.57	
1945	1033	935	Apr. 17, 1945	20	63.0	.789	10.72	72.4	12.32	
1946	1053	2,160	Feb. 10, 1946	35	119	1.49	20.27	114	19.39	
1947	1083	1,550	Jan. 20, 1947	20	68.4	.832	11.30	72.8	12.38	
1948	1113	1,640	Sept. 6, 1948	22	87.4	1.10	14.92	98.0	16.71	
1949	1143	6,800	June 16, 1949	39	146	1.83	24.89	147	24.96	
1950	1173	1,300	Sept. 9, 1950	42	114	1.43	19.30	-	-	

79. North Fork Swannanoa River near Black Mountain, N. C.

Location.--Lat 35°39'11", long. 82°21'04", 0.1 mile downstream from Walker Branch, 0.4 mile (revised) downstream from emergency pumping plant of Asheville Water Department, 1.9 miles downstream from Sugar Fork, 3 miles northwest of town of Black Mountain, Buncombe County, and 3.4 miles downstream from Right Fork.

Drainage area.--23.8 sq mi.

Gage.--Water-stage recorder and concrete control. Datum of gage is 2,428.03 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Jan. 27, 1926, staff gage at same site and datum.

Average discharge.--24 years (1926-50), 58.0 cfs (adjusted for diversion).

Extremes.--1926-50: Maximum discharge, 16,500 cfs June 16, 1949 (gage height, 9.10 ft), from rating curve extended above 2,600 cfs on basis of slope-area determinations at gage heights 8.55 ft and 9.10 ft; minimum, 0.73 cfs July 20, 21, 1926 (gage height, 0.88 ft).

Remarks.--City of Asheville diverts part of its water supply 3 miles above station. Emergency pumping plant 0.4 mile upstream operated continuously May 22 to Aug. 28, 1926, and intermittently Aug. 29, 1926 to May 25, 1927. Records of diversion furnished by Asheville Water Department, Division of Watersheds.

TENNESSEE RIVER BASIN

Monthly and yearly mean discharge, in cubic feet per second, of North Fork Swannanoa River near Black Mountain, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1926	-	-	-	-	43.4	43.2	45.2	21.8	6.03	15.0	24.9	24.5	-
1927	13.0	75.6	87.3	45.3	70.0	79.4	*48.8	*22.2	*47.4	12.8	7.81	4.73	*42.7
1928	9.11	31.2	90.1	41.7	40.4	44.2	96.1	76.5	36.4	27.3	197	113	67.0
1929	76.9	36.2	25.2	57.3	101	191	68.4	91.3	61.8	50.5	16.1	73.0	70.6
1930	136	111	55.9	44.9	29.8	55.0	47.5	57.0	12.1	4.23	4.23	7.91	47.3
1931	4.58	34.0	27.6	33.7	26.0	32.3	103	54.4	12.2	15.3	34.1	12.4	32.4
1932	2.87	3.96	56.9	83.6	80.6	64.5	48.6	61.2	17.5	12.3	6.58	7.03	37.1
1933	64.3	62.4	127	78.8	101	55.9	53.7	67.9	13.1	8.38	7.47	20.7	56.5
1934	5.25	6.41	9.45	25.2	30.2	127	51.6	24.8	88.8	59.2	26.0	18.8	39.5
1935	36.1	66.6	53.8	95.6	52.1	103	96.2	43.2	17.6	20.4	45.0	51.4	56.8
1936	6.67	50.4	23.7	165	101	135	142	27.5	8.52	7.03	28.8	26.2	59.9
1937	121	33.3	66.4	168	81.1	49.8	54.9	35.8	12.9	16.7	40.0	43.1	60.4
1938	76.8	40.2	42.5	46.7	65.7	88.0	45.8	45.1	40.6	48.0	53.6	7.45	50.1
1939	4.06	39.3	18.8	55.0	146	98.0	63.1	29.9	15.9	25.3	48.5	9.18	44.8
1940	4.25	4.14	4.61	6.40	26.4	65.6	86.9	19.0	21.6	25.0	345	50.3	55.2
1941	9.35	22.8	59.5	38.2	14.6	34.2	43.4	13.7	4.42	99.1	24.5	6.51	31.1
1942	2.42	6.16	32.1	28.3	70.5	99.5	33.1	52.7	75.8	29.5	32.4	38.2	41.5
1943	15.0	12.1	83.5	85.0	87.3	71.2	72.3	64.2	27.0	51.5	12.8	6.23	48.9
1944	4.07	11.3	10.8	26.0	74.3	97.6	75.2	34.1	10.1	7.11	9.98	16.2	31.2
1945	32.1	22.3	34.1	51.5	73.1	64.1	63.9	60.0	37.1	10.5	29.5	57.7	44.4
1946	55.3	47.5	64.6	151	94.4	112	76.0	66.5	19.2	17.2	7.99	3.71	59.6
1947	41.2	22.7	13.8	116	32.0	48.3	65.8	18.6	21.8	8.79	27.1	11.7	35.7
1948	106	110	35.3	28.3	110	88.4	60.5	20.1	17.0	57.7	24.1	43.1	58.2
1949	8.05	78.8	85.3	69.8	78.9	63.2	88.4	82.6	179	192	140	48.2	95.0
1950	50.8	57.5	61.9	68.0	71.8	83.3	42.2	33.5	71.5	21.4	29.6	154	61.8

* Revised.

Monthly and yearly runoff, in inches (adjusted) 1/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1926	-	-	-	-	2.13	2.35	2.37	1.34	0.62	0.99	1.51	1.41	-
1927	0.90	3.81	4.53	2.49	3.39	4.12	*2.55	*1.33	*2.42	.88	.64	.43	*27.49
1928	.69	1.71	4.62	2.29	2.07	2.40	4.76	3.97	1.96	1.58	9.79	5.55	41.39
1929	3.99	1.95	1.49	3.04	4.85	9.51	3.46	4.69	3.15	2.71	1.04	3.07	43.35
1930	6.83	5.47	2.97	2.44	1.54	2.93	2.48	3.03	.82	.41	.36	.56	29.84
1931	.58	1.86	1.64	1.89	1.34	1.79	5.03	2.88	.81	.99	1.90	.82	21.35
1932	.38	.38	2.99	4.30	3.88	3.37	2.52	3.21	1.06	.85	.58	.56	24.08
1933	4.35	3.18	6.40	4.08	4.66	2.97	2.77	3.55	.87	.67	.63	1.22	35.35
1934	.52	.52	.68	1.45	1.52	6.38	2.64	1.42	4.38	3.09	1.48	1.09	25.17
1935	1.97	3.33	2.87	4.91	2.54	5.28	4.81	2.41	1.09	1.24	2.45	2.67	35.57
1936	.59	2.60	1.38	8.22	4.80	6.75	6.99	1.70	.68	.54	1.71	1.57	37.53
1937	6.21	1.91	3.55	4.42	7.84	2.72	2.89	2.06	.90	1.05	2.18	2.29	38.02
1938	3.93	2.10	2.29	2.55	3.14	4.56	2.43	2.49	2.19	2.63	2.97	.72	32.00
1939	.42	2.10	1.30	2.97	6.65	4.65	3.22	1.76	1.06	1.54	2.69	.78	29.14
1940	.44	.38	.42	.49	1.58	3.69	4.56	1.42	1.51	1.71	17.13	2.90	36.23
1941	.86	1.43	3.25	2.22	.97	2.02	2.37	1.11	.54	5.17	1.62	.67	22.23
1942	.43	.71	2.01	1.91	3.43	5.17	1.93	2.97	3.93	1.85	2.07	2.28	28.69
1943	1.17	1.00	4.48	4.45	4.12	3.72	3.65	3.45	1.65	2.96	1.08	.63	32.36
1944	.44	.92	.91	1.78	3.85	5.15	3.93	2.05	.86	.78	1.00	1.00	22.67
1945	2.01	1.45	2.06	2.67	3.55	3.48	3.37	3.29	2.11	.99	1.93	3.19	30.30
1946	3.16	2.66	3.47	7.66	4.44	5.76	3.91	3.59	1.31	1.27	.83	.50	38.56
1947	2.45	1.55	1.18	6.06	1.71	2.68	3.21	1.39	1.52	.88	1.81	1.04	25.69
1948	5.66	5.62	2.14	1.84	5.38	4.66	3.42	1.43	1.32	3.32	1.70	2.49	38.77
1949	.90	4.16	1.46	3.62	3.77	3.45	4.52	4.41	8.76	9.75	7.27	2.72	57.79
1950	2.95	3.15	3.47	3.77	3.55	4.50	2.43	2.10	3.85	1.55	1.92	7.70	40.92

1/ Adjusted for diversion by city of Asheville for water supply.

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted 1/				Observed	Adjusted 1/
		Momentary discharge		maximum	Minimum	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean
		Date		day	day						
1926	623, 893	1,830	Jan. 18, 1926	0.73	-	*48.2	*2.03	*27.49	*38.9	*44.3	*25.27
1927	(a)	2,760	Nov. 15, 1926	2.65	78.0	76.0	3.04	41.39	57.7	73.1	41.90
1928	663, 1143	6,180	Aug. 15, 1928	*2.18	5.4	70.6	3.19	43.35	84.3	89.8	51.19
1929	583	1,270	Sept. 26, 1929	2.4	47.3	52.3	2.20	29.84	27.4	32.4	18.47
1930	698, 1143	3,640	Oct. 21, 1929	2.4	47.3	52.3	2.20	29.84	27.4	32.4	18.47
1931	713	884	Apr. 4, 1931	3.30	32.4	37.4	1.57	21.35	32.3	37.2	21.20
1932	728	1,400	May 1, 1932	2.1	37.1	42.1	1.77	24.08	54.7	59.9	34.26
1933	743, 1143	1,610	Oct. 16, 1932	4.15	56.5	62.0	2.61	35.35	35.3	40.6	23.14
1934	758, 1143	1,570	July 15, 1934	3.85	39.5	44.2	1.86	25.17	50.8	55.5	31.62
1935	783	1,730	Jan. 8, 1935	4.6	56.8	62.4	2.62	35.57	50.4	56.1	31.97
1936	803	1,400	Nov. 12, 1935	3.9	59.9	65.6	2.76	37.53	71.8	78.0	44.63
1937	823	2,420	Oct. 16, 1936	5.9	60.4	66.6	2.80	38.02	55.2	60.8	34.67
1938	853	1,210	Oct. 19, 1937	4.0	50.1	56.2	2.36	32.00	41.8	48.3	27.50
1939	873	2,030	Aug. 18, 1939	3.7	44.8	51.1	2.15	29.14	40.7	46.6	26.56
1940	893	12,900	Aug. 13, 1940	3.2	55.2	63.3	2.66	36.23	61.9	70.9	40.53
1941	923	1,000	Dec. 28, 1940	1.75	31.1	39.0	1.64	22.23	26.8	34.8	19.84
1942	953	1,320	Sept. 27, 1942	1.4	41.5	50.3	2.11	28.69	47.5	56.4	32.19
1943	973	1,460	Dec. 29, 1942	2.5	48.9	56.7	2.38	32.36	41.7	49.1	27.98
1944	1003	1,480	Sept. 30, 1944	1.9	31.2	39.7	1.67	22.67	36.5	45.3	25.92
1945	1033	758	Oct. 20, 1944	5.3	44.4	53.1	2.23	30.30	51.0	57.7	34.07

1/ Adjusted for diversion by city of Asheville for water supply.

* Revised.

a W.S.P. nos. 643, 1143, 1336.

Yearly discharge, in cubic feet per second, of North Fork Swannanoa River near Black Mountain, N.C.--

Continued

Continued												
Year	W.S.P. no.	Water year ending Sept. 30							Calendar year			
		Observed					Adjusted 1/		Observed	Adjusted 1/		
		Momentary		maximum	Minimum	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date	day								
1946	1053	1,120	Jan. 7, 1946	2.9	59.6	67.6	2.84	38.56	52.0	60.4	34.45	
1947	1083	1,270	Jan. 20, 1947	1.9	35.7	45.0	1.89	25.69	50.3	59.5	33.93	
1948	1113	4,030	Oct. 17, 1947	3.2	58.2	67.8	2.85	38.77	51.5	60.9	34.87	
1949	1143	16,500	June 16, 1949	4.5	93.0	101	4.24	57.79	92.9	101	57.82	
1950	1173	2,650	Aug. 31, 1950	4.7	61.8	71.8	3.02	40.92	-	-	-	

1/ Adjusted for diversion by city of Asheville for water supply.

80. Swannanoa River at Swannanoa, N. C.

Location.--Lat 35°36'11", long. 82°23'42", 1,000 ft upstream from highway bridge at Swannanoa, Buncombe County, and 1.5 miles downstream from North Fork.

Drainage area.--62.1 sq mi (revised). At site used 1907-9, 63.0 sq mi (revised).

Gage.--Staff gage at described site after Jan. 6, 1926. Datum of gage is 2,179.5 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Oct. 1, 1929, staff gage at same site at datum 1.0 ft higher. May 28, 1907, to June 30, 1909, staff gage at site 1,000 ft downstream at different datum.

Average discharge.--6 years (1907-8, 1926-31), 124 cfs (adjusted for diversion).

Extremes.--1907-9, 1926-31: Maximum discharge, 10,400 cfs Aug. 16, 1928 (gage height, 10.93 ft, datum then in use), from rating curve extended above 1,200 cfs on basis of velocity-area study; minimum, 7.6 cfs July 20-22, 1926 (gage height, 0.02 ft, datum then in use).

Remarks.--City of Asheville diverts part of its water supply from North Fork Swannanoa River above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	168	136	57.4	72.2	-
1908	40.3	67.5	185	205	236	200	154	139	87.3	108	219	150	156
1909	333	138	139	159	186	315	186	450	414	-	-	-	-
1926	-	-	-	a99.1	97.4	80.3	89.4	59.6	24.9	35.5	39.9	42.3	-
1927	28.8	127	172	90.3	127	154	96.6	56.7	86.2	35.9	31.8	20.7	85.3
1928	39.2	81.0	187	99.5	79.3	96.4	213	177	76.8	79.0	469	260	155
1929	160	82.6	65.9	105	188	513	147	154	109	88.1	43.4	181	153
1930	288	178	110	84.6	103	104	83.9	100	42.6	18.5	21.9	25.4	96.8
1931	15.4	61.3	54.7	61.3	47.4	64.0	243	120	34.6	35.9	64.7	27.0	69.0
1932	11.5	15.2	99.9	-	-	-	-	-	-	-	-	-	-

* Only monthly figures revised; revised daily figures not available.

† Not previously published; estimated or partly estimated on basis of computation of daily discharge for high-water periods.

a Not previously published; partly estimated on basis of records for Swannanoa River at Biltmore.

Monthly and yearly runoff, in inches (adjusted)1/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	2.98	2.49	1.05	1.28	-
1908	0.74	1.20	3.02	3.75	6.23	3.66	2.72	2.55	1.55	1.97	4.00	2.31	33.70
1909	6.09	2.45	2.54	2.91	3.07	5.77	3.30	8.23	7.33	-	-	-	-
1926	-	-	-	a1.95	1.72	1.59	1.70	1.22	.58	.76	.86	.86	-
1927	.64	2.38	3.30	1.79	2.25	2.97	1.83	1.15	1.62	.77	.69	.45	19.84
1928	.82	1.55	3.57	1.95	1.47	1.89	3.93	3.38	1.48	1.57	8.82	4.76	35.19
1929	3.08	1.58	1.32	2.08	3.24	9.62	2.73	2.97	2.05	1.74	.91	3.35	34.65
1930	5.45	3.30	2.14	1.67	1.81	2.04	1.61	1.97	.86	.42	.47	.53	22.27
1931	.35	1.21	1.13	1.24	.87	1.27	4.45	2.33	.71	.76	1.30	.58	16.20
1932	.31	.35	1.95	-	-	-	-	-	-	-	-	-	-

1/ Adjusted for diversion by city of Asheville for water supply.

* Only monthly figures revised; revised daily figures not available.

† Not previously published; estimated or partly estimated on basis of computation of daily discharge for high-water periods.

a Not previously published; partly estimated on basis of records for Swannanoa River at Biltmore.

TENNESSEE RIVER BASIN

Yearly discharge, in cubic feet per second, of Swannanoa River at Swannanoa, N. C.											
Year	W.S.P. no.	Water year ending Sept. 30						Calendar year			
		Observed				Adjusted ¹		Observed		Adjusted ¹	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1907	(a)	-	-	-	-	-	-	-	-	-	-
1908	(a)	-	-	-	-	-	-	-	-	-	-
1909	(a)	#4,360	Feb. 15, 1908	30	#156	-	#2.48	#33.70	#184	-	#39.82
1926	623	*2,080	Jan. 18, 1926	7.6	-	-	-	-	#74.6	#80.4	#17.56
1927	643	*2,260	Nov. 15, 1926	16	85.3	90.8	1.46	19.84	85.7	89.1	19.46
1928	663	10,400	Aug. 16, 1928	11	155	161	2.59	35.19	155	161	35.23
1929	683	*3,440	Sept. 26, 1929	25	153	158	2.54	34.65	175	181	39.56
1930	698	*3,220	Oct. 22, 1929	10	96.8	102	1.64	22.27	59.4	64.3	14.07
1931	713	-	-	-	-	-	-	-	-	-	-
1932	713	*1,830	Apr. 4, 1931	12	69.0	74.1	1.19	16.20	668.8	673.7	616.12

¹ Adjusted for diversion by city of Asheville for water supply.

* Revised.

† Not previously published.

a Tennessee Division of Geology, Bull. 34.

b Only monthly figures revised; revised daily figures not available.

81. Beetree Creek near Swannanoa, N. C.

Location.--Lat 35°39'11", long. 82°24'20", 1,000 ft upstream from Beetree Reservoir and 3.8 miles north of Swannanoa, Buncombe County.

Drainage area.- 5.46 sq mi.

Gage.--Water-stage recorder and modified 4-ft Parshall flume set in masonry control. Datum of gage is 2,728.39 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--24 years (1926-50), 10.8 cfs.

Extremes.--1926-50: Maximum discharge, 1,370 cfs Aug. 13, 1940 (gage height, 6.20 ft), by computation of flow over weir; minimum, 0.67 cfs July 22, 1926, Aug. 6, 1930; minimum gage height, 0.31 ft Sept. 18, 1944.

Monthly and yearly mean discharge, in cubic feet per second													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1926	-	-	-	-	-	10.3	12.0	7.16	2.66	2.19	4.12	3.63	-
1927	3.95	16.2	19.6	10.9	17.4	19.2	10.6	6.02	11.3	3.67	2.09	1.37	10.1
1928	1.66	6.78	22.3	11.0	9.68	12.2	23.4	18.9	8.26	5.39	33.0	21.3	14.5
1929	11.2	7.91	5.08	10.6	18.1	37.0	15.2	19.1	14.1	12.9	4.00	16.9	14.3
1930	33.8	22.9	11.4	9.28	7.92	11.9	11.2	8.80	3.47	1.34	1.72	2.28	10.5
1931	1.69	9.59	7.87	9.75	5.59	7.26	24.7	12.3	4.07	2.50	9.77	5.40	8.37
1932	*1.81	1.64	9.83	15.6	17.7	14.0	13.5	14.5	4.15	3.69	2.19	1.47	*8.33
1933	8.42	12.1	25.4	17.0	21.0	12.5	15.7	17.7	3.80	2.58	1.96	3.07	11.7
1934	1.34	1.47	1.67	3.41	5.41	22.5	12.7	4.97	10.4	5.42	5.04	2.50	6.23
1935	5.30	8.59	6.72	16.3	9.14	21.2	19.4	7.89	3.62	4.35	6.29	7.46	9.86
1936	2.05	10.2	4.62	32.5	22.9	31.7	34.2	6.71	2.34	1.77	3.80	6.83	13.3
1937	21.6	7.32	13.5	38.5	17.8	10.6	11.7	8.57	4.96	3.30	7.20	8.54	12.8
1938	13.9	7.96	7.10	9.48	14.2	21.3	10.6	8.26	8.04	10.0	13.2	3.19	10.6
1939	1.52	5.21	5.42	11.0	30.0	19.2	13.5	9.26	7.60	7.28	8.48	3.26	10.0
1940	1.55	1.47	1.58	1.99	6.66	13.7	15.3	5.86	4.85	5.24	61.8	14.1	11.2
1941	3.60	4.46	13.2	10.9	4.46	9.52	10.9	4.88	2.29	15.7	7.28	2.59	7.53
1942	1.30	1.76	5.28	5.66	13.7	24.6	8.25	13.1	11.1	4.32	6.51	8.33	8.63
1943	4.58	3.90	17.2	21.3	16.3	17.7	16.5	14.3	7.97	13.8	4.14	1.89	11.6
1944	1.40	2.32	2.52	7.06	16.6	19.6	17.6	8.82	3.78	2.39	2.24	5.28	7.42
1945	8.80	4.98	9.18	13.5	15.9	16.4	17.8	16.4	9.22	4.04	4.09	7.61	10.6
1946	10.6	11.6	14.5	26.5	21.2	26.2	19.0	16.1	5.32	8.88	4.03	1.75	13.8
1947	4.85	4.84	4.32	24.8	8.60	13.6	14.1	6.01	5.86	3.41	3.63	1.54	7.97
1948	10.7	16.5	6.78	6.82	23.0	17.3	15.2	4.88	3.40	6.51	7.07	3.73	10.2
1949	1.96	13.7	19.3	13.9	16.3	14.5	20.6	18.1	27.0	37.9	20.3	9.63	17.8
1950	8.72	14.4	12.8	16.3	16.2	16.5	10.0	9.15	18.6	7.14	4.83	17.9	12.7

* Revised.

Monthly and yearly runoff, in inches													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1926	-	-	-	-	-	2.18	2.46	1.51	0.54	0.46	0.87	0.74	-
1927	0.83	3.32	4.14	2.29	3.32	4.05	2.16	1.27	2.31	.78	.44	.28	25.19
1928	.35	1.39	4.71	2.32	1.91	2.57	4.78	3.99	1.69	1.14	6.96	4.35	36.16
1929	2.36	1.62	1.07	2.25	3.45	7.80	3.10	4.03	2.89	2.73	.84	3.45	35.59
1930	7.15	4.67	2.41	1.96	1.51	2.50	2.29	1.86	.71	.28	.36	.47	26.17
1931	0.36	1.96	1.66	2.06	1.07	1.53	5.05	2.59	.83	.53	2.06	1.10	20.80
1932	*0.38	.33	2.08	3.30	3.50	2.96	2.75	3.06	.85	.78	.46	.30	*20.75
1933	1.78	2.48	5.36	3.58	4.00	2.65	3.20	3.74	.78	.54	.41	.63	29.15
1934	.28	.30	.35	.72	1.03	4.75	2.59	1.05	2.13	1.15	.64	.51	15.50
1935	1.12	1.76	1.84	3.44	1.74	4.47	3.96	1.67	.74	.92	1.33	1.52	24.51
1936	4.43	2.08	.98	6.87	4.52	6.70	6.99	1.42	.48	.37	.80	1.40	33.04
1937	4.56	1.50	2.85	8.13	3.40	2.24	2.39	1.81	1.01	.70	1.52	1.74	31.85
1938	2.94	1.63	1.50	2.01	2.71	4.50	2.16	1.74	1.64	2.11	2.79	.65	26.38
1939	.32	1.06	1.14	2.32	5.72	4.06	2.76	1.96	1.55	1.53	1.79	.67	24.88
1940	.33	.30	.33	.42	1.31	2.90	3.12	1.24	.99	1.11	13.04	2.88	27.97

* Revised.

Monthly and yearly runoff, in inches, of Beetree Creek near Swannanoa, N. C.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1941	0.76	0.91	2.78	2.30	0.85	2.01	2.23	1.03	0.47	3.32	1.54	0.53	18.73
1942	.27	.36	1.12	1.19	2.62	5.19	1.69	2.77	2.26	.91	1.38	1.70	21.46
1943	.97	.80	3.83	4.50	3.10	3.74	3.36	5.03	1.63	2.91	.87	.39	28.93
1944	.29	.47	.53	1.49	3.28	4.13	3.60	1.86	.77	.50	.47	1.08	18.47
1945	1.86	1.02	1.94	2.84	3.03	3.46	3.65	3.46	1.88	.85	.86	1.56	26.41
1946	2.24	2.37	3.07	5.60	4.05	5.53	3.88	3.41	1.09	1.88	.85	.36	34.33
1947	1.02	.99	.91	5.23	1.64	2.87	2.88	1.27	1.20	.72	.77	.31	19.81
1948	2.26	3.38	1.43	1.40	4.54	3.66	3.10	.99	.69	1.80	1.49	.76	25.50
1949	.41	2.79	4.07	2.93	3.10	3.07	4.22	3.83	5.51	8.00	4.29	1.97	44.19
1950	1.84	2.93	2.70	3.45	3.09	3.48	2.05	1.93	3.81	1.51	1.02	3.66	31.47

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1926	623	-	-	-	-	-	-	-	-	-
1927	643	362	Nov. 15, 1926	0.85	10.1	1.85	25.19	9.39	25.35	-
1928	663, 893	830	Aug. 15, 1928	.76	14.5	2.66	36.16	13.9	34.76	-
1929	683	192	Sept. 26, 1929	1.90	14.3	2.62	35.59	18.0	44.77	-
1930	698	379	Oct. 21, 1929	.70	10.5	1.92	26.17	6.41	15.92	-
1931	713	204	Apr. 22, 1931	1.16	8.37	1.45	20.80	*7.89	*19.61	-
1932	728, 1276	180	May 1, 1932	.92	*8.33	*1.53	*20.75	11.1	27.58	-
1933	743	242	Dec. 28, 1932	1.16	11.7	2.14	29.15	8.23	20.46	-
1934	758	204	Mar. 3, 1934	1.05	6.23	1.14	15.50	7.75	19.29	-
1935	783	204	Jan. 8, 1935	1.72	9.86	1.81	24.51	9.37	23.28	-
1936	803	220	Apr. 6, 1936	.79	13.3	2.44	33.04	15.4	38.46	-
1937	823	216	Oct. 16, 1936	1.74	12.8	2.34	31.85	11.7	29.01	-
1938	853	179	Oct. 19, 1937	1.76	10.6	1.94	26.38	9.19	22.83	-
1939	873	262	July 8, 1939	1.38	10.0	1.83	24.88	9.38	23.32	-
1940	893	1,370	Aug. 13, 1940	1.09	11.2	2.05	27.97	12.6	31.46	-
1941	923	232	Dec. 27, 1940	1.27	7.53	1.38	18.73	6.44	16.03	-
1942	953	351	Mar. 8, 1942	.8	8.63	1.58	21.46	10.1	25.11	-
1943	973	207	Dec. 29, 1942	1.1	11.6	2.12	28.93	9.99	24.82	-
1944	1003	220	Sept. 30, 1944	.8	7.42	1.36	18.47	8.83	22.00	-
1945	1033	101	Mar. 26, 1945	2.3	10.6	1.94	26.41	11.8	29.27	-
1946	1053	a141	Feb. 10, 1946	1.2	13.8	2.53	34.33	11.9	29.57	-
1947	1083	253	Jan. 20, 1947	1.1	7.97	1.46	19.81	9.64	23.96	-
1948	1113	158	July 11, 1948	.9	10.2	1.87	25.50	10.3	25.70	-
1949	1143	565	June 16, 1949	1.6	17.8	3.26	44.19	17.9	44.39	-
1950	1173	352	Sept. 1, 1950	2.4	12.7	2.33	31.47	-	-	-

* Revised.

a Maximum recorded; may have been higher Jan. 7 during period of no gage-height record.

82. Swannanoa River at Azalea, N. C.

Location.--Lat 35°34'54", long. 82°27'55", 150 ft downstream from Christian Creek, 0.2 mile downstream from bridge on U. S. Highway 70 at Azalea, Buncombe County, and half a mile upstream from Lake Craig.

Drainage area.--102 sq mi.

Gage.--Staff gage. Datum of gage is 2,040.61 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1946-47: Maximum discharge, 2,650 cfs Jan. 20, 1947 (gage height, 6.5 ft. from graph based on gage readings), from rating curve extended above 600 cfs by logarithmic plotting; minimum discharge observed, 19 cfs Sept. 12, 1946, July 30, 31, 1947; minimum gage height observed, 1.15 ft Sept. 12, 1946.

Remarks.--City of Asheville diverts its water supply above station from Beetree Reservoir (capacity, 843 cfs-days) and from North Fork Swannanoa River.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1946	-	-	-	-	-	-	-	-	-	-	39.1	26.1	-
1947	90.3	66.5	53.3	305	95.5	141	159	73.9	65.3	42.5	70.1	40.3	100

Monthly and yearly runoff, in inches (adjusted)^{1/}

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1946	-	-	-	-	-	-	-	-	-	-	0.64	0.36	-
1947	1.22	0.88	0.85	3.62	1.14	1.77	1.93	1.03	0.90	0.84	.98	.58	15.54

^{1/}Adjusted for storage and evaporation in Beetree Reservoir and for diversion by city of Asheville.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year		
		Observed		Adjusted ^{1/}	Per square mile	Runoff in inches	Observed	Adjusted ^{1/}	Mean	Runoff in inches
		Momentary maximum	Date							
1946	1053	-	-	-	-	-	-	-	-	-
1947	1083	2,650	Jan. 20, 1947	20	100	117	1.15	15.54	-	-

^{1/}Adjusted for storage and evaporation in Beetree Reservoir and for diversion by city of Asheville.

83. Swannanoa River at Biltmore, N. C.

Location.--Lat 35°34'06", long. 82°32'42", at Biltmore, Buncombe County, 100 ft downstream from Biltmore Avenue Bridge, 200 ft upstream from Southern Railway bridge, and 1.6 miles upstream from mouth.

Drainage area.--130 sq mi.

Supplemental records available.--May 1904 to April 1906, discharge measurements only.

Gage.--Water-stage recorder and concrete control. Datum of gage is 1,976.58 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Dec. 1, 1920, to Sept. 30, 1926, staff gage at site 100 ft upstream at same datum.

Average discharge.--23 years (1920-26, 1933-50), 162 cfs (unadjusted).

Extremes.--1920-26, 1933-50: Maximum discharge, 18,400 cfs Aug. 13, 1940 (gage height, 19.00 ft), from rating curve extended above 8,400 cfs by computation of peak flow over dam 3.6 miles above station; minimum, 1.1 cfs Oct. 9, 14, 15, 1941; minimum gage height, 0.65 ft July 17, 1936.

Maximum stage known, 21.5 ft in July 1916, from floodmarks. Flood of Aug. 16, 1928, reached a stage of 18.74 ft, from floodmarks. Extremely high stages subject to backwater from French Broad River.

Remarks.--City of Asheville diverts its water supply above station from Beestree Reservoir (capacity, 843 cfs-days) and from North Fork Swannanoa River. Textile mills above gage divert about 5 mgd for industrial use, of which about 3 mgd, equivalent to a mean discharge of 4.5 cfs, is discharged into French Broad River. Practically all of the flow of North Fork at Grovestone is diverted through a gravel-washing plant, resulting in an excessive evaporation loss. Low flows during water years 1924-50 were regulated by Lake Craig 3.6 miles above the station. Complete record of diversions and return water not available.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	*75.6	*89.2	257	209	403	187	273	266	183	144	114	76.5	*189
1922	72.0	133	132	205	272	353	299	266	178	132	74.7	54.8	180
1923	80.1	56.2	150	205	243	332	205	433	231	142	91.5	102	189
1924	65.5	81.1	136	280	177	248	250	187	118	176	65.1	137	160
1925	102	93.9	189	266	143	147	110	139	45.8	33.8	23.8	24.0	110
1926	36.1	64.0	47.3	164	143	125	124	74.2	44.3	85.8	50.4	47.4	83.4
1934	-	-	-	-	-	-	-	-	210	120	77.5	66.9	*130
1935	114	164	168	280	155	288	302	139	69.5	75.5	121	139	168
1936	42.4	145	80.9	476	338	475	560	146	79.9	63.5	103	103	217
1937	328	115	201	581	306	187	201	137	78.5	69.3	99.3	122	202
1938	200	117	113	131	162	269	147	113	125	145	144	74.8	145
1939	37.2	108	80.3	163	470	311	194	135	98.9	78.6	120	46.8	152
1940	31.3	30.8	37.6	45.9	99.1	155	205	72.6	71.4	66.9	828	175	152
1941	57.3	76.0	145	126	67.4	115	122	55.0	30.7	258	79.7	37.6	98.2
1942	17.8	34.8	75.9	80.8	184	301	109	189	176	78.9	97.6	123	122
1943	61.4	53.5	238	281	273	249	227	200	130	250	80.4	43.0	174
1944	35.1	53.3	48.9	96.1	231	310	265	141	65.5	56.8	70.4	75.5	120
1945	124	76.1	104	160	217	221	236	207	122	65.0	76.3	145	146
1946	150	149	256	435	352	384	305	231	93.7	87.3	44.0	30.8	209
1947	105	76.4	123	330	116	170	192	84.0	75.2	49.3	80.7	43.8	116
1948	231	296	121	107	342	259	229	87.0	72.8	132	100	126	174
1949	46.9	214	254	215	260	221	295	313	387	503	405	204	277
1950	182	237	198	245	235	300	179	130	196	79.8	51.9	406	202

* Not previously published; estimated or partly estimated on basis of records for French Broad River at Asheville and North Fork Swannanoa River near Black Mountain.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1921	523	*2,220	Dec. 14, 1920*	44	*189	-	-	181	-
1922	543	1,500	Jan. 21, 1922	43	180	-	-	176	-
1923	563	4,690	May 29, 1923	26	189	-	-	189	-
1924	583	*6,090	Jan. 16, 1924*	14	160	-	-	169	-
1925	603	2,930	Dec. 8, 1924	12	110	-	-	89.9	-
1926	623	*3,010	Jan. 18, 1926*	18	83.4	-	-	-	-
1934	758	9550	June 18, 1934	-	*130	-	-	*160	-
1935	783	3,260	Jan. 9, 1935	33	168	-	-	153	-
1936	803	3,340	Jan. 19, 1936	33	217	-	-	249	-
1937	823	4,380	Oct. 16, 1936	24	202	-	-	184	-
1938	853	1,780	Oct. 19, 1937	16	145	-	-	128	-
1939	873	2,460	Jan. 30, 1939	17	152	-	-	141	-
1940	893	18,400	Aug. 13, 1940	4.5	152	-	-	167	-
1941	923	1,500	Dec. 28, 1940	2.3	98.2	-	-	85.5	-
1942	953	1,910	Mar. 9, 1942	1.2	122	-	-	141	-
1943	973	2,840	Dec. 29, 1942	23	174	-	-	155	-
1944	1003	2,150	Sept. 30, 1944	21	120	-	-	134	-
1945	1033	1,340	Sept. 17, 1945	16	146	-	-	167	-

* Revised.

* Not previously published.

* Maximum during period May to September.

Yearly discharge, in cubic feet per second, of Swannanoa River at Biltmore, N. C.--Continued

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1946	1053	2,610	Feb. 10, 1946	26	209	-	-	183	-
1947	1083	2,650	Jan. 20, 1947	26	116	-	-	149	-
1948	1113	3,180	Oct. 17, 1947	25	174	-	-	163	-
1949	1143	9,930	June 16, 1949	36	277	-	-	285	-
1950	1173	3,820	Sept. 9, 1950	34	202	-	-	-	-

Note.--Monthly and yearly records of discharge, in cubic feet per second per square mile, and runoff in inches, published in water-supply papers, may be subject to considerable error because of diversion and storage above station. These records are not published herein and should not be used.

84. French Broad River at Asheville, N. C.

Location.--Lat 35°36'32", long. 82°34'41" at Pearson Bridge at Asheville, Buncombe County, 2.3 miles downstream from Southern Railway station, 3.1 miles downstream from Swannanoa River, and at mile 145.8.

Drainage area.--945 sq mi. At site used 1903-22, 937 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,950.28 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Sept. 17, 1895, to Dec. 31, 1901, wire-weight gage at present site at different datum. Mar. 19, 1903, to July 15, 1916, and Jan. 1, 1917, to Sept. 30, 1922, staff gage at Smith Bridge 1.5 miles upstream at datum 11.52 ft higher. Oct. 1, 1922, to Aug. 9, 1930, chain gage at present site and datum.

Average discharge.--55 years (1895-1950), 2,112 cfs.

Extremes.--1895-1950: Maximum discharge, 110,000 cfs July 16, 1916 (gage height, 23.1 ft, present site and datum, from floodmarks), from rating curve extended above 43,000 cfs; minimum, 239 cfs at times in August and September 1925 (gage height, 0.16 ft).

Flood in June 1876 reached a stage of 18 ft, from survey by the Tennessee Valley Authority.

Remarks.--Slight diurnal fluctuation and occasional slight regulation at low flow caused by powerplants and small reservoirs above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1896	712	917	1,360	1,760	2,240	1,480	1,300	1,260	1,050	3,200	974	783	1,420
1897	639	2,160	1,590	1,310	3,870	4,520	3,740	2,650	1,700	1,410	1,030	616	2,090
1898	775	861	1,150	1,640	1,100	1,270	1,940	1,220	1,150	3,070	4,350	3,270	1,820
1899	4,610	1,430	2,210	2,550	5,200	7,930	5,710	3,200	1,560	1,270	1,200	1,160	3,160
1900	964	936	2,220	2,440	4,110	4,120	3,940	1,950	3,470	2,270	1,450	2,430	2,430
1901	2,240	2,240	2,340	2,670	2,010	3,390	5,460	4,380	4,120	2,410	8,380	4,310	3,670
1902	2,380	1,570	5,190	2,840	*5,790	*5,150	*3,000	*1,950	*1,420	*1,120	*800	*1,470	*2,550
1903	*1,010	*1,370	*2,340	*1,850	*5,110	*7,030	4,860	2,330	4,330	2,060	1,540	1,080	*2,890
1904	855	921	848	1,020	1,420	2,330	1,460	1,520	1,400	943	1,310	771	1,230
1905	393	583	843	1,650	1,990	1,810	1,440	2,440	2,100	4,310	3,200	1,310	1,840
1906	1,100	877	2,800	5,150	2,670	2,980	2,820	1,830	3,520	3,010	2,920	4,970	2,890
1907	5,120	3,300	2,340	2,190	1,690	1,660	1,900	1,980	1,730	1,230	1,080	1,200	2,120
1908	905	1,720	2,970	3,340	4,270	2,810	2,390	2,140	1,460	1,900	2,770	1,670	2,360
1909	2,280	1,700	2,180	2,230	2,960	3,420	2,320	4,270	5,770	3,000	2,030	1,860	*2,840
1910	1,500	1,180	2,040	1,790	2,000	2,150	1,440	2,170	1,890	2,270	2,190	3,470	2,010
1911	1,560	1,020	1,410	1,890	1,540	1,420	3,790	1,630	1,020	915	966	1,100	1,520
1912	1,590	1,470	1,990	1,850	2,530	4,010	2,990	2,590	2,090	2,390	1,560	1,570	2,220
1913	1,160	1,240	1,290	1,690	2,000	5,460	3,640	2,290	1,900	1,340	1,510	1,450	2,080
1914	1,400	1,150	1,650	1,500	2,010	1,610	2,540	1,330	1,080	963	884	729	1,400
1915	2,710	1,850	5,700	4,870	4,690	2,850	1,860	2,040	2,200	2,130	1,700	1,850	2,870
1916	2,980	2,270	4,230	3,370	3,660	2,320	2,030	2,230	2,860	11,500	2,880	1,350	*13,490
1917	a1,310	a1,190	a1,940	1,970	2,090	4,370	2,670	1,600	1,300	1,360	1,120	2,010	a1,810
1918	1,590	1,200	914	*2,890	2,600	1,700	1,990	1,860	1,570	1,240	1,203	877	a1,640
1919	3,900	2,500	5,560	4,080	2,960	4,250	2,680	2,730	2,300	2,300	1,590	938	3,070
1920	946	*991	1,690	1,580	2,390	2,840	5,140	2,040	1,970	2,020	3,160	2,060	*2,230
1921	1,250	1,420	3,360	2,850	3,910	2,150	2,830	2,610	2,050	1,940	1,700	1,320	2,270
1922	1,060	1,570	1,850	2,200	2,730	3,890	3,290	3,150	2,350	2,160	1,190	860	2,190
1923	946	679	1,580	1,850	2,160	2,703	2,130	3,560	2,760	1,630	1,390	1,430	1,900
1924	856	1,130	1,910	3,190	2,360	2,640	5,240	2,120	1,530	2,320	1,180	1,640	2,010
1925	1,390	981	1,980	3,370	1,940	1,650	1,260	1,150	726	590	328	371	1,310
1926	532	1,100	792	1,870	1,820	1,750	1,910	1,150	758	804	984	1,210	1,210
1927	721	1,750	2,050	1,590	1,720	2,420	1,600	1,160	1,230	1,260	1,000	851	1,440
1928	942	1,170	2,720	1,730	1,730	1,970	2,900	3,030	2,260	2,070	5,760	4,000	2,530
1929	2,360	1,650	1,350	1,960	2,780	5,970	2,600	2,950	2,350	1,720	1,120	2,900	2,470
1930	4,200	3,420	2,380	1,950	1,950	1,920	1,500	1,620	992	657	523	950	1,840
1931	575	1,100	1,530	1,600	1,080	1,710	3,070	1,880	1,030	891	1,070	600	1,350
1932	449	507	2,310	3,200	2,310	2,000	1,890	1,950	1,790	1,140	1,340	814	1,640
1933	3,020	3,140	4,130	3,240	2,960	2,470	2,690	2,620	1,390	1,260	1,260	1,620	2,490
1934	898	762	871	1,470	1,330	3,430	2,170	1,590	2,580	1,430	1,430	1,650	1,640
1935	2,230	1,762	2,257	3,926	2,224	2,487	2,415	1,840	1,163	1,405	1,758	1,347	2,071

† Corrected.

* Not previously published; estimated or partly estimated on basis of records for Tuckasegee River at Bryson City.

a Estimated for Tennessee Division of Geology, Bull. 34.

TENNESSEE RIVER BASIN

Monthly and yearly mean discharge, in cubic feet per second, of French Broad River at Asheville, N. C.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1886	779	1,934	1,296	4,878	3,402	3,323	5,517	1,849	1,158	1,053	1,241	1,015	2,280
1887	3,822	1,566	2,443	6,068	3,575	2,118	2,373	1,801	1,424	1,104	1,502	1,848	2,469
1888	2,901	1,598	1,462	1,585	1,520	2,155	1,745	1,358	1,750	2,297	1,930	1,212	1,797
1889	734	1,258	1,105	1,917	5,141	3,686	2,140	1,734	1,498	1,150	1,987	859	1,913
1890	629	584	660	857	1,656	1,544	2,385	1,240	1,093	1,076	4,961	2,302	1,582
1891	918	1,254	1,663	1,571	1,092	1,571	1,660	931	771	2,409	1,363	686	1,329
1892	561	770	1,700	1,452	2,395	3,114	1,506	3,383	1,934	1,605	1,951	2,355	1,892
1893	1,278	1,100	3,127	3,717	3,041	3,011	2,755	2,554	2,148	3,053	1,485	959	2,353
1894	758	945	880	1,583	2,606	3,728	3,034	1,973	1,362	977	851	890	1,628
1895	1,004	962	1,179	1,382	2,053	2,007	2,273	1,790	1,028	1,172	1,167	1,865	1,486
1896	1,198	1,389	2,601	4,659	3,959	3,897	2,811	2,733	1,551	1,479	1,005	865	2,340
1897	1,412	1,385	1,226	3,485	1,683	1,888	2,287	1,357	1,312	975	803	634	1,538
1898	1,714	2,618	1,491	1,492	3,202	3,150	2,618	1,412	1,152	1,649	2,200	1,695	2,024
1899	969	3,984	3,277	2,928	3,181	2,461	3,128	3,290	2,961	4,455	4,069	2,782	3,122
1900	2,576	2,802	2,303	2,452	2,331	2,927	1,915	1,513	2,089	1,865	1,148	3,549	2,286

Note.--Only monthly figures revised for the periods October 1895 to December 1901 and April 1903 to December 1907; revised daily figures not available.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1886	0.87	1.08	1.66	2.15	2.55	1.81	1.53	1.53	1.24	3.90	1.19	0.92	20.43
1887	.78	2.55	1.94	1.60	4.27	5.51	4.42	3.24	2.01	1.73	1.26	.73	30.04
1888	.94	1.02	1.40	2.00	1.22	1.55	2.29	1.49	1.35	3.74	5.30	3.86	26.16
1889	5.62	1.68	2.69	3.11	5.73	9.67	6.74	3.91	1.84	1.55	1.47	1.37	45.38
1890	1.18	1.11	2.71	2.98	4.53	5.02	4.66	2.38	4.10	2.77	1.76	1.72	34.92
1891	2.73	2.64	2.86	3.26	2.22	4.14	6.45	5.35	4.87	2.94	10.20	5.08	52.74
1892	2.91	1.85	6.33	3.46	4.18	6.28	3.54	2.38	1.68	1.37	4.98	1.74	35.70
1893	1.24	1.63	2.98	2.28	2.68	2.53	5.79	2.87	5.16	2.53	1.89	1.29	41.88
1894	1.05	1.10	1.04	1.26	1.63	2.87	1.74	1.87	1.67	1.16	1.61	.92	17.92
1895	.48	.69	1.04	2.03	2.21	2.23	1.71	3.00	2.50	5.30	3.94	1.56	26.69
1896	1.36	1.04	3.45	6.33	2.96	3.67	3.36	2.26	4.20	3.71	3.59	5.91	41.84
1897	6.30	3.93	2.88	2.70	1.87	2.04	2.27	2.43	2.07	1.51	1.33	1.43	30.76
1898	1.11	2.04	3.66	4.11	4.92	3.46	2.85	2.63	1.74	2.34	3.41	1.98	34.25
1899	2.86	2.03	2.69	2.74	3.29	4.21	2.76	5.25	6.88	3.69	2.49	2.22	41.11
1900	1.85	1.40	2.51	2.20	2.23	2.65	1.72	2.67	2.25	2.79	2.69	4.13	29.09
1901	1.92	1.22	1.74	2.33	1.72	1.74	4.52	2.01	1.22	1.13	1.19	1.31	22.05
1902	1.95	1.75	2.45	2.28	2.91	4.93	3.55	3.19	2.49	2.94	1.92	1.87	32.23
1903	1.43	1.47	1.58	2.08	2.22	6.72	4.34	2.81	2.26	1.65	1.85	1.73	30.14
1904	1.72	1.37	2.03	1.85	2.23	1.98	3.03	1.63	1.29	1.18	1.09	.87	20.27
1905	3.33	2.20	7.01	5.99	5.22	3.51	2.21	2.51	2.62	2.62	2.09	2.21	41.52
1906	3.66	2.71	5.20	4.15	4.21	2.86	2.42	2.75	3.51	14.14	as.55	al.61	as.67
1907	al.61	al.41	as.38	2.42	2.32	5.55	3.18	1.97	1.55	1.68	1.37	2.39	27.65
1908	1.96	1.42	1.12	as.56	2.89	2.09	2.37	2.29	1.87	1.52	1.47	1.16	28.72
1909	4.80	4.16	6.84	5.01	3.29	5.23	3.19	3.36	2.74	2.83	1.96	1.12	44.53
1910	1.16	1.18	2.08	1.95	2.75	3.49	6.12	2.51	2.35	2.48	3.89	2.45	32.41
1911	1.53	1.70	4.13	3.51	4.34	2.65	3.37	3.21	2.44	2.39	2.10	1.58	32.95
1912	1.30	1.87	2.27	2.71	3.03	4.79	3.92	3.88	2.80	2.66	1.47	1.02	31.72
1913	1.15	.80	1.93	2.25	2.37	3.30	2.52	4.35	3.26	1.98	1.70	1.69	27.30
1914	1.02	1.33	2.33	3.89	2.70	3.23	3.83	2.58	1.81	2.83	1.44	1.93	28.92
1915	1.70	1.16	2.42	4.11	2.13	2.01	1.49	1.40	.86	.72	.40	.44	18.84
1916	.65	1.30	.97	2.28	2.00	2.14	2.26	1.40	.89	.98	1.20	1.32	17.39
1917	.88	2.06	2.50	1.94	1.90	2.95	1.89	1.41	1.45	1.54	1.22	1.00	20.74
1918	1.15	1.38	3.32	2.11	1.98	2.40	3.43	3.70	2.66	2.53	7.03	4.72	36.41
1919	2.88	1.83	1.65	2.39	3.06	7.29	3.07	3.60	2.77	2.10	1.37	3.43	35.44
1920	5.13	4.03	2.91	2.38	2.15	2.35	1.77	1.98	1.17	.80	.64	1.12	26.43
1921	.70	1.30	1.86	1.96	1.19	2.09	3.63	2.30	1.22	1.09	1.31	.71	19.36
1922	.55	.60	2.82	3.90	2.42	2.43	2.23	2.38	2.11	1.59	1.64	.96	23.65
1923	3.68	3.71	5.03	3.95	3.27	3.01	3.18	3.24	1.65	1.53	1.54	1.91	35.70
1924	1.10	.90	1.06	1.80	1.47	4.19	2.56	1.94	3.05	1.75	1.74	1.94	23.50
1925	2.72	2.08	2.75	4.79	2.45	3.03	2.85	2.25	1.37	1.71	2.14	1.59	29.75
1926	.95	2.28	1.58	5.95	3.88	4.05	6.51	2.26	1.37	1.28	1.51	1.20	32.82
1927	4.66	1.85	2.99	7.40	3.94	2.58	2.80	2.20	1.68	1.35	1.83	2.19	35.47
1928	3.54	1.89	1.79	1.94	1.68	2.63	2.06	1.60	2.06	2.80	2.35	1.43	25.83
1929	.90	1.48	1.35	2.34	5.66	4.50	2.52	2.11	1.77	1.41	2.42	1.01	27.47
1930	.77	.69	.81	1.05	1.99	1.88	2.62	1.51	1.29	1.31	6.05	2.72	22.79
1931	1.12	1.48	2.03	1.92	1.20	1.92	1.96	1.14	.91	2.94	1.66	.81	19.09
1932	.68	.91	2.07	1.77	2.64	3.80	1.78	4.13	2.28	1.96	2.38	2.78	27.18
1933	1.56	1.30	3.81	4.54	3.35	3.67	3.25	3.12	2.54	3.72	1.81	1.13	33.80
1934	.93	1.12	1.07	1.93	2.97	4.55	3.58	2.41	1.61	1.19	1.04	1.05	23.45
1935	1.22	1.14	1.44	1.69	2.26	2.45	2.69	2.18	1.21	1.43	1.42	2.20	21.33
1936	1.46	1.64	3.17	5.68	4.36	4.75	3.32	3.33	1.83	1.80	1.23	1.02	33.59
1937	1.72	1.64	1.50	4.25	1.85	2.30	2.70	1.66	1.55	1.19	.98	.75	22.09
1938	2.09	3.09	1.82	1.82	3.65	3.84	3.09	1.72	1.36	2.01	2.68	1.97	29.14
1939	1.18	4.70	4.00	3.57	3.51	3.00	3.69	4.01	3.50	5.44	4.96	3.28	44.84
1940	3.14	3.31	2.81	2.99	2.57	3.57	2.26	1.85	2.47	2.28	1.40	4.19	32.84

† Corrected.

* Not previously published; estimated or partly estimated on basis of records for Tuckasegee River at Bryson City.

a Estimated for Tennessee Division of Geology, Bull. 34.

Note.--Only monthly figures revised for the periods October 1895 to December 1901 and April 1903 to December 1907.

Yearly discharge, in cubic feet per second, of French Broad River at Asheville, N. C.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1896	-	*21,600	July 8, 1896	-	1,420	1.50	20.43	1,530	22.09
1897	-	*12,500	Feb. 6, 1897	-	2,090	2.21	30.04	1,960	28.13
1898	-	*15,900	Aug. 4, 1898	-	1,820	1.93	26.16	2,280	32.79
1899	-	*26,600	Mar. 15, 1899	-	3,160	3.34	45.39	2,810	40.39
1900	-	*14,900	Feb. 13, 1900	-	2,430	2.57	34.92	2,660	38.15
1901	-	*29,300	May 22, 1901	-	3,670	3.88	52.74	3,870	55.60
1902	-	*26,900	Dec. 16, 1901	-	*2,550	*2.70	*36.70	*2,180	*31.36
1903	-	*19,000	Mar. 23, 1903	-	*2,890	*3.08	*41.89	*2,710	*39.33
1904	-	*13,800	Mar. 7, 1904	-	1,230	1.31	17.92	1,170	16.94
1905	-	*23,000	July 12, 1905	-	1,840	1.96	26.69	2,090	30.33
1906	-	25,800	Jan. 23, 1906	-	2,890	3.08	41.84	3,390	49.10
1907	-	*15,800	Oct. 3, 1906	-	2,120	2.26	30.76	1,890	24.46
1908	(a)	*16,600	Feb. 15, 1908	-	2,360	2.52	34.25	2,410	35.02
1909	(a)	*19,200	June 4, 1909	1,010	*2,840	3.03	41.11	2,710	39.29
1910	283	*30,300	Aug. 31, 1910	1,010	2,010	2.15	29.09	1,950	28.21
1911	303	*14,900	Apr. 5, 1911	590	1,520	1.62	22.05	1,610	23.32
1912	323	*15,900	Mar. 15, 1912	670	2,220	2.37	32.23	2,100	30.56
1913	353	*21,200	Mar. 14, 1913	920	2,080	2.22	30.14	2,130	30.78
1914	383	*10,800	Apr. 15, 1914	590	1,400	1.49	20.27	1,910	27.69
1915	403	*19,900	Oct. 16, 1914	590	2,870	3.06	41.52	2,800	40.55
1916	433	110,000	July 16, 1916	-	tb3,490	b3.72	b50.67	b3,060	b44.50
1917	453	*13,800	Mar. 24, 1917*	680	b1,910	b2.04	b27.66	1,850	26.76
1918	473	12,200	Jan. 28, 1918	760	b1,640	b1.75	b23.72	b2,420	b35.02
1919	503	25,600	Dec. 23, 1918	630	3,070	3.28	44.53	2,290	33.15
1920	503	*19,000	Apr. 2, 1920	700	*2,230	2.38	32.41	2,430	35.35
1921	523	*12,000	Dec. 14, 1920	980	2,270	2.42	32.95	2,140	31.03
1922	543	*9,920	Mar. 28, 1922*	580	2,190	2.34	31.72	2,080	30.16
1923	563	13,300	May 30, 1923	610	1,900	2.01	27.30	1,960	28.10
1924	583	9,600	Jan. 16, 1924	665	2,010	2.13	28.92	2,050	29.52
1925	603	9,210	Dec. 9, 1924	239	1,310	1.39	18.84	1,150	16.48
1926	623	10,300	Jan. 18, 1926	338	1,210	1.28	17.39	1,390	19.91
1927	643	*9,770	Nov. 16, 1926	560	1,440	1.52	20.74	1,470	21.15
1928	663	42,700	Aug. 16, 1928	504	2,530	2.68	36.41	2,560	36.92
1929	683	15,100	Mar. 14, 1929	750	2,470	2.61	35.44	2,860	41.15
1930	698	15,100	Oct. 2, 1929	412	1,840	1.95	26.43	1,270	18.22
1931	713	7,010	Apr. 22, 1931	442	1,350	1.43	19.36	1,350	19.47
1932	728	6,780	Jan. 2, 1932	375	1,640	1.74	23.65	2,230	32.10
1933	743	15,800	Oct. 18, 1932	816	2,490	2.63	35.70	1,830	26.34
1934	758	11,500	Mar. 4, 1934	650	1,640	1.74	23.50	1,948	27.99
1935	783	16,900	Jan. 9, 1935	795	2,071	2.19	29.73	1,880	26.99
1936	803	16,500	Jan. 19, 1936	632	2,280	2.41	32.82	2,604	37.57
1937	823	19,200	Oct. 16, 1936	860	2,469	2.61	35.47	2,310	33.19
1938	853	12,700	Oct. 20, 1937	810	1,797	1.90	*25.83	1,555	22.34
1939	873	11,700	Aug. 18, 1939	658	1,913	2.02	27.47	1,611	26.01
1940	893	34,800	Aug. 30, 1940	500	1,582	1.67	22.79	1,746	25.15
1941	923	7,140	Dec. 29, 1940	521	1,329	1.41	19.09	1,261	18.12
1942	953	20,900	May 21, 1942	444	1,892	2.00	27.18	2,102	30.19
1943	973	18,000	Dec. 30, 1942	623	2,353	2.49	33.80	2,106	30.25
1944	1003	9,110	Mar. 29, 1944	558	1,628	1.72	23.45	1,675	24.13
1945	1033	7,490	Sept. 17, 1945	605	1,486	1.57	21.33	1,658	23.80
1946	1053	16,000	Feb. 10, 1946	675	2,340	2.48	33.59	2,241	32.18
1947	1083	13,600	Jan. 20, 1947	500	1,538	1.63	22.09	1,687	24.23
1948	1113	9,540	Feb. 12, 1948	458	2,024	2.14	29.14	2,224	32.02
1949	1143	20,100	June 17, 1949	770	3,122	3.30	44.84	3,079	44.22
1950	1173	13,000	Sept. 9, 1950	913	2,286	2.42	32.84	-	-

* Revised.

† Corrected.

* Not previously published.

a Tennessee Division of Geology, Bull. 34.

b Estimated for Tennessee Division of Geology, Bull. 34.

Note.--Only monthly figures revised for periods October 1895 to December 1901 and April 1903 to December 1907.

85. Sandymush Creek near Alexander, N. C.

Location.--Lat 35°43'49", long. 82°40'11", 0.7 mile downstream from Turkey Creek, 1.3 miles upstream from mouth, and 3.5 miles northwest of Alexander, Buncombe County.

Drainage area.--79.5 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,732.53 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years (1942-50), 65.3 cfs.

Extremes.--1942-50: Maximum discharge, 5,490 cfs Feb. 10, 1946 (gage height, 9.65 ft), from rating curve extended above 2,200 cfs by logarithmic plotting; minimum, 12 cfs Dec. 24, 1943, Jan. 31, 1945; minimum gage height, 2.17 ft Dec. 24, 1943, Aug. 29, 1948.

Flood of Aug. 30, 1940, reached a stage of 16.7 ft, from floodmarks.

Monthly and yearly mean discharge, in cubic feet per second, of Sandymush Creek near Alexander, N.C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	*20.5	*23.0	96.4	119	122	127	82.9	58.0	52.0	53.9	39.8	20.1	*67.7
1944	19.7	24.1	26.6	34.1	109	146	80.7	41.7	46.1	43.4	34.7	25.8	52.4
1945	26.7	25.2	39.6	48.5	114	74.4	63.9	62.8	32.9	23.1	41.2	54.1	50.1
1946	38.1	49.8	95.3	219	215	155	121	107	47.7	44.3	35.6	21.0	95.2
1947	28.8	26.6	31.3	145	45.6	86.6	57.0	32.8	41.4	29.2	44.1	16.7	48.9
1948	23.9	55.2	31.7	40.9	130	87.3	78.4	32.3	26.8	24.1	31.7	25.5	48.6
1949	17.5	86.8	100	77.2	116	68.5	93.0	99.1	111	93.1	118	63.3	86.8
1950	67.0	94.7	64.0	108	107	144	65.9	46.9	49.5	37.5	31.4	56.0	72.5

* Not previously published; estimated or partly estimated on basis of records for Ivy River near Marshall.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	*0.30	*0.32	1.40	1.73	1.60	1.84	1.16	0.84	0.73	0.78	0.58	0.28	*11.56
1944	.29	.34	.39	.49	1.47	2.12	1.13	.60	.65	.63	.50	.36	8.97
1945	.39	.35	.57	.70	1.49	1.08	.90	.91	.46	.34	.60	.76	8.55
1946	.55	.70	1.38	3.18	2.82	2.25	1.70	1.55	.67	.64	.52	.29	16.25
1947	.42	.37	.45	2.10	.60	1.26	.80	.48	.58	.42	.64	.23	8.35
1948	.35	.77	.46	.59	1.76	1.27	1.10	.47	.38	.35	.46	.36	8.32
1949	.25	1.22	1.45	1.12	1.53	.99	1.30	1.44	1.56	1.35	1.71	.89	14.81
1950	.97	1.33	.93	1.56	1.41	2.09	.93	.68	.69	.54	.46	.79	12.38

* Not previously published; estimated or partly estimated on basis of records for Ivy River near Marshall.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1943	973	*1,660	Dec. 29, 1942	16	*67.7	*0.852	*11.56	61.8	10.56	
1944	1003	*3,320	July 20, 1944	13	52.4	.659	8.97	54.2	9.26	
1945	1033	*1,280	Feb. 17, 1945	17	50.1	.630	8.55	57.8	9.87	
1946	1053	5,490	Feb. 10, 1946	19	95.2	1.20	16.25	87.1	14.86	
1947	1083	2,280	Jan. 20, 1947	14	48.9	.615	8.35	50.9	8.69	
1948	1113	1,250	Apr. 7, 1948	13	48.6	.611	8.32	56.4	9.66	
1949	1143	5,600	June 16, 1949	15	86.8	1.09	14.81	88.6	15.12	
1950	1173	1,500	Jan. 19, 1950	22	72.5	.912	12.38	-	-	

* Revised.

* Not previously published.

86. Ivy River near Marshall, N. C.

Location.--Lat 35°46'10", long. 82°37'16", 0.2 mile downstream from county bridge, 1.9 miles upstream from mouth, and 4 miles southeast of Marshall, Madison County.

Drainage area.--158 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,700.41 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--17 years (1933-50), 153 cfs.

Extremes.--1933-50: Maximum discharge, 8,880 cfs Aug. 30, 1940 (gage height, 12.67 ft), from rating curve extended above 2,700 cfs on basis of slope-area determination of peak flow; minimum, 3 cfs Jan. 20, 1940, result of freezeup; minimum gage height, 1.53 ft Dec. 16, 1943.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	*41.0	*41.5	*44.0	*66.0	*100	*370	*225	*74.0	88.6	141	67.3	52.9	*109
1935	92.2	121	139	248	153	440	319	169	96.0	106	56.6	55.1	167
1936	38.1	98.5	52.3	482	406	633	574	123	72.4	79.8	112	118	232
1937	190	86.3	189	636	308	217	185	164	106	77.3	107	113	198
1938	142	83.9	131	188	244	410	170	163	133	199	90.6	50.4	167
1939	30.6	110	82.1	167	437	272	168	96.1	70.2	52.8	61.6	37.5	130
1940	32.7	28.9	39.8	46.4	106	162	184	78.1	67.4	81.3	444	107	115
1941	49.1	70.4	113	99.1	60.9	140	124	58.6	46.1	241	64.6	32.1	92.1
1942	22.2	29.5	44.0	51.9	132	278	76.1	127	229	79.4	76.6	91.0	103
1943	49.8	55.0	237	312	258	279	159	142	83.3	143	51.1	29.4	150
1944	28.6	42.9	46.0	81.3	311	320	243	116	90.7	51.4	59.8	65.8	120
1945	127	80.6	150	198	356	274	259	236	127	64.1	97.5	85.6	170
1946	96.8	126	208	456	404	335	253	328	98.7	84.2	64.9	35.0	207
1947	78.4	61.6	61.4	367	112	219	171	82.5	87.8	62	130	41.5	123
1948	88.0	173	88.2	102	381	255	186	74.4	67.8	63.5	70.1	42.4	132
1949	30.4	123	211	153	257	190	241	291	199	280	193	141	192
1950	153	229	175	311	340	370	165	151	272	99.5	57.5	106	201

* Not previously published; estimated or partly estimated on basis of records for Nolichucky River at Poplar.

Monthly and yearly runoff, in inches, of Ivy River near Marshall, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	\$0.30	\$0.29	\$0.32	\$0.48	\$0.66	\$2.70	\$1.59	\$0.54	0.63	1.03	0.49	0.37	\$9.40
1935	.67	.85	1.01	1.81	1.01	3.20	2.25	1.23	.68	.77	.41	.39	14.28
1936	.28	.70	.38	3.52	2.77	4.62	4.05	.90	.51	.58	.82	.83	19.96
1937	1.38	.61	1.38	4.65	2.03	1.58	1.30	1.20	.75	.56	.78	.80	17.02
1938	1.04	.59	.96	1.37	1.60	2.99	1.20	1.19	.94	1.45	.66	.36	14.35
1939	.22	.78	.60	1.22	2.88	1.98	1.18	.70	.50	.39	.45	.26	11.16
1940	.24	.20	.29	.34	.72	1.18	1.30	.57	.48	.59	3.24	.76	9.91
1941	.36	.50	.82	.72	.40	1.02	.88	.43	.33	1.76	.47	.23	7.92
1942	.16	.21	.32	.38	.87	2.03	.54	.92	1.82	.58	.56	.64	8.83
1943	.36	.39	1.73	2.28	1.70	2.04	1.13	1.04	.59	1.04	.37	.21	12.88
1944	.21	.30	.34	.59	2.12	2.34	1.72	.85	.64	.38	.44	.46	10.39
1945	.92	.57	1.10	1.44	2.35	2.00	1.83	1.73	.90	.47	.71	.60	14.62
1946	.71	.89	1.52	3.33	2.66	2.45	1.79	2.40	.70	.61	.47	.25	17.78
1947	.57	.43	.45	2.68	.74	1.60	1.20	.60	.62	.46	.95	.29	10.59
1948	.64	1.22	.64	.75	2.60	1.86	1.31	.54	.53	.46	.51	.30	11.36
1949	.22	.87	1.54	1.12	1.69	1.38	1.70	2.13	1.41	2.04	1.41	.99	16.50
1950	1.11	1.61	1.28	2.27	2.24	2.70	1.16	1.10	1.92	.73	.42	.75	17.29

* Not previously published; estimated or partly estimated on basis of records for Nolichucky River at Poplar.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1934	758	2,670	July 15, 1934	-	\$109	\$0.690	\$9.40	\$128	\$11.02
1935	783, 803	2,830	Jan. 9, 1935	28	167	1.06	14.28	153	13.11
1936	803	5,850	Aug. 8, 1936	24	232	1.47	19.96	255	21.97
1937	823	5,350	Sept. 8, 1937	39	198	1.25	17.02	189	16.24
1938	853	3,360	Mar. 10, 1938	38	167	1.06	14.35	156	13.36
1939	873	2,670	Feb. 15, 1939	17	130	.823	11.16	120	10.29
1940	893	8,880	Aug. 30, 1940	19	115	.728	9.91	126	10.86
1941	923	3,370	July 16, 1941	16	92.1	.583	7.92	80.6	6.93
1942	953	3,170	June 13, 1942	16	103	.652	8.83	124	10.62
1943	973	3,670	Dec. 29, 1942	16	150	.949	12.88	131	11.25
1944	1003	4,290	June 17, 1944	17	120	.759	10.39	141	12.13
1945	1033	2,430	Feb. 17, 1945	37	170	1.08	14.62	176	15.15
1946	1053	7,190	Jan. 7, 1946	29	207	1.31	17.78	187	16.11
1947	1083	3,820	Jan. 20, 1947	26	123	.778	10.59	136	11.64
1948	1113	3,100	Feb. 12, 1948	26	132	.835	11.36	133	11.49
1949	1143	3,370	June 16, 1949	26	192	1.22	16.50	208	17.87
1950	1173	2,740	Mar. 13, 1950	41	201	1.27	17.29	-	-

* Not previously published.

a Maximum during period May to September.

87. French Broad River at Marshall, N. C.

Location.--Lat 35°47'16", long. 82°39'47", on right bank 0.4 mile upstream from Hayes Creek, 1.0 mile southeast of Marshall, Madison County, 1.2 miles downstream from Ivy River, and at mile 126.5.

Drainage area.--1,332 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,646.79 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years (1942-50), 2,472 cfs.

Extremes.--1942-50: Maximum discharge, 29,600 cfs Jan. 7, 1946 (gage height, 9.18 ft); minimum, 280 cfs Sept. 7, 1947 (gage height, 0.52 ft); minimum daily, 530 cfs Oct. 7, 1947.

Floods of July 1916 and Aug. 30, 1940, reached stages of 18½ and 13½ ft, respectively, from high-water marks and flood profiles by Tennessee Valley Authority.

Remarks.--Diurnal fluctuation at low flow caused by powerplants above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	1,388	1,232	3,500	4,341	3,518	3,652	3,120	2,864	2,403	3,433	1,674	1,089	2,686
1944	874	1,077	1,000	1,755	3,152	4,309	3,598	2,330	1,632	1,173	1,012	1,025	1,905
1945	1,279	1,147	1,494	1,759	2,756	2,582	2,830	2,283	1,330	1,341	1,452	2,105	1,856
1946	1,445	1,637	3,014	5,710	4,995	4,791	3,485	3,465	1,846	1,734	1,195	972	2,850
1947	1,590	1,552	1,400	4,272	2,011	2,385	2,641	1,584	1,547	1,158	1,070	720	1,828
1948	1,875	2,975	1,712	1,742	4,008	3,711	3,100	1,637	1,363	1,795	2,386	1,785	2,332
1949	1,086	4,267	3,843	5,362	3,770	2,866	3,601	3,855	3,417	5,071	4,567	3,194	3,573
1950	2,935	3,424	2,727	3,124	3,005	3,691	2,336	1,846	2,630	2,137	1,257	3,857	2,742

TENNESSEE RIVER BASIN

Monthly and yearly runoff, in inches, of French Broad River at Marshall, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	1.20	1.03	3.03	3.76	2.75	3.16	2.61	2.48	2.01	2.97	1.45	0.91	27.36
1944	.76	.90	.87	1.52	2.55	3.73	3.01	2.02	1.37	1.02	.88	.86	19.49
1945	1.11	.96	1.29	1.52	2.15	2.25	2.37	1.98	1.11	1.16	1.26	1.76	18.90
1946	1.25	1.37	2.61	4.94	3.90	4.15	2.92	3.00	1.55	1.50	1.03	.81	29.03
1947	1.38	1.30	1.21	3.70	1.57	2.06	2.21	1.37	1.30	1.00	.93	.60	18.63
1948	1.62	2.49	1.48	1.51	3.24	3.21	2.60	1.42	1.14	1.55	2.07	1.50	23.83
1949	.94	3.57	3.33	2.91	2.95	2.48	3.02	3.34	2.86	4.39	3.95	2.68	36.42
1950	2.54	2.87	2.36	2.70	2.35	3.19	1.96	1.60	2.20	1.85	1.09	3.23	27.94

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1943	973	23,600	Dec. 29, 1942	804	2,686	2.02	27.36	2,417	24.63	
1944	1003	11,400	Mar. 29, 1944	625	1,905	1.43	19.49	1,987	20.32	
1945	1033	8,940	Sept. 17, 1945	825	1,856	1.39	18.90	2,039	20.77	
1946	1053	29,600	Jan. 7, 1946	790	2,850	2.15	29.03	2,718	27.69	
1947	1083	21,400	Jan. 20, 1947	560	1,828	1.37	18.63	1,996	20.33	
1948	1113	12,400	Feb. 12, 1948	530	2,332	1.75	23.83	2,532	26.08	
1949	1143	22,400	June 17, 1949	894	3,573	2.88	36.42	3,566	36.35	
1950	1173	15,300	Mar. 13, 1950	1,000	2,742	2.06	27.94	-	-	

88. Big Laurel Creek near Stackhouse, N. C.

Location.--Lat 35°55'11" long. 82°45'42", 50 ft west of State Highway 208, 0.2 mile downstream from Big Hurricane Creek, 0.6 mile upstream from Little Hurricane Creek, 3 miles north of Stackhouse, Madison County, and 4 miles upstream from mouth.

Drainage area.--126 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,595.68 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--17 years (1933-50), 182 cfs.

Extremes.--1933-50: Maximum discharge, 7,260 cfs Mar. 25, 1935 (gage height, 7.94 ft); minimum, 11 cfs Jan. 6, 1942 (gage height, 0.92 ft), result of freezeup.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	*57.0	*55.0	*59.0	*165	*124	*450	*204	*101	124	178	108	67.8	*141
1935	117	107	149	298	224	632	419	186	126	256	94.1	60.4	223
1936	50.6	94.7	59.7	532	422	661	555	119	72.2	*87.6	75.0	87.7	234
1937	193	104	178	652	375	218	205	188	110	95.6	228	116	222
1938	179	108	199	250	331	459	212	166	170	276	209	86.1	220
1939	51.9	95.5	123	175	523	262	194	103	103	118	49.1	42.7	151
1940	29.0	31.7	43.5	48.5	121	186	201	84.4	70.2	152	330	107	117
1941	54.0	62.6	74.5	116	72.0	198	149	71.1	49.4	265	52.4	40.0	101
1942	27.8	30.7	39.0	54.7	119	290	78.7	143	146	141	194	92.1	113
1943	65.3	81.2	382	333	329	316	201	176	99.6	138	113	56.8	191
1944	42.4	49.3	73.2	122	458	415	276	137	119	53.2	48.3	59.8	153
1945	117	98.1	193	267	314	294	195	299	180	200	265	99.3	210
1946	119	162	261	477	415	298	267	292	123	87.5	91.6	51.5	220
1947	61.4	57.0	76.1	405	125	300	189	116	129	125	224	69.7	157
1948	64.0	152	94.8	124	488	244	266	105	119	123	204	64.8	169
1949	42.4	143	311	193	281	259	275	289	157	412	158	122	220
1950	151	211	185	375	496	430	200	292	270	171	96.0	75.4	244

* Corrected.

* Not previously published; estimated or partly estimated on basis of records for Jonathan Creek near Cove Creek.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	*0.52	*0.49	*0.54	*1.51	*1.02	*4.12	*1.81	*0.93	1.10	1.62	0.99	0.60	*15.25
1935	1.07	.94	1.36	2.73	1.85	5.78	3.71	1.70	1.12	2.34	.86	.53	23.99
1936	.46	.84	.55	4.87	3.61	6.04	4.91	1.09	.64	.80	.69	.78	25.28
1937	1.76	.92	1.63	5.96	3.10	1.99	1.82	1.72	.97	.88	2.09	1.03	23.87
1938	1.64	.96	1.82	2.28	2.74	4.20	1.87	1.52	1.51	2.52	1.91	.76	23.73
1939	.48	.85	1.13	1.60	4.32	2.40	1.72	.94	.91	1.08	.45	.38	16.26
1940	.27	.28	.40	.44	1.03	1.70	1.78	.77	.62	1.39	3.02	.95	12.65
1941	.49	.55	.68	1.06	.59	1.82	1.32	.65	.44	2.42	.48	.35	10.85
1942	.25	.27	.36	.50	.98	2.65	.70	1.31	1.29	1.29	1.78	.82	12.20
1943	.60	.72	3.50	3.05	2.72	2.89	1.78	1.61	.88	1.26	1.04	.50	20.55
1944	.39	.44	.67	1.12	3.92	3.79	2.45	1.25	1.05	.49	.44	.53	16.54
1945	1.07	.87	1.76	2.44	2.60	2.69	1.73	2.73	1.60	1.83	2.43	.88	22.63
1946	1.09	1.43	2.39	4.37	3.43	2.73	2.36	2.67	1.09	.80	.84	.46	23.66
1947	.56	.51	.70	3.71	1.04	2.74	1.67	1.06	1.15	1.14	2.05	.82	16.95
1948	.59	1.35	.87	1.14	4.18	2.25	2.35	.97	1.05	1.12	1.87	.57	18.29
1949	.39	1.27	2.84	1.76	2.33	2.37	2.43	2.64	1.39	3.77	1.45	1.08	23.72
1950	1.38	1.86	1.69	3.41	4.10	3.93	1.77	2.67	2.39	1.57	.88	.67	26.32

* Not previously published; estimated or partly estimated on basis of records for Jonathan Creek near Cove Creek.

Yearly discharge, in cubic feet per second, of Big Laurel Creek near Stackhouse, N. C.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1934	758	al,320	July 15, 1934	-	*141	*1.12	*15.25	*158	*17.07
1935	783	7,260	Mar. 25, 1935	38	223	1.77	23.99	209	22.47
1936	803	5,070	Jan. 19, 1936	35	234	1.86	25.28	257	27.74
1937	823	3,010	Aug. 23, 1937	56	222	1.76	23.87	222	23.98
1938	853	2,140	Mar. 3, 1938	54	220	1.75	23.73	202	21.77
1939	873	1,920	Feb. 15, 1939	28	151	1.20	16.26	137	14.75
1940	893	4,920	Aug. 30, 1940	25	117	.929	12.65	124	13.42
1941	923	987	July 7, 1941	25	101	.802	10.85	93.0	10.01
1942	953	1,230	Mar. 9, 1942	22	113	.897	12.20	150	16.14
1943	973	5,530	Dec. 29, 1942	34	191	1.52	20.55	160	17.23
1944	1003	2,370	Feb. 18, 1944	26	153	1.21	16.54	174	18.74
1945	1033	1,950	Aug. 5, 1945	46	210	1.67	22.63	221	23.84
1946	1053	5,870	Jan. 7, 1946	41	220	1.75	23.66	190	20.52
1947	1083	3,320	June 28, 1947	38	157	1.25	16.95	167	17.99
1948	1113	2,650	Feb. 12, 1948	40	169	1.34	18.29	185	19.98
1949	1143	3,140	July 17, 1949	35	220	1.75	23.72	224	24.15
1950	1173	3,020	Feb. 7, 1950	52	244	1.94	26.32	-	-

* Not previously published.

a Maximum during period May to September.

89. French Broad River at Hot Springs, N. C.

Location.--Lat 35°53'23", long. 82°49'16", at Hot Springs, Madison County, 0.3 mile upstream from bridge on U. S. Highways 25 and 70, 0.7 mile upstream from Spring Creek, 3.1 miles downstream from Big Laurel Creek, and at mile 109.3.

Drainage area.--1,567 sq mi.

Supplemental records available.--Records of chemical analyses and water temperatures for the water year 1946 are published in WSP 1050.

Gage.--Water-stage recorder. Datum of gage is 1,311.55 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--16 years (1933-49), 2,580 cfs.

Extremes.--1933-49: Maximum discharge, 75,900 cfs Aug. 30, 1940 (gage height, 16.1 ft), from rating curve extended above 26,800 cfs on basis of slope-area determination of peak flow; minimum, 170 cfs Oct. 6, 1935, Sept. 28, 1936, Sept. 6, 1947 (gage height, 2.10 ft).

Maximum stage known, 19.3 ft July 16 or 17, 1916, from floodmarks a quarter of a mile downstream.

Remarks.--Some diurnal fluctuation during low flow caused by powerplants above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	*976	*918	*1,010	*1,710	*1,750	*4,880	*3,160	*1,950	2,940	2,060	1,770	1,910	*2,090
1935	2,710	2,137	2,911	5,056	2,952	4,371	3,779	2,411	1,548	1,920	2,023	1,585	2,788
1936	965	2,382	1,550	7,106	5,064	5,799	7,843	2,468	1,606	1,476	1,734	1,515	3,282
1937	4,852	1,978	3,190	9,014	5,075	3,041	3,200	2,381	1,816	1,407	2,040	2,335	3,358
1938	3,414	1,967	1,981	2,319	2,393	3,702	2,427	1,875	2,296	3,103	2,449	1,444	2,452
1939	862	1,639	1,406	2,392	6,572	4,541	2,756	2,110	1,823	1,448	2,151	1,004	2,364
1940	751	705	789	981	2,083	2,039	3,003	1,518	1,287	1,419	6,608	2,868	2,004
1941	1,065	1,483	1,883	1,885	1,277	2,020	2,026	1,095	894	3,069	1,510	746	1,585
1942	575	832	1,758	1,599	2,820	4,257	1,801	3,835	2,429	1,870	2,426	2,572	2,228
1943	1,503	1,347	4,137	4,858	4,082	4,272	3,512	3,129	2,571	3,732	1,792	1,163	3,009
1944	930	1,148	1,107	1,918	3,888	4,894	3,968	2,482	1,785	1,235	1,061	1,102	2,118
1945	1,450	1,289	1,770	2,132	3,316	3,059	3,112	2,701	1,583	1,547	1,778	2,210	2,154
1946	1,613	1,902	3,390	6,628	5,768	5,250	3,950	3,990	2,006	1,849	1,322	1,034	3,215
1947	1,698	1,647	1,538	5,020	2,277	2,902	2,922	1,766	1,769	1,347	1,364	821	2,091
1948	1,954	3,211	1,875	1,946	4,736	4,022	3,455	1,767	1,525	1,952	2,662	1,864	2,570
1949	1,133	4,427	4,333	3,675	4,254	3,273	4,122	4,505	3,740	5,812	4,864	3,501	3,968

* Not previously published; estimated or partly estimated on basis of records for station near Newport, Tenn.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	*0.72	*0.65	*0.74	*1.26	*1.16	*3.59	*2.25	*1.43	2.09	1.51	1.31	1.36	*18.07
1935	1.99	1.52	2.14	3.72	1.96	3.22	2.69	1.77	1.10	1.41	1.49	1.13	24.14
1936	.71	1.70	1.14	5.23	3.49	4.27	5.58	1.82	1.14	1.09	1.28	1.08	28.53
1937	3.57	1.41	2.35	6.63	3.37	2.24	2.28	1.75	1.29	1.04	1.50	1.68	29.09
1938	2.50	1.40	1.46	1.71	1.59	2.72	1.73	1.38	1.63	2.28	1.80	1.03	21.23
1939	.83	1.17	1.03	1.76	4.37	3.34	1.96	1.55	1.30	1.07	1.58	.71	20.47
1940	.55	.50	.58	.72	1.43	1.50	2.14	1.12	.92	1.04	4.86	2.04	17.40

* Not previously published; estimated or partly estimated on basis of records for station near Newport, Tenn.

Monthly and yearly runoff, in inches, of French Broad River at Hot Springs, N. C.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1941	0.78	1.06	1.39	1.39	0.85	1.49	1.44	0.81	0.64	2.26	1.11	0.53	13.75
1942	.42	.59	1.28	1.18	1.87	3.13	1.28	2.82	1.73	1.38	1.78	1.83	19.29
1943	1.11	.96	3.04	3.57	2.71	3.14	2.50	2.30	1.85	2.75	1.32	.83	26.06
1944	.68	.82	.81	1.41	2.68	3.60	2.85	1.83	1.27	.91	.78	.78	18.40
1945	1.07	.92	1.30	1.57	2.20	2.25	2.22	1.99	1.13	1.14	1.31	1.57	18.67
1946	1.19	1.35	2.49	4.88	†3.83	3.86	2.81	2.94	1.43	1.36	.97	.74	27.65
1947	1.25	1.17	1.13	3.69	1.51	2.14	2.08	1.30	1.26	.99	1.00	.58	18.10
1948	1.44	2.29	1.38	1.43	3.28	2.96	2.46	1.30	1.09	1.44	1.96	1.33	22.34
1949	.83	3.15	3.19	2.70	2.83	2.41	2.94	3.31	2.66	4.28	3.58	2.49	34.37

† Corrected.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1934	758	-	-	-	†2,090	†1.53	†18.07	†2,500	†21.61
1935	783	28,800	Jan. 9, 1935	794	2,788	1.78	24.14	2,544	22.04
1936	803	38,600	Jan. 19, 1936	681	3,282	2.09	28.53	3,717	32.31
1937	823	29,500	Jan. 3, 1937	1,050	3,358	2.14	29.09	3,132	27.12
1938	853	18,100	July 23, 1938	961	2,452	1.56	21.23	2,160	18.70
1939	873	15,600	Feb. 15, 1939	750	2,364	1.51	20.47	2,225	19.27
1940	893	75,900	Aug. 30, 1940	590	2,004	1.28	17.40	2,187	19.00
1941	923	12,600	July 16, 1941	518	1,585	1.01	13.75	1,478	12.81
1942	953	22,900	May 21, 1942	454	2,228	1.42	19.29	2,556	22.14
1943	973	31,000	Dec. 29, 1942	800	3,009	1.92	26.08	2,686	23.26
1944	1003	14,200	Feb. 18, 1944	628	2,118	1.35	18.40	2,230	19.38
1945	1033	9,850	Feb. 17, 1945	894	2,154	1.37	18.67	2,356	20.41
1946	1053	43,500	Jan. 7, 1946	820	3,215	2.05	27.85	3,044	26.37
1947	1083	27,200	Jan. 20, 1947	616	2,091	1.33	18.10	2,270	19.66
1948	1113	16,800	Feb. 12, 1948	598	2,570	1.64	22.34	2,808	24.40
1949	1143	23,000	June 17, 1949	920	3,968	2.53	34.37	-	-

* Not previously published.

90. French Broad River near Newport, Tenn.1/

Location.--Lat 35°58'54", long. 83°09'40", at bridge on State Highway 35 at Oldtown, 1 mile (revised) northeast of Newport city limits, Cocke County, 3.7 miles (revised) upstream from Pigeon River, and at mile 77.5.

Drainage area.--1,858 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,011.61 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. September 1900 to November 1901, wire-weight gage at datum approximately 1.3 ft higher, on bridge destroyed by flood of Feb. 28, 1902. November 1902 to December 1905, August to December 1907, wire-weight and chain gage at datum approximately 0.9 ft higher. Nov. 17, 1920, to Sept. 13, 1926, chain gage, and since Sept. 14, 1926, water-stage recorder at same datum.

Average discharge.--32 years (1903-5, 1920-50), 2,847 cfs.

Extremes.--1900-1901, 1902-5, 1907, 1920-50: Maximum discharge, 76,300 cfs Aug. 30, 1940 (gage height, 19.25 ft); minimum, 210 cfs Sept. 9, 1925 (gage height, 0.92 ft).

Floods of Feb. 28, 1902, and July 17, 1916, reached stages of about 23 ft (discharge, 101,000 cfs) and 22.5 ft (discharge, 97,000 cfs) respectively, present datum, from floodmarks.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1901	-	2,760	-	-	-	6,160	10,800	9,450	6,150	3,620	14,600	-	-
1903	-	1,500	3,160	2,680	8,110	12,700	11,700	3,390	6,130	2,770	2,090	1,150	-
1904	1,020	1,270	1,080	1,750	2,060	4,390	2,350	2,430	1,980	1,280	1,880	1,110	1,880
1905	543	929	1,370	2,770	4,280	2,700	2,520	4,560	3,090	7,620	4,430	1,730	3,050
1906	1,490	1,020	3,740	-	-	-	-	-	-	-	-	-	-
1907	-	-	-	-	-	-	-	-	-	-	-	1,700	-
1908	929	2,130	3,290	-	-	-	-	-	-	-	-	-	-
1921	†1,180	†1,500	4,570	4,010	6,090	3,020	4,340	3,920	2,750	3,110	3,390	1,850	†3,300
1922	1,420	2,220	2,450	3,920	4,650	6,310	5,020	4,540	3,330	3,230	1,760	1,120	3,320
1923	1,260	985	2,880	3,340	4,430	†5,210	3,060	†5,200	3,750	2,390	2,140	1,700	†3,020
1924	1,080	1,450	2,410	4,420	3,150	4,310	4,380	3,350	2,400	3,180	1,710	1,970	2,820
1925	1,790	1,250	2,640	4,460	2,540	2,610	1,890	1,710	974	774	380	421	1,750
1926	791	1,370	1,010	2,350	3,030	2,770	2,840	1,650	1,080	928	1,630	1,290	1,720
1927	863	2,280	3,560	2,470	4,070	4,440	2,950	2,060	2,680	2,010	1,700	1,140	2,510
1928	1,180	1,530	4,560	2,870	2,570	3,180	4,480	5,790	4,250	3,600	†7,330	3,360	†3,980
1929	3,210	2,200	1,780	2,870	4,110	9,500	3,750	5,850	3,600	2,700	1,460	2,960	3,670
1930	5,470	4,550	3,120	2,720	3,100	3,470	2,420	2,420	1,430	996	744	1,290	2,640

* Revised.

* Not previously published; estimated or partly estimated on basis of record for French Broad River at Dandridge.

1/ Published prior to 1908 as "at Oldtown, near Newport."

Monthly and yearly mean discharge, in cubic feet per second, of French Broad River near Newport,

Tenn.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	799	1,530	1,970	2,380	1,600	2,200	5,380	2,690	1,400	1,580	2,030	1,350	2,080
1932	637	713	3,190	4,620	4,720	3,230	3,340	3,190	2,420	1,750	1,740	1,080	*2,550
1933	3,831	4,084	6,443	4,667	5,316	5,343	3,488	4,106	1,902	1,844	1,922	2,407	3,589
1934	1,061	998	1,097	1,861	1,901	5,303	3,438	2,051	3,180	2,204	1,920	1,691	2,243
1935	2,908	2,274	3,017	5,251	3,243	5,077	4,271	2,718	1,749	2,150	2,226	1,690	3,051
1936	1,008	2,429	1,599	7,595	5,641	6,916	8,872	2,545	1,584	1,462	1,744	1,478	3,561
1937	5,110	2,099	3,343	9,533	5,474	3,272	3,421	2,660	1,975	1,605	2,337	2,559	3,612
1938	3,624	2,165	2,284	2,742	2,974	4,520	2,820	2,155	2,776	3,900	2,835	1,635	2,874
1939	966	1,848	1,665	2,723	7,673	5,121	3,096	2,290	2,050	1,634	2,297	1,041	2,667
1940	787	720	819	1,068	2,187	2,287	3,392	1,623	1,577	1,707	7,126	3,338	2,203
1941	1,233	1,619	1,995	2,152	1,450	2,426	2,414	1,252	1,032	3,510	1,616	840	1,801
1942	640	870	1,816	1,693	2,992	4,516	1,926	4,020	2,554	2,190	2,772	2,742	2,394
1943	1,564	1,415	4,669	5,389	4,402	4,581	3,582	3,201	2,550	3,846	1,921	1,207	3,195
1944	979	1,214	1,168	2,040	4,478	5,748	4,488	2,701	1,903	1,307	1,146	1,100	2,346
1945	1,586	1,345	2,015	2,541	3,899	3,684	3,319	3,173	1,776	1,719	2,175	2,568	2,458
1946	1,726	2,076	3,787	7,538	6,456	5,494	4,392	4,278	2,168	1,984	1,397	1,086	3,520
1947	1,761	1,707	1,625	5,753	5,490	3,464	3,154	1,903	2,047	1,510	1,423	860	2,309
1948	1,989	3,378	1,951	2,045	5,542	4,316	3,884	1,928	1,586	1,891	2,816	1,878	2,753
1949	1,158	4,499	5,107	4,180	4,843	5,719	4,815	5,302	4,459	6,945	5,434	3,921	4,530
1950	3,423	4,487	3,392	4,468	5,140	5,493	3,093	2,641	3,645	2,867	1,647	4,314	3,704

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1901	-	1.66	-	-	-	3.83	6.48	5.87	3.69	2.25	9.06	-	-
1903	-	.90	1.96	1.66	4.54	7.89	7.03	2.10	3.68	1.73	1.29	0.69	-
1904	0.63	.76	.67	1.09	1.20	2.72	1.41	1.51	1.17	.79	1.16	.67	13.78
1905	.34	.56	.85	1.72	2.40	1.67	1.52	2.82	1.85	4.73	2.74	1.04	22.24
1906	.92	.61	2.32	-	-	-	-	-	-	-	-	-	-
1907	-	-	-	-	-	-	-	-	-	-	-	1.02	-
1908	.58	1.28	2.04	-	-	-	-	-	-	-	-	-	-
1921	*.73	*.90	2.84	2.49	3.41	1.88	2.61	2.43	1.65	1.92	2.10	1.11	*24.08
1922	.88	1.33	1.52	2.43	2.61	3.91	3.02	2.82	2.00	2.01	1.09	.68	24.30
1923	.78	.56	1.78	2.07	2.48	*3.27	1.84	*3.23	2.25	1.48	1.33	1.02	*22.05
1924	.67	.87	1.49	2.74	1.83	2.68	2.63	2.08	1.44	1.97	1.06	1.18	20.64
1925	1.11	.75	1.64	2.77	1.42	1.34	1.13	1.06	.58	.48	.24	.25	12.77
1926	.49	.82	.62	1.46	1.70	1.72	1.70	1.02	.65	.58	1.01	.78	12.55
1927	.54	1.37	2.21	1.53	2.28	2.75	1.77	1.28	1.61	1.25	1.05	.68	13.32
1928	.74	.92	2.83	1.78	1.49	1.97	2.69	3.59	2.55	2.23	*4.55	3.82	*29.16
1929	1.99	1.32	1.10	1.78	2.30	5.90	2.25	3.63	2.16	1.67	.91	1.78	26.79
1930	3.39	2.73	1.94	1.69	1.74	2.16	1.46	1.50	.86	.62	.46	.77	19.32
1931	.50	.92	1.22	1.48	.90	1.37	3.23	1.67	.84	.98	1.26	.81	15.18
1932	.40	.43	1.98	2.87	2.74	2.01	2.01	1.98	1.45	*1.09	1.08	.63	*18.67
1933	2.58	2.45	4.00	2.90	2.98	2.07	2.09	2.55	1.14	1.02	1.19	1.45	26.22
1934	.66	.60	.68	1.16	1.07	3.29	2.06	1.27	1.91	1.37	1.19	1.14	16.39
1935	1.80	1.37	1.87	3.26	1.82	3.14	2.56	1.69	1.05	1.33	1.38	1.01	22.28
1936	.63	1.46	.99	4.71	3.27	4.29	5.33	1.58	.95	.91	1.08	.89	26.09
1937	3.17	1.26	2.07	5.91	3.07	2.03	2.05	1.65	1.19	1.00	1.45	1.54	26.39
1938	2.25	1.30	1.42	1.70	1.67	2.80	1.69	1.34	1.67	2.42	1.76	.98	21.00
1939	.60	1.11	1.03	1.69	4.30	3.18	1.86	1.42	1.23	1.01	1.43	.63	19.49
1940	.49	.43	.51	.66	1.27	1.42	2.04	1.01	.83	1.06	4.42	2.00	16.14
1941	.76	.97	1.24	1.34	.81	1.51	1.45	.78	.62	2.18	1.00	.50	13.16
1942	.40	.52	1.13	1.05	1.68	2.80	1.16	2.49	1.53	1.36	1.72	1.65	17.49
1943	.97	.85	2.34	2.47	2.84	2.15	1.99	1.53	2.39	1.19	.72	.72	23.34
1944	.61	.73	.72	1.27	2.60	3.57	2.69	1.68	1.14	.81	.71	.66	17.19
1945	.98	.81	1.25	1.58	2.19	2.29	1.99	1.97	1.07	1.07	1.35	1.42	17.97
1946	1.07	1.25	2.35	4.68	3.62	3.41	2.64	2.65	1.30	1.23	.87	.65	25.72
1947	1.09	1.03	1.01	3.56	1.40	2.15	1.89	1.18	1.23	.94	.88	.52	16.88
1948	1.22	2.03	1.21	1.27	3.22	2.68	2.33	1.13	.95	1.24	1.75	1.13	20.16
1949	.72	2.70	3.17	2.59	2.71	2.31	2.89	3.29	2.68	4.31	3.37	2.35	33.09
1950	2.12	2.69	2.10	2.77	2.88	3.41	1.86	1.64	2.19	1.78	1.02	2.59	27.05

* Revised.

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					Runoff in inches
1900	(a)	-	-	-	-	-	-	-
1901	(a)	b55,200	May 21, 1901	-	-	-	-	-
1902	(a)	-	-	-	-	-	-	-
1903	(a)	*64,800	Mar. 25, 1903*	-	-	-	-	-
1904	(a)	c13,600	Mar. 8, 1904	680	1,880	1.01	13.78	4,470
1905	(a)	c44,600	July 12, 1905	440	3,050	1.64	22.24	1,840
1906	(a)	-	-	-	-	-	-	-
1907	(a)	-	-	-	-	-	-	-
1908	243	-	-	-	-	-	-	-

* Revised.

a Tennessee Division of Geology, Bull. 34.

b Maximum for period Oct. 15 to Dec. 22, 1900, and Feb. 24 to Aug. 31, 1901.

c Maximum daily.

Yearly discharge, in cubic feet per second, of French Broad River near Newport, Tenn.--Continued

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1921	523	*26,600	Feb. 10, 1921	-	\$3,300	\$1.78	\$24.08	3,190	23.34
1922	543	*17,000	Jan. 21, Feb. 15	830	3,320	1.79	24.30	3,240	23.69
1923	563, 1336	*18,200	Mar. 17, 1923	776	*3,020	*1.63	*22.05	*3,010	*21.96
1924	583	14,300	Jan. 17, 1924	825	2,820	1.52	20.64	2,880	21.11
1925	603	*15,200	Dec. 9, 1924	240	1,750	.942	12.77	1,530	11.20
1926	623	11,900	Jan. 19, 1926	429	1,720	.926	12.55	2,010	14.74
1927	643	*19,300	Feb. 23, 1927	670	2,510	1.35	18.32	2,560	18.69
1928	663, 1336	44,400	Aug. 16, 1928	682	*3,980	*2.14	*29.16	*3,970	*29.08
1929	683	23,600	Mar. 5, 1929	824	3,670	1.98	26.79	4,170	30.44
1930	698	25,600	Oct. 2, 1929	524	2,640	1.42	19.32	1,900	13.68
1931	713	17,500	Sept. 3, 1931	660	2,080	1.17	15.18	2,100	15.32
1932	728, 1336	16,700	Jan. 30, 1932	551	*2,550	*1.37	*18.67	*3,369	*24.69
1933	783	22,700	Dec. 28, 1932	951	3,589	1.93	26.23	2,646	19.33
1934	783	20,900	Mar. 3, 1934	710	2,243	1.21	16.39	2,668	19.49
1935	783	24,200	Jan. 9, 1935	872	3,051	1.64	22.28	2,782	20.32
1936	803	41,200	Jan. 19, 1936	764	3,561	1.92	26.09	4,029	29.51
1937	823	32,100	Jan. 3, 1937	1,160	3,812	1.94	26.39	5,402	24.86
1938	853	23,000	July 23, 1938	1,030	2,874	1.55	21.00	2,570	18.77
1939	873	20,400	Feb. 15, 1939	775	2,667	1.44	19.49	2,487	18.18
1940	893	76,300	Aug. 30, 1940	560	2,203	1.19	16.14	2,414	17.68
1941	923	12,600	July 17, 1941	605	1,801	.969	13.16	1,674	12.24
1942	953	23,600	May 21, 1942	520	2,394	1.29	17.49	2,759	20.16
1943	973	39,000	Dec. 30, 1942	846	3,195	1.72	23.34	2,832	20.68
1944	1003	18,200	Feb. 18, 1944	658	2,346	1.26	17.19	2,480	18.17
1945	1033	14,700	Feb. 17, 1945	904	2,458	1.32	17.97	2,680	19.60
1946	1053	53,100	Jan. 8, 1946	922	3,520	1.89	25.72	3,309	24.18
1947	1083	35,500	Jan. 20, 1947	640	2,309	1.24	16.88	2,493	18.21
1948	1113	21,100	Feb. 13, 1948	604	2,753	1.48	20.16	3,042	22.29
1949	1143	26,600	June 17, 1949	965	4,530	2.44	33.09	4,576	33.41
1950	1173	24,200	Mar. 13, 1950	1,350	3,704	1.99	27.05	-	-

* Revised.

* Not previously published.

91. Pigeon River at Canton, N. C.

Location.--Lat 35°31'30", long. 82°50'28", 0.5 mile upstream from bridge on U. S. Highways 19 and 23 at Canton, Haywood County.

Drainage area.--133 sq mi. At site used May 25, 1907, to June 30, 1909, 134 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,572.22 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. May 25, 1907, to June 30, 1909, staff gage at site 0.4 mile (revised) downstream at different datum. Dec. 6, 1928, to Jan. 3, 1929, staff gage at present site and datum.

Average discharge.--23 years (1907-8, 1928-50), 316 cfs.

Extremes.--1907-9, 1928-50: Maximum discharge, 31,600 cfs Aug. 30, 1940 (gage height, 20.75 ft, from floodmark in gage well); minimum, 25 cfs Dec. 24, 1943 (gage height, 0.30 ft), result of freezeup; minimum daily, 43 cfs Oct. 26, 1941, Dec. 17, 1943.

Remarks.--Regulation by Lake Logan on West Fork (capacity, about 2,000 acre-ft) since 1932. Small diversion just above station for supplementary water supply of city of Canton since 1948.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	248	189	125	201	-
1908	125	203	324	398	526	419	367	320	248	267	337	249	314
1909	366	350	397	423	665	1844	423	602	690	-	-	-	-
1929	*300	*200	*156	416	490	1,100	376	555	329	220	129	315	*382
1930	516	584	289	235	268	335	240	246	132	84.3	61.1	122	259
1931	70.4	184	205	231	194	290	653	275	140	116	146	86.9	214
1932	56.4	73.1	387	564	588	368	401	391	108	147	80.2	145	270
1933	543	452	872	543	508	453	484	422	170	123	113	270	413
1934	106	98.9	102	271	204	658	320	223	439	233	133	112	242
1935	195	306	327	564	297	419	344	260	137	193	378	225	305
1936	108	234	177	954	669	647	876	236	133	142	152	157	372
1937	517	206	398	1,017	547	272	375	254	168	129	199	287	363
1938	405	220	214	283	251	412	345	255	257	341	233	128	279
1939	73.6	261	168	424	1,150	612	370	237	194	135	116	83.5	324
1940	69.6	60.6	64.5	95.1	220	406	544	247	184	252	1,476	422	338
1941	153	144	279	251	150	225	270	132	96.5	351	129	80.0	189
1942	64.4	103	284	246	414	595	247	404	291	196	221	272	278
1943	164	126	574	560	559	485	444	365	262	318	155	99.6	342
1944	77.0	105	91.7	201	530	688	518	316	219	132	106	125	258
1945	140	153	216	300	456	370	566	380	180	128	131	354	278
1946	203	266	374	798	662	712	441	488	198	174	98.5	105	376
1947	240	200	180	755	290	315	478	212	160	106	89.1	77.3	259
1948	367	485	248	246	644	573	481	201	155	310	285	299	356
1949	127	842	543	532	534	355	465	413	660	538	638	.405	503
1950	334	418	402	439	451	583	300	191	277	131	104	667	355

† Corrected.

* Not previously published; estimated or partly estimated on basis of records for station near Hepco.

Monthly and yearly runoff, in inches, of Pigeon River at Canton, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	2.08	1.63	1.08	1.67	-
1908	1.08	1.68	2.79	3.42	4.24	3.61	3.06	2.76	2.06	2.29	2.89	2.08	31.96
1909	3.15	2.91	3.41	3.84	5.18	7.28	3.53	5.18	5.75	-	-	-	-
1929	*2.60	*1.68	*1.35	3.61	3.84	9.51	3.15	4.81	2.76	1.91	1.12	2.64	*38.98
1930	4.48	4.90	2.51	2.04	2.10	2.91	2.01	2.13	1.11	.73	.53	1.02	26.47
1931	.61	1.38	1.78	2.00	1.52	2.52	5.48	2.38	1.17	1.00	1.26	.73	21.81

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1907	(a)	\$4,600	Sept. 23, 1907	-	-	-	-	-	-
1908	(a)	*6,600	Feb. 15, 1908	105	314	2.34	31.96	353	35.88
1909	(a)	*3,430	June 4, 1909	-	-	-	-	-	-
1929	683	7,900	Sept. 26, 1929	*79	*382	*2.87	*38.98	443	45.24
1930	698	5,660	Oct. 21, 1929	44	259	1.95	26.47	180	18.33
1931	713	8,100	Apr. 22, 1931	59	214	1.61	21.81	221	22.51
1932	728	5,950	May 1, 1932	46	270	2.03	27.58	383	39.17
1933	743	8,550	Oct. 17, 1932	70	413	3.11	42.12	281	28.71
1934	758	5,240	Mar. 3, 1934	70	242	1.82	24.69	286	29.16
1935	783	8,060	Jan. 9, 1935	89	305	2.29	31.08	278	28.40
1936	803	6,700	Feb. 4, 1936	75	372	2.80	38.11	423	43.27
1937	823	8,050	Oct. 16, 1936	96	363	2.73	37.06	340	34.70
1938	853	8,550	Oct. 19, 1937	85	279	2.10	28.51	252	25.75
1939	873	8,690	Jan. 30, 1939	86	324	2.44	33.01	296	30.24
1940	893	31,600	Aug. 30, 1940	50	338	2.54	34.56	370	37.85
1941	923	2,950	Dec. 28, 1940	47	189	1.42	19.31	179	18.24
1942	953	5,080	May 20, 1942	43	278	2.09	28.32	313	31.88
1943	973	7,630	Dec. 29, 1942	67	342	2.57	34.89	292	29.79
1944	1003	2,950	Feb. 18, 1944	43	258	1.94	26.38	278	28.40
1945	1033	7,630	Apr. 17, 1945	66	278	2.09	28.36	306	31.22
1946	1053	5,920	Feb. 10, 1946	59	376	2.83	39.33	357	36.42
1947	1083	7,780	Jan. 20, 1947	54	259	1.95	26.39	299	30.47
1948	1113	5,290	July 11, 1946	65	356	2.68	36.45	390	39.91
1949	1143	19,500	June 16, 1949	98	503	3.78	51.33	474	48.36
1950	1173	8,320	Sept. 1, 1950	63	355	2.67	36.27	-	-

* Revised.

* Not previously published.

a Bull. 34, Tennessee Division of Geology.

Note.--Figures of monthly discharge in cubic feet per second per square mile and runoff in inches published in water-supply papers for water years 1932-50 have been found subject to considerable error because of storage in Lake Logan. These figures are not published herein and should not be used. Records of contents of Lake Logan not available.

92. Allen Creek near Hazelwood, N. C.

Location--Lat 35°25'49", long. 83°00'33", 180 ft downstream from Rocky Branch, 3.0 miles upstream from mouth, and 3.3 miles south of Hazelwood, Haywood County.

Drainage area--14.4 sq mi.

Gage--Water-stage recorder. Datum of gage is 3,047.83 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes--1949-50: Maximum discharge, 558 cfs Aug. 28, 1949 (gage height, 2.93 ft); minimum, 8.7 cfs Aug. 24, 1950.

Maximum stage known, 7.0 ft Aug. 30, 1940, from information by local residents.

Remarks--Town of Waynesville diverts from tributaries about 3 cfs for water supply.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1949	-	-	-	-	-	-	-	-	-	-	48.5	40.8	-
1950	33.5	43.0	47.3	64.1	56.6	76.4	41.2	31.3	36.4	20.6	13.7	32.2	41.3

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1949	1173	a558	Aug. 28, 1949	-	-	-	-	-	-
1950	1173	478	Mar. 13, 1950	9.9	41.3	-	-	-	-

a Maximum for August and September.

93. Richland Creek at Waynesville, N. C.

Location.--Lat 35°29'42", long. 82°59'28", 100 ft downstream from bridge on State Highway 284 at Waynesville, Haywood County, and 1.4 miles downstream from Eaglenest Creek.

Drainage area.--44.5 sq mi.

Gage.--Staff gage. Datum of gage is 2,626.36 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--October 1944 to July 1945: Maximum discharge, 795 cfs Apr. 17 (gage height, 2.82 ft, from graph based on gage readings); minimum observed, 24 cfs Oct. 16 (gage height, 0.33 ft).

Remarks.--Slight diurnal fluctuation at low flow caused by mills above station. The city of Waynesville and industrial plants divert from tributaries about 1.55 cfs for water supply.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	*48.3	62.6	93.9	116	168	140	170	136	64.4	*56.8	-	-	-

* Not previously published; partly estimated on basis of records for Scott Creek above Sylva and Cataloochee Creek near Cataloochee.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	*1.25	1.57	2.43	3.01	3.93	3.63	4.26	3.52	1.61	*1.47	-	-	-

* Not previously published; partly estimated on basis of records for Scott Creek above Sylva and Cataloochee Creek near Cataloochee.

94. Pigeon River near Crabtree, N. C.

Location.--Lat 35°34'38", long. 82°57'07", at bridge on State Highway 209, 0.4 mile upstream from Big Branch, and 1.9 miles (revised) south of Crabtree, Haywood County.

Drainage area.--243 sq mi (revised).

Gage.--Chain gage. Datum of gage is 2,460.92 ft (revised) above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--9 years (1920-29), 471 cfs.

Extremes.--1920-29: Maximum discharge, 23,000 cfs Aug. 16, 1928 (gage height, 18.0 ft), from rating curve extended above 4,800 cfs by logarithmic plotting; minimum discharge and gage height not determined.

Remarks.--Some regulation and diurnal fluctuation at low flow by Lake Junaluska and mill above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	*307	*351	*645	631	870	467	551	691	465	485	383	255	*525
1922	176	310	435	758	766	1,320	855	691	513	469	262	197	562
1923	145	137	448	553	759	773	624	826	715	451	327	*254	*500
1924	169	191	327	759	449	608	690	488	359	560	241	342	432
1925	280	175	442	757	468	421	323	268	164	144	77.5	*111	*302
1926	149	255	206	470	510	526	537	226	153	229	291	155	308
1927	122	438	592	450	555	779	414	346	378	245	294	164	397
1928	233	317	795	434	429	538	775	954	675	525	1,130	786	634
1929	474	336	*285	597	799	1,620	588	805	528	344	215	381	*580
1930	640	784	459	-	-	-	-	-	-	-	-	-	-

* Only monthly figures revised; revised daily figures not available.

* Not previously published; estimated or partly estimated on basis of records for French Broad River at Asheville.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	*1.46	*1.61	*4.01	3.00	3.73	2.22	2.53	3.28	2.23	2.30	1.62	1.17	*29.36
1922	.64	1.42	2.06	3.60	3.28	6.27	3.92	3.28	2.36	2.22	1.24	.90	31.39
1923	.69	.63	2.13	2.62	3.25	3.67	2.87	3.92	3.28	2.14	1.55	*1.17	*27.92
1924	.80	.88	1.55	3.60	1.99	2.89	3.17	2.32	1.65	2.66	1.14	1.57	24.22
1925	1.33	.80	2.10	3.59	2.01	2.00	1.48	1.27	.75	.68	.37	*.51	*16.89
1926	.70	1.17	.98	2.23	2.18	2.50	2.47	1.07	.70	1.09	1.38	.71	17.18
1927	.58	2.01	2.81	2.14	2.38	3.69	1.90	1.64	1.74	1.16	1.40	.75	22.20
1928	1.10	1.45	3.77	2.06	1.91	2.55	3.56	4.53	3.10	2.49	5.38	3.61	35.51
1929	2.25	1.54	*1.35	2.83	3.42	7.67	2.70	3.82	2.42	1.63	1.02	1.75	*32.40
1930	3.04	3.60	2.18	-	-	-	-	-	-	-	-	-	-

* Revised.

* Not previously published; estimated or partly estimated on basis of records for French Broad River at Asheville.

Yearly discharge, in cubic feet per second, of Pigeon River near Crabtree, N. C.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1921	523	-	-	183	*525	*2.16	*29.36	476	26.60
1922	543	6,250	Jan. 21, 1922	64	562	2.31	31.39	546	30.52
1923	563	6,220	Dec. 17, 1922	-	*500	*2.06	*27.92	*496	*27.70
1924	583	*8,670	Jan. 11, 1924	103	432	1.78	24.22	450	25.22
1925	603	5,170	Dec. 8, 1924	-	*302	1.24	*16.89	*278	*15.51
1926	623	5,400	Jan. 18, 1926	-	308	1.27	17.18	353	19.73
1927	643	*5,150	Dec. 28, 1926	67	397	1.63	22.20	414	23.12
1928	663	23,000	Aug. 16, 1928	113	634	2.61	35.51	617	34.56
1929	683	*6,370	Mar. 14, 1929	104	*580	2.39	*32.40	646	36.08
1930	683	*5,260	Oct. 2, 1929	-	-	-	-	-	-

* Revised.

* Not previously published.

Note.--Figures of daily discharge for Sept. 22, 23, 1923, Sept. 10-15, 1925, Dec. 18-20, 1928, and those below 60 cfs published in water-supply papers have been found subject to considerable error on basis of restudy of the original data; these figures should not be used.

95. Jonathan Creek near Cove Creek, N. C.

Location.--Lat 35°37'22", long. 83°00'26", 1,500 ft downstream from ford, 0.7 mile up-stream from mouth, and 2 miles downstream from Cove Creek and Cove Creek post office, Haywood County.

Drainage area.--65.3 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,383.89 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--21 years (1929-50), 126 cfs.

Extremes.--1929-50: Maximum discharge, 3,200 cfs Aug. 30, 1940 (gage height, 7.51 ft); minimum, 18 cfs Jan. 2, 1940 (gage height, 0.54 ft), result of freezeup.

Remarks.--Slight diurnal fluctuation at low flow caused by small mill above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1930	*107	*235	*130	*118	*126	*225	*148	*172	88.0	54.5	43.0	65.1	*126
1931	40.3	68.6	73.8	89.1	97.1	100	246	126	70.5	71.3	68.2	51.7	91.7
1932	35.5	36.9	153	197	254	166	172	137	72.8	55.3	66.5	36.2	115
1933	88.7	99.7	360	245	316	190	145	192	92.1	73.9	78.7	92.0	164
1934	47.4	45.2	48.8	117	91.4	274	140	92.2	115	85.1	69.7	44.7	97.8
1935	81.1	82.1	109	163	158	220	235	152	83.5	82.0	83.8	49.2	125
1936	41.9	92.6	65.9	401	313	314	399	116	66.0	65.9	53.8	64.7	166
1937	121	79.6	152	460	253	162	173	132	90.5	79.3	117	94.0	159
1938	110	82.0	94.3	153	139	254	178	136	152	130	79.9	55.4	127
1939	37.3	67.1	59.4	134	392	254	167	98.6	71.1	62.7	50.7	30.5	117
1940	27.9	29.7	36.8	54.7	116	128	120	77.0	70.4	138	265	142	100
1941	63.0	69.0	64.5	84.6	61.4	114	99.5	56.2	42.2	158	77.0	39.3	77.6
1942	34.1	44.3	60.0	83.6	148	221	102	102	71.1	72.5	89.7	79.4	92.1
1943	65.2	59.8	218	241	315	241	171	129	102	136	97.8	53.5	152
1944	45.9	50.7	48.1	77.8	267	328	218	132	85.0	53.7	39.3	47.4	115
1945	44.8	58.4	91.5	135	214	177	162	150	75.9	69.1	73.8	106	112
1946	74.1	103	161	343	351	253	193	180	97.6	93.2	60.8	47.9	162
1947	64.4	61.7	94.3	420	154	188	163	96.8	68.3	51.5	44.3	33.7	120
1948	47.0	93.7	76.5	90.6	278	191	186	85.2	63.4	55.3	72.2	46.4	106
1949	35.5	173	215	253	274	176	185	175	144	155	137	128	170
1950	110	154	165	246	256	324	189	118	121	75.7	55.6	75.5	155

* Not previously published; estimated or partly estimated on basis of records for Oconaluftee River at Cherokee.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1930	*1.89	*4.02	*2.30	*2.08	*2.01	*3.97	*2.53	*3.04	1.50	0.96	0.76	1.11	*26.17
1931	.71	1.17	1.30	1.57	1.55	1.77	4.20	2.22	1.20	1.26	1.20	.88	19.03
1932	.63	.63	2.70	3.48	4.19	2.93	2.95	2.43	1.24	.98	1.17	.62	23.95
1933	1.57	1.70	6.35	4.32	5.04	3.35	2.48	5.38	1.57	1.31	1.39	1.57	34.03
1934	.84	.77	.86	2.07	1.46	4.84	2.40	1.63	1.97	1.50	1.23	.76	20.33
1935	1.43	1.40	1.93	2.87	2.52	3.88	4.02	2.68	1.43	1.45	1.48	.84	25.93
1936	.74	1.58	1.16	7.08	5.17	5.54	6.83	2.05	1.13	1.16	.95	1.11	34.50
1937	2.13	1.36	2.69	8.12	4.03	2.86	2.96	2.33	1.55	1.40	2.06	1.61	33.10
1938	1.94	1.41	1.66	2.70	2.22	4.13	3.05	2.40	2.25	2.29	1.41	.95	26.41
1939	.66	1.15	1.05	2.36	6.25	4.48	2.86	1.74	1.22	1.11	.89	.52	24.29
1940	.49	.51	.65	.97	1.92	2.26	2.05	1.36	1.20	2.43	4.68	2.42	20.94
1941	1.11	1.18	1.14	1.49	.98	2.01	1.70	.99	.72	2.78	1.36	.67	16.13
1942	.60	.76	1.06	1.48	2.37	3.89	1.75	1.80	1.22	1.28	1.58	1.36	19.15
1943	1.15	1.02	3.84	4.25	5.02	4.26	2.92	2.27	1.75	2.40	1.73	.91	31.52
1944	.61	.87	.85	1.37	4.40	5.80	3.73	2.33	1.45	.95	.69	.81	24.06
1945	.79	1.00	1.61	2.38	3.41	3.13	2.77	2.65	1.50	1.22	1.30	1.81	23.37

* Not previously published; estimated or partly estimated on basis of records for Oconaluftee River at Cherokee.

Monthly and yearly runoff, in inches, of Jonathan Creek near Cove Creek, N. C.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1946	1.31	1.76	2.85	6.06	5.59	4.47	3.29	3.18	1.67	1.65	1.07	0.82	33.72
1947	1.14	1.05	1.66	7.42	2.46	3.32	2.79	1.71	1.17	.91	.78	.58	24.99
1948	.83	1.60	1.35	1.60	4.59	3.37	3.18	1.50	1.08	.98	1.27	.79	22.14
1949	.63	2.95	3.79	4.47	4.58	3.10	3.16	3.09	2.46	2.75	2.41	2.19	35.38
1950	1.94	2.64	2.90	4.34	4.08	5.73	2.89	2.09	2.07	1.34	.98	1.29	32.29

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1930	698	-	-	-	#126	#1.93	#26.17	#102	#21.14
1931	713	1,160	Apr. 4, 1931	35	91.7	1.40	19.03	95.4	19.81
1932	728	1,300	Jan. 30, 1932	25	115	1.76	23.95	142	29.61
1933	743	1,930	Dec. 28, 1932	32	164	2.51	34.03	129	26.88
1934	758	1,600	Mar. 3, 1934	34	97.8	1.50	20.33	109	22.62
1935	783	1,050	Mar. 12, 1935	34	125	1.91	25.93	119	24.65
1936	803	2,270	Jan. 19, 1936	34	166	2.54	34.50	178	37.20
1937	823	2,050	Jan. 5, 1937	52	159	2.43	35.10	154	31.93
1938	853	1,150	Mar. 10, 1938	45	127	1.94	26.41	117	24.26
1939	873	2,120	Feb. 3, 1939	26	117	1.79	24.29	111	23.08
1940	893	3,200	Aug. 30, 1940	24	100	1.53	20.94	109	22.72
1941	923	830	July 16, 1941	30	77.6	1.19	16.13	72.8	15.12
1942	953	1,310	Feb. 16, 1942	26	92.1	1.41	19.15	109	22.74
1943	973	1,710	Dec. 29, 1942	43	152	2.33	31.52	135	28.04
1944	1003	1,580	Feb. 18, 1944	27	115	1.76	24.06	120	24.95
1945	1033	1,070	Feb. 17, 1945	32	112	1.72	23.37	125	25.89
1946	1053	2,680	Feb. 10, 1946	41	162	2.48	33.72	152	31.65
1947	1083	2,820	Jan. 20, 1947	27	120	1.84	24.99	120	24.92
1948	1113	1,400	Feb. 14, 1948	26	106	1.62	22.14	123	25.73
1949	1143	1,970	Nov. 28, 1948	31	170	2.60	35.38	171	35.49
1950	1173	1,550	Jan. 19, 1949	43	155	2.37	32.29	-	-

* Not previously published.

96. Pigeon River near Hepco, N. C.

Location--Lat 35°38'07", long. 82°59'22", 0.8 mile downstream from Jonathan Creek, 2.4 miles upstream from Fines Creek and from Hepco, Haywood County.

Drainage area--350 sq mi.

Gage--Water-stage recorder. Datum of gage is 2,335.95 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge--23 years (1927-50), 669 cfs.

Extremes--1927-50: Maximum discharge, 32,700 cfs Aug. 30, 1940 (gage height, 15.82 ft, from floodmark in gage house), from rating curve extended above 12,000 cfs on basis of slope-area determination at gage heights 14.94 and 15.82 ft; minimum, 81 cfs Sept. 30, 1941 (gage height, 0.82 ft), result of regulation.

Remarks--Considerable regulation by Lake Junaluska on Richland Creek and Lake Logan on West Fork Pigeon River for short periods at low flow (combined capacity of reservoirs, about 4,500 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1927	-	-	-	-	-	770	1,020	1,597	956	822	1,470	265	-
1928	318	386	1,170	687	607	770	1,020	1,597	956	822	1,470	265	903
1929	713	478	389	849	1,089	2,455	925	1,367	832	612	336	543	883
1930	927	1,110	686	612	710	884	660	685	369	234	172	312	613
1931	192	355	392	505	437	542	1,292	572	340	307	321	205	454
1932	140	209	721	1,140	1,140	828	768	704	380	257	388	185	570
1933	891	758	2,125	1,336	1,450	1,010	893	976	438	313	305	516	917
1934	241	210	246	531	450	1,475	636	432	687	500	348	257	502
1935	419	523	697	1,057	695	979	925	632	359	394	600	353	637
1936	221	511	349	2,171	1,704	1,622	2,010	588	329	341	344	346	874
1937	892	425	775	2,275	1,274	730	881	616	424	350	510	575	808
1938	689	454	461	654	606	997	783	574	568	658	459	282	800
1939	180	522	356	728	2,047	1,286	816	528	408	259	366	198	631
1940	156	162	193	194	454	772	821	403	377	572	2,246	803	597
1941	344	325	452	471	319	503	498	283	209	720	313	176	386
1942	141	214	410	430	762	1,170	507	688	487	411	466	509	515
1943	330	273	1,080	1,135	1,247	1,097	889	721	531	646	374	228	711
1944	183	231	215	390	1,187	1,450	1,059	680	427	293	225	255	544
1945	292	315	437	627	984	850	1,039	770	380	306	319	641	576
1946	385	534	792	1,610	1,583	1,433	977	937	454	408	264	269	800
1947	423	370	380	1,708	678	771	859	438	333	245	214	161	548
1948	496	774	468	458	1,347	1,057	985	428	312	478	496	420	640
1949	257	1,199	1,073	1,157	1,227	759	922	872	1,131	1,005	1,002	743	943
1950	611	773	786	1,019	992	1,322	713	483	576	322	233	880	724

Yearly discharge, in cubic feet per second, of Pigeon River near Hepco, N. C.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1927	643	-	-	-	-	-	-	-	-
1928	663, 893	21,900	Aug. 16, 1928	196	903	2.58	35.13	878	34.16
1929	683, 893	9,950	Mar. 14, 1929	233	883	2.52	34.25	978	37.95
1930	696, 893	6,670	Oct. 2, 1929	109	613	1.75	23.78	463	17.97
1931	713, 893	7,970	Apr. 22, 1931	136	454	1.30	17.60	466	18.06
1932	743, 728	8,680	May 1, 1932	118	570	1.63	22.22	798	31.07
1933	743, 893	13,800	Dec. 28, 1932	166	917	2.62	35.55	657	25.44
1934	758, 893	13,800	Mar. 3, 1934	174	502	1.43	19.47	581	22.53
1935	783, 893	11,300	Jan. 9, 1935	209	637	1.82	24.69	589	22.87
1936	803, 893	13,200	Jan. 19, 1936	178	874	2.50	33.99	†960	†37.32
1937	823	11,800	Oct. 16, 1936	228	808	2.31	31.31	766	29.71
1938	853	6,670	Oct. 19, 1937	197	600	1.71	23.27	553	21.46
1939	873	9,690	Jan. 30, 1939	156	631	1.80	24.48	586	22.72
1940	893	32,700	Aug. 30, 1940	104	597	1.71	23.24	649	25.23
1941	923	3,660	Aug. 4, 1941	95	386	1.10	14.97	356	13.81
1942	953	7,090	Feb. 17, 1942	97	515	1.47	19.99	593	23.01
1943	973	11,800	Dec. 29, 1942	167	711	2.03	27.56	621	24.09
1944	1003	5,320	Feb. 18, 1944	121	544	1.55	21.15	578	22.50
1945	1033	7,510	Apr. 17, 1945	174	576	1.65	22.36	633	24.54
1946	1053	13,600	Jan. 10, 1946	185	800	2.29	31.03	755	29.27
1947	1083	12,400	Feb. 20, 1947	130	548	1.57	21.26	595	23.08
1948	1113	5,940	Feb. 14, 1948	130	640	1.83	24.88	705	27.45
1949	1143	21,000	June 16, 1949	196	643	2.69	36.57	913	35.43
1950	1173	7,260	Mar. 13, 1950	172	724	2.07	28.07	-	-

† Corrected.

Note.--Monthly figures of discharge in cubic feet per second per square mile and of runoff in inches previously published in water-supply papers are subject to considerable error because of regulation in Lake Junaluska and Lake Logan. These figures are not published herein and should not be used.

97. Cataloochee Creek near Cataloochee, N. C.

Location--Lat 35°40'02", long. 83°04'23", at bridge on State Highway 284, 500 ft upstream from Little Cataloochee Creek and 2 miles north of Cataloochee, Haywood County.

Drainage area--49.2 sq mi.

Gage--Water-stage recorder. Datum of gage is 2,457.48 ft above mean sea level, datum of 1929.

Average discharge--17 years (1933-50), 105 cfs.

Extremes--1933-50: Maximum discharge, 3,390 cfs Aug. 30, 1940 (gage height, 7.01 ft), from rating curve extended above 1,500 cfs by logarithmic plotting; minimum, 9 cfs Jan. 2, 1940, Dec. 17, 24, 1943 (gage height, 1.87 ft), result of freezeup.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	\$35.5	\$33.5	\$37.0	\$92.0	\$71.0	\$230	\$112	\$72.1	120	68.9	53.3	34.7	\$80.1
1935	61.2	66.7	83.7	134	133	218	220	117	60.8	71.9	89.9	45.2	108
1936	30.9	57.5	53.4	362	242	266	305	68.7	44.5	42.4	40.2	45.2	129
1937	98.7	60.9	115	392	185	114	137	101	62.3	57.3	105	70.8	125
1938	77.6	62.8	78.0	132	116	222	154	129	126	141	90.0	52.9	115
1939	30.7	53.6	52.7	116	336	221	131	74.1	54.6	48.2	39.9	25.9	97.0
1940	22.3	22.3	26.0	35.5	74.0	133	116	70.3	86.4	115	223	100	85.4
1941	42.9	43.6	46.3	64.7	49.5	99.0	91.0	52.1	35.3	96.9	42.7	24.9	57.6
1942	23.0	30.2	39.5	70.0	127	167	74.6	87.9	62.0	62.3	82.6	60.4	73.6
1943	50.5	49.7	192	200	252	182	134	96.6	72.2	90.7	62.9	36.6	118
1944	26.5	30.0	30.2	45.6	225	271	173	90.3	50.0	32.4	30.5	36.3	86.1
1945	38.5	48.2	87.8	114	208	147	124	135	65.8	62.6	103	93.6	102
1946	58.0	78.3	137	324	283	182	162	147	79.1	83.8	51.9	37.6	135
1947	46.8	51.5	91.4	382	110	138	139	76.1	52.5	55.4	45.4	33.6	102
1948	35.9	81.7	67.1	90.5	265	180	167	69.5	49.9	39.4	49.5	34.2	91.6
1949	26.3	129	190	208	230	132	151	134	107	182	131	92.8	142
1950	83.0	136	157	240	247	267	121	86.4	86.4	78.0	50.3	51.4	133

* Not previously published; estimated or partly estimated on basis of records for Jonathan Creek near Cove Creek.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	\$0.83	\$0.76	\$0.87	\$2.16	\$1.50	\$5.39	\$2.54	\$1.69	2.73	1.61	1.25	0.79	\$22.12
1935	1.43	1.51	1.96	3.14	2.81	5.11	4.99	2.74	1.38	1.68	2.11	1.02	29.86
1936	.72	1.30	1.25	8.49	5.31	6.24	6.91	1.61	1.01	.99	.94	1.02	35.79
1937	2.32	1.58	2.70	9.19	3.92	2.68	3.10	2.36	1.42	1.34	2.46	1.61	34.48
1938	1.82	1.43	1.83	3.09	2.46	5.20	3.49	3.02	2.86	3.31	2.11	1.20	31.82
1939	.72	1.22	1.23	2.72	7.11	5.18	2.97	1.74	1.24	1.13	.94	.59	26.79
1940	.52	.51	.61	.83	1.62	3.12	2.63	1.65	1.96	2.69	5.22	2.28	23.64

* Not previously published; estimated or partly estimated on basis of records for Jonathan Creek near Cove Creek.

TENNESSEE RIVER BASIN

Monthly and yearly runoff, in inches, of Cataloochee Creek near Cataloochee, N. C.--Continued													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1941	1.00	0.99	1.08	1.52	1.05	2.32	2.06	1.22	0.80	2.27	1.00	0.56	15.87
1942	.54	.69	.93	1.64	2.68	3.92	1.69	2.06	1.41	1.46	1.94	1.37	20.33
1943	1.18	1.18	4.50	4.70	5.33	4.28	3.05	2.26	1.64	2.13	1.47	.83	32.50
1944	.62	.68	.71	1.07	4.94	6.35	3.92	2.11	1.13	.76	.72	.62	23.83
1945	.90	1.09	2.06	2.68	4.41	3.44	2.80	3.17	1.49	1.47	2.41	2.12	28.04
1946	1.36	1.78	3.20	7.60	6.00	4.27	3.68	3.44	1.79	1.96	1.22	.85	37.15
1947	1.10	1.17	2.14	8.95	2.32	3.24	3.14	1.78	1.19	1.30	1.06	.76	28.15
1948	.84	1.85	1.57	2.12	5.81	3.74	3.78	1.63	1.13	.92	1.16	.78	25.33
1949	.62	2.92	4.44	4.88	4.87	3.10	3.43	3.15	2.43	4.27	3.06	2.10	39.27
1950	1.95	3.08	3.68	5.63	5.24	6.25	2.75	2.03	1.96	1.83	1.18	1.17	36.75

Yearly discharge, in cubic feet per second								
Year	W.S.P. no.	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1934	758	-	-	-	#80.1	#1.63	#22.12	#89.0
1935	783	1,440	Mar. 12, 1935	28	108	2.20	29.88	102
1936	803	2,700	Jan. 19, 1936	25	129	2.62	35.79	141
1937	823	2,220	Jan. 3, 1937	40	125	2.54	34.48	120
1938	853	1,040	Mar. 10, 1938	34	115	2.34	31.82	108
1939	873	1,900	Feb. 3, 1939	22	97.0	1.97	26.79	91.5
1940	893	3,390	Aug. 30, 1940	12	85.4	1.74	23.64	90.6
1941	923	457	July 16, 1941	20	57.6	1.17	15.87	54.2
1942	953	1,120	Feb. 16, 1942	18	73.6	1.50	20.33	90.5
1943	973	1,480	Dec. 29, 1942	28	118	2.40	32.50	100
1944	1003	2,640	Feb. 17, 1944	16	86.1	1.75	23.83	93.5
1945	1033	1,520	Feb. 17, 1945	26	102	2.07	28.04	110
1946	1053	3,170	Jan. 7, 1946	29	135	2.74	37.15	128
1947	1083	2,960	Jan. 20, 1947	26	102	2.07	28.15	102
1948	1113	1,400	Feb. 14, 1948	25	91.6	1.86	25.33	105
1949	1143	1,690	Nov. 28, 1948	24	142	2.69	39.27	145
1950	1173	1,640	Mar. 13, 1950	35	133	2.70	36.75	-

* Not previously published.

98. Pigeon River near Mount Sterling, N. C.

Location.--Lat 35°43'25", long. 83°01'42". 600 ft upstream from Hurricane Creek and 5 miles southeast of Mount Sterling, Haywood County.

Drainage area.--460 sq mi (revised).

Gage.--Water-stage recorder. Datum of gage is 1,879.5 ft (revised) above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--5 years (1924-29), 837 cfs.

Extremes.--1924-30: Maximum discharge, 21,500 cfs (revised) Aug. 16, 1928 (gage height, 11.85 ft), from rating curve extended above 2,800 cfs by logarithmic plotting; minimum, 24 cfs Apr. 18, 1930 (gage height, 0.30 ft), result of regulation; minimum prior to Oct. 27, 1929, 41 cfs Sept. 8, 1925 (gage height, 0.62 ft).

Remarks.--Slight regulation and diurnal fluctuation at low flow by Lake Junaluska and Hepco powerplant. Gates closed at Waterville Dam Oct. 27, 1929; excessive regulation and diversion thereafter.

Monthly and yearly mean discharge, in cubic feet per second													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	458	322	881	1,340	827	720	571	516	328	279	132	163	545
1926	319	535	362	904	1,080	1,090	981	542	372	410	495	332	616
1927	270	790	1,440	876	931	1,470	797	603	797	555	713	395	802
1928	410	474	1,480	884	835	1,000	1,500	1,740	1,270	1,160	*1,730	1,530	*1,150
1929	832	568	483	1,020	1,320	2,820	1,110	1,700	1,040	842	447	681	1,070
1930	1,050	978	769	*728	628	854	-	-	-	-	-	-	-

* Revised.

* Not previously published; partly estimated on basis of records for stations near Hepco, N. C. and at Hartford, Tenn.

Monthly and yearly runoff, in inches													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	1.15	0.78	2.21	3.37	1.87	1.80	1.38	1.29	0.80	0.70	0.33	0.40	16.08
1926	.80	1.30	.91	2.27	2.45	2.73	2.38	1.38	.90	1.03	1.24	.80	18.18
1927	.68	1.92	3.60	2.20	2.11	3.69	1.93	1.51	1.83	1.39	1.79	.93	23.68
1928	1.03	1.15	3.70	2.22	1.96	2.51	3.14	4.35	3.07	2.92	*4.33	3.72	*34.10
1929	2.08	1.38	1.21	2.55	2.99	7.08	2.69	4.26	2.53	2.11	1.12	1.65	31.65

* Revised.

Yearly discharge, in cubic feet per second, of Ryeon River near Mount Sterling, W. C.									
Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1924	603	-	-	-	-	-	-	-	-
1925	603	8,820	Dec. 8, 1924	78	545	1.18	16.08	507	14.95
1926	623	9,060	Jan. 18, 1926	137	618	1.54	18.18	724	21.37
1927	8,350	8,350	Aug. 1, 1925	210	802	1.74	23.65	1,000	23.56
1928	663, 1386	*21,500	Aug. 16, 1928	240	*1,150	*34.10	*31.40	*1,110	*32.65
1929	683	*9,640	Mar. 5, 1929	258	1,070	2.33	31.65	1,150	-
1930	698	*8,770	Nov. 19, 1929	-	-	-	-	-	-

* Revised.

a Caused by regulation. Unregulated maximum during period October to April, 6,540 cfs Oct. 2, 1929.

99. Pigeon River at Hartford, Tenn.

Location.--Lat 35°48'52", long. 83°03'42", 600 ft downstream from highway bridge at Hartford, Cooke County, and 4.5 miles downstream from Big Creek and North Carolina-Tennessee State line.

Drainage area.--547 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,245.74 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Aug. 13, 1925, to Sept. 8, 1927, tape gage and Sept. 9, 1927, to July 16, 1928, staff gage at highway bridge 600 ft upstream at same datum.

Average discharge.--23 years (1925-48), 950 cfs.

Extremes.--1925-48: Maximum discharge, 38,600 cfs Aug. 30, 1940 (gage height, 12.79 ft); minimum daily, 11 cfs Aug. 17, 1930.

Remarks.--Considerable regulation since 1930 by Lake Junaluska, Lake Logan, and Lake Walters during periods of low flow (combined usable capacity, 12,500 cfs-days).

Monthly and yearly mean discharge, in cubic feet per second												The year	
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.		
1925	-	-	-	-	-	-	-	-	-	-	-	162	-
1926	394	594	411	1,020	1,250	1,340	1,170	669	417	475	619	349	722
1927	294	835	1,540	963	1,620	1,660	853	698	1,310	668	669	463	960
1928	423	543	1,703	1,080	993	1,160	1,570	2,260	1,590	1,590	1,960	1,750	1,390
1929	912	651	559	1,300	1,540	3,410	1,270	2,220	1,060	938	568	715	1,260
1930	1,100	1,070	1,030	812	1,010	1,530	970	1,120	564	464	312	400	864
1931	339	420	560	855	663	695	1,910	877	575	552	638	513	715
1932	249	223	934	1,590	1,860	1,190	1,210	1,130	688	508	448	245	854
1933	902	1,020	2,620	1,670	2,220	1,370	1,180	1,660	572	398	476	809	1,240
1934	357	342	372	805	510	2,073	1,286	674	1,137	686	499	376	762
1935	613	720	938	1,502	1,062	1,645	1,609	1,097	502	477	808	519	958
1936	247	650	472	2,974	2,177	2,583	3,060	792	443	483	488	413	1,228
1937	1,243	703	966	5,305	1,755	1,108	1,159	926	635	441	740	804	1,149
1938	680	670	758	932	1,027	1,654	1,261	902	1,342	902	902	907	1,249
1939	269	596	596	962	3,222	2,062	776	587	587	341	413	802	1,193
1940	203	184	269	300	609	1,080	1,074	546	522	936	2,881	1,183	818
1941	466	436	494	739	524	680	852	450	298	1,038	406	286	557
1942	237	274	456	669	1,055	1,737	734	885	685	737	870	671	750
1943	444	410	1,722	1,610	1,927	1,636	1,316	1,064	749	1,014	647	307	707
1944	289	323	880	555	1,637	2,295	1,660	884	668	365	344	249	1,096
1945	478	372	856	1,119	1,431	1,312	1,327	1,253	557	468	698	892	892
1946	523	814	1,248	2,634	2,390	1,913	1,668	1,421	565	752	406	313	1,215
1947	550	427	531	2,763	1,208	1,204	1,214	685	477	583	356	290	866
1948	509	978	698	681	2,002	1,464	1,469	562	430	544	623	465	863

[illegible]

Yearly discharge, in cubic feet per second, of Pigeon River at Hartford, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1925	603	-	-	-	-	-	-	-	-
1926	623	*12,800	Jan. 18, 1926	138	722	1.32	17.92	829	20.58
1927	643	*8,150	Feb. 23, 1927	222	960	1.76	23.83	958	23.83
1928	663	*23,100	Aug. 16, 1928	282	1,390	2.54	34.52	1,345	33.37
1929	683	*13,100	Mar. 5, 1929	325	1,260	2.30	31.35	1,552	33.60
1930	698	7,810	May 19, 1930	11	864	1.58	21.50	707	17.57
1931	713	*10,000	Apr. 4, 1931	44	715	1.31	17.73	723	17.93
1932	728	*15,500	Jan. 30, 1932	18	854	1.56	21.27	1,118	27.82
1933	743	*17,900	Dec. 28, 1932	40	1,240	2.27	30.69	944	23.42
1934	758	*13,900	Mar. 5, 1934	33	722	1.39	18.89	863	21.40
1935	783	4,470	Mar. 12, 1935	105	958	1.75	23.80	882	21.90
1936	803	25,500	Jan. 19, 1936	22	1,228	2.24	30.54	1,560	33.84
1937	823	17,400	Jan. 5, 1937	70	1,149	2.10	28.52	1,097	27.23
1938	853	8,960	Oct. 19, 1937	54	984	1.80	24.44	915	22.72
1939	873	13,100	Feb. 15, 1939	21	929	1.70	23.08	858	21.32
1940	893	38,600	Aug. 30, 1940	17	818	1.50	20.34	880	21.88
1941	923	4,220	July 17, 1941	39	557	1.02	13.83	521	12.94
1942	953	8,500	Feb. 17, 1942	17	750	1.37	18.61	886	22.00
1943	973	18,400	Dec. 29, 1942	26	1,068	1.95	26.50	933	23.16
1944	1003	9,120	Feb. 18, 1944	18	795	1.45	19.92	859	21.37
1945	1033	5,160	Feb. 17, 1945	37	892	1.63	22.14	967	24.00
1946	1053	26,200	Jan. 7, 1946	32	1,215	2.22	30.15	1,125	27.91
1947	1083	25,500	Jan. 20, 1947	26	866	1.58	21.48	922	22.87
1948	1113	10,600	Feb. 12, 1948	21	863	1.58	21.47	-	-

* Revised.

Note.--Monthly figures of discharge in cubic feet per second per square mile and runoff in inches published in water-supply papers after January 1930 have been found subject to considerable error because of storage in Lake Walters. These figures are not published herein and should not be used.

100. Pigeon River at Newport, Tenn. 1/

Location--Lat 35°57'36", long. 83°10'26", 100 ft upstream from bridge on U. S. Highway 70 at Newport, Cocke County, 0.6 mile downstream from Morell Branch, and at mile 6.8.

Drainage area--666 sq mi. At site used during 1945 and 1946, 687 sq mi.

Supplemental records available--Gage-height records collected in this vicinity since Dec. 1, 1906, are contained in reports of U. S. Weather Bureau.

Gage--Water-stage recorder. Datum of gage is 1,040.76 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to September 1929, staff or chain gage at same site and datum. May 1945 to July 1946, water-stage recorder at site 4.8 miles downstream at datum 37.85 ft lower.

Average discharge--33 years (1900-29, 1944-46, 1948-50), 1,248 cfs (unadjusted).

Extremes--1900-1929, 1944-46, 1948-50: Maximum discharge, 34,900 cfs (revised) Apr. 2, 1920 (gage height, 17.0 ft); minimum daily, 63 cfs Oct. 17, 1948.
Flood of Feb. 28, 1902, reached a stage of 21.4 ft. The flood of Aug. 30, 1940, reached a stage of 17.3 ft (discharge, 36,000 cfs) determined by Tennessee Valley Authority.

Remarks--Considerable regulation since 1930 by Lake Junaluska, Lake Logan and Lake Walters during periods of low flow (combined usable capacity, about 12,500 cfs-days).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1901	*710	*671	1,150	1,600	1,100	1,730	2,900	*1,910	*1,750	*930	*3,020	*1,180	*1,560
1902	*547	*485	*2,650	*1,680	*2,350	*3,350	*1,800	*1,070	*700	*510	*300	*730	*1,340
1903	*430	*860	*1,330	*990	*3,390	3,740	4,270	1,120	1,680	737	668	321	*1,600
1904	279	376	391	624	853	1,840	1,000	915	654	596	579	329	704
1905	192	266	516	1,070	1,910	1,210	1,070	1,390	863	1,410	1,060	457	945
1906	394	330	1,150	2,100	1,200	1,700	1,500	2,000	1,900	1,800	2,500	1,460	1,460
1907	2,600	1,900	1,360	1,080	950	1,250	1,160	1,360	1,210	801	566	660	1,240
1908	450	1,000	1,100	2,160	2,140	2,300	1,420	1,250	827	889	1,150	545	1,270
1909	817	814	1,780	1,540	2,690	3,340	1,570	2,260	2,330	1,770	1,470	788	1,760
1910	798	503	794	1,130	1,230	1,200	762	1,140	1,230	1,210	744	894	971
1911	512	414	837	1,160	1,280	1,240	2,420	853	471	568	492	551	896
1912	668	655	988	1,030	1,340	2,620	2,180	1,490	955	1,310	691	469	1,200
1913	454	392	540	1,290	1,360	3,580	1,710	1,620	1,190	650	550	550	1,170
1914	500	419	500	474	961	1,090	1,270	651	603	461	534	308	645
1915	767	692	2,020	2,070	1,660	907	909	1,180	1,090	987	725	566	1,150
1916	832	575	2,220	1,760	1,810	1,380	1,130	996	1,420	2,500	1,230	400	1,360
1917	489	390	880	1,590	2,200	5,040	2,170	1,200	1,000	1,220	907	1,050	1,510
1918	674	673	611	2,700	1,750	1,160	1,280	1,300	1,680	999	963	720	1,210
1919	1,380	1,130	2,060	2,090	1,390	1,580	1,130	1,110	843	927	643	313	1,220
1920	563	366	969	1,230	1,650	2,650	3,600	1,020	853	701	1,510	841	1,330

* Not previously published; estimated for October and November 1900, May 1901 to December 1902, and February 1903 on basis of record for Tuckasegee River at Bryson, N. C., and for October 1944 to May 1945 and July to September 1948 on basis of record for Pigeon River near Hepco, N. C.
a Only monthly figures revised; revised daily figures not available.

1/ Published 1945-46 as "near Newport."

Monthly and yearly mean discharge, in cubic feet per second, of Pigeon River at Newport, Tenn.--Con.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	449	674	*1,780	1,640	2,710	1,120	1,760	†1,660	1,150	1,420	1,440	750	*1,370
1922	560	958	1,030	1,870	2,170	2,700	2,050	2,040	1,460	1,660	689	421	1,460
1923	348	298	1,280	1,540	2,500	2,810	1,490	1,930	1,480	998	805	460	1,320
1924	324	389	788	1,560	1,230	1,550	1,860	1,470	933	1,140	581	714	1,070
1925	571	385	1,190	2,070	1,160	981	803	835	457	328	158	180	764
1926	793	842	445	1,430	1,540	1,870	1,550	884	467	465	800	401	954
1927	340	1,180	2,250	982	1,700	2,200	1,120	915	1,500	746	801	561	1,190
1928	490	597	2,350	1,400	1,200	1,350	1,800	2,580	1,950	1,760	2,230	2,180	1,660
1929	1,000	697	6,600	1,760	1,790	3,620	1,410	2,690	2,130	1,070	656	810	1,470
1945	*510	*555	*770	*1,110	*1,740	*1,500	*1,840	*1,574	689	594	965	1,021	*1,067
1946	608	973	1,494	3,241	3,006	2,259	2,021	1,696	710	*720	*455	*465	*1,463
1948	-	-	-	-	-	-	-	-	-	-	-	531	-
1949	336	1,652	1,893	1,933	2,011	1,422	1,476	1,505	1,682	1,880	1,493	1,174	1,535
1950	954	1,589	1,390	1,924	2,456	2,513	1,227	833	1,132	656	457	1,128	1,345

* Revised.

† Corrected.

* Not previously published; estimated for October and November 1900, May 1901 to December 1902, and February 1903 on basis of record for Tuckasegee River at Bryson, N. C., and for October 1944 to May 1945 and July to September 1946 on basis of record for Pigeon River near Hepco, N. C.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1901	*1.23	*1.12	1.99	2.77	1.72	3.00	4.85	*3.31	*2.93	*1.61	*5.22	*1.98	*31.73
1902	*.95	*.81	*4.59	*2.91	*3.67	*5.80	*5.02	*1.85	*1.17	*.88	*.52	*1.22	*27.39
1903	*.74	*1.11	*2.30	*1.71	*5.29	6.48	7.15	1.95	2.81	1.28	1.16	.54	*32.52
1904	.48	.63	.68	1.08	1.38	3.18	1.67	1.58	1.10	1.03	1.00	.55	14.36
1905	.33	.45	.89	1.86	2.99	2.10	1.80	2.41	1.45	2.44	1.83	.77	19.32
1906	.67	.55	2.00	3.64	1.88	2.94	2.51	1.73	3.35	3.29	3.12	4.19	29.87
1907	4.50	3.18	2.36	1.87	1.49	2.17	1.94	2.35	2.03	1.38	.98	1.11	25.36
1908	.78	1.68	1.90	3.74	3.46	3.98	2.38	2.17	1.38	1.53	1.99	.91	25.90
1909	1.42	1.36	3.08	2.66	4.21	5.79	2.63	3.91	3.90	3.07	2.55	1.32	35.90
1910	1.38	.84	1.37	1.96	1.93	2.08	1.27	1.97	2.06	2.10	1.29	1.50	19.75
1911	.89	.69	1.45	2.01	2.00	2.14	4.05	1.48	.79	.98	.85	.92	18.25
1912	1.15	1.10	1.71	1.79	2.17	4.53	3.65	2.58	1.60	2.27	1.20	.79	24.54
1913	.79	.66	.94	2.24	2.12	6.20	2.87	2.80	2.00	1.12	1.13	.92	23.79
1914	.87	.70	.87	.82	1.50	1.89	2.13	1.13	1.01	.80	.92	.52	13.16
1915	1.33	1.16	3.49	3.58	2.90	1.57	1.52	2.04	1.83	1.71	1.26	.95	23.34
1916	1.44	.96	3.84	3.04	2.94	2.39	1.90	1.73	2.38	4.32	2.13	.67	27.74
1917	.85	.65	1.52	2.76	3.44	8.75	3.54	2.08	1.67	2.11	1.57	1.76	30.78
1918	1.16	1.13	1.06	4.67	2.74	2.01	2.14	2.25	2.81	1.73	1.67	1.20	24.57
1919	2.40	1.89	3.56	3.62	2.18	2.73	1.90	1.92	1.42	1.60	1.11	.52	24.85
1920	.97	.61	1.67	2.13	2.68	4.59	6.04	1.76	1.43	1.21	2.62	1.41	27.12
1921	.78	1.13	*3.08	2.84	4.24	1.94	2.94	†2.86	1.93	2.26	2.49	1.26	*27.96
1922	.97	1.61	1.79	3.24	3.40	4.67	3.44	3.53	2.44	2.87	1.19	.71	29.86
1923	.60	.50	2.18	2.66	3.90	4.86	2.50	3.34	2.48	1.73	1.40	.77	26.92
1924	.56	.65	1.37	2.70	2.00	2.69	3.11	2.55	1.56	1.97	1.01	1.19	21.36
1925	.99	.64	2.06	3.58	1.81	1.70	1.35	1.44	.77	.57	.27	.30	15.48
1926	1.37	1.41	.77	2.48	2.40	3.24	2.60	1.53	.78	.80	1.38	.67	19.43
1927	.59	1.98	3.90	1.70	2.65	3.80	1.87	1.58	2.51	1.29	1.38	.94	24.19
1928	.85	1.00	3.98	2.42	1.95	2.33	3.01	4.47	3.27	3.04	3.86	3.65	33.83
1929	1.73	1.17	1.14	3.04	2.79	6.62	2.36	4.66	2.06	1.86	1.14	1.36	29.93

* Revised.

† Corrected.

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1900	(a)	-	-	-	-	-	-	-	-
1901	(a)	b13,400	Aug. 6, 1901	-	*1,560	*2.34	*31.73	*1,660	*33.74
1902	(a)	-	Feb. 28, 1902	-	*1,340	*2.01	*27.39	*1,240	*25.19
1903	(a), 1336	b17,400	Apr. 8, 1903	-	*1,600	*2.40	*32.52	*1,480	*30.16
1904	(a)	b6,470	Mar. 7, 1904	160	704	1.06	14.36	698	14.24
1905	(a)	b10,900	July 12, 1905	175	945	1.42	19.32	1,020	20.87
1906	(a)	-	-	-	1,460	2.19	29.87	1,800	36.69
1907	(a)	-	-	-	1,240	1.86	25.36	985	19.66
1908	(a)	b9,800	Jan. 12, 1908	-	1,270	1.91	25.90	1,340	27.40
1909	(a)	b11,500	June 4, 1909	310	1,760	2.64	35.90	1,650	33.63
1910	(a)	b6,180	Feb. 18, 1910	330	971	1.46	19.75	943	19.19
1911	(a)	b6,460	Apr. 6, 1911	285	896	1.35	18.25	941	19.18
1912	(a)	b13,400	Mar. 29, 1912	285	1,200	1.80	24.54	1,120	22.97
1913	(a)	21,800	Mar. 27, 1913	-	1,170	1.76	23.79	1,170	23.84
1914	(a)	b5,790	Mar. 12, Apr. 20	242	645	.968	13.16	816	16.70
1915	(a)	14,600	Dec. 25, 1914	202	1,150	1.73	23.34	1,160	23.60

* Not previously published.

a Tennessee Division of Geology, Bull. 34.

b Maximum daily discharge.

Yearly discharge, in cubic feet per second, of Pigeon River at Newport, Tenn.--Continued

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1916	(a)	18,900	Dec. 18, 1915	330	1,360	2.04	27.74	1,200	24.52
1917	(a)	*26,100	Mar. 4, 1917	330	1,510	2.27	30.78	1,530	31.11
1918	(a)	19,100	Jan. 29, 1918	435	1,210	1.82	24.57	1,430	29.07
1919	(a)	*15,000	Dec. 22, 1918	130	1,220	1.83	24.85	994	20.25
1920	(a)	*34,900	Apr. 2, 1920	102	1,330	2.00	27.12	*1,400	*28.68
1921	(a), 1336	b12,800	Dec. 14, 1920	348	*1,370	*2.06	*27.96	*1,410	*28.86
1922	543	14,900	Jan. 21, 1922	300	1,460	2.19	29.85	1,410	28.77
1923	563	8,890	Mar. 17, 1923	290	1,320	1.96	26.92	1,290	26.22
1924	583	*7,990	Jan. 11, 1924*	290	1,070	1.61	21.36	1,100	22.47
1925	603	8,350	Dec. 9, 1924	120	761	1.14	15.48	754	15.34
1926	623	12,600	Jan. 18, 1926	185	954	1.43	19.43	1,100	22.35
1927	643	*11,600	Feb. 23, 1927*	270	1,190	1.79	24.19	1,160	23.55
1928	663	*20,700	Aug. 16, 1928	315	1,660	2.49	33.83	1,570	32.04
1929	683	*14,600	Mar. 5, 1929	340	1,470	2.21	29.93	-	-
1945	1033	-	-	-	*1,067	-	-	*1,172	-
1946	1053	31,200	Jan. 8, 1946	-	*1,463	-	-	-	-
1949	1143	21,100	June 17, 1949	63	1,535	-	-	1,538	-
1950	1173	11,800	Mar. 13, 1950	102	1,345	-	-	-	-

* Revised.

* Not previously published.

a Tennessee Division of Geology, Bull. 34.

b Maximum daily discharge.

Note.--Figures of daily discharge for the period Dec. 14, 1902, to Jan. 31, 1903, previously published in Tennessee Division of Geology, Bull. 34, have been found in error on basis of restudy of the original data and comparison with nearby stations; these figures should not be used. Monthly figures of discharge in cubic feet per second per square mile and runoff in inches published in WSP 1033, 1053, 1143, and 1173 may be subject to considerable error because of storage in Lake Walters; these figures are not published herein and should not be used.

101. North Toe River at Altapass, N. C.1/

Location.--Lat. 35°53'59", long. 82°01'50", 0.1 mile upstream from Rose Creek and 1 mile northwest of Altapass, Mitchell County.

Drainage area.--104 sq mi. At site used prior to Oct. 1, 1938, 111 sq mi.

Supplemental records available.--Records of chemical analyses and water temperatures for the water year 1949 are published in WSP 1162.

Gage.--Water-stage recorder. Datum of gage is 2,542.91 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Oct. 1-14, 1938, staff gage at same site and datum. Prior to Oct. 1, 1938, water-stage recorder at site 1.2 miles downstream at datum 13.90 ft lower.

Average discharge.--17 years (1933-50), 207 cfs.

Extremes.--1933-50: Maximum discharge, 22,200 cfs Aug. 13, 1940 (gage height, 19.5 ft, from floodmark in gage well), from rating curve extended above 5,000 cfs on basis of slope-area determination of peak flow; minimum, 24 cfs Dec. 14, 15, 1939, result of freezeup; minimum daily, 37 cfs Oct. 16, 1941.

Maximum stage known, about 24 ft in July 1916, from flood profiles by Tennessee Valley Authority.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	*86.0	*87.0	*90.0	*118	*158	*390	*277	*136	163	167	142	109	*160
1935	149	244	277	467	261	487	385	237	176	188	194	238	275
1936	116	231	158	554	385	467	528	216	127	112	113	137	261
1937	305	149	216	580	365	249	235	237	154	112	149	152	242
1938	271	193	190	214	290	336	200	186	180	368	193	105	228
1939	69.5	178	125	227	457	295	199	153	159	132	145	67.9	182
1940	57.2	53.7	53.0	63.3	150	190	283	138	132	129	861	224	195
1941	108	117	138	137	94.9	150	190	104	77.6	265	84.2	61.7	128
1942	49.1	69.2	137	115	209	327	143	398	351	163	173	245	198
1943	138	116	286	300	334	245	273	253	189	260	113	82.5	215
1944	62.0	79.3	81.8	130	292	313	253	162	98.6	96.2	67.4	89.0	143
1945	157	120	150	206	258	239	291	333	182	128	102	334	208
1946	208	176	239	485	330	344	268	297	157	127	88.5	64.8	232
1947	105	98.8	88.8	311	148	211	238	126	116	87.3	120	101	146
1948	232	443	173	137	369	307	303	153	117	134	131	122	217
1949	80.9	261	280	250	280	270	335	279	238	143	393	219	271
1950	195	266	207	238	326	320	213	174	159	110	93.2	254	212

* Not previously published; estimated or partly estimated on basis of records for Nolichucky River at Poplar.

1/ Published as "above Spruce Pine" prior to Oct. 1, 1938.

TENNESSEE RIVER BASIN

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Monthly and yearly runoff, in inches, of North Toe River at Altapass, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	*0.89	*0.87	*0.93	*1.23	*1.48	*4.05	*2.78	*1.42	1.64	1.74	1.47	1.10	*19.60
1935	1.54	2.45	2.88	4.85	2.45	5.05	3.87	2.46	1.77	1.95	2.01	2.39	35.67
1936	1.21	2.32	1.64	5.75	3.74	4.85	5.30	2.24	1.27	1.17	1.17	1.38	32.04
1937	3.17	1.50	2.25	6.03	3.43	2.58	2.36	2.47	1.55	1.16	1.54	1.53	29.57
1938	2.81	1.94	1.97	2.22	2.62	3.49	2.01	1.94	1.81	4.04	2.01	1.06	27.92
1939	.77	1.91	1.39	2.52	4.58	3.27	2.12	1.70	1.70	1.47	1.61	.73	25.77
1940	.63	.58	.59	.70	1.56	2.11	3.03	1.53	1.41	1.43	9.54	2.40	25.51
1941	1.20	1.25	1.53	1.52	.95	1.66	2.03	1.15	.83	2.93	.93	.66	16.64
1942	.54	.74	1.51	1.28	2.09	3.63	1.53	4.41	3.77	1.81	1.92	2.62	25.85
1943	1.53	1.25	3.17	3.33	3.34	2.71	2.93	2.80	2.03	2.88	1.25	.89	28.11
1944	.69	.85	.91	1.44	3.03	3.47	2.71	1.80	1.06	1.07	.75	.95	18.73
1945	1.74	1.29	1.67	2.28	2.58	2.65	3.12	3.70	1.95	1.41	1.13	3.58	27.10
1946	2.30	1.89	2.65	5.37	3.30	3.81	2.88	3.29	1.68	1.40	.98	.70	30.25
1947	1.16	1.06	.98	3.45	1.49	2.33	2.55	1.40	1.25	.97	1.33	1.09	19.06
1948	2.57	4.75	1.91	1.52	3.82	3.40	3.25	1.70	1.25	1.49	1.45	1.31	28.42
1949	.90	3.02	3.10	2.77	2.80	3.00	3.60	3.09	2.56	3.81	4.35	2.35	35.35
1950	2.16	2.85	2.30	2.64	3.27	3.55	2.28	1.93	1.71	1.22	1.03	2.73	27.67

* Not previously published; estimated or partly estimated on basis of records for Nolichucky River at Poplar.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1934	758	-	-	-	*160	*1.44	*19.60	*194	*23.78
1935	783	4,450	Jan. 9, 1935	86	275	2.48	33.67	262	31.97
1936	803	2,680	Jan. 19, 1936	69	261	2.35	32.04	276	33.79
1937	823	2,360	Oct. 16, 1936	72	242	2.18	29.57	240	29.41
1938	853	2,430	July 21, 1938	79	228	2.05	27.92	*204	*25.27
1939	873	2,530	Aug. 18, 1939	52	182	1.75	23.77	165	21.50
1940	893	22,200	Aug. 13, 1940	41	195	1.87	25.51	212	27.69
1941	923	878	July 7, 1941	42	128	1.23	16.64	119	15.45
1942	953	3,020	May 15, 1942	37	198	1.90	25.85	222	29.01
1943	973	3,290	Dec. 30, 1942	56	215	2.07	28.11	189	24.61
1944	1003	1,500	Sept. 30, 1944	38	143	1.38	18.73	160	20.98
1945	1033	3,450	Sept. 18, 1945	70	208	2.00	27.10	224	29.24
1946	1053	2,940	Jan. 8, 1946	54	232	2.23	30.25	204	26.61
1947	1083	1,960	Jan. 20, 1947	46	146	1.40	19.06	192	25.09
1948	1113	2,590	Nov. 3, 1947	64	217	2.09	28.42	200	26.21
1949	1143	4,760	Aug. 28, 1949	69	271	2.61	35.35	273	35.64
1950	1173	1,580	Sept. 9, 1950	68	212	2.04	27.67	-	-

* Not previously published.

102. North Toe River at Spruce Pine, N. C.

Location.--Lat 35°55'08", long. 82°04'22", 0.5 mile downstream from U. S. Highway 19E at Spruce Pine, Mitchell County, and 0.8 mile (revised) downstream from Beaver Creek.

Drainage area.--131 sq mi. At site used 1921-24, 130 sq mi.

Supplemental records available.--June 1907 to June 1908, and April to October 1920, gage heights only.

Gage.--Staff gage at described site after Dec. 19, 1924. Altitude of gage is about 2,490 ft (from topographic map). June 19, 1907, to June 30, 1908, Apr. 21 to Oct. 9, 1920, and Jan. 13, 1921, to Dec. 18, 1924, chain or staff gages at site 0.5 mile upstream at different datums.

Extremes.--1921-26: Maximum discharge observed, 3,910 cfs Jan. 16, 1924 (gage height, 8.8 ft, site and datum then in use), from rating curve extended above 310 cfs; minimum discharge and gage height not determined.

Flood of July 1916 reached a stage of 26 ft, from survey by the Tennessee Valley Authority.

Remarks.--Some diurnal fluctuation caused by small powerplant above the station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	-	-	-	-	530	287	420	343	183	-	-	-	-
1922	-	280	241	334	384	572	443	518	314	259	142	90.7	-
1923	165	69.3	324	325	344	418	280	456	329	370	-	-	-
1924	-	-	-	-	-	-	-	-	-	-	-	218	-
1925	185	158	257	231	209	183	153	181	111	81.0	-	-	-
1926	-	113	85.8	291	-	-	273	138	85.7	181	165	-	-

Monthly and yearly runoff, in inches, of North Toe River at Spruce Pine, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	-	-	-	-	4.25	2.55	3.60	3.04	1.57	-	-	-	-
1922	-	2.40	2.13	2.96	3.07	5.07	3.80	4.58	2.70	2.29	1.26	0.78	-
1923	1.46	.59	2.87	2.88	2.76	3.71	2.40	4.05	2.82	3.29	-	-	-
1924	-	-	-	-	-	-	-	-	-	-	-	1.87	-
1925	1.64	1.19	2.27	2.03	1.66	1.61	1.30	1.59	.95	.71	-	-	-
1926	-	.96	.76	2.56	-	-	2.32	1.21	.73	1.59	1.45	-	-

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Maximum observed		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1921	523	\$3,160	Apr. 16, 1921	-	-	-	-	-	-
1922	543	2,130	Oct. 30, 1921	61	-	-	-	301	31.43
1923	563	2,380	May 29, 1923	58	-	-	-	-	-
1924	583	3,910	Jan. 16, 1924	69	-	-	-	-	-
1925	603	1,570	Dec. 8, 1924	-	-	-	-	-	-
1926	623	2,400	July 30, 1926	-	-	-	-	-	-

* Not previously published.

Note.--Records for July to October 1921, August 1923 to August 1924, August to October 1925, February, March, and September 1926 have been found in error on the basis of restudy of the original data and comparison with records at nearby stations. Those records are not published herein and should not be used.

103. South Toe River at Newdale, N. C.

Location--Lat 35°54'30", long. 82°11'30", at bridge on U. S. Highway 19E at Newdale, Yancey County, 1.3 miles upstream from Little Crabtree Creek, 6.1 miles east of Burnsville, and at mile 6.9.

Drainage area--60.8 sq mi.

Gage--Water-stage recorder. Datum of gage is 2,443.98 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge--17 years (1933-50), 177 cfs.

Extremes--1933-50: Maximum discharge, 29,400 cfs Aug. 13, 1940 (gage height, 17.4 ft), from rating curve extended above 8,000 cfs on basis of discharge measurement at gage height 16.9 ft and contracted-opening determination at gage height 17.4 ft; minimum, 7.8 cfs Oct. 20-23, Nov. 30, 1943 (gage height, 1.13 ft).

Remarks--Some diurnal fluctuation at medium and low flow caused by powerplants and primary mineral processing mills above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	#46.8	#47.2	#50.0	#73.5	#111	#380	#237	#109	224	193	101	125	#141
1935	188	244	200	426	164	314	236	132	72.5	161	216	199	213
1936	65.7	129	100	446	266	297	365	103	66.3	47.8	117	120	176
1937	522	121	192	472	248	146	186	125	76.4	72.0	219	212	216
1938	328	174	141	160	157	219	128	146	130	154	129	56.3	161
1939	34.5	209	89.6	187	404	249	165	104	76.4	73.8	170	60.0	150
1940	36.5	28.6	31.3	38.3	99.9	212	399	108	129	114	1,066	230	208
1941	74.8	91.9	186	124	61.7	107	136	57.1	38.0	294	105	43.6	111
1942	33.7	46.9	142	97.0	190	293	126	201	192	103	116	165	142
1943	94.6	67.3	246	234	244	194	231	173	118	193	71.2	40.7	159
1944	33.4	54.9	55.5	101	203	306	211	129	71.0	85.4	89.1	105	120
1945	156	100	115	158	211	183	210	191	107	92.6	105	339	163
1946	166	140	183	451	273	328	216	205	92.9	73.0	47.8	50.7	188
1947	210	103	67.4	278	108	143	175	83.5	108	66.3	90.2	91.8	127
1948	419	452	131	107	289	267	199	111	86.1	190	136	292	223
1949	131	365	279	219	240	199	295	305	477	381	453	223	297
1950	192	205	184	190	220	262	154	122	121	72.1	129	649	208

* Not previously published; estimated or partly estimated on basis of records for Nolichucky River at Poplar.

Monthly and yearly runoff, in inches, of South Toe River at Newdale, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	\$0.89	\$0.87	\$0.95	\$1.39	\$1.90	\$7.21	\$4.35	\$2.07	4.11	3.65	1.91	2.30	\$31.60
1935	3.56	4.47	3.79	8.07	2.81	5.95	4.33	2.51	1.33	3.04	4.09	3.65	47.60
1936	1.25	2.37	1.90	8.45	4.73	5.83	6.70	1.95	1.22	.91	2.22	2.20	39.53
1937	9.90	2.22	3.64	8.95	4.25	2.77	3.41	2.38	1.41	1.36	4.15	3.89	48.33
1938	6.21	3.19	2.68	3.03	2.69	4.15	2.35	2.77	2.39	2.92	2.44	1.03	35.83
1939	.65	3.84	1.70	3.55	6.91	4.73	3.02	1.97	1.41	1.40	3.23	1.10	33.51
1940	.69	.53	.59	.73	1.77	4.02	7.33	2.05	2.36	2.16	20.22	4.22	46.67
1941	1.42	1.69	3.52	2.35	1.06	2.04	2.50	1.08	.70	5.58	1.99	.80	24.73
1942	.64	.86	2.69	1.84	3.25	5.55	2.31	3.80	3.52	1.96	2.19	3.03	31.64
1943	1.79	1.23	4.66	4.43	4.19	3.68	4.24	3.27	2.16	3.65	1.35	.75	35.40
1944	.63	1.01	1.05	1.91	3.60	5.80	3.88	2.44	1.30	1.62	1.69	1.92	26.85
1945	2.95	1.84	2.19	3.00	3.61	3.46	3.86	3.62	1.97	1.76	1.99	6.22	36.47
1946	3.15	2.57	3.48	8.56	4.68	6.23	3.96	3.89	1.71	1.38	.91	.93	41.45
1947	3.99	1.88	1.28	5.27	1.85	2.71	3.21	1.58	1.98	1.26	1.71	1.68	28.40
1948	7.94	8.30	2.48	2.03	5.12	5.07	3.65	2.11	1.58	3.60	2.58	5.36	49.82
1949	2.49	6.70	5.30	4.15	4.12	3.78	5.42	5.79	8.75	7.22	8.58	4.10	66.40
1950	3.65	3.77	3.49	3.60	3.77	4.97	2.83	2.31	2.22	1.37	2.45	11.92	46.35

* Not previously published; estimated or partly estimated on basis of records for Nolichucky River at Poplar.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1934	758	a3,040	June 18, 1934	b40	\$141	\$2.32	\$31.60	\$182	\$40.71
1935	783	11,700	Jan. 9, 1935	37	213	3.50	47.60	185	41.30
1936	803	4,250	Sept. 30, 1936	30	176	2.89	39.53	222	49.77
1937	823	12,100	Oct. 16, 1936	35	216	3.55	48.33	200	44.65
1938	853	3,040	Oct. 19, 1937	27	161	2.65	35.85	134	29.96
1939	873	6,480	Aug. 18, 1939	30	150	2.47	33.51	130	29.13
1940	893,1143	29,400	Aug. 13, 1940	21	208	3.42	46.67	230	51.49
1941	923,1143	3,380	July 14, 1941	12	111	1.83	24.73	99.8	22.29
1942	953,1143	2,380	Sept. 27, 1942	17	142	2.34	31.64	157	35.13
1943	973,1143	5,180	Dec. 29, 1942	12	159	2.62	35.40	136	30.41
1944	1003,1143	2,960	Sept. 30, 1944	13	120	1.97	26.85	139	31.14
1945	1033,1143	4,300	Sept. 18, 1945	60	163	2.68	36.47	173	38.69
1946	1053	4,110	Mar. 14, 1946	30	186	3.06	41.45	176	39.40
1947	1083	6,570	Oct. 8, 1946	35	127	2.09	28.40	179	39.97
1948	1113	7,740	Oct. 17, 1947	47	223	3.67	49.82	204	45.59
1949	1143	14,300	June 16, 1949	84	297	4.88	66.40	281	62.82
1950	1173	11,700	Sept. 1, 1950	48	208	3.42	46.35	-	-

* Not previously published.

a Maximum during period May to September.

b Minimum day during period May to September.

104. Cane River near Sioux, N. C.

Location.--Lat 36°00'52", long. 82°19'40", on State Highway 26, 1.3 miles (revised) upstream from confluence with North Toe River, and 1.5 miles east of Sioux, Yancey County.

Drainage area.--157 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,045.24 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--17 years (1933-50), 248 cfs.

Extremes.--1933-50: Maximum discharge, 31,800 cfs Aug. 13, 1940 (gage height, 17.8 ft), from rating curve extended above 8,000 cfs on basis of slope-area determination at 15.65 ft; minimum, 18 cfs Jan. 6, 1940 (gage height, 1.14 ft), result of freezeup.

Remarks.--Considerable diurnal fluctuation and slight regulation at low flow caused by small mills and Burnsville powerplant.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	\$77.0	\$77.5	\$81.5	\$114	\$162	\$478	\$316	\$137	207	386	186	119	\$196
1935	178	219	233	381	250	786	472	291	169	184	186	144	292
1936	76.5	182	117	757	522	709	714	201	120	120	142	184	320
1937	373	138	250	773	445	282	277	235	126	115	177	178	281
1938	258	181	205	280	345	501	239	211	169	308	169	87.0	246
1939	68.6	208	129	243	603	380	260	158	120	125	121	61.3	204
1940	62.2	57.1	66.4	80.3	176	277	314	131	132	191	1,090	233	235
1941	109	133	181	169	102	195	229	125	76.0	307	88.9	59.8	148
1942	48.1	58.4	102	99.7	223	428	157	239	259	122	136	169	170
1943	115	101	352	390	428	361	297	239	181	285	155	85.4	248
1944	69.5	91.2	92.2	147	445	463	365	192	117	78.9	87.6	122	188
1945	232	153	216	307	424	374	354	296	200	138	198	273	269
1946	178	202	316	641	503	467	356	388	178	136	122	81.8	297
1947	320	149	126	601	214	319	316	155	130	103	167	96.8	225
1948	313	458	165	160	542	392	347	158	137	158	116	137	255
1949	86.9	258	339	272	355	287	368	449	508	493	447	245	342
1950	224	312	274	397	458	499	264	233	322	160	111	422	308

* Not previously published; estimated or partly estimated on basis of records for Nolichucky River at Poplar.

Monthly and yearly runoff, in inches, of Cane River near Sioux, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	\$0.57	\$0.55	\$0.60	\$0.84	\$1.07	\$3.51	\$2.25	\$1.01	1.47	2.84	1.36	0.85	\$16.92
1935	1.30	1.55	1.71	2.80	1.66	5.78	3.56	2.13	1.20	1.35	1.36	1.02	25.22
1936	.56	1.29	.86	5.56	3.58	5.21	5.08	1.48	.85	.88	1.04	1.30	27.69
1937	2.74	.98	1.83	5.67	2.95	2.08	1.96	1.73	.90	.84	1.30	1.26	24.24
1938	1.68	1.28	1.51	2.05	2.29	3.68	1.70	1.54	1.20	2.28	1.24	.62	21.25
1939	.50	1.47	.95	1.79	4.00	2.79	1.85	1.16	.85	.92	.89	.44	17.61
1940	.46	.41	.49	.59	1.21	2.04	2.23	.96	.94	1.40	8.01	1.66	20.40
1941	.80	.94	1.33	1.24	.68	1.43	1.62	.92	.54	2.25	.65	.42	12.82
1942	.35	.42	.75	.73	1.48	3.14	1.12	1.76	1.84	.90	1.00	1.20	14.69
1943	.85	.72	2.58	2.66	2.91	2.65	2.11	1.75	1.14	2.09	1.14	.59	21.39
1944	.51	.65	.68	1.08	3.06	3.40	2.59	1.41	.83	.58	.64	.87	16.30
1945	1.71	1.09	1.59	2.25	2.81	2.74	2.51	2.76	1.42	1.01	1.45	1.94	23.28
1946	1.31	1.43	2.32	4.71	3.34	3.43	2.53	2.85	1.27	1.00	.90	.58	25.67
1947	2.35	1.06	.95	4.41	1.42	2.34	2.24	1.14	.93	.76	1.23	.69	19.50
1948	2.30	3.25	1.21	1.18	3.73	2.88	2.46	1.16	.97	1.16	.85	.97	22.12
1949	.64	1.83	2.49	2.00	2.36	2.11	2.61	3.30	3.61	3.62	3.28	1.74	29.59
1950	1.65	2.22	2.01	2.92	3.04	3.67	1.87	1.71	2.29	1.18	.82	3.00	26.38

* Not previously published; estimated or partly estimated on basis of records for Nolichucky River at Poplar.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1934	758	all, 400	July 15, 1934	b80	\$196	\$1.25	\$16.92	\$229	\$19.76	
1935	783	5,710	Mar. 25, 1935	45	292	1.86	25.22	270	23.37	
1936	803	5,340	Jan. 19, 1936	45	320	2.04	27.69	352	30.53	
1937	823	5,780	Oct. 16, 1936	58	281	1.79	24.24	270	23.36	
1938	853	2,650	July 23, 1938	54	246	1.57	21.25	226	19.50	
1939	873	3,450	Feb. 3, 1939	33	204	1.30	17.61	185	16.05	
1940	893	31,800	Aug. 13, 1940	31	235	1.50	20.40	255	22.11	
1941	923	2,320	July 14, 1941	31	148	.943	12.82	130	11.27	
1942	953	2,520	Mar. 9, 1942	28	170	1.08	14.69	200	17.32	
1943	973	2,820	Dec. 30, 1942	45	249	1.59	21.39	221	19.08	
1944	1003	3,020	Sept. 30, 1944	40	189	1.20	16.30	217	18.85	
1945	1033	2,670	Sept. 18, 1945	84	269	1.71	23.28	277	23.95	
1946	1053	7,670	Jan. 7, 1946	52	297	1.89	25.67	288	24.95	
1947	1083	8,320	Oct. 9, 1946	47	225	1.43	19.50	253	21.92	
1948	1113	5,370	Oct. 17, 1947	42	255	1.62	22.12	234	20.32	
1949	1143	23,800	June 16, 1949	42	342	2.16	29.59	353	30.51	
1950	1173	5,360	Sept. 9, 1950	82	305	1.94	26.38	-	-	

* Not previously published.

a Maximum during period May to September.

b Minimum day during period May to September.

105. Nolichucky River at Poplar, N. C.

Location.--Lat 36°04'29", long. 82°20'41", at Poplar, Mitchell County, 3.9 miles downstream from confluence of North Toe and Cane Rivers, 6.1 miles upstream from North Carolina-Tennessee State line, and at mile 106.8.

Drainage area.--608 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,971.96 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. July 24, 1925, to Feb. 14, 1926, staff gages at site a quarter of a mile upstream at different datums. Feb. 15, 1926, to Sept. 30, 1927, staff gage at present site at datum 1.00 ft higher. Oct. 1, 1927, to May 17, 1934, staff gage at same site and datum.

Average discharge.--26 years (1924-50), 1,039 cfs.

Extremes.--1924-50: Maximum discharge, 74,500 cfs Aug. 13, 1940 (gage height, 19.7 ft), from rating curve extended above 9,000 cfs on basis of slope-area determination of peak flow; minimum, 89 cfs Sept. 7, 1925.
Floods of 1901 and 1916 reached a stage slightly over 21 ft, from floodmarks.

Remarks.--Considerable diurnal fluctuation caused by many small mills and powerplants above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	\$585	\$465	\$1,040	\$1,400	\$1,040	\$690	\$725	\$850	\$475	\$380	149	140	\$661
1926	291	590	424	951	1,170	1,050	1,100	634	371	592	655	436	686
1927	369	1,130	1,650	957	1,730	1,670	1,410	953	1,290	740	587	420	1,070
1928	520	830	1,870	1,170	949	1,170	1,910	2,100	1,380	897	2,380	2,010	1,450
1929	1,620	920	748	1,080	1,010	3,340	1,380	2,090	1,560	1,010	626	1,140	1,420
1930	2,200	1,750	1,160	1,030	1,030	1,280	939	856	534	340	372	406	992
1931	317	587	728	870	564	666	2,000	1,050	665	748	951	612	816
1932	270	284	987	1,550	1,970	1,340	1,210	1,400	547	374	408	301	883
1933	1,150	1,250	1,960	1,540	2,400	1,190	1,600	1,880	678	817	878	658	1,330
1934	354	358	375	519	723	2,020	1,370	617	925	1,290	690	551	817
1935	850	1,055	1,144	2,178	1,139	3,068	1,951	1,164	757	909	951	906	1,343

* Not previously published; estimated or partly estimated on basis of records for station at Embreeville, Tenn.

Monthly and yearly mean discharge, in cubic feet per second, of Nolichucky River at Poplar, N.C.--Con.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1936	422	890	629	2,747	2,027	2,770	2,957	958	560	546	641	797	1,323
1937	1,807	701	1,066	2,945	1,761	1,140	1,153	1,008	594	488	767	784	1,184
1938	1,286	872	890	1,111	1,448	1,799	860	887	799	1,434	918	408	1,087
1939	293	921	613	1,065	2,421	1,559	1,023	689	590	575	634	309	880
1940	279	265	293	305	716	1,031	1,465	591	589	718	4,327	1,175	982
1941	535	574	796	746	470	800	895	437	335	1,296	440	289	637
1942	223	288	548	460	948	1,649	643	1,399	1,359	656	691	877	811
1943	573	475	1,432	1,557	1,685	1,389	1,363	1,154	793	1,138	527	361	1,035
1944	284	387	381	639	1,624	1,854	1,445	824	487	416	386	438	760
1945	882	597	858	1,143	1,566	1,396	1,591	1,517	819	627	618	1,239	1,051
1946	857	822	1,238	2,478	1,876	1,890	1,444	1,585	737	587	438	323	1,188
1947	800	520	458	1,920	789	1,180	1,216	590	592	457	666	473	806
1948	1,271	2,058	777	710	2,056	1,579	1,467	725	602	811	688	765	1,120
1949	447	1,352	1,554	1,263	1,541	1,331	1,733	1,744	1,804	2,236	1,980	1,101	1,507
1950	969	1,293	1,059	1,385	1,745	1,778	1,057	983	1,054	627	496	2,022	1,200

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	\$1.11	\$0.85	\$1.97	\$2.65	\$1.78	\$1.31	\$1.33	\$1.61	\$0.87	\$0.72	0.28	0.26	\$14.74
1926	.55	1.08	.80	1.80	2.00	2.00	2.02	1.20	.68	1.12	1.24	.80	15.29
1927	.70	2.06	3.15	1.83	2.96	3.16	2.59	1.83	2.36	1.40	1.11	.77	23.90
1928	.99	1.71	3.54	2.21	1.68	2.21	3.50	3.99	2.52	1.89	4.52	3.70	32.46
1929	3.07	1.69	1.42	2.05	2.90	6.33	2.54	3.97	2.50	1.91	1.19	2.10	31.67
1930	4.17	3.21	2.20	1.95	1.76	2.43	1.72	1.62	.98	.64	.71	.75	22.14
1931	.60	1.08	1.38	1.65	.97	1.30	3.68	1.99	1.22	1.42	1.80	1.12	18.21
1932	.51	.52	1.87	2.94	3.50	2.53	2.21	2.65	1.00	.71	.77	.55	19.76
1933	2.18	2.30	3.76	2.92	4.10	2.25	2.93	3.56	1.24	1.55	1.66	1.21	29.66
1934	.67	.66	.71	.98	1.24	3.83	2.52	1.17	1.70	2.44	1.31	1.01	18.24
1935	1.61	1.94	2.17	4.13	1.95	5.82	3.58	2.21	1.39	1.72	1.80	1.66	29.98
1936	.80	1.63	1.19	5.21	3.60	5.25	5.43	1.78	1.03	1.04	1.21	1.46	29.63
1937	3.42	1.28	2.02	5.58	3.02	2.17	2.12	1.91	1.09	.93	1.45	1.44	26.43
1938	2.44	1.60	1.68	2.11	2.48	3.41	1.76	1.68	1.46	2.72	1.74	.75	23.83
1939	.56	1.68	1.16	2.02	4.14	2.95	1.87	1.30	1.08	1.09	1.20	.57	19.62
1940	.53	.49	.56	.58	1.27	1.95	2.69	1.12	1.08	1.36	8.20	2.16	21.99
1941	1.01	1.05	1.51	1.42	.80	1.52	1.64	.83	.62	2.46	.83	.53	14.22
1942	.42	.53	1.04	.87	1.62	3.13	1.18	2.65	2.49	1.24	1.51	1.61	18.09
1943	1.09	.87	2.72	2.95	2.89	2.63	2.50	2.19	1.46	2.16	1.00	.66	23.12
1944	.54	.71	.72	1.21	2.88	3.52	2.65	1.56	.89	.79	.73	.86	17.00
1945	1.67	1.10	1.63	2.17	2.68	2.65	2.55	2.88	1.50	1.19	1.17	2.27	23.46
1946	1.62	1.51	2.35	4.70	3.21	3.58	2.65	3.01	1.35	1.11	.83	.59	26.51
1947	1.52	.95	.87	3.64	1.35	2.24	2.23	1.12	1.09	.87	1.26	.87	18.01
1948	2.41	3.78	1.47	1.35	3.65	2.99	2.69	1.37	1.10	1.54	1.31	1.40	25.06
1949	.85	2.48	2.95	2.40	2.64	2.52	3.18	3.31	3.31	4.24	3.75	2.02	33.65
1950	1.84	2.37	2.01	2.53	2.99	3.37	1.94	1.86	1.93	1.19	.94	3.71	26.78

* Not previously published; estimated or partly estimated on basis of records for station at Embreeville, Tenn.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff inches	Mean	Runoff in inches
		Discharge	Date						
1925	623	-	-	96	\$661	\$1.09	\$14.74	\$594	\$13.24
1926	623	9,770	July 30, 1926	131	686	1.13	15.29	841	18.75
1927	643	12,300	Nov. 16, 1926	270	1,070	1.76	23.90	1,090	24.25
1928	663	41,400	Aug. 16, 1928	264	1,450	2.38	32.46	1,450	32.40
1929	683	16,900	Sept. 26, 1929	410	1,420	2.33	31.67	1,570	35.08
1930	698	17,500	Oct. 22, 1929	210	992	1.63	22.14	700	15.62
1931	713	9,810	Apr. 4, 1931	235	816	1.34	18.21	809	18.05
1932	728	10,900	May 1, 1932	163	883	1.45	19.76	1,120	25.10
1933	743	*13,600	Oct. 17, 1932	254	1,330	2.19	29.66	1,050	23.45
1934	758	23,500	July 15, 1934	176	817	1.34	18.24	982	21.92
1935	783	28,000	Jan. 9, 1935	372	1,343	2.21	29.98	1,249	27.88
1936	803	18,400	Jan. 19, 1936	302	1,323	2.18	29.63	1,462	32.73
1937	823	26,400	Oct. 16, 1936	286	1,184	1.95	26.43	1,139	25.43
1938	853	7,900	Oct. 19, 1937	292	1,067	1.75	23.83	963	21.51
1939	873	9,500	Aug. 18, 1939	220	880	1.45	19.62	798	17.80
1940	893	74,500	Aug. 13, 1940	160	982	1.62	21.99	1,072	23.98
1941	923	6,440	July 17, 1941	200	637	1.05	14.22	566	12.64
1942	953	9,100	Mar. 9, 1942	180	811	1.33	18.09	931	20.78
1943	973	15,900	Dec. 30, 1942	232	1,035	1.70	23.12	914	20.41
1944	1003	8,140	Sept. 30, 1944	180	760	1.25	17.00	868	19.43
1945	1033	13,000	Sept. 18, 1945	369	1,051	1.73	23.46	1,099	24.54
1946	1053	22,200	Jan. 8, 1946	277	1,188	1.95	26.51	1,092	24.37
1947	1083	14,400	Jan. 20, 1947	244	806	1.33	18.01	1,000	22.33
1948	1113	16,800	Nov. 3, 1947	265	1,120	1.84	25.06	1,058	23.68
1949	1143	39,500	June 16, 1949	330	1,507	2.48	33.65	1,505	33.59
1950	1173	22,900	Sept. 1, 1950	350	1,200	1.97	26.78	-	-

* Revised.

* Not previously published.

106. North Indian Creek near Unicoi, Tenn.

Location.--Lat 36°10'35", long. 82°17'36", on left bank 100 ft upstream from unnamed tributary, 900 ft upstream from Rocky Branch, and 3.4 miles southeast of Unicoi, Unicoi County.

Drainage area.--15.9 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,209.56 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--7 years (1943-50), 22.1 cfs.

Extremes.--1943-50: Maximum discharge, 342 cfs Jan. 7, 1946 (gage height, 3.40 ft, from floodmark); minimum, 2.0 cfs part of each day Sept. 20-29 (corrected), 1944 (gage height, 0.79 ft).

Remarks.--Some diversion from Davis Spring 1 mile upstream for part of water supply of Johnson City.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1944	*6.2	*9.5	*11.3	*17.0	*52.5	*44.3	*33.0	*14.4	8.43	3.53	4.16	5.53	*17.3
1945	13.6	12.3	19.5	34.2	37.0	39.5	30.7	33.8	14.2	13.6	12.6	7.46	22.3
1946	10.9	14.9	24.0	46.4	46.0	35.9	28.4	33.5	13.0	12.4	8.79	4.88	23.2
1947	7.73	6.69	8.35	46.6	19.1	35.7	27.5	18.0	21.4	17.8	15.8	12.0	19.7
1948	9.15	21.3	10.7	12.3	54.5	31.6	32.8	12.2	9.28	12.1	13.0	5.71	18.5
1949	4.87	14.8	37.9	27.8	31.2	33.9	35.6	28.4	11.6	36.8	14.9	10.7	24.0
1950	15.4	24.3	22.5	35.8	59.8	44.9	23.9	41.7	31.9	20.1	16.4	18.4	29.4

* Not previously published; estimated on basis of records for Doe River at Elizabethton.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1944	*0.45	*0.67	*0.82	*1.23	*3.56	*3.21	*2.32	*1.04	0.59	0.26	0.30	0.39	*14.84
1945	.98	.86	1.42	2.48	2.42	2.87	2.15	2.45	1.00	.98	.91	.52	19.04
1946	.79	1.05	1.74	3.36	3.01	2.61	2.00	2.43	.91	.90	.64	.34	19.78
1947	.56	1.47	.61	3.38	1.25	2.59	1.91	1.31	1.50	1.29	1.14	.84	16.85
1948	.66	1.49	.78	.89	3.70	2.29	2.30	.89	.65	.88	.95	.40	15.88
1949	.35	1.04	2.75	2.02	2.04	2.46	2.50	2.06	.82	2.67	1.08	.75	20.54
1950	1.12	1.70	1.63	2.60	3.91	3.26	1.68	3.02	2.24	1.46	1.19	1.29	25.10

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1944	1003	-	-	-	*17.3	*1.09	*14.84	*18.9	*16.16	
1945	1033	224	Apr. 17, 1945	4.5	22.3	1.40	19.04	22.7	19.36	
1946	1053	342	Jan. 7, 1946	4.2	23.2	1.46	19.78	20.9	17.84	
1947	1063	277	Jan. 20, 1947	5.7	19.7	1.24	16.85	21.3	18.14	
1948	1113	216	Apr. 8, 1948	3.8	18.5	1.16	15.88	19.9	17.09	
1949	1143	234	Mar. 18, 1949	3.8	24.0	1.51	20.54	24.4	20.85	
1950	1173	278	May 11, 1950	7.7	29.4	1.85	25.10	-	-	

* Not previously published.

107. Nolichucky River at Embreeville, Tenn.1/

Location.--Lat 36°10'35", long. 82°27'27", 2,000 ft upstream from bridge on State Highway 81 at Embreeville, Washington County, 3 miles northwest of Erwin, 5.2 miles downstream from North Indian Creek, and at mile 89.0.

Drainage area.--805 sq mi. At site used 1900-1901, 817 sq mi.

Supplemental records available.--Gage-height records collected in this vicinity since May 1, 1926, are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 1,519.30 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. September 1900 to May 1901 chain gage at site 3 miles downstream at different datum, and July 1920 to Sept. 18, 1931, chain gage at bridge 2,000 ft downstream at datum 6.33 ft lower.

Average discharge.--31 years (1919-50), 1,330 cfs.

Extremes.--(1900-1901, 1919-50): Maximum discharge, 82,500 cfs Aug. 13, 1940 (gage height, 18.57 ft), from rating curve extended above 48,000 cfs on basis of slope-area determination of peak flow; minimum, 85 cfs Sept. 8, 9, 1925 (gage height, 1.60 ft), site and datum then in use.

1/ Published 1900-1901 as "near Chucky Valley."

TENNESSEE RIVER BASIN

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Monthly and yearly mean discharge, in cubic feet per second, of Nolichucky River at Embreeville, Tenn.													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1900	-	-	-	-	-	-	-	-	-	-	-	511	-
1901	1,440	1,430	1,120	1,490	1,410	2,280	3,460	-	-	-	-	-	-
1920	\$570	\$430	\$985	\$980	\$1,400	\$2,460	\$3,120	\$890	\$995	732	1,410	1,250	\$1,270
1921	586	744	1,690	1,400	*2,770	1,240	1,800	1,890	1,010	1,740	*2,500	798	*1,510
1922	711	1,180	1,140	*1,970	2,170	2,810	2,210	1,900	1,340	1,480	736	465	*1,510
1923	601	383	1,350	*1,830	2,560	*2,890	1,350	2,510	1,330	1,470	1,290	637	*1,510
1924	419	421	980	2,530	1,180	2,490	1,960	2,260	1,010	985	739	*1,180	*1,350
1925	725	562	1,280	1,780	1,280	858	905	1,060	580	459	182	187	820
1926	433	790	546	1,280	1,540	1,490	1,430	816	482	662	778	498	891
1927	443	1,270	2,010	1,270	2,620	2,130	1,860	1,270	1,950	836	756	566	1,410
1928	550	924	2,180	1,420	1,210	1,600	2,220	2,980	1,960	1,370	2,710	2,650	1,820
1929	1,750	1,080	871	1,460	1,890	4,170	1,720	2,920	1,680	1,250	852	1,350	1,750
1930	2,630	1,910	1,370	1,360	1,300	1,840	1,200	1,040	691	414	412	533	1,230
1931	349	610	805	1,020	749	909	2,680	1,360	856	999	1,330	786	1,040
1932	350	355	1,210	1,900	2,730	1,850	1,740	1,760	750	527	424	351	1,160
1933	1,230	1,340	2,670	2,080	3,020	1,520	1,810	2,340	847	936	856	772	1,610
1934	393	412	434	614	790	2,665	1,775	765	1,050	1,691	960	651	1,019
1935	952	1,144	1,457	2,672	1,483	4,258	2,506	1,510	966	1,147	1,050	937	1,678
1936	489	1,039	715	3,661	2,539	3,542	3,327	1,010	628	592	700	772	1,581
1937	1,913	779	1,215	3,765	2,176	1,364	1,292	1,182	719	608	931	958	1,407
1938	1,512	1,007	1,163	1,430	1,941	2,331	1,221	1,111	997	1,761	1,168	539	1,348
1939	371	1,170	850	1,415	3,223	1,983	1,363	885	852	803	798	385	1,160
1940	323	294	353	382	935	1,396	1,875	801	772	1,055	4,876	1,332	1,202
1941	616	674	905	975	635	1,149	1,146	597	439	1,806	539	361	824
1942	252	336	607	553	1,111	2,139	798	1,586	1,572	848	976	1,012	982
1943	679	601	2,004	1,965	2,213	1,924	1,704	1,423	951	1,404	711	447	1,333
1944	346	471	502	887	2,400	2,445	1,833	1,011	614	476	420	546	990
1945	1,204	799	1,229	1,728	2,122	1,945	1,784	2,004	1,060	852	890	1,413	1,415
1946	992	1,071	1,624	3,216	2,551	2,350	1,848	1,937	874	744	563	382	1,509
1947	936	631	599	2,735	1,000	1,688	1,570	801	812	669	915	580	1,081
1948	1,402	2,369	917	875	2,885	2,059	1,939	863	739	978	839	867	1,585
1949	520	1,566	2,062	1,643	1,972	1,743	2,131	2,197	1,949	2,525	2,147	1,245	1,808
1950	1,119	1,759	1,440	2,035	2,656	2,447	1,396	1,618	1,407	840	592	2,363	1,828

* Revised.

* Not previously published; estimated or partly estimated on basis of records for station at Greenville.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1900	-	-	-	-	-	-	-	-	-	-	-	0.70	-
1901	2.03	1.95	1.58	2.10	1.80	3.22	4.73	-	-	-	-	-	-
1920	*0.82	*0.60	*1.41	*1.40	*1.88	*3.52	*4.32	*1.27	*1.38	1.05	2.01	1.74	*21.40
1921	.84	1.03	2.41	2.01	*3.59	1.77	2.49	2.70	1.40	2.49	*3.58	1.11	*25.42
1922	1.02	1.63	1.63	*2.82	2.80	4.02	3.06	2.72	1.86	2.11	1.05	.64	*25.36
1923	.86	.53	1.93	2.62	3.32	*4.14	1.87	3.59	1.84	2.11	1.84	.88	*25.53
1924	.60	.58	1.40	3.63	1.58	3.56	2.72	3.24	1.40	1.40	1.06	*1.64	*22.81
1925	1.04	.78	1.83	2.55	1.65	1.23	1.25	1.52	.80	.66	.26	.26	13.83
1926	.62	1.09	.78	1.83	1.99	2.14	1.98	1.17	.67	.95	1.11	.69	15.02
1927	.63	1.76	2.68	1.82	3.39	3.05	2.58	1.82	2.70	1.20	1.08	.78	23.69
1928	.79	1.26	3.11	2.03	1.62	2.29	3.07	4.26	2.71	1.96	3.88	3.67	30.67
1929	2.51	1.49	1.25	2.08	2.45	5.98	2.38	4.18	2.33	1.79	1.22	1.68	29.54
1930	3.77	2.65	1.97	1.95	1.68	2.64	1.66	1.49	.96	.59	.59	.74	20.69
1931	.50	.85	1.15	1.46	.97	1.30	3.72	1.95	1.19	1.43	1.90	1.09	17.51
1932	.50	.49	1.73	2.72	3.66	2.64	2.41	2.52	1.04	.75	.61	.49	19.56
1933	1.77	1.85	3.82	2.98	3.90	2.18	2.51	3.35	1.17	1.34	1.23	1.07	27.17
1934	.56	.57	.62	.88	1.02	3.82	2.46	1.10	1.46	2.42	1.38	.90	17.19
1935	1.36	1.59	2.09	3.85	1.92	6.10	3.47	2.16	1.34	1.64	1.50	1.30	28.30
1936	.70	1.44	1.02	5.24	3.40	5.07	4.61	1.45	.87	.85	1.00	1.07	26.72
1937	2.74	1.08	1.74	5.40	2.81	1.95	1.79	1.69	1.00	.87	1.34	1.33	23.74
1938	2.16	1.40	1.67	2.05	2.51	3.34	1.69	1.59	1.38	2.52	1.67	.75	22.73
1939	.53	1.62	1.22	2.03	4.17	2.84	1.89	1.27	1.16	1.15	1.14	.53	19.57
1940	.46	.41	.50	.55	1.25	2.00	2.60	1.15	1.07	1.51	6.98	1.85	20.33
1941	.88	.93	1.30	1.40	.82	1.65	1.59	.86	.61	2.59	.77	.50	13.90
1942	.36	.47	.87	.79	1.44	3.06	1.11	2.27	2.18	1.21	1.40	1.40	16.56
1943	.97	.83	2.87	2.81	2.86	2.76	2.36	2.04	1.32	2.01	1.02	.62	22.47
1944	.50	.65	.72	1.27	3.22	3.50	2.54	1.45	.85	.68	.60	.76	16.74
1945	1.72	1.11	1.76	2.47	2.75	2.79	2.47	2.87	1.47	1.22	1.27	1.96	25.66
1946	1.42	1.48	2.33	4.61	3.30	3.37	2.56	2.77	1.21	1.06	.81	.53	25.45
1947	1.34	.87	.86	3.92	1.29	2.42	2.18	1.15	1.13	.96	1.31	.80	18.23
1948	2.01	3.28	1.31	1.25	3.87	2.95	2.69	1.24	1.02	1.40	1.20	1.20	23.42
1949	.75	2.17	2.95	2.35	2.55	2.50	2.95	3.15	2.70	3.62	3.08	1.73	30.50
1950	1.60	2.41	2.06	2.91	3.44	3.51	1.93	2.32	1.95	1.20	.85	3.27	27.45

* Revised.

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second, of Nolichucky River at Embreeville, Tenn.									
Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1900	83	-	-	-	-	-	-	-	-
1901	83	-	-	-	-	-	-	-	-
1920	523	-	-	-	\$1,270	\$1.58	\$21.40	\$1,350	\$22.85
1921	523, 1336	\$25,900	Aug. 3, 1921	432	\$1,520	\$1.88	\$25.42	\$1,510	\$25.42
1922	543, 1336	\$16,200	Jan. 21, 1922	362	\$1,510	\$1.88	\$25.36	\$1,450	\$24.40
1923	563, 1336	\$15,800	Mar. 16, 1923	330	\$1,510	\$1.88	\$25.53	\$1,470	\$24.79
1924	583, 1336	\$11,900	Sept. 29, 1924	315	\$1,350	\$1.68	\$22.81	\$1,410	\$23.88
1925	603	5,690	Dec. 9, 1924	88	820	1.02	13.83	752	12.67
1926	623	11,200	Jan. 18, 1926	164	891	1.11	15.02	1,060	17.80
1927	643	14,000	Nov. 16, 1926	322	1,410	1.75	23.69	1,400	23.60
1928	663	35,300	Aug. 16, 1928	317	1,820	2.26	30.67	1,820	30.74
1929	683	13,800	Mar. 5, 1929	410	1,750	2.17	29.54	1,940	32.68
1930	698	22,300	Oct. 22, 1929	280	1,230	1.53	20.69	878	14.80
1931	713	\$11,500	Apr. 4, 1931	291	1,040	1.29	17.51	1,050	17.73
1932	728	11,400	Feb. 3, 1932	152	1,160	1.44	19.56	1,440	24.28
1933	743	13,900	Oct. 17, 1932	360	1,610	2.00	27.17	1,275	21.48
1934	758	35,000	July 15, 1934	218	1,019	1.26	17.19	1,214	20.48
1935	783	36,600	Mar. 26, 1935	443	1,678	2.08	28.30	1,567	26.42
1936	803	28,700	Jan. 19, 1936	380	1,581	1.96	26.72	1,723	29.12
1937	823	28,700	Oct. 16, 1936	377	1,407	1.75	23.74	1,398	23.41
1938	853	11,100	July 23, 1938	390	1,348	1.67	22.73	1,238	20.87
1939	873	11,500	Aug. 18, 1939	276	1,160	1.44	19.57	1,042	17.57
1940	893	82,500	Aug. 13, 1940	157	1,202	1.49	20.33	1,305	22.07
1941	923	9,420	July 17, 1941	226	824	1.02	13.90	739	12.49
1942	953	12,600	Mar. 9, 1942	215	982	1.22	16.56	1,159	19.53
1943	973	25,700	Dec. 30, 1942	282	1,333	1.66	22.47	1,166	19.67
1944	1003	13,000	Feb. 18, 1944	218	990	1.23	16.74	1,151	19.46
1945	1033	13,500	Sept. 18, 1945	466	1,415	1.76	23.86	1,453	24.50
1946	1053	28,800	Jan. 8, 1946	326	1,509	1.87	25.45	1,381	23.29
1947	1083	21,300	Jan. 20, 1947	300	1,081	1.34	18.23	1,290	21.76
1948	1113	16,100	Nov. 3, 1947	320	1,385	1.72	23.42	1,342	22.69
1949	1143	36,900	June 16, 1949	372	1,808	2.25	30.50	1,821	30.70
1950	1173	21,100	Sept. 1, 1950	460	1,628	2.02	27.45	-	-

* Revised.

* Not previously published.

108. Nolichucky River below Nolichucky Dam, Tenn. 1/

Location.--Lat 36°03'59", long. 82°52'18", 0.30 mile downstream from Nolichucky Dam, Greene County, 2.2 miles upstream from Cove Creek, 7.0 miles south of Greeneville, and at mile 45.7.

Drainage area.--1,184 sq mi. At site used from May 1903 to December 1908, and April 1919 to October 1925, 1,140 sq mi (revised).

Supplemental records available.--Gage-height records collected in this vicinity Jan. 1, 1916, to Feb. 3, 1926, are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 1,173.46 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. May 1903 to December 1908 and April 1919 to October 1925 chain gages at sites 8.4 miles upstream at different datums.

Average discharge.--19 years (1902-9, 1918-25, 1945-50), 1,950 cfs.

Extremes.--1902-9, 1918-25, 1945-50: Maximum discharge, 73,500 cfs Jan. 23, 1906 (gage height, 19.3 ft, site and datum then in use), from rating curve extended above 9,200 cfs; minimum daily discharge, 32 cfs Aug. 13, 1950.
Flood of Aug. 14, 1940, reached a discharge of 73,500 cfs, by computation of flow over dam.

Remarks.--Low flow regulated by Davy Crockett Lake since 1913 (usable storage, 4,030 cfs-days).

1/ Published prior to October 1925 as "near Greeneville."

Monthly and yearly mean discharge, in cubic feet per second, of Nolichucky River below Nolichucky Dam, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1903	\$730	\$1,100	\$2,150	\$1,630	\$5,500	\$6,100	\$6,900	1,790	1,960	1,030	894	545	\$2,500
1904	460	594	598	702	1,240	2,960	1,610	1,690	1,360	923	1,040	557	1,150
1905	355	572	863	1,510	2,680	1,870	1,850	2,930	1,530	2,730	2,240	790	1,660
1906	701	584	1,820	4,220	2,040	2,220	2,330	1,960	1,710	1,690	2,920	3,900	2,180
1907	3,190	2,870	2,150	1,720	1,260	2,090	1,880	1,580	2,750	1,490	989	1,330	1,940
1908	853	1,040	1,510	3,130	2,890	3,400	2,530	2,080	1,470	1,720	1,760	841	1,930
1909	1,890	1,450	2,460	\$2,500	\$4,550	\$2,550	\$3,750	\$3,750	\$2,850	\$2,400	\$1,320		\$2,880
1919	\$2,050	\$1,650	\$3,040	\$3,100	\$2,050	\$2,330	\$1,850	2,040	1,740	1,670	1,040	592	\$1,920
1920	763	603	1,430	1,420	2,030	3,600	4,730	1,290	1,440	997	2,200	2,000	1,870
1921	833	1,010	2,590	2,420	4,160	1,810	2,620	2,390	1,200	2,660	4,140	1,040	2,230
1922	864	1,430	1,400	3,090	3,270	4,650	3,050	2,840	2,110	1,880	998	603	2,180
1923	715	540	2,070	2,620	4,440	4,580	1,890	3,150	1,930	1,940	1,930	991	2,220
1924	611	894	1,420	3,350	2,580	3,150	2,660	2,300	1,550	1,870	1,010	1,340	1,890
1925	1,040	800	1,850	2,310	1,730	1,210	1,200	1,560	772	658	374	345	1,140
1946	1,115	1,221	1,961	4,021	3,589	2,811	2,281	2,367	1,105	948	679	494	1,875
1947	1,026	688	722	3,702	1,465	2,279	1,982	1,024	1,224	916	1,091	708	1,404
1948	1,450	2,425	1,043	1,038	3,635	2,482	2,385	1,011	950	1,181	1,140	926	1,643
1949	597	1,622	2,736	2,221	2,473	2,248	2,624	2,733	2,200	3,448	2,507	1,555	2,248
1950	1,184	2,182	1,654	2,831	4,545	3,308	1,869	2,358	2,023	1,217	816	2,446	2,186

* Not previously published; estimated based on records for Pigeon River at Newport.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1903	\$0.74	\$1.08	\$2.17	\$1.65	\$5.02	\$6.17	\$6.75	1.81	1.92	1.04	0.90	0.53	\$29.78
1904	.47	.58	.60	.71	1.17	3.00	1.57	1.71	1.33	.93	1.05	.55	13.67
1905	.36	.56	.87	1.52	2.45	1.89	1.81	2.96	1.50	2.76	2.27	.77	19.72
1906	.71	.57	1.84	4.27	1.86	2.25	2.28	1.98	1.68	1.71	2.96	3.82	25.93
1907	3.23	2.81	2.17	1.74	1.15	2.11	1.64	1.58	2.69	1.51	.98	1.30	23.11
1908	.86	1.01	1.52	3.16	2.74	3.44	2.47	2.11	1.44	1.74	1.78	.82	23.06
1909	1.91	1.42	2.46	\$2.53	\$3.97	\$5.51	\$2.50	\$3.74	\$3.67	\$2.88	\$2.43	\$1.29	\$34.33
1919	\$2.07	\$1.61	\$3.07	\$3.14	\$1.87	\$2.36	\$1.61	2.06	1.70	1.69	1.05	.58	\$22.81
1920	.77	.59	1.45	1.44	1.92	3.64	4.63	1.31	1.41	1.01	2.22	1.95	22.34
1921	.84	.99	2.62	2.45	3.80	1.83	2.57	2.42	1.18	2.69	4.18	1.02	26.59
1922	.87	1.40	1.41	3.12	2.99	4.71	2.99	2.88	2.06	1.90	1.01	.59	25.93
1923	.72	.53	2.10	2.65	4.05	4.63	1.85	3.19	1.89	1.96	1.95	.97	26.49
1924	.62	.88	1.43	3.38	2.44	3.19	2.60	2.33	1.52	1.89	1.03	1.31	22.62
1925	1.05	.78	1.85	2.33	1.58	1.23	1.18	1.38	.76	.67	.38	.34	13.53
1946	1.09	1.15	1.91	3.92	3.16	2.74	2.15	2.31	1.04	.92	.66	.47	21.52
1947	1.00	.65	.70	3.60	1.29	2.22	1.87	1.00	1.15	.89	1.06	.67	16.10
1948	1.41	2.28	1.02	1.01	3.49	2.42	2.25	.98	.90	1.15	1.11	.87	18.89
1949	.58	1.53	2.66	2.16	2.18	2.19	2.47	2.66	2.07	3.56	2.44	1.47	25.77
1950	1.15	2.06	1.61	2.76	4.00	3.22	1.76	2.32	1.91	1.19	.79	2.31	25.08

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1903	(a)	-	-	-	\$2,500	\$2.19	\$29.78	\$2,310	\$27.44
1904	(a)	\$10,600	Mar. 7, 1904	378	1,150	1.01	13.67	1,160	13.81
1905	(a)	\$20,600	July 12, 1905	305	1,660	1.46	19.72	1,770	21.05
1906	(a)	\$73,500	Jan. 23, 1906	538	2,180	1.91	25.93	2,610	31.02
1907	(a)	\$43,500	Nov. 19, 1906	670	1,940	1.70	23.11	1,540	18.29
1908	(a)	\$22,100	Jan. 12, 1908	580	1,930	1.69	23.09	2,140	25.51
1909	(a)	-	-	-	\$2,880	\$2.53	\$34.33	-	-
1919	(a)	-	-	-	\$1,920	\$1.68	\$22.81	\$1,580	\$18.87
1920	(a)	\$42,000	Apr. 2, 1920	385	1,870	1.64	22.34	2,010	23.98
1921	523	\$36,700	Aug. 3, 1921	535	2,230	1.96	26.59	2,170	25.82
1922	543	14,200	Jan. 20, Feb. 15†	455	2,180	1.91	25.93	2,150	25.60
1923	563	18,000	Mar. 17, 1923	427	2,220	1.95	26.49	2,190	26.07
1924	583	16,900	Jan. 11, 1924	506	1,890	1.66	22.62	1,960	23.37
1925	603	16,900	Dec. 9, 1924	235	1,140	1.00	13.53	-	-
1946	1053	29,900	Jan. 8, 1946	52	1,875	1.58	21.52	1,719	19.72
1947	1083	25,000	Jan. 20, 1947	49	1,404	1.19	16.10	1,610	18.46
1948	1113	13,100	Feb. 13, 1948	41	1,643	1.39	18.89	1,649	18.95
1949	1143	29,800	June 17, 1949	38	2,248	1.90	25.77	2,252	25.82
1950	1173	15,600	Sept. 1, 1950	32	2,186	1.85	25.08	-	-

† Corrected.

* Not previously published.

a Tennessee Division of Geology, Bull. 34.

TENNESSEE RIVER BASIN

109. Lick Creek at Mohawk, Tenn.

Location.--Lat 36°12'09", long. 83°02'53", 0.25 mile east of Mohawk, Greene County, 0.6 mile upstream from Riley Creek, and 17.5 miles above mouth.

Drainage area.--220 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,060.59 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1946-50: Maximum discharge, 10,700 cfs Jan. 31, 1950 (gage height, 16.24 ft), from rating curve extended above 5,000 cfs; minimum, 13 cfs Dec. 10, 1946 (gage height, 1.76 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1946	-	-	-	-	-	-	-	-	-	-	128	24.4	-
1947	28.2	29.0	186	1,173	260	440	171	75.0	369	105	177	30.0	255
1948	26.5	96.3	80.5	135	769	380	126	59.9	75.2	140	153	36.6	171
1949	24.4	409	670	452	368	300	458	205	107	687	152	70.6	325
1950	91.6	223	158	794	1,215	612	160	665	306	77.6	50.7	59.6	363

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1946	-	-	-	-	-	-	-	-	-	-	0.67	0.12	-
1947	0.15	0.15	0.97	6.15	1.23	2.31	0.87	0.39	1.87	0.55	.93	.15	15.72
1948	.14	.49	.42	.71	3.77	1.99	.64	.31	.38	.74	.80	.19	10.58
1949	.13	2.07	3.51	2.37	1.73	1.57	2.32	1.07	.54	3.60	.79	.36	20.06
1950	.48	1.13	.83	4.16	5.75	3.21	.81	3.48	1.55	.41	.27	.30	22.38

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1946	1083	-	-	-	-	-	-	-	-	-
1947	1083	9,350	June 28, 1947	15	255	1.16	15.72	251	15.50	
1948	1113	3,640	Feb. 14, 1948	18	171	.777	10.58	246	15.24	
1949	1143	7,330	July 16, 1949	19	325	1.48	20.06	272	16.79	
1950	1173	10,720	Jan. 31, 1950	18	363	1.65	22.38	193	-	

110. Nolichucky River near Morristown, Tenn.

Location.--Lat 36°10'49", long. 83°10'32", 0.25 mile downstream from Bent Creek, 0.6 mile upstream from Susong Bridge, 1.1 miles upstream from Forgey Island, 2 miles southeast of Springvale, 7 miles southeast of Morristown, Hamblen County, and at mile 14.5.

Drainage area.--1,679 sq mi. At site used prior to Oct. 1, 1942, 1,686 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,015.78 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Nov. 15, 1920, to Nov. 5, 1925, chain gage at bridge 3½ miles downstream at datum 10.34 ft lower. Nov. 6, 1925, to Sept. 30, 1942, water-stage recorder 150 ft upstream from chain gage at same datum as chain gage.

Average discharge.--30 years (1920-50), 2,239 cfs.

Extremes.--1920-50: Maximum discharge, 61,900 cfs Aug. 14, 1940 (gage height, 22.68 ft, site and datum then in use), from rating curve extended above 39,000 cfs on basis of records for station at Embreeville, peak flow over Nolichucky Dam, and slope-area determination of peak flow; minimum daily, 60 cfs Sept. 7, 28, 1925.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	#885	1,110	3,110	2,950	5,240	2,160	2,790	2,630	1,480	3,040	4,240	1,100	\$2,550
1922	810	1,580	1,620	3,820	5,160	5,360	3,840	3,480	2,980	3,620	1,140	718	2,600
1923	740	808	3,130	3,950	6,290	6,000	2,380	3,480	2,340	2,010	1,940	928	2,800
1924	668	681	1,450	4,060	3,190	4,340	3,230	2,780	2,090	1,850	1,100	1,360	2,230
1925	1,170	822	2,220	3,270	2,130	1,210	1,430	1,430	778	712	320	1,930	1,310
1926	598	1,170	918	1,980	3,240	3,000	2,970	1,280	1,020	879	1,610	812	1,610
1927	863	2,330	5,100	2,570	6,670	4,650	3,350	2,530	4,000	1,500	1,190	816	2,940
1928	737	1,240	3,120	2,240	2,060	3,110	4,040	5,200	3,771	3,170	3,296	4,320	3,026
1929	2,540	1,620	1,300	2,350	3,200	7,230	2,680	5,270	2,760	2,330	1,300	1,480	2,850
1930	3,140	3,040	2,240	2,210	2,700	3,560	2,190	1,590	950	681	760	654	1,970
1931	487	875	963	1,450	1,400	1,200	4,630	2,090	1,520	1,730	1,940	1,310	1,630
1932	556	593	1,950	3,120	6,240	3,560	3,290	2,970	1,290	1,200	791	501	2,160
1933	1,530	1,670	4,630	4,050	6,140	2,900	2,790	3,210	1,250	1,330	1,240	1,270	2,650
1934	509	585	681	814	1,084	4,610	2,951	1,183	1,445	2,375	1,890	950	1,595
1935	1,333	1,492	1,892	3,661	2,665	6,129	5,160	2,594	1,572	1,650	1,463	1,200	2,739
1936	649	1,672	948	5,094	5,025	6,758	6,104	1,684	1,181	1,182	1,082	1,018	2,758
1937	2,843	1,081	2,142	7,398	4,472	2,773	1,964	1,863	1,153	1,083	1,543	1,465	2,479
1938	1,923	1,397	1,730	2,727	3,190	4,281	2,269	1,845	1,530	2,604	1,691	913	2,174
1939	564	1,461	1,279	1,963	5,511	3,392	2,121	1,196	1,214	1,265	1,034	611	1,783
1940	457	472	508	633	1,603	2,204	3,160	1,144	965	1,656	5,643	1,897	1,689

* Not previously published; estimated on the basis of records for station below Nolichucky Dam.

Monthly and yearly mean discharge, in cubic feet per second, of Nolichucky River near Morristown, Tenn.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1941	796	906	1,067	1,307	887	2,041	1,755	910	643	2,799	907	582	1,222
1942	414	504	805	827	1,743	3,006	1,156	2,120	1,937	1,706	2,287	1,651	1,513
1943	1,284	1,215	4,213	3,627	4,535	3,745	2,781	2,174	1,408	1,917	1,115	735	2,388
1944	499	677	868	1,633	4,858	5,045	3,462	1,612	1,017	742	621	924	1,817
1945	2,036	1,526	2,183	3,490	4,746	3,889	2,635	2,937	1,878	1,421	1,687	1,626	2,493
1946	1,224	1,401	2,876	5,611	5,182	3,431	2,762	2,960	1,328	1,094	887	547	2,430
1947	1,081	806	1,160	2,078	2,078	3,195	2,379	1,225	1,944	1,306	1,472	779	1,957
1948	504	2,614	1,168	1,304	5,425	3,136	2,636	1,125	1,090	1,551	1,379	988	1,975
1949	657	2,280	4,059	3,346	3,221	2,803	3,290	3,209	2,615	4,590	2,840	1,784	2,893
1950	1,365	2,710	2,020	4,538	7,150	4,526	2,168	3,403	2,653	1,504	990	2,605	2,940

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	\$0.61	\$0.73	2.13	2.02	3.24	1.48	1.84	1.80	0.98	2.08	2.90	0.73	\$20.54
1922	.55	1.05	1.10	2.68	2.57	3.67	2.54	2.38	1.39	1.79	.78	.48	20.98
1923	.51	.40	2.14	2.70	3.89	4.10	1.58	2.38	1.55	1.37	1.33	.61	22.56
1924	.46	.45	.99	2.78	2.04	2.97	2.13	1.90	1.38	1.26	.75	.90	18.01
1925	.80	.54	1.52	2.24	1.51	1.97	.80	.98	.51	.49	.22	.13	10.58
1926	.41	.77	.63	1.35	2.00	2.05	1.97	.88	.67	.60	1.10	.54	12.97
1927	.59	1.54	3.48	1.75	4.12	3.18	2.22	1.73	2.65	1.03	.81	.54	23.64
1928	.50	.82	2.13	1.53	1.32	2.13	2.67	3.56	2.50	2.17	2.25	2.86	24.44
1929	1.74	1.07	.89	1.62	1.98	4.94	1.78	3.60	1.83	1.60	.89	.98	22.92
1930	2.14	2.01	1.53	1.51	1.67	2.43	1.43	1.09	.63	.47	.52	.43	15.88
1931	.33	.58	.66	.99	.87	.82	3.06	1.43	1.01	1.18	1.33	.87	13.13
1932	.38	.59	1.33	2.14	3.99	2.43	2.17	2.03	.85	.82	.54	.33	17.40
1933	1.04	1.11	3.17	2.77	3.79	1.98	1.85	2.19	.83	.91	.85	.84	21.33
1934	.35	.59	.47	.56	.67	3.15	1.95	.81	.96	1.62	1.29	.63	12.85
1935	.91	.99	1.29	2.50	1.65	5.56	3.41	1.77	1.04	1.13	1.00	.79	22.04
1936	.44	1.11	.65	4.04	3.21	4.62	4.04	1.15	.78	.81	.74	.67	22.26
1937	1.94	.72	1.46	5.06	2.76	1.90	1.30	1.27	.76	.74	1.06	.98	19.95
1938	1.32	.92	1.18	1.86	1.97	2.93	1.50	1.26	1.01	1.78	1.16	.60	17.49
1939	.39	.97	.87	1.34	3.47	2.32	1.40	.82	.80	.86	.71	.40	14.35
1940	.31	.51	.35	.43	.96	1.51	2.09	.78	.64	1.13	3.86	1.26	13.63
1941	.54	.60	.73	.89	.55	1.40	1.16	.62	.43	1.91	.62	.39	9.84
1942	.28	.33	.55	.57	1.08	2.06	.76	1.45	1.28	1.17	1.56	1.07	12.18
1943	.88	.81	2.89	2.49	2.81	2.57	1.85	1.49	.94	1.32	.77	.49	19.31
1944	.34	.45	.60	1.12	3.12	3.46	2.30	1.11	.68	.51	.43	.61	14.73
1945	1.40	1.02	1.50	2.40	2.94	2.67	1.75	2.02	1.25	.98	1.16	1.08	20.16
1946	.84	.93	1.97	3.85	3.21	2.36	1.84	2.03	.88	.75	.61	.36	19.63
1947	.74	.54	.80	4.13	1.29	2.19	1.58	.84	1.29	.90	1.01	.52	15.83
1948	1.03	1.74	.80	.90	5.48	2.15	1.75	.77	.72	1.05	.85	.66	16.00
1949	.45	1.52	2.79	2.30	2.00	1.92	2.19	2.20	1.74	3.15	1.95	1.19	23.40
1950	.94	1.80	1.39	3.12	4.43	3.11	1.44	2.34	1.76	1.03	.68	1.73	23.77

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1921	523	24,000	July 21, 1921	-	\$2,550	\$1.51	\$20.54	2,460	19.77
1922	543	21,500	Jan. 22, 1922	346	2,600	1.54	20.98	2,650	21.33
1923	563	17,900	Mar. 17, 1923	185	2,800	1.66	22.56	2,660	21.41
1924	583	18,500	Mar. 6, 1924	412	2,230	1.32	18.01	2,350	18.97
1925	603	15,600	Dec. 9, 1924	60	1,510	.777	10.58	1,180	9.53
1926	623	11,700	Apr. 13, 1926	133	1,610	.955	12.97	2,080	16.77
1927	643	25,500	Feb. 24, 1927	235	2,940	1.74	23.64	2,670	21.48
1928	663, 893	34,900	Aug. 16, 1928	210	3,026	1.79	24.44	3,060	24.69
1929	683	19,000	Mar. 23, 1929	480	2,850	1.69	22.92	3,090	24.90
1930	698	23,800	Oct. 22, 1929	212	1,970	1.17	15.88	1,460	11.77
1931	713	13,800	Apr. 5, 1931	226	1,630	.967	13.13	1,700	13.66
1932	728	22,400	Feb. 4, 1932	184	2,160	1.28	17.40	2,580	20.82
1933	743	25,200	Feb. 16, 1933	390	2,650	1.57	21.33	2,137	17.22
1934	758	22,800	July 16, 1934	82	1,595	.946	12.85	1,842	14.83
1935	783, 893	56,600	Mar. 26, 1935	227	2,739	1.62	22.04	2,615	21.05
1936	803	35,800	Jan. 20, 1936	154	2,758	1.64	22.26	2,996	24.18
1937	823	22,500	Oct. 17, 1936	256	2,479	1.47	19.95	2,392	19.25
1938	853	15,200	July 23, 1938	231	2,174	1.29	17.49	2,025	16.30
1939	873	15,700	Feb. 16, 1939	130	1,783	1.08	14.35	1,627	13.09
1940	893	61,900	Aug. 14, 1940	95	1,689	1.00	15.63	1,800	14.53
1941	923	8,840	July 17, 1941	162	1,222	.725	9.84	1,134	9.13
1942	953	12,200	Mar. 9, 1942	116	1,513	.897	12.18	1,935	15.60
1943	973	36,900	Dec. 30, 1942	266	2,368	1.42	19.31	1,993	16.12
1944	1003	22,000	Feb. 18, 1944	186	1,817	1.08	14.73	2,128	17.25
1945	1033	16,100	Feb. 18, 1945	238	2,493	1.48	20.16	2,472	19.99
1946	1053	34,600	Jan. 8, 1946	200	2,430	1.45	19.63	2,223	17.97
1947	1083	33,800	Jan. 21, 1947	220	1,957	1.17	15.83	2,142	17.32
1948	1113	19,600	Feb. 14, 1948	194	1,975	1.18	16.00	2,120	17.19
1949	1143	28,000	June 17, 1949	116	2,893	1.72	23.40	2,815	22.77
1950	1173	23,400	Jan. 31, 1950	249	2,940	1.75	23.77	-	-

* Not previously published.

111. Douglas Lake near Sevierville, Tenn.

Location.--Lat 35°57'40", long. 83°32'20", at Douglas Dam on French Broad River, 6½ miles north of Sevierville, Sevier County, and at mile 32.3.

Drainage area.--4,541 sq mi.

Gage.--Water-stage recorder. Datum of gage is mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1943-50: Maximum contents, 760,000 cfs-days July 25, 1949 (elevation, 1,001.79 ft); minimum (after first filling), 50,600 cfs-days Jan. 27, 1948 (elevation, 921.08 ft).

Remarks.--Reservoir formed by concrete main dam and ten saddle dams. Spillway equipped with 11 taintor gates, 32 ft high by 40 ft wide, and 8 sluice gates 10 ft high by 5.67 ft wide. Closure of dam was made Feb. 19, 1943; water in reservoir first reached minimum pool elevation Feb. 25, 1943. Total capacity at elevation 1,002.00 ft (top of gates) is 763,400 cfs-days, of which 715,800 cfs-days is controlled storage above elevation 920.00 ft (minimum pool). Reservoir used for navigation, flood control and power.

Cooperation.--Records furnished by Tennessee Valley Authority.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1943	-	-	-	-	69.7	386.8	540.2	582.9	618.6	665.1	616.0	490.8
1944	367.5	241.3	187.1	182.0	470.6	635.1	738.7	710.2	610.9	495.3	396.3	333.8
1945	333.0	244.9	194.6	219.1	361.2	370.9	374.5	522.4	443.9	349.8	305.6	280.5
1946	167.7	165.3	108.2	120.3	200.4	341.8	413.6	607.6	577.2	491.8	347.7	240.2
1947	170.5	107.9	94.8	292.9	205.6	282.2	285.4	230.3	260.5	296.7	314.4	240.4
1948	211.1	214.7	779.8	59.8	241.4	326.3	414.7	342.4	249.2	282.5	301.9	203.3
1949	101.9	219.2	157.6	140.4	211.0	293.4	421.3	549.2	621.1	737.0	662.1	491.7
1950	341.8	296.5	102.1	225.8	193.4	347.4	266.3	432.0	579.7	676.7	612.8	644.7

† Corrected.

112. French Broad River below Douglas Dam, Tenn. 1/

Location.--Lat 35°57'06", long. 83°33'05", 1.0 mile downstream from Douglas Dam, 1.7 miles upstream from Millican Creek, 5.8 miles north of Sevierville, Sevier County, and at mile 31.3.

Drainage area.--4,543 sq mi. At site used prior to October 1942, 4,446 sq mi.

Supplemental records available.--Gage-height records collected at Dandridge Dec. 1, 1904, to Feb. 23, 1943, are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 865.70 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Oct. 1, 1918, to Oct. 7, 1923, staff gage at Dandridge, 13 miles upstream at datum 37.67 ft higher. Oct. 8, 1923, to June 18, 1931, staff gage, and June 19, 1931, to Sept. 30, 1942, water-stage recorder at Dandridge at datum 37.63 ft higher.

Average discharge.--32 years (1918-50), 6,572 cfs (unadjusted).

Extremes.--1918-50: Maximum discharge, 95,600 cfs Aug. 31, 1940 (gage height, 20.93 ft site and datum then in use); minimum, 4.7 cfs Mar. 10, 1943 (gage height, 1.16 ft); minimum daily, 5.5 cfs Mar. 9, 10, 1943.

Flood of May 21, 1901, reached a stage of 28.0 ft at Dandridge. Stages of 40 ft in March 1867 and 32 ft in May 1875 or 1876 are reported.

Remarks.--Flow completely regulated by Douglas Lake beginning Feb. 19, 1943 (see elsewhere in this report).

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1919	8,900	8,150	11,400	14,700	8,930	11,600	7,130	6,880	5,820	4,740	3,310	1,770	7,790
1920	2,410	2,110	6,280	6,040	8,920	14,700	17,900	5,730	6,000	4,810	9,490	6,350	7,550
1921	2,710	3,400	9,780	8,980	15,400	5,740	8,050	8,190	5,530	7,830	9,990	3,640	7,400
1922	2,700	5,070	5,650	11,300	11,400	16,000	11,700	10,900	7,290	8,380	3,970	2,440	8,050
1923	2,450	2,000	7,760	8,780	14,000	15,100	7,000	11,500	8,290	45,620	5,080	3,210	7,530
1924	2,160	2,540	5,050	11,700	8,530	11,600	10,000	8,720	6,120	6,690	3,580	3,860	6,720
1925	4,000	2,540	6,600	10,000	6,340	4,860	3,910	4,090	2,240	2,030	981	973	4,050
1926	2,100	3,380	2,500	5,580	8,550	7,400	7,770	3,790	2,530	2,170	4,180	2,510	4,340
1927	2,130	5,790	11,700	6,980	13,800	11,800	7,900	5,510	9,200	4,230	3,700	2,510	7,050
1928	2,420	3,500	9,530	6,750	6,480	8,160	11,100	14,500	10,600	9,690	12,500	12,300	8,960
1929	7,090	4,900	3,980	7,000	8,990	21,200	8,300	14,200	8,130	6,360	5,790	5,230	8,280
1930	9,850	9,590	6,600	6,410	7,750	9,370	6,360	5,690	3,100	2,300	1,940	2,490	5,960
1931	1,760	3,020	3,780	5,020	4,180	4,570	12,800	6,210	4,000	4,060	5,060	3,500	4,820
1932	1,400	1,590	6,440	10,000	14,700	8,650	8,530	7,690	4,670	3,750	3,010	1,770	5,990
1933	6,450	6,990	15,000	11,500	15,400	8,150	7,820	9,330	3,790	3,510	3,640	4,760	7,990
1934	2,088	2,124	2,318	3,699	3,722	13,420	8,339	4,222	6,013	5,412	4,640	3,250	4,947
1935	5,264	4,789	6,318	11,210	7,735	16,980	12,480	8,966	4,227	4,495	4,742	3,647	7,414

* Not previously published; estimated on basis of records for French Broad River at Newport, Pigeon River at Newport, and Nolichucky River near Morristown.

1/ Published as "at Dandridge" prior to October 1942.

Monthly and yearly mean discharge, in cubic feet per second, of French Broad River below Douglas Dam, Tenn.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1936	1,971	5,105	3,338	17,340	13,650	17,280	18,570	5,258	3,182	3,204	3,415	2,891	7,906
1937	9,350	4,183	6,709	21,810	12,500	7,526	6,973	5,922	4,155	3,340	4,950	5,162	7,702
1938	6,452	4,466	4,948	6,817	7,539	11,310	6,817	5,245	5,615	8,195	5,748	3,130	6,362
1939	1,894	3,820	3,633	5,547	17,350	10,970	6,590	4,417	4,003	3,369	3,822	2,046	5,542
1940	1,526	1,499	1,757	2,129	4,425	6,019	7,985	3,595	3,101	4,629	15,110	6,751	4,880
1941	2,558	3,118	3,625	4,485	3,055	5,445	5,330	2,775	2,007	7,511	3,059	1,691	3,735
1942	1,274	1,674	3,051	3,334	5,990	9,866	4,022	2,758	5,499	5,109	6,498	5,186	4,895
1943	3,650	3,373	10,960	12,150	9,958	1,458	5,317	3,772	5,928	5,555	6,615	5,291	5,991
1944	5,829	6,469	4,320	4,684	2,843	9,106	7,089	6,298	7,060	6,131	5,982	4,795	5,845
1945	4,332	6,407	7,214	7,203	6,907	9,771	7,674	3,170	7,226	7,107	6,639	5,967	6,630
1946	7,197	4,726	10,710	17,180	13,280	7,546	7,296	3,120	5,328	7,115	7,270	5,564	8,009
1947	5,726	5,171	4,017	10,380	9,594	6,427	7,108	5,905	3,750	2,504	2,893	4,410	5,631
1948	4,973	7,080	8,154	5,013	8,673	7,098	5,878	6,177	6,452	3,581	4,600	6,779	6,171
1949	5,468	5,266	13,650	10,770	7,964	5,684	5,484	5,494	6,243	9,347	11,920	12,560	8,334
1950	10,590	10,040	12,800	8,063	17,180	8,352	9,194	2,112	2,473	1,849	5,149	6,779	7,814

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1919	2.31	2.05	2.95	3.81	2.09	3.00	1.79	1.78	1.46	1.23	0.86	0.44	23.77
1920	.63	.53	1.63	1.57	2.16	3.82	4.48	1.49	1.51	1.25	2.46	1.59	25.12
1921	.70	.85	2.54	2.33	3.62	1.49	2.02	2.12	1.39	2.03	2.59	.91	22.59
1922	.70	1.27	1.46	2.93	2.67	4.14	2.95	2.82	1.83	2.17	1.03	.61	24.58
1923	.63	.50	2.01	2.28	3.29	3.91	1.76	2.93	2.08	*1.46	*1.32	.81	*22.98
1924	.56	.64	1.31	3.04	2.07	3.01	2.52	2.26	1.54	1.73	.93	.97	20.58
1925	1.04	.64	1.71	2.60	1.48	1.26	.98	1.06	.56	.53	.25	.24	12.35
1926	.54	.85	.65	1.45	2.00	1.92	1.95	.98	.63	.56	1.08	.63	13.24
1927	.55	1.45	3.02	1.81	3.22	3.06	1.98	1.43	2.31	1.10	.96	.63	21.52
1928	.63	.88	2.47	1.75	1.57	2.11	2.77	3.76	2.66	2.51	3.24	3.09	27.44
1929	1.84	1.23	1.03	1.82	2.11	5.50	2.08	3.69	2.04	1.65	.98	1.31	25.28
1930	2.56	2.41	1.76	1.66	1.81	2.43	1.60	1.47	.78	.60	.50	.62	18.20
1931	.46	.76	.98	1.30	.98	1.19	3.20	1.61	1.00	1.05	1.31	.88	14.72
1932	.36	.40	1.67	2.60	3.57	2.24	2.14	1.99	1.17	.97	.78	.44	18.33
1933	1.67	1.76	3.89	2.97	3.61	2.11	1.96	2.42	.95	.91	.94	1.19	24.38
1934	.54	.53	.60	.96	.87	3.48	2.09	1.09	1.51	1.40	1.20	.82	15.09
1935	1.36	1.20	1.64	2.91	1.81	4.40	3.13	1.81	1.06	1.17	1.23	.92	22.64
1936	.51	1.28	.87	4.50	3.31	4.48	4.66	1.36	.80	.83	.89	.73	24.22
1937	2.42	1.05	1.74	5.65	2.93	1.95	1.75	1.54	1.04	.87	1.28	1.30	23.52
1938	1.67	1.12	1.28	1.77	1.77	2.93	1.71	1.36	1.41	2.13	1.49	.79	19.43
1939	.49	.96	.94	1.44	4.06	2.85	1.65	1.15	1.00	.87	.99	.51	16.91
1940	.40	.38	.46	.55	1.07	1.56	2.00	.93	.77	1.20	3.92	1.69	14.93
1941	.66	.78	.94	1.16	.72	1.41	1.34	.72	.50	1.95	.79	.42	11.39
1942	.33	.42	.79	.86	1.40	2.56	1.01	1.86	1.38	1.32	1.69	1.30	14.94

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30											Calendar year		
		Observed					Adjusted ^{1/}			Observed			Adjusted ^{1/}		
		Momentary maximum		Minimum		Mean	Per square mile		Runoff in inches	Mean		Mean	Mean		Runoff in inches
		Discharge	Date	Discharge	Date		Mean	square mile		Mean	square mile	Mean	square mile	Mean	
1919	503	66,000	Oct. 30, 1918	830		7,790	-	1.75	23.77	6,310	-	-	-	-	19.25
1920	503	*93,600	Apr. 2, 1920	974		7,550	-	1.70	23.12	7,980	-	-	-	-	24.42
1921	523	64,400	Feb. 10, 1921	2,000		7,400	-	1.66	22.59	7,180	-	-	-	-	21.93
1922	543	58,200	Jan. 22, 1922	1,770		8,050	-	1.81	24.58	7,960	-	-	-	-	24.29
1923	563	43,900	Mar. 17, 1923	-		*7,530	-	*1.69	*22.98	*7,310	-	-	-	-	*22.35
1924	583	437,500	Mar. 6, 1924	1,770		6,720	-	1.51	20.58	7,010	-	-	-	-	21.46
1925	603	456,600	Dec. 9, 1924	360		4,050	-	.911	12.35	5,610	-	-	-	-	11.00
1926	623	25,900	Apr. 13, 1926	950		4,340	-	.975	13.24	5,320	-	-	-	-	16.22
1927	643	50,500	Feb. 24, 1927	1,280		7,050	-	1.59	21.52	6,710	-	-	-	-	20.50
1928	663	69,400	Aug. 17, 1928	1,440		8,960	-	2.02	27.44	9,000	-	-	-	-	27.56
1929	683	47,400	Mar. 24, 1929	2,190		8,280	-	1.86	25.28	9,140	-	-	-	-	27.91
1930	698	40,200	Oct. 23, 1929	795		5,960	-	1.34	18.20	4,480	-	-	-	-	13.67
1931	713	34,300	Apr. 5, 1931	950		4,820	-	1.08	14.72	4,900	-	-	-	-	14.95
1932	723	39,700	Feb. 4, 1932	998		5,990	-	1.35	18.33	7,590	-	-	-	-	23.22
1933	743	62,500	Dec. 29, 1932	1,970		7,890	-	1.80	24.38	8,140	-	-	-	-	28.73
1934	758	48,200	Mar. 4, 1934	1,360		4,947	-	1.11	15.09	5,776	-	-	-	-	17.62
1935	783	74,200	Mar. 27, 1935	1,750		7,414	-	1.67	22.64	6,907	-	-	-	-	21.10
1936	803	83,200	Jan. 20, 1936	1,200		7,906	-	1.78	24.22	8,741	-	-	-	-	26.77
1937	823	63,200	Jan. 3, 1937	1,980		7,702	-	1.73	23.52	7,329	-	-	-	-	22.38
1938	853	38,500	July 24, 1938	1,730		6,362	-	1.43	19.43	5,810	-	-	-	-	17.75
1939	873	42,500	Feb. 16, 1939	1,150		5,542	-	1.25	16.91	5,161	-	-	-	-	15.76
1940	893	95,600	Aug. 31, 1940	1,000		4,880	-	1.10	14.93	5,259	-	-	-	-	16.07
1941	923	17,900	July 17, 1941	872		3,735	-	.840	11.39	3,458	-	-	-	-	10.55
1942	953	31,800	May 22, 1942	861		4,895	-	1.10	14.94	5,891	-	-	-	-	17.99
1943	973	76,000	Dec. 30, 1942	5.5		5,991	7.335	1.61	21.92	5,866	6.379	-	-	-	19.06
1944	1003	28,500	Apr. 3, 1944	22		5,845	5.416	1.19	16.23	5,959	5.979	-	-	-	17.91
1945	1033	12,400	Mar. 5, 1945	18		6,630	6.485	1.43	19.38	7,032	6.796	20.31	-	-	

^{1/}Adjusted for change in contents in Douglas Lake since February 1943; no regulation prior to that date.

* Revised.

* Not previously published.

a Maximum daily discharge.

Yearly discharge, in cubic feet per second, of French Broad River below Douglas Dam, Tenn.--Continued

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted ¹			Observed	Adjusted ¹	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1946	1053	22,700	Jan. 23, 1946	20	8,009	7,899	1.74	23.60	7,353	7,280	21.75
1947	1083	24,300	Jan. 29, 1947	816	5,631	5,632	1.24	16.83	6,075	6,034	18.03
1948	1113	20,000	Feb. 21, 1948	26	6,171	6,069	1.34	18.18	6,529	6,742	20.20
1949	1143	23,000	Dec. 31, 1948	28	8,334	9,124	2.01	27.26	9,090	8,938	26.71
1950	1173	23,100	Feb. 11, 1950	24	7,814	8,233	1.81	24.60	-	-	-

¹Adjusted for change in contents in Douglas Lake since February 1943; no appreciable regulation prior to that date.

113. West Fork Little Pigeon River near Pigeon Forge, Tenn.

Location.--Lat 35°48'21", long. 83°34'28", at bridge on State Highway 71, 1.4 miles upstream from Walden Creek, 1.6 miles northwest of Pigeon Forge, Sevier County, 4.3 miles south of Sevierville, and 9.0 miles upstream from mouth.

Drainage area.--76.2 sq mi.

Gage.--Water-stage recorder. Datum of gage is 965.23 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1946-49: Maximum discharge, 5,640 cfs Jan. 20, 1947 (gage height, 10.30 ft); minimum, 7.8 cfs Sept. 20, 1946 (gage height, 1.12 ft); minimum daily, 12 cfs Oct 14-17, 1948.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1946	-	-	-	-	-	241	210	181	78.3	109	59.8	25.7	-
1947	60.1	65.9	116	495	124	215	161	83.0	41.1	64.3	123	49.1	134
1948	36.2	86.9	84	105	498	259	250	67.7	56.5	58.8	101	24.2	134
1949	15.9	262	231	241	222	179	194	156	211	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1946	-	-	-	-	-	3.65	3.08	2.73	1.15	1.66	0.90	0.38	-
1947	0.91	0.96	1.76	7.48	1.70	3.25	2.35	1.26	.60	.97	1.86	.72	23.82
1948	.55	1.27	1.27	1.58	7.05	3.92	3.66	1.02	.83	.89	1.42	.35	23.93
1949	.24	3.83	3.50	3.64	3.03	2.71	2.84	2.36	3.08	-	-	-	-

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1946	1053	2,380	Mar. 8, 1946	-	-	-	-	-	-	-
1947	1083	5,640	Jan. 20, 1947	20	134	1.76	23.82	131	23.28	
1948	1113	4,890	Feb. 14, 1948	15	134	1.76	23.93	159	28.39	
1949	1143	4,420	Nov. 6, 1948	-	-	-	-	-	-	

114. Little Pigeon River at Sevierville, Tenn.

Location.--Lat 35°52'34", long. 83°34'36", on left bank at Eckel farmhouse, 0.5 mile downstream from city limits of Sevierville, Sevier County, and 0.5 mile downstream from West Fork Little Pigeon River.

Drainage area.--353 sq mi.

Average discharge.--30 years (1920-50), 550 cfs.

Gage.--Water-stage recorder. Datum of gage is 881.44 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to June 14, 1928, staff gage at same site and datum.

Extremes.--1920-50: Maximum discharge, 32,000 cfs June 29, 1928 (gage height, 15.4 ft), from rating curve extended above 20,000 cfs; minimum, 2.8 cfs Sept. 21, 1925 (gage height, 0.33 ft), minimum daily, 8.4 cfs Sept. 9, 1925.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	*128	*243	987	817	1,561	571	946	934	537	668	609	231	*681
1922	184	365	404	1,129	1,046	1,408	*1,064	944	623	960	342	138	*717
1923	62.1	75.3	281	1,114	1,648	1,626	582	881	642	291	460	85.0	725
1924	62.8	106	745	903	722	925	872	858	286	179	118	320	508
1925	158	89.7	719	860	491	348	347	330	137	86.0	33.8	58.0	305
1926	474	418	279	571	771	819	809	513	268	300	419	160	482
1927	116	558	1,580	723	1,573	1,226	687	435	896	314	416	235	725
1928	122	243	808	631	517	609	909	1,241	1,201	781	699	1,245	750
1929	327	283	230	640	956	1,753	689	1,741	*561	441	240	366	686
1930	381	779	392	443	754	1,070	592	713	203	139	109	151	476

* Revised.

* Not previously published; estimated on basis of records for station Pigeon River at Newport.

Monthly and yearly mean discharge, in cubic feet per second, of Little Pigeon River at Sevierville, Tenn.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	101	254	256	329	476	298	1,427	455	321	536	658	300	450
1932	81.4	83.2	741	881	1,569	774	732	646	348	434	181	102	545
1933	474	429	1,475	877	1,521	666	500	593	150	168	366	354	629
1934	88.5	77.7	132	371	392	1,570	757	397	538	331	270	135	422
1935	301	315	321	911	825	1,228	1,178	543	245	509	414	176	580
1936	114	490	177	1,648	1,211	2,183	1,464	201	112	188	149	133	671
1937	304	215	689	1,990	965	522	600	380	284	281	320	328	567
1938	377	211	689	751	672	1,207	790	502	469	886	773	266	607
1939	106	347	403	613	1,699	638	585	266	262	407	192	72.8	474
1940	53.0	59.3	89.3	140	448	706	684	234	307	461	692	225	341
1941	121	231	253	338	181	657	532	156	169	541	173	115	290
1942	76.4	146	183	233	555	1,054	192	429	267	531	982	265	410
1943	190	244	1,391	794	882	1,195	555	356	246	800	407	123	600
1944	99.8	153	146	312	1,387	1,376	819	319	189	85.3	179	244	438
1945	247	165	529	661	1,286	734	699	737	353	356	618	277	525
1946	220	455	853	1,432	1,412	747	810	695	300	398	228	96.5	633
1947	198	208	413	1,982	617	879	534	323	158	282	360	135	509
1948	99.5	255	241	358	1,821	834	852	205	136	143	347	66.2	440
1949	51.6	741	1,099	1,018	914	679	742	480	635	1,055	478	343	685
1950	520	627	481	1,139	1,459	1,293	452	395	455	499	229	206	642

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	*0.42	*0.77	3.22	2.67	4.60	1.87	2.99	3.05	1.70	2.18	1.99	0.73	*26.19
1922	.60	1.15	1.52	3.69	3.09	4.60	*3.36	3.08	1.97	3.13	1.12	.45	*27.56
1923	.20	.24	4.18	5.64	4.86	5.31	1.84	2.88	2.03	.95	1.50	.26	27.89
1924	.21	.34	2.43	2.95	2.20	3.02	2.76	2.80	.90	.59	.39	1.01	19.60
1925	.52	.28	2.35	2.81	1.45	1.14	1/10	1.08	.43	.28	.11	.18	11.73
1926	1.55	1.32	.91	1.87	2.27	2.67	2.56	1.68	.85	.98	1.37	.51	18.54
1927	.38	1.76	5.16	2.36	4.64	4.01	2.17	1.42	2.83	1.03	1.36	.74	27.86
1928	.40	.77	2.64	2.06	1.58	1.99	2.87	4.05	3.80	2.55	2.28	3.93	28.92
1929	1.07	.90	.75	2.09	2.82	5.73	2.18	5.69	1.77	1.44	.78	1.16	26.38
1930	1.24	2.46	1.28	1.45	2.22	5.49	1.87	2.33	.64	.45	.36	.48	18.27
1931	.33	.80	.84	1.07	1.40	.97	4.51	1.49	1.02	1.75	2.15	.95	17.28
1932	.27	.26	2.42	2.88	4.79	2.53	2.31	2.11	1.10	1.42	.59	.32	21.00
1933	1.55	1.36	4.82	2.86	4.49	2.24	1.56	1.94	.48	.55	1.20	1.12	24.19
1934	.29	.25	.43	1.21	1.16	5.13	2.39	1.30	1.70	1.08	.88	.43	16.25
1935	.98	1.00	1.05	2.98	2.43	4.01	3.72	1.77	.78	1.66	1.35	.56	22.29
1936	.37	1.55	.58	5.38	3.70	7.13	4.63	.65	.35	.61	.49	.42	25.86
1937	.99	.67	2.07	6.50	2.85	1.70	1.90	1.24	.90	.92	1.05	1.04	21.63
1938	1.23	.67	1.21	2.45	1.98	3.94	2.50	1.64	1.48	2.89	2.52	.84	23.35
1939	.35	1.10	1.32	2.00	5.01	2.74	1.85	.87	.83	1.33	.63	.23	18.26
1940	.17	.19	.29	.46	1.37	2.31	2.16	.76	.97	1.51	2.26	.71	13.16
1941	.39	.73	.82	1.10	.53	2.15	1.68	.51	.53	1.77	.56	.56	11.13
1942	.25	.46	.60	.76	1.64	3.44	.61	1.40	.84	1.73	3.21	.84	15.78
1943	.62	.77	4.54	2.59	2.60	3.90	1.75	1.16	.78	2.61	1.33	.39	23.04
1944	.33	.48	.48	1.02	4.24	4.49	2.59	1.04	.60	.28	.58	.77	16.90
1945	.81	.52	1.73	2.16	3.79	2.40	1.17	2.41	1.15	1.16	2.02	.88	20.20
1946	.72	1.44	2.79	4.68	4.17	2.44	2.56	2.27	.95	1.30	.74	.31	24.37
1947	.65	.66	1.35	6.47	1.82	2.87	1.69	1.06	.50	.92	1.17	.43	19.59
1948	.32	.80	.79	1.17	5.56	2.72	2.69	.67	.43	.47	1.13	.21	16.96
1949	.17	2.34	3.59	3.32	2.70	2.22	2.34	1.57	2.01	3.44	1.56	1.08	26.34
1950	1.70	1.98	1.57	3.72	4.30	4.22	1.43	1.29	1.44	1.63	.75	.65	24.68

*- Revised.

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30										Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches			Mean	Runoff in inches
		Discharge	Date										
1921	783	*15,700	Feb. 10, 1921	-	*681	*1.93	*26.19	646	24.85				
1922	783,1536	*18,820	Jan. 21, 1922	55	*717	*2.05	*27.56	*757	*29.11				
1923	783	*18,000	Dec. 15, 1922	28	725	2.05	27.89	682	26.25				
1924	783	6,950	Mar. 5, 1924	20	508	1.44	19.60	513	19.77				
1925	783	13,900	Dec. 8, 1924	8.4	305	.864	11.73	321	12.36				
1926	783	6,360	Apr. 13, 1926	24	482	1.37	18.54	573	22.06				
1927	783	10,200	Feb. 23, 1927	*58	725	2.05	27.86	634	24.37				
1928	783	32,000	June 29, 1928	51	750	2.12	28.92	722	27.83				
1929	783	22,200	Mar. 23, 1929	84	686	1.94	26.38	745	28.64				
1930	783	5,310	Mar. 19, 1930	44	476	1.35	18.27	397	15.26				
1931	783	9,060	Apr. 4, 1931	58	450	1.27	17.28	475	18.26				
1932	783	11,600	Jan. 30, 1932	42	545	1.54	21.00	668	25.78				
1933	783	18,000	Feb. 15, 1933	57	629	1.78	24.19	453	17.43				
1934	783	10,400	Mar. 3, 1934	46	422	1.20	16.25	476	18.31				
1935	783	11,900	Mar. 12, 1935	91	580	1.64	22.29	566	21.76				
1936	803	22,200	Mar. 26, 1936	48	671	1.90	25.86	703	27.09				
1937	803	8,760	Feb. 9, 1937	91	567	1.61	21.83	551	*21.21				
1938	853	18,900	Aug. 5, 1938	103	607	1.72	23.35	599	23.01				
1939	873	9,020	Feb. 15, 1939	43	474	1.34	18.26	420	16.14				
1940	893	8,760	Aug. 14, 1940	40	341	.966	13.16	375	14.45				

* Revised.

† Corrected.

* Not previously published.

Yearly discharge, in cubic feet per second, of Little Pigeon River at Sevierville, Tenn.--Continued

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1941	923	3,910	July 7, 1941	48	290	0.822	11.13	273	10.50
1942	953	7,590	Mar. 9, 1942	39	410	1.16	15.78	531	20.40
1943	973	19,400	Dec. 29, 1942	78	600	1.70	23.04	479	18.40
1944	1003	9,950	Feb. 18, 1944	53	438	1.24	16.90	484	18.67
1945	1033	10,600	Feb. 17, 1945	85	525	1.49	20.20	574	22.09
1946	1053	16,600	Jan. 8, 1946	55	633	1.79	24.37	574	22.08
1947	1083	23,500	Jan. 20, 1947	60	509	1.44	19.59	490	18.84
1948	1113	13,400	Feb. 12, 1948	40	440	1.25	16.96	549	21.15
1949	1143	10,900	Nov. 28, 1948	36	685	1.94	26.34	663	25.49
1950	1173	17,300	Oct. 31, 1949	102	642	1.82	24.68	-	-

115. French Broad River near Knoxville, Tenn.

Location--Lat 35°57'33", long. 83°46'28", 245 ft upstream from Riverdale Ferry, 0.65 mile downstream from Johnson Hollow, 7.6 miles upstream from confluence with Holston River, and 8 miles east of Knoxville, Knox County.

Drainage area--5,101 sq mi.

Gage--Water-stage recorder. Datum of gage is mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge--5 years (1945-50), 8,056 cfs (unadjusted).

Extremes--1945-50: Maximum discharge, 38,600 cfs Feb. 7, 1950 (elevation, 826.42 ft), from rating curve extended above 25,000 cfs; minimum recorded, 265 cfs July 19, 1948 (elevation, 814.70 ft), but may have been less July 4, 1948, during period of no gage-height record.

Remarks--Flow regulated by Douglas Lake (see elsewhere in this report), 24.6 miles above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1946	\$7,200	\$5,000	\$11,000	19,640	15,600	8,516	8,118	4,122	5,593	7,548	7,508	5,599	\$8,760
1947	5,825	5,477	4,779	13,650	10,810	7,671	7,793	6,471	3,884	2,776	3,344	4,533	6,393
1948	5,075	7,455	8,515	5,486	11,150	8,476	7,101	6,465	6,678	3,537	4,858	6,807	6,774
1949	5,488	6,439	15,300	12,650	9,406	6,893	6,609	6,224	7,233	10,850	12,470	12,980	9,390
1950	11,320	11,070	13,860	10,220	20,570	10,400	10,240	2,604	2,932	2,487	5,664	7,199	8,965

* Not previously published; estimated on the basis of records for French Broad River below Douglas Dam and Little Pigeon River at Sevierville.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year		
		Observed			Adjusted 1/			Observed	Adjusted 1/	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean
		Discharge	Date							
1946	1083	31,500	Jan. 8, 1946	-	\$8,760	\$8,650	\$1.70	\$23.02	8,154	\$8,117
1947	1083	37,800	Jan. 20, 1947	1,220	6,393	\$6,393	\$1.25	\$17.01	6,809	6,768
1948	1113	22,700	Feb. 13, 1948	400	6,774	6,673	1.51	17.81	7,301	7,513
1949	1143	31,800	Dec. 25, 1948	511	9,390	10,180	2.00	27.09	10,140	9,992
1950	1173	38,600	Feb. 7, 1950	616	8,965	9,384	1.84	24.97	-	-

1/Adjusted for change in contents of Douglas Lake.

* Not previously published.

116. South Fork Holston River at Riverside, near Chilhowie, Va.

Location--Lat 36°45'37", long. 81°37'53", 400 ft upstream from highway bridge at Riverside, Smyth County, 900 ft upstream from Spring Branch, 3.2 miles downstream from Redstone Branch, and 4 miles southeast of Chilhowie.

Drainage area--76.1 sq mi (revised).

Gage--Water-stage recorder. Datum of gage is 2,106.77 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Nov. 15, 1931, chain gage at site 400 ft downstream at same datum.

Average discharge--19 years (1920-31, 1942-50), 110 cfs.

Extremes--1920-31, 1942-50: Maximum discharge, 6,000 cfs (revised) June 12, 1923 (gage height, 9.0 ft), from rating curve extended above 1,100 cfs; minimum recorded, 2 cfs Aug. 26, Oct. 15, 1943, Aug. 9, 11, 1944, Oct. 19, 1945; minimum daily, 8 cfs July 19, 1926.

Remarks--Diurnal fluctuations at low flow caused by mill 500 ft above station.

Monthly and yearly mean discharge, in cubic feet per second, of South Fork Holston River at Riverside, near Chilhowie, Va.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	*70.2	95.0	186	205	244	141	109	162	92.5	69.7	66.6	46.2	*123
1922	46.8	69.9	96.5	232	193	289	195	220	124	77.3	59.3	43.8	137
1923	47.1	46.0	145	207	413	262	117	144	322	73.4	60.8	51.3	155
1924	43.5	52.0	94.5	260	146	226	180	187	122	114	118	133	140
1925	116	95.8	114	145	116	74.8	75.7	88.1	35.3	27.5	22.0	21.7	77.6
1926	25.1	41.8	41.8	112	192	131	108	49.1	40.3	23.9	28.6	22.5	67.0
1927	32.2	73.8	258	113	312	134	194	116	102	38.7	36.5	30.9	119
1928	26.6	42.2	171	88.6	114	115	193	159	66.9	47.8	108	216	114
1929	101	59.6	51.3	102	165	309	98.8	135	176	94.6	48.0	36.8	115
1930	135	172	125	88.4	124	180	120	95.2	40.8	27.5	26.0	25.0	96.5
1931	24.6	29.6	39.6	74.5	57.2	67.3	257	144	73.4	66.5	72.0	32.9	78.2
1932	18.7	*17.6	*8.10	-	-	-	-	-	-	-	-	-	-
1942	-	-	-	-	-	-	-	-	-	-	209	64.2	-
1943	62.0	73.0	225	196	207	205	158	145	59.2	44.6	29.5	24.2	119
1944	24.0	27.1	31.5	78.5	283	258	166	111	49.5	31.2	27.1	33	92.5
1945	75.8	58.7	134	185	211	150	115	278	100	46.3	37.4	49.9	120
1946	37.5	42.9	98.7	255	240	180	109	198	63.6	58.9	31.3	27.4	111
1947	25.9	27.6	37.3	252	77.4	191	167	75.8	46.2	35.9	116	36.2	91.1
1948	39.4	108	56.5	49.5	273	197	174	64.5	66.2	36.6	64.6	29.7	95.7
1949	23.6	59.4	163	129	163	156	255	148	54.3	160	107	58.1	123
1950	39.0	109	96.6	210	324	*168	91.3	183	105	71.2	48.8	45.6	123

† Corrected.

* Not previously published; estimated from records for North Fork Holston River at Mendota and South Fork Holston River at Vestal.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	*1.06	1.39	2.81	3.10	3.54	2.13	1.61	2.45	1.36	1.06	1.01	0.68	*22.00
1922	.71	1.03	1.46	3.52	2.64	4.38	2.86	3.54	1.83	1.17	.90	.64	24.48
1923	.71	.67	2.20	3.13	5.66	3.97	1.71	2.18	4.72	1.11	.92	.75	27.73
1924	.66	.76	1.43	3.94	2.07	3.43	2.64	2.83	1.78	1.72	1.79	1.96	25.01
1925	1.75	1.41	1.74	2.20	1.58	1.13	1.11	1.34	.52	.42	.33	.52	13.85
1926	.38	.61	.63	1.70	2.62	1.98	1.58	.74	.59	.36	.40	.33	11.92
1927	.49	1.08	3.92	1.71	4.27	2.03	2.84	1.75	1.50	.59	.55	.45	21.18
1928	.40	.62	2.59	1.34	1.62	1.74	2.90	2.41	1.27	.72	1.64	3.17	20.42
1929	1.53	.87	.78	1.54	2.26	4.68	1.45	2.04	2.58	1.43	.73	.54	20.43
1930	2.04	2.52	1.89	1.34	1.70	2.73	1.76	1.44	.60	.42	.39	.37	17.20
1931	.37	.43	.60	1.13	.78	1.02	3.77	2.18	1.08	1.01	1.09	.48	13.94
1932	.28	*.26	*1.22	-	-	-	-	-	-	-	-	-	-
1942	-	-	-	-	-	-	-	-	-	-	3.17	.94	-
1943	.94	1.07	3.41	2.97	2.83	3.10	2.32	2.20	.87	.68	.45	.35	21.19
1944	.36	.40	.48	1.19	4.01	3.91	2.43	1.68	.73	.47	.41	.48	16.55
1945	1.15	.86	2.03	2.80	2.88	2.27	1.68	4.21	1.46	.70	.57	.73	21.34
1946	.57	.63	1.50	3.87	3.28	2.73	1.60	3.00	.93	.89	.47	.40	19.87
1947	.39	.40	.56	3.82	1.06	2.89	2.44	1.15	.68	.54	1.75	.53	16.21
1948	.60	1.58	.86	.75	3.87	2.59	2.56	.98	.97	.55	.98	.44	17.13
1949	.36	.87	2.47	1.96	2.23	2.36	3.74	2.24	.80	2.42	1.63	.85	21.83
1950	.59	1.60	1.46	3.18	4.44	2.55	1.34	2.77	1.54	1.08	.74	.67	21.96

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1921	523	*1,420	Feb. 10, 1921	33	*123	*1.62	*22.00	112	19.94		
1922	543	*1,680	Jan. 21, 1922	33	137	1.80	24.48	139	24.86		
1923	563	*6,000	June 12, 1923	18	155	2.04	27.73	151	27.00		
1924	583	*1,880	Sept. 30, 1924	34	140	1.84	25.01	151	27.06		
1925	603	*960	Dec. 9, 1924	12	77.6	1.02	13.85	59.3	10.57		
1926	623	*1,450	Feb. 14, 1926*	8	67.0	.880	11.92	88.6	15.79		
1927	643	*2,430	Feb. 23, 1927	17	119	1.56	21.28	108	19.30		
1928	663	*1,100	Sept. 2, 1928	18	114	1.50	20.42	112	19.99		
1929	683	*1,620	Mar. 5, 1929	25	115	1.51	20.43	133	23.70		
1930	698	*1,520	Oct. 2, 1929*	17	96.5	1.27	17.20	68.1	12.15		
1931	713	*1,620	Apr. 4, 1931	19	78.2	1.03	13.94	*80.2	*14.30		
1932	713	-	-	-	-	-	-	-	-		
1942	953	1,200	Aug. 9, 1942	-	-	-	-	-	-		
1943	973	1,870	Dec. 30, 1942	21	119	1.56	21.19	95.4	17.01		
1944	1003	2,380	Feb. 18, 1944	20	92.5	1.22	16.55	108	19.35		
1945	1033	2,380	May 18, 1945	24	120	1.58	21.34	112	20.00		
1946	1053	1,870	Jan. 8, 1946	22	111	1.46	19.87	104	18.52		
1947	1083	2,660	Aug. 4, 1947	23	91.1	1.20	16.21	101	17.90		
1948	1113	1,930	Feb. 14, 1948	25	95.7	1.26	17.13	99.4	17.79		
1949	1143	1,410	Dec. 4, Apr. 13	20	123	1.62	21.93	123	21.88		
1950	1173	1,270	Feb. 2, 1950	31	123	1.62	21.96	-	-		

* Revised.

* Not previously published.

TENNESSEE RIVER BASIN

117. South Fork Holston River near Chilhowie, Va.

Location.--Lat 36°44'35", long. 81°41'20", 100 ft below Cole suspension footbridge, just above mouth of Grosses Creek, 4½ miles south of Chilhowie, Smyth County.

Drainage area.--89.5 sq mi (revised).

Gage.--Staff gage. Altitude of gage is 2,030 ft (from topographic map).

Extremes.--1907-9: Maximum discharge, 6,500 cfs June 11, 1907 (gage height, 5.0 ft, from graph based on gage readings), from rating curve extended above 390 cfs by logarithmic plotting; minimum daily, 40 cfs Sept. 17-20, 22-30, Oct. 1-9 and 14-23, 1908 (gage height, 0.4 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	*738	130	96	166	-
1908	79.7	162	184	*350	307	295	296	163	164	128	81.9	53.2	*168
1909	77.3	113	281	247	296	338	168	226	149	131	68.7	45.7	177
1910	51.1	40.0	46.5	-	-	-	-	-	-	-	-	-	-

* Not previously published; partly estimated on basis of records at Bluff City, Tenn. and for North Fork Holston River at Saltville, Va.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	*9.20	1.67	1.23	2.06	-
1908	1.03	2.02	2.38	*4.51	3.70	3.81	3.69	2.10	2.04	1.65	1.05	.66	*28.64
1909	1.00	1.41	*3.62	3.18	3.45	4.32	2.10	2.92	1.85	1.68	.89	.57	26.99
1910	.66	.50	.60	-	-	-	-	-	-	-	-	-	-

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1907	(a)	\$6,500	June 11, 1907	55	-	-	-	-	-	-	-
1908	(a)	*4,400	Jan. 12, 1908	40	*168	*2.10	*28.64	*192	*29.24		
1909	(a)	*2,100	Feb. 10, 1909	40	177	1.98	26.99	149	22.72		
1910	(a)	-	-	-	-	-	-	-	-	-	-

* Not previously published.
a Virginia Geological Survey, Bull. 31.

118. Beaverdam Creek at Damascus, Va.

Location.--Lat 36°37'40", long. 81°47'28", in plant area of American Cyanamid Co., at Damascus, Washington County, 0.65 mile upstream from mouth.

Drainage area.--56.0 sq mi.

Gage.--Water-stage recorder and concrete control. Datum of gage is 1,946.66 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1947-50: Maximum discharge, 1,870 cfs Jan. 30, 1950 (gage height, 4.04 ft); minimum daily, 13 cfs Sept. 21, Oct. 1-4, 14-17, 1948 (gage height, 0.40 ft).

Remarks.--Plant diverts above 0.5 cfs 800 ft above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1947	-	-	-	-	-	-	-	-	-	-	-	49.3	-
1948	22.7	67.7	44.2	60.3	265	174	140	58.8	85.6	78.2	114	18.7	91.8
1949	16.0	48.9	169	146	169	166	203	103	25.3	131	73.7	32.2	109
1950	37.0	116	85.3	241	314	197	77.1	246	134	56.2	40.0	26.9	130

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1947	-	-	-	-	-	-	-	-	-	-	-	0.98	-
1948	0.47	1.35	0.91	1.24	5.10	3.58	2.79	1.21	1.30	1.61	2.35	.37	22.28
1949	.33	.97	3.88	3.01	3.14	3.41	4.04	2.12	.50	2.70	1.52	.64	26.28
1950	.76	2.31	1.75	4.96	5.84	4.06	1.54	5.06	2.67	1.15	.82	.54	31.46

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1947	1113	-	-	-	-	-	-	-	-	-	-
1948	1113	1,270	Feb. 14, 1948	14	91.8	1.64	22.28	102	24.73		
1949	1143	1,360	Dec. 4, 1948	13	109	1.95	26.28	107	25.90		
1950	1173	1,870	Jan. 30, 1950	18	130	2.32	31.46	-	-		

119. South Fork Holston River at Vestal, Va.

Location.--Lat 36°39'06", long. 81°50'39", 200 ft upstream from bridge on U. S. Highway 58 at Vestal, Washington County, 0.7 mile (revised) downstream from Laurel Creek, 3.2 miles northeast of Damascus, and 4.9 miles (revised) upstream from Middle Fork Holston River.

Drainage area.--301 sq mi.

Supplemental records available.--Records of chemical analyses and water temperatures for the water year 1950 are published in WSP 1186.

Gage.--Water-stage recorder. Datum of gage is 1,792.30 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--19 years (1931-50), 461 cfs.

Extremes.--1931-50: Maximum discharge, 10,700 cfs Mar. 26 (corrected), 1935 (gage height, 13.26 ft); minimum, 30 cfs Oct. 14, 1941, Dec. 24, 1943 (gage height, 2.16 ft); minimum daily, 64 cfs Sept. 18, 1932.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	*130	*107	467	690	1,240	803	702	790	313	259	152	101	*477
1933	215	310	881	896	1,370	702	624	781	216	195	179	104	535
1934	88.8	92.0	124	152	201	1,162	726	218	169	220	436	247	321
1935	276	380	459	984	657	1,597	1,043	660	503	411	199	266	620
1936	125	332	197	1,125	1,009	1,385	1,046	293	148	148	118	162	505
1937	287	167	305	1,244	887	531	369	454	283	173	233	394	438
1938	743	339	449	722	701	798	605	694	569	1,079	445	195	613
1939	134	214	228	450	1,042	727	466	231	232	312	200	94.1	356
1940	86.8	85.3	93.6	101	318	473	502	264	354	504	1,193	223	351
1941	143	158	199	258	200	465	404	155	142	609	163	108	251
1942	83.2	91.9	115	155	250	572	224	599	499	467	843	277	350
1943	247	304	1,046	875	896	914	569	589	289	192	124	109	512
1944	91.6	122	211	389	1,335	1,151	763	439	192	119	134	230	428
1945	428	380	756	884	999	705	503	924	428	235	185	177	549
1946	138	181	478	1,011	1,020	672	564	877	243	330	148	122	480
1947	110	135	239	1,257	335	766	726	336	236	214	365	215	413
1948	170	437	239	266	1,159	841	659	303	351	364	501	140	449
1949	118	256	785	640	743	733	884	561	195	725	418	215	522
1950	181	532	430	1,030	1,441	808	407	948	696	329	219	199	596

* Not previously published; estimated or partly estimated on basis of record for Clinch River at Cleveland.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	*0.50	*0.40	1.79	2.64	4.44	3.08	2.60	3.02	1.16	0.99	0.58	0.37	*21.57
1933	.82	1.15	3.38	3.44	4.74	2.69	2.31	2.99	.80	.75	.69	.39	24.15
1934	.34	.34	.48	.58	.70	4.45	2.69	.83	.63	.84	1.67	.92	14.47
1935	1.06	1.41	1.75	3.77	2.27	6.12	3.87	2.52	1.86	1.58	.76	.99	27.96
1936	.48	1.23	.75	4.31	3.61	5.30	3.88	1.12	.55	.57	.45	.60	22.85
1937	1.10	.62	1.16	4.76	3.07	2.03	1.37	1.74	1.05	.66	.89	1.27	19.72
1938	2.85	1.26	1.72	2.77	2.43	3.06	2.24	2.66	2.11	4.13	1.71	.72	27.66
1939	1.51	.79	.87	1.73	3.60	2.79	1.73	.88	.86	1.20	.77	.35	16.08
1940	.33	.32	.36	.39	1.14	1.81	1.86	1.01	1.51	1.93	4.57	.83	15.86
1941	.55	.59	.76	.99	.69	1.78	1.50	.59	.53	2.33	.62	.39	11.32
1942	.32	.34	.44	.59	.87	2.19	.83	2.29	1.85	1.79	3.23	1.03	15.77
1943	.95	1.13	4.01	3.36	3.10	3.50	2.11	2.26	1.07	.74	.48	.40	23.11
1944	.35	.45	.81	1.49	4.79	4.40	2.82	1.68	.71	.46	.51	.85	19.32
1945	1.64	1.41	2.89	3.39	3.46	2.70	1.86	3.54	1.58	.90	.71	.66	24.74
1946	.53	.67	1.83	3.87	3.53	2.57	2.09	3.36	.90	1.27	.57	.45	21.64
1947	.42	.50	.92	4.82	1.18	2.38	2.69	1.29	.87	.82	1.40	.60	18.82
1948	.65	1.62	.92	1.02	1.35	3.22	2.44	1.16	1.30	1.40	1.91	.62	20.31
1949	.45	.95	3.01	2.46	2.57	2.81	3.28	2.14	.72	2.78	1.60	.80	23.57
1950	.69	1.98	1.65	3.94	4.99	3.09	1.51	3.63	2.58	1.26	.84	.74	26.90

* Not previously published; estimated or partly estimated on basis of record for Clinch River at Cleveland.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1932	728	*6,760	Feb. 3, 1932	64	*477	*1.58	*21.57	536	24.23
1933	743	*5,470	May 10, 1933	80	535	1.78	24.15	442	19.96
1934	758	3,040	Mar. 5, 1934	80	321	1.07	14.47	389	17.53
1935	783	10,700	Mar. 26, 1935	115	620	2.06	27.96	581	26.20
1936	803	6,370	Mar. 24, 1936	80	505	1.68	22.85	515	23.27
1937	823	3,210	Feb. 10, 1937	104	438	1.46	19.72	503	22.67
1938	853	6,760	July 21, 1938	120	613	2.04	27.66	532	24.00
1939	873	5,470	Mar. 6, 1939	72	356	1.18	16.08	330	14.92
1940	893	10,600	Aug. 14, 1940	76	351	1.17	15.86	370	16.75

* Revised.

* Not previously published.

TENNESSEE RIVER BASIN

Yearly discharge, in cubic feet per second, of South Fork Holston River at Vestal, Va.--Continued

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1941	923	3,210	July 16, 1941	77	251	0.834	11.32	233	10.52
1942	953	6,500	Aug. 9, 1942	73	350	1.16	15.77	460	20.76
1943	973	7,600	Dec. 30, 1942	79	512	1.70	23.11	413	18.63
1944	1003	8,160	Feb. 18, 1944	73	428	1.42	19.32	523	23.63
1945	1033	5,470	Feb. 17, 1945	94	549	1.82	24.74	484	21.83
1946	1053	7,460	Jan. 8, 1946	88	480	1.59	21.64	453	20.45
1947	1083	8,900	Jan. 20, 1947	85	413	1.37	18.62	443	19.97
1948	1113	5,980	Feb. 14, 1948	108	449	1.49	20.31	476	21.53
1949	1143	5,110	Dec. 4, 1948	103	522	1.73	23.57	520	23.48
1950	1173	6,240	Feb. 2, 1950	130	596	1.98	26.90	-	-

120. Middle Fork Holston River at Groseclose, Va.

Location.--Lat 36°53'19", long. 81°20'51", at highway bridge in village of Groseclose, Smyth County, 0.2 mile upstream from Rocky Spring Branch and 10 miles northeast of Marion.

Drainage area.--7.39 sq mi.

Gage.--Water-stage recorder and concrete control. Datum of gage is 2,442.86 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1947-50: Maximum discharge, 520 cfs (revised) July 26, 1950 (gage height, 6.18 ft); minimum, 1.8 cfs Jan. 24, 1948, result of low temperature; minimum daily, 3.2 cfs Nov. 21, 1948.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1948	*4.4	*9.27	4.75	3.96	21.5	12.5	13.4	6.34	5.14	3.95	4.94	3.67	*7.74
1949	3.49	5.42	13.1	10.4	13.5	10.6	13.2	12.6	8.07	21.3	9.99	6.66	10.7
1950	4.66	7.23	7.63	18.5	26.4	10.8	7.72	12.8	6.60	*13.1	10.3	7.82	*11.0

* Revised.

† Not previously published; estimated on basis of weather records and records for station at Sevenmile Ford.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1948	*0.69	*1.40	0.74	0.62	3.14	1.95	2.02	0.99	0.78	0.62	0.77	0.55	*14.27
1949	.54	.82	2.04	1.63	1.91	1.65	2.00	1.97	1.22	3.32	1.56	1.00	19.66
1950	.73	1.09	1.19	2.88	3.72	1.68	1.16	1.99	1.00	*2.04	1.60	1.18	*20.26

* Revised.

† Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1948	1113	*217	Feb. 13, 1948	3.3	*7.74	*1.05	*14.27	8.06	14.84
1949	1143	*171	July 13, 1949	3.2	10.7	1.45	19.66	10.5	19.27
1950	1173	*520	July 26, 1950	4.2	*11.0	*1.49	*20.26	-	-

* Revised.

† Not previously published.

121. Middle Fork Holston River at Sevenmile Ford, Va.

Location.--Lat 36°48'26", long. 81°37'20", at bridge on U. S. Highway 11 at Sevenmile Ford, Smyth County, 0.3 mile upstream from Meade Creek, 3.3 miles (revised) downstream from Walker Creek, and 5.2 miles west of Marion.

Drainage area.--132 sq mi.

Supplemental records available.--Records of chemical analyses for the water year 1950 are published in WSP 1186.

Gage.--Water-stage recorder. Datum of gage is 1,960.00 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years (1942-50), 170 cfs.

Extremes.--1942-50: Maximum discharge, 6,570 cfs (revised) Aug. 4, 1947 (gage height, 9.86 ft); minimum, 9 cfs Sept. 26, 1944 (gage height, 1.32 ft); minimum daily, 20 cfs Sept. 26, 1944.

Monthly and yearly mean discharge, in cubic feet per second, of Middle Fork Holston River at Seven-mile Ford, Va.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	-	-	-	-	-	-	-	-	-	#88.9	398	84.8	-
1943	95.4	125	370	289	324	302	170	188	86.4	80.0	59.5	39.8	177
1944	39.4	44.8	56.2	90.9	475	472	289	117	62.9	45.7	37.5	71.2	149
1945	102	67.8	183	253	320	224	132	433	277	98.3	110	87.1	190
1946	53.6	67.4	203	415	342	261	171	246	79.2	61.5	47.8	57.7	166
1947	34.7	38.0	54.4	439	96.5	275	228	116	64.4	50.3	210	76.5	141
1948	62.1	136	95.3	76.0	455	306	281	119	84.3	78.7	175	56.3	180
1949	45.2	77.3	284	221	299	221	288	252	90.6	181	94.5	63.2	176
1950	61.6	109	142	427	504	274	117	342	111	128	106	84.8	199

* Not previously published; partly estimated on basis of record for station near Meadowview.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	-	-	-	-	-	-	-	-	-	#0.78	3.48	0.72	-
1943	0.83	1.06	3.23	2.52	2.55	2.64	1.44	1.64	0.73	.70	.52	.34	18.20
1944	.34	.38	.49	.79	3.88	4.13	2.44	1.02	.53	.40	.33	.60	15.33
1945	.69	.57	1.60	2.21	2.52	1.96	1.12	3.78	2.34	.86	.96	.74	19.55
1946	.47	.57	1.78	3.62	2.70	2.28	1.45	2.14	.67	.54	.42	.49	17.13
1947	.30	.32	.48	3.84	.76	2.40	1.93	1.01	.54	.44	1.83	.65	14.50
1948	.54	1.15	.83	.66	3.72	2.68	2.38	1.04	.80	.69	1.53	.48	16.50
1949	.39	.65	2.48	1.92	2.36	1.92	2.43	2.20	.77	1.58	.83	.53	18.06
1950	.54	.92	1.24	3.72	3.98	2.40	.99	2.99	.94	1.12	.93	.72	20.49

* Not previously published; partly estimated on basis of record for station near Meadowview.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1942	953	4,290	Aug. 9, 1942	-	-	-	-	-	-	-	-
1943	973	3,840	Dec. 30, 1942	34	177	1.34	18.20	139	14.29		
1944	4,003	4,980	Feb. 18, 1944	20	149	1.13	15.33	167	17.18		
1945	1033	3,750	Feb. 17, 1945	40	190	1.44	19.55	188	19.31		
1946	1053	4,290	Jan. 7, 1946	32	166	1.26	17.13	150	15.41		
1947	1083	*6,570	Aug. 4, 1947	26	141	1.07	14.50	155	15.92		
1948	1113	3,390	Feb. 14, 1948	28	160	1.21	16.50	169	17.50		
1949	1143	2,610	Dec. 3, 1948	31	176	1.33	18.06	168	17.24		
1950	1173	3,190	Feb. 2, 1950	44	199	1.51	20.49	-	-		

* Revised.

122. Middle Fork Holston River at Chilhowie, Va.

Location.--Lat 36°48', long. 81°41', at highway bridge at Chilhowie, Smyth County.

Drainage area.--155 sq mi (revised).

Gage.--Chain gage. Altitude of gage is 1,930 ft (from topographic map).

Average discharge.--13 years (1907-9, 1920-31), 216 cfs.

Extremes.--1907-9, 1920-31: Maximum discharge, 10,000 cfs (revised) June 12, 1923 (gage height, 11.4 ft, from floodmark), from rating curve extended above 4,800 cfs by logarithmic plotting; minimum observed, 13 cfs July 28, 1926, Sept. 17, 1931.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	#928	306	166	#160	-
1908	132	235	205	*370	457	492	846	251	311	130	115	65.8	#299
1909	70.5	71.7	699	419	381	521	315	347	220	140	92.7	102	282
1910	72.2	44.1	71.5	-	-	-	-	-	-	-	-	-	-
1921	#100	#138	225	304	421	215	128	193	104	112	167	62.1	#180
1922	45.5	80.0	138	389	388	580	320	341	151	95.1	65.8	45.9	217
1923	53.5	53.9	271	315	843	404	162	209	648	168	96.7	67.7	270
1924	51.9	44.6	154	531	276	516	325	286	307	227	145	258	260
1925	191	237	311	401	306	124	133	239	63.8	48.0	42.3	31.2	177
1926	57.4	79.4	76.5	197	400	203	196	82.9	85.7	31.3	48.3	37.3	123
1927	46.7	164	1,000	207	678	281	570	281	276	95.9	67.5	50.5	307
1928	50.5	69.3	312	182	185	252	314	355	233	93.3	151	308	209
1929	197	118	100	200	340	514	182	210	386	145	81.8	59.8	210
1930	200	302	201	154	226	227	209	114	50.5	43.3	42.3	41.9	150
1931	34.5	42.1	50.3	77.6	125	109	385	210	93.1	198	94.9	38.8	119
1932	31.3	*38.9	*257	-	-	-	-	-	-	-	-	-	-

* Not previously published; estimated on basis of records for North Fork Holston River near Saltville and at Mendota, and South Fork Holston River near Chilhowie.

Monthly and yearly runoff, in inches, of Middle Fork Holston River at Chilhowie, Va.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	16.68	2.27	1.23	1.15	-
1908	0.98	1.70	1.52	*2.76	3.18	3.66	6.09	1.87	2.24	.97	1.86	.47	*26.30
1909	.52	.52	5.20	3.11	2.56	3.87	2.26	2.58	1.58	1.04	.69	.73	24.66
1910	.54	.32	.53	-	-	-	-	-	-	-	-	-	-
1921	*.74	*.99	1.67	2.26	2.83	1.60	.92	1.44	.75	.83	1.24	.45	*15.72
1922	.34	.58	1.03	2.89	2.60	4.16	2.30	2.54	1.09	.69	.49	.33	19.04
1923	.40	.39	2.02	2.33	5.66	3.01	1.17	1.56	4.66	1.25	.72	.49	25.66
1924	.39	.32	1.15	3.95	1.92	3.84	2.32	2.13	2.21	1.68	1.06	1.85	22.84
1925	1.42	1.71	2.32	2.99	2.05	.92	.96	1.78	.46	.36	.31	.22	15.50
1926	.43	.57	.57	1.46	2.69	1.51	1.41	.62	.62	.23	.36	.27	10.74
1927	.35	1.18	7.44	1.54	4.55	2.09	4.11	2.09	1.99	.70	.50	.36	26.90
1928	.38	.50	2.32	1.35	1.28	1.88	2.26	2.64	1.67	.69	1.12	2.22	18.31
1929	1.46	.85	.74	1.49	2.28	3.83	1.30	1.56	2.78	1.08	.61	.43	18.41
1930	1.49	2.18	1.50	1.15	1.52	1.68	1.51	.85	.36	.32	.31	.30	13.17
1931	.26	.30	.37	.58	.61	.81	2.77	1.56	.67	1.48	.71	.28	10.40
1932	.23	*.28	*1.31	-	-	-	-	-	-	-	-	-	-

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1907	(a)	*9,400	June 13, 1907	-	-	-	-	-	-
1908	263	*3,000	Apr. 1, 1908	47	*299	*1.93	*26.30	*322	*28.34
1909	263	*2,800	Mar. 28, 1909	25	282	1.82	24.66	227	19.81
1921	523	2,620	Feb. 10, 1921	44	*180	*1.16	*15.72	*163	*14.27
1922	543	*4,200	Jan. 21, 1922	35	217	1.40	19.04	227	19.90
1923	563	*10,000	June 12, 1923	35	270	1.74	23.61	229	22.71
1924	583	*3,930	Sept. 30, 1924	29	260	1.68	22.84	301	26.43
1925	603	b*1,720	Dec. 9, 1924	21	177	1.14	15.50	133	11.62
1926	623	*2,140	Feb. 15, 1926	15	123	.794	10.74	207	18.14
1927	643	*9,300	Dec. 25, 1926	35	307	1.98	26.90	241	21.13
1928	663	*2,280	Dec. 16, 1927	35	209	1.35	18.31	207	18.16
1929	683	*4,200	June 26, 1929	44	210	1.35	18.41	234	20.53
1930	698	*3,700	Oct. 2, 1929	24	150	.968	13.17	102	8.95
1931	713	*4,200	Apr. 4, 1931	16	119	.768	10.40	*136	*11.89

* Revised.

* Not previously published.

a Virginia Geological Survey, Bull. 31.

b Maximum peak discharge; maximum discharge during year, 4,100 cfs at 12:01 a.m. Oct. 1, stage falling.

123. Middle Fork Holston River near Meadowview, Va.

Location.--Lat 36°42'47", long. 81°49'08", at highway bridge 0.9 mile upstream from Cedar Creek and 4.1 miles southeast of Meadowview, Washington County.

Drainage area.--211 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,820.22 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--19 years (1931-50), 235 cfs.

Extremes.--1931-50: Maximum discharge, 6,650 cfs Feb. 18, 1944 (gage height, 9.80 ft); minimum, 6 cfs at times in 1933, 1936, 1940, 1942, and 1943; minimum daily, 9 cfs Sept. 24, Oct. 15, 1939.

Remarks.--Flow regulated by powerplant above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	*62.6	70.3	203	*323	*711	414	308	332	172	102	86.9	58.1	*235
1933	83.0	113	*390	424	*681	404	281	322	113	79.5	74.6	53.6	*249
1934	45.3	47.2	54.7	57.8	64.0	*618	283	106	89.3	*251	117		*153
1935	171	198	224	630	362	765	698	342	264	152	84.5	118	334
1936	61.7	141	72.1	643	585	605	628	160	95.8	110	67.7	70.5	269
1937	123	61.5	109	692	551	282	155	178	105	80.9	78.5	96.8	208
1938	376	156	218	363	304	428	309	369	343	420	268	150	309
1939	84.9	103	110	246	555	345	223	118	118	110	79.5	50.9	176
1940	48.4	49.5	49.9	52.6	135	185	211	116	167	256	649	135	172
1941	83.2	66.0	65.7	91.9	79.5	196	164	74.2	62.8	215	94.5	58.5	105
1942	45.7	44.3	49.9	55.9	78.7	188	99.3	283	185	144	591	142	159
1943	155	190	526	464	510	463	267	283	147	120	93.5	57.8	271
1944	47.9	59.2	77.6	126	678	713	441	208	120	75.3	63.5	121	226
1945	181	119	280	412	518	392	212	571	382	165	155	126	292
1946	94.6	107	311	618	552	368	244	363	146	100	79.4	80.4	254
1947	58.5	60.3	75.9	655	173	415	354	178	113	93.3	320	118	219
1948	95.8	177	140	115	652	458	408	174	141	134	286	102	238
1949	82.8	114	408	351	436	371	441	392	158	258	155	106	271
1950	91.9	150	204	506	917	431	220	524	216	195	154	126	316

* Revised.

* Not previously published; estimated on basis of records for North Fork Holston River at Saltville.

Monthly and yearly runoff, in inches, of Middle Fork Holston River near Meadowview, Va.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	*0.34	0.37	1.11	*1.76	*3.64	2.26	1.63	1.81	0.91	0.56	0.48	0.31	*15.18
1933	.45	.60	*2.13	2.32	*3.36	2.20	1.48	1.76	.60	.43	.41	.28	*16.02
1934	.25	.25	.30	.32	.32	*3.38	1.50	.58	.47	.49	*1.37	.62	*9.85
1935	.93	1.05	1.22	3.45	1.79	4.18	3.69	1.87	1.40	.83	.46	.62	21.49
1936	.34	.75	.39	3.52	2.99	3.31	3.32	.87	.51	.60	.37	.37	17.34
1937	.67	.32	.60	3.78	2.72	1.54	.82	.97	.56	.44	.43	.51	13.56
1938	2.05	.82	1.19	1.99	1.50	2.34	1.83	2.02	1.82	2.29	1.46	.79	19.88
1939	.46	.54	.60	1.35	2.74	1.89	1.18	.64	.62	.60	.43	.27	11.32
1940	.26	.26	.27	.29	.69	1.01	1.12	.63	.88	1.40	3.55	.71	11.07
1941	.45	.35	.36	.50	.39	1.07	.87	.41	.33	1.18	.52	.31	6.74
1942	.25	.23	.27	.31	.39	1.03	.52	1.44	1.02	.79	3.23	.75	10.23
1943	.85	1.00	2.87	2.54	2.52	2.52	1.42	1.44	.78	.66	.51	.31	17.42
1944	.26	.31	.42	.69	3.46	3.90	2.33	1.14	.63	.41	.35	.64	14.54
1945	.99	.63	1.53	2.25	2.55	2.14	1.12	3.12	2.02	.90	.85	.67	18.77
1946	.52	.57	1.70	3.38	2.73	2.01	1.29	1.98	.77	.55	.43	.43	16.36
1947	.32	.32	.42	3.57	.85	2.27	1.87	.97	.60	.51	1.75	.62	14.07
1948	.52	.94	.77	.63	3.33	2.50	2.15	.95	.75	.73	1.56	.54	15.37
1949	.45	.60	2.22	1.91	2.16	2.03	2.33	2.14	.73	1.41	.85	.56	17.39
1950	.50	.79	1.11	3.31	4.53	2.35	1.16	2.86	1.14	1.05	.84	.67	20.31

* Revised.

† Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1932	728,1278	*5,010	Feb. 3, 1932	*32	*235	*1.11	*15.18	*256	*16.54
1933	743,1278	*3,500	Dec. 28, 1932	23	*249	*1.18	*16.02	*212	*13.64
1934	758,1278	*3,100	Aug. 24, 1934	35	*153	*.725	*9.85	*190	*12.32
1935	783	5,360	Jan. 23, 1935	55	334	1.58	21.49	307	19.77
1936	803	4,060	Apr. 6, 1936	33	269	1.27	17.34	271	17.45
1937	823	2,780	Feb. 10, 1937	24	208	.986	13.36	246	15.83
1938	853	2,980	Oct. 28, 1937	46	309	1.46	19.88	271	17.43
1939	873	1,910	Mar. 6, 1939	9	176	.834	11.32	163	10.51
1940	893	4,570	Aug. 14, 1940	9	172	.815	11.07	177	11.44
1941	923	1,520	July 6, 1941	34	105	.498	6.74	98.4	6.33
1942	953	5,450	Aug. 9, 1942	19	159	.754	10.23	221	14.20
1943	973	4,900	Dec. 30, 1942	38	271	1.28	17.42	213	13.69
1944	1003	6,650	Feb. 18, 1944	27	226	1.07	14.54	259	16.70
1945	1033	4,680	Feb. 18, 1945	73	292	1.38	18.77	286	18.41
1946	1053	5,570	Jan. 8, 1946	34	254	1.20	16.36	227	14.63
1947	1083	6,050	Aug. 4, 1947	31	219	1.04	14.07	257	15.24
1948	1113	4,240	Feb. 14, 1948	64	258	1.13	15.37	255	16.41
1949	1143	3,300	Dec. 4, 1948	13	271	1.28	17.39	257	16.52
1950	1173	4,790	Feb. 2, 1950	12	316	1.50	20.31	-	-

* Revised.

† Not previously published.

124. South Fork Holston River at Bluff City, Tenn.

Location.--Lat 36°28'38", long. 82°15'47", 100 ft upstream from bridge on U. S. Highways 11E and 19 at Bluff City, Sullivan County, 600 ft downstream from Southern Railway bridge, 0.8 mile downstream from Indian Creek, and 4.8 miles upstream from Beaver Creek.

Drainage area.--813 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,368.35 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. July 17, 1900, to Aug. 18, 1928, staff and chain gages 150 ft downstream at same datum.

Average discharge.--50 years (1900-1950), 1,176 cfs (revised).

Extremes.--1900-1950: Maximum discharge, 30,700 cfs (revised), May 22, 1901 (gage height, 16.0 ft, revised, site then in use), from rating curve extended above 19,000 cfs, minimum discharge, 45 cfs Jan. 3, 1940; minimum daily discharge, 106 cfs Jan. 20, 1940; minimum gage height, .018 ft Sept. 9, 1925, site then in use.
Flood of Apr. 11, 1896, reached a stage of 14.5 ft, by U. S. Weather Bureau (discharge, 26,600 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1900	-	-	-	-	-	-	-	-	-	-	-	578	-
1901	531	990	1,070	1,680	1,540	1,540	*4,370	*4,000	3,400	1,320	3,280	1,670	*2,110
1902	1,210	617	*3,320	2,270	2,930	*3,800	1,680	704	*1,510	1,050	899	387	*1,690
1903	418	511	907	1,060	*2,880	2,690	3,080	1,050	504	565	360	231	*1,170
1904	210	327	684	520	645	1,840	1,070	1,090	494	457	525	245	667
1905	181	257	600	1,150	2,150	1,710	1,300	1,720	536	1,430	1,060	615	1,050
1906	312	273	911	2,380	1,010	1,250	1,540	1,190	619	764	1,480	1,120	1,070
1907	1,360	1,500	1,450	1,490	1,090	2,000	1,760	1,250	3,290	1,770	1,050	1,390	1,620
1908	813	1,800	1,670	2,870	2,040	2,710	2,420	1,670	1,230	838	499	363	1,560
1909	440	710	2,220	1,950	2,280	2,810	1,410	1,860	1,320	1,100	574	331	1,420
1910	331	260	330	1,210	1,170	935	786	935	1,200	1,450	550	581	*809

* Revised.

† Corrected.

* Not previously published; estimated on the basis of extension of rating stage-discharge relation and gage-height record.

TENNESSEE RIVER BASIN

Monthly and yearly mean discharge, in cubic feet per second, of South Fork Holston River at Bluff City, Tenn.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1911	309	404	1,050	2,380	2,580	2,280	2,860	1,000	627	571	337	352	1,220
1912	595	730	915	1,380	1,860	3,570	3,140	2,010	765	1,060	800	513	1,440
1913	352	422	518	1,950	1,680	3,320	1,540	1,820	1,040	7492	448	454	*1,170
1914	332	568	508	852	1,990	2,190	2,130	927	353	292	514	269	802
1915	271	276	1,850	2,430	2,070	1,030	722	644	459	741	842	1,030	1,030
1916	957	674	2,330	*3,050	2,450	2,330	1,600	629	453	1,880	2,180	528	*1,590
1917	465	374	926	3,090	2,500	*4,450	1,620	1,000	790	830	383	334	*1,380
1918	342	294	304	*2,240	2,160	1,870	1,580	1,290	825	491	374	380	*1,010
1919	*1,240	1,130	1,100	2,560	1,460	1,490	1,220	2,030	880	510	431	270	1,200
1920	541	366	1,710	1,770	1,280	2,630	*2,210	713	893	673	1,460	753	*1,250
1921	360	636	1,710	1,870	2,630	1,330	1,030	1,450	549	814	943	354	1,130
1922	280	636	941	2,380	2,500	3,400	2,310	2,150	878	813	562	286	1,410
1923	387	328	2,050	2,460	4,270	3,060	1,230	1,310	2,030	812	547	395	1,560
1924	296	326	800	2,570	1,620	2,190	1,860	2,090	1,930	1,140	986	869	1,390
1925	936	741	1,170	2,020	1,440	815	827	815	553	426	225	198	845
1926	315	530	403	1,110	2,080	1,450	1,260	558	480	274	312	260	743
1927	447	956	3,630	1,520	3,970	1,940	2,520	1,690	1,800	554	428	328	1,630
1928	277	424	1,680	1,010	1,090	1,430	2,100	1,870	1,320	707	955	1,850	1,220
1929	1,120	742	525	1,100	1,740	3,230	1,050	1,870	1,690	1,400	495	546	1,280
1930	863	1,460	1,190	994	1,590	1,840	1,410	746	345	242	379	244	921
1931	202	296	446	796	757	582	2,230	1,220	781	994	969	472	811
1932	253	239	1,040	1,560	3,270	2,080	1,840	1,800	811	631	396	246	1,170
1933	495	658	2,110	2,240	3,430	1,810	1,450	1,540	521	432	403	241	1,270
1934	192	185	263	343	458	2,887	1,750	522	358	537	1,370	582	791
1935	717	776	1,070	2,537	1,730	3,924	2,954	1,539	1,094	789	413	511	1,505
1936	263	655	351	2,782	2,582	3,177	2,780	721	372	399	279	376	1,221
1937	594	350	690	3,024	2,322	1,327	814	849	520	330	602	772	1,010
1938	1,669	819	1,076	1,752	1,573	1,994	1,367	1,523	1,271	2,066	998	483	1,386
1939	330	498	549	1,002	2,400	1,674	1,105	547	491	607	400	194	806
1940	179	183	210	210	633	946	1,026	522	664	1,120	2,533	584	736
1941	330	341	382	547	450	1,078	811	354	309	1,130	361	247	530
1942	169	188	234	320	513	1,042	474	1,181	889	932	1,953	646	715
1943	631	788	2,375	2,115	2,124	1,213	1,169	657	514	329	258	1,196	1,196
1944	209	295	491	855	3,023	2,920	1,890	964	520	308	308	496	1,014
1945	977	791	1,605	2,069	2,409	1,764	1,067	1,909	1,199	610	545	452	1,278
1946	306	397	1,209	2,420	2,515	1,535	1,205	1,686	606	739	344	288	1,098
1947	244	274	495	3,019	906	1,895	1,631	831	538	541	889	510	984
1948	350	767	522	569	2,728	2,021	1,717	727	712	810	1,120	304	1,021
1949	277	535	1,905	1,687	1,868	1,695	2,021	1,369	462	1,676	914	514	1,242
1950	384	853	1,013	2,619	4,085	2,132	1,139	2,546	1,425	809	607	445	1,498

* Revised.

† Corrected

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1900	-	-	-	-	-	-	-	-	-	-	-	0.79	-
1901	0.75	1.36	1.52	2.38	1.98	2.18	*6.00	*5.67	4.66	1.86	4.64	2.29	*35.28
1902	1.71	.85	*4.70	3.21	3.75	*5.39	2.30	1.00	*2.07	1.49	1.28	.53	*28.28
1903	.59	.70	1.29	1.50	*3.66	3.81	4.20	1.48	.69	.83	.51	.32	*19.58
1904	.30	.45	.54	.74	1.12	2.61	1.47	1.54	.68	.65	.74	.34	11.18
1905	.26	.35	.85	1.63	2.75	2.42	1.78	2.44	.74	2.02	1.50	.84	17.58
1906	.44	.37	1.29	3.38	1.29	1.78	2.11	1.69	.85	1.08	2.10	1.53	17.91
1907	1.92	2.06	2.06	2.12	1.39	2.84	2.42	1.77	4.52	2.51	1.48	1.91	27.00
1908	1.15	2.19	2.37	4.07	2.70	3.84	3.53	2.37	1.69	1.19	.71	.50	26.11
1909	.62	.97	3.15	2.77	2.92	3.99	1.94	2.64	1.81	1.56	.81	.45	23.63
1910	.47	.36	.47	1.71	1.49	1.33	†1.08	1.33	1.64	2.05	.78	.80	†13.51
1911	.44	.55	1.49	3.38	3.28	3.23	3.93	1.42	.86	.81	.48	.48	20.35
1912	.84	1.00	1.30	1.96	2.47	4.06	4.31	2.85	1.05	1.50	1.13	.70	24.17
1913	.50	.58	.73	2.77	2.15	*4.70	2.11	2.58	1.43	.70	.64	.62	*19.51
1914	.47	.78	.72	1.21	2.55	3.11	2.92	1.31	.48	.41	.73	.37	15.06
1915	.38	.38	2.63	3.44	2.65	1.46	.99	.91	.63	1.05	1.19	1.41	17.12
1916	1.36	.93	3.31	*4.33	3.25	3.30	2.20	.89	.62	2.67	3.10	.72	*26.68
1917	.66	.51	1.31	4.38	2.94	*6.31	2.23	1.42	1.08	1.18	.54	.44	*25.02
1918	.40	.40	.43	*3.18	2.77	2.66	2.17	1.83	1.13	.70	.53	.52	*16.81
1919	*1.76	1.55	1.56	3.66	1.87	2.12	1.68	2.87	1.21	.72	.61	.37	*19.96
1920	.77	.50	2.43	2.51	1.70	3.73	*3.03	1.01	1.23	.95	2.07	1.03	*20.96
1921	.51	.87	2.42	2.65	3.36	1.89	1.42	2.05	.75	1.15	1.34	.49	18.90
1922	.40	.87	1.33	3.37	2.94	4.83	3.17	3.04	1.21	1.15	.80	.39	23.50
1923	.55	.45	2.91	3.49	5.47	4.34	1.68	1.86	2.79	1.15	.78	.54	26.01
1924	.42	.45	1.14	3.65	2.15	3.11	2.55	2.97	2.65	1.61	1.40	1.19	23.29
1925	1.33	1.02	1.66	2.87	1.84	1.16	1.14	1.16	.76	.60	.32	.27	14.13
1926	.45	.73	.57	1.57	2.66	2.05	1.73	.79	.66	.39	.44	.36	12.40
1927	.63	1.31	5.15	2.16	5.09	2.74	3.46	2.39	2.47	.78	.61	.45	27.44
1928	.39	.58	2.38	1.43	1.44	2.02	2.88	2.65	1.81	1.00	1.33	2.54	20.45
1929	1.59	1.02	.74	1.56	2.22	4.59	1.44	2.66	2.32	1.99	.70	.48	21.31
1930	1.23	2.00	1.69	1.41	1.78	2.60	1.93	1.06	.47	.34	.54	.33	15.58
1931	.29	.41	.63	1.13	.97	.83	3.06	1.73	1.07	1.41	1.37	.65	13.55
1932	.36	.33	1.47	2.21	4.34	2.95	2.53	2.55	1.11	.89	.56	.34	19.64
1933	.70	.90	2.99	3.18	4.39	2.56	1.98	1.71	.61	.57	.37	.33	21.10
1934	.27	.25	.37	.49	.59	4.08	2.40	.74	.49	.76	1.94	.80	13.19
1935	1.02	1.07	1.52	3.60	2.22	5.56	4.05	2.18	1.50	1.12	.59	.70	25.13

* Revised.

† Corrected.

* Not previously published; see footnote to preceding table.

Monthly and yearly runoff, in inches, of South Fork Holston River at Bluff City, Tenn.--Continued													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1936	0.37	0.90	0.50	3.92	3.43	4.51	3.82	1.02	0.51	0.57	0.39	0.52	20.46
1937	.84	.48	.98	4.29	2.97	1.88	1.12	1.20	.71	.47	.85	1.06	16.85
1938	2.37	1.12	1.53	2.48	2.02	2.83	1.88	2.16	1.74	2.93	1.42	.68	23.16
1939	.47	.68	.78	1.42	3.07	2.37	1.52	.78	.67	.86	.57	.27	13.46
1940	.25	.25	.30	.30	.84	1.34	1.41	.74	.91	1.59	3.59	.80	12.32
1941	.47	.47	.54	.78	.58	1.53	1.11	.50	.42	1.60	.51	.34	8.85
1942	.24	.26	.33	.45	.66	1.48	.65	1.67	1.22	1.32	2.77	.89	11.94
1943	.90	1.08	3.37	3.00	2.84	3.01	1.66	1.66	.90	.73	.47	.35	19.97
1944	.30	.39	.70	1.21	4.01	4.14	2.59	1.37	.71	.44	.44	.68	16.98
1945	1.39	1.09	2.28	2.93	3.09	2.50	1.46	2.71	1.65	.86	.77	.62	21.35
1946	.43	.54	1.71	3.43	3.22	2.18	1.65	2.39	.83	1.05	.49	.40	18.32
1947	.35	.38	.70	4.28	1.16	2.69	2.24	1.18	.74	.77	1.26	.70	16.45
1948	.50	1.05	.74	.81	3.62	2.67	2.36	1.03	.98	1.15	1.59	.42	17.12
1949	.39	.73	2.70	2.39	2.39	2.40	2.77	1.94	.63	2.38	1.30	.71	20.73
1950	.54	1.31	1.44	3.71	5.23	3.02	1.56	3.61	1.96	1.15	.86	.61	25.00

Yearly discharge, in cubic feet per second									
Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff inches	Mean	Runoff in inches
		Discharge	Date						
1900	(a)	-	-	-	-	-	-	-	-
1901	(a), 1276	*30,700	May 22, 1901	295	\$2,110	*2.60	*35.29	*2,330	*38.92
1902	(a), 1276	*24,500	Feb. 28, 1902	295	*1,690	*2.08	*28.28	*1,410	*23.60
1903	(a), 1276	*14,000	Feb. 17, 1903	212	*1,170	*1.44	*19.58	*1,100	*18.29
1904	(a)	b7,200	Mar. 24, 1904	185	667	.820	11.18	678	11.35
1905	(a)	b8,270	July 13, 1905	160	1,050	1.29	17.58	1,090	18.22
1906	(a)	*19,100	Jan. 23, 1906	245	1,070	1.32	17.91	1,310	21.85
1907	(a)	b21,400	June 14, 1907	530	1,620	1.99	27.00	1,600	26.62
1908	(a)	*17,700	Jan. 12, 1908	245	1,560	1.92	26.11	1,500	25.14
1909	263	b6,720	May 1, 1909	245	1,420	1.75	23.63	1,210	20.19
1910	283	*7,740	July 7, 1910*	185	*809	*.995	*13.51	880	14.69
1911	303	b12,000	Mar. 8, 1911	212	1,220	1.50	20.35	*1,250	20.95
1912	323	*16,500	Apr. 2, 1912*	245	1,440	1.78	24.17	1,370	22.84
1913	353, 1276	*17,500	Mar. 27, 1913	245	*1,170	*1.44	*19.51	*1,180	*19.67
1914	383	8,720	Mar. 30, 1914*	185	902	1.11	15.06	987	16.48
1915	403	*8,280	Feb. 2, 1915*	185	1,030	1.27	17.12	1,160	19.33
1916	433, 1276	*15,300	Dec. 18, Jan. 7*	285	*1,590	*1.96	*26.68	*1,410	*23.56
1917	453, 1276	*13,800	Mar. 5, 1917	185	*1,380	*1.70	*23.02	*1,310	*21.86
1918	473, 1276	*b13,300	Jan. 29, 1918	185	*1,010	*1.24	*18.81	*1,220	*20.36
1919	503, 1276	*b10,400	Oct. 26, 1918	185	1,200	1.48	*19.98	1,130	18.81
1920	503, 1276	*11,400	Apr. 2, 1920	185	*1,250	*1.54	*20.96	*1,260	*21.06
1921	523	b10,900	Feb. 11, 1921	277	1,130	1.39	18.90	1,060	17.70
1922	543	b14,100	Jan. 20, 1922	202	1,410	1.73	23.50	1,490	24.81
1923	563	*18,400	Feb. 3, 1923	201	1,560	1.92	26.01	1,440	24.11
1924	583	8,540	June 14, 1924	220	1,390	1.71	23.29	1,510	25.29
1925	603	b6,310	Dec. 9, 1924	115	845	1.04	14.13	710	11.87
1926	623	b8,000	Feb. 15, 1926	135	743	.914	12.40	1,060	17.74
1927	643	*18,700	Feb. 23, 1927	180	1,630	2.00	27.24	1,410	23.50
1928	663	6,470	Dec. 16, 1927	204	1,220	1.50	20.45	1,220	20.45
1929	683	10,400	Mar. 6, 1929	267	1,280	1.57	21.31	1,370	22.68
1930	698	6,650	Oct. 2, 1929	138	921	1.13	15.38	706	11.79
1931	713	10,300	Apr. 5, 1931	146	811	.998	13.55	861	14.38
1932	728	15,300	Feb. 4, 1932	180	1,170	1.44	19.64	1,320	22.07
1933	743	13,200	Dec. 28, 1932	162	1,270	1.56	21.10	1,044	17.40
1934	763	10,600	Aug. 4, 1934	112	791	.973	13.19	953	15.91
1935	783	20,500	Mar. 26, 1935	246	1,505	1.85	25.13	1,395	23.29
1936	803	11,300	Apr. 7, 1936	181	1,221	1.50	20.46	1,253	20.99
1937	937	8,400	Feb. 10, 1937	227	1,010	1.24	16.85	1,173	*19.57
1938	853	10,400	Oct. 28, 1937	287	1,386	1.70	23.16	1,201	20.07
1939	873	9,940	Mar. 6, 1939	128	806	.991	13.46	739	12.33
1940	893	18,200	Aug. 14, 1940	106	736	.905	12.32	776	13.00
1941	923	3,870	July 6, 1941	152	530	.652	8.85	491	8.20
1942	953	12,500	Aug. 9, 1942	132	715	.879	11.94	986	16.46
1943	973	15,200	Dec. 30, 1942	179	1,196	1.47	19.97	959	16.01
1944	1003	17,600	Feb. 18, 1944	160	1,014	1.25	16.98	1,215	20.35
1945	1033	12,500	Feb. 18, 1945	295	1,278	1.57	21.35	1,155	19.27
1946	1053	15,500	Jan. 8, 1946	214	1,098	1.35	18.32	1,022	17.07
1947	1083	18,900	Jan. 20, 1947	190	984	1.21	16.45	1,036	17.31
1948	1113	12,300	Feb. 14, 1948	226	1,021	1.26	17.12	1,113	18.65
1949	1143	9,940	Dec. 4, 1948	244	1,242	1.53	20.73	1,210	20.20
1950	1173	15,300	Feb. 2, 1950	255	1,498	1.84	25.00	-	-

* Revised.

† Corrected.

‡ Not previously published.

a Tennessee Division of Geology, Bull. 34.

b Maximum daily discharge.

127. Watauga River near Sugar Grove, N. C.

Location.--Lat 36°14'18", long. 81°49'22", 300 ft downstream from Cove Creek and 2.3 miles southwest of Sugar Grove, Watauga County.

Drainage area.--90.8 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,607.84 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to June 11, 1940, staff gage at same site and datum.

Average discharge.--11 years (1939-50), 172 cfs.

Extremes.--1939-50: Maximum discharge, 50,800 cfs Aug. 13, 1940 (gage height, 29.6 ft, from profile based on floodmarks), from rating curve extended above 2,100 cfs on basis of slope-area determination of peak flow; minimum, 12 cfs Feb. 20, 1941 (gage height, 1.21 ft), result of freezeup.

Flood of July 1916 reached a stage of 22.1 ft, from floodmarks a quarter of a mile above station as witnessed by local resident (discharge, 28,000 cfs, from rating curve extended above 2,100 cfs on basis of slope-area determination at gage height 29.6 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1940	444.8	336.2	414.4	444.5	414.4	417.8	300	123	169	134	1,169	185	215
1941	72.3	78.1	153	116	67.5	140	168	67.5	52.2	377	74.0	36.5	118
1942	29.4	45.2	111	101	152	297	106	335	329	123	152	283	172
1943	99.7	85.8	276	271	264	205	256	203	132	186	59.5	39.7	173
1944	28.5	48.6	51.1	108	295	306	198	116	52.0	35.0	30.0	51.5	109
1945	110	96.0	143	182	228	202	250	514	120	108	64.2	343	179
1946	112	118	225	429	261	280	166	185	91.0	109	55.4	40.2	173
1947	67.1	57.9	53.3	239	123	195	192	81.5	119	81.6	96.0	98.9	117
1948	300	386	117	98.3	311	237	261	76.3	94.0	153	157	209	199
1949	75.6	350	276	216	232	223	330	230	219	300	416	150	251
1950	146	240	172	179	285	259	133	179	124	115	123	302	185

* Not previously published; estimated or partly estimated on basis of records for station at Stump Knob, Tenn.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1940	0.57	0.44	0.53	0.57	1.71	2.26	3.69	1.56	2.08	1.70	14.84	2.27	32.22
1941	.92	.96	1.94	1.47	.77	1.78	2.06	.86	.64	4.78	.94	.45	17.57
1942	.37	.55	1.41	1.28	1.75	3.78	1.31	4.25	4.05	1.56	1.92	3.48	25.71
1943	1.27	1.05	3.51	3.44	3.03	2.60	3.14	2.58	1.63	2.37	.76	.49	25.87
1944	.36	.60	.65	1.37	3.51	3.88	2.43	1.47	.84	.44	.58	.63	18.36
1945	1.40	1.18	1.82	2.31	2.61	2.57	3.07	3.99	1.48	1.58	.81	4.22	26.84
1946	1.42	1.45	2.85	5.44	3.00	3.55	2.04	2.35	1.12	1.39	.70	.49	25.80
1947	.85	.71	.68	3.04	1.41	2.48	2.36	1.03	1.47	1.04	1.22	1.22	17.51
1948	3.81	4.75	1.49	1.25	3.69	3.02	3.20	.97	1.16	1.95	1.99	2.57	29.85
1949	.96	4.30	3.50	2.75	2.66	2.83	4.05	2.92	2.69	5.81	5.28	1.84	37.59
1950	1.85	2.94	2.18	2.28	3.27	3.03	1.63	2.27	1.52	1.46	1.56	3.70	27.69

* Not previously published; estimated or partly estimated on basis of records for station at Stump Knob, Tenn.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1940	923	50,800	Aug. 13, 1940	-	215	2.37	32.22	230	34.50	
1941	923	3,020	July 7, 1941	28	118	1.30	17.57	108	16.08	
1942	953	6,900	Sept. 6, 1942	26	172	1.89	25.71	195	29.21	
1943	973	5,420	Dec. 29, 1942	24	173	1.91	25.87	145	21.65	
1944	1003	2,320	Feb. 18, 1944	18	109	1.20	16.36	128	19.15	
1945	1033	7,020	Sept. 17, 1945	37	179	1.97	26.84	188	28.16	
1946	1053	3,590	Jan. 7, 1946	28	173	1.91	25.80	149	22.32	
1947	1083	1,840	Jan. 20, 1947	28	117	1.29	17.51	169	25.32	
1948	1113	3,910	Nov. 3, 1947	46	199	2.19	29.85	190	28.56	
1949	1143	7,070	Aug. 28, 1949	54	251	2.76	37.59	240	35.80	
1950	1173	2,880	Sept. 1, 1950	54	185	2.04	27.69	-	-	

* Not previously published.

128. Watauga River at North Carolina-Tennessee State line

Location.--Lat 36°17'25", long. 81°55'33", 0.6 mile downstream from North Carolina-Tennessee State line, 1.9 miles downstream from Stone Mountain Branch, and 7½ miles southeast of Carderview, Johnson County, Tenn.

Drainage area.--152 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,060.57 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years (1942-50), 277 cfs.

Extremes.--1942-50: Maximum discharge, 6,900 cfs Sept. 18, 1945 (gage height, 5.32 ft); minimum, 11 cfs Feb. 16, 1947 (gage height, 1.11 ft), result of freezeup; minimum daily, 15 cfs Feb. 16, 1947.

TENNESSEE RIVER BASIN

Monthly and yearly mean discharge, in cubic feet per second, of Watauga River at North Carolina-Tennessee State line

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	163	130	427	432	403	359	379	280	175	291	111	67.4	268
1944	45.7	86.5	93.8	200	536	510	298	191	88.5	64.5	50.2	80.7	191
1945	188	164	256	318	382	352	372	477	212	176	107	446	287
1946	188	202	389	651	457	447	266	332	132	206	89.3	65.5	285
1947	97.7	88.0	88.4	397	188	323	265	129	179	141	218	161	190
1948	412	602	168	155	560	374	452	126	137	207	245	234	304
1949	102	441	452	339	368	395	524	357	276	427	591	223	375
1950	212	408	281	341	558	448	206	358	244	182	148	442	317

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	1.23	0.95	3.24	3.27	2.76	2.73	2.78	2.13	1.29	2.21	0.84	0.49	23.92
1944	.35	.84	.71	1.52	3.80	3.87	2.19	1.45	.65	.49	.36	.59	16.64
1945	1.43	1.21	1.94	2.41	2.62	2.67	2.73	3.62	1.56	1.34	.82	3.28	25.63
1946	1.42	1.48	2.95	4.94	3.13	3.39	1.95	2.52	.97	1.56	.67	.48	25.46
1947	.74	.65	.67	3.01	1.29	2.45	1.94	.98	1.32	1.07	1.65	1.18	16.95
1948	3.13	4.42	1.27	1.18	3.97	2.84	3.32	.96	1.00	1.57	1.86	1.72	27.24
1949	.77	3.24	3.43	2.57	2.52	2.99	3.85	2.71	2.03	3.24	4.48	1.63	33.46
1950	1.61	3.00	2.13	2.59	3.82	3.40	1.51	2.71	1.79	1.38	1.12	3.24	28.30

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1943	973	6,600	Dec. 29, 1942	33	268	1.76	23.92	226	20.20
1944	1003	3,680	Feb. 18, 1944	23	191	1.26	16.64	218	19.52
1945	1033	6,900	Sept. 18, 1945	60	287	1.89	25.63	301	26.90
1946	1053	5,000	Jan. 8, 1946	50	285	1.88	25.46	243	21.67
1947	1089	2,750	Jan. 20, 1947	15	190	1.25	16.95	265	23.71
1948	1115	4,500	Nov. 3, 1947	62	304	2.00	27.24	289	25.88
1949	1143	6,430	Aug. 28, 1949	80	375	2.47	33.46	367	32.76
1950	1173	4,010	Nov. 1, 1949	74	317	2.09	28.30	-	-

129. Watauga River at Stump Knob, Tenn.

Location.--Lat 36°18'37", long. 81°57'31", 200 feet downstream from Dugger Bridge, 0.25 mile upstream from former post office of Stump Knob, 2.75 miles upstream from Elk Creek and 4.25 miles upstream from Butler, Johnson County.

Drainage area.--171 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,872.55 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Oct. 30, 1927, to Sept. 30, 1931, staff gage 1700 ft downstream at datum 3.96 ft lower. May 9, 1934, to Aug. 13, 1940, water-stage recorder and Aug. 14, 1940 to Aug. 2, 1941, staff gage 800 ft downstream at datum 3.52 ft lower.

Average discharge.--16 years (1927-31, 1933-45), 286 cfs.

Extremes.--1927-31, 1933-45: Maximum discharge, 50,000 cfs Aug. 13, 1940 (gage height, 24.0 ft, from floodmarks, site and datum then in use), from rating curve extended above 4,100 cfs on basis of study of crest discharge at Butler and Sugar Grove; minimum, 28 cfs Aug. 4, 5, 13, 1930 (gage height, 0.70 ft), site and datum then in use.

Flood of May 21, 1901, reached a stage of 19.5 ft, from floodmarks, site and datum used May 1934 to August 1941 (discharge, 34,400 cfs).

Flood of Aug. 13, 1940, reached highest stage known.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1928	*118	414	609	281	280	334	605	595	380	180	616	623	*419
1929	349	213	151	321	359	913	267	594	572	360	144	150	367
1930	528	404	257	228	236	371	225	156	80.5	54.1	142	97.1	232
1931	66.3	152	228	275	141	212	603	260	160	137	247	120	217
1934	*72.0	*74.0	*76.0	*96.0	*127	*670	*520	*143	197	211	220	130	*212
1935	180	408	364	695	304	814	469	284	175	468	196	359	396
1936	121	329	194	701	488	771	624	205	93.4	84.6	95.8	148	320
1937	359	158	245	748	420	287	253	215	122	81.0	141	187	268
1938	490	263	*256	325	412	476	223	250	227	404	208	94.4	302
1939	61.1	327	196	370	707	365	217	148	155	284	291	86.4	264
1940	77.6	62.4	71.8	77.1	249	308	518	218	254	245	1,497	277	322
1941	106	118	235	200	100	259	278	118	96.6	607	104	54.7	191
1942	38.7	68.5	154	142	251	455	135	488	463	231	291	421	261
1943	179	153	466	454	455	390	410	300	194	292	112	80.1	290
1944	61.8	99.0	101	209	577	529	350	213	98.7	73.7	61.3	93.3	204
1945	211	191	292	377	426	402	397	513	237	195	114	466	317

† Corrected.

* Not previously published; estimated on the basis of records for station at Butler.

Monthly and yearly runoff, in inches, of Watauga River at Stump Knob, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1928	*0.80	2.70	4.10	1.89	1.77	2.25	3.95	4.01	2.48	1.21	4.15	4.06	*33.37
1929	2.35	1.39	1.02	2.16	2.18	6.15	1.74	4.00	3.73	2.43	.97	.98	29.10
1930	3.56	2.64	1.73	1.54	1.44	2.50	1.47	1.05	.53	.56	.96	.63	18.41
1931	.45	.99	1.54	1.86	.86	1.43	3.94	1.75	1.05	.92	1.66	.78	17.23
1934	*4.49	*4.48	*6.51	*6.65	*7.77	*4.52	*3.39	*9.96	1.28	1.42	1.48	.85	*16.80
1935	1.21	2.66	2.45	4.68	1.85	5.49	3.19	1.91	1.14	3.15	1.32	2.35	31.40
1936	.81	2.15	1.31	4.73	3.08	5.20	4.07	1.38	.61	.57	.65	.96	25.52
1937	2.42	1.03	1.65	5.04	2.56	1.94	1.65	1.45	.80	.55	.95	1.22	21.26
1938	3.30	1.72	1.73	2.19	2.51	3.21	1.45	1.68	1.48	2.73	1.40	.62	24.02
1939	.41	2.14	1.32	2.50	4.31	2.46	1.42	1.00	1.01	1.92	1.96	.56	21.01
1940	.52	.41	.48	.52	1.57	2.07	3.38	1.47	1.65	1.65	10.10	1.81	25.63
1941	.71	.77	1.58	1.35	.61	1.74	1.81	.80	.63	4.09	.70	.36	15.15
1942	.26	.45	1.04	.96	1.53	3.07	.88	3.29	3.02	1.55	1.96	2.74	20.75
1943	1.21	1.00	3.14	3.06	2.77	2.63	2.67	2.02	1.26	1.97	.75	.52	23.00
1944	.42	.65	.68	1.41	3.64	3.56	2.28	1.44	.64	.50	.41	.81	16.24
1945	1.42	1.25	1.97	2.54	2.60	2.71	2.59	3.46	1.54	1.31	.77	3.04	25.20

* Not previously published; estimated on the basis of records for station at Butler.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1928	663	10,700	Nov. 17, 1927	-	*419	*2.45	*33.37	*384	*30.53
1929	683	4,950	Mar. 14, 1929	75	367	2.15	29.10	407	32.27
1930	698	4,800	Oct. 2, 1929	28	232	1.36	18.41	169	13.46
1931	713	2,570	Apr. 22, 1931†	52	217	1.27	17.23	-	-
1934	758	-	-	-	*212	*1.24	*16.80	*273	*21.64
1935	783	16,100	Jan. 9, 1935	95	396	2.32	31.40	370	29.35
1936	803	9,290	Nov. 13, 1935	50	320	1.87	25.52	331	26.36
1937	823	5,640	Oct. 16, 1936	48	268	1.57	21.26	289	22.91
1938	853	4,170	July 23, 1938	66	302	1.77	24.02	266	21.14
1939	873	5,960	Aug. 18, 1939	55	264	1.54	21.01	234	18.55
1940	893, 923	50,000	Aug. 13, 1940	44	322	1.88	25.63	343	27.28
1941	923	2,920	July 7, 1941	41	191	1.12	15.15	174	13.84
1942	953	6,800	Sept. 6, 1942	34	261	1.53	20.75	307	24.35
1943	973	7,120	Dec. 30, 1942	46	290	1.70	23.00	245	19.40
1944	1003	4,200	Feb. 18, 1944	35	204	1.19	16.24	240	19.13
1945	1033	7,920	Sept. 18, 1945	70	317	1.85	25.20	-	-

† Corrected.

* Not previously published.

130. Elk River near Banner Elk, N. C. 1/

Location.--Lat 36°09'55", long. 81°54'25", 200 ft south of State Highway 194, 1.0 mile downstream from Whitehead Creek, and 1.9 miles (revised) west of Banner Elk, Avery County.

Drainage area.--17.8 sq mi.

Gage.--Water-stage recorder. Altitude of gage is 3,340 ft (from topographic map).

Average discharge.--6 years (1934-40), 42.7 cfs.

Extremes.--1934-40: Maximum discharge, 21,900 cfs Aug. 13, 1940 (gage height, 16.9 ft, from floodmarks), from rating curve extended above 500 cfs on basis of slope-area determination of peak flow; minimum, 3 cfs June 30, 1936, Aug. 20, 21, 1937, Sept. 26, 28, 29, Nov. 10, 1939.

Remarks.--Considerable diurnal fluctuation during low flow caused by powerplant above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1935	19.9	42.1	45.5	91.9	36.8	96.2	63.8	35.9	21.9	31.8	26.9	54.0	47.3
1936	18.0	35.8	32.3	109	65.9	98.1	87.8	22.9	15.2	13.7	21.3	26.0	45.3
1937	64.1	24.8	39.1	111	57.0	38.0	33.7	35.4	19.8	12.6	15.3	26.7	39.8
1938	53.4	50.7	34.4	39.7	56.4	61.1	30.9	29.4	29.8	63.1	33.5	16.8	41.6
1939	8.52	40.1	28.2	47.5	92.4	49.3	28.2	21.8	28.4	28.1	29.5	10.4	34.8
1940	7.6	6.3	6.6	8.5	30.1	52.6	88.2	32.6	*41.1	*33.4	*214	*44.2	*47.2

* Not previously published; estimated or partly estimated on basis of records for station near Elk Park.

1/ Published as Elk Creek near Banner Elk.

Monthly and yearly runoff, in inches, of Elk River near Banner Elk, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1935	1.29	2.64	2.95	5.95	2.15	6.23	4.00	2.33	1.37	2.06	1.74	3.38	36.09
1936	1.17	2.25	2.09	7.08	3.99	6.36	5.50	1.48	.83	.89	1.38	1.63	34.65
1937	4.15	1.55	2.54	7.19	3.33	2.46	2.11	2.29	1.24	.82	.99	1.67	30.34
1938	3.46	3.18	2.22	2.57	3.30	3.95	1.94	1.90	1.86	4.08	2.17	1.05	31.68
1939	.55	3.14	1.82	3.08	5.40	3.19	1.76	1.41	1.78	1.82	1.91	.65	26.51
1950	.49	.40	.43	.55	1.82	3.41	5.53	2.11	\$2.58	\$2.16	\$13.86	\$2.77	\$36.11

* Not previously published; estimated or partly estimated on basis of records for station near Elk Park.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1935	783, 893	2,860	Jan. 9, 1935	13	47.3	2.66	36.09	45.5	34.72
1936	803	668	Nov. 12, 1935	7	45.3	2.54	34.65	46.9	37.38
1937	823	1,280	Oct. 16, 1936	7	39.8	2.24	30.34	40.6	30.96
1938	853	515	July 21, 1938	11	41.6	2.34	31.68	37.2	28.33
1939	873, 893	2,060	Nov. 5, 1938	6	34.8	1.96	26.51	29.3	22.32
1940	893	21,900	Aug. 13, 1940	5	\$47.2	\$2.65	\$36.11	-	-

* Not previously published.

131. Elk River near Elk Park, N. C. 1/

Location.--Lat 36°11'01", long. 81°57'45", 1.4 miles downstream from Little Elk Creek, 2.0 miles northeast of Elk Park, Avery County, and 3.1 miles upstream from North Carolina-Tennessee State line.

Drainage area.--42.0 sq mi.

Gage.--Water-stage recorder. Altitude of gage is 2,810 ft (from topographic map). Aug. 18, 1940, to Feb. 25, 1941, staff gage at same site and datum.

Average discharge.--16 years (1934-50), 85.8 cfs.

Extremes.--1934-50: Maximum discharge, 27,500 cfs Aug. 13, 1940 (gage height, 17.8 ft from floodmarks), from rating curve extended above 900 cfs on basis of slope-area determination of peak flow; minimum, 4 cfs Dec. 15, 1939 (gage height, 0.78 ft), result of freezeup; minimum daily, 11 cfs Oct. 9, 1941, Sept. 17, 1944.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1935	40.9	85.7	95.5	174	89.7	237	144	78.6	47.9	77.2	54.1	85.2	101
1936	35.0	81.1	58.0	246	155	222	208	60.3	30.4	32.3	36.0	43.2	100
1937	102	47.9	79.9	232	119	85.3	74.7	78.5	43.9	27.1	28.3	49.2	80.6
1938	101	85.6	79.2	95.7	130	151	76.0	64.3	61.4	131	52.6	30.7	88.9
1939	18.4	87.6	58.2	100	206	108	66.0	53.8	56.9	47.1	50.0	21.8	71.9
1940	17.2	14.8	15.3	21.2	72.3	99.6	167	75.9	84.2	72.2	441	95.5	98.3
1941	35.3	35.2	46.8	56.3	32.4	70.9	84.1	39.0	29.3	174	33.0	19.5	54.9
1942	13.8	19.9	33.8	46.0	98.0	149	50.3	146	182	62.7	95.0	154	85.6
1943	61.8	50.4	129	138	137	110	125	108	65.9	105	37.5	24.1	90.7
1944	16.6	24.6	23.5	51.1	159	151	114	73.9	35.4	26.5	20.3	27.0	59.3
1945	67.0	55.5	81.8	111	135	126	132	145	76.1	48.7	30.4	116	93.6
1946	60.6	68.6	106	217	135	140	92.8	97.1	47.0	48.5	26.6	16.4	68.0
1947	33.0	34.4	33.3	153	67.3	108	108	45.1	55.4	45.4	102	61.2	70.7
1948	125	237	59.3	51.2	165	129	115	41.8	36.3	38.5	45.1	42.2	89.8
1949	23.5	106	120	111	108	115	146	102	99.2	155	188	67.9	112
1950	53.8	104	86.4	139	139	109	68.7	82.6	62.5	57.1	46.9	145	87.2

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1935	1.12	2.28	2.62	4.77	2.22	6.51	3.83	2.16	1.27	2.12	1.49	2.26	32.65
1936	.96	2.15	1.59	6.74	3.99	6.09	5.53	1.66	.81	.69	.99	1.15	32.55
1937	2.80	1.27	2.19	6.36	2.95	2.34	1.99	2.16	1.17	.74	.78	1.30	26.04
1938	2.77	2.28	2.18	2.57	3.23	4.15	2.02	1.76	1.63	3.60	1.73	.82	28.74
1939	.50	2.33	1.60	2.74	5.10	2.96	1.75	1.48	1.51	1.29	1.37	.58	23.21
1940	.47	.39	.42	.58	1.86	2.73	4.44	2.08	2.24	1.98	12.11	2.54	31.84
1941	.97	.94	1.28	1.54	.80	1.95	2.23	1.07	.78	4.76	.91	.52	17.75
1942	.38	.53	.93	1.26	2.43	4.08	1.34	4.00	4.30	1.72	2.61	4.08	27.66
1943	1.70	1.34	3.55	3.79	3.39	3.03	3.31	2.90	1.75	2.88	1.03	.64	29.31
1944	.46	.65	.65	1.40	3.94	4.14	3.02	2.03	.94	.73	.56	.72	19.24
1945	1.84	1.47	2.24	3.06	3.35	3.46	3.51	3.98	2.02	1.54	.83	3.13	30.23
1946	1.66	1.82	2.91	5.97	3.35	3.85	2.47	2.66	1.25	1.33	.73	.43	28.43
1947	.90	.91	.91	4.20	1.67	2.98	2.87	1.24	1.47	1.25	2.81	1.63	22.84
1948	3.43	6.28	1.63	1.41	4.24	3.55	3.05	1.15	.96	1.06	1.24	1.12	29.12
1949	.64	2.83	3.29	3.05	2.68	3.15	3.88	2.81	2.64	4.24	5.17	1.80	36.18
1950	1.48	2.77	2.37	2.67	3.44	3.00	1.83	2.27	1.66	1.57	1.29	3.85	28.20

1/ Published as Elk Creek near Elk Park prior to 1950.

Yearly discharge, in cubic feet per second, of Elk River near Elk Park, N. C.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1935	783	3,640	Jan. 9, 1935	26	101	2.40	32.65	96.9	31.33
1936	803	1,650	Apr. 6, 1936	15	100	2.38	32.55	105	34.11
1937	823	1,530	Oct. 16, 1936	14	80.6	1.92	26.04	83.6	27.02
1938	853	1,080	July 23, 1938	21	88.9	2.12	28.74	80.2	25.93
1939	873	2,370	Nov. 5, 1938	13	71.9	1.71	23.21	62.1	20.06
1940	893	27,500	Aug. 13, 1940	12	98.3	2.34	31.84	104	33.75
1941	923	1,020	July 12, 1941	13	54.9	1.31	17.75	50.8	16.40
1942	953	3,140	Sept. 6, 1942	11	85.6	2.04	27.66	100	32.41
1943	973	1,880	Dec. 29, 1942	15	90.7	2.16	29.31	75.7	24.48
1944	1003	1,140	Feb. 18, 1944	11	59.3	1.41	19.24	71.1	23.03
1945	1033	2,880	Sept. 17, 1945	18	93.6	2.23	30.23	96.1	31.07
1946	1053	2,060	Jan. 7, 1946	13	88.0	2.10	28.43	76.7	24.76
1947	1083	1,220	Jan. 20, 1947	13	70.7	1.68	22.84	97.3	31.46
1948	1113	3,630	Nov. 2, 1947	18	89.8	2.14	29.12	75.7	24.54
1949	1143	4,690	Aug. 28, 1949	16	112	2.67	36.18	112	36.04
1950	1173	2,200	Sept. 9, 1950	28	87.2	2.08	28.20	-	-

132. Roan Creek near Neva, Tenn.

Location.--Lat 36°22'27" (corrected), long. 81°53'14", 1.1 miles downstream from Avery Branch, 1.7 miles southwest of Neva, Johnson County, and 2.2 miles upstream from Hopper Creek.

Drainage area.--102 sq mi (revised).

Gage.--Water-stage recorder. Datum of gage is 2,103.11 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years (1942-50), 111 cfs.

Extremes.--1942-50: Maximum discharge, 3,230 cfs (revised) Jan. 20, 1947 (gage height, 5.62 ft), from rating curve extended above 1,810 cfs; minimum, 9.1 cfs Dec. 24, 1943, result of low temperature; minimum gage height, 1.05 ft Dec. 3, 1946.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	-	-	-	-	-	-	-	-	*122	84.5	*141	76.3	-
1943	49.3	52.0	*237	199	*226	196	128	95.4	44.0	40.6	21.2	28.1	*109
1944	15.3	25.1	46.6	83.5	*331	*279	149	76.8	50.9	24.8	27.3	40.2	*94.9
1945	*103	94.6	171	*199	*257	173	129	*221	106	50.6	34.7	49.4	*132
1946	56.1	45.7	113	*265	*264	144	136	210	58.3	75.1	33.6	25.8	*117
1947	27.0	28.9	43.0	*331	82.8	172	145	57.1	52.6	57.1	69.8	33.6	*92.0
1948	55.1	145.8	44.5	63.3	258	172	190	48.2	36.0	50.8	136	25.4	99.5
1949	19.6	44.8	159	147	157	163	181	154	47.3	129	148	61.6	118
1950	47.8	130	101	193	296	178	90.1	161	124	69.2	36.9	42.2	123

* Revised.

* Not previously published; partly estimated on the basis of records for station at Butler.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	-	-	-	-	-	-	-	-	*1.34	0.96	*1.60	0.83	-
1943	0.56	0.57	*2.68	2.25	*2.31	2.21	1.40	1.08	.48	.46	.24	.31	*14.55
1944	.17	.27	.53	.94	*3.50	*3.16	1.62	1.87	.56	.28	.31	.44	*12.65
1945	*1.17	1.03	1.93	*2.25	*2.68	1.95	1.42	*2.50	1.16	.57	.39	.54	*17.59
1946	.41	.50	1.28	*2.99	*2.69	1.63	1.49	2.38	.64	.85	.38	.28	*15.52
1947	.30	.32	.49	*3.74	.84	1.94	1.58	.64	.57	.65	.79	.37	*12.23
1948	.40	1.58	.50	.72	2.73	1.94	2.08	.55	.39	.57	1.54	.28	13.28
1949	.22	.49	1.79	1.67	1.61	1.84	1.98	1.74	.52	1.46	1.67	.67	15.66
1950	.54	1.42	1.14	2.18	3.02	2.01	.99	2.05	1.36	.78	.42	.46	16.37

* Revised.

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1942	973,1336	-	-	-	-	-	-	-	-
1943	973,1336	*2,690	Dec. 30, 1942	11	*109	*1.07	*14.55	*88.0	*11.71
1944	1003,1336	*2,720	Feb. 18, 1944	10	*94.9	*.930	*12.65	*119	*15.81
1945	1033,1336	*1,850	May 18, 1945	18	*132	*1.29	*17.59	*118	*15.65
1946	1053,1336	*2,990	Jan. 8, 1946	18	*117	*1.15	*15.52	*108	*14.44
1947	1083,1336	*3,230	Jan. 20, 1947	18	*92.0	*.902	*12.23	*102	13.60
1948	1113	*2,020	Apr. 8, 1948	14	99.5	.975	13.28	99.7	13.30
1949	1143	1,230	Mar. 18, 1949	16	118	1.16	15.66	122	16.26
1950	1173	1,460	Nov. 1, 1949	25	123	1.21	16.37	-	-

* Revised.

133. Roan Creek at Butler, Tenn.

Location.--Lat 36°20'22", long. 81°59'36", half a mile northeast of Butler, Johnson County, and 0.7 mile upstream from mouth.

Drainage area.--166 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,826.78 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. August 1900 to November 1901, staff gages at sites half a mile downstream at different datums.

Average discharge.--15 years (1933-48), 163 cfs.

Extremes.--1933-48: Maximum discharge, 4,940 cfs Mar. 26, 1935 (gage height, 7.68 ft), from rating curve extended above 2,500 cfs, but a greater discharge may have occurred during floods of March and April 1934; maximum gage height, 10.09 ft Aug. 13, 1940, caused by backwater from Watauga River; minimum discharge, 17 cfs Jan. 6, 1942 (gage height, 0.02 ft), but may have been less during period of ice effect.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	\$36.2	\$38.5	\$43.0	\$50.8	\$78.2	\$352	\$283	\$79.9	\$66.8	\$144	\$273	\$70.4	\$127
1935	85.5	11.7	160	366	227	669	412	252	245	*228	116	122	*251
1936	65.1	137	81.7	494	416	617	433	130	72.9	67.7	59.4	82.1	221
1937	90.2	70.2	96.5	528	347	201	121	140	79.9	61.8	98.4	113	161
1938	279	121	161	272	286	326	180	243	164	210	197	75.7	210
1939	54.1	93.9	96.7	178	441	234	155	87.9	68.9	157	74.5	39.4	138
1940	40.2	37.5	41.5	37.2	107	133	159	116	126	172	410	76.1	122
1941	48.0	49.0	53.2	67.2	55.9	137	104	48.2	53.8	168	49.7	33.6	72.6
1942	27.1	32.6	34.5	41.5	82.0	164	50.8	211	161	117	213	112	105
1943	77.1	77.6	331	303	371	308	207	166	77.2	77.0	51.0	57.3	174
1944	42.6	49.1	80.5	131	509	487	270	130	83.0	55.1	56.1	72.0	162
1945	143	142	261	322	423	282	209	324	180	89.4	68.3	82.0	209
1946	63.6	70.8	168	395	402	237	233	339	113	134	63.2	51.7	188
1947	50.6	56.3	76.1	509	137	264	238	102	93.2	95.8	114	60.6	150
1948	53.5	195	81.8	100	412	258	297	90.6	65.3	86.1	212	50.9	157

* Revised.

† Corrected.

* Not previously published; estimated on the basis of records for Doe River at Elizabethton.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	\$0.25	\$0.26	\$0.30	\$0.35	\$0.49	\$2.44	\$1.90	\$0.55	0.45	1.00	*1.90	0.47	\$10.36
1935	.59	.78	1.11	2.54	1.43	4.65	2.77	1.75	1.65	*1.58	.80	.82	*20.47
1936	.45	.92	.57	3.43	2.70	4.28	2.91	.90	.49	.47	.41	.55	18.08
1937	.63	.47	.67	3.67	2.18	1.40	.81	.97	.54	.43	.68	.76	13.21
1938	1.94	.81	1.12	1.69	1.80	2.27	1.21	1.69	1.10	1.46	1.37	.51	17.17
1939	.38	.63	.67	1.23	2.77	1.63	1.04	.61	.46	1.08	.52	.26	11.29
1940	.28	.25	.29	.26	.70	.92	1.07	.80	.85	1.19	2.85	.51	9.97
1941	.33	.33	.37	.47	.35	.95	.70	.33	.36	1.17	.35	.23	5.94
1942	.19	.22	.24	.29	.51	1.14	.41	1.49	1.08	.81	1.48	.76	8.62
1943	.54	.52	2.30	2.11	2.33	2.14	1.39	1.16	.52	.53	.35	.38	14.27
1944	.30	.33	.56	.91	3.31	3.39	1.81	.90	.56	.38	.39	.48	13.32
1945	.99	.96	1.82	2.24	2.65	1.96	1.41	2.25	1.21	.62	.47	.55	17.13
1946	.44	.48	1.17	2.74	2.52	1.64	1.56	2.36	.76	.93	.44	.35	15.39
1947	.35	.38	.53	3.54	.86	1.83	1.60	.71	.63	.67	.79	.41	12.30
1948	.37	1.31	.57	.69	2.67	1.79	2.00	.63	.44	.60	1.47	.34	12.88

* Revised.

* Not previously published; see footnote to preceding table.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1900	(a)	-	-	-	-	-	-	-	-
1901	(a)	-	May 20, 1901	-	-	-	-	-	-
1934	758,1436	-	-	-	\$127	\$765	\$10.36	\$147	\$12.03
1935	783,1436	4,940	Mar. 26, 1935	55	*251	*1.51	*20.47	*244	*19.93
1936	803	2,640	Mar. 24, 1936	42	221	1.33	18.08	219	17.91
1937	823	1,780	Jan. 3, 19, 1937†	43	161	.970	13.21	187	15.31
1938	853	2,500	Oct. 28, 1937	48	210	1.27	17.17	183	14.98
1939	873	1,540	Feb. 15, 1939	34	138	.831	11.29	128	10.43
1940	893	3,920	Aug. 14, 1940	27	122	.735	9.97	124	10.18
1941	923	580	July 16, 1941	25	72.6	.437	5.94	67.9	5.56
1942	953	1,680	Aug. 9, 1942	23	105	.633	8.62	139	11.33
1943	973	2,760	Dec. 30, 1942	39	174	1.05	14.27	148	12.10
1944	1003	2,840	Feb. 18, 1944	39	162	.976	13.32	194	15.90
1945	1033	2,420	Feb. 17, 1945	47	209	1.26	17.13	189	15.45
1946	1053	3,290	Feb. 10, 1946	42	188	1.13	15.39	178	14.56
1947	1083	3,840	Jan. 20, 1947	38	150	.904	12.30	162	13.29
1948	1113	2,300	Apr. 8, 1948	40	157	.946	12.88	-	-

* Revised.

† Corrected.

* Not previously published.

a Tennessee Division of Geology, Bull. 34.

134. Watauga River at Butler, Tenn.

Location.--Lat 36°19'59", long. 82°00'16", at Butler, Johnson County, 1,000 ft downstream from highway bridge and 1,100 ft downstream from Roan Creek.

Drainage area.--427 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,809.38 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Aug. 14, 1900, to Dec. 28, 1901, staff gage 800 ft upstream at unknown datum. Nov. 6, 1920, to Aug. 12, 1927, chain gage and Aug. 13, 1927, to Sept. 30, 1931, staff gage 1,000 ft upstream at datum 2.88 ft higher.

Average discharge.--29 years (1900-1901, 1920-48), 691 cfs.

Extremes.--1900-1901, 1920-48: Maximum discharge, 71,500 cfs Aug. 13, 1940 (gage height, 25.4 ft, from floodmark), from rating curve extended above 14,000 cfs on basis of contracted opening determination of peak flow; minimum, 76 cfs Feb. 10, 1934 (gage height, 0.21 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1900	-	-	-	-	-	-	-	-	-	-	-	*471	-
1901	*1,830	*963	*653	*964	512	*1,130	*2,880	*3,060	*2,690	*867	*3,130	*1,300	*1,670
1902	1,180	1,030	-	-	-	-	-	-	-	-	-	-	-
1921	*250	419	1,070	857	1,430	552	725	930	381	600	763	346	*690
1922	353	645	594	1,060	1,220	1,690	1,140	1,230	516	579	272	196	*789
1923	247	192	703	1,040	1,560	1,480	598	998	792	762	677	377	781
1924	262	279	522	1,480	793	1,360	1,200	1,040	780	587	494	706	793
1925	505	348	550	744	612	432	497	590	476	258	138	132	440
1926	233	326	269	764	1,080	814	806	330	262	182	465	275	479
1927	282	751	1,190	704	1,890	1,080	1,250	824	992	565	401	243	839
1928	279	717	11,320	639	635	792	1,300	1,280	867	399	1,020	1,420	888
1929	758	430	366	675	828	1,960	621	1,290	980	849	358	366	792
1930	943	854	619	562	649	960	623	423	255	190	293	229	550
1931	173	317	449	573	374	478	1,340	680	506	415	*634	298	*519
1932	157	150	474	977	1,600	988	775	1,040	391	257	221	162	597
1933	603	576	1,310	1,120	1,770	728	1,130	1,120	384	517	588	232	932
1934	179	185	189	231	298	1,472	1,137	333	387	539	651	299	*893
1935	368	691	730	1,416	756	2,089	1,262	752	577	966	449	*643	*494
1936	275	642	396	1,684	1,273	1,901	1,497	484	261	238	244	342	768
1937	622	330	482	1,754	1,055	670	516	497	291	226	324	402	596
1938	1,010	523	554	764	931	1,090	542	627	524	883	585	249	691
1939	187	607	416	763	1,623	862	554	363	362	605	491	197	579
1940	184	159	179	192	554	641	964	490	534	627	2,585	524	638
1941	239	258	380	377	253	556	546	245	213	1,063	224	147	377
1942	128	163	267	263	495	903	293	995	935	484	707	779	534
1943	355	317	1,073	1,072	1,143	967	854	666	400	579	256	214	656
1944	162	224	257	466	1,469	1,359	867	506	284	208	182	245	515
1945	518	478	772	971	1,211	977	905	1,180	604	421	276	766	754
1946	383	429	783	1,520	1,265	996	770	1,008	390	496	240	183	704
1947	245	241	258	1,340	476	904	794	370	418	376	593	369	533
1948	653	1,180	383	362	1,385	906	1,084	347	326	419	635	387	668

* Revised.

† Corrected.

* Not previously published; records 1900-1901 revised and completed on basis of revised stage-discharge relation, and records for October 1921 estimated on the basis of records for South Fork Holston River at Bluff City.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1900	-	-	-	-	-	-	-	-	-	-	-	*1.23	-
1901	*4.94	*2.52	*1.76	*2.60	1.25	*3.05	*7.53	*8.26	*7.02	*2.34	*8.45	*3.40	*53.12
1902	3.18	2.69	-	-	-	-	-	-	-	-	-	-	-
1921	*.67	1.09	2.89	2.32	3.49	1.49	1.90	2.51	1.00	1.63	2.06	.90	*21.95
1922	.95	1.68	1.60	2.86	2.98	4.56	2.98	3.32	1.35	1.57	.73	.51	25.09
1923	.67	.50	1.89	2.81	3.80	4.00	1.56	2.70	2.06	2.05	1.80	.99	24.83
1924	.71	.73	1.41	4.00	2.00	3.67	3.14	2.81	2.04	1.58	1.34	1.84	25.27
1925	1.36	.91	1.49	2.01	1.49	1.16	1.29	1.59	1.24	.70	.37	.34	13.95
1926	.63	.85	.73	2.06	2.64	2.20	2.11	.89	.68	.49	1.26	.72	15.26
1927	.76	1.96	3.22	1.90	4.61	2.92	3.27	2.22	2.59	1.52	1.08	.63	26.68
1928	.75	1.87	3.56	1.73	1.61	2.13	3.39	3.46	2.26	1.08	2.76	3.72	28.32
1929	2.05	1.13	.99	1.82	2.02	5.29	1.62	3.48	2.56	2.29	.97	.96	25.18
1930	2.55	2.23	1.67	1.52	1.58	2.59	1.63	1.14	.67	.51	.79	.60	17.48
1931	.47	.83	1.21	1.54	.91	1.29	3.50	1.83	1.33	1.12	*1.71	.78	*16.52
1932	.42	.39	1.28	2.64	4.04	2.66	2.02	2.81	1.02	.69	.60	.42	18.99
1933	1.63	1.51	3.70	4.32	1.96	2.96	3.02	1.00	1.40	1.05	.61	.26	26.18
1934	.46	.48	.51	.62	.73	3.98	2.97	.90	1.01	1.45	1.75	.78	15.66
1935	.99	1.81	1.97	3.85	1.84	5.64	3.30	2.03	1.51	2.61	1.21	*1.68	*28.42
1936	.74	1.68	1.07	4.55	3.22	5.13	3.91	1.31	.68	.64	.66	.89	24.48
1937	1.68	.86	1.30	4.74	2.57	1.81	1.35	1.34	.76	.61	.88	1.05	18.95
1938	2.73	1.37	1.50	2.06	2.27	2.94	1.42	1.69	1.37	2.36	1.58	.65	21.96
1939	.50	1.59	1.12	2.06	3.96	2.33	1.45	.98	.95	1.63	1.33	.52	18.42
1940	.50	.42	.48	.52	1.40	1.75	2.52	1.32	1.40	1.69	6.98	1.37	20.33

* Revised.

* Not previously published; see footnote to preceding table.

Monthly and yearly runoff, in inches, of Watauga River at Butler, Tenn.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1941	0.65	0.67	1.03	1.02	0.62	1.50	1.43	0.66	0.56	2.87	0.60	0.38	11.99
1942	.35	.42	.72	.71	1.21	2.44	.77	2.89	2.44	1.31	1.91	2.03	17.00
1943	.96	.83	2.90	2.90	2.79	2.61	2.23	1.80	1.05	1.56	.69	.56	20.88
1944	.44	.59	.69	1.28	3.71	3.67	2.28	1.37	.74	.56	.49	.64	16.42
1945	1.40	1.25	2.08	2.62	2.95	2.64	2.36	3.18	1.58	1.14	.74	2.00	23.94
1946	1.04	1.12	2.11	4.10	3.08	2.69	2.01	2.72	1.02	1.34	.65	.48	22.38
1947	.66	.63	.70	3.62	1.16	2.44	2.08	1.00	1.09	1.01	1.60	.66	16.95
1948	1.79	3.08	1.03	.98	3.50	2.45	2.83	.94	.85	1.13	1.71	1.01	21.30

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1900	(a), 1436	-	-	-	-	-	-	-	-
1901	(a), 1436	#b31,400	May 21, 1901	120	#1,670	#3.91	#53.12	-	-
1902	(a), 1436	-	-	-	-	-	-	-	-
1921	(a)	*10,500	Feb. 9, 1921*	-	#690	#1.62	#21.95	677	21.53
1922	543	7,560	Jan. 21, 1922	170	#789	1.85	25.09	752	23.92
1923	563	*11,100	Mar. 16, 1923*	155	781	1.83	24.83	775	24.62
1924	583	*11,300	Jan. 11, 1924	220	793	1.86	25.27	821	26.18
1925	603	*8,700	Apr. 28, 1925*	85	440	1.03	13.95	391	12.40
1926	623	*12,500	Jan. 18, 1926	112	479	1.12	15.26	596	18.99
1927	643	*15,500	Feb. 22, 1927*	150	839	1.96	26.68	847	26.92
1928	663	*18,600	Nov. 17, 1927	140	888	2.08	28.32	824	26.31
1929	683	*11,400	Mar. 5, 1929	164	792	1.85	25.18	864	27.46
1930	698	*9,350	Oct. 2, 1929	136	550	1.29	17.48	426	13.54
1931	713, 1436	*6,150	Apr. 22, 1931	148	*519	*1.22	*16.52	*506	*16.10
1932	728	13,800	Feb. 3, 1932	112	597	1.40	18.99	745	23.74
1933	743	8,560	July 3, 1933	130	823	1.93	26.18	655	20.81
1934	758	7,960	Apr. 9, 1934	104	493	1.15	15.66	597	18.96
1935	763, 1436	16,500	Jan. 9, 1935	225	*694	*2.09	*26.42	*653	*27.14
1936	803	11,100	Nov. 13, 1935	163	768	1.80	24.48	779	24.83
1937	823	7,540	Oct. 16, 1936	168	596	1.40	18.95	651	20.71
1938	853	8,320	July 23, 1938	188	691	1.62	21.96	616	19.57
1939	873	8,320	Nov. 5, 1938	157	579	1.36	18.42	522	16.61
1940	893	71,500	Aug. 13, 1940	125	638	1.49	20.33	667	21.28
1941	923	4,500	July 5, 1941	122	377	.883	11.99	350	11.13
1942	953	9,210	Sept. 6, 1942	117	534	1.25	17.00	635	20.20
1943	973	12,000	Dec. 30, 1942	140	656	1.54	20.88	563	17.91
1944	1003	9,630	Feb. 16, 1944	124	515	1.21	16.42	610	19.43
1945	1033	11,600	Sept. 18, 1945	187	754	1.77	23.94	739	23.46
1946	1053	11,800	Jan. 8, 1946	152	704	1.65	22.36	632	20.08
1947	1083	10,200	Jan. 20, 1947	147	533	1.25	16.95	657	20.66
1948	1113	9,780	Nov. 3, 1947	191	668	1.56	21.30	-	-

* Revised.

† Corrected.

‡ Not previously published.

a Tennessee Division of Geology, Bull. 34.

b Maximum daily discharge.

135. Watauga Lake near Elizabethton, Tenn.

Location.--Lat 36°19'20", long. 82°07'16", at Watauga Dam on Watauga River, 5 miles east of Elizabethton, Carter County, and at mile 36.7.

Drainage area.--468 sq mi.

Gage.--Water-stage recorder. Datum of gage is mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1948-50: Maximum contents, 285,900 cfs--days June 24, 1950 (elevation 1,958.58 ft); minimum (after first filling), 205,000 cfs--days Dec. 22, 1949 (elevation, 1,931.01 ft).

Remarks.--Reservoir is formed by rock and rolled earth-fill dam. Spillway is uncontrolled morning-glory type, 128 ft in diameter with 6 piers 3 ft wide to guide flow spilling into a concrete-lined shaft and tunnel 34 ft in diameter. Closure of dam was Dec. 1, 1948; water in reservoir first reached minimum pool elevation Dec. 31, 1948. Total capacity at elevation 1,975.00 ft (spillway crest) is 342,200 cfs--days, of which 316,200 cfs--days is controlled storage above elevation 1,815.00 ft (minimum pool). Reservoir is used for navigation, flood control, and power.

Cooperation.--Records furnished by Tennessee Valley Authority.

Contents, in thousands of cfa-days, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1949	-	80	26.8	53.8	80.4	111.1	147.0	173.6	189.6	218.7	250.7	230.9
1950	213.7	211.1	209.1	223.0	242.1	256.1	260.3	281.1	283.0	276.6	265.4	264.5

a Contents at 11 a.m. Dec. 1, at time of closure.

136. Watauga River below Wilbur Dam, Tenn. 1/

Location.--Lat 36°20'39", long. 82°07'46", 1,800 ft downstream from Wilbur Dam, 0.7 mile downstream from Big Laurel Branch, 2.7 miles downstream from Watauga Dam, 5 miles east of Elizabethton, Carter County, and 33.6 miles above mouth.

Drainage area.--471 sq mi. At site used prior to Jan. 1, 1909, 474 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,550.00 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. May 11, 1903, to Dec. 31, 1908, chain gage at railroad bridge 2 miles downstream at different datum.

Average discharge.--8 yrs (1902-8, 1948-50), 744 cfs (unadjusted).

Extremes.--1902-8, 1948-50: Maximum discharge observed (revised), 21,500 cfs Jan. 22, 1906 (gage height, 13.6 ft, site and datum then in use); minimum daily, 2.4 cfs Aug. 14, 1949.

Remarks.--Low flow regulated by Wilbur Dam, and since Dec. 1, 1948, flow completely regulated by Watauga Lake (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1903	*380	*440	*670	*750	*1,680	*1,600	*1,800	*745	587	500	354	244	*806
1904	204	248	266	310	479	1,310	572	953	603	429	514	254	513
1905	162	260	357	712	1,140	827	765	1,560	494	1,550	1,600	438	822
1906	326	258	832	1,700	804	1,030	1,070	786	630	731	1,540	1,810	978
1907	1,610	1,080	829	716	555	1,000	864	530	1,670	706	494	1,030	925
1908	457	609	1,210	1,680	1,430	1,580	1,460	965	774	1,050	652	362	1,020
1909	773	623	1,270	-	-	-	-	-	-	-	-	-	-
1948	-	-	-	-	1,523	972	1,168	377	344	423	633	381	-
1949	238	687	36.9	8.93	11.4	10.7	13.0	7.9	4.58	20.6	45.4	1,125	183
1950	*1,050	945	742	635	894	663	429	292	631	695	724	748	*702

* Revised.

† Not previously published; estimated on the basis of records for South Fork Holston River at Bluff City.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1903	*0.92	*1.04	*1.63	*1.82	*3.69	*3.89	*4.24	*1.81	1.38	1.22	0.86	0.57	*23.07
1904	.50	.58	.65	.75	1.09	3.19	1.35	2.32	1.42	1.04	1.25	.80	14.74
1905	.39	.61	.87	1.73	2.50	2.01	1.80	3.79	1.16	3.76	3.88	1.03	23.53
1906	.79	.61	2.02	4.13	1.77	2.51	2.52	1.91	1.95	1.78	3.76	4.26	28.01
1907	3.95	2.54	2.02	1.74	1.22	2.44	2.03	1.29	5.93	1.72	1.20	2.45	26.49
1908	1.11	1.43	2.94	4.09	3.25	3.84	3.44	2.35	1.82	2.56	1.59	.85	29.27
1909	1.88	1.47	3.09	-	-	-	-	-	-	-	-	-	-
1948	-	-	-	-	3.49	2.38	2.77	.92	.82	1.03	1.55	.90	-
1949	.58	1.63	-	-	-	-	-	-	-	-	-	-	-

† Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30										Calendar year	
		Observed					Adjusted					Observed	Adjusted
		Momentary maximum		Minimum day	Mean	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Mean	Mean
		Discharge	Date										
1903	(a)	-	-	-	-	*806	-	*1.70	*23.07	*741	-	*21.21	-
1904	(a)	5,040	Mar. 24, 1904	148	513	-	-	1.08	14.74	518	-	14.88	-
1905	(a)	*11,200	July 12, 1905	148	822	-	-	1.73	23.53	876	-	25.08	-
1906	(a)	*21,500	Jan. 22, 1906	240	978	-	-	2.06	28.01	1,150	-	33.08	-
1907	(a)	*9,340	Sept. 23, 1907	290	825	-	-	1.95	26.49	820	-	23.48	-
1908	(a)	*9,720	Jan. 12, 1908	195	1,020	-	-	2.15	29.27	1,050	-	30.23	-
1909	(a)	-	-	-	-	-	-	-	-	-	-	-	-
1948	1113	-	-	-	-	-	-	-	-	-	-	-	-
1949	1143	4,920	Nov. 28, 1948	2.4	183	815	1.73	23.49	339	833	24.01	-	-
1950	1173, 1388	*3,570	June 9, 1950*	41	*702	*795	*1.69	*22.90	-	-	-	-	-

* Revised.

† Not previously published.

a Tennessee Division of Geology, Bull. 34.

Note.--Part of monthly table adjusted for change in contents in Watauga Lake since 1948; only minor regulation prior to that date.

1/ Published as "near Elizabethton", 1903-8.

137. Doe River at Blevins, Tenn.

Location.--Lat 36°14'07", long 82°09'17" at Eastern Tennessee & Western North Carolina Railroad Bridge, 0.2 mile north (corrected) of Blevins, Carter County, and 4½ miles above mouth of Little Doe River.

Drainage area.--60.8 sq mi (revised).

Gage.--Chain gage. Datum of gage is 2,267.72 ft above mean sea level.

Extremes.--1911-15: Maximum discharge, 1,540 cfs Mar. 27, 1913 (gage height, 4.76 ft, corrected) from rating curve extended above 204 cfs; minimum, 16 cfs Dec. 16, 1912, corrected (gage height, 1.61 ft). Flood in May 1901 reached a stage of about 23 ft, considerable backwater from debris, from information by local residents.

Discharge for the flood in February 1902 is believed to have been greater than that for flood of May 1901.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1912	\$67.0	\$76.0	\$87.6	97.4	151	209	170	122	70.2	124	49.1	41.7	\$104
1913	28.0	49.9	54.3	111	109	309	162	167	102	48.6	64.5	47.5	104
1914	51.6	74.1	72.8	107	148	154	176	89.1	46.1	43.6	59.1	42.2	88.2
1915	56.1	67.7	226	199	162	107	128	125	83.5	\$85.6	\$74.0	\$87.0	\$117*

* Not previously published; estimated on the basis of records for South Fork Holston River at Bluff City or Doe River at Valley Forge.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1912	\$1.27	\$1.39	\$1.66	1.85	2.32	3.97	3.12	2.51	1.29	2.35	0.93	0.77	\$23.23
1913	.53	.92	1.03	2.10	1.87	5.66	2.93	3.16	1.87	.92	1.22	.87	23.33
1914	.98	1.36	1.38	2.03	2.54	2.92	3.23	1.69	.85	.83	1.12	.77	19.70
1915	1.06	1.24	4.29	3.77	2.78	2.03	2.34	2.37	1.53	\$1.62	\$1.40	\$1.60	\$26.03

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1912	403	\$1,450	Mar. 15, 1912	-	\$104	\$1.71	\$23.23	\$95.5	\$21.39		
1913	403	1,540	Mar. 27, 1913	16	104	1.71	23.33	110	24.57		
1914	403	\$570	Jan. 31, 1914	20	88.2	1.45	19.70	101	22.57		
1915	403	\$970	Dec. 25, 1914*	-	\$117	\$1.92	\$26.03	-	-		

* Revised.

* Not previously published.

138. Doe River at Elizabethton, Tenn.1/

Location.--Lat 36°20'40", long. 82°12'37", 1,500 ft upstream from bridge on State Highway 91 at Elizabethton, Carter County, and 1 mile upstream from mouth.

Drainage area.--137 sq mi. At site used 1911-16, 1920-31, 131 sq mi (revised).

Supplemental records available.--June 1907 to June 1908 and September to December 1912, gage heights only at site a quarter of a mile upstream.

Gage.--Water-stage recorder. Datum of gage is 1,524.73 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. June 1907 to June 1908 and September to December 1912, staff gage a quarter of a mile upstream at different datum. Dec. 11, 1911, to Sept. 30, 1916, and Nov. 5, 1920, to Sept. 30, 1931, chain gage 3 miles upstream at altitude 1,610 ft (from topographic map). June 19 to Sept. 20, 1932, staff gage at described site at datum 0.50 ft higher. Sept. 20, 1932, to Jan. 31, 1934, staff gage at described site and datum.

Average discharge.--35 years (1911-16, 1920-50), 219 cfs.

Extremes.--Maximum discharge, 7,300 cfs July 30, 1940 (gage height, 6.75 ft), from rating curve extended above 4,000 cfs; minimum, 17 cfs Aug. 31, Sept. 7, 1925 (gage height, 0.60 ft, site and datum then in use).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1912	\$113	\$127	\$147	138	214	449	365	286	186	236	111	92.3	\$205
1913	71.0	93.9	91.4	243	201	664	273	343	200	92.4	118	95.8	208
1914	85.1	115	97.1	139	271	325	339	141	67.7	88.1	131	70.7	155
1915	117	81.8	374	336	273	180	202	201	126	141	131	154	193
1916	95.7	138	364	336	284	437	282	131	124	480	277	91.7	254
1921	\$102	\$146	298	301	407	200	256	346	180	304	325	123	\$247
1922	124	202	191	340	382	449	372	321	172	234	129	71.6	248
1923	91.5	71.2	265	383	561	493	207	265	189	287	366	147	276
1924	89.2	90.0	163	363	263	402	294	314	284	178	155	179	231
1925	149	122	208	267	226	164	205	268	130	79.6	41.4	40.2	158

* Not previously published; estimated on the basis of records for Watauga River at Butler, or South Fork Holston River near Bluff City.

1/ Published as "at Valley Forge" 1911-16, 1920-31.

Monthly and yearly mean discharge, in cubic feet per second, of Doe River at Elizabethton, Tenn.--Con.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1926	93.2	132	89.5	216	299	303	244	141	105	70.1	146	93.2	160
1927	86.5	223	398	251	596	397	397	356	447	156	148	80.4	292
1928	74.0	158	401	238	206	290	391	476	355	195	317	590	291
1929	289	187	135	212	242	593	230	502	260	318	168	118	272
1930	297	256	237	223	239	366	216	154	91.6	68.9	137	66.1	196
1931	52.2	95.7	118	177	142	130	425	271	187	184	238	144	180
1932	\$56.5	\$54.5	\$162	\$333	\$545	\$336	\$265	\$353	\$133	113	77.5	63.9	\$207
1933	\$207	\$195	\$462	\$391	\$745	\$257	278	468	152	126	96.6	71.3	\$285
1934	56.2	59.6	65.0	75.8	112	425	348	114	105	281	136	102	157
1935	122	146	182	364	263	747	504	303	213	302	166	122	287
1936	91.6	187	117	537	437	698	550	202	97.4	96.8	71.8	95.1	284
1937	115	95.6	147	524	372	244	199	199	116	89.3	96.2	100	191
1938	221	138	203	281	407	452	229	209	185	242	*230	101	241
1939	72.8	200	177	235	560	314	253	147	230	193	120	64.2	211
1940	61.0	57.5	73.2	73.1	167	241	305	163	110	371	445	148	185
1941	93.6	111	111	141	102	232	204	98.2	85.8	251	76.0	47.4	130
1942	39.7	51.9	64.6	81.6	146	270	104	234	201	171	228	176	147
1943	110	130	411	340	385	381	267	229	137	183	108	90.0	230
1944	73.0	105	123	175	480	411	312	183	115	64.8	59.1	79.6	180
1945	182	161	247	326	377	385	304	329	181	158	109	132	239
1946	100	145	261	443	411	325	272	306	139	177	99.2	59.5	227
1947	91.3	91.5	98.9	428	174	310	265	158	152	151	217	142	190
1948	110	254	126	126	495	322	326	142	120	128	157	71.3	196
1949	55.2	134	292	247	284	298	343	312	144	377	206	130	235
1950	136	273	223	355	585	394	216	453	324	197	129	162	285

* Revised.

† Not previously published; estimated on the basis of records for Watauga River at Butler, or South Fork Holston River near Bluff City.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1912	\$0.99	\$1.08	\$1.30	1.22	1.76	3.95	3.11	2.52	1.58	2.07	0.98	0.79	\$21.35
1913	.62	.80	.80	2.13	1.60	5.84	2.32	3.02	1.70	.81	1.04	.82	21.50
1914	.75	.98	.85	1.23	2.15	2.86	2.89	1.24	.58	.78	1.16	.60	16.07
1915	1.03	.70	3.29	2.96	2.17	1.59	1.72	1.77	1.07	1.24	1.16	1.31	20.01
1916	.84	1.17	3.20	2.95	2.34	3.84	2.40	1.15	1.06	4.22	2.44	.78	26.39
1921	\$1.90	\$1.24	2.62	2.65	3.23	1.76	2.18	3.05	1.36	2.68	2.86	1.05	\$25.58
1922	1.09	1.72	1.68	2.99	3.04	3.95	3.17	2.83	1.46	2.06	1.12	.61	25.72
1923	.81	.81	2.33	3.37	4.46	4.34	1.76	2.33	1.81	2.52	3.22	1.26	28.62
1924	.79	.77	1.43	3.19	2.16	3.54	2.51	2.77	2.42	1.57	1.37	1.52	24.04
1925	1.31	1.04	1.83	2.35	1.79	1.44	1.74	2.36	1.11	.70	.36	.34	16.37
1926	.82	1.12	.79	1.90	2.37	2.67	2.08	1.24	.89	.62	1.28	.79	16.57
1927	.76	1.90	3.50	2.20	4.74	3.49	3.39	3.13	3.81	1.37	1.30	.69	30.28
1928	.65	1.35	3.53	2.10	1.69	2.55	3.33	4.19	3.02	1.71	2.79	3.32	30.23
1929	2.55	1.59	1.18	1.86	1.92	5.22	1.96	4.41	2.22	2.80	1.48	1.01	28.20
1930	2.61	2.18	2.08	1.96	1.90	3.22	1.84	1.36	.78	.61	1.21	.56	20.31
1931	.46	.81	1.03	1.56	1.13	1.14	3.62	2.38	1.59	1.62	2.10	1.23	18.67
1932	.48	.44	\$1.36	\$2.80	\$4.29	\$2.83	\$2.16	\$2.97	\$1.08	.95	.65	.52	\$20.53
1933	\$1.74	\$1.59	\$3.89	\$3.29	\$5.67	\$2.16	2.26	3.94	1.23	1.06	.81	.58	\$28.22
1934	.47	.49	.55	.64	.85	3.57	2.84	.96	.85	2.37	1.15	.83	15.57
1935	1.03	1.19	1.53	3.06	2.00	6.29	4.11	2.55	1.73	2.54	1.40	.99	28.42
1936	.77	1.52	.99	4.52	3.44	5.87	4.48	1.70	.79	.81	.60	.77	26.26
1937	.97	.78	1.23	4.40	2.83	2.05	1.82	1.67	.95	.75	.81	.81	18.97
1938	1.86	1.12	1.71	2.37	3.09	3.80	1.86	1.76	1.51	2.04	*1.94	.82	*23.88
1939	.61	1.63	1.49	1.98	4.26	2.68	2.06	1.24	1.87	1.62	1.01	.52	20.95
1940	.51	.47	.62	.61	1.32	2.02	2.48	1.37	.90	3.12	3.74	1.21	18.37
1941	.79	.90	.94	1.18	.78	1.96	1.66	.83	.70	2.11	.64	.39	12.88
1942	.33	.42	.54	.69	1.11	2.27	.85	1.97	1.64	1.44	1.92	1.43	14.61
1943	.92	1.05	3.46	2.86	2.92	3.21	2.09	1.93	1.11	1.54	.91	.73	22.73
1944	.61	.85	1.04	1.47	3.78	3.46	2.54	1.54	.94	.55	.50	.65	17.93
1945	1.54	1.31	2.07	2.74	2.87	3.24	2.47	2.77	1.48	1.16	.91	1.07	23.63
1946	.84	1.18	2.20	3.73	3.12	2.74	2.21	2.57	1.13	1.49	.84	.48	22.53
1947	.77	.75	.83	3.60	1.32	2.61	2.16	1.33	1.24	1.27	1.83	1.16	18.87
1948	.92	2.07	1.06	1.06	3.90	2.71	2.65	1.19	.97	1.08	1.32	.58	19.51
1949	.46	1.09	2.46	2.08	2.16	2.51	2.80	2.62	1.18	3.17	1.73	1.05	23.31
1950	1.14	2.22	1.87	2.99	4.44	3.32	1.76	3.81	2.64	1.65	1.08	1.32	28.24

* Revised.

† Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1912	543	\$2,520	Mar. 15, 1912	-	\$205	\$1.56	\$21.35	195	20.20
1913	543	\$4,200	Mar. 14, 1913*	41	208	1.59	21.50	211	21.86
1914	543	\$1,170	Mar. 12, 1914	37	155	1.18	16.07	179	18.51
1915	543	\$1,600	Dec. 25, 1914*	35	193	1.47	20.01	195	20.20
1916	543	\$3,000	July 18, 1916	36	254	1.94	26.39	-	-
1921	523	4,080	July 20, 1921	-	\$247	\$1.89	\$25.58	244	25.30
1922	543	1,780	Jan. 21, 1922	59	248	1.69	25.72	241	24.98
1923	563	2,410	Aug. 13, 1923	55	276	2.11	28.62	269	27.86

* Revised.

† Not previously published.

TENNESSEE RIVER BASIN

Yearly discharge, in cubic feet per second, of Doe River at Elizabethton, Tenn.--Continued

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1924	583	5,040	June 13, 1924	72	231	1.76	24.04	243	25.23
1925	603	1,460	Dec. 8, 1924	17	158	1.21	16.37	144	14.92
1926	623	1,510	Jan. 18, 1926	35	160	1.22	16.57	193	20.00
1927	643	4,680	May 30, 1927	47	292	2.23	30.28	286	29.65
1928	663	1,980	Nov. 17, 1927	40	291	2.22	30.23	289	30.02
1929	683	*2,280	Mar. 5, 1929	71	272	2.08	28.20	287	29.75
1930	698	2,310	Oct. 2, 1929	44	198	1.50	20.31	152	15.74
1931	713	*1,600	Apr. 4, 1931	41	180	1.37	18.67	-	-
1932	728	-	-	-	*207	*1.51	*20.53	*256	*25.47
1933	743	*3,000	Feb. 14, 1933	-	*285	*2.08	*28.22	*227	*22.51
1934	758	3,940	July 15, 1934	50	157	1.15	15.57	180	17.81
1935	783	6,520	Mar. 26, 1935	73	287	2.09	28.42	262	27.95
1936	803	4,290	Mar. 24, 1936	49	264	1.93	26.26	261	25.96
1937	823	1,980	Jan. 3, 1937	54	191	1.39	18.87	208	20.58
1938	853,1336	2,200	July 23, 1938	54	241	1.76	*23.88	231	*22.92
1939	873	2,720	Nov. 5, 1939	50	211	1.54	20.95	190	18.82
1940	893	7,300	July 30, 1940	44	185	1.35	18.37	195	19.40
1941	923	1,240	July 16, 1941	36	130	.949	12.88	116	11.54
1942	953	1,840	Mar. 9, 1942	33	147	1.07	14.61	189	18.75
1943	973	6,520	Dec. 30, 1942	58	230	1.68	22.73	200	19.80
1944	1003	3,680	Feb. 18, 1944	36	180	1.31	17.93	205	20.35
1945	1033	2,870	Oct. 20, 1944	57	239	1.74	23.63	232	22.93
1946	1053	4,290	Jan. 8, 1946	52	227	1.66	22.53	208	20.66
1947	1063	3,570	Jan. 20, 1947	52	190	1.39	18.87	207	20.57
1948	1113	1,860	Feb. 12, 1948	56	196	1.43	19.51	196	19.47
1949	1143	1,610	Mar. 18, 1949	47	235	1.72	23.31	248	24.53
1950	1173	4,150	May 12, 1950	89	285	2.08	28.24	-	-

* Revised.

* Not previously published.

139. Watauga River at Elizabethton, Tenn.

Location.--Lat 36°21'21", long. 82°13'26", between bridge on U.S. Highway 19E and Southern Railway bridge at Elizabethton, Carter County, and 0.6 mile downstream from Doe River.

Drainage area.--692 sq mi.

Supplementary records available.--Gage-height records collected in this vicinity Dec. 1, 1909, to July 5, 1949, are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 1,486.23 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Dec. 1, 1909, to Feb. 20, 1926, U. S. Weather Bureau Mott type tape gage, 10 ft upstream on Southern Railway bridge at same datum; Feb. 21 to Oct. 3, 1926, staff gage on Southern Railway bridge pier and abutment at same datum.

Average discharge.--23 years (1925-48), 1,059 cfs.

Extremes.--1925-49: Maximum discharge, 75,100 cfs Aug. 14, 1940 (gage height, 20.87 ft), from rating curve extended above 29,000 cfs on basis of contracted opening determination of peak flow; minimum (revised), 42 cfs Sept. 20, 1932; minimum daily, 103 cfs July 4, 5, 1949; minimum gage height, 1.54 ft Sept. 20, 1932 (corrected). Maximum stage known (revised), 21 ft in May 1901 (discharge, 75,900 cfs), from high water profile by Tennessee Valley Authority.

Remarks.--Flow partly regulated since Dec. 1, 1948, by Watauga Lake (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1926	*375	*536	*439	*1,300	*1,830	1,630	1,410	605	564	368	766	426	*647
1927	467	1,210	1,240	3,170	1,910	2,200	1,430	1,850	838	686	408	1,460	
1928	457	835	2,000	1,170	1,090	1,390	2,250	2,310	1,610	884	1,520	2,180	1,470
1929	1,350	879	645	1,130	1,370	3,050	1,110	2,170	1,640	1,490	662	533	1,340
1930	1,330	1,390	1,130	1,050	1,160	1,690	1,120	768	404	288	*501	372	*933
1931	301	516	694	998	692	729	2,090	1,200	805	738	1,060	538	864
1932	297	271	839	1,490	2,630	1,690	1,390	1,700	686	513	389	292	1,010
1933	914	926	2,190	1,890	2,820	1,180	1,670	1,880	707	720	568	384	1,310
1934	296	305	320	389	555	2,171	1,701	574	586	1,067	969	506	789
1935	646	924	1,118	2,084	1,245	3,476	2,138	1,261	1,025	1,427	719	828	1,412
1936	437	906	595	2,670	2,101	3,275	2,470	809	430	395	377	524	1,246
1937	867	535	755	2,869	1,850	1,186	904	898	512	366	566	615	992
1938	1,463	846	1,023	1,401	1,726	1,952	1,028	1,164	972	1,345	1,037	454	1,201
1939	322	883	745	1,176	2,582	1,444	1,027	628	718	942	696	317	946
1940	297	263	299	322	775	1,069	1,462	796	761	998	3,372	792	936
1941	385	433	546	632	442	993	870	415	354	1,423	357	231	593
1942	188	252	373	391	725	1,349	480	1,484	1,246	788	1,199	1,067	796
1943	551	542	1,925	1,737	1,894	1,697	1,324	1,078	617	902	423	341	1,083
1944	268	374	491	831	2,504	2,238	1,540	872	517	334	309	360	681
1945	850	786	1,321	1,708	2,063	1,683	1,394	1,757	947	673	478	972	1,214
1946	540	622	1,185	2,304	2,055	1,547	1,255	1,538	650	837	422	307	1,102
1947	385	393	464	2,280	825	1,446	1,319	896	676	661	942	606	893
1948	848	1,577	629	660	2,381	1,542	1,773	619	538	603	692	492	1,038
1949	331	882	554	449	491	485	600	454	180	621	-	-	-

* Revised.

* Not previously published; estimated on the basis of record at Butler.

Monthly and yearly runoff, in inches, of Watauga River at Elizabethton, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1926	*0.62	*0.86	*0.73	*2.17	*2.78	2.72	2.27	1.01	0.91	0.61	1.28	0.69	*18.63
1927	.78	1.87	3.68	2.06	4.77	3.18	3.55	2.39	3.14	1.39	1.14	.66	28.61
1928	.76	1.35	3.34	1.94	1.70	2.32	3.63	3.84	2.60	1.47	2.52	3.52	28.99
1929	2.22	1.42	1.07	1.88	2.06	5.07	1.79	3.61	2.65	2.48	1.10	.88	26.23
1930	2.22	2.25	1.88	1.75	1.75	2.81	1.81	1.28	.65	.48	*.83	.60	*18.31
1931	.50	.84	1.16	1.66	1.04	1.22	3.37	2.01	1.30	1.23	1.76	.87	16.96
1932	.49	.44	1.40	2.49	4.10	2.82	2.24	2.84	1.11	.85	.65	.47	19.90
1933	1.52	1.49	3.65	3.15	4.24	1.93	2.70	3.12	1.14	1.20	.95	.62	25.71
1934	.49	.49	.53	.65	.83	3.82	2.74	.96	.94	1.78	1.61	.82	15.46
1935	1.08	1.48	1.86	3.47	1.87	5.79	3.45	2.13	1.65	2.38	1.20	1.33	27.69
1936	.73	1.46	.99	4.45	3.27	5.46	3.98	1.35	.69	.66	.63	.85	24.52
1937	1.44	.86	1.26	4.78	2.78	1.97	1.46	1.50	.83	.64	.94	.99	19.45
1938	2.44	1.36	1.70	2.33	2.60	3.25	1.66	1.94	1.57	2.24	1.73	.73	23.55
1939	.54	1.42	1.24	1.96	3.89	2.41	1.66	1.05	1.16	1.57	1.16	.51	18.57
1940	.49	.42	.50	.54	1.21	1.78	2.36	1.33	1.23	1.66	5.62	1.28	18.42
1941	.64	.70	.91	1.05	.66	1.65	1.40	.69	.57	2.37	.60	.37	11.61
1942	.31	.41	.62	.65	1.09	2.25	.77	2.47	2.01	1.31	2.00	1.72	15.61
1943	.92	.87	3.21	2.89	2.85	2.83	2.14	1.80	.99	1.50	.70	.55	21.25
1944	.45	.60	.82	1.38	3.90	3.73	2.48	1.45	.83	.56	.52	.61	17.33
1945	1.42	1.27	2.20	2.85	3.10	2.80	2.25	2.93	1.53	1.12	.80	1.57	23.84
1946	.90	1.00	1.97	3.84	3.09	2.58	2.02	2.56	1.05	1.39	.70	.49	21.59
1947	.64	.63	.77	3.80	1.24	2.41	2.13	1.16	1.09	1.10	1.57	.98	17.52
1948	1.41	2.54	1.05	1.10	3.71	2.57	2.86	1.03	.87	1.00	1.49	.79	20.42

* Revised.

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year					
		Observed			Adjusted/			Observed			Adjusted/		
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean	Mean
		Discharge	Date										
1926	623	-	-	-	*847	-	*1.22	*18.63	*1,080	-	-	-	*20.75
1927	643	*16,100	Feb. 23, 1927	195	1,460	-	2.11	28.61	1,410	-	-	-	27.73
1928	663	*13,600	Nov. 17, 1927	244	1,470	-	2.12	28.99	1,440	-	-	-	28.25
1929	683	10,600	Mar. 5, 1929	340	1,340	-	1.94	26.23	1,420	-	-	-	27.87
1930	698,1336	9,520	Oct. 22, 1929	175	*933	-	1.35	*18.31	*737	-	-	-	*14.46
1931	713	7,090	Apr. 4, 1931	215	864	-	1.25	16.96	856	-	-	-	16.79
1932	728	20,300	Feb. 3, 1932	192	1,010	-	1.46	19.90	1,230	-	-	-	24.23
1933	743	11,500	Feb. 15, 1933	270	1,310	-	1.89	25.71	1,050	-	-	-	20.56
1934	758	10,900	Apr. 9, 1934	200	789	-	1.14	15.46	937	-	-	-	18.37
1935	783	25,700	Mar. 26, 1935	371	1,412	-	2.04	27.69	1,349	-	-	-	26.45
1936	803	16,900	Mar. 25, 1936	246	1,246	-	1.80	24.52	1,266	-	-	-	24.89
1937	823	9,780	Jan. 3, 1937	222	992	-	1.43	19.45	1,091	-	-	-	21.39
1938	853	11,000	July 24, 1938	282	1,201	-	1.74	23.55	1,083	-	-	-	21.25
1939	873	9,500	Feb. 15, 1939	176	946	-	1.37	18.57	855	-	-	-	16.78
1940	893	75,100	Aug. 14, 1940	184	956	-	1.35	18.42	978	-	-	-	19.26
1941	923	4,540	July 5, 1941	142	593	-	.857	11.61	546	-	-	-	10.70
1942	953	10,200	Mar. 9, 1942	112	796	-	1.15	15.61	983	-	-	-	19.27
1943	973	23,500	Dec. 30, 1942	174	1,083	-	1.57	21.25	924	-	-	-	18.12
1944	1003	17,200	Feb. 18, 1944	172	881	-	1.27	17.33	1,035	-	-	-	20.35
1945	1033	14,100	Sept. 18, 1945	297	1,214	-	1.75	23.84	1,163	-	-	-	22.82
1946	1053	19,400	Jan. 8, 1946	199	1,102	-	1.59	21.59	1,008	-	-	-	19.76
1947	1083	18,500	Jan. 20, 1947	194	893	-	1.29	17.52	1,044	-	-	-	20.48
1948	1113	11,800	Apr. 8, 1948	243	1,038	-	1.50	20.42	-	-	-	-	-
1949	1143	6,020	Nov. 29, 1948	-	-	-	-	-	932	1,011	19.88	-	-

1/ Adjusted for change in contents in Watauga Lake since December 1948; only minor regulation prior to that date.

* Revised.

* Not previously published.

140. Brush Creek at Johnson City, Tenn.

Location.--Lat 36°19'22" long. 82°20'59" on right bank, at Carr Brothers Lumber Co. in Johnson City, Washington County, 200 ft upstream from Millard Street Bridge and half a mile downstream from Crane Creek.

Drainage area.--9.38 sq mi (revised).

Gage.--Staff gage. Altitude of gage is 1,615 ft (from topographic map).

Extremes.--1932-33: Maximum discharge, 540 cfs July 20, 1933 (gage height, 2.70 ft), from rating curve extended above 37 cfs, on basis of slope-area determination at gage height 4.35 ft; minimum, 1.6 cfs several days in October and November 1933 (gage height, 0.18 ft).

Flood of Aug. 9, 1938, reached a stage of 4.35 ft, from floodmarks (discharge, 1,250 cfs, from rating curve extended above 37 cfs on basis of slope-area determination of peak flow).

Monthly and yearly mean discharge, in cubic feet per second, of Brush Creek at Johnson City, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	11.8	13.9	4.42	-
1933	*4.53	*3.45	*18.8	*22.3	*49.3	*17.6	*11.9	*20.8	*8.02	*8.93	*5.09	*3.51	*14.3
1934	1.75	2.42	5.40	-	-	-	-	-	-	-	-	-	-

* Revised.

† Not previously published; records completed on the basis of high-water measurement made August 1938.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	1.45	1.71	0.53	-
1933	*0.56	*0.41	*2.31	*2.74	*5.48	*2.17	*1.41	*2.56	*0.95	*1.10	*.63	*.42	*20.74
1934	.22	.29	.42	-	-	-	-	-	-	-	-	-	-

* Revised.

† Not previously published; records completed on the basis of high-water measurement made August 1938.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1932	1436	-	-	-	-	-	-	-	-	-
1933	1436	*540	July 20, 1933	-	*2.0	*14.3	*1.52	*20.74	*12.7	*18.39
1934	1436	-	-	-	-	-	-	-	-	-

* Revised.

† Not previously published.

141. South Fork Holston River at Kingsport, Tenn.

Location.--Lat 36°30'37", long. 82°32'10", 0.5 mile downstream from Carolina, Clinchfield & Ohio Railway bridge, 1.1 miles (revised) upstream from bridge on State Highway 81, 3 miles southeast of Kingsport post office, Sullivan County, and 5¼ miles upstream from confluence with North Fork Holston River.

Drainage area.--1,931 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,184.31 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Sept. 27, 1928, at site 100 ft downstream at same datum.

Average discharge.--25 years (1925-50), 2,571 cfs.

Extremes.--1925-50: Maximum discharge, 68,800 cfs Aug. 14, 1940 (gage height, 18.80 ft); minimum daily, 400 cfs Jan. 21, 1940; minimum gage height, -0.20 ft Jan. 28, 1940.

Remarks.--Flow partly regulated since Dec. 1, 1948, by Watauga Lake (see elsewhere in this report). Diversion half a mile upstream for municipal supply of Kingsport.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1926	873	1,330	1,010	2,540	4,370	3,310	3,200	1,540	1,360	831	1,360	958	1,870
1927	1,140	2,590	7,640	3,560	9,020	4,850	5,320	3,870	4,910	1,920	1,520	1,040	3,910
1928	972	1,530	4,180	2,590	2,550	3,430	5,110	5,230	3,830	2,170	2,820	4,870	3,270
1929	2,690	1,890	1,450	2,560	3,640	8,550	2,570	5,310	4,060	3,540	1,350	1,010	3,240
1930	2,680	3,830	2,740	2,390	3,110	4,300	1,000	1,770	911	662	1,050	736	2,250
1931	615	903	1,230	1,960	1,660	1,440	5,200	2,750	1,900	2,130	2,390	1,190	1,950
1932	655	605	2,150	3,520	7,670	4,810	4,130	4,240	1,710	1,350	900	630	2,680
1933	1,440	1,610	5,040	5,170	7,980	3,750	3,670	4,050	1,450	1,390	1,160	780	3,090
1934	532	551	835	823	1,042	5,859	4,012	1,333	1,141	1,955	2,702	1,688	1,820
1935	1,422	1,615	2,317	5,112	3,369	8,637	6,449	3,429	2,477	2,473	1,316	1,471	3,344
1936	794	1,788	1,031	6,222	5,726	7,610	†6,410	1,946	1,056	1,093	885	1,162	2,966
1937	1,774	1,054	1,841	7,267	5,505	3,194	2,091	2,141	1,344	915	1,509	1,742	2,518
1938	3,496	1,986	2,447	3,624	3,974	4,886	2,925	3,250	2,725	3,748	2,461	1,143	3,074
1939	802	1,560	1,477	2,455	6,016	3,844	2,575	1,420	1,409	1,842	1,295	634	2,085
1940	570	545	634	644	1,553	2,362	2,887	1,504	1,598	2,322	6,369	1,688	1,894
1941	854	913	1,046	1,356	1,061	2,469	2,073	934	879	3,213	971	647	1,373
1942	483	547	691	613	1,309	2,638	1,023	2,889	2,431	2,276	4,059	2,027	1,772
1943	1,573	1,729	5,235	4,913	5,368	4,764	3,150	2,647	1,564	1,752	925	728	2,857
1944	581	752	1,120	2,021	6,593	6,472	4,233	2,232	1,220	769	707	919	2,264
1945	2,055	1,723	3,290	4,594	5,514	4,310	2,879	4,039	2,549	1,489	1,295	1,594	2,931
1946	988	1,126	2,862	5,916	5,888	3,639	2,882	3,785	1,471	2,093	931	726	2,678
1947	741	780	1,137	6,565	2,200	4,067	3,377	1,744	1,377	1,415	2,182	1,368	2,255
1948	1,330	2,593	1,326	1,404	6,251	4,238	4,159	1,547	1,460	1,862	2,629	1,000	2,465
1949	729	1,592	3,364	3,039	3,140	2,920	3,331	2,541	970	3,464	1,697	2,081	2,404
1950	1,793	2,553	2,381	4,805	7,926	4,222	2,371	4,605	3,263	2,267	†1,995	1,662	3,292

† Corrected.

Monthly and yearly runoff, in inches, of South Fork Holston River at Kingsport, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1926	0.52	0.77	0.60	1.52	2.35	1.97	1.85	0.92	0.79	0.50	0.81	0.55	13.15
1927	.68	1.50	4.56	2.12	4.87	2.89	3.07	2.31	2.84	1.14	.91	.60	27.49
1928	.58	.89	2.50	1.55	1.43	2.05	2.95	3.12	2.21	1.30	1.69	2.81	23.08
1929	1.73	1.09	.87	1.53	1.96	5.10	1.48	3.17	2.35	2.11	.81	.59	22.79
1930	1.60	2.10	1.64	1.43	1.68	2.57	1.79	1.06	.53	.40	.63	.42	15.85
1931	.37	.52	.74	1.17	.90	.86	3.01	1.64	1.10	1.27	1.43	.69	13.70
1932	.39	.35	1.28	2.10	4.28	2.87	2.38	2.53	.99	.79	.54	.36	18.86
1933	.86	.93	3.01	3.09	4.30	2.23	2.12	2.42	.84	.83	.69	.44	21.76
1934	.32	.32	.38	.49	.56	3.50	2.32	.80	.66	1.17	1.61	.67	12.80
1935	.85	.93	1.38	3.05	1.82	5.16	3.73	2.05	1.43	1.48	.79	.85	23.52
1936	.47	1.03	.62	3.71	3.20	4.54	3.70	1.16	.61	.65	.53	.67	20.89
1937	1.06	.61	1.10	4.34	2.97	1.90	1.21	1.28	.78	.55	.90	1.01	17.71
1938	2.09	1.15	1.46	2.28	2.14	2.92	1.69	1.94	1.51	2.24	1.47	.86	21.61
1939	.48	.90	.88	1.47	3.24	2.30	1.49	.85	.81	1.10	.77	.37	14.66
1940	.54	.31	.58	.58	.87	1.41	1.67	.90	.92	1.39	3.80	.98	13.35
1941	.51	.53	.62	.81	.57	1.47	1.20	.56	.51	1.92	.58	.37	9.65
1942	.29	.32	.41	.49	.71	1.58	.59	1.72	1.40	1.36	2.42	1.17	12.46
1943	.94	1.00	3.13	2.93	2.89	2.86	1.82	1.58	.91	1.05	.55	.42	20.08
1944	.35	.43	.67	1.21	3.68	3.86	2.45	1.33	.70	.46	.42	.53	16.09
1945	1.23	1.00	1.96	2.74	2.97	2.57	1.66	2.41	1.47	.89	.77	.92	20.59
1946	.59	.65	1.71	3.53	3.18	2.17	1.67	2.26	.85	1.25	.56	.42	18.84
1947	.44	.45	.68	3.92	1.19	2.44	1.95	1.04	.80	.85	1.30	.80	15.86
1948	.79	1.50	.79	.84	3.49	2.53	2.40	.92	.84	1.11	1.57	.58	17.36

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year		
		Observed			Adjusted ^{1/}			Observed		
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean
		Discharge	Date							Runoff in inches
1925	623	-	-	-	-	-	-	-	-	-
1926	623	17,000	Jan. 18, 1926	477	1,870	-	.968	13.15	2,560	-
1927	643	43,200	Feb. 24, 1927	668	3,910	-	2.02	27.49	3,520	-
1928	663	20,200	Sept. 6, 1928	680	3,270	-	1.69	23.08	3,230	-
1929	683	23,100	Mar. 6, 1929	716	3,240	-	1.68	22.79	3,480	-
1930	698	14,700	Oct. 3, 1929	495	2,250	-	1.17	15.85	1,720	-
1931	713	21,000	Apr. 5, 1931	507	1,950	-	1.01	13.70	2,000	-
1932	728	35,200	Feb. 4, 1932	472	2,680	-	1.39	18.86	3,070	-
1933	743	*27,300	Feb. 15, 1933*	563	3,090	-	1.60	21.76	2,556	-
1934	758	17,900	Apr. 10, 1934	415	1,820	-	.943	12.80	2,126	-
1935	783	45,200	Mar. 26, 1935	697	3,344	-	1.73	23.52	3,196	-
1936	803	28,400	Jan. 19, 1936	560	2,966	-	1.54	20.89	3,057	-
1937	823	17,200	Feb. 10, 1937	600	2,518	-	1.30	17.71	2,792	-
1938	853	19,700	Oct. 28, 1937	714	3,074	-	1.59	14.61	2,728	-
1939	873	16,800	Feb. 16, 1939	464	2,085	-	1.08	14.06	1,910	-
1940	893	68,800	Aug. 14, 1940	400	1,894	-	.981	13.35	1,983	-
1941	923	8,380	July 6, 1941	433	1,373	-	.711	9.65	1,281	-
1942	953	19,000	Aug. 10, 1942	418	1,772	-	.918	12.46	2,348	-
1943	973	39,600	Dec. 30, 1942	502	2,857	-	1.48	20.08	2,343	-
1944	1003	35,400	Feb. 18, 1944	7478	2,284	-	1.18	16.09	2,672	-
1945	1033	24,100	Feb. 18, 1945	730	2,931	-	1.52	20.59	2,755	-
1946	1053	36,600	Jan. 8, 1946	586	2,678	-	1.39	18.84	2,483	-
1947	1083	39,700	Jan. 20, 1947	502	2,255	-	1.17	15.86	2,470	-
1948	1113	22,700	Feb. 14, 1948	677	2,465	-	1.28	17.36	2,504	2,583
1949	1143	12,700	July 17, 1949	600	2,404	3,037	1.57	21.35	2,490	2,984
1950	1173	24,400	Jan. 31, 1950	940	3,292	3,384	1.75	23.79	-	-

^{1/}Adjusted for change in contents in Watauga Lake since December 1948; only minor regulation prior to that date.

* Revised.

† Corrected.

142. North Fork Holston River near Saltville, Va.^{2/}

Location.--Lat 36°53'48", long. 81°44'47", 0.5 mile upstream from Cedar Branch bridge, 1.5 miles northeast of Saltville, Smyth County, and 7.8 miles downstream from Laurel Creek.

Drainage area.--222 sq mi. At site used November 1920 to May 1934, 224 sq mi (revised). At site used 1907-8, 228 sq mi (revised).

Supplemental records available.--Records of chemical analyses for the water year 1950 are published in WSP 1186, and for 1930-31 are published in Virginia Division of Water Resources and Power, Bull. 3.

Gage.--Water-stage recorder. Datum of gage is 1,703.53 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. June 11, 1907, to Nov. 12, 1908, chain gage on highway bridge 2.1 miles downstream at different datum. Nov. 2, 1920, to May 23, 1934, chain gage on highway bridge 0.5 mile downstream at datum 7.74 ft lower.

Average discharge.--31 years (1907-8, 1920-50), 294 cfs.

Extremes.--1907-8, 1920-50: Maximum discharge, 13,100 cfs Feb. 18, 1944 (gage height, 10.75 ft), from rating curve extended above 6,500 cfs by logarithmic plotting; minimum, 1 cfs Oct. 15, 16, 1947 (gage height, 0.13 ft), flow retarded by mine cave-in; minimum daily, 2 cfs Oct. 15, 1947.

^{2/} Published as "at Saltville", 1907-8.

Monthly and yearly mean discharge, in cubic feet per second, of North Fork Holston River near Saltville, Va.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	1,056	117	137	223	-
1908	109	458	475	598	735	746	822	567	471	121	86.8	96.4	439
1909	92.9	132	332	-	-	-	-	-	-	-	-	-	-
1921	60.0	207	611	588	720	353	290	351	153	91.5	205	99.0	307
1922	56.9	210	463	653	627	955	444	535	259	169	74.8	49.8	374
1923	76.3	57.1	583	572	1,360	697	285	373	837	197	104	78.5	429
1924	49.0	81.6	325	705	465	684	515	513	422	182	158	458	379
1925	229	235	277	613	380	191	174	239	124	106	37.0	28.1	236
1926	95.8	179	95.8	325	509	359	263	136	116	42.5	54.7	44.9	183
1927	141	264	1,180	390	953	460	812	462	476	84.6	96.1	46.1	443
1928	37.4	120	421	359	280	426	572	525	377	110	238	436	325
1929	222	160	150	386	529	741	298	426	415	227	86.1	57.8	307
1930	178	505	284	246	393	369	301	146	46.3	33.7	33.4	25.8	212
1931	25.4	33.7	60.3	118	174	206	665	372	141	157	164	39.6	179
1932	26.1	26.8	201	425	798	553	314	465	183	85.3	55.0	45.4	263
1933	139	236	557	603	842	492	317	365	94	67.9	51.2	39.9	314
1934	32.5	34.8	50.2	77.1	96.0	1,116	379	97.9	91.7	64.8	301	103	205
1935	212	281	336	934	452	956	896	479	342	253	75.7	58.5	440
1936	44.5	198	82.3	931	738	807	747	155	77.1	165	62.5	59.8	336
1937	118	60	224	1,038	580	317	181	176	86.2	60.1	85.2	94.5	251
1938	684	187	284	430	360	628	389	476	384	353	215	148	379
1939	72.6	113	168	383	787	440	260	116	122	112	55.7	28.0	218
1940	27.5	27.5	32.4	51.0	211	307	400	178	394	190	584	85.5	207
1941	45.6	49.9	58.4	131	102	405	279	80.4	55.0	323	96.0	52.0	140
1942	29.2	36.4	73.9	120	161	357	120	329	345	183	420	122	192
1943	185	218	696	471	584	564	336	401	147	91.6	56.6	38.5	315
1944	31.5	60.9	77.5	200	1,034	917	483	182	81	48.9	36.7	48.3	264
1945	157	125	385	474	603	348	231	768	351	119	142	149	320
1946	76.9	144	410	795	656	455	341	350	105	65.0	40.4	32.3	288
1947	31.4	38.4	72.5	1,023	165	573	382	164	79.9	64.5	276	83.5	248
1948	54.4	161	163	116	815	637	471	186	100	86.1	197	50.8	251
1949	40.1	152	583	394	547	392	516	467	143	329	211	98.4	322
1950	54.6	206	356	729	891	499	211	760	223	193	155	104	363

* Not previously published; estimated or partly estimated from record for North Fork Holston River at Mendota and South Fork Holston River near Chilhowie.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	5.06	0.94	0.69	1.09	-
1908	0.55	2.24	2.40	3.02	3.47	3.77	4.03	2.87	2.31	.44	.47	.47	26.18
1909	.47	.65	1.68	-	-	-	-	-	-	-	-	-	-
1921	3.31	1.03	3.15	2.93	3.34	1.82	1.44	1.81	.76	.47	1.05	.49	18.60
1922	.29	1.05	2.39	3.37	2.92	4.91	2.21	2.76	1.29	.87	.39	.25	22.70
1923	.39	.28	3.00	2.94	6.32	3.58	1.42	1.92	4.17	1.01	.53	.39	25.95
1924	.25	.41	1.67	3.63	2.24	3.52	2.57	2.64	2.10	.94	.81	2.28	23.06
1925	1.18	1.17	1.43	4.18	1.77	.98	.87	1.23	.62	.55	.19	.14	14.31
1926	.49	.89	.49	1.67	2.36	1.84	1.30	.70	.58	.22	.28	.22	11.04
1927	.73	1.32	6.08	2.01	4.43	2.36	4.04	2.38	2.36	.44	.49	.23	26.87
1928	.19	.60	2.17	1.84	1.35	2.19	2.84	2.70	1.87	.57	1.22	2.18	19.72
1929	1.14	.80	.77	1.98	2.46	3.82	1.48	2.19	2.06	1.16	.44	.29	18.59
1930	.92	2.51	1.46	1.27	1.82	1.90	1.50	.75	.23	.17	.17	.13	12.83
1931	.13	.17	.31	.61	.81	1.06	3.31	1.91	.70	.81	.84	.20	10.86
1932	.13	.14	1.03	2.19	3.84	2.85	1.56	2.40	.91	.44	.28	.23	16.00
1933	.72	1.17	2.87	3.10	3.92	2.54	1.58	1.88	.47	.35	.26	.20	19.06
1934	.17	.17	.26	.40	.46	5.74	1.89	.50	.46	.34	1.57	.52	12.48
1935	1.10	1.42	1.74	4.85	2.12	4.97	4.51	2.49	1.72	1.31	.39	.29	26.91
1936	.23	1.00	.43	4.83	3.58	4.20	3.75	.70	.39	.86	.33	.30	20.60
1937	.61	.30	1.16	5.40	2.72	1.65	.91	.43	.31	.44	.46	.15	15.32
1938	3.55	.94	1.48	2.24	1.69	3.26	1.95	2.47	1.93	1.83	1.12	.74	23.20
1939	.38	.57	.87	1.99	3.70	2.28	1.30	.60	.61	.58	.29	.14	13.31
1940	.14	.14	.17	.27	1.02	1.59	2.01	.92	1.98	.99	3.03	.43	12.69
1941	.24	.25	.30	.68	.48	2.10	1.41	.42	.28	1.67	.50	.26	8.59
1942	.15	.18	.38	.62	.76	1.86	.60	1.71	1.73	.95	2.18	.61	11.73
1943	.96	1.10	3.62	2.44	2.74	2.93	1.68	2.09	.74	.48	.29	.19	19.26
1944	.16	.31	.40	1.04	5.03	4.76	2.43	.95	.41	.25	.19	.24	16.17
1945	.82	.63	1.99	2.47	2.83	1.81	1.16	3.99	1.76	.62	.74	.75	19.57
1946	.40	.72	2.13	4.13	3.07	2.36	1.72	1.82	.53	.34	.21	.16	17.59
1947	.16	.19	.58	5.32	.78	2.97	1.92	.85	.40	.34	1.43	.42	15.16
1948	.28	.81	.85	.60	3.96	3.31	2.36	.97	.50	.46	1.02	.26	15.38
1949	.21	.76	3.03	2.04	2.56	2.04	2.59	2.42	.72	1.71	1.10	.49	19.67
1950	.28	1.04	1.84	3.78	4.18	2.59	1.06	3.94	1.12	1.00	.80	.52	22.15

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second, of North Fork Holston River near Saltville, Va.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1907	(a)	*8,400	June 14, 1907	-	-	-	-	-	-
1908	(a)	*7,400	Apr. 2, 1908	40	439	1.93	26.18	*398	*23.79
1909	(a)	-	-	-	-	-	-	-	-
1921	523	*4,480	Dec. 15, 1920*	37	*307	*1.37	*18.60	294	17.84
1922	543	*4,160	Mar. 15, 1922	39	374	1.67	22.70	373	22.64
1923	563	8,220	Feb. 3, 1923	42	429	1.92	25.95	407	24.61
1924	583	*5,840	Sept. 30, 1924	38	379	1.69	23.06	403	24.51
1925	603	*4,310	Jan. 11, 1925	24	236	1.05	14.31	205	12.40
1926	623	*4,490	Jan. 18, 1926	24	183	.817	11.04	285	17.00
1927	643	*6,700	Dec. 21, 1926*	29	443	1.98	26.87	358	21.70
1928	663	*2,640	Dec. 16, 1927	24	325	1.45	19.72	321	19.47
1929	683	*3,520	Feb. 27, 1929*	36	307	1.37	18.59	343	20.77
1930	698	*3,360	Nov. 18, 1929	20	212	.946	12.83	141	8.55
1931	713	5,440	Apr. 4, 1931	21	179	.799	10.86	191	11.55
1932	728	*4,750	Jan. 30, 1932	21	263	1.17	16.00	320	19.46
1933	743	*5,240	Dec. 28, 1932	31	314	1.40	19.06	246	14.90
1934	758	*4,120	Mar. 3, 1934	30	205	.915	12.48	265	16.14
1935	783	7,990	Jan. 23, 1935	34	440	1.98	26.91	397	24.31
1936	803	6,290	Apr. 6, 1936	32	336	1.51	20.60	344	21.01
1937	823	4,650	Jan. 20, 1937	33	251	1.13	15.32	314	19.22
1938	853	5,660	Oct. 28, 1937	33	379	1.71	23.20	311	19.05
1939	873	2,530	Feb. 3, 1939	20	218	.982	13.31	195	11.94
1940	893	5,840	Aug. 14, 1940	21	207	.932	12.69	213	13.03
1941	923	4,790	July 6, 1941	28	140	.631	8.59	139	8.51
1942	953	6,740	June 20, 1942	24	192	.865	11.73	273	16.70
1943	973	6,380	Dec. 30, 1942	24	315	1.42	19.26	236	14.45
1944	1003, 1113	13,100	Feb. 18, 1944	22	264	1.19	16.17	306	18.74
1945	1033, 1113	5,840	Feb. 17, 1945	43	320	1.44	19.57	317	19.38
1946	1053, 1113	8,370	Jan. 8, 1946	26	288	1.30	17.59	247	15.07
1947	1083, 1113	7,690	Jan. 20, 1947	25	248	1.12	15.16	268	16.37
1948	1113	7,860	Feb. 14, 1948	2	251	1.13	15.38	284	17.43
1949	1143	5,840	Dec. 4, 1948	35	322	1.45	19.67	308	18.83
1950	1173	6,330	Feb. 2, 1950	40	363	1.64	22.15	-	-

* Revised.

* Not previously published.

a Virginia Geological Survey, Bull. 31.

143. North Fork Holston River at Mendota, Va.

Location (revised).--Lat 36°42'05", long. 82°18'26", at highway bridge 0.3 mile south of Mendota, Washington County.

Drainage area.--493 sq mi (revised).

Supplemental records available.--Records of chemical analyses for 1930-31 are published in Virginia Water Resources and Power, Bull. 3. Gage-height records collected at Barker Mill site, 1 mile downstream, February 1906 to September 1950 are contained in reports of U. S. Weather Bureau.

Gage.--Chain gage. Datum of gage is 1,329.67 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--11 years (1920-31), 684 cfs.

Extremes.--1920-31: Maximum discharge, 19,600 cfs Feb. 3, 1923 (gage height, 14.4 ft, from graph based on gage readings); minimum observed, 28 cfs Oct. 3, 1930 (gage height, 1.60 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	150	338	1,170	1,120	1,640	683	462	807	274	535	481	201	651
1922	129	366	913	1,690	1,390	2,270	1,100	1,280	392	399	240	124	857
1923	172	129	1,370	1,430	3,000	1,700	575	688	1,540	374	293	157	939
1924	93.7	192	763	1,780	970	1,340	954	1,130	870	511	272	663	795
1925	414	380	887	1,692	1,020	593	380	368	195	176	76.1	60.9	504
1926	235	461	202	933	1,470	867	667	274	207	98.8	114	89.3	461
1927	305	650	3,210	741	2,230	884	1,750	1,110	1,080	165	175	93.2	1,020
1928	77.5	210	840	688	613	996	1,350	1,180	823	294	602	985	721
1929	421	339	317	899	1,250	1,800	552	1,260	867	531	190	154	714
1930	339	967	649	580	915	805	720	295	104	75.3	104	56.9	464
1931	55.4	89.0	152	-	481	-	1,440	683	275	437	417	120	400
1932	61.7	*63.1	*528	-	-	-	-	-	-	-	-	-	-

* Corrected.

* Not previously published; estimated on basis of record for station near Gate City.

Monthly and yearly runoff, in inches, of North Fork Holston River at Mendota, Va.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	0.35	0.77	2.73	2.62	3.47	1.60	1.05	1.89	0.62	1.26	1.13	0.46	17.95
1922	.30	.85	2.13	3.95	2.94	5.30	2.49	3.00	.89	.93	.56	.28	23.60
1923	.40	.29	3.20	3.34	6.34	3.98	1.30	1.61	3.48	.98	.68	.36	25.86
1924	.22	.44	1.79	4.16	2.12	3.14	2.11	2.64	1.98	1.20	.63	1.50	21.91
1925	.97	.86	2.08	3.95	2.16	.92	.86	.91	.45	.42	.17	.13	13.88
1926	.55	1.05	.47	2.18	3.10	2.03	1.51	.65	.47	.23	.26	.20	12.70
1927	.72	1.47	7.50	1.73	4.71	2.06	3.96	2.59	2.44	.39	.42	.21	28.20
1928	.18	.48	1.96	1.61	1.34	2.33	3.06	2.76	1.86	.69	1.41	2.23	19.91
1929	.98	.77	.74	2.10	2.64	4.21	1.25	2.95	1.96	1.24	.44	.35	19.63
1930	.80	2.19	1.52	1.36	1.94	1.88	1.63	.69	.23	.17	.24	.13	12.78
1931	.13	.20	.36	.65	1.02	.90	3.26	1.60	.62	1.03	.98	.27	11.02
1932	.14	*1.14	*1.22	-	-	-	-	-	-	-	-	-	-

* Not previously published; estimated on basis of record for station near Gate City.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1921	523	9,640	Dec. 14, 1920	97	651	1.32	17.95	630	17.36
1922	543	*12,300	Jan. 21, 1922	68	857	1.74	23.60	879	24.23
1923	563	19,600	Feb. 3, 1923	75	939	1.90	25.86	887	24.42
1924	583	*9,740	Jan. 1, 1924	70	793	1.61	21.91	846	23.37
1925	603	8,580	Jan. 12, 1925	41	504	1.02	13.88	437	12.04
1926	623	*7,170	Feb. 16, 1926	50	461	.935	12.70	738	20.32
1927	643	17,800	Dec. 22, 1926	54	1,020	2.07	28.20	767	21.13
1928	663	*5,000	Dec. 16, 1927	45	721	1.46	19.91	716	19.78
1929	683	8,120	Feb. 28, 1929	114	714	1.45	19.63	787	21.65
1930	698	4,770	Feb. 5, 1930	43	464	.941	12.78	325	8.96
1931	713	*12,700	Apr. 5, 1931	29	400	.811	11.02	*430	*11.67

* Revised.

* Not previously published.

144. North Fork Holston River near Gate City, Va.

Location.--Lat 36°36'31", long. 82°34'05", at highway bridge 1.5 miles downstream from Big Moccasin Creek and 2 miles southeast of Gate City, Scott County.

Drainage area.--672 sq mi.

Supplemental records available.--Records of chemical analyses and water temperatures for the year 1950 are published in WSP 1186.

Gage.--Water-stage recorder. Datum of gage is 1,197.56 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--19 years (1931-50), 841 cfs.

Extremes.--1931-50: Maximum discharge, 23,700 cfs Aug. 14, 1940 (gage height, 14.75 ft); minimum, 37 cfs Dec. 24, 1943, result of low temperature; minimum gage height, 1.00 ft Jan. 6, 1940.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	*82.3	*96.6	795	*1,483	*2,633	1,770	1,560	1,390	402	370	138	93.9	*895
1933	254	438	*1,462	1,770	*2,497	1,590	974	1,160	326	244	197	159	*914
1934	89.4	96.1	195	361	413	*3,129	1,333	284	230	286	772	208	*620
1935	409	401	792	2,214	1,456	3,160	2,416	1,190	592	436	195	126	1,115
1936	97.9	441	198	2,604	2,286	2,445	2,228	390	164	365	177	188	959
1937	346	165	863	3,365	1,983	1,011	538	496	299	174	390	419	833
1938	1,315	458	748	1,258	2,023	1,815	1,275	1,138	946	1,356	558	289	1,026
1939	178	517	506	1,070	2,718	1,373	919	405	356	318	185	78.3	688
1940	69.3	76.5	95.0	133	526	871	1,077	327	739	535	2,007	420	573
1941	139	153	151	384	307	1,083	940	267	181	1,009	279	181	425
1942	78.3	97.3	226	361	540	1,090	296	823	642	628	1,403	285	542
1943	519	598	2,215	1,534	1,894	1,921	904	732	394	368	214	121	948
1944	102	176	290	796	3,106	3,122	1,534	585	209	151	175	258	855
1945	592	598	1,297	1,577	2,023	1,374	670	1,673	1,177	332	435	330	984
1946	213	413	1,464	2,643	2,353	1,185	847	1,042	286	233	136	86.0	902
1947	94.4	106	296	3,370	476	1,828	1,133	594	240	217	537	204	747
1948	132	333	435	345	2,632	1,958	1,315	429	263	357	545	208	738
1949	121	599	1,743	1,416	1,634	1,426	1,387	1,138	290	1,513	578	275	1,009
1950	205	621	1,089	2,423	3,422	1,525	732	2,360	841	617	474	282	1,204

* Revised.

* Not previously published; estimated or partly estimated on basis of record near Saltville.

Monthly and yearly runoff, in inches, of North Fork Holston River near Gate City, Va.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	*0.14	*0.16	1.36	*2.55	*4.23	3.03	2.59	2.39	0.67	0.64	0.24	0.16	*18.16
1933	.44	.75	*2.51	3.03	*3.87	2.73	1.62	1.99	.54	.42	.34	.28	*18.48
1934	.15	.16	.33	.62	.64	*5.37	2.21	.49	.38	.49	1.33	.35	*12.52
1935	.70	.67	1.36	3.79	2.26	5.42	4.02	2.04	.98	.75	.33	.21	22.53
1936	.17	.73	.34	4.47	3.64	4.20	3.70	.67	.27	.63	.30	.31	19.43
1937	.59	.27	1.48	5.78	3.07	1.73	.89	.85	.50	.30	.67	.70	16.83
1938	2.26	.76	1.28	2.16	1.58	3.29	2.12	1.95	1.57	2.33	.96	.48	20.74
1939	.30	.53	.87	1.83	4.21	2.35	1.53	.70	.59	.55	.32	.13	13.91
1940	.12	.13	.16	.23	.84	1.50	1.78	.56	1.23	.92	3.45	.70	11.62
1941	.24	.25	.28	.66	.48	1.86	1.56	.46	.30	1.73	.48	.30	8.58
1942	.13	.16	.39	.62	.84	1.87	.49	1.41	1.07	1.08	2.41	.47	10.94
1943	.89	.99	3.80	2.63	2.94	3.30	1.51	1.26	.65	.63	.37	.20	19.17
1944	.18	.29	.50	1.36	4.98	5.36	2.54	1.00	.35	.22	.30	.43	17.51
1945	1.02	.64	2.22	2.71	3.13	2.35	1.11	2.87	1.95	.57	.75	.55	19.87
1946	.37	.69	2.51	4.53	3.64	2.03	1.41	1.79	.48	.40	.23	.14	18.22
1947	.16	.18	.51	5.78	.74	3.14	1.89	.68	.40	.37	.92	.34	15.11
1948	.23	.55	.75	.59	4.23	3.36	2.19	.74	.44	.61	.94	.35	14.98
1949	.21	.99	2.99	2.43	2.53	2.44	2.30	1.95	.48	2.59	.99	.46	20.36
1950	.35	1.03	1.87	4.16	5.30	2.62	1.22	4.05	1.40	1.06	.61	.47	24.34

* Revised.

* Not previously published; estimated or partly estimated on basis of record near Saltville.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1932	728,1276	13,400	Jan. 30, 1932	*61	*895	*1.33	*18.16	*994	*20.18
1933	743,1276	*12,600	Dec. 29, 1932	84	*914	*1.36	*18.48	*764	*15.54
1934	758,1276	*10,000	Mar. 4, 1934	76	*820	*.923	*12.52	*723	*14.61
1935	753	13,400	Mar. 26, 1935	84	1,115	1.66	22.53	1,042	21.04
1936	803	13,200	Jan. 20, 1936	78	959	1.43	19.43	1,014	20.53
1937	823	10,900	Feb. 10, 1937	97	833	1.24	16.83	930	18.79
1938	853	10,100	July 21, 1938	90	1,026	1.53	20.74	897	18.14
1939	873	8,960	Feb. 4, 1939	60	688	1.02	13.91	625	12.82
1940	893	23,700	Aug. 14, 1940	58	573	.853	11.62	590	11.96
1941	923	6,440	Mar. 12, 1941	70	425	.632	8.58	421	8.51
1942	953	10,400	Aug. 9, 1942	65	542	.807	10.94	789	15.94
1943	973	15,800	Dec. 30, 1942	72	948	1.41	19.17	715	14.46
1944	1003	22,700	Feb. 18, 1944	64	865	1.29	17.51	1,009	20.42
1945	1033	12,600	Feb. 18, 1945	112	984	1.46	19.87	968	19.56
1946	1053	21,000	Jan. 8, 1946	57	902	1.34	18.22	768	15.50
1947	1083	17,000	Jan. 16, 1947	72	747	1.11	15.11	781	15.79
1948	1113	17,000	Feb. 14, 1948	97	738	1.10	14.98	870	17.64
1949	1143	11,700	Dec. 4, 1948	102	1,009	1.50	20.36	962	19.42
1950	1173	18,700	Feb. 2, 1950	124	1,204	1.79	24.34	-	-

* Revised.

* Not previously published.

145. Holston River at Surgoinsville, Tenn.

Location.--Lat 36°28'19", long. 82°50'50", 1,500 ft upstream from Surgoinsville Creek and county ferry at Surgoinsville, Hawkins County, 9.8 miles upstream from Big Creek, and at mile 118.4.

Drainage area.--2,874 sq mi (including that of Surgoinsville Creek).

Gage.--Water-stage recorder. Datum of gage is 1,088.46 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--10 years (1940-50), 3,466 cfs (unadjusted).

Extremes.--1940-50: Maximum discharge, 59,600 cfs Feb. 18, 1944 (gage height, 17.48 ft); minimum, 470 cfs Oct. 21, 1941 (gage height, 1.16 ft).

Remarks.--Flow partly regulated since Dec. 1, 1948 by Watauga Lake (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1941	*1,010	*1,100	*1,220	*1,860	*1,460	*3,840	*3,160	1,245	1,003	4,594	1,280	903	*1,896
1942	607	679	1,005	1,328	2,159	4,212	1,492	3,763	3,247	3,362	5,627	2,371	2,496
1943	2,260	2,498	7,801	6,759	7,617	7,035	4,388	3,410	2,068	2,163	1,210	891	3,995
1944	739	1,024	1,476	2,952	9,967	10,160	6,284	2,954	1,562	950	895	1,130	3,314
1945	2,726	2,144	4,662	6,507	7,948	6,153	3,781	5,651	3,948	1,880	1,902	1,888	4,097
1946	1,298	1,611	4,589	8,934	8,775	5,133	3,827	4,940	1,821	2,405	1,146	800	3,751
1947	806	920	1,482	10,700	2,990	6,365	4,775	2,235	1,681	1,735	2,697	1,632	3,180
1948	1,450	2,910	1,881	1,854	9,242	6,492	5,907	2,002	1,694	2,241	3,251	1,282	3,323
1949	868	2,330	5,542	5,058	5,215	4,594	4,891	3,711	1,205	5,848	2,511	2,493	3,670
1950	2,058	3,764	3,762	7,763	13,170	6,413	3,330	7,667	4,528	2,946	2,429	1,986	6,935

* Not previously published; estimated or partly estimated on the basis of records for other stations in basin.

TENNESSEE RIVER BASIN

Monthly and yearly runoff, in inches, of Holston River at Surgoinsville, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1941	\$0.40	\$0.43	\$0.49	\$0.74	\$0.53	\$1.54	\$1.23	0.50	0.39	1.84	0.51	0.35	\$8.95
1942	.24	.28	.40	.53	.78	1.69	1.58	1.51	1.26	1.35	2.26	.92	11.78
1943	.91	.87	3.13	2.71	2.76	2.82	1.70	1.37	.80	.87	.49	.35	18.88
1944	.30	.40	.59	1.18	5.74	4.07	2.44	1.18	.61	.38	.36	.44	15.69
1945	1.09	.83	1.87	2.61	2.88	2.47	1.47	2.35	1.53	.75	.76	.73	19.34
1946	.52	.63	1.84	3.58	3.18	2.06	1.49	1.98	.71	.96	.46	.31	17.72
1947	.32	.36	.59	4.29	1.08	2.55	1.85	.90	.65	.70	1.08	.63	15.00
1948	.58	1.13	.75	.74	3.47	2.60	2.29	.80	.66	.90	1.30	.50	15.72

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year		
		Observed			Adjusted ^{1/}			Observed	Adjusted ^{1/}	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean
		Discharge	Date							
1941	923	13,800	July 6, 1941	-	\$1,896	-	\$0.660	\$8.95	\$1,809	-
1942	953	25,600	Aug. 10, 1942	528	2,496	-	.868	11.78	3,363	-
1943	973	57,500	Dec. 30, 1942	644	3,895	-	1.39	18.88	3,208	-
1944	1003	59,600	Feb. 18, 1944	622	3,314	-	1.15	15.69	3,844	-
1945	1033	35,700	Feb. 18, 1945	876	4,097	-	1.43	19.34	3,926	-
1946	1053	59,000	Jan. 8, 1946	656	3,751	-	1.31	17.72	3,389	-
1947	1083	58,000	Jan. 21, 1947	570	3,180	-	1.11	15.00	3,432	-
1948	1113	37,900	Feb. 15, 1948	794	3,323	-	1.16	15.72	3,536	3,614
1949	1143	23,000	July 14, 1949	718	3,670	4,302	1.50	20.32	3,738	4,232
1950	1173	46,500	Jan. 31, 1950	1,260	4,935	5,027	1.75	23.74	-	-

^{1/} Adjusted for change in contents in Watauga Lake since December 1948; no regulation prior to that date.

* Not previously published.

146. Big Creek near Rogersville, Tenn.

Location.--Lat 36°25'34", long. 82°57'07", 300 ft upstream from county bridge, 3.0 miles northeast of Rogersville, Hawkins County, and at mile 2.0.Drainage area.--47.3 sq mi.Gage.--Water-stage recorder. Altitude of gage is 1,130 ft (from topographic map).Average discharge.--7 years (1941-48), 55.0 cfs.Extremes.--1941-49: Maximum discharge, 3,060 cfs Jan. 20, 1947 (gage height, 6.59 ft); minimum, 2.6 cfs Sept. 25, 26, Oct. 9, 1941; minimum gage height, 1.32 ft Sept. 19, Oct. 2, 1941.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1941	-	-	-	-	-	-	-	12.6	7.61	80.1	12.2	5.75	-
1942	3.63	5.74	13.8	29.2	64.9	116	20.4	74.2	49.7	47.5	67.1	14.2	42.2
1943	17.5	27.7	164	101	133	135	97.5	27.6	14.9	15.0	12.1	6.70	62.3
1944	6.05	11.0	14.4	33.9	195	247	102	23.0	14.7	6.18	9.64	17.9	56.2
1945	12.2	22.6	58.0	106	184	111	42.9	63.3	46.7	*21.1	11.7	5.53	*56.4
1946	6.91	18.6	89.8	197	177	92.8	43.9	30.4	12.1	29.0	11.7	5.28	59.0
1947	6.65	8.41	27.6	272	50.1	125	59.4	19.2	20.7	28.0	31.9	7.32	55.1
1948	6.14	12.4	22.2	34.9	229	151	127	19.2	10.0	20.5	10.9	9.66	53.6
1949	6.09	82.4	131	146	107	105	89.9	46.9	17.8	-	-	-	-

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1941	-	-	-	-	-	-	-	0.31	0.18	1.95	0.30	0.14	-
1942	0.09	0.14	0.34	0.71	1.43	2.83	0.48	1.81	1.17	1.16	1.64	.33	12.13
1943	.43	.65	3.99	2.46	2.94	3.29	2.30	.87	.35	.37	.29	.16	17.90
1944	.15	.26	.35	.83	4.45	6.02	2.39	.56	.35	.15	.23	.42	16.17
1945	.30	.53	1.41	2.59	4.06	2.69	1.01	1.54	1.10	*.51	.28	.13	*16.15
1946	.17	.44	2.19	4.81	3.90	2.26	1.03	.74	.28	.71	.29	.12	16.94
1947	.16	.20	.67	6.62	1.10	3.05	1.40	.47	.49	.68	.78	.17	15.79
1948	.15	.29	.54	.86	5.22	3.68	2.99	.47	.24	.50	.27	.23	15.43
1949	.15	1.94	3.20	3.55	2.35	2.57	2.12	1.14	.42	-	-	-	-

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1941	953	-	-	-	-	-	-	-	-
1942	953	1,440	June 22, 1942	-	42.2	0.892	12.13	57.9	16.63
1943	973	2,670	Dec. 29, 1942	2.7	52.5	1.32	17.90	47.3	15.59
1944	1003	2,670	Feb. 17, 1944	4.0	56.4	1.19	16.17	61.3	17.62
1945	1033, 1436	2,290	Feb. 17, 1945	4.3	*56.4	*1.19	*16.15	*58.3	*16.71
1946	1053	2,570	Jan. 7, 1946	4.1	59.0	1.25	16.94	52.9	15.17
1947	1083	3,060	Jan. 20, 1947	3.8	55.1	1.16	15.79	54.9	15.74
1948	1113	2,650	Feb. 14, 1948	4.4	53.6	1.13	15.43	68.6	19.74
1949	1143	-	-	-	-	-	-	-	-

* Revised.

147. Holston River near Rogersville, Tenn.

Location.--Lat 36°22'13", long. 82°59'58", 300 ft downstream from bridge on State Highways 66 and 70, 2,300 ft upstream from Southern Railway bridge, 0.5 mile downstream from Dodson Creek, 3 miles south of Rogersville, Hawkins County, and at mile 104.2.

Drainage area.--3,035 sq mi.

Supplemental records available.--Gage-height records collected in this vicinity since 1902 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 1,054.83 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Mar. 10, 1902, to Oct. 26, 1923, U. S. Weather Bureau staff gage on railway bridge 2,300 ft downstream, at datum 2.41 ft lower. Oct. 27, 1923, to Sept. 30, 1926, chain gage, and Oct. 1, 1926, to May 15, 1934, recorder and staff gage on pier of highway bridge 300 ft upstream at datum 0.03 ft lower.

Average discharge.--40 years (1901-41), 4,145 cfs.

Extremes.--1901-42: Maximum discharge, 70,900 cfs Jan 29, 1918 (gage height, 20.0 ft, site and datum then in use), from rating curve extended above 33,000 cfs; minimum, 278 cfs Jan. 22, 1940 (gage-height, -0.41 ft); minimum daily, 459 cfs Sept. 9, 1925. Maximum stage known, 38.4 ft Mar. 10, 1867, referred to original site and datum.

Monthly and yearly mean discharge, in cubic feet per second													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1902	\$4,370	\$2,280	\$11,600	\$8,000	\$10,200	\$13,200	5,890	2,920	4,830	3,540	2,280	1,480	\$5,860
1903	1,570	1,660	3,040	3,890	10,200	10,400	10,700	3,420	2,230	2,270	1,600	978	4,290
1904	806	1,310	1,530	2,230	3,040	6,700	3,590	3,900	2,420	2,060	2,100	1,080	2,570
1905	636	952	2,260	4,270	7,210	5,540	4,140	5,860	2,380	4,260	4,080	2,240	3,640
1906	1,350	990	3,470	7,560	3,790	4,580	5,180	4,400	2,660	3,440	5,900	5,040	4,040
1907	5,050	5,970	4,960	5,040	4,150	7,140	6,290	4,440	10,300	4,200	3,170	4,500	5,430
1908	2,430	5,320	5,060	8,440	7,610	9,460	8,750	5,670	4,790	3,720	2,670	1,850	5,470
1909	2,080	2,710	7,370	6,550	8,310	10,300	5,330	7,840	6,470	4,350	3,150	1,890	5,520
1910	1,500	1,160	1,690	4,330	4,550	3,660	2,450	3,800	4,110	4,680	2,630	3,030	3,130
1911	1,540	1,470	3,360	7,090	8,270	7,340	8,990	3,400	1,580	1,600	951	1,140	\$3,870
1912	1,990	2,350	3,000	3,980	5,390	11,000	10,600	6,010	2,650	3,570	2,320	1,700	4,540
1913	1,360	1,410	1,850	7,400	5,300	12,100	4,950	5,390	3,330	1,670	1,860	1,650	4,030
1914	1,580	1,690	1,730	2,480	5,760	8,750	7,440	2,900	1,280	1,310	2,200	1,170	3,000
1915	1,350	1,000	7,030	8,170	7,190	3,400	2,590	2,430	1,710	2,790	2,130	2,520	3,510
1916	2,760	2,100	7,750	9,950	8,080	7,200	5,250	2,130	1,880	7,540	5,960	1,700	5,200
1917	1,490	1,260	3,300	10,000	8,520	18,000	5,490	3,210	2,290	3,020	1,800	1,270	4,970
1918	1,240	1,100	1,070	8,750	7,030	5,360	5,380	4,640	3,220	2,260	1,590	1,860	3,610
1919	4,530	3,820	4,320	8,880	4,280	4,650	3,630	6,100	3,020	1,790	1,910	1,050	4,010
1920	2,200	1,410	5,750	5,140	4,450	9,420	8,190	2,370	2,990	2,070	5,010	2,640	4,310
1921	1,350	2,000	5,910	5,580	8,970	3,890	3,540	4,700	1,910	3,230	3,890	1,600	3,880
1922	1,060	2,670	3,850	8,280	7,930	11,400	7,020	7,260	2,770	3,240	1,840	1,140	4,880
1923	1,170	964	6,650	8,460	15,200	10,300	3,900	4,360	6,060	3,040	3,120	1,580	5,340
1924	981	1,280	3,390	5,520	5,960	7,790	6,590	6,870	6,820	3,940	2,810	2,470	4,880
1925	3,000	1,970	4,390	7,410	5,170	2,680	2,520	2,930	2,020	1,390	724	632	2,900
1926	1,220	2,150	1,450	4,410	7,020	5,200	4,810	2,100	1,540	970	1,620	1,180	2,780
1927	1,540	4,020	13,900	5,280	14,100	7,200	8,700	6,450	7,790	2,340	2,050	1,190	6,160
1928	1,090	1,780	5,650	3,970	4,000	5,330	8,180	7,470	6,210	3,520	3,900	6,980	4,830
1929	3,960	2,580	2,150	4,670	6,280	13,300	4,010	9,600	6,000	5,250	1,950	1,310	5,090
1930	3,350	5,730	4,020	3,830	5,180	6,580	4,540	2,390	1,250	899	1,370	982	3,330
1931	802	1,190	1,650	2,710	2,790	2,160	8,210	4,080	2,450	2,840	3,180	1,480	2,790
1932	868	858	3,630	6,060	12,800	8,000	6,900	6,370	2,430	2,010	1,260	846	4,310
1933	1,950	2,380	7,160	8,060	11,900	6,370	5,240	5,510	2,010	1,790	1,440	1,010	4,530
1934	684	732	961	1,486	1,730	10,840	6,332	1,852	1,468	2,566	3,831	1,545	2,848
1935	2,065	2,195	3,536	8,091	5,733	13,900	10,290	5,430	3,468	3,138	1,738	1,661	5,114
1936	993	2,565	1,442	10,240	9,172	11,370	10,190	2,541	1,315	1,781	1,259	1,632	4,523
1937	2,600	1,438	3,550	13,220	9,100	4,997	3,023	2,996	1,941	1,229	1,977	2,337	4,013
1938	4,996	2,701	5,577	5,928	5,638	7,959	4,883	4,911	4,064	5,995	5,405	1,637	4,647
1939	1,147	2,137	2,300	3,958	10,790	6,329	4,196	2,149	1,977	2,317	1,656	782	3,262
1940	661	656	789	864	2,289	3,825	4,834	2,057	2,598	2,914	8,676	2,408	2,718
1941	1,067	1,160	1,256	1,961	1,537	4,054	3,390	1,354	1,095	4,791	1,398	960	2,010
1942	625	736	1,116	1,462	2,400	4,523	1,620	4,016	-	-	-	-	-

† Corrected.

* Not previously published; estimated on the basis of records for South Fork Holston River at Bluff City.

Monthly and yearly runoff, in inches													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1902	\$1.66	\$0.84	\$4.41	\$3.04	\$3.50	\$5.01	2.17	1.11	1.70	1.35	0.87	0.54	\$26.20
1903	.60	.61	1.16	1.48	3.51	3.97	3.92	1.30	.82	.86	.61	.36	19.20
1904	.31	.48	.58	.85	1.08	2.55	1.32	1.48	.89	.78	.80	.40	11.52
1905	.24	.35	.86	1.62	2.47	2.10	1.52	2.23	.87	1.62	1.55	.82	16.25
1906	.51	.36	1.32	2.87	1.30	1.74	1.90	1.67	.98	1.31	2.24	1.85	18.05
1907	1.92	2.20	1.88	1.92	1.42	2.71	2.31	1.69	3.79	1.60	1.20	1.65	24.29
1908	.92	1.95	1.92	3.20	2.70	3.59	3.22	2.15	1.76	1.41	1.01	.68	24.51
1909	.79	1.00	2.80	2.49	2.85	3.92	1.96	2.98	2.38	1.65	1.20	.69	24.71
1910	.57	.43	.64	1.65	1.56	1.39	.90	1.44	1.51	1.78	1.00	1.11	13.98
1911	.59	.54	1.28	2.69	2.84	2.79	3.31	1.29	.58	.61	.36	.42	17.30
1912	.76	.86	1.14	1.51	1.91	4.18	3.69	2.28	.98	1.36	.88	.63	20.38
1913	.52	.52	.70	2.81	1.82	4.60	1.82	2.05	1.22	.83	.71	.61	18.01
1914	.60	.62	.66	.94	1.98	2.56	2.74	1.10	.47	.50	.84	.43	13.44
1915	.51	.37	2.67	3.10	2.47	1.29	.95	.92	.63	1.06	.81	.93	15.71

* Not previously published; see footnote to preceding table.

Monthly and yearly runoff, in inches, of Holston River near Rogersville, Tenn.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1916	1.05	0.77	2.95	3.78	2.87	2.74	1.93	0.81	0.69	2.87	2.26	0.62	23.34
1917	.57	.46	1.25	3.80	2.92	6.83	2.02	1.22	.84	1.15	.68	.47	22.21
1918	.47	.41	.41	3.33	2.41	2.03	1.98	1.76	1.19	.86	.61	.68	16.14
1919	1.72	1.40	1.64	3.37	1.47	1.77	1.33	2.32	1.11	.68	.73	.38	17.92
1920	.83	.52	2.18	1.95	1.58	3.58	3.01	.90	1.10	.79	1.90	.97	19.31
1921	.51	.73	2.24	2.12	3.08	1.48	1.30	1.79	.70	1.23	1.48	.59	17.25
1922	.40	.98	1.46	3.14	2.72	4.32	2.58	2.76	1.02	1.23	.70	.42	21.73
1923	.45	.35	2.53	3.21	5.21	3.92	1.43	1.65	2.23	1.15	1.19	.58	23.91
1924	.37	.47	1.29	3.62	2.12	2.96	2.42	2.61	2.51	1.50	1.07	.91	21.85
1925	1.14	.73	1.67	2.82	1.78	1.02	.93	1.11	.74	.53	.27	.23	12.97
1926	.46	.79	.55	1.68	2.41	1.98	1.77	.80	.57	.37	.62	.43	12.43
1927	.59	1.48	5.27	2.01	4.85	2.74	3.20	2.45	2.86	.89	.78	.44	27.56
1928	.41	.65	2.15	1.51	1.42	2.02	3.01	2.84	2.28	1.34	1.48	2.57	21.68
1929	1.51	.95	.82	1.77	2.16	5.05	1.47	3.65	2.20	1.99	.74	.48	22.79
1930	1.27	2.11	1.53	1.46	1.78	2.50	1.67	.91	.46	.34	.52	.36	14.91
1931	.30	.44	.63	1.03	.96	.87	3.02	1.55	.90	1.08	1.21	.55	12.49
1932	.33	.31	1.38	2.30	4.56	3.04	2.54	2.42	.89	.76	.48	.19	19.32
1933	.74	.87	2.72	3.06	4.08	2.42	1.93	2.09	.74	.68	.55	.37	20.25
1934	.26	.27	.37	.56	.59	4.12	2.33	.70	.54	.97	1.46	.57	12.74
1935	.78	.61	1.34	3.08	1.97	5.28	3.78	2.06	1.27	1.19	.66	.65	22.87
1936	.38	.94	.55	3.89	3.26	4.32	3.75	.97	.48	.68	.48	.60	20.30
1937	.99	.53	1.35	5.02	3.12	1.90	1.11	1.14	.71	.47	.75	.86	17.95
1938	1.90	.99	1.36	2.25	1.98	3.02	1.80	1.87	1.49	2.28	1.29	.60	20.78
1939	.44	.79	.87	1.50	3.70	2.40	1.54	.82	.73	.88	.63	.29	14.59
1940	.25	.24	.29	.33	.81	1.45	1.78	.78	.96	1.12	3.30	.89	12.20
1941	.41	.43	.48	.74	.53	1.54	1.25	.51	.40	1.82	.53	.35	8.99
1942	.24	.27	.42	.56	.82	1.72	.60	1.53	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1902	(a)	-	-	-	\$5,860	\$1.93	\$26.20	\$4,840
1903	(a)	\$59,400	Feb. 17, 1903	645	4,290	1.41	19.20	4,070
1904	(a)	\$19,400	Mar. 24, 1904	645	2,570	.847	11.52	2,590
1905	(a)	\$16,600	Mar. 11, July 13	490	3,640	1.20	16.25	3,800
1906	(a)	\$61,400	Jan. 23, 1906	805	4,040	1.33	18.05	4,890
1907	(a)	\$47,400	June 15, 1907	1,700	5,430	1.79	24.29	5,160
1908	(a)	\$42,200	Apr. 3, 1908	1,140	5,470	1.60	24.51	5,420
1909	263	\$32,600	May 1, 1909	1,140	5,520	1.82	24.71	4,870
1910	283	\$13,400	July 9, 1910	970	3,130	1.03	13.98	3,300
1911	303	\$34,600	Mar. 8, 1911	515	\$3,870	1.28	17.30	3,940
1912	323	\$48,200	Apr. 3, 1912	850	4,540	1.50	20.38	4,320
1913	403	\$67,000	Mar. 29, 1913	1,030	4,030	1.33	18.01	4,060
1914	403	\$28,600	Mar. 31, 1914	850	3,000	.988	13.44	3,580
1915	403	35,800	Dec. 26, 1914	860	3,510	1.16	15.71	3,790
1916	433	49,800	July 17, 1916	1,030	5,200	1.71	23.34	4,650
1917	453	56,300	Mar. 5, 1917	850	4,970	1.64	22.21	4,740
1918	(a)	70,900	Jan. 29, 1918	680	3,610	1.19	16.14	4,380
1919	503	38,900	Jan. 3, 1919	720	4,010	1.32	17.92	3,730
1920	503	50,400	Apr. 3, 1920	850	4,310	1.42	19.31	4,500
1921	523	38,900	Feb. 11, 1921	1,130	3,860	1.27	17.25	3,710
1922	543	43,400	Jan. 22, 1922	700	4,860	1.60	21.73	4,970
1923	563	58,600	Feb. 4, 1923	700	5,340	1.76	23.91	5,080
1924	583	35,400	June 14, 1924	860	4,880	1.61	21.85	5,180
1925	603	25,000	Dec. 9, 1924	459	2,900	.956	12.97	2,510
1926	623	22,900	Jan. 19, 1926	536	2,780	.916	12.43	4,010
1927	643	65,700	Feb. 24, 1927	792	6,160	2.05	27.56	5,240
1928	653	25,200	Sept. 6, 1928	756	4,830	1.59	21.68	4,850
1929	683	36,200	Mar. 6, 1929	1,010	5,090	1.68	22.79	5,460
1930	698	18,700	Oct. 22, 1929	634	3,300	1.10	14.91	2,540
1931	713	33,600	Apr. 5, 1931	700	2,790	.919	12.49	2,940
1932	728	52,900	Feb. 4, 1932	656	4,310	1.42	19.32	4,820
1933	743	39,600	Dec. 29, 1932	680	4,530	1.49	20.25	3,757
1934	758	129,900	Mar. 4, 1934	611	2,848	.938	12.74	3,305
1935	783	67,200	Mar. 17, 1935	914	5,114	1.69	22.87	4,876
1936	803	44,200	Jan. 20, 1936	783	4,523	1.49	20.30	4,745
1937	823	30,100	Feb. 10, 1937	897	4,013	1.32	17.95	4,322
1938	853	28,800	Oct. 29, 1937	1,010	4,647	1.53	20.78	4,166
1939	873	25,200	Feb. 16, 1939	566	3,262	1.07	14.59	2,969
1940	893	59,000	Aug. 15, 1940	525	2,718	.896	12.20	2,635
1941	923	14,100	July 6, 1941	566	2,010	.662	8.99	-
1942	953	21,000	May 22, 1942	-	-	-	-	-

† Corrected.

‡ Not previously published.

a Tennessee Division of Geology, Bull. 34.

148. Holston River near Morristown, Tenn.

Location.--Lat 36°15'42", long. 83°17'18", at Morristown municipal powerhouse, just downstream from bridge on U. S. Highway 25 E, 300 ft upstream from Turkey Creek, 3.3 miles north of Morristown, Hamblen County, and at mile 75.2.

Drainage area.--3,244 sq mi.

Gage.--Staff gage. Datum of gage is 964.02 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Oct. 10, 1941, water-stage recorder at same site and datum.

Extremes.--1937-41: Maximum discharge, 58,900 cfs Aug. 15, 1940 (gage height, 26.70 ft), from rating curve extended above 28,000 cfs on basis of measured floods at Rogersville, Jefferson City, and Strawberry Plains; minimum, 422 cfs Jan. 22, 1940 (gage height, 4.16 ft).
Flood of Mar. 27, 1935, reached a stage of 28.4 ft, from floodmark (discharge, 65,000 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1937	-	-	-	-	-	-	-	3,148	2,082	1,304	2,045	2,373	-
1938	4,913	2,796	3,572	5,926	5,669	8,256	5,075	5,021	4,189	6,344	3,551	1,781	4,764
1939	1,251	2,187	2,374	3,968	11,620	6,618	4,291	2,272	2,077	2,403	1,762	873	3,420
1940	717	726	872	929	2,513	4,232	5,250	2,277	2,711	2,910	8,792	2,562	2,877
1941	1,104	1,211	1,271	1,950	1,540	4,246	3,577	1,481	1,174	5,284	1,469	1,010	2,118
1942	631	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1937	-	-	-	-	-	-	-	1.12	0.72	0.46	0.73	0.82	-
1938	1.75	0.96	1.27	2.11	1.82	2.93	1.75	1.78	1.44	2.25	1.26	.61	19.93
1939	.44	.75	.84	1.41	3.73	2.35	1.48	.81	.71	.85	.63	.30	14.30
1940	.25	.25	.31	.33	.84	1.50	1.81	.81	.93	1.03	3.12	.88	12.06
1941	.39	.42	.45	.69	.49	1.51	1.23	.53	.40	1.88	.52	.35	8.86
1942	.22	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1937	823	-	-	-	-	-	-	-	-
1938	853	27,300	Oct. 29, 1937	1,020	4,764	1.47	19.93	4,302	17.98
1939	873	25,600	Feb. 16, 1939	623	3,420	1.05	14.30	3,127	13.08
1940	893	58,900	Aug. 15, 1940	590	2,877	.887	12.06	2,983	12.51
1941	923	15,900	July 7, 1941	581	2,118	.653	8.86	-	-
1942	923	-	-	-	-	-	-	-	-

149. Mossy Creek at Jefferson City, Tenn.

Location.--Lat 36°07'38", long. 83°29'34", on left bank just upstream from City bridge, 600 ft downstream from Southern Railway culvert at Jefferson City, Jefferson County.

Drainage area.--30.8 sq mi (revised).

Gage.--Staff gage. Altitude of gage is 1,070 ft (from topographic map).

Extremes.--1932-34: Maximum discharge observed, 400 cfs Feb. 15, 1933 (gage height, 2.80 ft), from rating curve extended above 170 cfs; minimum, 10 cfs several days in December 1933 and February 1934 (gage height, 0.30 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	66.5	27.4	21.6	-
1933	23.4	23.9	66.5	129	193	138	83.9	54.5	33.2	31.1	26.3	22.6	68.1
1934	15.8	13.0	13.1	22.0	18.5	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	2.49	1.02	0.78	-
1933	0.87	0.87	2.49	4.83	6.52	5.16	3.04	2.04	1.20	1.16	.99	.82	29.99
1934	.59	.47	.49	.82	.63	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1932	728	-	-	-	-	-	-	-	-
1933	743	400	Feb. 15, 1933	12	68.1	2.21	29.99	62.0	27.31
1934	758	-	-	-	-	-	-	-	-

150. Cherokee Lake near Jefferson City, Tenn.

Location.--Lat 36°10'00", long. 83°29'55", at Cherokee Dam on Holston River, 0.3 mile upstream from bridge on State Highway 92, 2.7 miles upstream from Mill Spring Creek, 2.8 miles north of Jefferson City, Jefferson County, and at mile 52.3.

Drainage area.--3,429 sq mi.

Gage.--Water-stage recorder. Datum of gage is mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1941-50: Maximum contents, 779,400 cfs-days May 11, 1944 (elevation, 1,074.37 ft); minimum (after first filling), 48,800 cfs-days Jan. 30, 1948 (elevation, 980.94 ft).

Remarks.--Reservoir is formed by concrete dam with riprapped earth embankments. Spillway is equipped with 9 radial gates 32 ft high by 40 ft wide. Storage began Dec. 5, 1941; water in reservoir first reached minimum pool elevation Jan. 6, 1942. Total capacity at elevation 1,075.0 ft (top of gates) is 789,200 cfs-days, of which 742,700 cfs-days is controlled storage above elevation 980.0 ft (minimum pool). Reservoir is used for navigation, flood control, and power.

Cooperation.--Records furnished by the Tennessee Valley Authority.

Water year	Contents, in thousands of cfs-days, on last day of month											
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1942	-	-	833.8	85.0	185.7	329.8	378.6	511.0	810.2	700.0	728.0	627.5
1943	499.8	391.7	528.2	541.4	555.7	703.4	725.3	717.4	674.1	655.5	573.7	471.6
1944	346.3	208.2	176.2	283.	599.1	683.8	770.0	740.6	679.1	580.8	478.8	398.4
1945	382.9	294.1	228.2	249.5	385.0	426.7	377.4	511.0	568.3	511.0	436.7	344.3
1946	298.0	253.9	211.8	223.5	300.2	457.3	542.4	695.5	660.4	614.3	540.6	400.0
1947	249.7	141.9	77.5	276.8	228.4	354.2	381.4	354.7	342.6	352.5	385.9	358.8
1948	303.7	240.2	118.7	50.0	312.9	460.4	546.2	501.2	429.9	357.3	315.7	222.3
1949	124.4	187.1	228.6	252.9	352.8	447.0	536.2	597.4	585.8	728.7	831.5	524.1
1950	372.9	273.5	212.0	358.8	329.3	476.4	485.9	665.0	682.2	673.5	627.7	579.8

a Storage began Dec. 5, 1941.

151. Holston River near Jefferson City, Tenn.

Location.--Lat 36°10'03", long. 83°30'10", on left bank 250 ft upstream from bridge on State Highway 92, 0.2 mile downstream from Cherokee Dam, 0.4 mile downstream from Mossy Creek, 3 miles north of Jefferson City, Jefferson County, and at mile 52.0.

Drainage area.--3,429 sq mi.

Gage.--Water-stage recorder. Datum of gage is 900.00 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to June 30, 1941, on right bank directly across river at datum 20.02 ft higher.

Average discharge.--14 years (1936-50), 3,984 cfs (unadjusted).

Extremes.--1936-50: Maximum discharge, 58,700 cfs Aug. 15, 1940 (gage height, 41.82 ft, present datum); minimum, 2.2 cfs Dec. 8, 1941, discharge measurement; minimum daily, 2.6 cfs Dec. 25, 1941; minimum gage height, 19.75 ft Dec. 25, 1941.

Remarks.--Flow regulated by Watauga Lake since Dec. 1, 1948, and Cherokee Lake since Dec. 5, 1941 (see pp. 156 and 172).

Water year	Monthly and yearly mean discharge, in cubic feet per second												
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1937	\$2,640	\$1,450	\$3,570	\$1,500	\$10,200	\$5,450	\$3,187	\$3,230	2,081	1,361	2,077	2,404	\$4,336
1938	4,961	2,943	3,662	6,154	5,949	8,594	5,493	5,310	4,458	6,371	3,693	1,824	4,957
1939	1,265	2,232	2,442	4,101	12,300	7,055	4,544	4,407	2,137	2,430	1,787	906	3,575
1940	768	770	899	960	2,534	4,489	5,582	2,388	2,758	2,766	8,969	2,681	2,966
1941	1,214	1,275	1,343	2,116	1,734	4,415	3,700	5,568	1,228	5,245	1,516	1,087	2,217
1942	669	793	117	3.81	6.84	10.0	140	77.3	129	678	5,660	6,091	1,201
1943	6,679	6,351	4,990	7,750	9,099	3,610	4,685	4,011	3,764	3,037	4,016	4,496	5,179
1944	4,838	5,861	2,798	88.7	1,273	9,869	4,289	4,094	3,737	4,180	4,253	4,177	4,133
1945	3,466	5,420	7,484	6,949	5,539	6,027	5,904	2,166	2,594	3,823	4,481	5,072	4,907
1946	2,866	3,268	6,732	11,080	6,268	1,148	1,432	545	3,131	4,008	3,726	5,623	4,296
1947	5,895	4,565	4,027	7,462	5,350	3,614	4,197	7,749	2,734	1,915	2,173	2,699	4,026
1948	5,231	5,251	5,944	4,522	3,144	3,363	5,967	5,836	4,305	5,051	4,828	4,583	4,340
1949	4,099	2,070	5,155	6,205	2,665	2,721	2,914	2,379	2,061	2,930	6,197	6,249	3,834
1950	7,355	6,940	6,259	5,294	17,770	3,194	3,651	5,929	4,682	3,583	4,255	3,871	5,813

* Not previously published; estimated or partly estimated on basis of record for station at Strawberry Plains.

Water year	Monthly and yearly runoff, in inches												
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1937	\$0.89	\$0.47	\$1.20	\$4.94	\$3.10	\$1.83	\$1.03	1.09	0.68	0.46	0.70	0.78	\$17.17
1938	1.67	.96	1.25	2.07	1.81	2.89	1.79	1.79	1.45	2.14	1.24	.59	19.63
1939	.43	.75	.82	1.38	3.73	2.37	1.48	.81	.70	.82	.60	.29	14.16
1940	.26	.25	.30	.32	.80	1.51	1.82	.80	.90	.93	3.02	.87	11.78
1941	.41	.41	.45	.71	.53	1.48	1.23	.53	.40	1.76	.51	.35	6.77

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second, of Holston River near Jefferson City, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30								Calendar year		
		Observed				Adjusted 1/				Observed	Adjusted 1/	
		Momentary		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	
		Discharge	Date									
1937	823	-	-	-	4,336	-	1.26	17.17	4,663	-	18.47	
1938	853	27,600	Oct. 29, 1937	1,080	4,957	-	1.45	19.63	4,481	-	17.75	
1939	873	26,100	Feb. 17, 1939	700	3,575	-	1.04	14.16	3,282	-	12.99	
1940	893	58,700	Aug. 15, 1940	660	2,968	-	.865	11.78	3,091	-	12.24	
1941	923	14,200	Mar. 13, 1941	649	2,217	-	.647	8.77	2,027	2,120	8.39	
1942	953	22,500	Aug. 10, 11, 1942	2.6	1,201	2,920	.852	11.56	2,582	3,937	15.61	
1943	973	18,100	Feb. 8, 1943	43	5,179	4,752	1.39	18.87	4,797	3,833	15.17	
1944	1003	19,800	Mar. 5, 1944	7.7	4,133	3,933	1.15	15.61	4,377	4,514	17.92	
1945	1033	8,800	Jan. 31, 1945	67	4,907	4,759	1.39	18.84	4,599	4,576	18.11	
1946	1053	22,900	Jan. 18, 1946	62	4,296	4,449	1.30	17.61	4,430	4,062	18.08	
1947	1083	19,300	Jan. 24, 1947	57	4,026	3,908	1.14	15.47	4,019	4,132	16.36	
1948	1113	8,920	Sept. 25, 1948	60	4,340	3,972	1.16	15.77	4,086	4,465	17.72	
1949	1143	14,800	Dec. 31, 1948	41	3,834	5,293	1.54	20.95	4,604	5,053	20.00	
1950	1173	25,000	Feb. 4, 1950	64	5,813	6,058	1.77	23.98	-	-	-	

1/Adjusted for change in contents in Cherokee Lake since Dec. 5, 1941, and in Watauga Lake since Dec. 1, 1948; no regulation prior to that date.

* Not previously published.

152. Holston River near Knoxville, Tenn. 2/

Location.--Lat 36°00'56", long. 83°49'54", 300 ft upstream from bridge on U. S. Highway 70, 1.8 miles northeast of Knoxville city limits, Knox County, and 5.5 miles upstream from confluence with French Broad River.

Drainage area.--3,747 sq mi. At site used 1931-45, 3,626 sq mi.

Gage.--Water-stage recorder at present site and datum since June 19, 1945. Datum of gage is 815.84 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Oct. 1, 1930, to June 8, 1931, staff gage and June 9, 1931, to Sept. 30, 1948, water-stage recorder at site 11.5 miles upstream at datum 22.55 ft higher.

Average discharge.-- 20 years (1930-50), 4,381 cfs (unadjusted).

Extremes.--1930-50: Maximum discharge, 62,900 cfs Mar. 28, 1935 (gage height, 20.20 ft, site and datum then in use); minimum daily, 44 cfs Dec. 21, 22, 1941.

Remarks.--Flow regulated by Watauga Lake since Dec. 1, 1948, and by Cherokee Lake since Dec. 5, 1941 (see pp. 156 and 172).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	922	1,580	1,810	3,180	3,410	2,560	8,890	4,740	2,820	3,180	3,580	1,750	3,180
1932	999	961	4,510	6,560	15,900	9,510	8,520	7,450	2,910	2,610	1,540	967	5,170
1933	2,120	2,620	8,230	9,820	14,600	7,700	6,170	6,190	2,440	2,010	1,830	1,300	5,370
1934	820	877	1,170	2,000	1,970	12,600	7,240	2,290	1,820	2,710	4,140	1,770	3,300
1935	2,314	2,351	3,796	8,664	6,489	16,360	12,770	6,183	3,886	3,249	2,000	1,788	5,823
1936	1,001	2,946	1,634	11,530	10,430	12,940	12,200	3,008	1,593	2,223	1,587	1,784	5,218
1937	2,689	1,556	3,787	15,630	10,930	5,725	3,370	3,398	2,135	1,410	2,162	2,486	4,679
1938	4,821	3,019	3,678	6,210	6,132	8,850	5,902	5,469	4,747	6,285	3,827	1,857	5,071
1939	1,280	2,227	2,503	4,214	13,220	7,677	4,951	2,625	2,326	2,534	1,920	938	3,805
1940	804	794	915	1,020	2,591	4,814	5,958	2,572	2,850	2,741	9,088	2,913	3,091
1941	1,223	1,300	1,341	2,190	1,775	4,521	4,002	1,678	1,268	5,507	1,682	1,198	2,315
1942	741	861	188	87.2	230	402	281	213	239	670	5,708	5,944	1,300
1943	6,650	6,442	5,624	7,622	9,566	4,152	5,114	4,227	3,913	3,218	4,123	4,513	5,401
1944	4,884	5,890	2,882	180	1,735	10,460	5,061	4,258	3,749	4,192	4,320	4,544	4,356
1945	3,570	5,531	7,649	7,149	6,248	6,610	6,214	2,481	2,760	3,962	4,513	5,184	5,150
1946	2,985	3,333	7,520	12,480	9,805	1,786	1,663	1,041	3,229	4,126	3,939	5,620	4,783
1947	5,935	4,967	4,633	9,203	5,984	4,319	4,633	3,927	2,819	1,235	2,411	2,690	4,441
1948	3,268	5,365	6,015	4,699	4,736	4,266	4,559	3,951	4,497	5,515	5,089	4,655	4,709
1949	4,176	2,477	5,696	7,479	3,482	3,168	3,448	2,620	2,372	3,541	6,507	6,508	4,303
1950	7,523	7,011	6,610	6,491	20,030	3,932	3,702	4,505	4,760	3,472	4,272	3,940	6,258

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	0.29	0.43	0.58	1.01	0.98	0.81	2.73	1.51	0.87	1.01	1.14	0.54	11.90
1932	.32	.30	1.43	2.09	4.73	5.02	2.62	2.37	.89	.83	.49	.30	19.39
1933	.67	.81	2.62	3.12	4.21	2.45	1.90	1.97	.75	.64	.58	.40	20.12
1934	.26	.27	.37	.64	.57	4.01	2.23	.73	.56	.86	1.32	.54	12.36
1935	.74	.72	1.21	2.75	1.86	5.20	3.93	1.97	1.20	1.03	.64	.55	21.80
1936	.32	.91	.52	3.67	3.10	4.11	3.75	.96	.49	.71	.50	.55	19.59
1937	.86	.48	1.20	4.97	3.13	1.82	1.04	1.08	.68	.45	.69	.77	17.15
1938	1.53	.93	1.17	1.97	1.76	2.81	1.82	1.74	1.46	2.00	1.22	.57	18.98
1939	.41	.69	.80	*1.34	3.80	2.44	1.52	.85	.71	.81	.61	.29	*14.25
1940	.26	.24	.29	.32	.77	1.53	1.83	.82	.88	.87	2.89	.90	11.60
1941	.39	.40	.43	.70	.51	1.44	1.23	.53	.39	1.75	.53	.37	8.67

* Revised.

2/ Published as "at Strawberry Plains", 1931-48 (1931-45 used herein) and as "near Knoxville", 1948-50.

Yearly discharge, in cubic feet per second, of Holston River near Knoxville, Tenn.											
Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted ¹			Observed		Adjusted ¹
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1931	713	31,400	Apr. 6, 1931	825	3,180	-	0.877	11.90	3,580	-	12.65
1932	728	56,300	Feb. 5, 1932	803	5,170	-	1.43	19.39	5,710	-	21.44
1933	743	44,900	Dec. 30, 1932	841	5,370	-	1.48	20.12	4,518	-	16.92
1934	758	32,700	Mar. 5, 1934	730	3,300	-	.910	12.36	3,771	-	14.13
1935	783	62,900	Mar. 28, 1935	964	5,823	-	1.61	21.80	5,577	-	20.88
1936	803	44,200	Apr. 8, 1936	900	5,218	-	1.44	19.59	5,429	-	20.41
1937	823	31,900	Feb. 11, 1937	1,070	4,579	-	1.26	17.15	4,871	-	18.24
1938	853	26,600	Oct. 30, 1937	1,160	5,071	-	1.40	18.98	4,605	-	17.25
1939	873, 1338	26,200	Feb. 17, 1938	702	3,805	-	1.05	*14.25	*5,512	-	*13.14
1940	893	57,100	Aug. 16, 1940	642	3,091	-	.852	11.60	3,204	-	12.03
1941	923	14,300	July 8, 1941	693	2,315	-	.638	8.67	2,141	2,233	8.36
1942	953	21,600	Aug. 12, 1942	44	1,300	3,019	.833	11.30	2,722	4,077	15.20
1943	973	17,500	Feb. 9, 1943	175	5,401	4,974	1.37	18.60	4,973	4,009	15.01
1944	1003	19,700	Mar. 22, 1944	83	4,356	4,156	1.15	15.60	4,619	4,755	17.85
1945	a1033	10,900	Feb. 18, 1945	192	5,150	5,001	1.38	18.72	4,861	4,821	18.05
1946	a1053	23,900	Jan. 13, 1946	133	4,783	4,936	1.32	17.88	4,906	4,538	16.44
1947	a1083	21,200	Jan. 25, 1947	344	4,441	4,323	1.15	15.86	4,373	4,486	16.25
1948	a1113	20,200	Feb. 13, 1948	524	4,709	4,341	1.16	15.77	4,522	4,901	17.80
1949	1143	16,700	Jan. 5, 1949	267	4,303	5,762	1.54	20.87	5,037	5,486	19.87
1950	1173	30,300	Feb. 9, 1950	240	6,258	6,503	1.74	23.56	-	-	-

¹/Adjusted for change in contents in Cherokee Lake since December 1941, and in Watauga Lake since December 1948.

* Revised.

a Includes records for both stations at Strawberry Plains and near Knoxville. Records compiled herein are for station at Strawberry Plains, 1931-45, and near Knoxville, 1946-50.

153. First Creek at Mineral Springs Avenue, at Knoxville, Tenn.

Location.--Lat 36°00'53", long. 83°55'18", at Mineral Springs Avenue Bridge in Knoxville, Knox County, 0.3 mile downstream from Whites Creek, 4.1 miles upstream from gage at Fifth Avenue in Knoxville, and 5.9 miles upstream from mouth.

Drainage area.--15.7 sq mi (revised) including 3.8 sq mi without surface drainage.

Gage.--Water-stage recorder. Datum of gage is 940.87 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--5 years (1945-50), 24.8 cfs.

Extremes.--1945-50: Maximum discharge, 1,280 cfs Feb. 13, 1948 (gage height, 8.62 ft); minimum, 1.8 cfs Sept. 26, 1948; minimum gage height, 1.32 ft Sept. 20, 21, 23, 28, Oct. 1, 1945 (revised).

Monthly and yearly mean discharge, in cubic feet per second													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	-	-	-	-	-	-	-	34.5	18.8	8.17	5.72	4.25	-
1946	5.13	10.0	32.6	66.8	65.5	36.8	19.6	29.6	14.4	8.13	8.27	5.09	25.0
1947	7.05	9.72	19.8	81.3	29.9	31.2	24.7	11.5	7.44	7.17	4.75	4.49	19.9
1948	3.92	7.22	6.80	11.1	96.7	47.7	26.0	11.1	6.98	9.54	7.42	3.06	19.5
1949	3.39	34.6	48.9	68.3	37.0	30.2	28.0	15.9	8.32	29.2	11.3	5.40	26.7
1950	9.46	13.1	19.7	60.1	108	46.3	18.4	51.4	23.7	19.5	24.3	8.93	33.1

Monthly and yearly runoff, in inches													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	-	-	-	-	-	-	-	2.54	1.34	0.60	0.42	0.30	-
1946	0.38	0.71	2.39	4.91	4.34	2.71	1.39	2.18	1.03	.60	.61	.36	21.61
1947	.52	.69	1.45	5.97	1.98	2.29	1.76	.84	.53	.53	.35	.32	17.23
1948	.29	.51	.50	.81	6.64	3.50	1.85	.81	.50	.70	.54	.22	16.87
1949	.25	2.46	3.59	5.02	2.45	2.21	1.99	1.16	.59	2.14	.83	.38	23.07
1950	.70	.93	1.44	4.41	7.15	3.40	1.31	3.78	1.68	1.44	1.78	.63	28.65

Yearly discharge, in cubic feet per second									
Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1945	1033	-	-	-	-	-	-	-	-
1946	1053	670	Jan. 7, 1946	3.7	25.0	1.59	21.61	24.0	20.79
1947	1083	775	Jan. 20, 1947	3.2	19.9	1.27	17.23	18.3	15.87
1948	1113	1,280	Feb. 13, 1948	2.1	19.5	1.24	16.87	25.2	21.87
1949	1143	718	Jan. 5, 1949	2.5	26.7	1.70	23.07	23.0	19.84
1950	1173	660	Jan. 30, 1950	4.3	33.1	2.11	28.67	-	-

154. First Creek at Fifth Avenue, at Knoxville, Tenn.^{1/}

Location.--Lat 35°58'40", long. 83°54'51", at Fifth Avenue Bridge in Knoxville, Knox County, 1.8 miles upstream from mouth and 4.1 miles downstream from gage at Mineral Springs Avenue in Knoxville.

Drainage area.--21.1 sq mi (revised) including 4.5 square miles without surface drainage. At site used 1932-34, 21.2 sq mi (revised) including 4.5 sq mi without surface drainage.

Gage.--Water-stage recorder. Datum of gage is 883.13 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. June 23, 1932, to Mar. 31, 1934, staff gage at McCalla Avenue Bridge a quarter of a mile downstream at different datum.

Average discharge.--6 years (1932-33, 1945-50), 31.1 cfs.

Extremes.--1932-34, 1945-50; Maximum discharge, 1,230 cfs Feb. 13, 1948 (gage height, 8.92 ft); minimum, 2.8 cfs Oct. 17, 24, 1948; minimum gage height, 0.52 ft Sept. 1, 21, Oct. 4, 1947.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	31.5	14.4	10.8	-
1933	18.1	26.1	*67.9	53.3	*100	47.4	24.4	21.1	26.5	7.75	26.5	31.1	*37.1
1934	8.10	6.20	10.6	28.4	18.7	79.5	-	-	-	-	-	-	-
1945	-	-	-	-	-	-	-	39.9	25.7	9.98	9.12	5.91	-
1946	6.11	11.0	35.9	83.0	75.8	44.4	25.0	43.7	19.9	10.2	9.64	5.77	30.7
1947	7.53	11.2	22.3	102	32.1	35.3	28.9	14.4	10.3	10.1	5.60	5.91	23.8
1948	4.09	9.14	7.70	13.0	111	50.1	29.0	13.0	9.18	12.0	9.36	4.20	22.3
1949	3.85	48.8	59.7	88.4	43.9	37.5	32.9	19.9	11.1	39.3	13.9	6.90	33.9
1950	11.7	14.7	22.5	72.7	121	53.5	18.6	56.4	31.0	27.4	32.5	11.3	39.0

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	1.72	0.79	0.57	-
1933	0.98	1.38	*3.70	2.90	*4.91	2.58	1.29	1.14	1.40	.42	1.44	1.64	*23.78
1934	.44	.33	.58	1.54	.92	4.32	-	-	-	-	-	-	-
1945	-	-	-	-	-	-	-	2.18	1.36	.55	.50	.31	-
1946	.33	.58	1.96	4.53	3.74	2.43	1.32	2.39	1.05	.56	.53	.30	19.72
1947	.41	.59	1.22	5.55	1.58	1.93	1.53	.79	.54	.55	.31	.31	15.31
1948	.22	.48	.42	.71	5.68	2.74	1.53	.71	.49	.65	.51	.22	14.36
1949	.21	2.58	3.26	4.83	2.16	2.05	1.74	1.09	.59	2.15	.76	.37	21.79
1950	.64	.78	1.23	3.97	5.98	2.92	.99	3.08	1.64	1.50	1.77	.60	25.10

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1932	728	-	-	-	-	-	-	-	-
1933	743,1336	*770	Feb. 14, 1933*	5.4	*37.1	*1.75	*23.78	*29.8	*19.07
1934	758	548	Mar. 2, 1934	-	-	-	-	-	-
1945	1033	-	-	-	-	-	-	-	-
1946	1053	611	Jan. 8, 1946	3.8	30.7	1.45	19.72	29.6	19.07
1947	1083	776	Jan. 20, 1947	3.3	23.8	1.13	15.31	22.1	14.21
1948	1113	1,230	Feb. 13, 1948	3.1	22.3	1.06	14.36	29.9	19.29
1949	1143	863	Jan. 5, 1949	3.0	33.9	1.61	21.79	28.6	18.39
1950	1173	737	Jan. 30, 1950	4.7	39.0	1.85	25.10	-	-

* Revised.

155. Tennessee River at Knoxville, Tenn.

Location.--Lat 35°57'17", long. 83°51'42", 0.7 mile downstream from confluence of French Broad and Holston Rivers, 3.5 miles upstream from First Creek, 3.6 miles upstream from Gay Street Bridge at Knoxville, Knox County, and at mile 651.4.

Drainage area.--8,934 sq mi including that of First Creek.

Supplemental records available.--Gage-height records collected in this vicinity since 1883 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 797.38 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Sept. 1, 1943, staff or recording gages at several sites within 4 miles of present site at various datums. Since Sept. 1, 1943, auxiliary water-stage recorder 6.3 miles downstream from base gage.

Average discharge.--51 years (1899-1950), 12,880 cfs (unadjusted).

^{1/} Published as "First Creek at Knoxville", 1932-34.

155. Tennessee River at Knoxville, Tenn.--Continued

Extremes.--1899-1950: Maximum discharge, 195,000 cfs Mar. 1, 1902 (gage height, 36.4 ft, corrected, site and datum then in use), from rating curve extended above 130,000 cfs; minimum, 1,390 cfs Sept. 11, 1925 (gage height, -1.7 ft, site and datum then in use).
Maximum stage known, 45.8 ft Mar. 10, 1867, site and datum of gage at old city pump-
ing plant, 3.2 miles downstream from base gage (discharge, 270,000 cfs, from rating
curve extended above 130,000 cfs), from high-water profile by Corps of Engineers and
Tennessee Valley Authority.

Remarks.--Flow regulated by Cherokee, Douglas and Watauga Lakes since Dec. 5, 1941, Feb.
19, 1943, and Dec. 1, 1948, respectively (see pp. 172, 134, and 156).

Water year	Monthly and yearly mean discharge, in cubic feet per second												The year
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1900	3,590	2,500	6,910	8,940	18,300	28,200	15,200	8,200	13,000	9,850	5,380	5,280	10,400
1901	6,870	10,000	10,900	17,400	12,400	16,400	37,300	32,500	22,800	11,800	34,200	15,500	19,000
1902	8,570	5,370	32,600	23,400	24,300	45,700	19,600	10,800	11,000	9,950	5,150	5,290	16,800
1903	4,990	6,370	9,680	10,200	30,900	38,600	42,100	12,000	13,300	7,940	6,380	3,300	15,300
1904	2,650	4,270	3,860	5,640	9,600	22,200	10,600	10,700	6,660	5,980	6,460	3,290	7,660
1905	1,990	2,880	6,440	12,500	23,100	16,300	12,800	18,200	9,250	15,800	14,500	5,840	11,600
1906	4,390	3,480	12,900	24,400	15,800	16,400	16,500	12,300	12,100	13,000	17,700	20,600	14,000
1907	19,600	20,000	15,300	14,500	11,600	19,100	16,400	13,700	22,000	11,200	8,170	10,400	15,200
1908	6,080	12,500	13,400	25,400	22,700	26,000	20,300	13,800	10,100	9,600	10,500	5,500	14,800
1909	8,410	9,200	18,800	19,000	27,100	33,200	18,200	26,000	25,100	17,800	12,600	7,790	18,600
1910	6,590	4,440	16,380	11,500	13,400	11,900	7,640	12,300	12,000	14,500	9,220	13,400	10,200
1911	5,640	3,530	9,600	17,100	22,400	19,800	29,100	11,600	6,020	5,830	3,930	4,600	11,500
1912	7,400	7,950	10,800	11,600	17,600	31,200	32,300	20,000	9,800	13,200	7,980	5,930	14,600
1913	4,690	4,830	8,860	21,600	16,700	38,000	17,700	17,700	12,600	6,050	5,450	4,850	13,000
1914	4,790	4,870	5,530	7,050	13,600	15,300	20,800	8,270	5,480	4,760	5,370	3,600	8,240
1915	7,280	4,440	25,600	24,000	22,600	11,500	8,960	10,000	9,990	12,200	7,290	7,630	12,600
1916	9,300	7,990	22,700	30,500	24,900	19,700	13,800	8,460	10,400	33,800	16,500	6,220	17,100
1917	5,540	4,660	9,380	25,300	23,600	58,000	18,700	11,000	7,660	11,700	7,430	5,860	15,700
1918	4,590	3,820	3,890	30,000	22,600	13,600	15,000	12,600	12,800	8,080	7,030	6,480	11,600
1919	14,500	16,500	21,300	28,400	26,900	20,700	12,500	16,600	11,300	8,950	6,350	3,650	14,900
1920	6,280	4,530	14,300	13,800	16,700	29,200	32,600	9,860	10,800	8,060	17,500	11,700	14,600
1921	5,240	6,940	19,500	17,500	29,600	12,600	15,500	15,600	9,060	12,500	15,200	6,100	13,700
1922	4,380	8,190	11,100	22,900	23,000	32,900	21,400	22,000	11,600	13,300	6,950	4,400	15,100
1923	4,040	3,260	17,100	20,600	37,900	33,100	13,900	16,700	15,800	9,810	9,740	5,910	15,600
1924	3,270	3,690	8,580	23,400	16,100	21,300	19,100	16,800	14,100	11,000	6,920	6,070	12,500
1925	8,270	4,670	13,000	21,500	13,000	8,230	7,050	8,060	4,790	3,960	1,830	1,850	8,010
1926	4,790	7,510	5,310	12,100	17,800	14,300	15,300	7,560	5,340	4,060	7,340	4,540	8,760
1927	4,180	10,600	30,700	14,100	33,800	23,100	18,500	12,300	19,700	8,130	7,630	4,670	15,500
1928	4,510	5,900	16,100	12,500	12,100	14,600	20,900	23,900	20,000	17,700	18,100	22,000	15,700
1929	12,100	8,600	7,860	14,600	18,200	46,300	14,500	31,500	16,900	13,300	7,240	7,840	16,600
1930	14,200	17,700	12,000	11,200	15,000	19,700	12,100	9,460	5,040	3,660	3,980	3,900	10,600
1931	2,610	4,730	6,100	8,830	8,180	7,560	26,000	11,900	7,370	8,550	9,650	5,950	8,950
1932	2,610	2,730	12,900	17,700	36,400	20,300	19,100	16,800	8,240	7,550	5,200	3,130	12,600
1933	9,280	10,200	26,100	25,000	35,800	18,200	15,300	17,000	6,740	5,970	6,220	6,920	15,100
1934	3,228	3,255	3,731	6,585	6,218	29,450	17,600	7,368	8,768	8,825	9,665	5,328	9,215
1935	8,138	7,485	10,650	21,720	16,170	36,390	28,830	14,900	8,798	8,638	7,466	5,794	14,590
1936	3,190	3,912	5,333	32,670	27,840	35,220	34,700	8,815	5,135	6,110	5,295	4,896	14,820
1937	17,550	5,940	11,490	42,330	26,280	14,620	11,420	10,170	6,979	5,242	7,652	7,954	13,480
1938	11,630	7,792	9,107	14,570	15,070	23,120	14,700	11,990	11,520	15,620	10,640	5,445	12,610
1939	3,515	6,725	6,878	10,530	35,440	21,110	12,840	7,499	6,732	6,714	5,968	3,266	10,430
1940	2,506	2,445	2,950	3,238	7,683	12,230	6,672	6,652	6,672	7,686	23,790	11,400	8,529
1941	4,036	4,740	5,257	7,064	5,107	11,020	10,230	4,845	3,640	13,980	5,116	3,227	6,546
1942	2,213	2,891	3,617	4,069	7,371	12,000	4,773	8,078	5,998	8,878	14,140	11,590	6,972
1943	10,790	10,220	18,470	21,530	22,530	7,674	9,635	10,250	8,190	10,220	10,210	11,580	12,580
1944	10,930	12,510	7,544	5,218	7,100	22,720	14,630	11,110	13,360	10,820	10,160	10,400	11,220
1945	8,892	12,260	15,690	15,860	15,620	18,270	14,470	7,614	10,700	12,120	12,120	11,900	12,950
1946	10,690	9,343	20,570	33,920	27,110	10,880	11,190	5,521	9,051	12,060	12,120	11,650	14,450
1947	11,890	10,220	9,121	23,270	17,640	12,140	12,860	10,780	7,014	4,865	5,617	7,747	11,080
1948	8,388	12,910	14,570	10,210	16,840	12,890	11,880	10,660	11,160	8,803	9,995	11,490	11,620
1949	9,780	9,048	20,920	20,860	13,540	10,510	10,460	8,986	10,600	15,310	19,340	19,770	14,100
1950	19,150	18,540	20,680	17,100	39,960	15,580	14,410	7,535	8,119	6,361	10,340	11,420	15,580

† Corrected.

Water year	Monthly and yearly mean runoff, in inches												The year
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1900	0.46	0.51	0.89	1.15	2.13	3.64	1.89	1.06	1.63	1.27	0.69	0.66	15.78
1901	.89	1.25	1.41	2.25	1.45	2.11	4.65	4.19	2.84	1.52	4.41	1.94	28.91
1902	1.11	.67	4.20	3.02	2.83	5.90	2.45	1.40	1.37	1.29	.66	.66	25.56
1903	.64	.67	1.25	1.31	3.61	4.99	5.26	1.55	1.66	1.02	.82	.41	23.19
1904	.54	.53	.50	.73	1.16	2.86	1.32	1.38	.83	.77	.83	.41	11.66
1905	.26	.46	.83	1.62	2.69	2.11	1.59	2.34	1.16	2.04	1.87	.73	17.60
1906	.57	.43	1.83	3.15	1.60	2.12	2.06	1.59	1.51	1.68	2.28	2.57	21.23
1907	2.53	2.50	1.97	1.88	1.35	2.47	2.05	1.77	2.75	1.44	1.05	1.30	23.06
1908	.78	1.56	1.73	3.28	2.74	3.35	2.53	1.79	1.27	1.24	1.36	.69	22.32
1909	1.09	1.15	2.42	2.45	3.16	4.29	2.27	3.36	3.13	2.29	1.62	.97	28.20
1910	.85	.52	.82	1.48	1.56	1.54	.95	1.59	1.50	1.88	1.19	1.67	15.55
1911	.73	.44	1.24	2.21	2.61	2.55	3.63	1.50	.75	.75	.51	.57	17.49
1912	.96	.99	1.40	1.50	2.13	4.03	2.58	1.22	1.71	1.71	1.03	.74	22.32
1913	.61	.60	.76	2.78	1.95	4.90	2.21	2.29	1.57	.76	.70	.61	19.76
1914	.62	.61	.71	.91	1.59	1.98	2.60	1.07	.68	.61	.69	.45	12.52
1915	.94	.55	3.30	3.10	2.63	1.49	1.12	1.30	1.25	1.57	.94	.95	19.14

Monthly and yearly runoff, in inches, of Tennessee River at Knoxville, Tenn.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1916	1.20	1.00	2.93	3.94	3.01	2.54	1.72	1.09	1.30	4.36	2.12	0.78	25.99
1917	.71	.58	1.21	3.27	2.75	7.49	2.34	1.41	.96	1.51	.96	.73	23.92
1918	.59	.48	.50	3.87	2.64	1.75	1.87	1.63	1.60	1.04	.91	.61	17.69
1919	1.87	2.06	2.75	3.66	1.97	2.87	1.56	2.15	1.41	1.16	.86	.46	22.58
1920	.81	.57	1.84	1.79	2.02	3.77	4.07	1.27	1.35	1.04	2.26	1.46	22.25
1921	.68	.87	2.51	2.26	3.45	1.63	1.93	2.02	1.13	1.62	1.96	.76	20.82
1922	.57	1.02	1.43	2.95	2.68	4.24	2.67	2.84	1.44	1.71	.90	.55	23.00
1923	.52	.41	2.20	2.66	4.42	4.27	1.74	2.16	1.98	1.27	1.26	.74	23.63
1924	.42	.49	1.11	3.02	1.94	2.75	2.38	2.17	1.76	1.42	.89	.76	19.11
1925	1.07	.58	1.87	2.77	1.52	1.06	.88	1.04	.60	.51	.24	.23	12.17
1926	.62	.94	.69	1.56	2.07	1.85	1.91	.97	.67	.52	.95	.57	13.32
1927	.54	1.32	3.96	1.82	3.95	2.98	2.31	1.59	2.46	1.05	.98	.58	23.54
1928	.56	.74	2.08	1.61	1.46	1.89	2.61	3.08	2.49	2.29	2.34	2.74	23.89
1929	1.56	1.10	1.02	1.88	2.12	5.97	1.81	4.07	2.11	1.71	.93	.98	25.26
1930	1.84	2.21	1.55	1.45	1.75	2.54	1.51	1.22	.63	.47	.51	.49	16.17
1931	.36	.59	.79	1.14	.95	.98	3.24	1.53	.92	1.10	1.25	.74	13.59
1932	.34	.34	1.67	2.28	4.39	2.62	2.38	2.17	1.03	.97	.67	.59	19.25
1933	1.20	1.27	3.37	3.22	4.17	2.35	1.91	2.19	.64	.77	.80	.86	22.95
1934	.42	.41	.48	.85	.72	3.89	2.20	.95	1.09	1.14	1.27	.67	14.00
1935	1.05	.93	1.37	2.80	1.68	4.70	3.60	1.92	1.10	1.11	.96	.72	22.14
1936	.41	1.16	.69	4.22	3.36	4.54	4.33	1.14	.64	.79	.68	.61	22.57
1937	1.62	.74	1.48	5.46	3.06	1.89	1.43	1.31	.83	.68	.99	.99	20.48
1938	1.50	.97	1.18	1.88	1.76	2.98	1.84	1.55	1.44	2.02	1.37	.68	19.17
1939	.45	.84	.89	1.36	4.13	2.72	1.60	.97	.84	.87	.77	.41	15.85
1940	.32	.51	.38	.42	.93	1.58	1.90	.86	.81	.99	3.07	1.42	12.99
1941	.52	.59	.66	.91	.60	1.42	1.28	.63	.45	1.80	.66	.40	9.94

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year			
		Observed			Adjusted 1/			Observed		Adjusted 1/	
		Momentary discharge	Maximum date	Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
1900	(a)	b59,500	Mar. 22, 1900	1,800	10,400	-	1.16	15.78	11,600	-	17.67
1901	(a)	188,000	May 23, 1901	2,550	19,000	-	2.13	28.91	20,600	-	31.34
1902	(a)	195,000	Mar. 1, 1902	3,250	16,800	-	1.88	25.55	14,600	-	22.14
1903	(a)	128,000	Mar. 24, Apr. 9	2,350	15,300	-	1.71	23.19	14,500	-	22.00
1904	(a)	b56,500	Mar. 25, 1904	1,550	7,660	-	.857	11.66	7,710	-	11.74
1905	(a)	b53,500	July 13, 1905	1,750	11,600	-	1.30	17.60	12,400	-	18.82
1906	(a)	115,000	Jan. 24, 1906	3,250	14,000	-	1.57	21.23	16,800	-	25.56
1907	(a)	b115,000	Nov. 20, 1906	4,600	15,200	-	1.70	23.06	13,300	-	20.13
1908	(a)	b79,400	Jan. 13, 1908	3,250	14,600	-	1.63	22.32	15,000	-	22.91
1909	(a)	b74,900	June 5, 1909	3,250	18,600	-	2.08	28.20	16,900	-	25.73
1910	(a)	b41,700	Sept. 1, 2, 1910	3,090	10,200	-	1.14	15.55	10,400	-	15.77
1911	(a)	b77,900	Mar. 9, 1911	2,000	11,500	-	1.29	17.49	12,100	-	18.43
1912	(a)	†93,500	Apr. 3, 1912	3,480	14,600	-	1.63	22.32	13,700	-	20.94
1913	(a)	†120,000	Mar. 28, 1913	2,740	13,000	-	1.46	19.76	13,000	-	19.73
1914	(a)	b43,600	Apr. 1, 1914	2,740	8,240	-	.922	12.52	10,100	-	15.37
1915	(a)	†94,700	Dec. 26, 1914	2,580	12,600	-	1.41	19.14	12,800	-	19.48
1916	(a)	b171,000	July 18, 1916	4,140	17,100	-	1.91	25.99	15,300	-	23.36
1917	(a)	b161,000	Mar. 5, 1917	2,580	15,700	-	1.76	23.92	15,100	-	22.33
1918	(a)	†137,000	Jan. 29, 1918†	2,430	11,600	-	1.30	17.69	15,000	-	22.80
1919	503b	104,000	Oct. 31, 1918	2,860	14,900	-	1.67	22.58	12,600	-	19.12
1920	503b	152,000	Apr. 3, 1920	2,860	14,600	-	1.63	22.25	15,100	-	23.09
1921	523	98,600	Feb. 11, 1921	4,120	13,700	-	1.53	20.82	13,000	-	19.78
1922	543b	106,000	Jan. 22, 1922	3,030	15,100	-	1.69	23.00	15,200	-	23.11
1923	563	b92,600	Feb. 5, 1923	3,030	15,600	-	1.75	23.63	14,800	-	22.52
1924	583	b51,800	Mar. 7, 1924	2,550	12,500	-	1.40	19.11	13,400	-	20.41
1925	603	59,000	Dec. 9, 1924	1,390	8,010	-	.897	12.17	7,300	-	11.10
1926	623	49,700	Apr. 13, 1926	1,780	8,760	-	.981	13.32	11,100	-	16.89
1927	643	106,000	Feb. 25, 1927	2,820	15,500	-	1.73	23.54	13,900	-	21.10
1928	663	99,800	June 30, 1928	2,920	15,700	-	1.76	23.89	15,900	-	24.19
1929	683	93,600	Mar. 24, 1929	4,250	16,600	-	1.86	25.26	17,900	-	27.18
1930	698	52,900	Oct. 23, 1930	2,180	10,600	-	1.19	16.17	8,100	-	12.31
1931	713	75,700	Apr. 6, 1931	2,300	8,950	-	1.00	13.59	9,350	-	14.20
1932	728	94,500	Feb. 5, 1932	2,180	†12,600	-	†1.41	19.25	14,900	-	22.74
1933	743	106,000	Dec. 29, 1932	3,860	15,100	-	1.69	22.95	12,130	-	18.42
1934	758	82,000	Mar. 5, 1934	2,520	9,215	-	1.03	14.00	10,570	-	16.04
1935	783	120,000	Mar. 27, 1935	3,160	14,590	-	1.63	22.14	13,870	-	21.05
1936	803	121,000	Mar. 28, 1936	2,590	14,820	-	1.66	22.57	15,860	-	24.15
1937	823	90,900	Jan. 4, 1937	3,290	13,480	-	1.51	20.48	13,550	-	20.28
1938	853	64,600	July 24, 1938	3,290	12,610	-	1.41	19.17	11,640	-	17.70
1939	873	67,200	Feb. 16, 1939	2,530	10,430	-	1.17	15.85	9,661	-	14.68
1940	893	118,000	Aug. 16, 1940	1,820	8,529	-	.955	12.99	9,042	-	13.77
1941	913	30,700	July 8, 1941	1,880	6,546	-	.733	9.94	6,099	6,191	9.41
1942	953	34,600	Aug. 12, 1942	1,780	6,972	8,692	.973	13.21	9,564	10,920	16.59
1943	973	52,700	Dec. 31, 1942	3,220	12,560	13,490	1.51	20.48	11,850	11,380	17.29
1944	1003	46,200	Apr. 3, 1944	1,560	11,220	10,590	1.19	16.14	11,720	11,870	18.09
1945	1053	51,800	Feb. 18, 1945	2,500	12,950	12,650	1.42	19.23	13,270	13,000	19.75

1/ Adjusted for change in contents in Cherokee Lake beginning Dec. 5, 1941, and Douglas Lake beginning Feb. 19, 1943.
 † Adjustment since Sept. 30, 1946, is not significant. No regulation. No regulation prior to December 1941.

† Corrected.

a Tennessee Division of Geology, Bull. 34.

b Mean daily discharge.

Yearly discharge, in cubic feet per second, of Tennessee River at Knoxville, Tenn.--Continued

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted ^{1/}			Observed	Adjusted ^{1/}	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1946	1083	51,600	Jan. 8, 1946	2,890	14,450	14,490	1.62	22.02	-	13,650	20.74
1947	1083	48,200	Jan. 20, 1947	2,690	11,080	-	1.24	16.84	-	11,470	17.43
1948	1113	41,000	Feb. 14, 1948	2,720	11,620	-	1.30	17.70	-	11,960	18.22
1949	1143	39,400	Jan. 1, 1949	2,870	14,100	-	1.58	21.42	-	15,680	23.79
1950	1173	58,600	Feb. 7, 1950	3,430	15,580	-	1.74	23.67	-	-	-

^{1/} Adjusted for change in contents in Cherokee Lake beginning Dec. 5, 1941, and Douglas Lake beginning Feb. 19, 1943. Adjustment since Sept. 30, 1946, is not significant. No regulation prior to December 1941.

156. Little River at Walland, Tenn.

Location.--Lat 35°43'25", long. 83°49'05", half a mile above Walland, Blount County, three quarters of a mile above dam of England, Walton & Co.'s tannery, and at mile 23.8.

Drainage area.--175 sq mi (revised).

Gage.--Staff gage. Datum of gage is 912.34 ft (revised) above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--6 years (1925-31), 428 cfs.

Extremes.--1925-31: Maximum discharge, 10,600 cfs Mar. 23, 1929 (gage height, 11.0 ft), from rating curve extended above 2,700 cfs; minimum, 15 cfs Aug. 31, 1925 (gage height, 0.55 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	-	-	-	-	-	-	-	-	-	-	32.4	26.7	-
1926	323	235	251	726	363	364	614	385	307	249	247	159	354
1927	117	418	1,110	511	1,090	849	459	357	563	265	272	148	510
1928	79.5	161	566	488	285	383	574	672	592	286	613	584	441
1929	221	218	189	603	570	1,360	618	1,210	434	397	282	360	540
1930	382	1,020	422	375	544	795	421	434	158	91.4	57.9	78.7	397
1931	60.9	158	192	281	394	256	1,050	350	163	370	455	208	327

* Not previously published; estimated on the basis of records for Little Pigeon River at Sevierville.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	-	-	-	-	-	-	-	-	-	-	0.21	0.17	-
1926	2.13	1.50	1.85	4.78	2.28	2.40	3.91	2.54	1.96	1.64	1.63	1.01	27.43
1927	.77	2.67	3.33	3.36	6.49	5.60	2.93	2.35	3.59	1.75	1.79	.94	39.57
1928	.52	1.03	3.73	3.21	1.79	2.53	3.65	4.43	3.77	1.88	4.04	3.72	34.27
1929	1.46	1.39	1.25	3.97	3.39	8.96	3.94	7.99	2.76	2.61	1.86	2.30	41.88
1930	2.51	6.50	2.78	2.47	3.24	5.24	2.69	2.86	1.01	.60	.38	.50	30.78
1931	.40	1.01	1.27	1.85	2.35	1.68	6.72	2.31	1.04	2.44	3.00	1.33	25.40

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date							
1925	603	-	-	-	-	-	-	-	-	-
1926	623	5,110	Jan. 18, 1926	23	354	2.02	27.43	424	32.92	
1927	643	6,640	Feb. 23, 1927	63	510	2.91	39.57	439	34.08	
1928	663	4,050	Sept. 1, 1928	46	441	2.52	34.27	425	33.09	
1929	683	10,600	Mar. 23, 1929	82	540	3.09	41.88	639	49.57	
1930	698	3,550	Nov. 18, 1929	36	397	2.27	30.78	279	21.67	
1931	713	6,180	Apr. 4, 1931	-	327	1.87	25.40	-	-	-

* Not previously published.

157. Little River near Walland, Tenn.

Location.--Lat 35°45'48", long. 83°51'00", 0.4 mile upstream from bridge on State Highway 78, 1.0 mile upstream from Ellejoy Creek, 3 miles downstream from Walland, Blount County, and at mile 20.7.

Drainage area.--192 sq mi.

Gage.--Water-stage recorder. Datum of gage is 877.36 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--19 years (1931-50), 369 cfs.

Extremes.--1931-50: Maximum discharge, 17,500 cfs Jan. 20, 1947 (gage height, 13.92 ft), from rating curve extended above 9,000 cfs; minimum (revised), 8.2 cfs Oct. 9, 1948 (gage height, 0.66 ft); minimum daily, 25 cfs Oct. 22, 1939.

Monthly and yearly mean discharge, in cubic feet per second, of Little River near Walland, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	-	-	-	-	-	-	-	-	-	-	493	166	-
1932	69.2	72.5	575	733	1,070	582	572	521	212	231	91.3	*52.9	*397
1933	252	348	1,060	629	986	559	426	463	121	101	226	165	442
1934	57.3	57.7	90.4	324	239	1,110	450	251	379	249	157	99.1	289
1935	175	215	237	525	557	841	802	419	201	239	157	88.3	370
1936	69.2	329	150	1,215	897	1,319	985	170	86.9	128	99.0	77.2	459
1937	165	148	400	1,387	657	406	467	333	173	153	279	173	395
1938	212	137	207	522	413	722	693	367	324	405	441	126	381
1939	68.2	203	273	438	1,123	419	496	233	157	273	106	52.7	330
1940	40.0	41.7	64.0	95.5	347	501	460	197	322	420	389	175	254
1941	88.8	138	184	276	168	526	355	149	144	369	143	60.1	218
1942	55.9	*102	139	208	482	886	180	323	212	350	648	178	*314
1943	125	176	993	564	676	837	489	268	163	566	291	105	435
1944	81.2	110	105	233	1,035	1,058	646	295	134	73.2	95.0	143	331
1945	158	127	378	492	921	514	304	541	223	269	333	168	566
1946	162	331	604	1,111	1,001	566	536	494	210	219	102	76.6	448
1947	120	178	338	1,499	442	564	368	301	136	103	135	76.4	356
1948	60.7	148	152	216	1,095	625	636	170	107	112	164	56.2	291
1949	37.0	547	727	827	660	529	535	378	315	540	285	259	469
1950	378	464	370	847	1,013	950	332	294	360	372	170	127	470

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	-	-	-	-	-	-	-	-	-	-	2.96	0.97	-
1932	0.42	0.42	3.46	4.40	6.01	3.49	3.32	3.13	1.23	1.39	.55	*.31	*28.13
1933	1.51	2.02	6.36	3.77	5.35	3.36	2.48	2.78	.70	.61	1.36	.96	31.26
1934	.34	.34	.54	1.95	1.30	6.67	2.61	1.51	2.20	1.49	.94	.58	20.47
1935	1.05	1.25	1.43	3.15	3.02	5.05	4.66	2.52	1.17	1.43	.94	.51	26.18
1936	.42	1.91	.90	7.30	5.04	7.92	5.72	1.02	.50	.77	.59	.45	32.54
1937	.99	.86	2.40	8.33	3.56	2.44	2.71	2.00	1.01	.92	1.68	1.01	27.91
1938	1.28	.80	1.24	3.14	2.24	4.33	4.03	2.21	1.88	2.43	2.65	.75	26.96
1939	.41	1.18	1.64	2.65	6.09	3.72	2.88	1.40	.80	1.64	.63	.31	23.33
1940	.24	.24	.38	.57	1.95	3.01	2.67	1.18	1.87	2.52	2.33	1.02	17.98
1941	.53	.80	1.11	1.66	.91	3.16	2.06	.90	.83	2.21	.86	.35	15.38
1942	.34	*.59	.83	1.25	2.62	5.32	1.05	1.94	1.23	2.10	3.89	1.04	*22.20
1943	.75	1.02	5.96	3.39	3.67	5.03	2.84	1.61	.95	3.40	1.75	.61	30.98
1944	.49	.64	.63	1.40	5.81	6.35	3.75	1.77	.78	.44	.57	.83	23.46
1945	.95	.74	2.27	2.95	5.00	3.08	1.77	3.25	1.30	1.62	2.00	.97	25.90
1946	.97	1.93	3.63	6.67	5.43	3.40	3.11	2.97	1.22	1.32	.61	.45	31.71
1947	.72	1.03	2.03	9.00	2.40	3.39	2.14	1.81	.79	.62	.61	.44	25.18
1948	.36	.86	.91	1.30	6.15	3.75	3.70	1.02	.62	.67	.99	.33	20.66
1949	.22	3.18	4.36	4.97	3.58	3.17	3.11	2.27	1.83	3.24	1.71	1.50	33.14
1950	2.27	2.70	2.22	5.09	5.49	5.70	1.93	1.76	2.09	2.23	1.02	.74	33.24

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1931	713	-	-	-	-	-	-	-	-
1932	728,1436	10,200	Jan. 30, 1932	*30	*397	*2.07	*28.13	*476	*33.72
1933	743	9,200	Feb. 15, 1933	34	442	2.30	31.26	320	22.59
1934	783	9,040	Mar. 3, 1934	44	289	1.51	20.47	325	22.98
1935	783	8,260	Mar. 12, 1935	54	370	1.93	26.18	363	25.68
1936	803	16,200	Feb. 4, 1936	44	459	2.39	32.54	474	33.57
1937	823	6,810	Jan. 3, 1937	69	395	2.06	27.91	381	26.96
1938	853	8,560	Aug. 5, 1938	74	381	1.98	26.96	380	26.87
1939	873	6,390	Feb. 15, 1939	37	330	1.72	23.33	297	20.96
1940	893	2,900	Aug. 30, 1940	25	254	1.32	17.98	276	19.56
1941	923	2,140	July 7, 1941	34	218	1.14	15.38	*208	*14.70
1942	953,1436	4,080	Mar. 9, 1942	32	*314	1.64	*22.20	398	26.17
1943	973	13,000	Dec. 29, 1942	74	438	2.28	30.98	353	25.01
1944	1003	8,900	Feb. 18, 1944	44	331	1.72	23.46	362	25.66
1945	1033	7,850	Feb. 13, 1945	76	366	1.91	25.90	403	28.47
1946	1053	12,100	Jan. 7, 1946	54	448	2.33	31.71	410	28.96
1947	1083	17,500	Jan. 20, 1947	41	356	1.95	25.18	333	23.53
1948	1113	9,160	Feb. 14, 1948	34	291	1.52	20.66	377	26.29
1949	1143	11,000	Jan. 5, 1949	28	469	2.44	33.14	461	32.57
1950	1173	12,300	Oct. 31, 1949	77	470	2.45	33.24	-	-

* Revised.

158. Pistol Creek at Maryville, Tenn.

Location.--Lat 35°45'26", long. 83°58'24", at Cusick Street bridge at Maryville, Blount County.

Drainage area.--13.5 sq mi (revised).

Gage.--Staff gage. Altitude of gage is 855 ft (from topographic map).

Extremes.--1932-33: Maximum discharge, 900 cfs Aug. 17, 1933 (gage height, 5.3 ft, from floodmark), from rating curve extended above 290 cfs; minimum, 2.9 cfs July 18, 1933 (gage height, 0.10 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	10.8	8.55	6.87	-
1933	7.57	11.1	62.1	40.1	60.4	28.2	19.7	22.5	12.2	8.04	29.2	20.4	26.7

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	0.92	0.73	0.57	-
1933	0.65	0.91	5.30	3.43	4.66	2.40	1.63	1.92	1.01	.77	2.49	1.68	26.85

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1932	728	-	-	-	-	-	-	-	-
1933	743	#900	Aug. 17, 1933	4.9	26.7	1.98	26.85	-	-

* Not previously published.

159. Fort Loudoun Lake near Lenoir City, Tenn.

Location.--Lat 35°47'30", long. 84°14'35", at Fort Loudoun Dam on Tennessee River, 1 mile northeast of Lenoir City, Loudoun County, and at mile 602.3.

Drainage area.--9,550 sq mi.

Gage.--Water-stage recorder. Datum of gage is mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Sept. 24, 1943, staff gage or water-stage recorder on upper lock at same datum.

Extremes.--1943-50: Maximum elevation, 815.00 ft Sept. 11, 1943, May 14, 1945 (contents, 194,900 cfs-days, by level storage table); minimum contents not determined; minimum elevation (after first filling), 805.72 ft Jan. 20, 1944.

Remarks.--Reservoir formed by concrete dam with earth embankment. Spillway equipped with 14 taintor gates 32 ft high by 40 ft wide. Closure of dam was made Aug. 2, 1943; water in reservoir first reached ordinary minimum pool elevation Sept. 4, 1943. Total level pool capacity at elevation 815.00 ft (top of gates) is 194,900 cfs-days, of which 55,100 cfs-days is controlled storage above elevation 807.00 ft (minimum navigation pool). Reservoir is used for navigation, flood control, and power.

Cooperation.--Records furnished by Tennessee Valley Authority. Contents prior to Oct. 1, 1946, furnished in acre-feet based on level storage and converted to cfs-days by Geological Survey; contents since Oct. 1, 1946, furnished in cfs-days based on backwater profile.

Contents, in thousands of cfs-days, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1943	-	-	-	-	-	-	-	-	-	5	100	165
1944	149	150	146	141	154	150	178	182	180	164	158	178
1945	150	155	140	141	142	149	177	181	180	177	180	165
1946	173	155	141	144	142	153	183	180	175	177	176	156
1947	151	156	158	139	142	145	181	178	173	178	174	175
1948	159	153	141	146	142	150	181	177	180	175	175	168
1949	152	177	145	146	146	151	184	178	179	174	176	174
1950	189	158	141	144	146	146	182	182	177	173	174	175

160. Little Tennessee River near Prentiss, N. C.

Location.--Lat 35°08'57", long. 83°22'46", 600 ft upstream from Owenby Branch, 0.5 mile upstream from Cartoogechaye Creek, and 2.0 miles north of Prentiss, Macon County.

Drainage area.--140 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,008.39 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--7 years (1943-50), 399 cfs.

Extremes.--1943-50: Maximum discharge, 5,900 cfs (revised) June 16, 1949 (gage height, 12.85 ft), from rating curve extended above 3,600 cfs on basis of slope-area determination of peak flow; minimum, 81 cfs Oct. 7, 1947 (gage height, 1.33 ft). Flood of October 1898 reached a stage of about 15 ft, from profiles by Tennessee Valley Authority.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1944	*128	*163	*158	*320	*640	*890	*700	*370	*235	163	153	147	*337
1945	132	161	223	280	376	401	443	351	204	156	152	288	263
1946	208	244	432	1,008	908	893	593	665	343	244	159	156	486
1947	182	189	205	679	366	366	470	334	242	159	138	101	286
1948	217	352	285	285	683	717	592	300	209	352	372	202	379
1949	135	751	633	788	711	513	633	594	694	627	462	531	588
1950	436	448	438	542	567	717	428	310	373	285	250	671	454

* Not previously published; estimated or partly estimated on basis of records for Cullasaja River at Cullasaja.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1944	*1.05	*1.30	*1.28	*2.64	*4.93	*7.33	*5.58	*3.05	*1.87	1.54	1.26	1.17	*32.80
1945	1.09	1.28	1.84	2.30	2.80	3.31	3.53	2.89	1.62	1.28	1.25	2.29	25.48
1946	1.71	1.94	3.56	8.30	6.75	7.35	4.73	5.47	2.73	2.01	1.31	1.24	47.10
1947	1.50	1.50	1.70	5.59	2.72	3.02	3.74	2.75	1.93	1.31	1.14	.81	27.71
1948	1.78	2.80	2.35	2.35	5.26	5.90	4.72	2.47	1.66	2.90	3.07	1.61	36.87
1949	1.11	5.99	5.21	6.49	5.29	4.23	5.05	4.89	5.53	5.16	3.81	4.23	56.99
1950	3.59	3.57	3.61	4.46	4.21	5.90	3.41	2.55	2.98	2.35	2.06	5.35	44.04

* Not previously published; estimated or partly estimated on basis of records for Cullasaja River at Cullasaja.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1944	1003	-	-	100	*337	*2.41	*32.80	*343	*33.38		
1945	1033	1,300	Sept. 17, 1945	95	263	1.86	25.48	294	28.48		
1946	1053	3,880	Feb. 10, 1946	118	486	3.47	47.10	460	44.59		
1947	1083	3,250	Jan. 20, 1947	86	286	2.04	27.71	309	29.94		
1948	1113	2,270	Feb. 14, 1948	82	379	2.71	36.87	435	42.25		
1949	1146	*5,900	June 16, 1949	120	588	4.20	56.99	572	55.45		
1950	1173	3,180	Mar. 14, 1950	144	454	3.24	44.04	-	-		

* Revised.

* Not previously published.

161 Cullasaja River at Highlands, N. C. 1/

Location (revised).--Lat 35°04'14", long. 83°13'57", 0.6 mile downstream from Highlands municipal dam, 1.0 mile downstream from Big Creek, and 2.3 miles northwest of Highlands, Macon County.

Drainage area.--14.9 sq mi. At site used 1927-31, 14.4 sq mi.

Gage.--Water-stage recorder. Datum of gage is 3,373.63 ft above mean sea level. Prior to Aug. 29, 1931, water-stage recorder on crest of Highlands municipal dam 0.6 mile (revised) upstream at datum 230.22 ft higher.

Average discharge.--19 years (1931-50), 60.0 cfs.

Extremes.--1931-50: Maximum discharge, 5,100 cfs Aug. 30, 1940 (gage height, 9.35 ft), from rating curve extended above 800 cfs on basis of computation of peak flow over dam; minimum, 0.2 cfs Oct. 13, 14, 1947 (revised).

Remarks.--Low flow regulated by Sequoyah Lake. Some diurnal fluctuation caused by power-plant at Highlands municipal dam.

1/ Published as Cullasaja Creek at Highlands prior to 1950.

TENNESSEE RIVER BASIN

Monthly and yearly mean discharge, in cubic feet per second, of Cullasaga River at Highlands, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	-	-	-	-	-	-	-	-	-	-	-	12.5	-
1932	8.25	12.5	103	124	70.8	66.7	60.4	69.8	50.6	20.7	16.8	19.2	52.0
1933	93.0	77.2	150	97.3	69.0	58.4	80.0	80.7	24.6	17.0	14.8	15.3	64.9
1934	9.98	11.5	21.0	62.7	41.6	125	56.0	45.5	65.5	45.6	35.4	30.0	45.9
1935	57.2	72.8	70.8	121	57.2	64.5	53.3	44.9	23.4	37.6	62.6	30.4	58.1
1936	18.1	58.4	41.0	145	95.1	72.6	151	28.7	17.2	8.24	16.4	34.4	56.8
1937	96.2	47.8	87.0	197	112	50.5	62.4	42.6	27.4	23.0	40.5	51.1	69.7
1938	88.5	47.4	48.7	46.8	45.0	65.3	68.3	40.4	43.4	85.6	66.8	29.8	56.4
1939	13.6	51.0	29.7	22.5	184	106	62.0	45.3	35.0	21.5	36.7	16.5	54.5
1940	10.1	8.24	11.5	17.3	63.9	64.9	92.5	40.3	26.3	20.0	192	71.1	51.5
1941	22.0	47.6	62.5	59.7	33.8	44.1	47.3	20.9	17.7	102	46.4	17.3	43.7
1942	15.4	34.6	85.8	70.1	95.9	114	42.7	74.3	104	57.3	52.7	72.3	68.1
1943	35.8	29.8	138	116	87.6	82.5	77.0	58.6	54.5	105	43.9	26.2	71.3
1944	17.6	27.3	24.5	51.9	92.3	130	93.8	46.8	23.8	22.1	18.8	18.9	47.1
1945	17.5	24.5	38.5	50.1	72.9	71.7	92.1	56.8	30.6	24.5	23.3	57.5	46.4
1946	39.0	49.3	81.9	175	119	128	67.4	80.9	35.7	30.2	18.7	17.8	70.1
1947	26.2	30.9	37.4	125	53.5	65.2	87.1	44.3	40.6	20.2	17.8	12.6	46.7
1948	54.2	73.8	51.7	52.3	109	122	80.4	29.9	18.9	99.5	65.1	72.4	68.9
1949	22.7	173	110	118	97.8	74.1	101	73.2	133	104	96.8	86.3	99.0
1950	76.1	66.3	90.9	94.4	94.2	96.2	49.0	26.9	40.8	36.8	30.5	129	69.0

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	-	-	-	-	-	-	-	-	-	-	-	0.94	-
1932	0.64	0.94	8.01	9.56	5.13	5.16	4.52	5.40	3.79	1.60	1.30	1.44	47.49
1933	7.19	5.78	11.62	7.53	4.82	4.52	5.99	6.25	1.84	1.32	1.15	1.14	59.15
1934	.77	.86	1.63	4.85	2.91	9.69	4.20	3.52	4.91	5.53	2.74	2.25	41.86
1935	4.43	5.45	5.48	9.35	4.00	4.99	3.99	3.47	1.75	2.91	4.85	2.28	52.95
1936	1.40	4.37	3.17	11.19	6.88	5.62	11.28	2.22	1.29	.64	1.27	2.58	51.91
1937	7.45	3.58	6.73	15.22	7.83	3.91	4.68	3.30	2.05	1.78	3.14	3.83	63.50
1938	6.85	3.55	3.77	3.62	3.01	5.05	5.11	3.12	3.25	6.62	5.16	2.23	51.34
1939	1.05	3.82	2.29	4.83	12.81	8.20	4.64	3.50	2.62	1.66	2.84	1.24	49.50
1940	.78	.62	.89	1.34	4.63	5.03	6.93	3.11	1.98	1.54	14.87	5.32	47.04
1941	1.70	3.56	4.83	4.62	2.36	3.41	3.54	1.61	1.32	7.91	3.59	1.30	39.75
1942	1.19	2.59	6.64	5.42	6.70	8.85	3.20	5.75	7.76	4.43	4.08	5.42	62.03
1943	2.77	2.23	10.66	8.96	6.12	6.38	5.76	4.54	4.08	8.09	3.40	1.96	64.95
1944	1.37	2.04	1.90	4.02	6.68	10.06	7.02	3.62	1.79	1.71	1.45	1.42	43.08
1945	1.35	1.84	2.98	3.88	5.10	5.55	6.89	4.40	2.29	1.89	1.80	4.31	42.28
1946	3.02	3.69	6.34	13.53	8.30	9.91	5.05	6.26	2.67	2.34	1.45	1.33	63.89
1947	2.03	2.32	2.89	9.64	3.74	5.04	6.52	3.43	3.04	1.56	1.98	.94	42.53
1948	4.19	5.52	4.00	4.04	7.85	9.43	6.02	2.31	1.42	7.70	5.04	5.42	62.94
1949	1.75	12.96	8.53	9.17	6.83	5.73	7.59	5.66	9.92	8.05	7.49	6.46	90.14
1950	5.89	4.96	7.03	7.30	6.59	7.44	3.67	2.08	3.05	2.85	2.36	9.64	62.86

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1931	728	-	-	-	-	-	-	-	-
1932	728	680	Jan. 13, 1932	5.6	52.0	3.49	47.49	68.4	62.49
1933	743	730	Apr. 16, 1933	9.3	64.9	4.36	59.15	41.5	37.82
1934	758	590	Mar. 3, 1934	7.9	45.9	3.08	41.86	59.2	53.96
1935	783	738	Jan. 8, 1935	15	58.1	3.90	52.95	51.1	46.53
1936	803	1,360	Sept. 30, 1936	.4	56.8	3.81	51.91	66.5	60.73
1937	823	692	Dec. 31, 1936	.7	69.7	4.68	63.50	65.7	59.91
1938	853	990	Oct. 18, 1937	18	56.4	3.79	51.34	48.7	44.33
1939	873	805	Nov. 5, 1938	11	54.5	3.66	49.50	49.1	44.63
1940	893	5,100	Aug. 30, 1940	1.3	51.5	3.46	47.04	60.0	54.84
1941	923	982	July 7, 1941	14	43.7	2.93	39.75	44.0	40.08
1942	953	762	Mar. 8, Sept. 27	5.9	68.1	4.57	62.03	73.8	67.27
1943	973	1,200	Dec. 29, 1942	17	71.3	4.79	64.95	59.9	54.60
1944	1003	442	Mar. 29, 1944	8.2	47.1	3.16	43.08	48.1	43.94
1945	1033	504	Apr. 17, 1945	2.3	46.4	3.11	42.28	54.0	49.16
1946	1053	760	Jan. 7, 1946	11	70.1	4.70	63.89	63.7	58.08
1947	1083	724	Jan. 20, 1947	1.8	46.7	3.13	42.53	53.8	49.00
1948	1113	1,420	Sept. 5, 1948	.2	68.9	4.62	62.94	79.3	72.47
1949	1143	2,090	June 16, 1949	19	99.0	6.64	90.14	93.1	84.78
1950	1173	761	Mar. 13, 1950	17	69.0	4.63	62.86	-	-

Note.--Records for December 1927 to August 1931 published in WSP 663, 683, 698, and 713 have been found in error on the basis of restudy of the original data and comparison with records at nearby stations. Those records are not published herein and should not be used.

162. Cullasaja River at Cullasaja, N. C. 1/

Location.--Lat 35°09'59", long. 83°19'25", at Cullasaja, Macon County, 1.4 miles (corrected) downstream from Ellijay Creek and 4.1 miles upstream from mouth.

Drainage area.--86.5 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,023.37 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to May 23, 1934, staff gages at same site and datum.

Average discharge.--32 years (1907-9, 1920-50), 227 cfs.

Extremes.--1907-9, 1920-50: Maximum discharge, 16,500 cfs Aug. 30, 1940 (gage height, 20.83 ft), from rating curve extended above 8,100 cfs on basis of slope-area determination of peak flow; minimum, 19 cfs Sept. 18-22, 1925, Jan. 2, 1940. Maximum stage known, that of Aug. 30, 1940. A stage of 17.2 ft, from floodmarks, occurred in July 1916, but has been exceeded at other times, according to information by State Highway Commission.

Remarks.--Slight regulation at low flow by Sequoyah Lake.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	-	136	100	114	-
1908	86.2	197	326	380	441	350	331	278	178	168	167	109	250
1909	142	130	276	251	443	512	371	558	528	303	273	200	332
1910	191	124	343	-	-	-	-	-	-	-	-	-	-
1921	*106	*131	*322	*282	*404	231	318	289	176	158	150	106	*222
1922	93.6	168	257	415	422	597	461	432	290	168	112	83.2	291
1923	79.8	69.7	238	270	339	343	340	482	370	205	134	103	247
1924	83.1	137	217	409	265	510	360	268	154	209	94.4	134	220
1925	105	86.0	231	400	214	205	145	134	80.1	56.2	29.9	25.5	143
1926	46.5	140	100	214	256	227	293	120	78.4	79.1	21.6	99.7	155
1927	78.0	259	378	248	247	394	215	140	162	121	126	105	206
1928	120	197	461	258	242	305	425	387	296	225	540	380	320
1929	260	180	146	311	376	839	368	561	304	191	116	251	325
1930	279	471	247	216	237	254	173	281	141	80.0	56.5	71.5	209
1931	53.7	108	129	148	126	183	391	200	97.8	92.1	102	56.1	140
1932	37.8	49.7	312	401	277	248	253	278	163	124	98.2	82.8	194
1933	257	252	602	428	351	312	337	360	120	84.2	68.1	64.4	270
1934	44.0	48.3	65.0	154	134	429	191	145	192	153	142	98.4	150
1935	185	260	275	429	229	297	268	215	116	119	160	85.4	220
1936	64.0	171	129	558	440	365	672	187	100	83.2	79.6	144	248
1937	266	158	303	688	440	232	273	202	116	87.8	113	138	251
1938	260	144	147	161	147	239	264	153	161	319	265	128	200
1939	74.0	183	126	230	691	442	261	186	147	96.4	119	67.3	215
1940	48.9	42.8	52.5	72.9	200	194	305	153	111	84.0	542	236	170
1941	93.3	138	177	190	123	170	192	95.0	82.6	37.6	174	87.6	159
1942	72.0	108	243	208	333	427	195	279	266	216	175	197	226
1943	134	119	447	457	388	360	310	235	174	293	147	99.7	263
1944	71.8	92.5	88.5	183	370	514	403	211	125	87.1	80.0	70.5	191
1945	61.9	83.0	122	161	246	272	336	234	124	98.6	84.5	184	166
1946	129	161	286	607	485	521	325	332	175	129	87.4	79.0	276
1947	98.4	110	116	433	200	221	320	173	141	89.7	80.3	54.5	170
1948	158	254	174	474	429	449	353	160	101	229	187	165	234
1949	75.3	510	381	419	382	289	392	327	493	357	317	298	351
1950	253	260	281	351	357	388	233	154	198	155	140	410	264

* Not previously published; estimated or partly estimated on basis of records for Tuckasegee River at Bryson City.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	-	1.81	1.33	1.47	-
1908	1.15	2.55	4.34	5.06	5.50	4.67	4.27	3.71	2.30	2.23	2.23	1.40	39.41
1909	1.90	1.68	3.67	3.35	5.33	6.82	4.78	7.43	6.82	4.04	3.64	2.58	52.04
1910	2.54	1.60	4.57	-	-	-	-	-	-	-	-	-	-
1921	*1.41	*1.69	*4.29	*3.76	*4.87	3.07	4.10	3.66	2.28	2.10	2.00	1.37	*34.80
1922	1.25	2.17	3.42	5.52	5.09	7.96	5.95	5.76	3.74	2.24	1.49	1.07	45.66
1923	1.06	.90	3.18	3.60	4.08	4.57	4.39	6.42	4.77	2.73	1.79	1.33	38.82
1924	1.11	1.76	2.90	5.45	3.31	4.13	4.64	3.57	1.99	2.76	1.26	1.73	34.63
1925	1.41	1.11	3.08	5.33	2.58	2.74	1.87	1.78	1.03	.75	.40	.33	22.41
1926	.62	1.61	1.34	2.85	3.08	3.03	3.77	1.80	1.01	1.05	2.88	1.25	24.33
1927	1.04	3.34	5.04	3.30	2.98	5.25	2.77	1.87	2.09	1.61	1.69	1.35	32.33
1928	1.60	2.54	6.15	3.44	3.02	4.07	5.48	5.16	3.82	3.00	7.20	4.90	50.38
1929	3.46	2.32	1.95	4.15	4.52	11.18	4.75	7.47	3.92	2.55	1.54	3.24	51.05
1930	3.72	6.08	3.29	2.88	2.65	3.42	2.23	3.74	1.82	1.07	.75	.92	32.77
1931	.72	1.39	1.72	1.98	1.51	2.43	5.05	2.66	1.26	1.23	1.37	.72	22.04
1932	.50	.64	4.15	5.34	3.46	3.31	3.26	3.70	2.10	1.65	1.31	1.07	30.49
1933	3.45	3.25	8.03	5.71	4.23	4.16	4.34	4.80	1.55	1.12	.91	.83	42.36
1934	.59	.62	.87	2.06	1.61	5.71	2.47	1.94	2.48	2.03	1.89	1.27	23.54
1935	2.47	3.56	3.66	5.72	2.76	3.96	3.46	2.87	1.49	1.59	2.13	1.10	34.57

* Not previously published; estimated or partly estimated on basis of records for Tuckasegee River at Bryson City.

1/ Published as Cullasaja Creek at Cullasaja prior to 1950.

Monthly and yearly runoff, in inches, of Cullasaja River at Cullasaja, N. C.--Continued													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1936	0.85	2.21	1.72	7.43	5.48	4.86	8.67	2.49	1.28	1.11	1.06	1.85	39.01
1937	3.55	2.04	4.04	9.17	5.30	3.09	3.53	2.70	1.50	1.18	1.51	1.78	39.39
1938	3.46	1.85	1.96	2.14	1.77	3.18	3.40	2.04	2.08	4.25	3.53	1.65	31.31
1939	.99	2.36	1.68	3.07	8.32	5.89	3.37	2.48	1.90	1.28	1.59	.87	33.80
1940	.65	.55	.70	.97	2.49	2.58	3.93	2.04	1.43	1.12	7.23	3.05	26.74
1941	1.24	1.79	2.35	2.53	1.48	2.27	2.48	1.27	1.07	5.01	2.32	1.13	24.94
1942	.96	1.39	3.23	2.75	4.01	5.69	2.51	3.72	3.43	2.88	2.33	2.54	35.44
1943	1.53	5.95	6.09	4.67	4.80	3.99	3.13	2.24	3.90	1.96	1.29	41.33	
1944	.96	1.19	1.18	2.43	4.61	6.85	5.20	2.81	1.61	1.16	1.07	.91	29.98
1945	.82	1.07	1.63	2.14	2.96	3.62	4.33	3.12	1.60	1.31	1.13	2.38	26.11
1946	1.72	2.08	3.81	8.09	5.84	6.95	4.19	4.42	2.26	1.71	1.16	1.02	43.25
1947	1.31	1.42	1.55	5.76	2.41	2.95	4.12	2.31	1.82	1.20	1.07	.70	26.62
1948	2.11	3.04	2.32	2.32	5.35	5.99	4.55	2.13	1.31	3.05	2.49	2.13	36.79
1949	1.00	6.58	5.08	5.58	4.59	3.85	4.92	4.36	6.35	4.75	4.22	3.85	55.13
1950	3.37	3.36	3.74	4.67	4.30	5.18	3.01	2.05	2.55	2.07	1.86	5.29	41.45

Yearly discharge, in cubic feet per second									
Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1907	1143	-	-	69	-	-	-	-	-
1908	1143	a1,450	Feb. 15, 1908	69	250	2.89	39.41	245	36.62
1909	1143	a2,220	May 20, 1909	74	332	3.84	52.04	341	53.50
1910	1143	a1,620	Dec. 13, 1909	-	-	-	-	-	-
1921	1143	1,180	Apr. 16, 1921	b83	222	2.57	34.80	218	34.25
1922	1143	2,150	Jan. 21, 1922	69	291	3.36	45.66	280	43.96
1923	1143	2,940	May 23, 1923	61	247	2.86	38.82	251	39.45
1924	583, 1143	2,360	Jan. 11, 1924	67	220	2.54	34.63	219	34.46
1925	603, 1143	2,010	Dec. 8, 1924	19	143	1.65	22.41	131	20.58
1926	623, 1143	2,220	Jan. 18, 1926	23	155	1.79	24.33	191	29.98
1927	643, 1143	1,450	Dec. 25, 1926	57	208	2.38	32.33	212	33.20
1928	663, 1143	7,770	Aug. 15, 1928	54	320	3.70	50.38	304	47.82
1929	683, 1143	4,180	Mar. 14, 1929	78	325	3.76	51.05	359	56.41
1930	698, 1143	1,900	Nov. 3, 1929	40	209	2.42	32.77	150	23.51
1931	713, 1143	1,940	Apr. 22, 1931	39	140	1.62	22.04	150	23.50
1932	728	2,430	Apr. 30, 1932	33	194	2.24	30.49	254	39.91
1933	743, 1143	2,580	May 5, 1933	43	270	3.12	42.36	189	29.73
1934	758, 1143	2,320	Mar. 3, 1934	39	150	1.73	23.54	197	30.98
1935	783, 1143	3,000	Jan. 9, 1935	58	220	2.54	34.57	190	29.86
1936	803, 1143	4,520	Sept. 30, 1936	46	248	2.87	39.01	279	43.87
1937	823, 1143	2,070	Dec. 31, 1936	69	251	2.90	39.39	236	37.03
1938	853, 1143	3,090	Oct. 19, 1937	72	200	2.31	31.31	185	29.07
1939	873	2,320	Jan. 30, 1939	55	215	2.49	33.80	185	30.67
1940	893, 1143	16,500	Aug. 30, 1940	35	170	1.97	26.74	192	30.22
1941	923, 1143	2,420	July 7, 1941	63	159	1.84	24.94	160	25.14
1942	953, 1143	2,100	Mar. 8, 1942	52	226	2.61	35.44	249	39.12
1943	973, 1143	3,850	Dec. 29, 1942	69	263	3.04	41.33	226	35.40
1944	1003	1,630	Mar. 29, 1944	53	191	2.21	29.98	192	30.17
1945	1033	1,720	Sept. 14, 1945	46	166	1.92	26.11	193	30.20
1946	1053, 1143	2,900	Feb. 10, 1946	57	276	3.19	43.25	254	39.92
1947	1083	2,990	Jan. 20, 1947	38	170	1.97	26.62	190	29.61
1948	1113	2,350	Sept. 6, 1948	34	234	2.71	36.79	267	41.98
1949	1143	8,620	June 16, 1949	65	351	4.06	55.13	337	52.94
1950	1173	2,330	Mar. 13, 1950	79	264	3.05	41.45	-	-

* Not previously published.

a Maximum observed.

b Minimum during period February to September.

163. Little Tennessee River at Franklin, N. C.

Location (revised).--Lat 35°11'10", long. 83°22'20", at bridge on U. S. Highways 23 and 64, 0.5 mile northeast of Franklin, Macon County, and 0.8 mile downstream from Cullasaja River.

Drainage area.--295 sq mi (revised).

Gage.--Chain gage at described site after Feb. 9, 1921. Datum of gage is 1,992.0 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. June 12, 1907, to July 12, 1910, staff gage at site 700 ft upstream at same datum.

Average discharge.--7 years (1907-9, 1920-25), 845 cfs.

Extremes.--1907-10, 1920-25: Maximum discharge observed, 7,950 cfs June 4, 1909 (gage height, 10.0 ft), from rating curve extended above 5,400 cfs; minimum discharge observed, 65 cfs Sept. 22, 1925 (gage height, 0.50 ft).

Flood of July 1916 reached a stage of 16.06 ft, from floodmarks.

Remarks.--Some diurnal fluctuation at low flow caused by mills above the station.

Monthly and yearly mean discharge, in cubic feet per second, of Little Tennessee River at Franklin, N.C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	-	544	432	567	-
1908	344	*695	*1,030	1,460	1,700	1,270	1,350	1,080	*650	*675	*635	*400	*939
1909	*455	*450	1,020	877	1,520	1,970	1,150	1,990	2,140	1,060	882	638	*1,180
1910	608	427	1,020	834	841	997	712	1,340	994	-	-	-	-
1921	*385	*480	*1,170	*1,020	*1,610	850	1,000	960	633	541	491	378	*789
1922	519	526	762	1,500	1,380	1,940	1,520	1,340	932	636	402	307	962
1923	285	240	826	861	1,190	1,150	1,040	1,480	1,160	661	485	347	808
1924	276	356	890	1,340	891	1,050	1,220	909	581	590	327	526	727
1925	388	263	687	1,400	769	755	580	493	316	233	116	110	509
1926	240	*427	*355	-	-	-	-	-	-	-	-	-	-

* Only monthly figures revised; revised daily figures not available.

* Not previously published; estimated or partly estimated on basis of records for station at Judson.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	-	2.13	1.69	2.15	-
1908	1.34	*2.63	*4.03	5.72	6.25	4.96	5.10	4.23	*2.46	*2.64	*2.48	*1.51	*43.33
1909	*1.78	*1.70	4.00	3.43	5.37	7.69	4.34	7.78	8.09	4.13	3.45	2.41	*54.17
1910	2.38	1.62	3.99	3.26	2.97	3.89	2.69	5.25	3.76	-	-	-	-
1921	*1.50	*1.82	*4.57	*3.99	*5.69	3.32	3.80	3.75	2.39	2.11	1.92	1.43	*36.29
1922	1.25	1.99	2.98	5.86	4.86	7.59	5.75	5.23	3.53	2.48	1.57	1.16	44.25
1923	1.11	.91	3.23	3.36	4.19	4.49	3.95	5.79	4.37	2.58	1.89	1.31	37.18
1924	1.08	1.35	2.69	5.22	3.26	4.02	4.60	3.55	2.20	2.31	1.28	1.99	33.55
1925	1.52	1.00	2.69	5.48	2.71	2.95	2.19	1.92	1.20	.91	.45	.42	23.44
1926	.94	*1.61	*1.39	-	-	-	-	-	-	-	-	-	-

* Revised.

* Not previously published; estimated or partly estimated on basis of records for station at Judson.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30				Calendar year			
		Maximum observed		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1907	523	*4,650	Sept. 23, 1907	250	-	-	-	-	-
1908	523	*7,650	Feb. 15, 1908	285	-	*939	*3.18	*43.33	*42.81
1909	523	7,950	June 4, 1909	-	*1,180	*4.00	*54.17	1,190	54.68
1910	523	*3,950	Dec. 12, 1909	b325	-	-	-	-	-
1921	523	c5,280	Feb. 10, 1921	d278	*789	*2.67	*36.29	*752	*34.62
1922	543	7,780	Jan. 21, 1922	242	962	3.26	44.25	941	43.28
1923	563	5,550	Dec. 17, 1922	210	808	2.74	37.18	805	37.05
1924	583	5,200	Jan. 11, 1924	195	727	2.46	33.55	729	33.64
1925	603	*4,500	Dec. 8, 1924*	70	509	1.73	23.44	*482	*22.17
1926	603	-	-	110	-	-	-	-	-

* Revised.

* Not previously published.

a Maximum observed during period June to September.

b Minimum observed during period October to July.

c Maximum observed during period February to September.

d Minimum observed during period February to September.

164. Little Tennessee River at Iotla, N. C.

Location.--Lat 35°13'59", long. 83°23'32", 1,000 ft upstream from bridge on State Highway 28 at Iotla, Macon County, and 1,100 ft upstream from Iotla Creek.

Drainage area.--323 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,958.62 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--16 years (1929-45), 736 cfs.

Extremes.--1929-45: Maximum discharge, 19,600 cfs Aug. 30, 1940 (gage height, 13.5 ft, from floodmarks), from rating curve extended above 7,400 cfs on basis of computation of peak flow over dam; minimum, 31 cfs Nov. 26, 1933.

Flood of October 1898 reached a stage of 13 ft, from survey by Tennessee Valley Authority.

Flood of June 16, 1949, reached a stage of 13.0 ft, from floodmarks.

Remarks.--Considerable diurnal fluctuation caused by Porters Bend powerplant at Lake Emory, 2.6 miles above station.

Monthly and yearly mean discharge, in cubic feet per second, of Little Tennessee River at Iotla, N.C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1929	-	-	-	-	-	-	-	-	-	740	440	*1,020	-
1930	802	1,590	946	800	896	932	663	1,000	516	354	232	305	752
1931	238	412	471	542	521	635	1,270	689	396	371	330	228	508
1932	163	209	1,100	1,340	1,250	1,060	1,020	1,020	693	471	409	322	754
1933	820	888	2,340	1,610	1,370	1,110	1,140	1,280	547	412	348	330	1,020
1934	237	220	284	565	517	1,450	689	564	669	475	454	329	539
1935	649	754	892	1,333	867	1,076	1,014	791	504	478	628	374	781
1936	284	621	496	2,033	1,733	1,286	2,503	795	500	417	357	551	959
1937	793	498	926	2,425	1,581	896	1,016	791	514	382	424	437	897
1938	761	456	527	597	559	898	1,027	644	717	1,162	812	449	718
1939	290	607	446	752	2,487	1,720	1,013	721	551	398	432	284	795
1940	214	204	240	297	704	643	976	562	519	391	1,358	710	567
1941	337	453	531	637	439	604	648	352	292	1,041	457	280	508
1942	247	325	688	632	1,092	1,427	731	961	801	741	600	635	738
1943	443	424	1,446	1,517	1,469	1,326	1,157	884	650	1,001	582	406	941
1944	320	367	367	666	1,369	1,847	1,500	838	510	358	330	304	729
1945	284	345	499	637	905	853	1,010	784	458	348	324	571	582

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1929	-	-	-	-	-	-	-	-	-	2.64	1.57	*3.52	-
1930	2.86	5.50	3.38	2.86	2.89	3.33	2.29	3.57	1.78	1.26	.83	1.05	31.60
1931	.85	1.42	1.68	1.93	1.68	2.27	4.40	2.46	1.37	1.33	1.18	.79	21.36
1932	.58	.72	3.91	4.79	4.17	3.78	3.52	3.66	2.39	1.68	1.46	1.11	31.77
1933	2.93	3.07	8.36	5.73	4.42	3.97	3.92	4.56	1.89	1.47	1.24	1.14	42.70
1934	.84	.76	1.01	2.02	1.67	5.19	2.38	2.01	2.31	1.69	1.62	1.14	22.64
1935	2.32	2.61	3.18	4.76	2.80	3.84	3.50	2.82	1.74	1.71	2.24	1.29	32.81
1936	1.01	2.15	1.77	7.26	5.79	4.59	8.64	2.84	1.73	1.49	1.27	1.90	40.44
1937	2.84	1.68	3.31	8.66	5.09	3.19	3.51	2.82	1.77	1.36	1.51	1.51	37.25
1938	2.72	1.57	1.88	2.13	1.74	3.20	3.55	2.29	2.48	4.15	2.89	1.55	30.15
1939	1.04	2.10	1.59	2.69	8.02	6.14	3.50	2.57	1.91	1.42	1.54	.91	33.43
1940	.76	.71	.86	1.06	2.35	2.29	3.37	2.01	1.80	1.40	4.84	2.46	23.91
1941	1.20	1.56	1.90	2.27	1.41	2.16	2.24	1.26	1.01	3.72	1.63	.97	21.33
1942	1.88	1.12	2.46	2.26	3.52	5.09	2.52	3.43	2.77	2.65	2.14	2.19	31.03
1943	1.60	1.46	5.16	5.42	4.74	4.73	4.00	3.15	2.25	3.57	2.08	1.40	39.56
1944	1.14	1.27	1.31	2.38	4.57	6.59	5.18	2.99	1.76	1.28	1.18	1.05	30.70
1945	1.01	1.19	1.78	2.27	2.92	3.05	3.49	2.80	1.58	1.24	1.15	1.97	24.45

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1929	683,1386	10,100	Sept. 26, 1929	294	-	-	-	-	-
1930	698	4,550	Nov. 4, 1929	160	752	2.33	31.60	567	23.81
1931	713	3,750	Apr. 22, 1931	95	508	1.57	21.36	538	22.62
1932	728	5,420	May 1, 1932	98	754	2.33	31.77	971	40.92
1933	743	9,580	Dec. 28, 1932	231	1,020	3.15	42.70	737	30.95
1934	758	6,320	Mar. 4, 1934	31	539	1.67	22.64	669	28.14
1935	783	4,970	Jan. 9, 1935	266	781	2.42	32.81	705	29.63
1936	803	10,900	Sept. 30, 1936	240	959	2.97	40.44	1,028	43.34
1937	823	6,730	Jan. 3, 1937	268	887	2.75	37.25	848	35.59
1938	853	7,530	July 24, 1938	268	718	2.22	30.15	693	28.71
1939	873	6,350	Feb. 15, 1939	227	795	2.46	33.43	758	31.03
1940	893	19,600	Aug. 30, 1940	170	567	1.76	23.91	623	26.24
1941	923	4,300	July 7, 1941	215	508	1.57	21.33	503	21.13
1942	953	4,940	Feb. 17, 1942	188	738	2.28	31.03	828	34.79
1943	973	10,400	Dec. 29, 1942	192	941	2.91	39.56	834	35.06
1944	1003	5,110	Mar. 29, 1944	164	729	2.26	30.70	735	30.96
1945	1033	2,990	Sept. 14, 1945	189	582	1.80	24.45	-	-

a Maximum for period June to September.

165. Little Tennessee River at Etna, N. C.

Location.--Lat 35°16'42", long. 83°26'55", on State Highway 28 at Etna post office, Macon County, 0.3 mile (revised) downstream from Lakey Creek.

Drainage area.--374 sq mi (revised).

Gage.--Staff gage. Datum of gage is 1,917.72 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1925-29: Maximum discharge, 11,800 cfs Sept. 26, 1929 (gage height, 11.3 ft, from graph based on gage readings), from rating curve extended above 7,200 cfs; minimum observed, 191 cfs Oct. 2, 1927 (gage height, 1.00 ft).

Remarks.--Considerable diurnal fluctuation caused by Porters Bend powerplant at Lake Emory, 9.8 miles upstream.

Monthly and yearly mean discharge, in cubic feet per second, of Little Tennessee River at Etna, N.C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1926	*260	*455	*400	*898	908	854	1,020	509	380	356	669	306	*581
1927	270	651	1,400	864	898	1,200	717	.570	623	557	465	324	713
1928	397	516	1,460	781	763	1,170	1,340	1,580	1,120	884	1,490	1,300	1,050
1929	868	612	526	993	1,350	3,200	1,480	2,150	1,220	838	501	*1,140	*1,240
1930	859	1,780	1,020	-	-	-	-	-	-	-	-	-	-

* Revised.

* Not previously published; estimated or partly estimated on basis of records for station at Judson.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1926	*0.80	*1.36	*1.23	*2.77	2.53	2.63	3.05	1.57	1.13	1.04	2.06	0.91	*21.08
1927	*.83	1.94	4.30	2.66	2.50	3.71	2.14	1.76	1.86	1.72	1.43	.97	25.82
1928	1.22	1.54	4.51	2.41	2.20	3.62	4.00	4.26	3.34	2.73	4.59	3.86	38.28
1929	2.67	1.82	1.62	3.06	3.77	9.87	4.42	6.61	3.63	2.58	1.54	*3.39	*44.98
1930	2.65	5.32	3.15	-	-	-	-	-	-	-	-	-	-

* Revised.

* Not previously published; estimated or partly estimated on basis of records for station at Judson.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1926	623	a6,130	Jan. 18, 1926	-	*581	*1.55	*21.08	*682	*24.76
1927	643	a6,380	Dec. 28, 1926	242	713	1.91	25.82	717	26.02
1928	663	a9,760	Aug. 18, 1928	191	1,050	2.81	38.28	1,020	37.12
1929	683, 1386	11,800	Sept. 23, 1929	319	*1,240	*3.32	*44.98	*1,380	*49.99
1930	683	*4,710	Nov. 4, 1929	-	-	-	-	-	-

* Revised.

* Not previously published.

a Maximum observed.

166. Little Tennessee River at Needmore, N. C.

Location.--Lat 35°20'11", long. 83°31'39", 0.8 mile downstream from DeHart Creek, 0.8 mile north of Needmore, Swain County, 2.4 miles downstream from Brush Creek, and 6.3 miles downstream from Tellico Creek.

Drainage area.--436 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,761.19 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--7 years (1943-50), 1,082 cfs.

Extremes.--1943-50: Maximum discharge, 20,200 cfs June 16, 1949 (gage height, 11.10 ft), from rating curve extended above 12,000 cfs by logarithmic plotting; minimum, 88 cfs Oct. 29, 1948 (gage height, 1.25 ft); minimum daily, 228 cfs Oct. 6, 1947. Floods of October 1898 and Aug. 30, 1940, reached stages of about 13 and 11.5 ft, respectively from flood profiles by Tennessee Valley Authority.

Remarks.--Considerable diurnal fluctuation caused by Porters Bend powerplant at Lake Emory.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1944	*380	*465	*450	*840	*1,650	*2,300	*1,800	*960	*632	460	430	387	*893
1945	365	435	644	823	1,232	1,180	1,355	1,090	604	478	440	711	776
1946	543	678	1,215	2,570	2,488	2,325	1,610	1,778	953	761	471	443	1,314
1947	483	524	603	2,284	1,079	1,152	1,319	880	682	455	398	301	846
1948	554	916	732	765	1,869	1,890	1,620	795	534	849	952	555	999
1949	372	1,930	1,693	1,988	1,926	1,341	1,623	1,503	2,061	1,552	1,194	1,310	1,536
1950	1,069	1,183	1,178	1,583	1,604	1,992	1,179	839	938	744	640	1,605	1,210

* Not previously published; estimated or partly estimated on basis of records for station at Iotla and for Cullasaja River at Cullasaja.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1944	*1.00	*1.19	*1.19	*2.22	*4.08	*6.08	*4.61	*2.54	*1.62	1.22	1.14	0.99	*27.88
1945	.97	1.11	1.70	2.18	2.94	3.12	3.47	2.88	1.54	1.26	1.16	1.82	24.15
1946	1.43	1.73	3.21	6.80	5.94	6.15	4.12	4.70	2.44	2.01	1.25	1.13	40.91
1947	1.28	1.34	1.59	6.04	2.58	3.05	3.37	2.33	1.74	1.20	1.05	.77	26.34
1948	1.46	2.34	1.94	2.02	4.82	5.00	4.14	2.10	1.37	2.24	2.52	1.42	31.17
1949	.98	4.94	4.48	5.26	4.60	3.54	4.15	3.97	5.27	4.10	3.16	3.35	47.80
1950	2.83	3.03	3.12	4.18	3.83	5.27	3.02	2.22	2.40	1.97	1.69	4.11	37.67

* Not previously published; estimated or partly estimated on basis of records for station at Iotla and for Cullasaja River at Cullasaja.

Yearly discharge, in cubic feet per second, of Little Tennessee River at Needmore, N. C.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1944	1003	-	-	a277	#893	\$2.05	\$27.88	\$905	\$28.28
1945	1033	3,760	Feb. 17, 1945	279	776	1.78	24.15	860	26.74
1946	1053	12,200	Feb. 10, 1946	359	1,314	3.01	40.91	1,245	38.75
1947	1083	11,500	Jan. 20, 1947	241	846	1.94	26.34	896	27.87
1948	1113	5,840	Feb. 12, 1948	228	999	2.29	31.17	1,148	35.83
1949	1143	20,200	June 16, 1949	233	1,536	3.52	47.80	1,490	46.38
1950	1173	9,040	Mar. 13, 1950	393	1,210	2.78	37.67	-	-

* Not previously published.

a Minimum day during period June to September.

167. Little Tennessee River at Almond, N. C.

Location (revised).--Lat 35°22'53", long. 83°33'13", 0.7 mile northeast of Almond, Swain County, and 0.8 mile upstream from Nantahala River.

Drainage area.--451 sq mi (revised).

Gage.--Water-stage recorder at described site after Oct. 1, 1914. Jan. 1 to Apr. 30, 1914, water-stage recorder at described site at datum 1.44 ft higher. Apr. 16, 1912, to Dec. 31, 1913, and May 1 to Sept. 30, 1914, staff gage 0.5 mile downstream at different datum.

Extremes.--1912-17: Maximum discharge and gage height not determined; minimum daily discharge, 212 cfs Sept. 16, 17, 1914 (gage height, 1.56 ft, datum then in use).

Cooperation.--Records computed by Knoxville Power Co. and reviewed by Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1912	-	-	-	-	-	-	-	-	-	-	-	-	-
1913	489	497	662	984	1,232	2,876	1,504	1,311	1,040	1,271	747	625	-
1914	470	404	589	531	935	882	1,153	1,115	819	562	374	441	589
1915	*676	691	2,162	2,059	2,123	1,274	813	950	812	927	483	507	*1,119
1916	1,158	854	1,970	1,840	1,881	1,157	969	1,066	1,157	3,252	1,256	661	1,438
1917	567	566	828	*1,464	1,797	3,468	1,892	*1,017	*912	708	650	*799	*1,220
1918	645	519	-	-	-	-	-	-	-	-	-	-	-

* Only monthly figures revised; revised daily figures not available Oct. 16, 1914, Jan. 1-5, 26, 27, and 29, 1917.

* Not previously published; partly estimated on basis of records for station at Judson.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1912	-	-	-	-	-	-	-	-	-	-	-	-	-
1913	1.25	1.23	1.69	2.52	2.85	7.35	3.72	2.85	2.03	1.44	1.47	1.09	29.49
1914	1.20	1.00	1.51	1.36	2.16	2.26	2.85	1.55	1.11	1.06	1.01	.67	17.74
1915	*1.73	1.71	5.53	5.26	4.90	3.26	2.01	2.43	2.01	2.37	1.23	1.25	33.69
1916	2.96	2.11	5.04	4.70	4.50	2.96	2.40	2.72	2.86	8.31	3.21	1.64	43.41
1917	1.45	1.40	2.12	*3.74	4.15	8.87	4.68	*2.60	*2.26	1.81	1.66	*1.98	*36.74
1918	1.65	1.28	-	-	-	-	-	-	-	-	-	-	-

* Revised.

* Not previously published; partly estimated on basis of records for station at Judson.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1912	523	-	-	a402	-	-	-	-
1913	523	-	-	353	979	2.17	29.49	964
1914	523	-	-	212	589	1.31	17.74	*764
1915	523	-	-	248	*1,119	2.48	33.69	1,157
1916	523	-	-	480	1,438	3.19	43.41	1,268
1917	523	-	-	408	*1,220	*2.70	*36.72	-
1918	523	-	-	b443	-	-	-	-

* Revised.

* Not previously published.

a Minimum day during period April to September.

b Minimum day during period October to November.

168. Nantahala River near Rainbow Springs, N. C.

Location.--Lat 35°07'35", long. 83°37'11", on Nantahala Forest Service road 300 ft upstream from Roaring Fork, 1,000 ft downstream from Buck Creek, and 5 miles downstream from town of Rainbow Springs, Macon County.

Drainage area.--51.9 sq mi.

Gage.--Water-stage recorder. Datum of gage is 3,072.97 ft above mean sea level, datum of 1929.

Average discharge.--10 years (1940-50), 201 cfs.

Extremes.--1940-50: Maximum discharge, 6,300 cfs June 16, 1949 (gage height, 9.70 ft), from rating curve extended above 3,000 cfs on basis of slope-area determination of peak flow; minimum, 46 cfs Oct. 6, 7, 1947 (gage height, 0.65 ft).
Flood of August 1940 reached a stage of 6.50 ft, from recorded range in stage during fragmentary record prior to Oct. 1, 1940.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1941	86.4	121	149	180	115	160	159	103	77.2	278	132	86.6	138
1942	73.9	92.4	159	177	266	346	173	200	155	128	167	137	172
1943	113	109	356	370	366	333	255	204	135	259	161	110	231
1944	81.6	88.0	97.5	164	376	433	339	191	110	81.0	80.7	75.0	176
1945	69.8	88.4	170	230	276	248	269	243	128	88.6	83.0	121	167
1946	108	126	201	432	443	385	253	314	162	152	80.3	75.3	227
1947	98.2	113	125	499	218	214	238	176	150	122	90.5	62.2	175
1948	126	194	177	166	419	358	299	139	93.5	136	206	95.8	200
1949	66.1	355	360	427	374	236	269	245	362	296	179	202	280
1950	176	193	221	319	367	389	212	152	188	192	145	374	243

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1941	1.92	2.60	3.31	4.01	2.31	3.55	3.43	2.28	1.66	6.18	2.94	1.86	36.05
1942	1.64	1.99	3.53	3.93	5.33	7.70	3.72	4.44	3.33	2.85	3.70	2.96	45.12
1943	2.51	2.34	7.91	8.21	7.35	7.40	5.49	4.53	2.90	5.75	3.57	2.37	60.33
1944	1.81	1.89	2.16	3.63	7.82	9.61	7.28	4.25	2.37	1.80	1.79	1.61	46.02
1945	1.55	1.90	3.77	5.11	5.53	5.50	5.78	5.40	2.74	1.97	1.84	2.59	43.68
1946	2.39	2.71	4.46	9.59	8.89	8.55	5.44	5.98	3.48	3.37	1.78	1.62	59.26
1947	2.18	2.43	2.78	11.09	4.37	4.76	5.11	3.91	3.21	2.70	2.01	1.34	45.89
1948	2.79	4.17	3.94	3.69	8.70	7.95	6.43	3.09	2.01	3.03	4.58	2.06	52.44
1949	1.47	7.64	8.00	9.49	7.50	5.24	5.77	5.44	7.79	6.58	3.98	4.34	73.24
1950	3.90	4.14	4.90	7.08	7.37	8.63	4.56	3.37	4.04	4.26	3.22	8.05	63.52

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1941	923	1,860	July 5, 1941	57	138	2.66	36.05	135	35.38
1942	973	1,650	May 20, 1942	57	172	3.31	45.12	194	50.72
1943	973	2,960	Dec. 29, 1942	77	231	4.45	60.33	204	53.43
1944	1003	1,550	Feb. 18, 1944	48	176	3.39	46.02	181	47.38
1945	1033	980	Jan. 1, 1945	50	167	3.22	43.68	176	46.02
1946	1053	2,580	July 14, 1946	53	227	4.37	59.26	218	57.09
1947	1083	2,670	Jan. 20, 1947	50	175	3.37	45.89	189	49.40
1948	1113	1,960	Feb. 12, 1948	46	200	3.85	52.44	224	58.65
1949	1143	6,300	June 16, 1949	59	280	5.39	73.24	264	69.07
1950	1173	1,990	Mar. 13, 1950	88	243	4.68	63.52	-	-

169. Nantahala Lake near Tipton, N. C./

Location.--Lat 35°11'56", long. 83°39'17", at Nantahala Dam on Nantahala River, 4.2 miles southeast of Tipton, Cherokee County, and 5.5 miles upstream from Whiteoak Creek.

Drainage area.--91.0 sq mi.

Gage.--Water-stage recorder. Datum of gage is a local datum which is 122.16 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1942-50: Maximum contents, 70,200 cfs-days Jan. 19, 1950 (elevation, 2,890.29 ft); minimum (after first filling), 14,300 cfs-days Oct. 24, 1947 (elevation, 2,788.60 ft).

Remarks.--Lake is formed by rock-fill dam with side channel gate-controlled spillway supplemented by fuse-plug dam. Dam completed and storage began Jan. 30, 1942; water in lake first reached minimum pool elevation Feb. 16, 1942. Total capacity at elevation 2,890.0 ft (top of gates) is 69,900 cfs-days, of which 63,300 cfs days is controlled storage above elevation 2,760.0 ft (minimum pool). Lake is used for flood control and power. Gage-height record furnished by Aluminum Co. of America; level storage records furnished by Tennessee Valley Authority since 1948.

Contents, in cfs-days, on last day of month, of Nantahala Lake near Tipton, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1942	-	-	-	*500	12,600	30,700	39,400	50,100	57,900	62,400	57,100	47,100
1943	38,200	25,800	29,000	41,400	47,500	60,000	66,800	61,900	60,700	64,200	55,300	42,800
1944	32,900	21,700	18,600	14,500	30,400	53,100	68,800	68,200	61,500	52,900	46,800	40,600
1945	32,300	31,300	36,900	41,700	45,800	46,900	46,500	50,400	41,500	30,700	29,400	35,600
1946	41,000	47,600	58,400	69,100	68,200	69,000	64,300	67,400	63,400	59,500	45,700	37,400
1947	355,200	36,400	37,700	57,500	61,900	66,000	62,900	56,600	47,400	35,500	22,200	18,300
1948	15,600	23,400	28,300	26,600	37,700	46,100	49,400	45,500	39,600	36,300	32,800	25,100
1949	21,000	34,300	46,000	60,400	69,900	68,300	65,100	63,600	68,600	68,600	62,600	60,100
1950	56,800	62,800	69,900	69,900	69,800	69,600	67,900	65,500	63,800	66,800	66,900	65,600

* Revised.

a Contents by capacity table used beginning Oct. 1, 1946; contents Sept. 30, 1946, by capacity table used since Oct. 1, 1946, was 58,000 cfs-days.

170. Nantahala River at Nantahala, N. C.

Location.--Lat 35°17'55", long. 83°39'22", on U. S. Highway 19, 1.0 mile northeast of Nantahala, Swain County, 2.3 miles downstream from Rowlin Creek, and 2.6 miles downstream from Nantahala Dam powerhouse.

Drainage area.--144 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,894.68 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years (1942-50), 517 cfs (adjusted for storage).

Extremes.--1942-50: Maximum discharge, 7,510 cfs Feb. 10, 1946 (gage height, 8.15 ft); minimum, 31 cfs Oct. 5, 1947 (gage height, 1.42 ft).

Remarks.--Flow regulated by Nantahala Lake (see preceding page).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	-	-	-	-	-	-	-	-	118	230	589	681	-
1943	567	678	748	473	696	409	380	643	387	585	632	655	569
1944	491	573	589	425	401	329	304	507	519	526	400	409	439
1945	464	266	247	394	712	525	662	501	629	583	253	72.2	441
1946	60.0	94.1	164	735	1,227	854	818	693	567	508	676	473	568
1947	294	199	263	707	405	419	636	606	636	637	666	299	482
1948	307	114	186	146	580	534	621	465	444	397	525	466	422
1949	281	301	440	559	620	701	782	627	600	753	640	550	574
1950	545	295	355	903	950	1,044	627	489	510	350	313	717	589

Monthly and yearly runoff, in inches (adjusted)^{1/}

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	-	-	-	-	-	-	-	-	2.93	3.01	3.33	2.70	-
1943	2.24	2.05	6.83	6.97	6.61	6.51	4.68	3.88	2.70	5.43	2.74	1.86	52.50
1944	1.37	1.55	1.79	2.81	7.14	8.52	6.41	3.90	2.27	2.00	1.64	1.57	40.97
1945	1.56	1.80	3.44	4.41	5.68	5.00	5.03	5.02	2.56	1.91	1.67	2.16	40.24
1946	1.87	2.43	4.11	10.73	8.65	7.04	5.12	6.34	3.36	3.06	1.64	1.53	53.98
1947	1.63	1.85	2.44	8.67	4.07	4.42	4.13	3.23	2.57	2.03	1.90	1.31	40.35
1948	1.76	2.90	2.77	2.89	7.21	6.44	5.67	2.68	1.91	2.33	3.30	1.62	41.68
1949	1.19	5.76	6.55	8.52	6.93	5.20	5.24	4.63	5.94	6.03	3.57	3.61	63.17
1950	3.51	3.84	4.68	7.23	6.84	8.30	4.42	3.30	3.51	3.57	2.53	5.22	56.95

^{1/} Adjusted for change in contents in Nantahala Lake.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30											Calendar year		
		Observed					Adjusted ^{1/}						Observed		Adjusted ^{1/}
		Momentary maximum		Minimum day	Mean	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date												
1942	953	al,510	July 10, 1942	b72	-	-	-	-	-	-	-	-	-	-	-
1943	973	3,600	July 5, 1943	61	569	557	3.87	52.50	523	489	46.09	46.09	46.09	46.09	46.09
1944	1003	1,500	Feb. 27, 1944	37	439	433	3.00	40.97	400	455	43.06	43.06	43.06	43.06	43.06
1945	1033	2,110	Feb. 17, 1945	38	441	427	2.97	40.24	385	444	41.85	41.85	41.85	41.85	41.85
1946	1053	7,510	Feb. 10, 1946	46	568	573	3.98	53.98	605	546	51.49	51.49	51.49	51.49	51.49
1947	1083	4,220	Jan. 20, 1947	34	482	428	2.97	40.35	470	444	41.86	41.86	41.86	41.86	41.86
1948	1113	1,810	Feb. 14, 1948	31	422	441	3.06	41.68	457	505	47.75	47.75	47.75	47.75	47.75
1949	1143	2,670	Jan. 5, 1949	38	574	670	4.65	63.17	589	654	61.70	61.70	61.70	61.70	61.70
1950	1173	5,480	Mar. 13, 1950	44	589	604	4.19	56.95	-	-	-	-	-	-	-

^{1/} Adjusted for change in contents in Nantahala Lake.

a Maximum during period May to September.

b Minimum day during period May to September.

171. Nantahala River at Almond, N. C.

Location (revised).--Lat 35°22'32", long. 83°33'59", at highway bridge at Almond, Swain County, 0.6 mile upstream from mouth.

Drainage area.--174 sq mi.

Gage.--Water-stage recorder at described site after June 5, 1934. Datum of gage is

1,596.53 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Apr. 16, 1912, to Dec. 31, 1913, staff gage at site 900 ft downstream at different datum.

Jan. 1, 1914, to Nov. 30, 1917, water-stage recorder 1,100 ft downstream at datum 1,473.47 ft lower.

Jan. 31, 1921, to June 5, 1934, staff gage 700 ft downstream at datum 2.34 ft lower.

Average discharge.--28 years (1912-17, 1920-43), 509 cfs (unadjusted).

Extremes.--1912-17, 1920-43: Maximum discharge not determined, but probably occurred Mar. 4, 1917; minimum, 28 cfs Jan. 2, 1940 (gage height, 0.20 ft), result of freezeup; minimum daily, 70 cfs Jan. 2, 1940.

Remarks.--Slight diurnal fluctuation caused by mills above the station. Considerable diurnal fluctuation caused by Nantahala Lake powerplant, and considerable regulation beginning Jan. 30, 1942, by Nantahala Lake (see elsewhere in this report).

Cooperation.--Records for the period 1912-17 computed by Knoxville Power Co. and reviewed by Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1912	-	-	-	-	-	-	-	570	404	441	337	335	-
1913	254	241	366	589	713	1,380	629	446	373	267	256	202	476
1914	205	207	271	278	547	573	637	387	252	218	195	154	325
1915	321	305	943	813	778	508	364	391	299	349	207	211	457
1916	430	339	835	812	766	459	383	495	488	947	486	251	559
1917	234	233	400	828	1,080	2,610	990	461	474	347	297	361	691
1918	294	270	*281	-	-	-	-	-	-	-	-	-	-
1921	*294	*350	*955	*754	*998	*511	*573	*571	*365	*322	*364	*265	*524
1922	*243	*499	*650	*1,247	*985	*1,408	*991	*861	*630	*455	*282	*202	*704
1923	*173	*149	*850	*761	*1,138	*975	*771	*898	*614	*497	*429	*270	*641
1924	185	*201	*421	*964	*600	*743	*719	*644	*438	*331	*223	*275	*479
1925	208	184	*474	*943	522	478	396	355	235	179	112	93.7	*347
1926	*166	*297	*266	*575	*572	*607	*583	*333	*251	*182	*321	*224	*363
1927	*182	*419	*1,090	*658	*845	*986	*556	*361	*538	*382	413	276	*559
1928	228	328	1,030	616	578	927	932	954	841	689	689	796	718
1929	421	355	340	815	851	1,640	851	1,350	752	496	277	511	722
1930	406	1,080	529	521	566	772	502	686	548	238	150	182	498
1931	129	213	234	329	381	382	904	465	276	311	240	214	339
1932	131	134	872	885	1,260	708	778	702	365	462	297	204	585
1933	395	479	*1,720	1,170	1,270	835	671	770	309	243	193	171	*684
1934	107	114	144	378	315	1,130	470	362	560	333	324	223	374
1935	328	388	529	622	590	890	898	499	300	250	237	161	474
1936	137	243	201	1,361	1,207	934	1,518	407	241	198	159	172	562
1937	259	228	490	1,479	934	542	589	533	333	268	323	316	523
1938	387	278	356	516	443	764	910	590	552	787	675	301	548
1939	172	254	239	511	1,621	1,058	668	446	358	284	227	162	492
1940	119	112	140	186	471	581	608	395	391	354	533	313	350
1941	191	255	310	416	275	435	380	245	192	566	288	193	313
1942	167	237	357	427	289	375	154	197	163	279	613	683	329
1943	581	682	887	599	824	529	458	706	421	628	678	686	639

* Revised.

* Not previously published by the Geological Survey; estimated or partly estimated on basis of records for nearby stations.

Monthly and yearly runoff, in inches (adjusted)1/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1912	-	-	-	-	-	-	-	3.77	2.59	2.92	2.23	2.15	-
1913	1.69	1.55	2.43	3.90	4.27	9.13	4.03	2.95	2.39	1.77	1.70	1.30	37.11
1914	1.36	1.33	1.71	1.84	3.28	3.79	4.02	2.58	1.61	1.44	1.29	1.99	25.37
1915	2.13	1.95	6.25	5.39	4.66	3.36	2.33	2.59	1.92	2.31	1.37	1.35	35.61
1916	2.85	2.18	5.53	5.38	4.75	3.04	2.45	3.28	3.13	6.28	3.22	1.61	43.70
1917	1.55	1.63	2.65	5.48	6.34	17.30	6.35	2.99	3.04	2.30	1.97	2.32	53.92
1918	1.95	1.73	*1.86	-	-	-	-	-	-	-	-	-	-
1921	*1.95	*2.25	*6.33	*4.99	*5.97	*3.39	*3.67	*3.79	*2.34	*2.13	*2.41	*1.70	*40.92
1922	*1.61	*3.20	*4.31	*1.26	*5.90	*9.33	*6.36	*5.71	*4.04	*3.01	*1.87	1.29	*54.89
1923	*1.15	*.96	*5.63	*5.04	*6.81	*6.46	*4.95	*5.95	*5.22	*3.30	*2.84	*1.73	*50.04
1924	1.22	*1.29	*2.79	*6.39	*3.72	*4.92	*4.61	*4.26	*2.81	*2.19	1.48	*1.76	*37.44
1925	1.38	1.05	*3.14	6.25	3.12	3.17	2.54	2.35	1.50	1.18	.74	.60	*27.02
1926	*1.10	*1.90	*1.76	*3.81	*3.42	*4.02	*3.74	*2.21	*1.61	*1.20	*2.13	*1.43	*28.33
1927	*1.20	*2.69	*7.22	*4.36	*5.06	*6.53	*3.57	*2.53	*3.45	*2.53	2.74	1.77	*43.65
1928	1.51	2.10	6.83	4.08	3.58	6.15	5.97	6.32	5.39	4.56	4.56	5.10	56.15
1929	2.79	2.28	2.25	5.40	5.09	10.88	5.46	8.96	4.82	3.29	1.83	3.27	56.32
1930	2.69	6.95	3.51	3.45	3.59	5.12	3.22	4.55	2.23	1.58	.99	1.16	38.84

1/Adjusted for change in contents in Nantahala Lake since Jan. 30, 1942; no regulation prior to that date.

* Revised.

* Not previously published; estimated or partly estimated on basis of records for nearby stations.

Monthly and yearly runoff, in inches (adjusted) ^{1/} , of Nantahala River at Almond, N. C.--Continued													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	0.85	1.37	1.55	2.18	2.28	2.53	5.80	3.08	1.77	2.06	1.59	1.37	26.43
1932	.87	.86	5.78	5.86	7.83	4.69	4.98	4.65	2.34	3.09	1.97	1.31	44.23
1933	2.62	3.07	*11.43	7.78	7.58	5.53	4.30	5.10	1.98	1.61	1.28	1.09	*53.37
1934	.71	.73	.96	2.51	1.88	7.50	5.01	2.40	3.72	2.21	2.14	1.43	29.20
1935	2.17	2.49	3.50	4.12	3.53	5.90	5.76	3.51	1.92	1.66	1.57	1.03	36.96
1936	.91	1.56	1.33	9.01	7.48	6.19	9.73	2.69	1.54	1.31	1.05	1.11	43.91
1937	1.72	1.46	3.25	9.80	5.59	3.58	3.78	3.53	2.13	1.78	2.14	2.03	40.79
1938	2.56	1.78	2.36	3.42	2.66	5.06	5.84	3.91	3.54	5.21	4.47	1.93	42.74
1939	1.14	1.63	1.58	3.39	9.70	7.01	4.28	2.92	2.30	1.86	1.50	1.04	38.38
1940	.79	.72	.93	1.23	2.92	3.85	3.89	2.62	2.51	2.34	3.53	2.01	27.34
1941	1.26	1.64	2.06	2.76	1.65	2.88	2.44	1.62	1.23	3.75	1.91	1.24	24.44
1942	1.11	1.52	2.37	2.87	4.35	6.38	2.84	3.58	2.72	2.82	2.92	2.24	35.72
1943	1.94	1.72	6.57	6.61	6.23	6.19	4.37	3.63	2.45	4.91	2.57	1.74	48.93

^{1/}Adjusted for change in contents in Nantahala Lake since Jan. 30, 1942; no regulation prior to that date.

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year		
		Observed			Adjusted ^{1/}			Observed	Adjusted ^{1/}	
		Momentary		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean
		Discharge	maximum Date							
1912	523	-	-	-	-	-	-	-	-	-
1913	523	-	-	170	478	-	2.74	37.11	460	-
1914	523	-	-	127	325	-	1.87	25.37	400	-
1915	523	-	-	136	457	-	2.83	35.61	460	-
1916	523	-	-	192	559	-	3.21	43.70	498	-
1917	523	(a)	Mar. 4, 1917	180	691	-	3.97	53.92	*687	-
1918	523	-	-	-	-	-	-	-	-	-
1921	1436	*5,190	Feb. 10, 1921	-	*524	-	*3.01	*40.92	*506	-
1922	1436	(a)	Jan. 21, 1922	150	*704	-	*4.05	*54.89	*686	-
1923	1436	*6,030	Dec. 17, 1922	132	*641	-	*3.68	*50.04	*610	-
1924	1436	*3,980	Jan. 11, 1924	*146	*479	-	*2.75	*37.44	*482	-
1925	603,1436	*5,610	Dec. 8, 1924	79	*347	-	*1.99	*27.02	*336	-
1926	1436	*3,780	Jan. 18, 1926	86	*363	-	*2.09	*28.33	*445	-
1927	1436	(a)	Dec. 28, 1926	*145	*559	-	*3.21	*43.65	*551	-
1928	683	*9,790	Mar. 30, 1928	173	718	-	4.15	56.15	678	-
1929	683	*6,910	Sept. 26, 1929	170	722	-	4.15	56.32	797	-
1930	698	*3,780	Nov. 3, 1929*	110	498	-	2.86	36.84	378	-
1931	713	*3,590	Apr. 4, 1931*	107	339	-	1.95	26.43	387	-
1932	728	*5,820	Apr. 30, 1932*	108	565	-	3.25	44.23	*690	-
1933	743	(a)	Dec. 28, 1932	105	*684	-	*3.93	*53.37	495	-
1934	758	*9,790	Mar. 3, 1934	84	374	-	2.15	29.20	448	-
1935	783	3,950	Mar. 12, 1935	126	474	-	2.72	36.96	418	-
1936	803	11,000	Feb. 4, 1936	108	562	-	3.23	43.91	595	-
1937	823	5,330	Jan. 3, 1937	169	523	-	3.01	40.79	527	-
1938	853	4,630	July 23, 1938	160	548	-	3.15	42.74	518	-
1939	873	5,560	Feb. 15, 1939	137	492	-	2.83	38.38	467	-
1940	893	4,000	Aug. 13, 1940	70	350	-	2.01	27.34	382	-
1941	923	2,230	July 5, 1941	148	313	-	1.80	24.44	314	-
1942	953	2,140	Feb. 16, 1942	89	329	458	2.63	35.72	446	526
1943	973	3,580	Dec. 29, 1942	79	639	627	3.60	46.93	-	-

^{1/}Adjusted for change in contents in Nantahala Lake since Jan. 30, 1942; no regulation prior to that date.

* Revised.

* Not previously published.

a Momentary maximum discharge not determined; previously published figure is unreliable and should not be used.

172. Little Tennessee River at Judson, N. C.

Location (revised).--Lat 35°24'30", long. 83°33'26", 0.2 mile downstream from State Highway bridge at Judson, Swain County, and 0.2 mile upstream from Greasy Branch (formerly known as Sawyer Branch).

Drainage area.--664 sq mi. At site used prior to Apr. 16, 1912, 666 sq mi.

Gage.--Water-stage recorder at described site after June 5, 1934. Datum of gage is 1,521.76 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Apr. 27, 1903, to June 30, 1905, chain gage and July 1, 1905, to Apr. 15, 1912, staff gage at Southern Railway bridge 0.6 mile downstream at different datums. Apr. 16, 1912, to Oct. 20, 1918, water-stage recorder at described site and staff gage 0.2 mile upstream, at different datums used intermittently. Dec. 15, 1918, to June 4, 1934, staff gage at described site and datum.

172. Little Tennessee River at Judson, N. C.--Continued

Average discharge.--41 years (1903-44), 1,629 cfs (revised).

Extremes.--1903-45: Maximum discharge, about 37,500 cfs Mar. 4, 1917; minimum, 165 cfs Oct. 10, 1925 (gage height, 16.70 ft); minimum daily (corrected), 192 cfs Sept. 21, 22, 1925.

The flood of Feb. 28, 1902, reached a gage height of 16.19 ft, site and datum then in use (discharge, 40,800 cfs, from rating curve extended above 22,000 cfs).

Remarks.--Some diurnal fluctuation caused by Porters Bend powerplant at Lake Emory, beginning Nov. 12, 1925. Considerable diurnal fluctuation caused by Nantahala Lake powerplant, and considerable regulation beginning Jan. 30, 1942, by Nantahala Lake (see elsewhere in this report). Because of this regulation monthly figures of runoff, in inches, not published after December 1941.

Monthly and yearly mean discharge, in cubic feet per second													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1903	-	-	-	-	-	-	-	1,910	2,540	1,300	974	571	-
1904	433	629	540	934	1,540	2,520	1,560	1,430	924	680	1,040	603	1,070
1905	286	445	916	1,850	3,110	1,930	1,590	2,060	1,230	1,790	1,490	685	1,440
1906	823	568	*1,810	3,290	*1,400	2,520	2,530	1,570	2,150	*1,970	*1,920	3,360	*2,000
1907	4,010	2,960	2,420	*1,640	2,030	2,150	1,920	1,900	1,880	1,220	890	1,060	*2,010
1908	815	1,480	2,240	2,870	*2,850	2,980	2,660	2,180	1,380	1,440	1,340	851	*1,910
1909	978	975	*1,800	2,190	3,360	4,320	2,580	3,610	4,110	2,400	1,860	*1,170	*2,440
1910	1,130	841	*1,200	*1,440	*1,560	*1,650	1,520	2,730	2,280	2,160	*1,210	1,010	*1,560
1911	885	609	*1,110	2,020	2,010	1,830	*3,560	*1,410	*860	1,050	921	678	*1,410
1912	1,090	1,830	*1,790	*2,350	4,350	3,170	2,050	1,510	1,830	1,140	991		*1,930
1913	808	744	1,070	1,690	2,180	4,450	2,290	1,710	1,230	872	870	706	1,550
1914	683	696	959	946	1,550	1,510	1,900	1,040	728	642	615	436	972
1915	1,060	1,040	3,450	2,980	3,090	1,810	1,220	1,400	1,160	1,310	786	769	1,670
1916	1,620	1,340	2,670	2,760	2,860	1,700	1,390	1,650	1,750	4,600	1,850	947	2,100
1917	819	864	1,270	2,420	2,760	6,100	2,730	1,360	1,290	974	852	1,090	1,870
1918	875	726	707	2,410	2,490	1,450	1,550	1,390	1,170	838	745	777	1,250
1919	*1,750	*1,690	2,940	2,950	2,360	2,840	1,960	1,610	1,300	1,200	873	576	*1,840
1920	741	834	1,970	2,140	2,050	2,790	4,430	1,870	1,390	1,260	2,550	1,410	1,950
1921	821	1,030	2,510	2,170	3,290	1,680	1,910	1,870	1,280	1,210	1,100	919	1,640
1922	756	1,270	1,750	3,520	2,930	4,280	3,220	2,740	1,930	1,420	901	706	2,120
1923	*452	2,160	2,080	*2,940	2,710	2,260	2,840	2,480	1,350	*1,170	*736		*1,810
1924	*531	*698	1,350	2,790	1,830	2,400	*2,730	2,140	1,360	1,150	741	1,020	*1,560
1925	758	589	1,450	2,880	1,570	*1,480	1,210	1,070	727	514	300	*255	*1,070
1926	481	864	755	1,670	1,700	1,710	1,760	916	726	562	1,040	639	1,060
1927	551	1,210	2,820	1,760	2,160	2,830	1,660	1,140	1,370	1,100	1,080	734	1,530
1928	717	978	2,780	1,740	1,640	2,430	2,700	2,790	2,250	1,870	2,420	2,550	2,070
1929	1,440	1,130	1,020	2,190	2,510	5,210	2,680	3,960	2,260	1,510	*899	1,760	*2,220
1930	1,540	3,190	1,860	1,700	1,900	2,180	1,540	2,060	1,100	794	515	651	1,580
1931	446	788	883	1,100	1,140	1,290	2,770	1,430	816	887	805	638	1,080
1932	409	427	2,390	2,740	3,260	2,250	2,270	2,290	1,410	1,200	964	666	1,690
1933	1,500	1,770	5,100	3,380	3,430	2,490	2,230	2,640	1,140	885	737	658	2,160
1934	470	441	574	1,250	1,060	3,280	1,560	1,210	1,520	1,010	990	875	1,170
1935	1,156	1,332	1,730	2,282	1,776	2,428	2,423	1,551	984	883	970	610	1,510
1936	449	957	764	4,088	3,708	2,775	5,019	1,469	896	739	612	767	1,833
1937	1,315	859	1,735	4,820	3,083	1,807	1,986	1,637	1,071	829	980	941	1,750
1938	1,367	921	1,106	1,432	1,236	2,174	2,484	1,550	1,590	2,337	1,708	871	1,570
1939	537	958	771	1,602	5,180	3,485	2,153	1,428	1,091	835	776	501	1,585
1940	393	379	462	616	1,398	1,388	1,920	1,175	1,114	939	2,242	1,246	1,104
1941	630	838	989	1,265	845	1,301	1,232	712	588	1,917	858	525	978
1942	458	657	1,213	1,165	1,171	2,286	1,092	1,484	1,161	1,934	1,485	1,521	1,289
1943	1,201	1,262	2,899	2,682	2,876	2,429	1,991	1,905	1,240	2,035	1,482	1,250	1,366
1944	952	1,070	899	1,358	2,729	3,119	2,477	1,695	1,241	985	855	821	1,511
1945	850	744	990	-	-	-	-	-	-	-	-	-	-

* Only monthly figures revised; revised daily figures not available.

Monthly and yearly runoff, in inches													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1903	-	-	-	-	-	-	-	3.31	4.26	2.25	1.69	0.96	-
1904	0.75	1.05	0.93	1.62	2.49	4.37	2.61	2.47	1.55	1.18	1.81	1.01	21.84
1905	.50	.75	1.59	3.20	4.85	3.34	2.66	3.56	2.07	3.09	2.59	1.15	29.35
1906	1.42	.95	*3.13	5.69	*2.19	4.36	4.24	2.72	3.61	*3.41	*3.32	5.62	*40.66
1907	6.94	4.96	4.20	*2.84	3.18	3.72	3.21	3.29	3.15	2.12	1.54	1.78	*40.93
1908	1.41	2.47	3.88	4.97	*4.89	5.15	4.46	3.77	2.32	2.49	2.33	1.43	*38.97
1909	1.69	1.63	*3.12	3.78	5.26	7.47	4.33	6.25	6.88	4.15	5.22	*1.96	*49.74
1910	1.96	1.41	*2.08	*2.49	*2.44	*2.86	2.54	4.73	3.81	3.74	*2.09	1.70	*31.85
1911	1.53	1.02	*1.92	3.50	3.14	3.17	*5.96	*2.44	*1.44	1.82	1.59	1.14	*28.67
1912	1.88	2.00	3.18	*3.10	*3.61	7.52	5.33	3.55	2.54	3.18	1.98	1.67	*39.54
1913	1.40	1.25	1.86	2.94	3.42	7.72	3.85	2.97	2.06	1.51	1.51	1.19	31.68
1914	1.19	1.17	1.66	1.64	2.43	2.63	3.19	1.81	1.22	1.12	1.07	.73	19.86
1915	1.63	1.75	5.99	5.18	4.85	3.15	2.06	2.43	1.95	2.27	1.56	1.29	34.11
1916	2.81	2.25	4.64	4.79	4.65	2.96	2.33	2.86	2.95	7.98	3.21	1.59	43.02
1917	1.42	1.45	2.21	4.20	4.33	10.60	4.58	2.36	2.16	1.69	1.48	1.82	38.30
1918	1.52	1.22	1.23	4.18	3.91	2.52	2.60	2.42	1.97	1.46	1.29	1.31	25.63
1919	*3.05	*2.83	5.10	5.13	3.70	4.94	3.29	2.79	2.18	2.08	1.52	.97	*37.58
1920	1.29	1.40	3.43	3.72	3.38	4.84	7.45	3.24	2.33	2.18	4.43	2.37	40.01

* Only monthly figures revised; revised daily figures not available.

Monthly and yearly runoff, in inches, of Little Tennessee River at Judson, N. C.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	1.42	1.73	4.35	3.76	5.16	2.92	3.20	3.25	2.15	2.10	1.90	1.54	33.48
1922	1.51	2.14	3.03	6.10	4.60	7.44	5.41	4.76	3.24	2.46	1.56	1.19	43.24
1923	1.01	*.76	3.74	3.61	*4.60	4.71	3.80	4.93	4.16	2.35	*2.02	*1.24	*36.93
1924	*.92	*1.17	2.34	4.85	2.97	4.17	*4.59	3.72	2.28	2.00	1.29	1.71	*32.01
1925	1.32	.99	2.52	4.99	2.47	*2.56	2.04	1.87	1.22	.89	.52	*.43	*21.82
1926	.84	1.45	1.31	2.90	2.67	2.97	2.95	1.59	1.22	.97	1.81	1.07	21.75
1927	.96	2.03	4.89	3.06	3.39	4.92	2.79	1.98	2.30	1.91	1.88	1.23	31.34
1928	1.25	1.64	4.83	3.02	2.66	4.22	4.54	4.85	3.78	3.24	4.20	4.28	42.51
1929	2.50	1.91	1.77	3.80	3.93	9.05	4.50	6.87	3.80	2.62	*1.56	2.98	*45.29
1930	2.67	5.36	3.23	2.95	2.98	3.78	2.58	3.58	1.85	1.38	.89	1.09	32.34
1931	.77	1.32	1.53	1.91	1.79	2.24	4.66	2.49	1.37	1.54	1.40	1.07	22.09
1932	.71	.72	4.14	4.76	5.30	3.90	3.81	3.97	2.37	2.09	1.67	1.12	34.56
1933	2.61	2.97	8.86	5.87	5.37	4.32	3.75	4.58	1.91	1.54	1.28	1.11	44.17
1934	.82	.74	1.00	2.17	1.66	5.70	2.62	2.10	2.55	1.76	1.72	1.13	23.97
1935	2.01	2.24	3.00	3.96	2.79	4.22	4.07	2.69	1.65	1.53	1.68	1.03	30.87
1936	.78	1.61	1.33	7.10	5.81	4.82	8.43	2.55	1.51	1.28	1.06	1.29	37.57
1937	2.28	1.44	3.01	8.57	4.83	3.14	8.34	2.85	1.80	1.44	1.71	1.58	35.79
1938	2.41	1.55	1.92	2.49	1.94	3.77	4.17	2.69	2.67	4.06	2.96	1.46	32.08
1939	.93	1.61	1.34	2.78	8.12	6.05	3.62	2.48	1.83	1.45	1.35	.84	32.40
1940	.68	.64	.80	1.07	2.28	2.41	3.22	2.04	1.87	1.63	3.90	2.10	22.64
1941	1.09	1.41	1.72	2.20	1.33	2.26	2.07	1.24	.99	3.33	1.49	.88	20.01
1942	.79	1.10	2.11	-	-	-	-	-	-	-	-	-	26.35

* Only monthly figures revised; revised daily figures not available.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1904	-	*a6,900	Mar. 7, 1904	328	1,070	1.61	21.84	1,070	21.95
1905	-	*a14,100	Jan. 12, 1905	265	1,440	2.16	29.35	*1,570	*32.01
1906	-	*a14,800	Sept. 30, 1906	460	*2,000	*3.00	*40.66	*2,510	*51.26
1907	-	*a17,400	Nov. 19, 1906	460	*2,010	*3.02	*40.93	*1,600	*32.58
1908	-	*a15,000	Feb. 15, 1908	545	*1,910	*2.87	*38.97	*1,840	*37.65
1909	-	*a11,100	June 6, 1909	460	*2,480	*3.66	*49.74	*2,390	*48.75
1910	-	*a5,930	Jan. 7, Mar. 1	725	*1,560	*2.34	*31.85	*1,520	*30.87
1911	-	*a11,600	Apr. 4, 1911	*460	*1,410	*2.12	*28.67	*1,530	*31.26
1912	(b)	*a14,000	Mar. 30, 1912	450	*1,930	*2.90	*39.54	*1,810	*36.99
1913	(b)	*c14,300	Mar. 27, 1913	495	1,550	2.33	31.68	1,530	31.41
1914	(b)	*c3,640	Apr. 15, 1914	380	972	1.46	19.86	1,240	25.19
1915	(b)	*c9,690	Dec. 4, 1914	380	1,670	2.52	34.11	1,680	34.24
1916	(b)	*c15,000	July 10, 1916	700	2,100	3.16	43.02	1,870	38.40
1917	(b)	*37,500	Mar. 4, 1917	602	1,870	2.82	38.30	1,820	37.19
1918	(b)	*c11,500	Jan. 28, 1918	535	1,250	1.88	25.63	*1,600	*32.64
1919	(b)	*c19,600	Dec. 22, 1918	445	*1,840	*2.77	*37.58	1,600	32.72
1920	523	*c15,900	Apr. 2, 1920	445	1,950	2.94	40.01	2,020	41.39
1921	523	*c12,500	Dec. 14, 1920	633	1,640	2.47	33.48	1,590	32.46
1922	543	*c16,100	Jan. 21, 1922	522	*1,120	*3.19	*43.24	*2,070	*42.27
1923	563	*c10,800	Dec. 17, 1922	*400	*2,810	*2.73	*36.93	1,750	*35.85
1924	583	7,900	Jan. 11, 1924	*460	*1,560	*2.35	*32.01	1,580	*32.41
1925	603	11,200	Dec. 8, 1924	192	*1,070	*1.61	*21.82	*1,010	*20.59
1926	623	*10,400	Jan. 18, 1926	214	1,060	1.60	21.75	1,270	26.03
1927	643	*12,900	Dec. 28, 1926	413	1,530	2.30	31.34	1,520	31.18
1928	663	*16,300	Mar. 30, 1928	465	2,070	3.12	42.51	2,000	40.97
1929	683	*16,300	Sept. 26, 1929	*670	*2,220	*3.34	*45.29	2,480	*50.37
1930	698	*7,350	Nov. 4, 1929	361	1,580	2.38	32.34	1,210	24.70
1931	713	6,740	Apr. 22, 1931	335	1,080	1.63	22.09	1,180	24.04
1932	728	8,960	Dec. 14, 1931	293	1,690	2.55	34.56	2,120	43.43
1933	743	*22,800	Dec. 28, 1932	445	2,160	3.25	44.17	1,580	32.29
1934	758	17,500	Mar. 3, 1934	210	1,170	1.76	23.97	1,402	28.66
1935	783	8,740	Mar. 12, 1935	438	1,510	2.27	30.87	1,337	27.34
1936	803	19,000	Feb. 4, 1936	372	1,833	2.76	37.57	1,980	40.58
1937	823	15,300	Jan. 3, 1937	581	1,750	2.64	35.79	1,708	34.34
1938	853	12,500	July 24, 1938	572	1,570	2.36	32.09	1,473	30.09
1939	873	14,600	Feb. 15, 1939	425	1,585	2.39	32.40	1,499	30.64
1940	893	22,100	Aug. 30, 1940	340	1,104	1.66	22.64	1,206	24.74
1941	923	6,400	July 7, 1941	399	978	1.47	20.01	968	19.79
1942	953	8,400	Feb. 16, 1942	340	1,289	1.94	26.35	1,545	31.58
1943	973	14,600	Dec. 29, 1942	583	1,936	2.92	39.57	1,729	35.34
1944	1003	8,970	Mar. 29, 1944	404	1,511	2.28	30.98	1,484	30.42
1945	1033	-	-	-	-	-	-	-	-

* Revised.

* Not previously published.

a Maximum observed.

b Tennessee Division of Geology, Bull. 34.

c Maximum daily discharge.

Note.--Records for the period July 1, 1896, to April 1903, and records of daily discharge for period May 1903, to Apr. 15, 1912, published in water-supply papers, in North Carolina Department of Conservation and Development, Bull. 34, and in Tennessee Division of Geology, Bull. 34, have been found subject to large error on the basis of restudy of the original data and comparison with records at nearby stations. These records are not published herein and should not be used.

173. Thorpe Lake near Glenville, N. C. 1/

Location (revised).--Lat 35°11'46", long. 83°09'09", at Thorpe Dam on West Fork Tuckasegee River, 2.3 miles northwest of Glenville, Jackson County, and 3.0 miles upstream from Shoal Creek.

Drainage area.--36.7 sq mi.

Gage.--Water-stage recorder. Datum of gage is a local datum which is 391.75 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Apr. 9, 1941, staff gage at same site and datum.

Extremes.--1941-50: Maximum contents, 35,700 cfs-days Mar. 13, 1950 (elevation, 3,100.01 ft); minimum, after first filling (revised), 7,600 cfs-days Feb. 4, 1944 (elevation, 3,046.35 ft).

Remarks.--Lake is formed by earth and rock dam and six 40-ft fuse-plug dams. Side channel spillway equipped with 2 taintor gates 12 ft high by 25 ft wide. Dam completed and storage began Feb. 12, 1941. Water in lake first reached minimum pool elevation Mar. 15, 1941. Total capacity at elevation 3,100.0 ft (top of gates) is 35,700 cfs-days, of which 33,600 cfs days is controlled storage above elevation 3,025.0 ft (minimum pool). Lake is used for flood control and power. Gage-height record furnished by Aluminum Co. of America; level storage records furnished by Tennessee Valley Authority since 1948.

Contents, in cfs-days, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1941	-	-	-	-	1,200	4,100	7,000	8,300	9,400	15,400	18,000	19,200
1942	16,800	11,600	11,200	14,400	19,200	25,200	24,400	27,300	28,500	26,800	25,100	20,600
1943	14,900	11,600	14,000	17,900	22,600	26,700	31,000	34,300	32,700	33,800	28,600	22,800
1944	18,100	14,700	10,000	8,200	12,800	20,700	26,400	29,600	31,700	29,200	25,500	20,900
1945	15,200	15,700	18,200	20,300	20,600	24,700	28,100	28,000	24,100	19,000	17,500	19,700
1946	21,300	23,600	28,100	35,100	35,100	35,600	33,000	33,800	31,900	29,100	22,400	18,600
1947	17,400	18,700	18,900	22,700	23,200	25,900	28,200	25,400	21,300	15,800	10,000	8,900
1948	9,400	13,300	15,300	14,900	18,400	22,300	25,900	23,800	23,000	24,100	22,000	20,600
1949	18,800	23,200	28,500	29,600	32,500	34,800	33,300	32,800	34,800	35,100	33,900	32,600
1950	30,000	31,600	34,000	34,500	35,200	35,300	33,700	31,700	30,900	31,400	31,400	31,300

a Contents by capacity table used beginning Oct. 1, 1944; contents Sept. 30, 1944, by capacity table used since Oct. 1, 1944, was 20,600 cfs-days.

b Contents by capacity table used beginning Oct. 1, 1946; contents Sept. 30, 1946, by capacity table used since Oct. 1, 1946, was 18,400 cfs-days.

174. Tuckasegee River at Tuckasegee, N. C.

Location.--Lat 35°16'55", long. 83°07'37", 0.9 mile north of Tuckasegee, Jackson County, and 1.0 mile downstream from West Fork Tuckasegee River.

Drainage area.--143 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,125.16 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--16 years (1934-50), 403 cfs (adjusted for storage).

Extremes.--1934-50: Maximum discharge, 40,800 cfs Aug. 30, 1940 (gage height, 21.1 ft, from floodmarks), from rating curve extended above 7,000 cfs on basis of slope-area determinations at gage heights 14.3 and 21.1 ft; minimum, 53 cfs Oct. 5, 1947 (gage height, 1.12 ft).

Remarks.--Flow partly regulated beginning Feb. 12, 1941, by Thorpe Lake (see preceding station).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	-	-	-	257	277	207	-
1935	344	499	520	713	407	472	417	324	196	209	342	194	387
1936	136	298	215	971	778	635	1,172	313	181	167	176	256	439
1937	544	284	499	1,223	755	398	467	335	223	162	257	311	454
1938	423	277	256	292	263	439	452	319	325	503	398	213	348
1939	123	395	255	457	1,324	861	473	318	280	197	289	137	420
1940	95.8	88.6	102	122	258	365	605	310	281	225	1,359	532	562
1941	197	254	360	371	191	249	229	129	108	432	208	121	238
1942	210	366	446	249	378	469	360	513	457	418	324	514	392
1943	394	310	681	626	511	475	401	306	360	435	417	379	442
1944	278	262	299	360	484	602	492	311	189	262	272	297	342
1945	271	130	150	232	448	345	562	460	372	329	190	216	307
1946	159	202	332	731	794	868	666	565	349	319	349	250	464
1947	189	129	177	616	304	306	449	379	397	326	342	132	313
1948	301	320	249	328	632	622	544	282	214	561	544	431	417
1949	293	777	622	628	549	448	707	614	632	609	701	544	593
1950	536	388	379	514	534	668	440	327	407	229	199	658	439

1/ Published as Glenville Reservoir prior to 1949, and as Thorpe Reservoir thereafter until 1954.

TENNESSEE RIVER BASIN

Monthly and yearly runoff, in inches (adjusted) 1/, of Tuckasegee River at Tuckasegee, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	-	-	-	2.07	2.24	1.62	-
1935	2.77	3.89	4.19	5.75	2.97	3.80	3.26	2.61	1.53	1.68	1.75	1.51	36.71
1936	1.10	2.33	1.73	7.83	5.86	5.12	9.14	2.53	1.42	1.35	1.42	1.99	41.82
1937	4.38	2.22	4.02	9.86	5.50	3.20	3.65	2.70	1.74	1.30	2.08	2.42	43.07
1938	3.41	2.16	2.06	2.35	1.92	3.54	3.53	2.57	2.53	4.06	3.20	1.66	32.99
1939	.99	3.08	2.05	3.69	9.64	6.94	3.69	2.56	2.19	1.59	2.33	1.07	39.82
1940	.77	.69	.82	.99	1.95	2.95	4.72	2.50	2.19	1.81	10.96	4.15	34.50
1941	1.58	1.98	2.90	2.99	1.71	2.76	2.53	1.37	1.15	5.04	2.35	1.24	27.60
1942	1.11	1.50	3.48	2.86	3.99	5.35	2.60	4.89	3.86	2.88	2.21	2.84	37.57
1943	1.71	1.57	6.10	6.06	4.95	4.89	4.24	3.33	2.40	5.78	2.02	1.43	42.48
1944	1.02	1.16	1.19	2.44	4.84	6.91	5.31	3.36	2.02	1.46	1.23	1.13	32.07
1945	.78	1.16	1.87	2.41	3.34	3.85	5.25	3.69	1.88	1.34	1.11	2.26	28.94
1946	1.70	2.17	3.84	7.74	5.77	7.15	4.50	4.78	2.21	1.85	1.08	.94	43.73
1947	1.27	1.35	1.48	5.95	2.35	3.17	4.10	2.33	2.03	1.19	1.25	.74	27.21
1948	2.56	3.51	2.53	2.54	5.68	6.03	4.66	2.09	1.47	4.81	3.84	3.00	42.72
1949	1.38	7.72	5.87	5.87	4.78	4.18	5.13	4.82	5.45	4.99	5.34	3.91	59.44
1950	3.64	3.44	3.68	4.28	4.07	5.41	3.01	2.12	2.97	1.98	1.61	5.26	41.47

1/ Adjusted for change in contents in Thorpe Lake since February 1941; no regulation prior to that date.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted 1/			Observed		Adjusted 1/
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1934	758	-	-	-	-	-	-	-	-	-	-
1935	783	3,980	Jan. 9, 1935	127	387	-	2.71	36.71	327	-	31.02
1936	803	6,330	Sept. 30, 1936	109	439	-	3.07	41.82	497	-	47.28
1937	823	3,650	Jan. 3, 1937	123	454	-	3.17	43.07	422	-	40.08
1938	853	4,450	Oct. 18, 1937	140	348	-	2.43	32.99	332	-	31.48
1939	873	4,850	Nov. 5, 1938	107	420	-	2.94	39.82	379	-	35.98
1940	893	40,800	Aug. 30, 1940	70	362	-	2.53	34.50	406	-	38.68
1941	923	2,930	July 7, 1941	71	238	290	2.03	27.60	256	287	27.28
1942	953	3,820	May 21, 1942	75	392	396	2.77	37.57	423	431	40.86
1943	973	5,450	Dec. 29, 1942	147	442	447	3.13	42.48	395	384	36.47
1944	1003	1,920	Mar. 29, 1944	76	342	337	2.36	32.07	318	340	32.51
1945	1033	3,340	Apr. 17, 1945	61	307	305	2.13	28.94	319	346	32.84
1946	1053	5,670	Feb. 10, 1946	78	464	461	3.22	43.73	447	422	40.12
1947	1083	4,000	Jan. 20, 1947	58	313	286	2.00	27.21	344	334	31.71
1948	1113	8,320	July 11, 1948	55	417	449	3.14	42.72	485	516	49.09
1949	1143	7,950	June 16, 1949	118	593	626	4.38	59.44	561	582	55.23
1950	1173	4,350	Mar. 13, 1950	93	439	437	3.06	41.47	-	-	-

1/ Adjusted for change in contents in Thorpe Lake since February 1941; no regulation prior to that date.

175. Scott Creek above Sylva, N. C.

Location.--Lat 35°23'02", long. 83°12'51", 800 ft downstream from Allens Branch, 3,500 ft upstream from Cope Creek (formerly Gunter Creek), and 0.8 mile upstream from Sylva, Jackson County.

Drainage area.--50.7 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,056.42 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. June 12 to July 7, 1941, staff gage at same site and datum.

Average discharge.--9 years (1941-50), 111 cfs.

Extremes.--1941-50: Maximum discharge, 1,990 cfs Feb. 10, 1946 (gage height, 6.40 ft); minimum, 8.0 cfs Sept. 22, 23, 1941 (gage height, 1.30 ft); minimum daily, 25 cfs Oct. 14, 15, 22-26, Nov. 16-18, 1941.

Maximum stage known, 8.6 ft Aug. 30, 1940, from floodmark (discharge, 3,200 cfs).

Remarks.--Considerable diurnal fluctuation at low flow caused by small gristmills above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1941	-	-	-	-	-	-	-	-	-	109	71.1	36.2	-
1942	30.3	36.7	55.0	64.8	119	149	85.2	112	109	104	103	83.0	87.4
1943	57.1	53.9	155	194	215	200	145	127	90.7	110	72.8	48.8	122
1944	38.9	43.8	42.6	59.5	191	220	187	123	83.4	55.7	44.9	50.8	94.6
1945	45.1	57.0	82.5	115	166	147	146	144	78.9	60.7	55.9	72.1	96.8
1946	65.0	79.2	111	260	257	194	146	150	97.3	81.2	56.2	41.5	128
1947	48.4	50.6	60.5	259	115	123	117	84.9	66.8	54.5	66.0	51.3	91.4
1948	52.1	83.7	77.0	78.0	203	175	178	89.3	60.9	55.7	87.6	45.7	98.3
1949	56.7	119	148	201	216	157	162	171	154	168	142	125	150
1950	109	123	130	203	204	237	144	106	120	74.4	61.6	71.2	132

Monthly and yearly runoff, in inches, of Scott Creek above Sylva, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1941	-	-	-	-	-	-	-	-	-	2.49	1.82	0.80	-
1942	0.69	0.81	1.25	1.47	2.45	3.39	1.87	2.54	2.40	2.36	2.34	1.83	23.40
1943	1.30	1.19	3.52	4.42	4.42	4.55	3.19	2.90	2.00	2.49	1.65	1.07	32.70
1944	.88	.96	.97	1.35	4.06	5.00	4.11	2.80	1.84	1.27	1.02	1.12	25.38
1945	1.03	1.25	1.88	2.56	3.42	3.34	3.20	3.27	1.74	1.38	1.27	1.59	25.93
1946	1.48	1.74	2.53	5.92	5.27	4.42	3.20	3.40	2.14	1.85	1.28	.91	34.14
1947	1.10	1.11	1.38	5.88	2.35	2.79	2.57	1.93	1.47	1.24	1.50	1.13	24.45
1948	1.18	1.84	1.75	1.77	4.32	3.97	3.91	2.03	1.34	1.27	1.99	1.01	26.38
1949	.83	2.62	3.36	4.57	4.44	3.57	3.57	3.89	3.38	3.81	3.24	2.76	40.04
1950	2.49	2.72	2.97	4.62	4.18	5.39	3.18	2.41	2.63	1.69	1.40	1.57	35.25

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1941	923	-	-	-	-	-	-	-	-
1942	953	1,210	Feb. 16, 1942	25	87.4	1.72	23.40	99.5	26.66
1943	975	1,140	Dec. 29, 1942	38	122	2.41	32.70	110	29.50
1944	1003	1,260	May 29, 1944	28	94.6	1.87	25.38	99.5	26.73
1945	1033	958	Feb. 17, 1945	32	96.8	1.91	25.93	103	27.52
1946	1053	1,990	Feb. 10, 1946	35	128	2.52	34.14	119	31.98
1947	1083	1,640	Jan. 20, 1947	31	91.4	1.80	24.45	95.8	25.63
1948	1113	802	Mar. 27, 1948	36	98.3	1.94	26.38	106	28.42
1949	1143	1,780	July 19, 1949	34	150	2.96	40.04	155	41.41
1950	1173	1,360	Jan. 19, 1950	45	132	2.60	35.25	-	-

176. Scott Creek at Sylva, N. C.

Location.--Lat 35°22'25", long. 83°13'05", just downstream from Cope Creek (formerly Gunter Creek) at Sylva, Jackson County.

Drainage area.--55.0 sq mi.

Supplemental records available.--February 1921 to March 1922, gage heights and discharge measurements only.

Gage.--Water-stage recorder at described site after June 29, 1928. Datum of gage is 2,033.23 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Feb. 1, 1921, to Mar. 31, 1922, staff gage at site about 1,500 ft downstream at different datum. May 16 to June 28, 1928, staff gage at described site and datum.

Average discharge.--14 years (1927-41), 109 cfs.

Extremes.--1927-41: Maximum discharge, 3,360 cfs Aug. 30, 1940 (gage height, 8.61 ft), by slope-area method; minimum, 3.0 cfs Oct. 11, 13, Nov. 18, 1941 (gage height, 1.69 ft), result of regulation; minimum daily, 20 cfs Jan. 20, 1940, Oct. 11-13, 1941.

Remarks.--Sylva Paperboard Co. diverts about 2,000,000 gallons daily (3.1 cfs) around station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1928	*57.5	*61.5	*188	*129	*137	*126	*150	*215	191	169	197	230	*154
1929	111	97.7	77.1	152	200	400	200	252	199	167	76.6	76.3	167
1930	73.9	174	110	103	102	136	112	124	79.0	49.5	45.7	54.9	96.9
1931	35.4	68.3	58.7	79.8	76.3	78.6	159	103	71.3	59.6	42.0	34.6	72.0
1932	27.8	30.2	115	118	197	125	123	122	75.4	63.9	62.4	39.3	91.2
1933	70.2	81.0	244	261	315	195	155	174	85.0	53.9	54.6	50.2	144
1934	32.1	31.5	34.9	55.0	50.4	155	96.2	78.3	77.3	67.5	57.8	44.6	65.2
1935	65.7	72.2	68.3	113	108	154	160	126	79.2	77.1	70.9	41.7	98.0
1936	35.7	74.5	53.8	303	280	237	383	117	71.9	80.9	56.5	63.3	146
1937	72.0	59.5	126	330	221	139	131	116	107	82.7	109	74.7	130
1938	83.5	67.7	75.9	109	103	160	143	115	127	154	106	61.7	109
1939	44.1	65.5	56.3	101	316	200	137	98.8	63.7	68.2	52.4	33.6	103
1940	28.0	27.3	34.4	44.2	75.5	95.2	94.7	68.8	63.7	100	192	117	78.5
1941	57.5	60.2	58.7	79.0	59.2	65.5	84.3	52.5	39.5	108	64.1	33.1	65.3
1942	27.5	34.5	51.5	-	-	-	-	-	-	-	-	-	-

* Not previously published; estimated on basis of records for Oconaluftee River at Cherokee.

Monthly and yearly runoff, in inches, of Scott Creek at Sylva, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1928	*1.20	*1.25	*3.94	*2.70	*2.69	*2.64	*3.04	*4.52	3.88	3.53	4.15	4.67	*36.19
1929	2.33	1.98	1.82	5.18	3.78	8.39	4.06	5.28	4.04	3.51	1.61	1.55	41.33
1930	1.55	3.53	2.30	2.15	1.93	2.85	2.28	2.61	1.60	1.04	.96	1.11	23.91
1931	.74	1.39	1.23	1.67	1.45	1.65	3.22	2.16	1.45	1.25	.88	.70	17.79
1932	.58	.61	2.41	2.46	3.86	2.62	2.50	2.57	1.53	1.34	1.31	.80	22.59
1933	1.47	1.64	5.12	5.48	5.92	4.08	3.13	3.64	1.72	1.13	1.14	1.02	35.49
1934	.67	.64	.73	1.15	.95	3.25	1.95	1.64	1.57	1.42	1.21	.90	16.08
1935	1.38	1.46	1.85	2.37	2.05	3.23	3.66	2.63	1.61	1.62	1.49	.85	24.20
1936	.75	1.51	1.13	6.35	5.48	4.97	7.76	2.46	1.46	1.70	1.18	1.28	36.03
1937	1.51	1.20	2.64	6.92	4.19	2.92	2.66	2.43	2.18	1.73	2.28	1.52	32.18
1938	1.75	1.37	1.59	2.28	1.95	3.36	2.90	2.41	2.58	3.23	2.22	1.25	26.89
1939	.92	1.33	1.18	2.12	5.99	4.20	2.78	2.08	1.70	1.43	1.10	.68	25.51
1940	.59	.55	.72	.93	1.48	2.00	1.92	1.44	1.29	2.11	4.03	2.37	19.43
1941	1.20	1.22	1.23	1.66	1.12	1.79	1.71	1.10	.80	2.26	1.34	.67	16.10
1942	.58	.70	1.08	-	-	-	-	-	-	-	-	-	-

* Not previously published; estimated on basis of records for Oconaluftee River at Cherokee.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1928	663, 893	al, 720	June 29, 1928	-	*154	*2.80	*38.19	*153	*37.73
1929	683, 893	2,200	July 10, 1929	53	167	3.04	41.33	173	42.76
1930	698	675	Nov. 3, 1929	27	96.9	1.76	23.91	60.6	19.69
1931	713, 893	685	Nov. 16, 1930	24	72.0	1.31	17.79	73.0	18.03
1932	726, 893	905	July 4, 1932	22	91.2	1.66	22.59	110	27.22
1933	743, 893	1,330	Dec. 28, 1932	30	144	2.62	35.49	119	29.30
1934	758, 893	1,460	May 8, 1934	22	65.2	1.19	16.08	76.0	18.73
1935	783	765	Mar. 12, 1935	30	98.0	1.78	24.20	92.7	22.90
1936	803, 893	2,040	Mar. 26, 1936	29	146	2.65	36.03	154	37.99
1937	823, 893	*1,330	Jan. 3, 1937	43	130	2.36	32.18	128	31.54
1938	853	1,150	July 23, 1938	47	109	1.98	26.89	104	25.61
1939	873, 893	1,330	Feb. 3, 1939	26	103	1.87	25.51	96.8	23.94
1940	893	3,360	Aug. 30, 1940	20	78.5	1.43	19.43	85.7	21.22
1941	923	480	July 7, 1941	24	65.3	1.19	16.10	60.0	14.81

† Corrected.

* Not previously published.

a Maximum during period May to September.

177. Tuckasegee River at Dillsboro, N. C.

Location.--Lat 35°21'59", long. 83°15'38", 0.4 mile downstream from Scott Creek and 0.5 mile downstream from U. S. Highway 23 at Dillsboro, Jackson County.

Drainage area.--347 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,950.15 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to May 24, 1934, staff gage at site below Scott Creek 0.4 mile upstream at datum 7.27 ft higher.

Average discharge.--22 years (1928-50), 772 cfs (revised).

Extremes.--1928-50: Maximum discharge, 52,600 cfs Aug. 30, 1940 (gage height, 21.96 ft, from floodmarks), from rating curve extended above 8,400 cfs on basis of slope-area determination and computation of peak flow over dam; minimum, 40 cfs Oct. 26, 1941 (gage height, 1.61 ft).

Remarks.--Considerable diurnal fluctuation caused by Dillsboro powerplant 0.7 mile above the station. Flow partly regulated beginning Feb. 12, 1941 by Thorpe Lake (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second, of Tuckasegee River at Dillsboro, N.C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1928	-	-	-	-	-	-	-	-	-	788	1,200	1,190	-
1929	*650	605	483	927	1,200	*2,270	1,260	1,780	1,090	822	470	*660	*1,020
1930	*690	*1,310	850	731	791	973	691	980	490	323	247	333	*700
1931	238	430	478	603	*590	564	1,340	708	396	*470	344	267	*535
1932	209	227	962	1,180	*1,480	1,120	908	969	644	427	419	295	*735
1933	764	775	2,200	1,430	1,400	1,140	*1,020	1,360	535	367	*410	338	*978
1934	211	205	238	505	448	1,290	686	515	712	511	522	370	519
1935	586	784	898	1,141	845	1,054	1,003	764	493	446	612	369	750
1936	268	572	418	1,849	1,601	1,419	2,384	767	474	409	373	499	914
1937	864	521	901	2,294	1,513	907	966	784	619	468	611	652	923
1938	779	535	574	669	634	1,012	1,021	754	776	1,070	808	458	759
1939	291	657	470	829	2,422	1,644	974	724	610	450	523	287	813
1940	215	198	234	291	582	717	974	585	536	529	2,068	1,004	661
1941	406	444	566	633	389	525	497	312	266	858	425	238	465
1942	313	503	643	474	857	1,013	676	947	859	758	632	796	703
1943	585	491	1,229	1,316	1,260	1,142	903	718	688	905	664	574	873
1944	407	404	448	581	1,155	1,387	1,193	733	461	467	442	471	677
1945	425	317	410	582	987	841	1,118	951	648	528	385	456	634
1946	374	463	703	1,553	1,694	1,577	1,275	1,155	712	627	542	408	920
1947	369	303	366	1,423	687	725	834	668	618	492	540	270	608
1948	477	602	483	569	1,270	1,262	1,204	593	449	788	874	608	763
1949	426	1,215	1,145	1,362	1,270	975	1,277	1,224	1,262	1,246	1,255	1,050	1,141
1950	910	849	827	1,200	1,199	1,474	967	692	823	498	402	936	896

* Only monthly figures revised; revised daily figures not available.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1928	-	-	-	-	-	-	-	-	-	2.62	3.99	3.84	-
1929	*2.16	1.95	1.61	3.08	3.61	*7.54	4.05	5.90	3.51	2.73	1.56	*2.12	*39.82
1930	*2.29	*4.21	2.82	2.43	2.37	3.23	2.22	3.25	1.58	1.07	.82	1.07	*27.36
1931	.79	1.38	1.59	2.00	*1.77	1.87	4.32	2.35	1.27	*1.56	1.14	.86	*20.90
1932	.69	.73	3.20	3.93	*4.60	3.72	2.92	3.22	2.07	1.42	1.39	.95	*28.84
1933	2.54	2.49	7.31	4.75	4.21	3.78	*3.28	4.52	1.72	1.22	*1.36	1.09	*38.27
1934	.70	.66	.79	1.68	1.34	4.30	2.21	1.71	2.29	1.70	1.74	1.19	20.31
1935	1.95	2.52	2.98	3.79	2.54	3.50	3.23	2.54	1.58	1.48	2.03	1.18	29.32
1936	.89	1.84	1.39	6.14	4.98	4.71	7.67	2.55	1.53	1.36	1.24	1.58	35.88
1937	2.87	1.67	3.00	7.62	4.54	3.01	3.10	2.61	1.99	1.56	2.03	2.10	36.10
1938	2.58	1.72	1.90	2.22	1.91	3.37	3.28	2.50	2.50	3.55	2.69	1.47	29.69
1939	.97	2.11	1.56	2.76	7.27	5.46	3.14	2.41	1.96	1.50	1.74	.92	31.80
1940	.72	.64	.78	.97	1.81	2.38	3.13	1.94	1.72	1.76	6.87	3.23	25.95
1941	1.35	1.43	1.88	2.10	-	-	-	-	-	-	-	-	-

* Only monthly figures revised; revised daily figures not available.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1928	-	14,000	Aug. 15, 1928	-	-	-	-	-	-	-	-
1929	-	10,200	Mar. 14, 1929	-	-	*1,020	*2.94	*39.82	*1,100	*43.42	
1930	-	a3,360	Nov. 3, 1929	-	-	*700	*2.02	*27.36	558	21.80	
1931	-	a4,900	Apr. 22, 1931	-	-	*535	*1.54	*20.90	*557	*21.76	
1932	-	a4,900	May 1, 1932	-	-	*735	*2.12	*28.84	*932	*36.56	
1933	-	a6,500	Oct. 17, 1932	-	-	*978	*2.82	*38.27	*718	*28.08	
1934	758	6,270	Feb. 26, 1934	156	519	1.50	20.31	654	25.61		
1935	783	5,410	Jan. 9, 1935	246	750	2.16	29.32	665	25.99		
1936	803	9,800	Apr. 6, 1936	211	914	2.63	35.88	1,002	39.30		
1937	823	7,140	Jan. 3, 1937	355	923	2.66	36.10	889	34.76		
1938	853	6,300	July 23, 1938	325	759	2.19	29.69	719	28.13		
1939	873	7,380	Feb. 15, 1939	226	813	2.34	31.80	748	29.30		
1940	893	52,600	Aug. 30, 1940	140	661	1.90	25.95	726	28.47		
1941	923	4,480	July 7, 1941	170	465	b1.49	b20.25	468	b19.52		
1942	953	6,520	May 20, 1942	170	703	2.03	27.51	776	30.35		
1943	973	9,850	Dec. 29, 1942	370	873	2.52	34.14	783	30.64		
1944	1003	4,200	Feb. 27, 1944	180	677	1.95	26.56	668	26.21		
1945	1033	4,780	Apr. 17, 1945	169	634	1.83	24.82	667	26.09		
1946	1053	11,700	Feb. 10, 1946	214	920	2.65	35.97	877	34.32		
1947	1083	10,100	Jan. 20, 1947	166	608	1.75	23.80	652	25.51		
1948	1113	8,940	July 11, 1948	150	765	2.20	29.82	665	33.92		
1949	1143	13,900	June 16, 1949	284	1,141	3.29	44.62	1,125	45.99		
1950	1173	8,060	Mar. 13, 1950	275	896	2.58	35.04	-	-		

* Revised.

a Maximum observed.

b Not previously published; adjusted for change in contents during initial filling of Thorpe Lake.

Note.--Figures of daily discharge in the period June 1928 to September 1933, published in water-supply papers, have been found in error on the basis of restudy of the original data and comparison with records at nearby stations. These records should not be used.

178. Oconaluftee River at Cherokee, N. C.

Location.--Lat 35°29'04" long. 83°18'56", on State Highway 107, in Cherokee Indian Reservation, 0.6 mile (revised) north of Cherokee, Swain County, and 1.9 miles upstream from Soco Creek.

Drainage area.--131 sq mi.

Supplemental records available.--Records of chemical analyses and water temperatures for water year 1946 are published in WSP 1050.

Gage.--Water-stage recorder. Datum of gage is 1,938.37 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to May 17, 1934, staff gage at same site and datum.

Average discharge.--29 years (1920-49), 384 cfs.

Extremes.--1920-49: Maximum discharge, 11,200 cfs Jan. 7, 1946 (gage height, 11.50 ft), from rating curve extended above 5,900 cfs on basis of slope-area determination at gage height 8.84 ft and by logarithmic plotting; minimum, 53 cfs Jan. 2, 1940 (gage height, 2.87 ft), result of freezeup.

Flood of November 1906 reached a stage of 12 ft, from flood profile by Tennessee Valley Authority.

Remarks.--Slight diurnal fluctuation at low flow prior to 1936 caused by small powerplant 0.3 mile upstream.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	*215	*260	*610	*535	789	353	444	427	290	305	633	252	*424
1922	195	358	444	818	613	1,150	711	705	406	419	253	134	518
1923	105	90.6	487	545	847	846	557	777	480	337	298	159	459
1924	108	137	335	630	448	512	608	541	350	216	164	235	357
1925	159	113	422	576	344	323	241	219	142	133	82.7	69.6	235
1926	306	413	242	467	490	521	428	281	178	217	287	210	336
1927	183	412	966	496	684	708	379	311	490	282	329	232	457
1928	188	202	626	427	450	415	492	659	800	529	448	619	488
1929	267	269	219	640	580	1,110	492	802	432	437	268	291	486
1930	310	680	376	341	364	651	429	496	236	177	150	194	367
1931	132	297	219	265	361	306	756	339	228	303	228	178	300
1932	39.5	102	677	695	903	585	438	423	213	242	199	133	391
1933	296	257	950	444	608	944	488	365	423	198	172	231	426
1934	102	89.6	123	411	199	907	364	237	402	226	259	160	291
1935	213	269	369	589	486	706	711	447	222	273	226	123	385
1936	94.9	212	161	1,038	743	814	1,033	246	160	179	185	184	419
1937	354	250	454	1,328	644	429	486	358	286	222	293	208	443
1938	277	195	282	446	414	639	565	480	468	558	361	209	406
1939	115	169	164	386	1,130	657	428	254	202	228	155	105	327
1940	79.1	79.0	92.7	150	318	587	469	281	216	270	463	223	267
1941	106	187	225	303	201	386	373	165	154	494	215	119	245
1942	102	181	241	296	473	681	262	304	270	372	372	244	316
1943	172	193	780	638	775	644	494	404	290	471	339	168	446
1944	127	164	135	229	767	954	633	319	164	118	144	179	326
1945	180	201	359	433	691	481	426	503	268	242	341	311	368
1946	212	294	399	1,113	864	587	497	578	273	273	170	132	448
1947	153	198	318	1,278	344	451	490	261	180	245	197	116	355
1948	108	270	261	284	683	597	568	249	192	218	281	129	332
1949	93.7	602	681	849	761	527	556	440	387	583	369	309	513

* Not previously published; estimated or partly estimated on basis of records for Tuckasee River at Bryson City.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	*1.89	*2.21	*5.37	*4.71	6.27	3.11	3.78	3.76	2.47	2.68	5.57	2.15	*43.97
1922	1.72	3.05	3.91	7.20	4.87	10.12	6.06	6.20	3.45	3.69	2.23	1.14	53.64
1923	.92	.77	4.29	4.80	6.73	7.44	4.74	6.84	4.08	2.97	2.63	1.36	47.57
1924	.95	1.16	2.95	5.54	3.69	4.51	5.18	4.76	2.96	1.90	1.44	2.00	37.06
1925	1.40	.96	3.71	5.07	2.73	2.84	2.05	1.92	1.21	1.17	.73	.59	24.38
1926	2.70	3.52	2.13	4.11	3.90	4.59	3.65	2.47	1.52	1.91	2.53	1.79	34.82
1927	1.61	3.51	8.68	4.37	5.43	6.23	3.23	2.74	4.18	2.48	2.89	1.98	47.33
1928	1.65	1.72	5.51	3.75	3.70	3.65	4.19	5.80	6.81	4.65	3.94	5.27	50.64
1929	2.35	2.29	1.93	5.64	4.61	9.74	4.19	7.06	3.68	3.85	2.53	2.48	50.35
1930	2.72	5.79	3.31	3.00	2.90	5.73	3.66	4.37	2.01	1.55	1.32	1.65	38.01
1931	1.16	2.53	1.93	2.33	2.87	2.69	6.44	2.98	1.94	2.67	2.01	1.52	31.07
1932	.68	.87	5.96	6.11	7.43	5.14	3.73	3.72	1.81	2.13	1.75	1.14	40.67
1933	2.61	2.19	6.36	5.35	7.50	4.30	3.11	3.72	1.69	1.52	2.03	1.73	44.11
1934	.90	.76	1.08	3.61	1.58	7.98	3.10	2.09	3.42	2.00	2.28	1.36	30.16
1935	1.87	2.21	3.25	5.18	3.87	6.21	6.05	3.93	1.89	2.40	1.99	1.05	39.90
1936	.83	1.80	1.41	9.14	6.11	7.17	8.80	2.17	1.36	1.58	1.63	1.56	43.56
1937	3.11	2.13	4.00	11.64	5.12	3.77	4.14	3.15	2.43	1.95	2.58	1.77	45.79
1938	2.43	1.66	2.48	3.92	3.29	5.63	4.81	4.05	3.98	4.91	3.18	1.78	42.32
1939	.99	1.44	1.44	3.40	8.99	5.79	3.65	2.24	1.72	2.01	1.36	.69	35.92
1940	.70	.67	.62	1.33	2.82	4.99	3.99	2.48	1.64	2.38	4.07	1.90	27.79

* Not previously published; estimated or partly estimated on basis of records for Tuckasee River at Bryson City.

Monthly and yearly runoff, in inches, of Oconaluftee River at Cherokee, N. C.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1941	0.94	1.59	1.98	2.67	1.60	3.40	3.18	1.45	1.31	4.55	1.89	1.01	25.37
1942	.90	1.54	2.12	2.60	3.76	5.99	2.23	2.68	2.30	3.28	3.27	2.08	32.75
1943	1.51	1.64	6.86	5.62	6.16	5.67	4.21	3.56	2.47	4.14	2.98	1.43	46.25
1944	1.12	1.40	1.19	2.01	6.32	8.39	5.39	2.80	1.40	1.04	1.27	1.53	33.86
1945	1.59	1.71	3.16	3.81	5.49	4.23	3.63	4.43	2.28	2.13	3.00	2.64	38.10
1946	1.87	2.50	3.51	9.80	6.87	5.17	4.23	5.09	2.33	2.41	1.50	1.12	46.40
1947	1.55	1.60	2.80	11.25	2.73	3.97	4.17	2.48	1.53	2.16	1.73	.98	36.76
1948	.94	2.30	2.29	2.50	7.10	5.25	4.84	2.19	1.83	1.92	2.47	1.10	34.53
1949	.82	5.13	5.99	7.47	6.05	4.64	4.73	3.87	3.30	5.13	3.42	2.63	53.18

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1921	523	a5,010	Feb. 10, 1921	-	*424	*3.24	*43.97	*417	*43.18
1922	543	7,500	Jan. 21, 1922	92	518	3.95	53.64	492	50.94
1923	563	*4,030	Dec. 17, 1922	78	459	3.50	47.57	450	46.85
1924	583	*3,890	Jan. 3, 1924	92	357	2.73	37.06	366	38.07
1925	603	*6,000	Dec. 8, 1924	56	235	1.79	24.38	257	26.66
1926	623	3,870	Jan. 18, 1926	61	356	2.56	34.82	388	40.27
1927	643	4,430	Dec. 25, 1926	143	457	3.49	47.33	409	42.41
1928	663	*4,780	Sept. 3, 1928	137	488	3.73	50.64	465	48.33
1929	683	*5,920	Mar. 5, 1929	137	486	3.71	50.35	537	55.80
1930	698	*2,330	Mar. 19, 1930*	99	367	2.80	38.01	307	31.81
1931	715	*5,100	Apr. 4, 1931	97	300	2.29	31.07	320	33.16
1932	728	*5,420	Jan. 30, 1932	77	391	2.98	40.67	444	46.12
1933	743	*6,600	Dec. 28, 1932	115	426	3.25	44.11	325	33.89
1934	758	5,320	Mar. 3, 1934	80	291	2.22	30.16	335	34.75
1935	783	4,540	Mar. 12, 1935	85	385	2.94	39.90	354	36.61
1936	803	8,760	Apr. 6, 1936	79	419	3.20	43.56	469	48.76
1937	823	5,980	Jan. 3, 1937	129	443	3.38	45.79	417	43.12
1938	853	2,460	July 23, 1938	120	406	3.10	42.12	380	39.42
1939	873	7,860	Feb. 3, 1939	83	327	2.50	33.92	311	32.24
1940	893	6,310	Aug. 30, 1940	66	267	2.04	27.79	290	30.11
1941	923	3,830	July 7, 1941	87	245	1.87	25.37	245	25.42
1942	953	3,410	Feb. 16, 1942	78	316	2.41	32.75	369	38.20
1943	973	6,990	Dec. 29, 1942	128	446	3.40	46.25	385	39.95
1944	1003	5,500	Feb. 18, 1944	74	326	2.49	33.66	352	36.61
1945	1033	5,340	Feb. 17, 1945	93	368	2.81	38.10	382	39.52
1946	1053	11,200	Jan. 7, 1946	101	448	3.42	46.40	427	44.27
1947	1083	9,490	Jan. 20, 1947	82	355	2.71	36.76	353	36.54
1948	1113	6,950	Feb. 14, 1948	77	332	2.53	34.53	394	40.94
1949	1143	7,400	Nov. 6, 1948	82	513	3.92	53.18	-	-

* Revised.

* Not previously published.

a Maximum during period January to September.

179. Oconaluftee River at Birdtown, N. C.

Location--Lat 35°27'42", long. 83°21'13", 200 ft upstream from county bridge, 0.5 mile south of Birdtown, Swain County, 0.6 mile downstream from Adams Creek, and 2.2 miles southwest of Cherokee.

Drainage area--184 sq mi.

Supplemental records available--Records of chemical analyses and water temperatures for water year 1950 are published in WSP 1186.

Gage--Water-stage recorder. Datum of gage is 1,843.30 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. July 10, 1945, to Sept. 30, 1946, staff gage at same site and datum.

Extremes--1945-46, 1948-50: Maximum discharge, 15,000 cfs Jan. 7, 1946 (gage height, 12.0 ft, from floodmarks), from rating curve extended above 8,300 cfs by computation of peak flow over dam; minimum, 126 cfs Oct. 30 to Nov. 1, 1948 (gage height, 0.88 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	-	-	-	-	-	-	-	-	-	-	416	394	-
1946	275	372	505	1,427	1,145	768	633	755	373	363	233	190	584
1948	-	-	-	-	-	-	-	-	-	285	390	191	-
1949	139	772	824	1,042	984	663	701	584	522	714	484	394	648
1950	413	492	747	1,068	1,086	1,014	517	431	507	457	283	291	607

Monthly and yearly runoff, in inches, of Oconaluftee River at Birdtown, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	-	-	-	-	-	-	-	-	-	-	2.61	2.39	-
1946	1.72	2.26	3.16	8.94	6.48	4.81	3.84	4.73	2.26	2.27	1.46	1.15	43.08
1948	-	-	-	-	-	-	-	-	-	1.78	2.44	1.16	-
1949	.87	4.68	5.16	6.53	5.45	4.15	4.25	3.68	3.16	4.47	3.03	2.39	47.80
1950	2.58	2.98	4.68	6.69	6.15	6.35	3.13	2.70	3.07	2.86	1.77	1.77	44.73

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1945	1033	-	-	-	-	-	-	-	-
1946	1053	15,000	Jan. 7, 1946	155	584	3.17	43.08	-	-
1948	1113	-	-	-	-	-	-	-	-
1949	1143	9,420	Nov. 6, 1948	126	648	3.52	47.80	642	47.33
1950	1173	6,470	Jan. 19, 1950	185	607	3.30	44.73	-	-

180. Tuckasegee River at Bryson City, N. C.

Location.--Lat 35°25'40", long. 83°26'50", 400 ft downstream from bridge on State Highway 288 at Bryson City, Swain County, and 0.6 mile downstream from Deep Creek.

Drainage area.--655 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,716.54 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Nov. 7, 1897, to Feb. 2, 1914, and May 18, 1920, to June 27, 1927, staff gages at bridge 400 ft upstream. Feb. 3, 1914, to May 17, 1920, water-stage recorder at site 200 ft upstream. All gages at or corrected to within 0.1 ft of same datum.

Average discharge.--53 years (1897-1950), 1,593 cfs (unadjusted).

Extremes.--1897-1950: Maximum discharge, 61,600 cfs Aug. 30, 1940 (gage height, 15.96 ft), from rating curve extended above 25,000 cfs on basis of logarithmic plotting and slope-area determination of peak flow; minimum, 27 cfs Sept. 10, 1925 (gage height, 0.48 ft), caused by filling reservoir on Oconaluftee River.

Flood in May 1840 reached a stage of 21 ft, from survey by the Tennessee Valley Authority.

Remarks.--Considerable diurnal fluctuation caused by powerplants above station. Flow partly regulated beginning Feb. 12, 1941, by Thorpe Lake (see elsewhere in this report), and two small reservoirs with combined capacity of about 250 cfs-days.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1898	*503	*510	a1,130	a1,980	a1,020	a1,760	a2,250	a1,270	a828	a1,280	a3,120	a3,590	*1,610
1899	a3,850	a1,880	a1,970	a2,070	a5,850	a6,500	a3,280	a1,480	a971	a738	a577	a577	a2,580
1900	a595	a612	a1,360	a2,080	a3,270	a3,320	2,590	1,420	2,600	1,710	681	860	a1,770
1901	974	1,190	1,390	2,170	1,500	2,610	3,610	3,070	2,170	1,220	4,250	1,940	2,180
1902	1,020	708	3,290	2,100	2,930	4,140	2,250	1,370	951	734	493	998	1,740
1903	643	917	1,680	1,280	4,110	4,760	4,010	1,510	1,710	954	705	504	1,880
1904	446	678	518	955	1,080	2,040	1,360	1,260	908	704	886	554	949
1905	368	435	777	1,420	2,380	1,980	1,300	1,680	1,120	1,610	1,510	693	1,270
1906	682	529	1,790	2,820	1,380	2,190	2,190	1,280	1,750	1,950	1,900	2,960	1,790
1907	2,940	*2,900	2,050	1,620	1,690	1,810	1,470	1,770	1,630	1,150	822	1,020	*1,740
1908	752	1,460	1,970	2,270	2,630	2,860	2,200	2,030	1,230	1,210	1,190	765	1,710
1909	750	722	1,780	1,820	2,880	3,660	2,280	3,080	2,300	2,370	1,680	1,160	2,130
1910	991	722	1,190	1,430	1,550	1,640	1,250	2,190	2,030	1,950	1,200	1,020	1,430
1911	805	596	1,100	1,910	1,700	1,690	3,520	1,390	847	899	807	685	1,320
1912	997	1,030	1,580	1,780	2,210	3,650	3,210	2,340	1,540	1,770	1,230	994	1,960
1913	792	744	1,110	1,860	2,350	4,300	2,320	1,720	1,320	929	927	755	1,590
1914	793	764	980	934	1,580	1,540	1,910	1,070	731	*689	*592	429	*997
1915	*989	868	2,790	2,810	2,730	1,580	1,280	1,390	1,290	1,410	917	830	1,570
1916	1,500	1,260	*2,870	2,760	2,490	1,830	1,450	1,370	1,780	*3,380	1,770	1,020	*1,960
1917	830	820	1,390	2,570	2,630	*6,080	2,680	1,500	1,300	1,270	985	1,070	*1,930
1918	934	715	686	*2,430	2,550	1,510	*1,440	1,370	1,200	844	750	820	*1,260
1919	*2,290	1,720	*2,560	2,640	2,120	2,550	1,850	1,600	1,280	1,240	*1,030	*672	*1,800
1920	*989	*941	1,820	1,970	1,800	2,970	4,840	1,850	1,350	1,050	2,080	1,470	*1,930
1921	791	963	2,270	1,990	2,930	1,630	1,900	1,810	1,290	1,290	1,610	966	1,610
1922	742	1,290	1,540	2,810	2,610	3,990	2,860	2,610	1,760	1,510	905	619	1,940
1923	569	482	1,720	1,930	2,780	2,750	2,190	2,850	2,260	1,380	1,280	781	1,740
1924	523	698	1,250	2,310	1,630	1,870	2,120	1,890	1,320	1,320	704	850	1,370
1925	662	491	1,320	2,180	1,310	1,250	991	902	620	503	220	195	887

* Revised.

† Corrected.

‡ Not previously published; estimated or partly estimated on basis of records for French Broad River at Asheville and Hiwassee River at Murphy.

a Only monthly figures revised; revised daily figures not available.

Monthly and yearly mean discharge, in cubic feet per second, of Tuckasegee River at Bryson City, N. C.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1926	655	977	670	1,560	1,680	1,680	1,700	975	731	739	997	693	1,080
1927	529	1,280	2,660	1,280	2,120	2,550	1,460	1,150	1,580	989	1,030	706	1,470
1928	705	871	2,340	1,570	1,580	1,800	2,220	2,580	2,400	1,830	2,270	2,350	1,880
1929	1,270	1,010	903	2,060	2,310	4,430	2,280	3,240	2,020	1,710	1,030	1,290	1,960
1930	1,350	2,570	1,500	1,410	1,530	2,120	1,500	1,860	1,010	696	506	702	1,390
1931	453	904	927	1,080	1,160	1,230	2,650	1,400	854	924	771	565	1,070
1932	347	378	2,420	2,420	2,930	1,940	1,890	1,870	1,100	898	779	529	1,420
1933	1,320	1,420	3,700	2,990	3,370	2,260	2,010	2,350	1,030	775	812	779	1,900
1934	438	386	505	1,190	926	2,940	1,520	1,040	1,440	958	1,040	698	1,090
1935	984	1,245	1,487	2,147	1,702	2,323	2,338	1,607	957	935	1,025	597	1,445
1936	454	978	755	3,994	3,259	3,034	4,632	1,329	831	781	755	343	1,795
1937	1,492	964	1,720	4,819	2,856	1,758	1,887	1,489	1,174	911	1,237	1,097	1,780
1938	1,395	985	1,109	1,548	1,421	2,273	2,139	1,615	1,655	2,073	1,511	872	1,552
1939	546	1,038	833	1,606	4,580	3,067	1,868	1,282	1,059	891	840	534	1,491
1940	385	362	457	599	1,131	1,624	1,779	1,074	907	1,022	2,855	1,548	1,147
1941	699	798	969	1,204	736	1,221	1,142	602	531	1,754	815	430	912
1942	476	754	1,036	968	1,709	2,309	1,196	1,582	1,416	1,455	1,360	1,288	1,294
1943	981	878	2,750	2,701	2,674	2,528	1,934	1,569	1,259	1,806	1,263	899	1,784
1944	690	732	747	1,086	2,795	3,277	2,549	1,467	857	754	754	817	1,371
1945	777	721	1,077	1,415	2,350	1,858	2,004	1,956	1,205	1,017	1,021	1,021	1,362
1946	817	1,067	1,584	3,646	3,503	2,791	2,287	2,306	1,298	1,148	892	690	1,827
1947	670	657	928	3,816	1,520	1,685	1,817	1,292	1,057	969	971	534	1,528
1948	735	1,128	1,056	1,147	2,901	2,430	2,360	1,157	891	1,266	1,474	928	1,449
1949	685	2,327	2,513	2,933	2,846	2,072	2,458	2,287	2,184	2,406	2,041	1,705	2,200
1950	1,536	1,679	1,973	2,888	2,933	3,185	1,875	1,425	1,846	1,191	841	1,406	1,876

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1898	*0.89	*0.87	*1.99	*3.49	*1.62	*3.11	*3.83	*2.23	*1.41	*2.26	*5.49	*6.11	*33.30
1899	*6.43	*3.20	*3.46	*3.54	*9.30	*11.45	*5.59	*3.79	*2.53	*1.71	*1.30	*.98	*53.38
1900	*1.05	*1.04	*2.40	*3.66	*5.20	*5.84	4.42	2.51	4.42	3.01	1.55	1.50	*36.60
1901	1.72	2.03	2.15	3.82	2.39	4.59	6.15	5.41	3.69	2.15	7.48	3.31	45.19
1902	1.79	1.21	5.79	3.69	4.66	7.28	3.83	2.41	1.62	1.29	.87	1.70	36.14
1903	1.13	1.56	2.95	2.26	6.53	8.37	6.83	2.66	2.92	1.68	1.24	.86	38.99
1904	.78	1.15	.91	1.68	1.77	3.60	2.32	2.21	1.55	1.24	1.56	.94	19.71
1905	.65	.74	1.37	2.50	3.75	3.31	2.21	2.95	1.91	3.19	2.66	1.18	26.42
1906	1.20	.90	3.15	4.96	2.19	3.86	3.73	2.26	2.97	3.43	3.35	5.03	37.03
1907	5.17	*4.94	3.62	2.84	2.69	3.19	2.50	3.11	2.77	2.02	1.45	1.74	*36.04
1908	1.32	2.49	3.46	4.00	4.32	5.03	3.74	3.57	2.10	2.12	2.10	1.30	35.55
1909	1.32	1.23	3.14	3.21	4.58	6.45	3.85	5.42	5.45	4.17	3.28	1.98	44.08
1910	1.75	1.23	2.09	2.52	2.47	2.88	2.13	3.86	3.46	3.43	2.11	1.73	29.66
1911	1.42	1.02	1.93	3.37	2.70	2.97	6.00	2.45	1.44	1.58	1.42	1.17	27.47
1912	1.76	1.76	2.78	3.14	3.63	6.43	5.47	4.12	2.62	3.11	2.17	1.69	38.68
1913	1.39	1.27	1.95	3.27	3.73	7.57	3.95	3.03	2.24	1.63	1.63	1.29	32.95
1914	1.40	1.30	1.72	1.64	2.52	2.71	3.26	1.88	1.24	1.21	1.04	.73	20.65
1915	*1.70	1.48	4.91	4.95	4.35	2.78	2.18	2.44	2.21	2.49	1.61	1.41	*32.51
1916	2.64	2.14	*5.06	4.85	4.11	3.23	2.46	2.40	3.04	*5.95	3.12	1.74	*40.74
1917	1.46	1.40	2.44	4.52	4.18	*10.70	4.56	2.63	2.22	2.24	1.73	1.82	*39.90
1918	1.64	1.22	1.21	*4.27	4.06	2.66	*2.44	2.41	2.05	1.49	1.32	1.40	*26.17
1919	*4.04	2.93	*4.51	4.65	3.37	4.49	3.15	2.81	2.18	2.19	*1.81	*1.14	*37.27
1920	*1.74	*1.60	3.21	3.47	2.97	5.22	8.25	3.26	2.31	1.84	3.65	2.51	*40.03
1921	1.39	1.64	4.00	3.50	4.65	2.88	3.23	3.18	2.19	2.27	2.83	1.65	33.41
1922	1.31	2.20	2.72	4.95	4.15	7.03	4.87	4.60	3.00	2.66	1.59	1.05	40.13
1923	1.00	.82	3.02	3.39	4.41	4.84	3.73	5.02	3.85	2.43	2.25	1.33	36.09
1924	.92	1.19	2.19	4.06	2.68	3.29	3.62	3.33	2.25	2.32	1.24	1.45	28.54
1925	1.17	.84	2.32	3.84	2.09	2.20	1.69	1.59	1.06	.89	.39	.33	18.41
1926	1.15	1.66	1.18	2.74	2.67	2.96	2.90	1.72	1.24	1.30	1.75	1.18	22.45
1927	.93	2.18	4.69	2.93	3.38	4.49	2.49	2.03	2.68	1.74	1.82	1.20	30.54
1928	1.24	1.48	4.13	2.76	2.60	3.16	3.78	4.54	4.09	5.22	4.00	.90	39.00
1929	2.23	1.72	1.59	3.62	3.68	7.80	3.89	5.70	3.44	3.01	1.81	2.19	40.68
1930	2.37	4.38	2.64	2.48	2.43	3.73	2.56	3.27	1.72	1.22	.89	1.20	28.89
1931	.80	1.54	1.63	1.90	1.85	2.16	4.51	2.46	1.46	1.63	1.36	.96	22.26
1932	.61	.64	3.59	4.27	4.82	3.42	3.23	3.29	1.88	1.58	1.37	.90	29.60
1933	2.33	2.42	6.52	5.27	5.35	3.98	3.42	4.14	1.76	1.36	1.43	1.33	39.31
1934	.77	.66	.89	2.09	1.47	5.16	2.58	1.83	2.45	1.69	1.83	1.19	22.63
1935	1.73	2.12	2.62	3.78	2.71	4.09	3.98	2.83	1.63	1.65	1.80	1.02	29.96
1936	.80	1.67	1.33	7.03	5.37	5.34	7.89	2.34	1.41	1.37	1.33	1.44	37.32
1937	2.63	1.64	3.03	8.48	4.54	3.09	3.21	2.62	2.00	1.60	2.18	1.86	36.88
1938	2.46	1.67	1.95	2.72	2.26	4.00	3.65	2.85	2.82	3.64	2.66	1.48	32.16
1939	.96	1.76	1.46	2.82	7.28	5.40	3.17	2.26	1.81	1.57	1.48	.91	30.88
1940	.68	.65	.80	1.05	1.87	2.86	3.04	1.89	1.54	1.80	5.03	2.63	23.84
1941	1.23	1.36	1.70	2.12	-	-	-	-	-	-	-	-	18.88

* Revised.

† Corrected.

† Not previously published; estimated or partly estimated on basis of records for French Broad River at Asheville and Hiwassee River at Murphy.

TENNESSEE RIVER BASIN

Yearly discharge, in cubic feet per second, of Tuckasegee River at Bryson City, N. C.									
Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
Discharge	Date								
1898	-	*22,000	Sept. 3, 1898	-	*1,610	*2.46	*33.30	*2,060	*42.64
1899	-	*32,500	Mar. 19, 1899	-	*2,580	*3.94	*53.38	*2,160	*44.78
1900	(a)	*17,500	Feb. 13, 1900	-	*1,770	*2.70	*36.60	*1,850	*38.31
1901	(a)	*32,000	May 21, 1901	515	2,180	3.33	45.19	2,310	47.78
1902	(a)	*39,300	Feb. 28, 1902	365	1,740	2.66	36.14	1,590	32.99
1903	(a)	*21,100	Mar. 23, 1903	400	1,680	2.67	38.99	1,750	36.19
1904	(a)	*9,080	Jan. 22, 1904	365	949	1.45	19.71	945	19.63
1905	(a)	*13,500	Jan. 12, 1905	332	1,270	1.94	26.42	1,390	28.91
1906	(a)	*17,500	Sept. 30, 1906	475	1,790	2.73	37.03	*2,200	*45.51
1907	(a), 1336	*48,300	Nov. 19, 1906	515	*1,740	*2.66	*36.04	1,430	29.58
1908	(a)	*17,500	Feb. 15, 1908	515	1,710	2.61	35.55	1,640	33.97
1909	(a)	*17,100	June 4, 1909	515	2,130	3.25	44.08	2,100	43.46
1910	(a)	*6,900	Dec. 13, 1909	610	1,430	2.18	29.66	1,400	28.96
1911	(a)	*18,200	Apr. 5, 1911	515	1,320	2.02	27.47	1,420	29.40
1912	(a)	*14,800	Mar. 29, 1912	515	1,860	2.84	38.68	1,780	36.99
1913	(a)	*28,000	Mar. 27, 1913	534	1,590	2.43	32.95	1,580	32.76
1914	363	*4,610	Apr. 20, 1914	325	*997	1.52	20.65	*1,170	*24.32
1915	403	*11,600	Dec. 25, 1914	346	1,570	2.40	*32.51	*1,650	*34.26
1916	523, 1336	*24,400	Dec. 18, 1915	678	*1,960	*2.99	*40.74	*1,740	*36.20
1917	(b)	*39,000	Mar. 4, 1917	616	*1,930	*2.95	*39.90	*1,670	*36.67
1918	523, 1336	*26,200	Jan. 28, 1918	520	*1,260	*1.92	*26.17	*1,620	*33.58
1919	523, 1336	*19,600	Dec. 22, 1918	522	*1,800	*2.75	*37.27	*1,560	*32.34
1920	523, 1336	*41,100	Apr. 2, 1920	*500	*1,930	*2.95	*40.03	1,950	40.51
1921	523	*16,800	Dec. 14, 1920	654	1,610	2.46	33.41	1,570	32.61
1922	543	*21,800	Jan. 21, 1922	509	1,940	2.96	40.13	1,870	38.74
1923	563	*14,100	Dec. 17, 1922	360	1,740	2.66	36.09	1,720	35.55
1924	583	*10,700	Jan. 11, 1924	435	1,370	2.09	28.54	1,370	28.57
1925	603	*12,500	Dec. 8, 1924	31	867	1.35	18.41	872	18.07
1926	623	*13,500	Jan. 18, 1926	186	1,080	1.65	22.45	1,270	26.26
1927	643	*13,100	Dec. 28, 1926*	386	1,470	2.24	30.54	1,430	29.59
1928	663	*21,600	Aug. 16, 1928	466	1,880	2.87	39.00	1,810	37.69
1929	683	*13,800	Mar. 14, 1929	651	1,960	2.99	40.68	2,150	44.53
1930	698	5,680	Nov. 4, 1929	346	1,390	2.12	28.69	1,130	23.47
1931	713	8,660	Apr. 4, 1931	346	1,070	1.63	22.26	1,120	23.13
1932	728	9,540	Jan. 30, 1932	277	1,420	2.17	29.60	1,730	36.03
1933	743	*22,000	Dec. 28, 1932	470	1,900	2.90	39.31	1,460	30.36
1934	758	*17,900	Mar. 3, 1934	313	1,090	1.66	22.63	1,292	26.78
1935	783	10,300	Mar. 12, 1935	412	1,445	2.21	29.96	1,316	27.29
1936	803	24,800	Apr. 6, 1936	367	1,795	2.74	37.32	1,964	40.82
1937	823	16,600	Jan. 3, 1937	664	1,780	2.72	36.88	1,722	35.66
1938	853	9,730	July 23, 1938	620	1,552	2.37	32.16	1,461	30.26
1939	873	17,200	Feb. 3, 1939	421	1,491	2.28	30.88	1,392	28.83
1940	893	61,600	Aug. 30, 1940	268	1,147	1.75	23.84	1,251	26.00
1941	923	9,270	July 7, 1941	295	912	1.39	18.88	895	18.53
1942	953	10,200	Feb. 17, 1942	279	1,294	1.98	26.79	1,492	30.92
1943	973	21,700	Dec. 29, 1942	629	1,784	2.72	36.97	1,577	32.69
1944	1003	15,000	Feb. 18, 1944	412	1,371	2.09	28.49	1,405	29.20
1945	1033	10,400	Feb. 17, 1945	420	1,362	2.08	28.22	1,437	29.78
1946	1053	23,800	Jan. 7, 1946	467	1,827	2.79	37.87	1,725	35.76
1947	1083	27,600	Jan. 20, 1947	374	1,328	2.03	27.53	1,382	28.63
1948	1113	13,100	Feb. 14, 1948	351	1,499	2.21	30.12	1,669	34.67
1949	1143	18,800	Nov. 28, 1948	513	2,200	3.36	45.59	2,173	45.03
1950	1173	16,000	Mar. 13, 1950	640	1,876	2.86	38.85	-	-

* Revised.

† Corrected.

* Not previously published.

a In Tennessee Division of Geology, Bull. 34.

b In WSP 453, 523, 1336.

181. Noland Creek near Bryson City, N. C.

Location.--Lat 35°29'06", long. 83°30'15", in Great Smoky Mountains National Park, 1.1 miles downstream from Mill Creek, 3.6 miles upstream from Pontana Lake, and 5 miles northwest of Bryson City, Swain County.

Drainage area.--13.8 sq mi.

Gage.--Water-stage recorder. Altitude of gage is 2,280 ft (from topographic map).

Average discharge.--15 years (1935-50), 45.1 cfs.

Extremes.--1935-50: Maximum discharge, 1,530 cfs Aug. 30, 1940 (gage height, 4.87 ft), from rating curve extended above 540 cfs by critical-depth determination of peak flow; minimum, 3.5 cfs Oct. 24, 1939 (gage height, 0.66 ft).

Remarks.--Occasional slight diurnal fluctuation at low flow caused by small powerplant 1.1 miles upstream.

Monthly and yearly mean discharge, in cubic feet per second, of Noland Creek near Bryson City, N.C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1936	9.66	25.2	18.2	128	88.1	79.3	115	22.9	13.8	14.7	11.8	12.4	44.7
1937	36.5	25.9	55.8	168	78.7	46.8	62.9	47.8	28.5	23.4	33.9	17.8	52.1
1938	30.3	19.6	26.9	54.6	46.5	76.9	80.4	59.1	57.4	56.4	41.7	18.7	47.4
1939	11.5	21.6	21.9	53.6	138	81.2	52.0	34.2	23.6	20.5	18.1	9.76	39.9
1940	5.65	6.45	9.14	16.3	42.5	75.6	60.1	35.5	30.0	35.9	60.1	27.4	33.7
1941	10.9	19.8	30.2	40.9	23.2	46.2	49.7	23.9	14.1	61.0	27.4	10.6	30.0
1942	9.83	19.6	30.7	32.5	54.9	93.7	35.3	38.9	46.4	50.6	50.7	32.9	41.3
1943	24.5	23.9	203	78.4	91.2	78.1	61.6	52.9	32.4	58.0	33.3	17.3	54.4
1944	13.8	17.3	16.1	30.7	108	121	77.1	39.6	17.1	9.85	12.1	18.9	39.8
1945	16.5	16.8	40.4	55.3	89.8	51.6	47.8	65.1	28.1	24.9	38.0	26.8	41.5
1946	30.5	35.1	49.6	122	97.2	65.0	51.7	63.2	28.9	19.5	12.7	11.5	48.7
1947	11.2	19.0	31.1	157	40.1	51.1	50.1	31.6	23.4	19.1	27.5	24.8	40.7
1948	18.1	35.1	36.7	35.2	104	75.8	67.0	28.1	21.4	32.6	33.0	19.6	41.9
1949	10.7	75.8	78.5	105	85.3	57.9	61.6	47.5	52.1	75.2	35.3	58.5	60.1
1950	47.6	45.3	58.5	111	114	105	47.3	41.9	59.5	50.8	26.4	28.0	61.0

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1936	0.81	2.04	1.52	10.68	6.89	6.63	9.29	1.91	1.11	1.23	0.99	1.01	44.11
1937	3.04	2.10	4.66	14.07	5.94	3.91	5.09	3.99	2.31	1.96	2.84	1.44	51.35
1938	2.54	1.58	2.25	4.56	3.51	6.42	6.50	4.93	4.64	4.72	3.48	1.52	46.65
1939	.96	1.75	1.83	4.47	10.41	6.78	4.21	2.86	1.91	1.72	1.51	7.79	39.20
1940	.47	.52	.76	1.36	3.32	6.32	4.86	2.96	2.42	3.00	5.03	2.22	33.24
1941	.91	1.60	2.52	3.41	1.75	3.86	4.02	2.00	1.14	5.10	2.29	.86	29.46
1942	.82	1.58	2.57	2.72	4.14	7.83	2.85	3.25	3.75	4.23	4.24	2.66	40.64
1943	2.04	1.93	8.56	6.55	6.88	6.52	4.98	4.42	2.62	4.85	2.78	1.40	53.53
1944	1.15	1.40	1.35	2.56	8.45	10.11	6.23	3.31	1.39	.82	1.01	1.53	39.31
1945	1.38	1.36	3.58	4.62	6.77	4.31	3.87	5.44	2.27	2.08	3.17	2.12	40.82
1946	2.54	2.84	4.14	10.23	7.34	5.43	4.18	5.28	2.34	1.63	1.06	.93	47.94
1947	.94	1.54	2.60	13.15	3.03	4.27	4.05	2.64	1.89	1.59	2.30	2.01	40.01
1948	1.51	2.84	3.07	2.94	8.10	6.33	5.42	2.35	1.73	2.73	2.76	1.59	41.37
1949	.89	6.13	6.56	8.79	6.44	4.84	4.98	3.97	4.21	6.28	2.95	3.11	59.15
1950	3.98	3.66	4.89	9.24	8.61	8.78	3.82	3.50	4.81	4.24	2.20	2.26	59.99

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1936	803, 893	1,060	Apr. 6, 1936	7.0	44.7	3.24	44.11	50.2	49.54	
1937	823	649	Jan. 3, 1937	12	52.1	3.78	51.35	48.6	47.92	
1938	853	447	Apr. 8, 1938	12	47.4	3.43	46.65	45.6	44.82	
1939	873	708	Feb. 3, 1939	7.3	39.9	2.89	39.20	37.0	36.41	
1940	893	1,530	Aug. 30, 1940	4.5	33.7	2.44	33.24	37.0	36.52	
1941	923	810	July 7, 1941	7.3	30.0	2.17	29.46	29.9	29.40	
1942	953	840	Aug. 3, 1942	6.6	41.3	2.99	40.64	49.0	48.20	
1943	973	1,050	July 30, 1943	11	54.4	3.94	53.53	45.6	44.90	
1944	1003	1,130	Feb. 17, 1944	5.8	39.8	2.88	39.31	42.1	41.53	
1945	1033	744	Aug. 23, 1945	8.0	41.5	3.01	40.82	45.0	44.22	
1946	1053	1,260	Jan. 7, 1946	7.8	48.7	3.53	47.94	44.2	43.50	
1947	1083	1,360	Jan. 20, 1947	5.4	40.7	2.95	40.01	43.1	42.35	
1948	1113	959	July 13, 1948	11	41.9	3.04	41.37	48.2	47.53	
1949	1143	938	June 16, 1949	8.6	60.1	4.36	59.15	59.1	58.10	
1950	1173	715	Oct. 30, 1949	16	61.0	4.42	59.99	-	-	

182. Hazel Creek at Proctor, N. C.

Location.--Lat 35°28'38", long. 83°42'58", in Great Smoky Mountains National Park, 0.4 mile northeast of Proctor, Swain County, 1.3 miles downstream from Rowan Branch, and 1.4 miles upstream from Fontana Lake.

Drainage area.--44.4 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,803.39 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years (1942-50), 134 cfs.

Extremes.--1942-50: Maximum discharge, 4,500 cfs Oct. 31, 1949 (gage height, 5.70 ft), from rating curve extended above 1,000 cfs by logarithmic plotting; minimum, 22 cfs Oct. 13-17, 29, 30, 1948; minimum gage height, 1.26 ft Oct. 15-17, 1948.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	48.2	57.1	250	174	229	223	162	124	88.4	194	113	58.9	143
1944	43.2	50.0	55.5	84.2	313	337	229	132	68.2	39.1	37.4	50.0	119
1945	49.5	46.5	132	156	250	158	125	179	86.0	84.3	116	70.2	120
1946	78.7	108	157	320	310	178	183	190	103	84.1	50.7	39.0	149
1947	43.9	58.5	90.5	401	136	159	128	108	70.1	51.4	51.1	34.3	111
1948	28.9	52.3	68.9	78.5	289	213	240	92.6	58.7	50.6	56.6	30.6	104
1949	24.4	136	178	254	227	163	182	137	127	217	107	102	154
1950	134	150	140	296	326	336	144	139	194	108	73.0	58.6	174

Monthly and yearly runoff, in inches, of Hazel Creek at Proctor, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	1.25	1.44	6.49	4.53	5.37	5.79	4.06	3.22	2.22	5.03	2.93	1.48	43.81
1944	1.12	1.26	1.44	2.19	7.61	6.75	5.75	3.42	1.71	1.02	.97	1.26	36.50
1945	1.29	1.17	3.43	4.04	5.86	4.11	3.13	4.64	2.16	2.19	3.00	1.76	36.78
1946	2.04	2.70	4.08	8.30	7.27	4.81	4.60	4.94	2.59	2.18	1.32	.98	45.61
1947	1.14	1.47	2.35	10.41	3.18	4.13	3.22	2.81	1.76	1.33	1.33	.88	34.01
1948	.75	1.31	1.79	2.04	7.02	5.54	6.02	2.40	1.47	1.31	1.47	.77	31.89
1949	.63	3.42	4.62	6.59	5.33	4.24	4.56	3.55	3.20	5.64	2.77	2.55	47.10
1950	3.49	3.76	3.63	7.69	7.64	8.72	3.61	3.61	4.88	2.80	1.90	1.47	53.20

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1943	973	2,540	July 30, 1943	41	143	3.22	43.81	126	38.45
1944	1003	3,880	Feb. 17, 1944	25	119	2.68	36.50	126	38.57
1945	1035	1,440	July 26, 1945	32	120	2.70	36.78	130	39.71
1946	1053	1,740	Jan. 8, 1946	31	149	3.36	45.61	137	41.75
1947	1083	3,370	Jan. 20, 1947	26	111	2.50	34.01	108	32.90
1948	1113	1,660	Feb. 14, 1948	24	104	2.34	31.89	120	36.71
1949	1143	1,340	Jan. 5, 1949	22	154	3.47	47.10	161	49.31
1950	1173	4,500	Oct. 31, 1949	42	174	3.92	53.20	-	-

183. Fontana Lake at Fontana Dam, N. C.^{1/}

Location.--Lat 35°27'07", long. 83°48'18", at Fontana Dam on Little Tennessee River, 5.7 miles (revised) upstream from Twenty Mile Creek, 9.0 miles north of Robbinsville, Graham County, and 9.5 miles upstream from Cheoah Dam.

Drainage area.--1,571 sq mi.

Gage.--Water-stage recorder. Datum of gage is mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1944-50: Maximum contents, 722,300 cfs-days July 23, 1949 (elevation, 1,708.91 ft); minimum (after first filling), 185,300 cfs-days Jan. 30, 1948 (elevation, 1,549.42 ft).

Remarks.--Lake is formed by gravity non-overflow type concrete dam. Spillway equipped with four radial gates, 35 ft high by 35 ft wide. Storage began Nov. 7, 1944; dam completed in March 1945; water in lake first reached minimum pool elevation Jan. 16, 1945. Total capacity at elevation 1,710.0 ft (top of gates) is 728,200 cfs-days, of which 583,500 cfs-days is controlled storage above elevation 1,525.0 ft (minimum pool). Lake is used for navigation, flood control, and power.

Cooperation.--Records furnished by Tennessee Valley Authority.

Contents, in cfs-days, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1945	555	29,400	97,700	181,500	335,500	439,500	526,600	601,100	563,300	535,400	506,000	469,700
1946	438,000	409,900	339,300	375,000	415,500	513,200	606,400	711,000	692,500	632,900	562,600	452,000
1947	337,700	286,400	258,800	378,900	381,000	422,700	503,200	512,600	500,400	457,600	390,800	291,400
1948	224,300	237,400	227,600	187,300	322,900	445,800	558,100	548,500	519,300	506,200	503,100	441,500
1949	341,600	406,700	381,000	389,600	417,000	493,400	617,300	683,800	719,100	717,000	694,900	667,000
1950	639,400	532,600	340,500	439,900	416,700	511,500	553,400	583,600	578,100	530,200	467,500	472,000

184. Little Tennessee River at Fontana Dam, N. C.^{2/}

Location.--Lat 35°26'44", long. 83°48'19", 0.4 mile (revised) downstream from Fontana Dam, Swain and Graham Counties, and 5.3 miles upstream from Twenty Mile Creek.

Drainage area.--1,571 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,270.00 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Oct. 1, 1944, at site 500 ft upstream at datum 5.09 ft higher. Oct. 1, 1944, to Feb. 12, 1945, at site 1,200 ft downstream at present datum. Feb. 13, 1945, to Sept. 24, 1946, discharge computed from powerplant records at Fontana Dam. Since Sept. 25, 1946, auxiliary water-stage recorder 2 miles downstream at same datum.

Average discharge.--12 years (1938-50), 3,685 cfs (adjusted for storage).

^{1/} Published as Fontana Reservoir.

^{2/} Published as "near Fontana" prior to 1945.

184. Little Tennessee River at Fontana Dam, N. C.--Continued

Extremes.--1938-50: Maximum discharge, 71,200 cfs Aug. 30, 1940 (gage height, 15.94 ft, site and datum then in use), from rating curve extended above 21,000 cfs on basis of computation of flow into Cheoah Lake below station; minimum daily, 5 cfs (estimated leakage prior to installation of turbines) Nov. 8-11, 1944, Dec. 24, 1944, to Jan. 1, 1945.

Floods of May 1840 and March 1867 reached stages of 21 and 23 ft, respectively (former datum), from flood profiles by Tennessee Valley Authority.

Remarks.--Flow partly regulated by Thorpe Lake beginning Feb. 12, 1941, and by Nantahala Lake beginning Jan. 30, 1942; completely regulated by Fontana Lake beginning Nov. 7, 1944 (see pp. 195, 189, and 206).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1938	-	-	-	-	-	-	-	-	-	-	-	2,087	-
1939	1,326	2,293	1,949	3,711	11,160	7,352	4,569	3,127	2,506	2,139	1,815	1,172	3,541
1940	916	883	1,051	1,400	3,062	3,775	4,295	2,669	2,389	2,311	5,433	3,160	2,609
1941	1,517	1,865	2,247	2,944	1,961	3,048	2,885	1,728	1,487	4,191	2,022	1,200	2,265
1942	1,108	1,655	2,635	2,671	4,257	5,608	2,783	3,636	3,020	3,247	3,374	3,152	3,091
1943	2,500	2,365	6,820	6,209	6,776	5,978	4,730	4,116	3,060	4,669	3,240	2,503	4,408
1944	1,979	2,107	1,910	2,850	7,167	7,914	6,107	3,753	2,427	2,033	1,860	1,850	3,480
1945	1,883	706	366	667	230	1,062	1,917	2,120	4,127	3,362	3,046	3,270	1,903
1946	2,777	3,299	5,706	7,092	7,982	4,170	2,728	2,663	3,995	4,756	4,897	5,110	4,579
1947	5,365	3,358	3,755	4,887	3,731	2,800	1,858	3,081	3,152	3,680	4,374	4,600	3,724
1948	5,891	2,072	2,665	4,130	2,517	2,301	2,279	3,235	3,207	3,353	5,464	4,162	3,111
1949	4,684	3,568	6,713	7,007	6,070	2,885	1,940	3,015	4,858	6,056	5,243	5,196	4,768
1950	5,052	7,574	10,690	4,185	8,171	5,415	3,296	2,600	4,402	4,581	4,334	4,076	5,347

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1938	-	-	-	-	-	-	-	-	-	-	-	1.48	-
1939	0.97	1.63	1.43	2.72	7.40	5.40	3.24	2.29	1.78	1.57	1.33	.83	30.59
1940	.67	.63	.77	1.03	2.10	2.77	3.05	1.96	1.70	1.70	3.99	2.24	22.61
1941	1.11	1.32	1.65	2.16	1.30	2.24	2.05	1.27	1.06	3.08	1.48	.85	19.57

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted 1/			Observed		Adjusted 1/
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1938	853	-	-	-	-	-	-	-	-	-	-
1939	873	37,000	Feb. 15, 1939	978	3,541	-	2.25	30.59	3,314	-	28.63
1940	893	71,200	Aug. 30, 1940	678	2,609	-	1.66	22.61	2,842	-	24.62
1941	923	16,500	July 7, 1941	911	2,265	-	1.44	19.57	2,246	-	19.40
1942	953	20,200	Feb. 17, 1942	786	3,091	-	1.97	26.70	3,623	-	31.30
1943	973	60,000	Dec. 30, 1942	1,640	4,408	-	2.81	38.09	3,926	-	33.92
1944	1003	31,600	Feb. 18, 1944	1,090	3,480	-	2.22	30.16	3,227	3,572	30.94
1945	1033	as 6,640	June 16, 1945	5	1,903	3,172	2.02	27.41	2,646	3,394	29.32
1946	1053	as 17,700	Jan. 12, 1946	40	4,579	4,533	2.89	39.17	4,638	4,280	36.98
1947	1083	19,600	Jan. 26, 1947	40	3,724	3,204	2.04	27.68	3,400	3,354	28.81
1948	1113	6,160	Oct. 6, 1947	360	3,111	3,572	2.27	30.95	3,644	4,142	35.89
1949	1143	16,500	Jan. 8, 1949	40	4,768	5,515	3.51	47.65	5,467	5,442	47.02
1950	1173	21,200	Feb. 7, 1950	40	5,347	4,826	3.07	41.70	-	-	-

1/Adjusted for change in contents in Thorpe, Nantahala, and Fontana Lakes since November 1944; only minor regulation prior to 1944.

a Maximum daily discharge.

185. Snowbird Creek near Robbinsville, N. C.

Location.--Lat 35°18'40", long. 83°51'35", 0.5 mile upstream from Hooper Branch, 3.1 miles west of Robbinsville, Graham County, and 4.6 miles downstream from Little Snowbird Creek.

Drainage area.--42.0 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,953.57 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years (1942-50), 165 cfs.

Extremes.--1942-50: Maximum discharge, 3,650 cfs Jan. 20, 1947 (gage height, 6.44 ft), from rating curve extended above 2,200 cfs on basis of slope-area determination of peak flow at gage height 8.96 ft; minimum, 20 cfs Dec. 24, 1943 (gage height, 0.89 ft), result of freezeup.

Monthly and yearly mean discharge in cubic feet per second of Snowbird Creek near Robbinsville, N.C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	74.9	68.3	269	239	299	281	205	153	97.6	167	124	81.6	171
1944	59.6	67.9	71.5	126	308	398	308	170	96.8	59.0	50.7	70.6	148
1945	56.0	71.4	135	175	252	198	189	205	103	77.9	76.6	63.4	131
1946	74.9	105	153	358	364	237	198	216	153	101	60.3	59.2	172
1947	62.0	92.1	112	494	198	192	162	135	109	80.5	59.1	43.0	145
1948	37.1	61.3	84.9	97.5	267	250	274	117	76.1	114	90.9	49.0	127
1949	37.4	225	275	413	315	230	244	191	143	248	132	127	215
1950	152	157	241	376	374	384	186	136	197	142	90.8	83.9	209

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	2.06	1.81	7.40	6.57	7.40	7.72	5.44	4.19	2.59	4.59	3.40	2.17	55.34
1944	1.64	1.80	1.96	3.45	7.92	10.93	8.19	4.66	2.57	1.62	1.39	1.87	48.00
1945	1.54	1.90	3.71	4.81	6.24	5.45	4.48	5.62	2.72	2.14	2.10	1.68	42.39
1946	2.06	2.79	4.20	9.83	9.03	6.49	5.26	5.92	4.06	2.78	1.65	1.57	55.64
1947	1.70	2.45	3.08	13.56	4.92	5.28	4.32	3.72	2.90	2.21	1.62	1.14	46.90
1948	1.02	1.63	2.33	2.68	7.36	6.88	7.27	3.21	2.02	3.14	2.50	1.30	41.34
1949	1.03	5.98	7.54	11.35	7.81	6.31	6.49	5.24	3.80	6.80	3.63	3.58	69.36
1950	4.18	4.17	6.62	10.33	9.28	10.55	4.94	3.74	5.24	3.91	2.49	2.23	67.68

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1943	973	2,620	July 30, 1943	52	171	4.07	55.34	153	49.47		
1944	1003	2,430	Sept. 29, 1944	32	148	3.52	48.00	154	49.75		
1945	1033	1,690	Feb. 13, 1945	36	131	3.12	42.39	137	44.29		
1946	1053	2,250	Feb. 10, 1946	38	172	4.10	55.64	167	53.82		
1947	1083	3,650	Jan. 20, 1947	32	145	3.45	46.90	138	44.65		
1948	1113	2,920	Feb. 14, 1948	30	127	3.02	41.34	157	50.91		
1949	1143	3,160	Jan. 5, 1949	32	215	5.12	69.36	216	69.78		
1950	1173	3,580	June 4, 1950	52	209	4.98	67.68	-	-		

a Maximum recorded; higher peak discharge may have occurred Mar. 13 during period of no record.

186. Santeetlah Lake near Robbinsville, N. C.1/

Location.--Lat 35°22'38", long. 83°52'33", at Santeetlah Dam on Cheoah River, 1 mile downstream from Santeetlah Creek, 5.5 miles northwest of Robbinsville, Graham County, and 9.3 miles upstream from mouth.

Drainage area.--176 sq mi.

Gage.--Water-stage recorder. Datum of gage is a local datum which is 122.92 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to February 1937, staff gage in upstream face of dam at same datum.

Extremes.--1927-50: Maximum contents, 81,100 cfs-days Sept. 3, 1928 (elevation, 1,817.90 ft); minimum (after first filling), 13,100 cfs-days Feb. 6, 1940 (elevation, 1,741.89 ft).

Remarks.--Lake is formed by concrete gravity and arch dam with concrete spillway controlled by 6 tainter gates 12 ft high by 25 ft wide. Dam completed and storage began Dec. 7, 1927. Water in lake first reached minimum pool elevation in December 1927 (corrected). Total capacity at elevation 1,817.00 ft (top of gates) is 79,800 cfs-days, of which 67,200 cfs-days is controlled storage above 1,740.08 ft (minimum pool). Lake is used for power.

Cooperation.--Gage-height record furnished by Aluminum Co. of America; level storage records furnished by Tennessee Valley Authority since 1948. Prior to 1948 record of contents computed by Geological Survey on basis of level storage table furnished by Tennessee Valley Authority.

Contents, in cfs-days, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1928	-	-	a17,200	a37,200	a51,300	a72,200	a79,400	b79,500	79,600	79,800	79,500	77,500
1929	74,600	71,800	60,900	72,000	78,500	78,600	79,800	79,400	78,700	77,400	65,700	63,900
1930	58,700	80,000	76,300	72,700	65,000	71,800	69,800	80,000	75,900	60,100	41,000	31,700
1931	17,400	20,200	25,100	34,600	45,100	57,000	79,800	79,800	79,200	79,700	77,400	64,100
1932	46,000	36,100	66,300	79,800	79,800	79,500	79,700	79,500	79,500	79,500	79,600	69,800
1933	79,400	79,500	79,500	79,500	79,500	79,500	79,300	79,300	67,500	62,100	54,300	47,700
1934	24,800	15,500	17,000	24,800	22,700	57,400	73,200	79,700	79,900	76,900	79,900	76,900
1935	79,800	75,900	74,700	75,100	75,600	76,000	76,700	79,800	74,100	64,600	56,200	36,000
1936	25,300	29,000	25,000	67,200	78,300	79,100	79,000	76,600	66,300	57,300	48,400	38,600
1937	59,500	26,900	35,700	76,800	76,800	79,000	79,800	78,500	71,900	59,400	59,800	45,500
1938	37,800	21,300	22,000	31,200	35,400	50,400	67,400	72,900	79,700	79,800	71,000	55,500
1939	32,500	21,500	18,800	32,800	69,200	79,600	80,000	77,900	70,400	60,200	43,700	27,600
1940	18,100	17,700	16,300	14,100	24,800	42,200	60,000	69,000	74,800	66,900	64,800	47,600

a Contents at 6 a.m. on first day of following month.

b Contents at 5 p.m. on last day of month.

1/ Published as Santeetlah Reservoir prior to 1954.

Contents, in cfs-days, on last day of month, of Santeeelah Lake near Robbinsville, N. C.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1941	32,800	31,100	30,300	25,600	17,100	31,000	42,400	36,000	24,100	38,100	41,500	31,300
1942	21,200	24,600	34,600	26,400	41,000	66,800	64,400	66,600	65,800	66,800	70,000	57,300
1943	37,600	23,200	44,100	55,100	59,900	74,400	74,800	70,200	69,200	70,900	61,200	52,000
1944	40,700	40,300	28,500	23,500	55,500	78,400	78,500	74,000	64,500	55,500	48,300	49,000
1945	51,300	37,600	28,100	32,700	40,300	41,700	45,900	65,800	67,600	56,200	52,000	48,100
1946	46,300	46,000	63,300	78,000	77,500	79,300	73,400	77,100	71,600	55,300	34,600	27,300
1947	26,500	27,400	26,400	70,600	75,500	74,000	65,700	53,300	38,900	21,500	24,600	27,800
1948	22,000	19,700	22,900	19,900	37,600	52,400	59,100	46,200	30,200	35,100	37,900	36,100
1949	29,900	45,500	60,600	79,700	79,800	80,000	74,700	65,800	64,400	66,700	54,600	43,800
1950	45,100	42,600	41,400	53,800	60,900	70,800	61,800	55,900	63,700	59,400	55,000	51,700

Note.--Contents at 8 a.m. on first day of following month are shown for the period June 1928, to February 1942. Records prior to Sept. 30, 1946, not previously published by the Geological Survey.

187. Cheoah River at Johnson, N. C.

Location (revised).--Lat 35°23'02", long. 83°51'49", about 200 ft upstream from Gladdens Creek, 0.7 mile south of Johnson, Graham County, and 7.7 miles upstream from mouth.

Drainage area.--177 sq mi (revised).

Gage.--Staff gage. Datum of gage is 1,687.0 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Jan. 1, 1914, staff gage about half a mile downstream from described site at different datum. Jan. 1, 1914, to Dec. 31, 1918, staff gage about a quarter of a mile downstream from described site at different datum.

Average discharge.--15 years (1912-27), 540 cfs.

Extremes.--1912-18, 1920-27: Maximum discharge not determined; minimum observed, 37 cfs Sept. 11, 12, 1925 (gage height, 0.48 ft).

Cooperation.--Records for the period 1912-18 computed by Knoxville Power Co. and reviewed by Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1913	*223	191	377	843	893	1,380	619	504	358	262	208	187	*500
1914	217	218	295	295	551	532	682	352	196	191	175	133	316
1915	275	201	877	833	946	575	453	451	302	365	221	212	474
1916	322	320	892	953	815	548	478	395	449	639	451	225	541
1917	244	339	528	1,090	1,230	2,390	932	411	428	283	295	286	702
1918	222	191	*192	*608	1,050	569	612	598	460	305	258	260	*440
1919	507	572	850	-	-	-	-	-	-	-	-	-	*650
1920	-	-	-	-	-	-	-	-	-	-	-	-	*700
1921	*262	*320	*765	726	1,050	515	722	503	293	310	411	209	*504
1922	171	615	678	1,290	889	1,620	1,000	929	639	475	267	199	731
1923	173	148	991	871	1,290	1,100	851	969	751	400	317	174	665
1924	113	162	421	908	531	743	726	775	460	514	223	267	487
1925	161	125	673	957	568	502	401	362	210	124	75.1	54.2	351
1926	235	450	325	643	575	650	609	382	259	209	360	182	405
1927	168	399	1,320	648	1,080	*1,070	678	448	639	441	474	194	*627

* Only monthly figure revised; revised daily figures not available.

† Not previously published; estimated or partly estimated on basis of records for Tuckasegee River at Bryson City.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1913	*1.45	1.21	2.46	5.49	5.25	8.97	3.90	3.28	2.26	1.71	1.54	1.05	*38.37
1914	1.41	1.37	1.92	1.92	3.24	3.46	4.17	2.29	1.23	1.24	1.14	.84	24.23
1915	1.79	1.26	5.71	5.42	5.57	3.75	2.86	2.94	1.90	2.38	1.44	1.34	36.36
1916	2.10	2.01	5.81	6.21	4.97	3.57	3.01	2.57	2.83	4.17	2.94	1.42	41.61
1917	1.59	2.13	3.44	7.10	7.21	15.55	5.88	2.68	2.69	1.84	1.92	1.80	53.85
1918	1.45	1.20	*1.25	*3.96	6.20	3.70	3.86	3.90	2.90	1.99	1.68	1.64	*33.73
1919	3.30	3.60	5.54	-	-	-	-	-	-	-	-	-	*49.85
1920	-	-	-	-	-	-	-	-	-	-	-	-	*53.83
1921	*1.71	*2.01	*4.98	4.73	6.17	3.35	4.55	3.28	1.85	2.02	2.68	1.32	*38.65
1922	1.11	3.88	4.41	8.37	5.23	10.56	6.30	6.05	4.03	3.10	1.74	1.26	56.04
1923	1.13	.93	6.46	5.67	7.59	7.16	5.37	6.31	4.61	2.60	2.07	1.09	50.99
1924	.74	1.02	2.74	5.91	3.24	4.84	4.58	5.05	2.90	3.35	1.45	1.68	37.50
1925	1.05	.79	4.39	6.23	3.54	3.27	2.53	2.36	1.32	.81	.49	.34	26.92
1926	1.53	2.84	2.12	4.19	3.38	4.24	3.64	2.49	1.64	1.36	2.35	1.15	31.13
1927	1.09	2.51	8.57	4.22	6.34	*6.97	4.27	2.92	4.03	2.87	3.09	1.22	*48.10

* Only monthly figures revised; revised daily figures not available.

† Not previously published; estimated or partly estimated on basis of records for Tuckasegee River at Bryson City.

Yearly discharge, in cubic feet per second, of Cheoah River at Johnson, N. C.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1913	523	-	-	138	\$500	\$2.82	\$38.37	495	37.95
1914	523	-	-	112	316	1.79	24.23	369	28.29
1915	523	-	-	110	474	2.68	36.36	489	37.52
1916	523	-	-	164	541	3.06	41.61	505	38.85
1917	523	-	-	166	702	3.97	53.83	659	50.57
1918	523	-	-	136	\$440	\$2.49	\$33.73	\$551	\$42.27
1919	523	-	-	171	\$650	\$3.67	\$49.85	\$550	\$42.18
1920	-	-	-	-	\$700	\$3.95	\$53.83	\$710	\$54.45
1921	523	-	-	147	\$504	\$2.85	\$38.65	513	39.35
1922	543	-	-	108	731	4.13	56.04	719	55.16
1923	563	-	-	123	665	3.76	50.99	613	46.97
1924	583	-	-	95	487	2.75	37.50	510	39.23
1925	603	-	-	38	351	1.98	26.92	354	27.18
1926	623	-	-	50	406	2.29	31.13	480	36.81
1927	643	-	-	130	\$627	\$3.54	\$48.10	-	-

* Revised.

† Not previously published.

Note.--Records of daily discharge for the period Jan. 6 to Sept. 30, 1927, published in WSP 643, and the figures of maximum discharge previously published have been found in error on the basis of restudy of the original data and comparison with records for nearby stations. Those records are not published herein and should not be used.

188. Cheoah River at Tapoco, N. C.

Location.--Lat 35°26'44", long. 83°56'17", at Tapoco, Graham County, 0.25 mile upstream from mouth.

Drainage area.--215 sq mi (revised).

Gage.--Staff gage. Datum of gage is 122.7 ft (revised) above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1924-27: Maximum discharge observed, 6,130 cfs Dec. 8, 1924 (gage height, 1,004.4 ft), from rating curve extended above 2,300 cfs; minimum, 33 cfs Sept. 9, 10, 1925 (gage height, 995.3 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	200	165	722	1,110	629	580	463	399	222	130	82	58	396
1926	278	514	392	767	715	812	751	452	285	226	415	190	482
1927	180	490	1,420	777	1,180	1,300	728	559	736	532	546	240	722

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	1.08	0.86	3.87	5.96	3.05	3.11	2.40	2.14	1.15	0.70	0.44	0.30	25.06
1926	1.49	2.67	2.10	4.11	3.47	4.35	3.90	2.43	1.48	1.21	2.22	.99	30.42
1927	.96	2.55	7.62	4.17	5.74	6.95	3.78	3.00	3.82	2.85	2.93	1.25	45.62

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Maximum observed		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1924	603	-	-	-	-	-	-	-	-
1925	603	6,130	Dec. 8, 1924	36	396	1.84	25.06	404	25.51
1926	623	4,500	Jan. 18, 1926	52	482	2.24	30.42	559	35.29
1927	643	5,410	Dec. 25, 1926	137	722	3.36	45.62	-	-

189. Little Tennessee River at Calderwood, Tenn.

Location.--Lat 35°30'24", long. 84°00'14", 250 ft downstream from Scona Lodge Ferry, two-thirds of a mile west of Calderwood, Blount County, 2½ miles downstream from Calderwood Dam, and at mile 41.1.

Drainage area.--1,862 sq mi.

Gage.--Water-stage recorder. Datum of gage is 861.41 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Oct. 1, 1927, staff gages and water-stage recorders at several sites within 1 mile of present site at various datums.

Average discharge.--37 years (1911-18, 1920-50), 4,412 cfs (unadjusted).

Extremes.--1911-18, 1920-50: Maximum discharge, 82,000 cfs Mar. 4, 1917; maximum gage height observed, 11.75 ft Mar. 4, 1917, before breaking of levee near gage; minimum discharge observed, 16 cfs May 28, 1950; minimum daily discharge, 102 cfs Aug. 31, 1947.

Remarks.--Flow regulated by many reservoirs above station; first regulation began in 1918. Because of the increased effect of this regulation by storage in Santeeetlah Lake beginning in December 1927, monthly figures of runoff, in inches, are not published herein since that date.

Cooperation.--Daily discharge record for period Jan. 1, 1912, to Dec. 31, 1918, furnished by Aluminum Co. of America.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1912	*2,800	*3,150	*4,400	5,590	7,380	10,600	8,720	6,450	4,130	*4,820	3,320	2,870	*5,350
1913	2,270	2,170	3,020	5,790	6,560	12,400	6,520	4,810	3,730	2,680	2,560	2,090	4,540
1914	2,200	2,110	2,780	2,530	4,680	4,630	5,850	3,090	2,090	1,980	1,790	1,230	2,900
1915	2,830	2,360	8,290	7,990	7,920	4,980	3,830	4,020	3,500	3,980	2,350	2,190	4,500
1916	4,060	3,350	7,580	8,090	7,580	5,170	4,260	4,120	*5,050	9,020	4,800	2,620	*5,480
1917	2,460	2,540	4,150	7,580	8,340	17,500	8,130	3,890	3,670	3,030	2,550	2,920	*5,560
1918	2,320	2,000	2,130	5,750	7,600	4,170	4,950	4,550	4,210	3,000	2,440	2,370	3,760
1919	5,180	5,090	6,870	-	-	-	-	-	-	-	-	-	-
1921	*2,350	*2,580	*7,500	6,520	9,570	4,840	6,110	5,440	3,490	3,430	3,860	2,280	*4,810
1922	2,050	3,600	4,200	*9,200	*7,500	*12,200	8,910	8,150	5,390	4,310	2,750	2,090	*5,860
1923	1,460	1,260	6,160	6,490	9,100	8,750	6,640	7,890	6,560	3,910	3,320	2,150	5,300
1924	1,400	1,620	3,400	7,110	4,750	6,130	6,760	6,430	3,920	3,560	2,150	2,130	4,120
1925	1,850	1,400	4,000	7,410	4,100	3,930	3,010	3,010	1,910	1,390	822	498	2,780
1926	1,520	2,830	2,280	4,820	4,870	5,150	5,260	*2,900	2,200	2,030	2,710	2,120	3,210
1927	1,510	3,470	8,810	5,090	6,350	8,220	4,910	3,600	4,800	3,410	3,350	2,350	4,700
1928	1,860	2,280	6,290	4,190	3,940	4,980	6,850	7,480	6,920	5,300	6,140	7,350	5,280
1929	3,560	3,210	3,190	5,770	6,370	13,700	6,780	10,200	5,770	4,400	3,060	4,160	5,860
1930	3,850	7,770	4,580	4,470	5,120	6,470	3,823	5,340	3,260	2,230	2,010	2,110	4,247
1931	1,730	2,150	2,290	2,760	2,860	2,970	6,630	3,980	2,240	2,460	2,190	2,130	2,860
1932	1,620	1,450	5,380	6,780	9,340	5,700	5,720	5,680	3,410	3,210	2,300	1,610	4,340
1933	3,152	4,042	12,370	8,213	9,959	6,503	5,642	6,634	3,003	2,332	2,294	2,007	5,496
1934	1,892	1,452	1,419	3,100	2,595	8,070	3,744	2,934	3,982	2,770	2,797	2,008	3,070
1935	2,828	3,305	4,103	5,748	4,952	7,172	7,143	4,260	2,890	2,575	2,629	2,167	4,144
1936	1,490	2,456	2,050	10,030	9,109	8,326	13,350	3,737	2,375	2,194	2,043	2,111	4,915
1937	3,205	2,633	4,123	11,950	8,030	4,704	5,326	4,425	3,115	2,761	3,079	2,876	4,671
1938	3,698	3,017	2,969	4,069	3,754	5,918	6,747	4,735	4,438	5,867	5,560	2,776	4,471
1939	2,251	2,951	2,446	3,928	11,920	8,535	5,452	3,701	3,091	3,014	2,488	1,824	4,248
1940	1,320	1,011	1,208	1,730	3,192	4,009	4,614	2,887	2,520	2,951	5,622	3,900	2,911
1941	2,156	2,156	2,639	3,659	2,480	3,587	3,164	2,222	2,040	4,536	2,057	1,660	2,703
1942	1,646	1,709	2,597	3,271	4,616	5,945	3,171	3,866	3,447	4,205	4,074	4,100	3,550
1943	3,425	3,156	7,566	6,932	7,944	6,778	5,787	4,876	3,436	5,534	4,211	2,951	5,211
1944	2,496	2,348	2,562	3,525	7,737	9,186	7,525	4,812	3,163	2,622	2,359	2,181	4,195
1945	2,054	1,432	1,482	1,331	1,559	2,047	2,722	2,441	4,610	4,130	3,543	3,732	2,593
1946	3,154	3,806	6,353	9,143	9,791	5,318	4,184	3,605	4,859	5,745	5,782	5,532	5,583
1947	5,569	3,671	4,390	6,162	4,505	3,891	2,920	4,198	4,120	4,590	4,587	4,578	4,438
1948	4,207	2,409	2,884	4,628	3,498	3,155	3,370	4,256	4,303	3,652	3,740	4,347	3,706
1949	4,922	4,054	7,304	8,156	7,440	3,843	3,319	4,327	5,751	6,934	6,087	5,970	5,671
1950	5,744	8,172	11,370	5,512	9,472	6,948	4,514	3,579	5,037	5,300	4,705	4,402	6,211

* Revised.

† Corrected.

‡ Not previously published; estimated or partly estimated on basis of records for station at McGhee.

Monthly and yearly runoff, in inches, of Little Tennessee River at Calderwood, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1912	*1.73	*1.89	*2.72	3.46	4.28	6.56	5.22	4.00	2.47	*2.98	2.06	1.72	*59.09
1913	1.41	1.30	1.87	3.58	3.67	7.66	3.91	2.98	2.24	1.66	1.59	1.25	33.12
1914	1.56	1.26	1.72	1.57	2.62	2.87	3.51	1.91	1.25	1.23	1.11	.74	21.15
1915	1.75	1.41	5.13	4.95	4.43	3.03	2.29	2.49	2.10	2.47	1.45	1.31	32.81
1916	2.51	2.01	4.69	5.01	4.39	3.20	2.55	2.55	*3.02	5.59	2.97	1.57	*40.06
1917	1.53	1.52	2.57	4.69	4.67	10.83	4.87	2.41	2.20	1.88	1.56	1.75	40.50
1918	1.44	1.20	1.32	3.56	4.23	2.58	2.97	2.81	2.52	1.86	1.51	1.42	27.42
1919	3.21	3.05	4.25	-	-	-	-	-	-	-	-	-	-
1921	*1.46	*1.55	*4.64	4.04	5.35	3.00	3.66	3.37	2.09	2.12	2.39	1.37	*35.04
1922	1.27	2.15	2.60	*5.70	*4.19	*7.55	5.34	5.05	3.23	2.67	1.70	1.25	*42.70
1923	.90	.76	3.82	4.02	5.09	5.42	3.98	4.89	3.93	2.42	2.06	1.29	38.58
1924	.87	.97	2.10	4.40	2.75	3.80	4.05	3.98	2.35	2.20	1.33	1.28	30.08
1925	1.15	.84	2.48	4.59	2.29	2.43	1.81	1.86	1.15	.86	.51	.30	20.27
1926	.94	1.70	1.41	2.99	2.72	3.19	3.15	*1.80	1.32	1.26	1.68	1.27	*23.43
1927	.93	2.08	5.46	3.15	3.87	5.09	2.94	2.23	2.92	2.11	2.08	1.41	34.27
1928	1.03	1.37	-	-	-	-	-	-	-	-	-	-	-

* Revised.

† Not previously published; estimated or partly estimated on basis of records for station at McGhee.

Yearly discharge in cubic feet per second												
Year	W.S.P. no.	Water year ending Sept. 30							Calendar year			
		Observed					Adjusted ^{1/}		Observed		Adjusted ^{1/}	
		Momentary		maximum	Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date									
1912	523	a36,100	Mar. 29, 1912	-	\$5,350	-	*2.87	*39.09	*5,110	-	*37.53	
1913	523	a47,000	Mar. 27, 1913	1,691	4,540	-	2.44	33.12	4,510	-	32.88	
1914	523	a11,300	Apr. 20, 1914	930	2,900	-	1.56	21.15	3,440	-	25.10	
1915	523	a25,000	Dec. 25, 1914	951	4,500	-	2.42	32.81	4,630	-	33.73	
1916	523	a40,700	Dec. 18, 1915	2,000	*5,480	-	*2.94	*40.06	*4,990	-	*36.47	
1917	523	82,000	Mar. 4, 1917	1,860	*5,560	-	2.99	40.50	5,330	-	38.84	
1918	523	a32,400	Jan. 28, 1918	1,140	3,760	-	2.02	27.42	4,660	-	33.97	
1919	523	-	-	-	-	-	-	-	-	-	-	
1921	523	36,700	Feb. 10, 1921	1,780	*4,810	-	*2.58	*35.04	4,580	-	33.41	
1922	543	-	Jan. 21, 1922	1,600	*5,860	-	*3.15	*42.70	*5,780	-	*42.16	
1923	563	36,400	Dec. 17, 1922	516	5,300	-	2.85	38.58	5,080	-	37.04	
1924	583	22,600	Jan. 11, 1924	500	4,120	-	2.21	30.08	4,190	-	30.61	
1925	603	30,300	Dec. 9, 1924	434	2,780	-	1.49	20.27	2,720	-	19.85	
1926	623	28,600	Jan. 18, 1926	434	3,210	-	1.72	*23.43	*3,820	-	*27.85	
1927	643	34,000	Dec. 26, 1926	1,160	4,700	-	2.52	34.27	4,400	-	32.09	
1928	663	35,100	Aug. 16, 1928	1,080	5,280	-	2.84	38.60	5,260	-	38.41	
1929	683	33,600	Mar. 5, 1929	2,020	5,860	-	3.15	42.67	6,370	-	46.45	
1930	698, 923	18,000	Nov. 17, 1929	189	4,247	-	2.28	30.96	3,410	-	24.86	
1931	713	22,700	Apr. 4, 1931	1,210	2,860	-	1.54	20.84	3,060	-	22.27	
1932	728	37,600	Jan. 30, 1932	1,220	4,340	-	2.33	31.72	5,272	-	38.54	
1933	803	67,500	Dec. 28, 1932	1,500	5,496	-	2.95	40.07	4,246	-	30.96	
1934	803	46,700	Mar. 3, 1934	1,060	3,070	-	1.65	22.38	3,530	-	25.73	
1935	803	35,200	Mar. 12, 1935	1,310	4,144	-	2.23	30.21	3,786	-	27.60	
1936	803	70,300	Apr. 6, 1936	1,160	4,915	-	2.64	35.92	5,250	-	38.58	
1937	823	42,700	Jan. 3, 1937	1,850	4,671	-	2.51	34.03	4,647	-	35.87	
1938	853	35,200	Aug. 5, 1938	1,860	4,471	-	2.40	32.58	4,298	-	31.31	
1939	873	36,700	Feb. 15, 1939	1,360	4,248	-	2.28	30.96	3,904	3,900	28.43	
1940	893	63,900	Aug. 30, 1940	794	2,911	2,966	1.59	21.68	3,197	3,237	23.66	
1941	923	17,500	July 7, 1941	985	2,703	2,710	1.46	19.76	2,619	2,657	19.37	
1942	953	18,800	Feb. 17, 1942	154	3,550	3,751	2.01	27.35	4,244	4,364	31.82	
1943	973	53,700	Dec. 30, 1942	1,030	5,211	5,196	2.79	37.88	4,639	4,548	33.15	
1944	1003	31,400	Feb. 18, 1944	1,050	4,195	4,175	2.24	30.52	3,991	4,333	31.67	
1945	1033	7,870	June 19, 1945	355	2,593	3,660	2.07	28.14	3,295	4,142	30.19	
1946	1053	28,900	Jan. 11, 1946	972	5,583	5,479	2.94	39.94	5,610	5,152	37.56	
1947	1083	17,700	Jan. 25, 1947	102	4,438	3,920	2.11	28.58	4,090	4,018	29.29	
1948	1113	7,910	July 13, 1948	744	3,706	4,190	2.25	30.63	4,276	4,873	35.62	
1949	1143	15,500	July 23, 1949	1,130	5,671	6,438	3.46	46.93	6,425	6,346	46.26	
1950	1173	18,900	Feb. 7, 1950	231	6,211	5,713	3.07	41.65	-	-	-	

^{1/}Adjusted for change in contents in Cheoah (closure Dec. 8, 1918), Santeeah (closure Dec. 7, 1927), and Calderwood (closure Apr. 15, 1930) Lakes since 1939; in Thorpe (Glenville) Lake since Feb. 12, 1941; in Nantahala Lake since Jan. 30, 1942, and in Fontana Lake since Nov. 7, 1944. Only weekly record of contents available prior to Jan. 1, 1939. Adjusted figures 1939-48 have not been previously published and supersede unadjusted figures previously published.

* Revised.

† Corrected.

‡ Not previously published.

a Maximum daily discharge.

Note.--Monthly figures of discharge, in cubic feet per second per square mile, and runoff, in inches, previously published in water-supply papers for the period December 1927 to September 1941 may be subject to considerable error because of regulation in reservoirs upstream. These figures are not included herein and should not be used.

190. Tellico River at Tellico Plains, Tenn. 1/

Location.--Lat 35°21'42", long. 84°16'44", 200 ft upstream from bridge on Tellico Plains--
Rafter road, 0.4 mile downstream from Laurel Creek, 0.8 mile east of Tellico Plains,
Monroe County, and at mile 28.2.

Drainage area.--118 sq mi. At site used October 1927 to September 1930, 113 sq mi.

Gage.--Water-stage recorder. Datum of gage is 846.64 ft above mean sea level, datum of
1929, supplementary adjustment of 1936. July 20, 1925, to Sept. 30, 1927, staff gage
at present site and datum. Oct. 1, 1927, to Sept. 30, 1930, staff gage at site half a
mile upstream at datum 8.29 ft higher.

Average discharge.--25 years (1925-50), 286 cfs.

Extremes.--1925-50: Maximum discharge, 13,200 cfs (revised) Feb. 4, 1936 (gage height,
12.20 ft), from rating curve extended above 6,500 cfs; minimum, 13 cfs Sept. 7, 1925
(gage height, 0.25 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	-	-	-	-	-	-	-	-	-	-	28.6	22.4	-
1926	87.9	184	191	399	338	382	388	274	126	97.5	226	84.7	231
1927	*61.4	240	973	315	597	665	443	217	484	211	181	84.0	372
1928	*87.2	104	553	362	278	424	563	455	555	322	243	466	368
1929	128	208	151	584	468	1,010	805	933	411	407	170	413	474
1930	285	980	385	268	355	671	286	466	143	84.1	38.9	63.7	333
1931	35.4	102	157	231	283	257	656	327	121	132	188	149	219
1932	60.3	60.4	531	636	827	440	431	377	231	313	135	76.5	342
1933	214	379	900	457	757	434	389	459	128	106	110	74.5	365
1934	43.1	41.6	73.4	230	186	728	301	183	360	184	428	159	242
1935	182	148	157	374	435	634	703	257	112	103	77.7	46.7	268
1936	42.6	228	117	850	*666	718	725	166	75.0	70.7	57.6	42.7	*312
1937	67.4	69.1	249	933	517	299	326	342	149	105	128	87.9	272
1938	103	79.8	152	295	232	487	698	380	370	417	459	135	318
1939	64.8	141	148	274	769	499	333	158	130	164	86.2	46.5	231
1940	35.9	37.7	60.8	83.3	241	297	*369	185	156	121	122	58.3	*147
1941	48.3	79.6	140	189	115	289	231	106	98.5	320	149	71.5	154
1942	52.1	102	141	193	404	554	175	164	165	280	269	136	219
1943	91.0	110	540	376	426	582	342	208	133	281	141	91.3	277
1944	68.5	90.3	102	201	692	737	485	272	*122	61.0	71.3	80.4	*247
1945	65.0	75.1	195	265	532	355	300	353	172	101	82.5	61.9	211
1946	91.1	187	286	665	686	433	391	436	235	158	82.0	79.8	309
1947	94.1	172	251	1,053	350	407	278	316	157	129	104	71.5	281
1948	56.8	89.3	125	180	688	461	472	160	84.9	151	113	51.9	247
1949	40.5	395	500	724	596	401	486	302	200	557	228	195	384
1950	288	290	365	704	624	684	295	211	354	181	116	127	350

* Revised.

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	-	-	-	-	-	-	-	-	-	-	0.28	0.21	-
1926	0.86	1.74	1.86	3.90	2.98	3.73	3.67	2.67	1.19	0.95	2.21	.80	26.56
1927	.60	2.27	9.51	3.08	5.26	6.50	4.19	2.12	4.58	2.06	1.77	.80	42.74
1928	.69	1.03	5.64	3.69	2.65	4.33	5.56	4.64	5.48	3.28	2.48	4.80	44.27
1929	1.31	2.05	1.54	5.96	4.31	10.29	7.95	9.52	4.06	4.16	1.74	4.08	56.97
1930	2.90	9.67	3.72	2.73	3.27	6.85	2.82	4.75	1.42	.86	.40	.63	40.02
1931	.35	.96	1.53	2.26	2.50	2.51	6.21	3.20	1.14	1.29	1.83	1.41	25.19
1932	.59	.57	5.19	6.21	7.56	4.30	4.08	3.68	2.18	3.06	1.32	.72	39.46
1933	2.08	3.58	8.79	4.46	6.68	4.24	3.68	4.48	1.21	1.04	1.07	.70	42.02
1934	.42	.39	1.25	1.68	1.47	7.11	2.84	1.79	3.41	1.80	4.16	1.50	27.86
1935	1.78	1.40	1.53	3.66	3.83	6.19	6.65	2.51	1.06	1.01	.76	.44	30.82
1936	.42	2.15	1.14	8.30	*6.09	7.02	6.85	1.62	.71	.69	.56	.40	*35.95
1937	.66	.85	2.43	9.12	4.56	2.92	3.08	3.54	1.41	1.03	1.25	.83	31.28
1938	1.01	.75	1.49	2.88	2.05	4.75	6.60	3.71	3.50	4.08	4.49	1.27	36.58
1939	.63	1.33	1.45	2.68	6.79	4.88	3.15	1.55	1.23	1.60	.84	.44	26.57
1940	.55	.36	.59	.81	2.21	2.91	*3.49	1.81	1.48	1.19	1.19	.55	*16.94
1941	.47	.75	1.37	1.85	1.02	2.82	2.19	1.04	.93	3.13	1.45	.68	17.70
1942	.51	.96	1.38	1.88	3.57	5.42	1.66	1.60	1.56	2.73	2.63	1.29	25.19
1943	.89	1.04	5.28	3.67	3.76	5.68	3.24	2.04	1.25	2.75	1.58	.86	31.84
1944	.67	.85	.99	1.97	6.33	7.21	4.59	2.65	*1.15	.60	.70	.76	*28.47
1945	.63	.71	1.91	2.58	4.69	3.46	2.83	3.45	1.63	.98	.81	.58	24.26
1946	.89	1.77	2.79	6.50	6.05	4.23	3.70	4.26	2.22	1.54	.80	.75	35.50
1947	.92	1.62	2.45	10.09	3.09	3.97	2.63	3.09	1.49	1.26	1.02	.68	32.31
1948	.56	.84	1.22	1.57	6.10	4.51	4.47	1.57	.80	1.47	1.11	.49	24.71
1949	.40	3.73	4.89	7.07	5.26	3.92	4.60	2.95	1.89	5.44	2.23	1.84	44.22
1950	2.81	2.74	3.57	6.88	5.51	6.49	2.79	2.06	3.35	1.77	1.13	1.20	40.30

* Revised.

1/ Published as "near Tellico Plains", 1928-30.

Yearly discharge, in cubic feet per second, of Tellico River at Tellico Plains, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1925	603	-	-	-	-	-	-	-	-
1926	623	2,610	Jan. 18, 1926	17	231	1.96	26.56	300	34.48
1927	643	*6,260	June 12, 1927	45	372	3.15	42.74	325	37.72
1928	663	*5,950	Sept. 2, 1928*	50	368	3.25	44.27	347	41.81
1929	683	9,560	Mar. 23, 1929	64	474	4.19	56.97	569	66.56
1930	698	4,820	Nov. 17, 1929	19	333	2.95	40.02	222	26.57
1931	713	3,790	Apr. 22, 1931	25	219	1.86	25.19	249	28.70
1932	728	5,990	Jan. 30, 1932	58	342	2.90	39.46	412	47.57
1933	743	6,440	Dec. 28, 1932	40	365	3.09	42.02	253	29.09
1934	758	5,560	Mar. 3, 1934	27	242	2.05	27.86	270	31.04
1935	783	5,230	Mar. 12, 1935	34	268	2.27	30.82	259	29.82
1936	803, 1336	*15,200	Feb. 4, 1936	30	*312	*2.64	*35.95	*312	*35.98
1937	823	6,370	Jan. 18, 1937	36	272	2.31	31.28	268	30.79
1938	853	10,900	Aug. 5, 1938	48	318	2.69	36.58	319	36.74
1939	873	4,510	Feb. 15, 1939	35	231	1.96	26.57	213	24.46
1940	893, 1336	2,540	Apr. 19, 1940	28	*147	1.25	*16.94	*158	*18.23
1941	923	1,130	Mar. 4, 1941	36	154	1.31	17.70	156	17.96
1942	953	3,520	Mar. 17, 1942	37	219	1.86	25.19	257	29.55
1943	973	6,980	Dec. 29, 1942	44	277	2.35	31.84	236	27.14
1944	1003, 1336	4,760	Mar. 28, 1944	36	*247	*2.09	*28.47	*253	*29.21
1945	1033	5,340	Feb. 13, 1945	38	211	1.79	24.26	230	26.46
1946	1053	7,640	Jan. 7, 1946	42	309	2.62	35.50	305	35.04
1947	1083	11,300	Jan. 20, 1947	44	281	2.38	32.31	260	29.94
1948	1113	6,440	Feb. 12, 1948	37	214	1.81	24.71	270	31.11
1949	1143	9,480	Jan. 5, 1949	32	384	3.25	44.22	385	44.32
1950	1173	10,900	Oct. 30, 1949	73	350	2.97	40.30	-	-

* Revised.

191. Tellico River near Vonore, Tenn.

Location.--Lat 35°33'33", long. 84°13'32", 0.1 mile downstream from Notchy Creek, 2.3 miles southeast of Vonore, Monroe County, and at mile 4.2.

Drainage area.--271 sq mi.

Gage.--Water-stage recorder. Datum of gage is 768.44 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1948-50: Maximum discharge, 11,100 cfs Nov. 29, 1948, and Mar. 13, 1950 (gage height, 23.8 ft, from floodmarks); minimum, 58 cfs Oct. 3, 17, 1948 (gage height, 1.53 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1948	-	-	-	-	-	-	-	-	-	279	185	90.3	-
1949	75.1	891	1,053	1,417	1,044	657	808	515	304	850	342	358	691
1950	404	631	619	1,400	1,199	1,399	504	399	748	313	209	200	666

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1948	-	-	-	-	-	-	-	-	-	1.19	0.79	0.47	-
1949	0.32	3.67	4.48	6.03	4.01	2.79	3.33	2.19	1.25	3.61	1.45	1.47	34.60
1950	1.72	2.60	2.63	5.96	4.61	5.95	2.08	1.70	3.08	1.33	1.89	1.82	33.37

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1948	1113	-	-	-	-	-	-	-	-
1949	1143	11,100	Nov. 29, 1948	61	691	2.55	34.60	661	35.06
1950	1173	11,100	Mar. 13, 1950	119	666	2.46	33.37	-	-

192. Little Tennessee River at McGhee, Tenn.

Location.--Lat 35°36'16", long. 84°12'43", at mouth of Tellico River, 100 ft upstream from bridge on U. S. Highway 411, 0.3 mile upstream from Louisville & Nashville Railroad bridge, 0.5 mile south of McGhee; Monroe County, and at mile 19.2.

Drainage area.--2,433 sq mi, including that of Tellico River.

Gage.--Water-stage recorder. Datum of gage is 760.18 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Sept. 6, 1929, chain or staff gages located at various sites and datums, within 0.4 mile of present site.

Average discharge.--46 years (1904-50), 5,711 cfs (unadjusted).

Extremes.--1904-50: Maximum discharge (revised), 104,000 cfs Nov. 19, 1906 (gage height, 30.8 ft, at site used December 1905 to September 1925, to datum used October 1918 to September 1925), from rating curve extended above 66,000 cfs; minimum daily discharge, 500 cfs Sept. 13, 14, 1925.

Maximum stage known, 39.0 ft, original site and datum, in March 1867.

Remarks.--Flow regulated by many reservoirs above station; first regulation started in 1918. Because of the increased effect of this regulation by storage in Santeeah Reservoir beginning in December 1927, monthly figures of runoff, in inches, are not published herein since that date.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1905	*1,150	*1,550	1,740	4,960	*10,900	6,880	5,840	6,930	4,310	5,680	5,170	2,420	*4,750
1906	2,360	1,810	7,580	10,700	5,340	8,200	8,320	4,780	6,570	9,380	7,590	8,990	6,810
1907	11,000	11,300	8,140	6,940	7,490	7,560	6,630	6,950	6,910	4,490	3,140	3,820	7,030
1908	3,090	5,680	6,500	9,310	9,610	10,400	7,570	6,580	4,420	4,470	4,740	2,760	6,290
1909	2,540	2,580	7,230	7,620	10,270	13,800	7,630	12,200	12,300	9,020	7,170	4,020	8,210
1910	3,570	2,550	4,360	6,090	6,430	6,620	4,720	8,610	7,940	7,690	4,680	3,690	5,580
1911	2,650	2,030	4,160	7,580	7,650	5,970	*12,920	5,370	3,280	3,720	2,810	2,630	*5,040
1912	3,630	4,120	6,060	6,930	9,460	14,700	13,700	9,110	5,960	4,530	4,530	3,750	7,330
1913	3,000	2,830	4,720	9,300	9,880	*17,000	8,750	7,080	4,920	3,140	2,880	2,190	*6,300
1914	2,740	2,640	5,330	3,410	6,610	6,470	8,680	4,200	2,680	2,680	2,260	1,680	3,940
1915	3,950	2,540	*12,520	11,500	11,500	6,950	5,710	5,650	4,950	5,220	2,900	2,590	*6,320
1916	4,790	4,180	*10,700	12,600	10,800	7,850	6,200	5,720	6,540	12,600	6,730	3,380	*7,700
1917	3,040	2,890	5,690	10,900	12,500	*26,700	11,900	5,230	5,080	4,180	3,340	3,950	*7,930
1918	3,050	2,490	2,230	*8,980	11,900	6,040	6,820	6,010	5,080	3,730	2,930	2,720	*5,120
1919	*6,330	6,750	9,880	12,000	8,400	10,500	6,430	7,400	4,720	3,610	2,720	1,420	*6,680
1920	3,010	2,570	7,640	6,870	12,500	*16,600	7,260	4,100	3,560	10,500	6,900		*7,360
1921	2,800	3,110	10,000	7,700	*12,700	5,580	7,370	6,080	3,630	3,950	4,370	2,390	*5,790
1922	2,350	4,530	5,430	12,300	10,000	16,500	11,200	9,120	6,150	4,720	2,770	2,310	*7,270
1923	1,580	1,550	*8,100	7,970	12,700	12,100	8,110	10,200	7,950	4,440	3,650	2,450	*6,720
1924	1,840	1,760	4,100	9,580	5,900	7,910	8,370	8,450	4,400	4,810	2,560	2,780	5,250
1925	2,400	1,900	*5,440	9,360	5,260	4,980	3,920	3,880	2,400	1,850	1,140	609	*3,600
1926	2,050	3,280	2,590	*5,300	5,770	5,960	*6,210	3,330	2,490	2,160	3,120	2,220	*3,690
1927	1,400	3,980	*12,200	5,910	9,540	10,400	5,650	3,590	5,750	3,390	3,380	2,240	*5,630
1928	1,920	2,490	8,000	5,510	4,910	6,460	8,810	9,290	8,900	6,210	6,890	*9,150	*6,540
1929	3,980	3,800	5,720	7,120	8,090	*17,000	8,560	13,400	6,220	4,690	3,170	4,710	*7,040
1930	4,130	10,200	5,460	5,420	6,450	8,580	4,790	6,600	5,540	2,410	2,030	2,200	5,120
1931	1,780	2,420	2,690	3,460	3,740	3,740	9,370	4,850	2,510	2,830	2,590	2,460	3,530
1932	1,790	1,550	7,400	9,240	13,000	7,340	7,360	7,150	3,930	3,840	2,680	1,830	5,570
1933	3,677	5,201	15,220	10,210	13,030	8,048	6,791	7,977	3,467	2,685	2,825	2,484	6,770
1934	2,098	1,670	1,669	3,935	3,401	10,900	5,002	3,811	4,898	3,243	3,796	2,382	3,909
1935	3,434	3,847	4,694	7,004	6,534	9,159	9,049	5,124	3,395	3,161	2,955	2,350	5,051
1936	1,627	3,472	2,427	13,050	11,300	11,320	16,270	4,255	2,644	2,528	2,284	2,135	6,080
1937	3,717	2,989	5,154	15,790	9,806	5,893	6,549	5,612	3,653	3,041	3,605	3,238	5,715
1938	3,982	3,262	3,408	5,204	4,606	7,473	8,843	5,980	5,691	6,798	6,918	3,089	5,447
1939	2,500	3,547	3,091	4,954	14,660	10,370	6,848	4,332	3,535	3,622	2,870	2,017	5,131
1940	1,452	1,146	1,409	1,946	4,058	5,258	5,738	3,524	3,118	3,391	5,794	4,137	3,409
1941	2,382	2,394	3,002	4,224	2,859	4,569	3,973	2,540	2,299	5,467	2,514	1,838	3,180
1942	1,830	2,064	2,974	3,863	5,970	7,910	3,568	4,474	3,861	5,211	5,600	4,425	4,308
1943	3,624	3,454	9,703	8,343	9,450	8,967	6,912	5,454	3,763	6,319	4,605	3,080	6,133
1944	2,531	2,444	2,693	3,985	10,430	11,640	5,912	5,463	3,421	2,638	2,379	2,288	4,903
1945	2,208	1,611	2,111	2,236	3,758	3,289	3,492	3,614	5,341	4,446	3,908	3,889	3,319
1946	3,426	4,499	7,365	11,860	12,270	6,636	5,376	5,240	5,440	6,221	6,083	5,850	6,681
1947	5,975	4,308	5,399	10,430	5,863	5,311	3,711	4,965	4,464	4,917	4,984	4,776	5,434
1948	4,322	2,609	3,130	5,136	6,326	4,549	4,571	4,535	4,273	3,879	4,009	4,537	4,316
1949	5,045	5,669	9,507	11,220	9,778	5,194	4,743	5,071	6,291	8,788	6,977	6,961	7,095
1950	6,857	9,683	13,200	8,670	12,520	9,867	5,232	4,189	6,200	6,008	5,098	4,728	7,662

* Revised.

* Not previously published; estimated or partly estimated on the basis of records for stations at Judson, N. C. and on Tuckasegee River at Bryson City, N. C.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1905	*0.54	*0.71	0.82	2.34	*4.63	3.25	2.67	3.27	1.97	2.67	2.44	1.11	*26.42
1906	1.12	.83	3.58	5.03	2.28	3.87	3.80	2.25	3.00	4.43	3.58	4.10	37.87
1907	5.18	5.18	-3.84	3.27	3.19	3.57	3.03	3.28	3.16	2.12	1.48	1.74	39.04
1908	1.46	2.80	3.07	4.67	4.24	4.90	3.37	3.11	2.02	2.11	2.24	1.26	35.05
1909	1.20	1.18	3.41	3.60	5.40	6.51	3.48	5.77	5.60	4.26	3.39	1.64	45.64
1910	1.68	1.16	2.06	2.88	2.74	3.12	2.16	4.07	5.63	3.63	3.21	1.89	31.03

* Revised.

* Not previously published; see footnote to preceding table.

Monthly and yearly runoff, in inches, of Little Tennessee River at McGhee, Tenn.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1911	1.25	0.93	1.96	3.58	3.26	2.82	*5.90	2.53	1.49	1.76	1.33	1.20	*28.01
1912	1.71	1.88	2.86	3.27	4.18	6.95	6.26	4.30	2.55	3.05	2.14	1.71	40.86
1913	1.42	1.29	2.23	4.39	4.21	*8.04	4.20	3.34	2.25	1.48	1.36	1.00	*35.01
1914	1.29	1.21	1.67	1.61	2.82	3.05	3.96	1.98	1.21	1.27	1.07	.74	21.86
1915	1.66	1.16	*5.91	5.43	4.92	3.28	2.61	2.67	2.26	2.46	1.37	1.18	*35.11
1916	2.26	1.91	*5.06	5.95	4.79	3.71	2.83	2.70	2.99	5.96	3.18	1.54	*42.88-
1917	1.44	1.32	2.69	5.15	5.33	*12.58	5.43	2.47	2.32	1.97	1.58	1.81	*44.09
1918	1.44	1.14	1.05	*4.24	5.05	2.85	3.11	2.83	2.32	1.76	1.58	1.24	*28.41
1919	*2.99	3.08	4.66	5.65	3.58	4.95	2.94	3.49	2.15	1.70	1.28	1.65	*37.12
1920	1.42	1.17	3.60	3.24	3.03	5.89	*7.56	3.43	1.87	1.68	4.94	3.15	*40.98
1921	1.32	1.42	4.72	3.63	*5.42	2.64	3.50	2.87	1.66	1.86	2.06	1.09	*32.19
1922	1.11	2.07	2.56	*5.82	4.28	7.76	5.11	4.31	2.81	2.23	1.31	1.05	*40.42
1923	.74	.71	*3.82	3.76	5.43	5.70	3.71	4.83	3.63	2.09	1.82	1.12	*37.36
1924	.87	.80	1.94	4.52	2.61	3.73	3.82	3.99	2.24	2.27	1.21	1.27	29.27
1925	1.13	.87	*2.57	4.42	2.24	2.35	1.79	1.83	1.10	.87	.54	.28	*19.99
1926	.97	1.50	1.22	*2.51	2.46	2.81	*2.84	1.57	1.14	1.02	1.47	1.01	*20.52
1927	.66	1.82	*5.77	2.79	4.07	4.90	2.58	1.83	2.63	1.60	1.60	1.02	*51.27
1928	.90	1.14	-	-	-	-	-	-	-	-	-	-	-

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year					
		Observed			Adjusted ¹			Observed			Adjusted ¹		
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean	Mean
		Discharge	Date										
1905	(a), 1336	\$37,600	Feb. 9, 1905	-	\$4,750	-	\$1.94	\$26.42	\$5,370	-	-	-	\$29.88
1906	(a)	\$42,600	Jan. 22, 1906	1,650	6,810	-	2.19	37.87	8,380	-	-	-	46.54
1907	(a)	\$104,000	Nov. 19, 1906	1,940	7,030	-	2.68	39.04	5,750	-	-	-	31.97
1908	(a)	\$30,800	Feb. 15, 1908	1,940	6,290	-	2.57	35.05	6,050	-	-	-	33.71
1909	(a)	\$58,000	June 4, 1909	1,650	8,210	-	3.36	45.64	8,050	-	-	-	44.75
1910	(a)	\$29,200	June 5, 1910	2,250	5,580	-	2.28	31.03	5,450	-	-	-	30.27
1911	(a), 1336	\$41,600	Apr. 5, 1911	1,650	\$5,040	-	*2.08	*28.01	*5,480	-	-	-	*30.32
1912	(a)	\$55,200	Mar. 29, 1912	1,790	7,350	-	3.00	40.88	5,160	-	-	-	39.36
1913	(a), 1336	\$62,100	Mar. 27, 1913	1,650	*6,300	-	*2.58	*35.01	*6,160	-	-	-	*34.24
1914	(a)	\$18,100	Apr. 19, 1914	1,220	3,940	-	1.61	21.88	4,810	-	-	-	26.64
1915	(a), 1336	\$58,400	Dec. 26, 1914	1,220	*6,320	-	*2.59	*35.11	*6,370	-	-	-	*35.41
1916	(a), 1336	\$58,800	Dec. 18, 1915	2,250	*7,700	-	*3.15	*42.86	7,020	-	-	-	39.10
1917	(a), 1336	\$92,500	Mar. 5, 1917	2,020	*7,930	-	*3.25	*44.09	*7,610	-	-	-	*42.27
1918	(a), 1336	\$64,200	Jan. 29, 1918	1,460	*5,120	-	*2.10	*28.41	*6,390	-	-	-	*35.51
1919	503, 1336	\$68,700	Oct. 30, 1918	720	*6,680	-	*2.73	*37.12	5,870	-	-	-	32.58
1920	503, 1336	*102,000	Apr. 2, 1920	720	*7,560	-	*3.01	*40.98	*7,580	-	-	-	*42.25
1921	523, 1336	*60,700	Feb. 10, 1921*	1,610	*5,790	-	*2.37	*32.19	*5,480	-	-	-	*30.47
1922	543, 1336	*72,300	Jan. 22, 1922	1,200	*7,270	-	*2.98	*40.42	*7,190	-	-	-	*39.95
1923	563, 1336	*44,300	Dec. 18, 1922	1,070	*6,720	-	*2.75	*37.36	6,420	-	-	-	35.70
1924	583	*39,100	Apr. 18, 1924*	1,000	5,250	-	2.15	29.27	*5,420	-	-	-	*30.23
1925	603, 1336	*42,300	Dec. 9, 1924	500	*3,600	-	*1.47	*19.99	3,440	-	-	-	19.11
1926	623, 1336	*22,900	Jan. 19, 1926	530	*3,690	-	*1.51	*20.52	*4,510	-	-	-	*25.07
1927	643, 1336	*49,300	Dec. 28, 1926	1,180	*5,630	-	*3.30	*31.27	5,190	-	-	-	28.84
1928	663, 1336	*36,500	Sept. 3, 1928	1,140	*6,540	-	*2.68	*36.43	*6,460	-	-	-	*35.98
1929	683, 1336	*40,800	Mar. 23, 1929	1,390	*7,040	-	*2.68	*39.14	*7,730	-	-	-	*42.96
1930	698	25,800	Nov. 18, 1929	712	5,120	-	2.10	28.48	4,050	-	-	-	22.50
1931	713	30,300	Apr. 5, 1931	1,340	3,530	-	1.44	19.58	3,860	-	-	-	21.41
1932	728	52,600	Jan. 30, 1932	1,290	5,570	-	2.28	31.04	66,693	-	-	-	37.30
1933	803	74,700	Dec. 29, 1932	1,680	6,770	-	2.77	37.62	5,195	-	-	-	28.66
1934	803	55,700	Mar. 4, 1934	1,290	3,909	-	1.60	21.72	4,458	-	-	-	24.78
1935	803	42,400	Mar. 13, 1935	1,340	5,051	-	2.07	28.05	4,674	-	-	-	25.96
1936	803	69,500	Apr. 6, 1936	1,230	6,080	-	2.49	33.90	6,449	-	-	-	35.94
1937	823	48,100	Jan. 3, 1937	2,180	5,715	-	2.54	31.75	5,612	-	-	-	31.18
1938	853	41,300	Aug. 5, 1938	2,040	5,447	-	2.23	30.27	5,318	-	-	-	29.55
1939	873	46,200	Feb. 15, 1939	1,540	5,131	-	2.10	28.50	4,702	-	-	-	28.11
1940	893	52,100	Aug. 30, 1940	924	3,409	3,464	1.42	19.30	3,725	3,764	-	-	20.97
1941	923	17,500	July 7, 1941	1,150	3,180	3,186	1.30	17.70	3,104	3,141	-	-	17.46
1942	953	25,000	Feb. 17, 1942	672	4,308	4,509	1.85	25.06	5,146	5,287	-	-	29.26
1943	973	62,800	Dec. 30, 1942	1,490	6,133	6,118	2.50	33.99	5,361	5,270	-	-	29.28
1944	1003	37,800	Feb. 18, 1944	1,410	4,903	4,883	2.00	27.21	4,758	5,099	28.41	-	28.41
1945	1033	17,500	Feb. 13, 1945	1,250	3,319	4,586	1.68	25.48	4,129	4,975	27.64	-	27.64
1946	1053	35,200	Jan. 11, 1946	1,230	6,681	6,578	2.69	36.55	6,692	6,234	34.64	-	34.64
1947	1083	35,800	Jan. 20, 1947	1,440	5,434	4,916	2.01	27.32	4,961	4,888	27.16	-	27.16
1948	1113	21,800	Feb. 12, 1948	608	4,316	4,800	1.96	26.74	5,168	5,765	32.12	-	32.12
1949	1143	24,300	Nov. 28, 1948	2,330	7,095	7,862	3.22	43.68	7,893	7,814	43.42	-	43.42
1950	1173	31,000	Mar. 13, 1950	1,100	7,662	7,164	2.93	39.81	-	-	-	-	-

¹Adjusted for change in contents in Cheoah (closure Dec. 8, 1918), Santeeelah (closure Dec. 7, 1927), and Calderwood (closure Apr. 15, 1939) Lakes since 1939; in Thorpe (Glennville) Lake since Feb. 12, 1941; in Nantahala Lake since Jan. 30, 1942, and in Fontana Lake since Nov. 7, 1944. Only weekly records of contents available prior to Jan. 1, 1939. Adjusted figures 1939-48 are not previously published and supersede unadjusted figures previously published.

* Revised.

* Not previously published.

* Tennessee Division of Geology, Bull. 34.

Note.--Monthly figures of discharge, in cubic feet per second per square mile, and runoff in inches previously published in water-supply papers for the period December 1927 to September 1941 may be subject to considerable error because of regulation in reservoirs upstream. These figures are not included herein and should not be used.

193. Tennessee River at Loudon, Tenn.

Location.--Lat 35°44'33", long. 84°19'56", at bridge on U. S. Highway 11, at Loudon, Loudon County, 9½ miles downstream from Little Tennessee River, 10½ miles downstream from Fort Loudoun Dam, 61 miles upstream from Watts Bar Dam, and at mile 591.6.

Drainage area.--12,220 sq mi, approximately.

Supplemental records available.--Gage-height records collected in this vicinity since Feb. 26, 1884, are contained in reports of the U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 726.29 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Oct. 1, 1929, staff gage at Huff Ferry 4.6 miles downstream at datum 6.60 ft lower. Since Feb. 17, 1942, auxiliary water-stage recorder at Lenoir City, 8.5 miles upstream.

Average discharge.--28 years (1922-50), 19,000 cfs.

Extremes.--1922-50: Maximum discharge, 169,000 cfs Mar. 28, 1936 (gage height, 25.75 ft); minimum daily discharge, 1,820 cfs Apr. 30, 1950; minimum gage height, 0.82 ft Sept. 12, 1925, site and datum then in use.

Flood of Mar. 5, 1917, reached a stage of 32.9 ft, present site and datum (discharge, 225,000 cfs, from rating curve extended above 151,000 cfs). U. S. Weather Bureau reports stages of 49.7 ft Mar. 10 or 11, 1867, 42.7 ft Feb. 27, 1875, and 34.9 ft Mar. 31, 1886, present site and datum. Flood of Mar. 31, 1886, may have reached a higher stage; no readings obtained that year after Mar. 31.

Remarks.--Flow regulated by many reservoirs above station beginning in 1928. Prior to the beginning of storage in Cherokee Lake in December 1941, the regulation was not significant.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1923	5,820	4,980	26,500	29,900	51,900	47,200	24,300	29,100	25,200	15,600	14,600	8,820	23,500
1924	5,530	6,300	14,400	35,200	24,300	32,000	30,000	27,500	20,600	16,900	10,200	9,680	19,400
1925	11,600	7,270	20,100	33,500	20,200	14,600	11,700	13,000	7,420	6,080	3,250	2,860	12,600
1926	8,180	13,000	9,480	19,900	26,200	23,200	24,400	12,700	9,120	7,240	11,800	7,670	14,300
1927	6,240	15,500	46,300	23,100	45,900	36,800	26,400	16,200	28,100	12,100	12,000	7,440	22,900
1928	6,380	9,080	24,500	19,600	18,300	22,500	32,600	35,900	30,900	26,600	25,900	32,600	23,700
1929	27,000	13,600	12,100	22,900	27,100	65,100	24,900	46,500	24,400	19,000	11,400	13,200	24,800
1930	19,100	30,900	18,800	18,800	23,800	29,900	18,400	17,400	9,460	6,570	6,240	6,500	17,100
1931	4,970	7,620	9,110	13,000	13,100	12,000	37,000	18,400	10,900	12,000	13,200	8,940	13,300
1932	4,760	4,400	21,400	28,100	53,900	29,400	26,600	26,100	13,400	12,400	8,760	5,040	19,600
1933	13,800	16,900	44,300	37,900	52,100	28,800	24,000	26,800	11,300	9,410	10,600	10,700	23,700
1934	5,754	5,274	5,925	11,920	10,420	45,520	24,830	12,430	14,890	12,910	14,920	8,425	14,480
1935	12,540	12,090	16,170	31,220	25,120	48,990	41,890	21,870	13,290	12,850	11,310	8,777	21,340
1936	5,022	14,380	8,649	49,690	42,110	50,040	55,600	14,560	8,524	9,827	8,411	7,557	22,770
1937	17,230	9,545	17,380	64,720	40,270	22,370	19,200	17,650	11,290	9,263	12,530	12,080	21,060
1938	16,170	11,930	13,290	21,710	21,390	33,790	26,570	19,480	18,970	23,550	19,140	9,267	19,620
1939	6,556	10,850	10,850	16,590	55,020	35,040	21,820	12,980	11,170	11,910	9,650	5,819	17,100
1940	4,258	3,818	4,715	5,592	12,740	19,680	22,990	11,550	10,960	12,610	29,360	18,060	15,020
1941	6,802	7,653	8,705	12,330	8,697	17,000	15,670	8,362	6,634	20,670	8,508	5,676	10,590
1942	4,301	5,500	7,098	8,825	15,350	24,480	10,330	14,500	11,640	13,760	21,860	16,000	12,650
1943	15,540	14,190	31,350	33,650	36,380	20,380	19,370	17,510	13,330	18,470	12,730	13,560	20,470
1944	15,650	16,450	11,620	10,750	22,050	40,610	27,260	18,960	16,300	15,720	14,310	13,810	18,600
1945	13,740	14,910	20,750	20,590	23,620	23,250	18,890	14,080	18,310	17,990	17,300	16,610	18,310
1946	14,070	14,930	29,690	49,470	42,930	18,910	17,260	14,740	16,870	20,110	19,130	19,320	23,020
1947	19,240	15,580	15,220	39,170	24,860	19,290	16,740	18,510	13,750	11,890	13,170	13,650	18,410
1948	14,130	16,340	18,560	15,980	27,950	19,430	18,570	17,750	16,920	14,850	15,600	16,690	17,680
1949	15,510	16,410	35,070	36,440	26,040	17,290	16,670	16,560	17,300	26,640	27,450	27,330	23,240
1950	26,500	30,430	35,250	28,770	59,350	28,030	19,960	12,310	14,710	13,530	16,040	17,120	24,940

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1923	0.55	0.45	2.50	2.82	4.42	4.45	2.21	2.74	2.30	1.47	1.38	0.80	26.09
1924	.52	.58	1.36	3.32	2.15	3.02	2.74	2.60	1.68	1.60	.96	.88	21.61
1925	1.09	.66	1.90	3.16	1.72	1.37	1.07	1.22	.68	.57	.31	.26	14.01
1926	.77	1.19	.89	1.87	2.23	2.19	2.23	1.19	.83	.68	1.11	.70	15.88
1927	.59	1.42	4.37	2.18	3.91	3.47	2.41	1.53	2.56	1.14	1.13	.68	25.39
1928	.60	.63	2.31	1.65	1.62	2.12	2.97	3.39	2.82	2.51	2.44	2.97	26.43
1929	1.61	1.24	1.14	2.17	2.31	6.14	2.28	4.39	2.22	1.79	1.07	1.21	27.56
1930	1.60	2.82	1.77	1.77	2.02	2.63	1.68	1.64	.86	.62	.59	.59	18.99
1931	.47	.70	.66	1.23	1.12	1.13	3.38	1.73	1.00	1.13	1.25	.82	14.82
1932	.45	.40	2.02	2.65	4.75	2.78	2.61	2.46	1.23	1.17	.83	.46	21.81
1933	1.30	1.55	4.18	3.58	4.44	2.71	2.19	2.53	1.03	.89	1.00	.98	26.58
1934	.54	.48	.56	1.12	.89	4.29	2.27	1.17	1.36	1.22	1.41	.77	16.08
1935	1.18	1.10	1.53	2.95	2.14	4.62	3.82	2.06	1.21	1.21	1.07	.80	23.69
1936	.47	1.31	.82	4.69	3.72	4.72	5.08	1.37	.78	.93	.79	.69	25.37
1937	1.63	.87	1.64	6.11	3.44	2.11	1.75	1.66	1.03	.87	1.19	1.10	23.40
1938	1.52	1.09	1.25	2.05	1.82	3.19	2.43	1.84	1.73	2.22	1.81	.85	21.80
1939	.62	.99	1.02	1.57	4.69	3.31	1.99	1.22	1.02	1.12	.91	.53	18.99
1940	.40	.35	.44	.53	1.12	1.86	2.10	1.09	1.00	1.19	2.77	1.65	14.50
1941	.64	.70	.82	1.16	.74	1.60	1.43	.79	.61	1.95	.80	.52	11.76

Yearly discharge, in cubic feet per second, of Tennessee River at Loudon, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1923	563	106,000	Dec. 18, 1922	-	23,500	1.92	26.09	22,600	25.05
1924	583	71,900	Mar. 6, 1924	4,420	19,400	1.59	21.61	20,500	22.80
1925	603	90,000	Dec. 9, 1924	2,260	12,600	1.03	14.01	11,900	13.21
1926	623	69,500	Apr. 14, 1926	2,740	14,300	1.17	15.88	17,500	19.41
1927	643	121,000	Dec. 26, 1926	5,000	22,900	1.87	25.39	20,500	22.75
1928	663	111,000	July 1, 1928	4,650	23,700	1.94	26.43	23,900	26.67
1929	683	126,000	Mar. 24, 1929	7,220	24,800	2.03	27.56	27,000	29.97
1930	698	73,200	Nov. 16, 1929	4,450	17,100	1.40	18.99	13,200	14.63
1931	713	93,500	Apr. 7, 1931	4,120	13,300	1.09	14.82	14,100	15.66
1932	728	110,000	Feb. 5, 1932	3,700	19,600	1.60	21.81	23,300	25.97
1933	743	165,000	Dec. 29, 1932	6,200	23,700	1.94	26.38	18,800	20.93
1934	758	125,000	Mar. 5, 1934	4,150	14,480	1.18	16.08	16,490	18.31
1935	783	119,000	Mar. 28, 1935	4,820	21,340	1.75	23.69	20,250	22.48
1936	803	169,000	Mar. 28, 1936	4,190	22,770	1.86	25.37	24,150	†26.91
1937	823	132,000	Jan. 4, 1937	6,670	21,060	1.72	23.40	20,800	23.13
1938	853	85,500	July 25, 1938	7,090	19,620	1.61	21.80	18,490	20.55
1939	873	112,000	Feb. 16, 1939	4,340	17,100	1.40	18.99	15,800	17.56
1940	893	123,000	Aug. 16, 1940	3,060	13,020	1.07	14.50	13,890	15.47
1941	923	42,900	July 9, 1941	3,770	10,590	.867	11.76	10,070	11.18
1942	953	52,800	May 22, 1942	2,690	12,850	1.05	14.27	16,580	18.41
1943	973	134,000	Dec. 30, 1942	4,800	20,470	1.68	22.73	18,980	21.08
1944	1003	98,100	Mar. 30, 1944	7,030	18,600	1.52	20.72	19,090	21.27
1945	1033	51,100	Feb. 18, 1945	4,900	18,310	1.50	20.34	19,090	21.21
1946	1053	105,000	Jan. 8, 1946	8,750	23,020	1.88	25.57	22,290	24.76
1947	1083	a72,000	Jan. 20, 1947	6,530	18,410	1.51	20.45	18,320	20.35
1948	1113	89,700	Feb. 14, 1948	8,560	17,680	1.45	19.70	19,200	21.39
1949	1143	77,800	Nov. 29, 1948	4,740	23,240	1.90	25.82	25,340	28.15
1950	1173	96,000	Feb. 8, 1950	1,820	24,940	2.04	27.70	-	-

† Corrected.

a Maximum daily discharge.

194. Clinch River at Cedar Bluff, Va.

Location.--Lat 37°05'20", long. 81°46'00" at highway bridge at mouth of Indian Creek in town of Cedar Bluff, Tazewell County, 400 ft upstream from Middle Creek, and 1.1 miles east of Richlands.

Drainage area.--125 sq mi, includes that of Indian Creek.

Gage.--Staff gage. Altitude of gage is 1,940 ft (from topographic map).

Extremes.--1944-46: Maximum discharge, 4,800 cfs Jan. 8, 1946 (gage height, 7.4 ft, from floodmark), from rating curve extended above 800 cfs by logarithmic plotting; minimum daily, 9 cfs Sept. 19, 1944.

Remarks.--Low flow regulated by mill just above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1944	-	-	-	-	-	-	-	-	70.6	26.8	22.9	29.3	-
1945	75.2	57.3	249	294	362	243	109	271	210	71.9	104	134	181
1946	66.7	106	285	500	366	298	171	202	87.8	51.6	32.3	20.5	182

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1944	-	-	-	-	-	-	-	-	0.63	0.25	0.21	0.26	-
1945	0.69	0.51	2.29	2.71	3.02	2.24	0.97	2.50	1.87	.66	.96	1.19	19.61
1946	.62	.95	2.63	4.61	3.05	2.74	1.53	1.87	.78	.48	.30	.18	19.74

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1944	1003	-	-	-	-	-	-	-	-
1945	1033	*4,700	Feb. 17, 1945	19	181	1.45	19.61	187	20.32
1946	1053	4,800	Jan. 8, 1946	14	182	1.46	19.74	-	-

* Revised.

195. Clinch River at Richlands, Va.

Location.--Lat 37°05'10", long. 81°46'52", 1 mile southeast of Richlands, Tazewell County, 1.6 miles downstream from Middle Creek, and 2.2 miles upstream from Big Creek.

Drainage area.--139 sq mi. At site used prior to Aug. 6, 1950, 140 sq mi.

Supplemental records available.--Records of chemical analyses for the water year 1950 are published in WSP 1186.

Gage.--Water-stage recorder. Datum of gage is 1,923.99 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Aug. 6, 1950, wire-weight gage at bridge 1.1 miles downstream at datum 6.53 ft lower.

Average discharge.--5 years (1945-50), 182 cfs.

Extremes.--1945-50: Maximum discharge, 4,520 cfs (revised) Feb. 2, 1950 (gage height, 11.3 ft, from graph based on gage readings, site and datum then in use); minimum observed, 8 cfs Aug. 29, 1946.

Remarks.--Diurnal fluctuation at low flow caused by mill above station. Town of Richlands diverts about 0.4 cfs above original site at bridge during periods of low flow to augment municipal water supply.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1946	*74.4	*118	*333	*548	388	290	167	204	87.2	62.5	36.1	27.1	*194
1947	28.2	29.8	52.4	603	127	386	211	88.8	54.7	39.5	189	70.7	158
1948	34.5	53.8	60.3	64.8	539	379	322	92.9	94.1	53.3	107	32.3	151
1949	29.4	97.8	399	275	333	274	228	218	64.4	98.5	72.1	46.0	177
1950	63.5	213	277	427	545	286	143	354	212	105	111	68.4	232

* Not previously published; estimated on basis of records for stations at Cleveland and Cedar Bluff.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1946	*0.61	*0.94	*2.74	*4.51	2.88	2.39	1.33	1.68	0.70	0.51	0.30	0.22	*18.81
1947	.23	.24	.43	4.97	.94	3.18	1.68	.73	.44	.33	1.56	.56	15.29
1948	.28	.43	.50	.53	4.15	3.12	2.57	.77	.75	.44	.88	.26	14.68
1949	.24	.78	3.29	2.26	2.48	2.26	1.82	1.80	.51	.81	.59	.37	17.21
1950	.52	1.70	2.28	3.52	4.05	2.35	1.14	2.92	1.68	.66	.92	.55	22.49

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	Mean	Runoff in inches
		Discharge	Date								
1946	1053	*3,860	Jan. 8, 1946	*15	*194	*1.38	*18.81	*159	*15.42		
1947	1083	4,130	Jan. 15, 1947	14	158	1.13	15.29	161	15.60		
1948	1113	*3,860	Feb. 14, 1948	21	151	1.08	14.68	163	17.78		
1949	1143	*4,080	Dec. 4, 1948	17	177	1.26	17.21	179	17.40		
1950	1173	*4,520	Feb. 2, 1950	26	232	1.66	22.49	218	21.10		

* Revised.

* Not previously published.

196. Little River at Wardell, Va.

Location.--Lat 37°02'16", long. 81°47'52", 50 ft upstream from Katie Branch, 0.5 mile downstream from Indian Creek, and 0.5 mile northwest of Wardell, Tazewell County.

Drainage area.--103 sq mi.

Gage.--Water-stage recorder. Datum of gage is 2,033.01 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1949-50: Maximum discharge, 1,830 cfs Feb. 2, 1950 (gage height, 8.05 ft), from rating curve extended above 1,000 cfs on basis of slope-area determination of peak flow; minimum, 25 cfs Oct. 6, 1949 (gage height, 1.54 ft); minimum daily 32 cfs Sept. 18, 19, 1950.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1949	-	-	-	-	-	-	-	-	-	-	-	56.6	-
1950	62.2	160	227	317	375	244	126	309	122	99.9	138	58.3	186

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1949	-	-	-	-	-	-	-	-	-	-	-	0.61	-
1950	0.70	1.73	2.54	3.55	3.79	2.73	1.36	3.46	1.32	1.12	1.54	0.63	24.47

TENNESSEE RIVER BASIN

Yearly discharge, in cubic feet per second, of Little River at Wardell, Va.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1949	1173	-	-	-	-	-	-	-	-
1950	1173	1,830	Feb. 2, 1950	32	186	1.81	24.47	-	-

197. Thompson Creek near Coulwood, Va.

Location.--Lat 36°59'21", long. 82°03'44", 2,500 ft downstream from Coulwood, Russell County, 4,500 ft upstream from Breezers Branch, and 3.3 miles upstream from mouth.

Drainage area.--14.0 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,573.22 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--6 years (1942-48), 13.9 cfs.

Extremes.--1941-49: Maximum discharge, 628 cfs Feb. 17, 1944 (gage height, 5.37 ft); minimum daily, 0.1 cfs June 11, 1942.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	-	-	-	3.12	4.59	16.0	3.88	6.41	2.29	8.66	26.8	3.76	-
1943	8.29	12.7	41.5	24.1	23.1	31.5	15.0	7.16	9.22	7.52	2.33	1.48	15.3
1944	1.97	2.38	2.36	5.08	54.3	44.8	21.1	9.34	3.35	1.68	3.42	5.94	12.8
1945	18.2	6.02	22.4	25.1	34.3	22.0	8.05	17.6	23.6	5.61	7.10	6.13	16.2
1946	4.41	9.98	27.5	31.2	28.1	18.4	15.4	11.3	5.00	4.75	4.08	2.34	13.5
1947	2.92	3.15	7.23	57.2	12.0	32.4	16.9	6.41	3.33	2.37	13.5	4.52	13.6
1948	2.53	2.52	3.33	4.51	39.6	33.6	26.9	5.82	5.61	5.23	9.81	5.62	12.0
1949	2.41	11.0	32.2	#25.5	-	-	-	-	-	-	-	-	-

* Not previously published; estimated on basis of weather records and record for Clinch River at Cleveland.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	-	-	-	0.26	0.34	1.31	0.31	0.53	0.18	0.71	2.20	0.30	-
1943	0.68	1.01	3.41	1.98	1.72	2.59	1.19	.59	.74	.62	.19	.12	14.84
1944	.16	.19	.19	.42	4.18	3.69	1.68	.77	.27	.14	.28	.47	12.44
1945	1.50	.48	1.64	2.06	2.55	1.81	.64	1.45	1.89	.46	.58	.49	15.75
1946	.36	.80	2.26	2.57	2.09	1.51	1.23	.93	.40	.39	.34	.19	13.07
1947	.24	.25	.59	4.72	.89	2.66	1.35	.53	.27	.19	1.11	.36	13.16
1948	.21	.20	.27	.37	3.05	2.77	2.14	.48	.45	.43	.81	.46	11.64
1949	.20	.88	2.65	#2.10	-	-	-	-	-	-	-	-	-

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1942	1033	376	Aug. 9, 1942	-	-	-	-	11.6	11.24
1943	1033	384	Dec. 29, 1942	0.8	15.3	1.09	14.84	10.6	10.28
1944	1033	628	Feb. 17, 1944	.6	12.8	.914	12.44	16.2	15.72
1945	1033	315	Feb. 17, 1945	2.2	16.2	1.16	15.75	15.8	15.35
1946	1053	276	Jan. 8, 1946	1.1	13.5	.964	13.07	11.1	10.73
1947	1083	376	Aug. 19, 1947	1.3	13.6	.971	13.16	13.2	12.76
1948	1113	262	Apr. 7, 1948	1.9	12.0	.857	11.64	15.1	14.69
1949	1143	359	Dec. 3, 1948	-	-	-	-	-	-

198. Clinch River at Cleveland, Va.

Location.--Lat 36°56'41", long. 82°09'18", 500 ft upstream from highway bridge at Cleveland, Russell County, 0.5 mile downstream from Muddy Hollow, and 2.3 miles downstream from Weaver Creek.

Drainage area.--528 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,500.24 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Nov. 1, 1931, chain gage at site 500 ft downstream at datum 1.0 ft lower.

Average discharge.--30 years (1920-50), 691 cfs.

Extremes.--1920-50: Maximum discharge, 26,500 cfs (revised) Dec. 22, 1926 (gage height, 23.0 ft, from graph based on gage readings, site and datum then in use), from rating extended above 13,000 cfs by logarithmic plotting; minimum, 39 cfs Feb. 10, 1934 (gage height, 0.96 ft).

Monthly and yearly mean discharge, in cubic feet per second, of Clinch River at Cleveland, Va.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	174	434	993	975	1,280	581	496	766	254	259	551	303	585
1922	181	841	1,050	1,650	1,790	2,270	863	1,010	351	290	172	104	878
1923	150	109	1,120	1,460	2,860	1,710	547	850	2,020	573	604	326	1,010
1924	155	248	1,090	2,420	979	1,340	917	1,050	1,170	502	299	919	925
1925	550	588	996	1,860	1,370	536	517	491	300	166	75.5	71.5	607
1926	274	616	312	910	1,630	946	713	533	333	153	178	166	556
1927	309	751	5,040	934	2,160	985	1,780	1,090	1,300	177	199	128	1,060
1928	80.7	340	808	804	708	1,020	1,370	1,400	568	331	615	872	743
1929	287	304	221	884	1,280	2,250	555	1,580	852	557	218	138	760
1930	329	1,050	734	645	1,050	862	611	227	79.7	78.2	109	55.3	481
1931	53.8	96.6	224	381	447	549	1,640	654	306	561	675	214	483
1932	105	94.7	622	1,210	1,840	1,530	1,010	979	348	241	143	86.8	682
1933	235	384	965	1,500	1,970	1,160	576	859	346	256	175	94.3	704
1934	73.2	78.8	153	223	451	2,859	1,331	259	148	111	371	125	515
1935	312	312	527	1,773	1,285	2,140	2,254	1,233	564	486	202	131	933
1936	102	592	259	2,080	1,689	2,059	1,691	278	131	359	172	237	801
1937	233	189	1,023	2,817	1,470	959	480	399	209	169	395	299	719
1938	1,588	417	658	897	933	1,650	752	754	565	972	824	309	844
1939	204	293	644	801	2,510	1,022	722	290	330	533	137	67.0	617
1940	64.7	64.0	80.7	92.1	355	546	731	252	927	464	1,640	350	464
1941	118	107	99.8	240	206	927	724	195	142	577	180	116	304
1942	68.1	80.8	174	268	363	1,019	228	482	536	802	1,236	240	461
1943	491	623	1,714	1,155	1,182	1,492	783	520	342	314	109	84.5	733
1944	87.3	130	148	458	2,169	2,080	1,079	426	215	102	116	157	591
1945	527	294	1,161	1,173	1,466	968	428	1,046	908	297	373	380	749
1946	252	489	1,427	1,790	1,486	980	624	669	266	218	146	106	702
1947	97.5	102	239	2,607	463	1,551	868	327	186	162	704	220	632
1948	115	181	222	237	2,049	1,554	1,186	306	291	210	392	143	567
1949	93.1	347	1,363	1,029	1,191	1,050	938	831	204	695	370	191	691
1950	173	242	1,066	1,765	2,265	1,060	542	1,634	819	441	482	269	930

* Not previously published; estimated on basis of records for station at Speers Ferry.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	0.38	0.92	2.17	2.13	2.52	1.27	1.05	1.67	0.54	0.57	1.20	0.64	15.06
1922	.40	1.77	2.29	3.60	3.53	4.96	1.82	2.20	.74	.63	.58	.22	22.54
1923	.33	.23	2.44	3.19	5.64	3.74	1.16	1.86	4.27	1.26	1.31	.69	26.12
1924	1.34	1.52	2.36	5.28	2.00	2.93	1.94	2.29	2.48	1.10	.65	1.94	23.85
1925	1.20	.82	2.18	4.06	2.70	1.18	1.09	1.07	.63	.36	.16	.15	15.60
1926	.60	1.30	.68	1.98	3.22	2.06	1.51	1.16	.70	.33	.39	.35	14.28
1927	.67	1.58	6.64	2.04	4.26	2.16	3.76	2.38	2.74	.39	.43	.27	27.32
1928	.18	.72	1.76	1.75	1.44	2.22	2.89	3.06	1.20	.72	1.34	1.84	19.12
1929	.63	.64	.48	1.92	2.52	4.91	1.17	3.45	1.80	1.21	.48	.29	19.50
1930	.72	2.22	1.60	1.41	2.07	1.88	1.29	.50	.17	.17	.24	.12	12.39
1931	.12	.20	.49	.83	.98	1.20	3.47	1.43	.65	1.22	1.48	.45	12.42
1932	.25	.20	1.36	2.64	3.75	3.34	2.13	2.13	.74	.53	.31	.18	17.54
1933	.51	.61	2.11	3.27	3.68	2.54	1.22	1.88	.73	.56	.38	.20	18.09
1934	.16	.17	.33	.49	.85	6.24	2.81	.57	.31	.24	.81	.26	13.24
1935	.68	.66	1.15	3.87	2.53	4.67	4.76	2.70	1.19	1.06	.44	.28	23.99
1936	.22	1.25	.57	4.54	3.45	4.50	3.57	.61	.28	.78	.38	.50	20.65
1937	.51	.40	2.24	6.16	2.90	2.10	1.01	.87	.44	.37	.66	.63	18.49
1938	3.03	.88	1.40	1.96	1.84	3.60	1.58	1.65	1.19	2.12	1.80	.65	21.70
1939	.44	.62	1.41	1.75	4.95	2.24	1.53	.63	.70	1.16	.30	.14	15.87
1940	.14	.14	.18	.20	.73	1.19	1.54	.55	1.96	1.01	3.58	.74	11.96
1941	.26	.23	.22	.52	.41	2.03	1.53	.43	.30	1.26	.39	.25	7.83
1942	.15	.17	.38	.59	.72	2.22	.48	1.05	1.14	1.75	2.70	.51	11.86
1943	1.07	1.32	3.75	2.52	3.33	3.26	1.65	1.14	.72	.69	.24	.18	18.87
1944	.19	.27	.32	1.00	4.43	4.54	2.28	.93	.45	.22	.25	.33	15.21
1945	1.15	.62	2.54	2.56	2.90	2.11	.90	2.28	1.92	.65	.81	.80	19.24
1946	.55	1.03	3.11	3.91	2.93	2.14	1.32	1.46	.56	.48	.32	.22	19.03
1947	.21	.22	.52	5.70	.91	3.39	1.83	.71	.39	.35	1.53	.47	16.23
1948	.25	.38	.48	.52	4.18	3.39	2.51	.67	.61	.46	.86	.30	14.61
1949	.20	.73	2.97	2.25	2.35	2.29	1.99	1.81	.43	1.52	.81	.40	17.75
1950	.58	1.53	2.33	3.85	4.47	2.32	1.15	3.56	1.73	.96	1.05	.57	23.90

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1921	523	*6,860	Jan. 15, 1921	*115	*585	*1.11	*15.06	624	16.05
1922	543	*9,640	Mar. 10, 1922*	73	878	1.66	22.54	820	21.08
1923	563	*16,400	June 13, 1923	87	1,010	1.91	26.12	*1,025	*26.36
1924	583	11,400	Jan. 1, 1924	*108	*925	*1.75	*23.85	*962	*24.81
1925	603	8,490	Jan. 9, 1924	53	607	1.15	15.60	544	13.98
1926	623	*8,340	Feb. 15, 1926	58	556	1.05	14.28	802	20.59
1927	643	*26,500	Dec. 22, 1926	52	1,080	2.01	27.32	820	21.09
1928	663	5,200	Apr. 30, 1928	58	743	1.41	19.12	708	18.21
1929	683	*8,860	Mar. 6, 1929*	86	760	1.44	19.50	868	22.29
1930	699	*5,540	Feb. 3, 1930*	45	481	.911	12.39	337	8.66

* Revised.

* Not previously published.

TENNESSEE RIVER BASIN

Yearly discharge, in cubic feet per second, of Clinch River at Cleveland, Va.--Continued

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1931	713	*8,340	Apr. 4, 1931	42	483	0.915	12.42	521	13.40
1932	728	11,700	Jan. 30, 1932	57	682	1.29	17.54	746	19.18
1933	743	8,830	Dec. 28, 1932	66	704	1.33	18.09	596	15.32
1934	758	8,610	Mar. 3, 1934	63	515	.975	13.24	586	15.07
1935	783	11,400	Apr. 1, 1935	68	933	1.77	23.99	916	23.54
1936	803	10,400	Jan. 19, 1936	67	801	1.52	20.65	843	21.76
1937	823	8,750	Feb. 9, 1937	92	719	1.36	18.49	803	20.65
1938	853	11,500	Oct. 28, 1937	92	844	1.60	21.70	734	18.86
1939	873	10,500	Feb. 3, 1939	54	617	1.17	15.87	559	13.86
1940	893	22,500	Aug. 14, 1940	52	464	.879	11.96	473	12.21
1941	923	6,000	Mar. 12, 1941	58	304	.576	7.83	304	7.82
1942	953	7,190	Aug. 9, 1942	56	461	.873	11.86	672	17.30
1943	973	9,710	Dec. 30, 1942	57	753	1.39	18.87	526	13.51
1944	1003	18,200	Feb. 18, 1944	49	591	1.12	15.21	727	18.74
1945	1033	9,920	Feb. 18, 1945	125	749	1.42	19.24	764	19.62
1946	1053	15,400	Jan. 8, 1946	79	702	1.33	18.03	556	14.29
1947	1083	15,200	Jan. 16, 1947	68	632	1.20	16.23	638	16.39
1948	1113	13,600	Feb. 14, 1948	75	567	1.07	14.61	675	17.40
1949	1143	9,360	Dec. 4, 1948	75	691	1.31	17.75	703	18.09
1950	1173	15,600	Feb. 2, 1950	95	930	1.76	23.90	-	-

* Revised.

199. Guest River at Coeburn, Va.

Location.--Lat 36°55'45", long. 82°27'23", 1 mile southeast of Coeburn, Wise County, 1.4 miles upstream from Jaybird Branch, 1.8 miles downstream from Pine Camp Creek, and 6 miles upstream from mouth.

Drainage area.--87.3 sq mi.

Supplemental records available.--Records of chemical analyses for the water year 1950 are published in WSP 1186.

Gage.--Water-stage recorder. Datum of gage is 1,925.00 ft above mean sea level (Inter-state Railroad benchmark).

Extremes.--1949-50: Maximum discharge, 3,300 cfs (revised) Jan. 31, 1950 (gage height, 9.93 ft); minimum, 9.0 cfs Aug. 25, 26, 1950 (gage height, 1.46 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	70.8	154	268	449	413	214	98.6	337	129	35.3	25.2	50.9	186

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	0.94	1.96	3.54	5.93	4.92	2.82	1.26	4.45	1.65	0.47	0.33	0.65	28.92

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1173	*3,300	Jan. 31, 1950	9.0	186	2.13	28.92	-	-

* Revised.

200. Stony Creek at Fort Blackmore, Va.

Location.--Lat 36°46'30", long. 82°34'50", at Fort Blackmore, Scott County, 2,000 ft upstream from mouth, and 9.5 miles north of Gate City.

Drainage area.--41.4 sq mi.

Supplemental records available.--Records of chemical analyses for the water year 1950 are given in WSP 1186.

Gage.--Water-stage recorder. Datum of gage is 1,270.17 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1949-50: Maximum discharge, 2,030 cfs Jan. 30, May 15, 1950 (gage height, 5.85 ft); minimum, 3.0 cfs Sept. 19, 1950 (gage height, 1.36 ft); minimum daily, 3.7 cfs Sept. 12, 19, 1950.

Monthly and yearly mean discharge, in cubic feet per second, of Stony Creek at Fort Blackmore, Va.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	59.1	88.3	151	260	248	139	58.8	201	122	15.5	12.0	18.9	114

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	1.65	1.38	4.21	7.24	6.24	3.87	1.58	5.60	3.29	0.43	0.33	0.51	37.33

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1173	2,030	Jan. 30, May 15	3.7	114	2.75	37.33	-	-

201. Clinch River at Clinchport, Va.

Location (revised).--Lat 36°40'25", long. 82°44'50", at Clinchport, Scott County, 500 ft upstream from Virginia & Southwestern Railroad (Southern Railway) bridge and 0.2 mile downstream from Stock Creek.

Drainage area.--986 sq mi (revised).

Gage.--Staff gage. Altitude of gage is 1,210 ft (on basis of unadjusted levels).

Extremes.--1907-9: Maximum discharge, about 33,000 cfs June 14, 1907 (gage height, 19.5 ft, from graph based on gage readings), from rating curve extended above 1,600 cfs by logarithmic plotting and relationship with record at Speers Ferry; minimum, 134 cfs Nov. 14 to Dec. 7, 1909.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	4,568	845	1,071	689	-
1908	396	*2,836	*1,828	*2,794	*3,406	*3,892	*2,920	*1,547	*1,511	537	583	*603	*1,896
1909	324	580	*2,325	*2,164	*3,318	*3,908	*1,458	*2,387	*2,517	*1,770	*961	260	*1,826
1910	210	166	186	-	-	-	-	-	-	-	-	-	-

* Not previously published; high-water periods computed from relationship curve with records at Speers Ferry. June 1907 partly estimated from South Fork Holston River at Bluff City, Tenn.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1907	-	-	-	-	-	-	-	-	5.17	0.99	1.28	0.78	-
1908	0.46	*3.21	*2.13	*3.26	*3.72	*4.55	*3.30	*1.81	*1.71	.63	.68	*.68	*26.14
1909	.38	.66	*2.72	*2.52	*3.51	*4.56	*1.65	*2.79	*2.84	*2.08	*1.12	.29	*25.12
1910	.25	.19	.22	-	-	-	-	-	-	-	-	-	-

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1907	263	*33,000	June 14, 1907	-	-	-	-	-	-
1908	263	*19,000	Apr. 2, 1908	250	*1,896	*1.92	*26.14	*1,747	*24.10
1909	263	*15,000	May 1, 1909	178	*1,826	*1.85	*25.12	*1,600	*22.02
1910	263	-	-	-	-	-	-	-	-

* Not previously published.

202. Copper Creek near Gate City, Va.

Location.--Lat 36°40'26", long. 82°33'57" at highway bridge, 0.2 mile upstream from Plank Camp Creek, 1.1 miles downstream from Obeyes Creek, and 2.6 miles northeast of Gate City, Scott County.

Drainage area.--106 sq mi.

Supplemental records available.--Records of chemical analyses for the water year 1950 are published in WSP 1186.

Gage.--Wire-weight gage. Altitude of gage is 1,290 ft (from topographic map).

Extremes.--1947-50: Maximum discharge, 6,800 cfs (revised) Jan. 30, 1950 (gage height, 13.0 ft, from graph based on gage readings), from rating curve extended above 3,200 cfs by logarithmic plotting; minimum observed, 23 cfs Oct. 6, 1947; minimum gage height observed, 2.17 ft Oct. 15-17, 29-31, 1948.

Monthly and yearly mean discharge, in cubic feet per second, of Copper Creek near Gate City, Va.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1948	27.9	45.9	71.1	67.9	370	312	251	67.3	47.5	80.4	49.1	47.0	119
1949	28.7	151	268	275	226	222	154	152	57.8	200	86.6	51.9	156
1950	57.1	116	185	439	561	215	128	304	229	136	81.2	54.7	208

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1948	0.30	0.48	0.77	0.74	3.76	3.39	2.84	0.73	0.50	0.87	0.53	0.49	15.20
1949	.31	1.58	2.92	2.99	2.22	2.41	1.82	1.65	.61	2.18	.94	.55	19.98
1950	.62	1.22	2.02	4.77	5.71	2.34	1.35	3.31	2.40	1.48	.88	.58	26.68

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1948	1113,1143	*3,310	Feb. 14, 1948	23	119	1.12	15.20	146	18.75	
1949	1143	*3,490	Dec. 3, 1948*	25	158	1.47	19.98	148	19.03	
1950	1173	*6,800	Jan. 30, 1950	30	208	1.96	26.68	-	-	

* Revised.

203. Clinch River at Speers Ferry, Va.

Location.--Lat 36°38'55", long. 82°45'02", at highway bridge half a mile downstream from Copper Creek, three-quarters of a mile northwest of Speers Ferry, Scott County, and 2 miles downstream from Clinchport.

Drainage area.--1,126 sq mi.

Supplemental records available.--Gage-height records collected in this vicinity February 1895 to July 1933 are contained in reports of U. S. Weather Bureau. Records of chemical analyses for 1930-31 are published in Virginia Division of Water Resources and Power, Bull. 3. Records of chemical analyses and water temperatures for the water year 1950 are published in WSP 1186.

Gage.--Water-stage recorder. Datum of gage is 1,196.52 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Nov. 23, 1926, staff gage at site 400 ft upstream at datum 1.5 ft higher. From Nov. 23, 1926, to Nov. 6, 1931, chain gage at same site and datum.

Average discharge.--30 years (1920-50), 1,584 cfs (revised).

Extremes.--1920-50: Maximum discharge, 37,200 cfs Feb. 3, 1923 (gage height, 25.85 ft, present datum, from graph based on gage readings), from rating curve extended above 11,000 cfs on basis of logarithmic plotting; minimum, 42 cfs Sept. 29, Oct. 23, 1939; minimum daily, 77 cfs Oct. 7, 8, 14, 15, 22, 1930.

Maximum stage observed since at least February 1895, 26.6 ft Feb. 28, 1902, at site 400 ft downstream and at datum about 1 ft higher (discharge not determined).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	342	741	2,950	2,170	3,000	1,360	1,600	1,990	654	1,250	1,650	544	1,510
1922	335	1,620	2,990	3,680	3,850	5,070	2,450	3,150	890	781	389	241	2,130
1923	230	170	2,580	2,970	6,500	4,820	1,710	1,960	2,760	781	829	610	2,140
1924	279	397	1,920	4,610	2,230	2,590	1,810	2,490	2,050	1,240	514	940	1,760
1925	1,180	642	2,330	3,590	2,770	1,090	1,080	1,040	670	364	132	111	1,240
1926	709	1,500	629	2,230	3,760	1,990	1,670	1,250	527	275	378	346	1,250
1927	534	2,390	*7,240	1,900	5,020	2,410	4,290	2,500	2,620	541	710	486	*2,530
1928	180	571	2,050	1,630	1,850	2,470	3,510	2,820	1,630	1,200	1,230	1,980	1,750
1929	786	906	799	2,630	2,520	5,000	1,500	4,620	1,800	1,600	449	347	1,920
1930	1,220	2,900	1,440	1,310	2,300	1,960	1,320	1,040	244	183	256	122	1,180
1931	93.6	200	418	806	1,060	1,070	3,750	1,390	671	1,820	1,690	412	1,110
1932	164	177	1,710	*3,410	4,680	2,980	2,500	2,170	752	464	221	126	*1,600
1933	375	669	2,190	3,330	4,560	2,720	1,360	1,950	629	449	359	186	1,550
1934	119	141	367	815	1,092	6,421	2,573	540	281	240	791	265	1,141
1935	571	697	1,223	3,564	2,732	5,084	4,640	2,582	1,069	922	391	192	1,970
1936	167	929	490	4,448	3,612	4,467	3,880	519	223	820	419	511	1,716
1937	827	445	2,456	7,105	3,559	2,022	1,242	962	731	609	679	546	1,762
1938	1,971	734	1,175	1,663	1,824	3,338	2,006	1,631	1,286	2,509	1,801	519	1,727
1939	368	688	1,347	2,096	6,072	2,403	1,957	717	837	964	291	128	1,458
1940	112	116	157	203	963	1,677	2,095	559	1,658	906	274	831	999
1941	205	207	207	589	466	1,680	1,482	408	219	1,651	415	230	668
1942	126	163	453	784	1,141	2,696	551	1,523	1,211	2,060	3,493	454	1,240
1943	682	1,210	4,072	2,749	2,626	3,653	2,136	915	1,026	686	254	154	1,711
1944	161	265	335	1,136	5,073	5,644	2,629	1,115	448	212	270	396	1,476
1945	891	607	2,305	2,641	3,670	2,498	1,235	2,229	2,067	682	1,131	585	1,702
1946	428	1,086	2,953	4,338	3,725	2,302	1,525	1,515	439	674	362	223	1,624
1947	244	318	862	6,484	1,144	3,267	2,108	678	412	545	1,403	381	1,497
1948	206	396	616	692	4,679	3,740	3,049	726	503	494	483	252	1,305
1949	155	975	2,817	2,854	2,603	2,610	2,111	1,633	416	1,820	1,182	428	1,650
1950	587	1,613	2,606	4,350	5,717	2,396	1,280	3,736	1,986	951	844	592	2,202

* Revised.

Monthly and yearly runoff, in inches, of Clinch River at Speers Ferry, Va.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	0.35	0.73	3.02	2.22	2.77	1.40	1.58	2.04	0.65	1.28	1.70	0.54	18.28
1922	.34	1.81	3.07	3.77	3.56	5.19	2.43	3.23	.88	.80	.40	.24	25.72
1923	.24	.17	2.64	3.04	6.01	4.93	1.70	2.01	2.76	.80	.85	.60	25.75
1924	.29	.39	1.97	4.72	2.14	2.65	1.80	2.55	2.03	1.27	.53	.93	21.27
1925	1.21	.64	2.39	3.68	2.56	1.12	1.07	1.07	.66	.37	.13	.11	15.01
1926	.73	1.48	.64	2.28	3.48	2.04	1.65	1.28	.52	.28	.39	.34	15.11
1927	.55	2.36	*7.41	1.95	4.64	2.47	4.25	2.56	2.60	.55	.73	.48	*30.55
1928	.19	.57	2.10	1.67	1.58	2.52	3.54	2.88	1.62	1.23	1.26	1.96	21.21
1929	.80	.90	.82	2.70	2.35	5.12	1.48	4.73	1.78	1.64	.46	.34	23.10
1930	1.24	2.88	1.48	1.34	2.12	2.01	1.30	1.07	.24	.19	.26	.12	14.25
1931	.10	.20	.43	.83	.98	1.10	3.72	1.42	.66	1.87	1.73	.41	13.45
1932	.17	.18	1.75	*3.49	4.49	3.06	2.48	2.22	.75	.48	.23	.12	*19.42
1933	.38	.66	2.24	3.41	4.22	2.79	1.35	1.89	.62	.46	.57	.18	18.67
1934	.12	.14	.38	.83	1.01	6.57	2.56	.55	.28	.25	.81	.26	13.76
1935	.58	.69	1.26	3.66	2.53	5.21	4.60	2.64	1.06	.94	.40	.19	23.76
1936	.17	.92	.50	4.55	3.66	4.58	3.85	.53	.22	.84	.43	.51	20.76
1937	.85	.44	2.51	7.28	3.29	2.08	1.23	.98	.72	.62	.70	.54	21.24
1938	2.02	.73	1.20	1.90	1.69	3.41	1.89	1.67	1.27	2.57	1.84	.51	20.80
1939	.58	.68	1.38	2.14	5.61	2.46	1.94	.73	.83	.99	.30	.13	17.57
1940	.11	.11	.16	.21	.92	1.72	2.08	.57	1.64	.93	2.80	.82	12.07
1941	.21	.21	.21	.60	.45	1.92	1.47	.42	.22	1.70	.43	.23	8.07
1942	.13	.16	.46	.80	1.05	2.76	.55	1.56	1.20	2.11	3.71	.45	14.94
1943	.90	1.19	4.17	2.61	2.61	3.74	2.12	.94	1.02	.70	.26	.15	20.61
1944	.16	.26	.34	1.16	4.86	5.78	2.80	1.14	.44	.22	.28	.39	17.83
1945	.91	.60	2.36	2.71	3.40	2.56	1.23	2.28	2.05	.70	1.15	.58	20.53
1946	.44	1.08	3.02	4.44	3.45	2.35	1.51	1.56	.44	.69	.39	.22	19.59
1947	.25	.31	.88	6.64	1.06	3.34	2.09	.69	.41	.56	1.44	.38	18.05
1948	.21	.39	.63	.71	4.48	3.83	3.02	.74	.50	.51	.50	.25	15.77
1949	.16	.97	2.88	2.92	2.40	2.68	2.09	1.88	.41	1.87	1.21	.42	19.89
1950	.60	1.60	2.66	4.45	5.29	2.46	1.27	3.83	1.96	.97	.86	.59	26.54

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1921	523	*10,500	Dec. 14, 1920	246	1,510	1.34	18.28	1,606	19.40
1922	543	*19,200	Mar. 11, 1922*	162	2,130	1.89	25.72	1,952	23.55
1923	563	37,200	Feb. 3, 1923	100	2,140	1.90	25.75	2,102	25.35
1924	583	20,400	Jan. 1, 1924	220	1,760	1.56	21.27	1,869	22.86
1925	603	*25,400	Dec. 9, 1924	68	1,240	1.10	15.01	1,131	13.62
1926	623	14,700	Feb. 15, 1926	100	1,250	1.11	15.11	*1,870	*22.58
1927	643, 1276	*35,000	Dec. 22, 1926	178	*2,530	*2.25	*30.55	1,910	23.09
1928	663	*9,560	May 1, 1928*	138	1,750	1.55	21.12	1,720	20.78
1929	683	*25,400	Mar. 24, 1929	220	1,920	1.71	23.10	2,170	26.18
1930	698	*13,600	Nov. 18, 1929	97	1,180	1.05	14.25	778	9.38
1931	713	*11,500	Apr. 5, 1931*	77	1,110	.986	13.45	1,230	14.82
1932	728, 1276	*30,500	Jan. 30, 1932	90	*1,600	*1.42	*19.42	*1,700	*20.60
1933	743	18,000	Dec. 29, 1932	105	1,550	1.38	18.67	1,330	16.03
1934	758	17,000	Mar. 4, 1934	101	1,141	1.01	13.76	1,298	15.65
1935	738	*20,500	Apr. 2, 1935	116	1,970	1.75	23.76	1,892	22.82
1936	803	20,700	Apr. 7, 1936	124	1,716	1.52	20.76	1,899	22.97
1937	823	22,700	Jan. 19, 1937	196	1,762	1.56	21.24	1,774	21.59
1938	853	13,900	Oct. 29, 1937	184	1,727	1.53	20.80	1,602	19.29
1939	873	23,900	Feb. 4, 1939	102	1,458	1.29	17.57	1,288	15.51
1940	893	25,100	Aug. 15, 1940	100	999	.887	12.07	1,019	12.32
1941	923	8,240	Mar. 12, 1941	104	668	.593	8.07	678	8.19
1942	953	18,600	Aug. 9, 1942	102	1,240	1.10	14.94	1,698	20.45
1943	973	20,700	Dec. 30, 1942	108	1,711	1.52	20.61	1,255	15.11
1944	1003	30,700	Feb. 18, 1944	106	1,476	1.31	17.83	1,733	20.94
1945	1033	16,600	Feb. 18, 1945	218	1,702	1.51	20.53	1,757	21.20
1946	1053	31,000	Jan. 8, 1946	138	1,624	1.44	19.59	1,368	16.49
1947	1083	29,400	Jan. 16, 1947	158	1,497	1.33	18.05	1,480	17.84
1948	1113	30,000	Feb. 14, 1948	140	1,305	1.16	15.77	1,535	18.55
1949	1143	15,900	Dec. 4, 1948	130	1,650	1.47	19.89	1,721	20.74
1950	1173	31,100	Feb. 2, 1950	232	2,202	1.96	26.54	-	-

* Revised.

204. Clinch River above Tazewell, Tenn.1/

Location.--Lat 36°25'30", long. 83°23'54", 0.4 mile upstream from Grissom Island, 4.6 miles downstream from Big War Creek, 10 miles east of Tazewell, Claiborne County, and at mile 159.8.

Drainage area.--1,474 sq mi. At site used 1919-27, 1,548 sq mi. and at site used 1928-35, 1,482 sq mi.

Gage.--Water-stage recorder at present site since July 29, 1935. Datum of gage is 1,060.7 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Apr. 1, 1919, to Sept. 30, 1927, chain gage on railroad bridge 23.3 miles downstream at datum 102.7 ft lower. Aug. 8, 1927, to Dec. 31, 1936, water-stage recorder at site 8.0 miles downstream at datum 47.2 ft lower.

Average discharge.--32 years (1918-50), 2,104 cfs.

Extremes.--1918-50: Maximum discharge observed, 39,700 cfs Feb. 4, 1923 (gage height, 20.3 ft, site and datum then in use), from rating curve extended above 24,000 cfs; minimum observed, 108 cfs Sept. 11, 1925.

Maximum stage known, about 24 ft, present site and datum, in 1862, from information by local resident.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1919	*970	*2,300	*2,850	*5,730	*2,400	*3,900	2,070	4,050	1,340	623	465	359	*2,260
1920	1,960	1,510	4,100	4,470	3,750	7,140	4,530	1,290	2,380	1,260	3,470	1,170	3,090
1921	454	774	3,770	3,020	4,710	1,910	2,170	2,210	734	1,500	2,170	677	2,000
1922	436	1,790	3,590	4,820	4,810	7,000	3,460	3,920	1,090	1,030	500	361	2,730
1923	344	304	3,020	4,840	8,400	5,920	2,170	2,770	3,190	995	1,100	780	2,780
1924	348	488	2,370	6,040	3,180	3,300	2,880	3,410	3,270	1,690	647	872	2,380
1925	1,480	793	3,340	4,960	3,760	1,570	1,320	1,280	745	495	169	149	1,670
1926	1,040	2,180	1,010	3,050	4,670	2,780	2,590	1,510	699	401	568	452	1,720
1927	641	2,610	9,110	2,650	7,000	3,470	5,060	3,160	3,640	729	1,000	482	3,270
1928	256	633	2,330	2,190	2,310	*3,320	4,860	3,540	3,110	1,910	1,640	2,690	*2,390
1929	1,180	1,450	1,300	3,740	3,380	7,140	1,980	6,380	2,200	2,050	617	461	2,660
1930	1,170	3,870	2,020	1,770	3,030	2,830	1,720	1,350	391	289	350	194	1,570
1931	150	320	605	1,070	1,410	1,390	4,250	1,890	837	1,970	1,750	519	1,340
1932	235	226	2,290	4,270	6,860	3,880	3,390	2,640	953	836	371	186	2,160
1933	601	1,020	3,120	4,480	6,400	3,630	1,960	2,510	817	630	550	267	2,140
1934	164	193	557	1,215	1,407	8,221	3,252	744	452	400	1,159	382	1,518
1935	776	867	1,492	4,218	3,364	7,091	6,060	3,454	1,567	1,182	554	259	2,571
1936	192	1,164	626	5,681	4,808	5,747	5,145	717	315	996	526	644	2,204
1937	942	544	2,953	9,500	4,684	2,386	1,423	1,244	958	804	789	634	2,233
1938	1,984	952	1,543	2,603	2,458	4,406	3,053	2,273	1,735	3,251	1,976	632	2,244
1939	440	806	1,533	2,393	6,132	3,243	2,584	974	958	1,104	366	175	1,848
1940	146	159	217	285	1,254	2,276	3,061	728	1,692	943	2,883	1,030	1,220
1941	266	267	295	771	572	2,320	1,763	547	318	2,175	533	326	850
1942	178	244	602	1,047	1,614	3,681	776	1,859	1,454	2,280	4,411	627	1,573
1943	984	1,351	4,956	3,477	3,617	4,512	2,803	1,153	1,154	854	438	219	2,122
1944	212	374	445	1,367	6,024	7,419	3,502	1,334	592	271	324	525	1,850
1945	1,027	787	2,585	3,347	4,685	3,172	1,595	2,621	2,603	897	1,271	648	2,090
1946	522	1,201	3,427	5,582	4,926	2,964	1,823	1,854	612	878	683	332	2,055
1947	376	478	1,191	8,203	1,540	3,921	2,565	871	724	900	1,768	522	1,934
1948	279	556	868	976	6,320	4,694	3,724	839	557	604	550	338	1,671
1949	214	1,508	3,726	4,139	3,394	3,402	2,884	2,284	626	2,773	1,347	586	2,240
1950	707	1,934	3,277	5,625	8,442	3,272	1,631	5,266	2,609	1,143	1,004	668	2,934

* Revised.

† Not previously published; estimated on the basis of record for station below Norris Dam (published as "at Clinton" 1903-27).

1/ Published as "near Lone Mountain," 1919-27, as "near Tazewell," 1927-36 (1928-35 used herein), and as "above Tazewell," 1935-50 (1936-50 used herein).

Monthly and yearly runoff, in inches, of Clinch River above Tazewell, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1919	*0.72	*1.66	*2.12	*4.27	*1.61	*2.90	1.49	3.02	0.96	0.46	0.35	0.26	*19.82
1920	1.46	1.09	3.05	3.33	2.61	5.32	3.27	.96	1.71	.94	2.59	.84	27.17
1921	.34	.56	2.81	2.25	3.17	1.43	1.56	1.64	.53	1.12	1.61	.49	17.51
1922	.32	1.29	2.67	3.59	3.24	5.21	2.49	2.92	.79	.76	.37	.26	23.91
1923	.26	.22	2.25	3.60	5.65	4.41	1.56	2.06	2.30	.74	.82	.56	24.43
1924	.26	.35	1.77	4.50	2.20	2.46	2.08	2.54	2.36	1.26	.46	.63	20.89
1925	1.10	.57	2.49	3.69	2.53	1.17	.95	.95	.54	.37	.13	.11	14.60
1926	.78	1.57	.75	2.27	3.14	2.07	1.86	1.12	.50	.30	.42	.33	15.11
1927	.48	1.88	6.78	1.97	4.71	2.58	3.64	2.35	2.62	.54	.75	.35	28.65
1928	.20	.46	1.81	1.70	1.68	*2.56	3.66	2.75	2.34	1.49	1.27	2.02	*21.96
1929	.92	1.09	1.01	2.91	2.38	5.55	1.49	4.96	1.65	1.59	.48	.35	24.38
1930	.91	2.91	1.57	1.38	2.13	2.20	1.30	1.05	.29	.23	.27	.15	14.39
1931	.12	.24	.47	.83	.99	1.08	3.20	1.47	.63	1.53	1.36	.39	12.31
1932	.18	.17	1.78	3.32	5.00	3.02	2.55	2.05	.72	.65	.29	.14	19.87
1933	.47	.77	2.43	3.48	4.50	2.82	1.48	1.95	.61	.49	.43	.20	19.63
1934	.13	.15	.43	.95	.99	6.40	2.45	.58	.34	.31	.90	.29	13.92
1935	.60	.65	1.16	3.28	2.36	5.52	4.56	2.69	1.18	.92	.43	.19	23.54
1936	.15	.88	.49	4.44	3.52	4.50	3.89	.56	.24	.78	.41	.49	20.35
1937	.74	.41	2.31	7.43	3.31	1.87	1.08	.97	.72	.63	.62	.48	20.57
1938	1.55	.72	1.21	2.44	1.74	3.45	2.31	1.78	1.31	2.54	1.55	.48	20.68
1939	.34	.61	1.20	1.88	5.74	2.54	1.94	.75	.73	.86	.29	.13	17.02
1940	.11	.12	.17	.22	.92	1.78	2.32	.57	1.28	.74	2.25	.78	11.26
1941	.21	.20	.23	.60	.40	1.81	1.33	.43	.24	1.70	.42	.25	7.82
1942	.14	.18	.47	.82	1.14	2.88	.59	1.45	1.10	1.78	3.45	.47	14.47
1943	.77	1.02	3.88	2.72	2.56	3.53	2.12	.90	.87	.67	.34	.17	19.55
1944	.17	.28	.35	1.07	4.41	5.80	2.65	1.04	.45	.21	.25	.40	17.08
1945	.80	.60	2.02	2.62	3.31	2.48	1.21	2.05	1.97	.70	.99	.49	19.24
1946	.41	.91	2.68	4.37	3.48	2.32	1.38	1.45	.46	.69	.53	.25	18.93
1947	.29	.36	.93	6.42	1.09	3.07	1.94	.68	.55	.70	1.38	.40	17.81
1948	.22	.42	.68	.76	4.62	3.67	2.82	.66	.42	.47	.43	.26	15.43
1949	.17	1.14	2.91	3.24	2.40	2.66	2.16	1.79	.47	2.17	1.05	.44	20.62
1950	.55	1.46	2.56	4.40	5.96	2.56	1.23	4.12	1.97	.89	.79	.51	27.00

* Revised.

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1919	503	-	-	-	*2,260	*1.46	*19.82	*2,390	*20.93
1920	503	a26,300	Jan. 24, 1920	265	3,090	2.00	27.17	2,870	25.28
1921	523	a12,900	Dec. 15, 1920	332	2,000	1.29	17.51	2,060	18.08
1922	543	20,800	Mar. 11, 1922	225	2,730	1.76	23.91	2,550	22.36
1923	568	b39,700	Feb. 4, 1923	225	2,780	1.80	24.43	2,750	24.08
1924	583	20,200	Jan. 2, 1924	293	2,380	1.54	20.89	2,580	22.67
1925	603	25,200	Dec. 9, 1924	108	1,670	1.08	14.60	1,540	13.54
1926	623	b13,500	Feb. 16, 1926	135	1,720	1.11	15.11	2,410	21.15
1927	643	b58,800	Dec. 23, 1926	257	3,270	2.11	28.65	2,090	22.00
1928	663,1336	16,200	June 30, 1928	220	*2,390	*1.61	*21.96	2,450	*22.51
1929	683	28,000	Mar. 24, 1929	325	2,660	1.79	24.38	2,920	26.75
1930	698	15,900	Nov. 18, 1929	158	1,570	1.06	14.39	1,070	9.83
1931	713	11,800	Apr. 5, 1931	125	1,340	.904	12.31	1,490	13.61
1932	728	37,800	Jan. 31, 1932	128	2,160	1.46	19.87	2,330	21.41
1933	743	23,500	Dec. 29, 1932	160	2,140	1.44	19.63	1,821	16.67
1934	758	22,500	Mar. 24, 1934	138	1,518	1.02	13.92	1,705	15.62
1935	783	22,500	Apr. 2, 1935	158	2,571	1.73	23.54	2,126	22.65
1936	803	25,500	Apr. 7, 1936	140	2,204	1.50	20.35	2,413	22.29
1937	823	26,500	Jan. 19, 1937	250	2,233	1.51	20.57	2,235	20.59
1938	853	15,900	July 23, 1938	236	2,244	1.52	20.68	2,100	19.35
1939	873	29,200	Feb. 4, 1939	130	1,848	1.25	17.02	1,658	15.27
1940	893	24,300	Aug. 15, 1940	128	1,220	.828	11.26	1,245	11.50
1941	923	9,100	Mar. 13, 1941	150	.850	.577	7.82	.867	7.97
1942	953	16,600	Aug. 10, 1942	143	1,573	1.07	14.47	2,102	19.35
1943	973	25,500	Dec. 31, 1942	163	2,122	1.44	19.55	1,593	14.68
1944	1003	35,400	Feb. 19, 1944	157	1,850	1.26	17.08	2,134	19.70
1945	1033	19,200	Feb. 18, 1945	284	2,090	1.42	19.24	2,152	19.82
1946	1053	37,900	Jan. 8, 1946	208	2,055	1.39	18.93	1,793	16.51
1947	1083	33,900	Jan. 16, 1947	248	1,934	1.31	17.81	1,905	17.55
1948	1113	34,900	Feb. 15, 1948	203	1,671	1.13	15.43	1,986	18.33
1949	1143	17,600	Jan. 6, 1949	185	2,240	1.52	20.62	2,279	20.97
1950	1173	37,400	Feb. 2, 1950	304	2,934	1.99	27.00	-	-

* Revised.

* Not previously published.

a Maximum daily discharge.

b Maximum observed discharge.

TENNESSEE RIVER BASIN

205. Powell River at Big Stone Gap, Va.

Location.--Lat 36°52'08", long. 82°46'32", at highway bridge in town of Big Stone Gap, Wise County, 1 mile upstream from South Fork Powell River and 2.5 miles downstream from Pigeon Creek.

Drainage area.--112 sq mi.

Supplemental records available.--Records of chemical analyses and water temperatures for the water year 1950 are published in WSP 1186.

Gage.--Water-stage recorder. Datum of gage is 1,459.07 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Apr. 27, 1948, staff gage at same site and datum.

Average discharge.--6 years (1944-50), 216 cfs.

Extremes.--1944-50: Maximum discharge, 16,500 cfs Jan. 7, 1946 (gage height, 9.8 ft, from floodmark); minimum, 6.0 cfs Aug. 28, 1948; minimum gage height observed, 0.61 ft Sept. 9, 1945.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	*64.9	115	269	364	447	293	270	294	256	46.2	65.6	26.9	*208
1946	17.5	128	260	676	464	330	197	265	50.0	78.0	98.6	23.5	215
1947	25.6	38.1	131	707	138	346	278	90.4	89.1	133	283	35.5	193
1948	19.0	25.6	42.4	95.4	*982	564	374	99.9	25.8	22.4	14.0	14.5	*186
1949	9.65	126	285	438	346	358	308	233	51.9	144	252	43.5	216
1950	136	214	379	745	607	303	152	429	228	66.2	48.4	68.6	280

* Revised.

* Not previously published; estimated on basis of records for station near Jonesville.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	*0.67	1.15	2.77	3.75	4.16	3.02	2.69	3.02	2.56	0.48	0.68	0.27	*25.22
1946	.18	1.27	2.68	6.96	4.31	3.40	1.96	2.73	.50	.80	1.01	.23	26.03
1947	.26	.38	1.35	7.28	1.28	3.56	2.77	.93	.89	1.37	2.92	.35	23.34
1948	.20	.26	.44	.98	*9.46	5.81	3.73	1.03	.26	.23	1.14	.14	*22.68
1949	.10	1.25	2.93	4.51	3.22	3.69	3.07	2.40	.52	1.49	2.59	.43	26.20
1950	1.40	2.13	3.90	7.67	5.64	3.12	1.52	4.42	2.28	.68	.50	.68	33.94

* Revised.

* Not previously published; estimated on basis of records for station near Jonesville.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1945	1033	4,900	Feb. 13, 1945	13	*208	*1.86	*25.22	204	24.76
1946	1053	16,500	Jan. 7, 1946	13	215	1.92	26.03	197	23.89
1947	1083	7,320	Jan. 15, 1947	15	193	1.72	23.34	183	22.25
1948	1113, 1276	14,500	Feb. 13, 1948†	7.2	*186	*1.66	*22.68	*214	*26.06
1949	1143	*4,800	Mar. 18, 1949	7.2	216	1.93	26.20	242	29.35
1950	1173	*4,960	Jan. 30, 1950	21	280	2.50	33.94	-	-

* Revised.

† Corrected.

* Not previously published.

206. South Fork Powell River at Big Stone Gap, Va.

Location.--Lat 36°51'54", long. 82°46'16", at bridge on U. S. Highway 23 in town of Big Stone Gap, Wise County, 1.6 miles upstream from Powell River and 1.9 miles downstream from Butcher Creek.

Drainage area.--40 sq mi, approximately.

Gage.--Staff gage. Altitude of gage is 1,470 ft (from topographic map).

Extremes.--1944-47: Maximum discharge, 3,100 cfs Jan. 7, 1946 (gage height, 8.0 ft, from floodmark); minimum observed, 5.0 cfs Nov. 6, 7, 8, 1944, Sept. 8, 9, 13, 1945; minimum gage height observed, 1.25 ft Sept. 8, 9, 13, 1945.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	*15.6	32.3	95.4	115	191	98.0	72.4	98.5	109	23.2	56.0	11.6	*74.9
1946	8.02	48.3	83.5	187	172	91.5	55.8	55.5	9.46	50.5	40.9	10.9	67.4
1947	14.6	30.1	69.0	279	47.0	95.9	80.8	*30.0	*25.4	54.1	99.8	10.3	*70.2

† Corrected.

* Not previously published; estimated on basis of record for Powell River near Jonesville.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	*0.45	0.90	2.74	3.32	4.98	2.54	2.02	2.84	3.04	0.67	1.61	0.32	*25.43
1946	.23	1.35	2.41	5.40	4.48	2.64	1.56	1.60	.26	1.45	1.18	.30	22.86
1947	.42	.84	1.98	8.05	1.23	2.77	2.25	*1.86	*.71	1.56	2.88	.29	*23.84

† Corrected.

* Not previously published; estimated on basis of records for Powell River near Jonesville.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Per-square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1945	1033	*2,960	Feb. 13, 1945	5.0	*74.9	*1.87	*25.43	74.6	25.33	
1946	1053	3,100	Jan. 7, 1946	5.2	67.4	1.68	22.86	65.2	22.11	
1947	1083	2,540	Jan. 15, 1947	6	*70.2	*1.76	*23.84	-	-	

* Revised.

† Corrected.

* Not previously published.

207. North Fork Powell River at Pennington Gap, Va.

Location.--Lat 36°46'26", long. 83°01'59", at highway bridge 0.8 mile north of town of Pennington Gap, Lee County, 1.3 miles downstream from Straight Creek, and 4.5 miles upstream from Powell River.

Drainage area.--70 sq mi, approximately.

Supplemental records available.--Records of chemical analysis for the water year 1950 are given in WSP 1186.

Gage.--Wire-weight gage. Altitude of gage is 1,365 ft (by barometer). Prior to Dec. 7, 1949, staff gage at same site and datum.

Average discharge.--6 years (1944-50), 136 cfs.

Extremes.--1944-50: Maximum discharge 9,700 cfs (revised) Jan. 7, 1946 (gage height, 12.1 ft from floodmark), from rating curve extended above 2,300 cfs on basis of slope-area determinations at gage heights 8.7 and 12.1 ft; minimum observed, 0.2 cfs Oct. 1, 6, 1948; minimum gage height observed, 0.04 ft Oct. 1, 1948.

Remarks.--Occasional diurnal fluctuation caused by powerplant 2.1 miles above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	*12.5	49.7	136	242	*386	165	166	227	160	19.6	31.2	14.3	*132
1946	12.3	113	180	*434	332	206	82.5	148	18.6	9.18	14.7	6.51	*129
1947	14.7	30.0	95.0	*483	76.5	175	151	53.0	142	108	150	19.6	*126
1948	8.08	32.5	61.5	90.6	*450	327	262	34.7	9.65	17.6	11.9	9.87	*108
1949	2.65	117	192	344	221	211	184	135	25.3	215	79.8	10.5	145
1950	45.9	92.3	322	*547	373	227	74.5	239	116	39.0	29.1	20.4	*177

* Revised.

* Not previously published; partly estimated on basis of records for Powell River near Jonesville.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	*0.21	0.79	2.24	3.99	*5.74	2.72	2.64	3.74	2.56	0.32	0.51	0.23	*25.69
1946	.20	1.80	2.96	*7.15	4.94	3.39	1.32	2.43	.30	.15	.24	.10	*24.98
1947	.24	.48	1.57	*7.96	1.14	2.88	2.41	.87	2.26	1.78	2.47	.31	*24.37
1948	.13	.52	1.01	1.49	*6.94	5.38	4.17	.57	.15	.29	.20	.16	*21.1
1949	.04	1.86	3.16	5.66	3.29	3.47	2.93	2.22	.40	3.54	1.31	.17	28.05
1950	.76	1.47	5.30	*9.00	5.55	3.74	1.18	3.93	1.85	.64	.48	.32	*34.22

* Revised.

* Not previously published; partly estimated on basis of records for Powell River near Jonesville.

Yearly discharge, in cubic feet per second, of North Fork Powell River at Pennington Gap, Va.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1945	1033,1436	*3,760	Feb. 13, 1945	1.2	*132	*1.89	*25.69	*141	*27.41
1946	1053,1436	*9,700	Jan. 7, 1946	2.4	*129	*1.84	*24.98	*115	*22.31
1947	1083,1436	*3,940	Jan. 15, 1947	3.6	*126	*1.80	*24.37	*122	*23.74
1948	1113,1436	*5,400	Feb. 14, 1948	.4	*108	*1.54	*21.01	*126	*24.41
1949	1143	*3,820	Jan. 5, 1949	.3	145	2.07	28.05	158	30.52
1950	1173,1436	*6,100	Dec. 13, 1949*	5.4	*177	*2.53	*34.22	-	-

* Revised.

* Not previously published.

208. Powell River near Pennington Gap, Va.1/

Location.--Lat 36°44'04", long. 82°59'56", at highway bridge 1,000 ft downstream from North Fork and 3 miles southeast of Pennington Gap, Lee County.

Drainage area.--290 sq mi (revised).

Supplemental records available.--Records of chemical analyses for 1930-31 are published in Virginia Division of Water Resources and Power, Bull. 3.

Gage.--Chain gage. Altitude of gage is 1,320 ft (by interpolation from elevations on river 13 miles downstream and 11 miles upstream).

Average discharge.--11 years (1920-31), 553 cfs.

Extremes.--1920-31: Maximum discharge, 28,900 cfs Mar. 23, 1929 (gage height, 27.66 ft, from graph based on gage readings) from rating curve extended above 4,300 cfs by log-arithmetic plotting; minimum observed, 11 cfs several times in October 1930 (gage height, 1.48 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	*97.5	*196	*925	540	*993	428	476	480	199	*501	*564	102	*456
1922	62.6	506	657	994	1,300	1,650	865	789	192	399	63.9	41.4	625
1923	34.5	33.7	721	1,150	2,140	1,610	605	756	500	149	48.0	44.6	641
1924	26.6	67.9	776	1,340	926	789	491	803	407	246	125	271	522
1925	142	199	968	1,070	1,160	473	402	385	296	148	24.3	23.0	437
1926	575	904	326	618	1,230	624	548	474	127	98.3	145	185	504
1927	148	744	2,380	677	1,820	607	1,590	1,200	670	139	166	87.3	848
1928	41.8	126	658	564	481	901	1,320	640	1,030	536	483	521	608
1929	259	854	373	1,400	892	2,090	552	1,980	231	426	83.8	53.6	770
1930	202	1,080	530	297	632	639	287	495	66.2	44.5	33.4	20.1	358
1931	27.3	60.1	103	153	328	391	984	428	154	620	378	106	310
1932	29.9	*42.2	*758	-	-	-	-	-	-	-	-	-	-

* Revised.

* Not previously published; estimated by comparison with record for stations near Jonesville, Va., and near Arthur, Tenn.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	*0.59	*0.76	*3.68	2.14	*3.56	1.71	1.83	1.91	0.77	*1.99	*2.24	0.39	*21.37
1922	.25	1.94	2.62	3.95	4.66	6.56	3.40	3.14	.74	1.59	.25	.16	29.26
1923	.14	.13	2.87	4.58	7.68	6.40	2.33	3.01	1.92	.59	.20	.17	30.02
1924	.10	.26	3.09	5.33	3.44	3.14	1.89	3.19	1.56	.98	.50	1.04	24.52
1925	.56	.77	3.85	4.25	4.16	1.88	1.55	1.53	1.14	.59	.09	.09	20.46
1926	2.28	3.48	1.29	3.25	4.63	2.48	2.11	1.88	.49	.39	.58	.71	23.57
1927	.59	2.87	9.46	2.69	5.82	3.20	6.11	4.77	2.58	.55	.66	.34	39.64
1928	.17	.48	2.62	2.24	1.79	3.58	5.08	2.55	3.96	2.13	1.92	2.01	28.53
1929	1.03	3.28	1.49	5.57	3.21	8.31	2.12	7.87	.89	1.70	.33	.21	36.01
1930	.80	4.15	2.11	1.18	2.27	2.54	1.10	1.97	.25	.18	.13	.08	16.76
1931	.11	.19	.41	.61	1.18	1.56	3.78	1.71	.59	2.47	1.50	.41	14.52
1932	.12	*1.6	*3.01	-	-	-	-	-	-	-	-	-	-

* Revised.

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1921	523,1276	*9,900	Dec. 14, 1920	*28	*456	*1.57	*21.37	*456	*21.35
1922	543	*11,600	Mar. 10, 1922	16	625	2.16	29.26	590	27.59
1923	563	*18,000	Feb. 3, 1923	17	641	2.21	30.02	648	30.33
1924	583	8,310	Feb. 20, 1924	15	522	1.80	24.52	559	26.25
1925	603	*14,700	Feb. 15, 1925	15	437	1.51	20.46	477	22.33
1926	623	13,500	Oct. 25, 1925	17	504	1.74	23.57	630	29.44
1927	643	22,000	Dec. 21, 1926	32	848	2.92	39.64	641	30.00
1928	663	15,200	June 29, 1928	29	608	2.10	28.53	662	31.06
1929	683	28,900	Mar. 23, 1929	26	770	2.66	36.01	797	37.27
1930	698	9,900	May 19, 1930	13	358	1.23	16.76	222	10.41
1931	713	*7,740	Apr. 22, 1931	11	310	1.07	14.52	*365	*17.10

* Revised.

* Not previously published.

1/ Published as "near Pennington" prior to 1925.

209. Powell River near Jonesville, Va.

Location.--Lat 36°39'43", long. 83°05'42", at highway bridge 2 miles southeast of Jonesville, Lee County, and 10 miles upstream from Wallen Creek.

Drainage area.--319 sq mi.

Supplemental records available.--Records of chemical analyses for the water year 1950 are given in WSP 1186.

Gage.--Water-stage recorder. Datum of gage is 1,259.08 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--19 years (1931-50), 509 cfs.

Extremes.--1931-50: Maximum discharge, 30,000 cfs (revised) Jan. 8, 1946 (gage height, 30.8 ft), from rating curve extended above 20,000 cfs by logarithmic plotting; minimum, 18 cfs Oct. 2, 3, 1933.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	#37.6	#47.7	817	1,545	1,573	835	685	651	247	125	60.1	29.5	#552
1933	106	241	220	1,120	1,524	885	539	786	133	73.4	60.4	34.0	522
1934	26.6	30.2	137	563	420	2,025	703	184	96.7	124	220	73.7	366
1935	151	232	348	956	859	1,793	1,315	971	509	278	77.8	33.7	623
1936	33.6	201	177	1,266	1,040	1,523	1,316	123	46.7	126	109	151	507
1937	201	154	820	2,785	1,263	547	360	299	343	289	262	117	617
1938	302	155	395	723	756	981	997	594	573	491	324	112	533
1939	49.3	179	450	775	2,152	909	884	233	242	420	77.3	34.1	523
1940	32.1	30.8	52.9	57.8	433	881	1,138	186	428	315	349	128	334
1941	42.8	53.6	88.7	235	124	601	305	108	71.7	825	96.5	45.6	218
1942	32.8	58.9	159	302	504	1,212	203	442	356	667	1,187	152	442
1943	175	279	1,350	986	834	1,505	888	223	159	138	75.2	37.2	529
1944	59.8	74.0	93.1	277	1,855	1,977	898	318	118	47.7	66.2	135	486
1945	140	209	594	918	1,370	728	573	770	687	164	209	83.9	532
1946	62.1	366	720	1,887	1,246	826	413	546	120	176	198	74.5	551
1947	89.0	124	385	2,099	3 388	829	647	221	354	349	711	108	529
1948	61.4	130	220	302	1,974	1,361	1,045	216	76.4	82.9	64.2	52.3	459
1949	30.2	406	890	1,288	899	912	765	561	137	538	527	113	587
1950	326	524	1,030	2,028	1,854	899	383	1,038	645	231	183	156	770

* Not previously published; estimated on basis of record for station near Arthur, Tenn.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	#0.14	#0.17	2.95	5.58	5.32	3.02	2.40	2.35	0.86	0.45	0.22	0.10	#23.56
1933	.38	.84	2.96	4.05	4.98	3.19	1.89	2.85	.47	.27	.12	.12	22.22
1934	.10	.11	.49	1.31	1.38	7.32	2.46	.59	.34	.45	.80	.26	15.61
1935	.47	.81	1.26	3.46	2.74	6.48	4.60	3.50	1.78	1.00	.28	.12	26.50
1936	.12	.70	.64	4.58	3.52	5.50	4.61	.44	.16	.46	.39	.53	21.65
1937	.73	.54	2.96	10.00	4.12	1.97	1.26	1.08	1.20	1.04	.95	.41	26.26
1938	1.09	.54	1.43	2.62	2.47	3.55	3.49	2.14	2.01	1.78	1.18	.39	22.69
1939	.18	.63	1.63	2.80	7.03	3.29	3.09	.84	.85	1.52	.28	.12	22.26
1940	.12	.11	.19	.21	1.47	3.18	3.98	.67	1.50	1.14	1.26	.45	14.28
1941	.15	.19	.32	.85	.41	2.17	1.07	.39	.25	2.99	.35	.16	9.30
1942	.12	.20	.57	1.09	1.64	4.38	.71	1.60	1.25	2.41	4.29	.53	18.79
1943	.63	.98	4.88	3.20	2.72	4.72	3.10	.81	.56	.50	.27	.13	22.50
1944	.14	.26	.34	1.00	6.28	7.15	3.15	1.15	.41	.17	.24	.47	20.76
1945	.51	.73	2.14	3.32	4.47	2.63	2.01	2.78	2.40	.59	.76	.29	22.63
1946	.22	1.28	2.61	6.82	4.07	2.99	1.44	.97	.42	.84	.72	.26	23.44
1947	.32	.43	1.40	7.59	1.27	3.00	2.26	1.80	1.24	1.26	2.57	.38	22.52
1948	.22	.46	.80	1.09	6.68	4.92	3.66	.78	.27	.30	.23	.18	19.59
1949	.11	1.42	3.22	4.58	2.94	3.30	2.68	2.03	.48	1.95	1.90	.40	25.01
1950	1.18	1.83	3.72	7.33	6.05	3.25	1.34	3.75	2.25	.83	.66	.55	32.74

* Not previously published; estimated on basis of record for station near Arthur, Tenn.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff inches	Mean	Runoff in inches
		Discharge	Date						
1932	1033	22,900	Jan. 30, 1932	#22	#552	#1.73	#23.56	574	24.48
1933	1033	9,230	Dec. 28, 1932	21	522	1.64	22.22	440	18.74
1934	1033	10,500	Mar. 3, 1934	18	366	1.15	15.61	410	17.45
1935	1033	11,000	Mar. 12, 1935	24	623	1.95	26.50	598	25.42
1936	1033	16,200	Apr. 6, 1936	25	507	1.59	21.65	572	24.42
1937	1033	17,000	Feb. 9, 1937	39	617	1.93	26.26	590	25.09
1938	1033	5,680	Mar. 3, 1938	44	537	1.67	22.69	518	22.07
1939	1033	20,200	Feb. 3, 1939	26	523	1.64	22.26	475	20.24
1940	1033	7,470	Apr. 20, 1940	25	334	1.05	14.28	340	14.52
1941	1033	4,010	July 13, 1941	27	218	.683	9.30	224	9.53
1942	1033	7,540	Aug. 9, 1942	24	442	1.39	18.79	573	24.39
1943	1033	11,300	Apr. 19, 1943	25	529	1.66	22.50	394	18.75
1944	1033	22,900	Feb. 18, 1944	25	486	1.52	20.76	548	23.40
1945	1033	9,310	Feb. 13, 1945	44	532	1.67	22.63	549	23.36
1946	1053	*30,000	Jan. 8, 1946	45	551	1.73	23.44	505	21.48
1947	1103	13,800	Jan. 16, 1947	53	529	1.66	22.52	513	21.85
1948	1113	*20,600	Feb. 14, 1948	26	459	1.44	19.59	535	22.86
1949	1143	9,800	Jan. 6, 1949	26	587	1.84	25.01	634	26.99
1950	1173	16,500	Jan. 31, 1950	59	770	2.41	32.74	-	-

* Revised.

* Not previously published.

210. Powell River near Arthur, Tenn.

Location.--Lat 36°32'30" long. 83°37'49", 30 ft downstream from bridge on U. S. Highway 25E, 2.3 miles east of Arthur, Claiborne County, and 2.4 miles downstream from Indian Creek.

Drainage area.--685 sq mi.

Supplemental records available.--Gage-height record collected at same site December 1892 to August 1893, and September 1904 to March 1925, are contained in reports of U. S. Weather Bureau (published as "near Tazewell").

Gage.--Water-stage recorder. Datum of gage is 1,045.84 ft above mean sea level (Tennessee River Survey datum). Oct. 1, 1919, to Aug. 6, 1920, U. S. Weather Bureau staff gage 70 ft downstream at same datum. Aug. 7, 1920, to July 23, 1927, chain gage on Highway bridge at same datum.

Average discharge.--31 years (1919-50), 1,151 cfs.

Extremes.--1919-50: Maximum discharge, 33,000 cfs Jan. 9, 1946 (gage height, 27.15 ft, from floodmark), from rating curve extended above 23,000 cfs on basis of slope-area determination of peak flow; minimum, 47 cfs Jan. 6, 1940, result of freezeup; minimum daily, 68 cfs Oct. 3, 1948; minimum gage height, -0.12 ft Oct. 28, 29, 1948. Maximum stage known, 27.2 ft Jan. 29, 1918 (discharge, 33,000 cfs). Flood of March 1867 reached a stage of about 22.5 ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1920	1,220	1,650	2,640	*2,390	1,910	3,120	2,640	803	1,090	706	1,770	812	*1,730
1921	257	536	2,060	1,290	2,220	959	1,200	845	370	974	1,360	308	1,030
1922	186	929	1,570	2,340	2,660	3,860	2,080	1,750	544	610	252	165	1,410
1923	118	129	1,560	2,520	*4,200	3,360	1,480	1,690	953	431	312	203	*1,400
1924	110	159	1,270	2,910	1,910	1,550	1,210	1,790	1,640	666	316	450	1,170
1925	354	333	1,670	2,330	2,130	1,020	790	702	448	330	117	106	856
1926	1,100	1,880	799	1,650	2,600	1,340	1,150	849	360	254	549	382	1,070
1927	513	1,450	5,560	1,530	3,700	2,170	2,460	1,510	1,790	427	418	231	1,780
1928	123	234	1,330	1,370	1,180	2,010	3,350	1,520	2,490	1,750	830	1,080	1,440
1929	591	1,940	934	3,080	1,980	4,710	1,250	4,220	771	884	331	268	1,750
1930	305	2,420	1,160	858	1,600	1,590	778	967	267	177	157	128	862
1931	101	184	337	496	870	887	2,140	1,010	388	963	542	206	675
1932	112	125	1,580	2,700	3,940	1,680	1,670	1,280	745	507	197	107	1,210
1933	288	582	1,820	2,460	3,510	2,280	1,160	1,470	541	233	273	115	1,200
1934	93	106	393	930	842	4,052	1,227	468	303	305	554	181	615
1935	295	434	573	1,854	1,670	4,105	2,941	1,966	1,076	710	300	129	1,337
1936	111	598	494	2,737	2,104	3,098	2,935	354	168	312	234	285	1,115
1937	309	270	1,463	5,812	2,871	1,121	750	754	898	551	468	219	1,286
1938	465	311	750	1,601	1,437	2,118	2,159	1,384	1,225	1,388	647	259	1,145
1939	145	371	800	1,439	4,389	1,995	1,708	579	409	606	178	102	1,037
1940	95.7	96.4	139	145	874	1,765	2,330	515	651	548	461	285	657
1941	110	130	181	439	268	1,075	676	268	252	1,917	323	149	486
1942	107	155	344	649	1,242	2,403	477	688	655	1,229	2,030	381	865
1943	366	539	2,681	2,114	1,943	2,686	1,783	596	350	346	336	133	1,155
1944	135	232	247	616	3,388	4,482	1,848	646	295	137	147	396	1,039
1945	367	424	1,105	2,014	2,905	1,688	1,186	1,501	1,279	425	394	180	1,112
1946	146	637	1,449	3,570	2,790	1,717	884	1,084	343	425	690	227	1,157
1947	251	351	849	4,674	1,048	1,701	1,300	456	819	1,068	1,311	269	1,181
1948	174	300	627	693	4,121	2,727	1,903	449	215	218	163	114	953
1949	89.5	871	1,835	2,765	1,900	1,724	1,626	1,055	330	1,186	726	234	1,194
1950	455	980	1,852	3,613	4,616	1,888	804	2,228	1,294	629	423	331	1,576

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1920	2.05	2.69	4.44	*4.03	3.01	5.25	4.30	1.35	1.77	1.19	2.97	1.33	*34.38
1921	.43	.87	3.47	2.17	3.38	1.61	1.95	1.42	.60	1.64	2.32	.50	20.36
1922	.31	1.52	2.64	3.94	4.04	6.50	3.39	2.94	.89	1.03	.42	.27	27.89
1923	.20	.21	2.63	4.24	*6.39	5.66	2.41	2.85	1.55	.73	.52	.33	*27.72
1924	.19	.26	2.13	4.90	3.01	2.61	1.98	3.01	2.67	1.12	.53	.73	23.14
1925	.60	.54	2.81	3.92	3.24	1.72	1.28	1.18	.73	.56	.20	.17	16.95
1926	1.86	3.06	1.35	2.78	3.96	2.26	1.87	1.43	.59	.43	.92	.62	21.13
1927	.53	2.36	9.36	2.57	5.62	3.66	4.00	2.54	2.91	.72	.70	.38	35.35
1928	.21	1.38	2.24	2.31	1.86	3.38	5.48	2.56	4.06	2.94	1.40	1.76	28.56
1929	.99	3.16	1.57	5.19	3.01	7.93	2.03	7.10	1.26	1.49	.56	.44	34.73
1930	.51	3.94	1.95	1.44	2.44	2.68	1.27	1.63	.44	.30	.26	.21	17.07
1931	.17	.30	.57	.83	1.32	1.49	3.48	1.70	.63	1.63	.91	.34	13.37
1932	.19	.20	2.66	4.54	6.20	2.82	2.72	2.16	1.22	.85	.33	.17	24.06
1933	.48	.95	3.07	4.14	5.33	3.84	1.89	2.48	.56	.39	.46	.19	23.78
1934	.16	.17	.66	1.57	1.28	6.82	2.49	.79	.49	.51	.93	.29	16.16
1935	.50	.71	.96	3.12	2.54	6.91	4.79	3.31	1.75	1.20	.51	.21	26.51
1936	.19	.97	.83	4.61	3.31	5.21	4.78	.60	.27	.52	.39	.46	22.14
1937	.52	.44	2.47	9.78	4.36	1.89	1.22	1.27	1.46	.93	.79	.36	25.49
1938	.78	.51	1.26	2.69	2.18	3.56	3.52	2.33	1.99	2.34	1.09	.42	22.67
1939	.24	.60	1.35	2.42	6.67	3.36	2.78	.97	.67	1.02	.30	.17	20.55
1940	.16	.16	.23	.24	1.38	2.97	3.79	.87	1.06	.92	.61	.46	13.05

* Revised.

Monthly and yearly runoff, in inches, of Powell River near Arthur, Tenn.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1941	0.19	0.21	0.30	0.74	0.41	1.81	1.10	0.45	0.41	3.23	0.54	0.24	9.63
1942	.18	.25	.58	1.09	1.89	4.04	1.16	.78	1.07	2.07	3.42	.62	17.15
1943	.62	.88	4.51	3.56	2.95	4.52	2.90	1.00	.57	.58	.57	.22	22.88
1944	.23	.38	.42	1.04	5.33	7.54	3.01	1.09	.48	.23	.25	.64	20.64
1945	.62	.69	1.86	3.39	4.42	2.84	1.93	2.53	2.08	.72	.66	.29	22.03
1946	.25	1.04	2.44	6.01	4.23	2.89	1.44	1.82	.56	.71	1.16	.37	22.92
1947	.42	.57	1.43	7.87	1.59	2.86	2.12	.77	1.33	1.80	2.21	.44	23.41
1948	.29	.49	.89	1.17	6.49	4.59	3.10	.76	.35	.37	.27	.19	18.86
1949	.15	1.42	3.09	4.65	2.89	2.90	2.65	1.78	.54	2.00	1.22	.38	23.67
1950	.77	1.60	3.12	6.08	7.02	3.18	1.31	3.75	2.11	1.06	.71	.54	31.25

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1920	503,1336	*17,200	Jan. 24, 1930	110	*1,730	*2.53	*34.38	*1,510	*29.97
1921	523	*10,100	Dec. 15, 1920	173	1,030	1.50	20.36	1,010	20.06
1922	543	13,800	Mar. 11, 1922	117	1,410	2.06	27.89	1,330	26.46
1923	563,1336	*20,300	Feb. 4, 1923	101	*1,400	*2.04	*27.72	*1,370	*27.26
1924	583	10,800	Jan. 2, 1924	83	1,170	1.71	23.14	1,230	24.51
1925	603	14,900	Dec. 9, 1924	82	856	1.25	16.95	973	19.27
1926	623	11,900	Oct. 26, 1925	99	1,070	1.56	21.13	1,370	27.11
1927	643	22,700	Dec. 25, 1926	122	1,780	2.60	35.35	1,310	25.93
1928	663	16,600	June 30, 1928	98	1,440	2.10	28.56	1,580	31.45
1929	683	27,800	Mar. 24, 1929	162	1,750	2.55	34.73	1,790	35.41
1930	698	11,900	Nov. 19, 1929	92	862	1.26	17.07	590	11.71
1931	713	8,240	Apr. 23, 1931	87	675	.985	13.37	776	15.38
1932	728	23,200	Jan. 31, 1932	89	1,210	1.77	24.06	1,280	25.51
1933	743	13,600	Dec. 29, 1932	84	1,200	1.75	23.78	1,020	20.27
1934	758	14,700	Mar. 4, 1934	76	815	1.19	16.16	875	17.34
1935	763	14,400	Mar. 13, 1935	100	1,337	1.95	26.51	1,328	26.33
1936	803	18,500	Apr. 7, 1936	98	1,115	1.63	22.14	1,187	23.58
1937	823	19,300	Feb. 10, 1937	119	1,286	1.88	25.49	1,242	24.61
1938	853	8,110	Mar. 4, 1938	119	1,145	1.67	22.67	1,126	22.31
1939	873	20,300	Feb. 4, 1939	82	1,037	1.51	20.55	954	18.91
1940	893	9,760	Apr. 21, 1940	79	657	.959	13.05	685	13.20
1941	923	8,550	July 5, 1941	93	486	.709	9.63	502	9.94
1942	953	8,880	Aug. 10, 1942	86	865	1.26	17.15	1,117	22.15
1943	973	14,800	Feb. 31, 1942	96	1,155	1.69	22.88	903	17.90
1944	1003	20,900	Feb. 19, 1944	88	1,039	1.52	20.64	1,147	22.78
1945	1033	11,700	Feb. 14, 1945	127	1,112	1.62	22.03	1,140	22.59
1946	1053	33,000	Jan. 9, 1946	114	1,157	1.69	22.92	1,091	21.61
1947	1083	16,500	Jan. 17, 1947	151	1,181	1.72	23.41	1,143	22.66
1948	1113	22,900	Feb. 15, 1948	70	953	1.39	18.96	1,104	21.95
1949	1143	13,100	Jan. 7, 1949	68	1,194	1.74	23.67	1,235	24.50
1950	1173	23,300	Feb. 1, 1950	142	1,576	2.30	31.25	-	-

* Revised.
a Maximum daily discharge.

211. Norris Lake at Norris Dam, Tenn.

Location.--Lat 36°13'29", long. 84°05'29", at Norris Dam on Clinch River, 2½ miles (revised) northwest of Norris, Anderson County, and at mile 79.8.

Drainage area.--2,912 sq mi.

Gage.--Water-stage recorder. Datum of gage is mean sea level, adjustment of 1912, and 0.11 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1935-50: Maximum contents, 1,236,700 cfs-days Feb. 11, 1937 (elevation, 1,031.10 ft); minimum (after first filling), 164,900 cfs-days Jan. 14, 1940 (elevation, 934.78 ft).

Remarks.--Reservoir is formed by concrete gravity dam with three drum gates 100 ft wide by 14 ft. high. Some storage began in June 1935. Dam was completely closed and placed in operation Mar. 4, 1936; water in reservoir first reached minimum pool elevation Mar. 24, 1936. Total capacity at elevation 1,034.0 ft (top of gates) is 1,294,800 cfs-days, of which 1,150,000 cfs-days is controlled storage above elevation 930.00 ft (minimum pool). Reservoir is used for navigation, flood control, and power.

Cooperation.--Records furnished by Tennessee Valley Authority.

Contents, in thousands of cfs-days, on last day of month, of Norris Lake at Norris Dam, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1935	-	-	-	-	-	-	-	-	5.8	14.6	14.3	13.3
1936	11.3	13.6	11.5	14.7	16.2	359.9	674.9	714.0	683.2	698.6	635.0	527.1
1937	536.2	488.0	595.6	1,226.6	969.0	876.5	954.6	1,031.9	1,021.2	978.6	952.6	870.3
1938	771.0	508.0	317.5	428.5	515.8	769.2	982.9	1,055.0	1,035.1	1,051.3	957.7	854.0
1939	683.5	550.3	420.5	502.4	791.2	734.6	837.2	841.6	883.0	908.5	860.8	674.1
1940	484.9	302.8	187.8	175.7	239.1	409.4	618.6	670.1	743.5	793.3	891.3	827.3
1941	600.9	410.2	354.6	377.7	395.0	510.2	606.9	595.2	521.3	659.9	652.4	506.4
1942	311.3	183.5	211.8	277.3	384.7	636.0	682.2	768.2	854.3	951.9	1,047.4	902.4
1943	728.3	566.0	717.9	691.9	693.6	944.8	1,062.6	1,011.8	945.0	899.1	792.2	617.9
1944	447.0	301.0	251.6	308.8	642.1	1,089.6	1,061.7	1,046.8	1,015.5	894.5	755.4	641.1
1945	588.6	454.6	414.1	516.6	693.9	685.6	750.4	887.8	981.3	934.3	821.3	665.1
1946	537.4	521.8	469.1	520.9	581.4	661.1	754.3	871.6	901.2	911.3	819.0	712.6
1947	566.6	407.7	298.1	549.8	488.1	594.0	654.2	654.8	603.5	556.5	537.5	452.6
1948	413.4	354.6	292.9	212.6	544.4	718.1	798.5	722.7	626.7	574.5	521.6	442.4
1949	322.8	375.4	497.3	544.4	576.3	688.2	758.0	856.4	863.9	988.3	938.4	790.6
1950	653.4	607.3	472.2	651.5	597.8	706.1	649.0	918.2	989.1	1,002.0	944.0	889.1

212. Clinch River below Norris Dam, Tenn.1/

Location.--Lat 36°12'56", long. 84°04'56" ; 0.5 mile upstream from Clear Creek, 1.0 mile (revised) downstream from Norris Dam, 1.5 miles north of Norris, Anderson County, and at mile 78.8.

Drainage area.--2,913 sq mi. At site used 1904-27, 3,056 sq mi (revised), and at site used 1928-36, 2,921 sq mi.

Supplemental records available.--Gage-height records collected in this vicinity from 1884 to 1943 are contained in reports of the U. S. Weather Bureau.

Gage.--Water-stage recorder at present site and datum since Jan. 28, 1937. Datum of gage is 819.11 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Oct. 1, 1903, to June 30, 1920, staff gage at railroad bridge 19.6 miles (revised) downstream at datum 42.49 ft (corrected) lower. July 1, 1920, to Sept. 30, 1927, chain gage at highway bridge 19.8 miles (revised) downstream (1,000 ft downstream from previous site) at datum 42.59 ft (corrected) lower. May 27 to Sept. 8, 1927, staff gage and Sept. 9, 1927, to Sept. 30, 1935, water-stage recorder at site 2.9 miles (revised) downstream at datum 10.50 ft (corrected) lower. Oct. 1, 1935, to Sept. 30, 1937, water-stage recorder at site 2.9 miles (revised) downstream at datum 13.50 ft (corrected) lower. Apr. 16, 1936 (revised), to Jan. 27, 1937 (revised), staff gage at present site and datum.

Average discharge.--47 years (1903-50), 4,343 cfs (unadjusted).

Extremes.--1903-50: Maximum discharge (revised), 87,000 cfs Mar. 5, 1917 (gage height, 38.5 ft from graph based on gage readings, site and datum then in use), from rating curve extended above 62,000 cfs; minimum, 1.3 cfs May 17, 18, 20 (corrected), 24-26, May 29 to June 6, 1936 (gage height, 0.62 ft).
Flood of Mar. 31, 1886, reached a stage of 45 ft (discharge, 113,000 cfs), at Clinton.

Remarks.--Slight regulation by Norris Lake (see elsewhere in this report) June 1935 to Mar. 4, 1936; flow completely regulated since the latter date.

1/ Published as "at Clinton," 1904-27, as "near Coal Creek" 1927-37 (1928-36 used herein), and as "below Norris Dam" 1936-50.

Monthly and yearly mean discharge, in cubic feet per second, of Clinch River below Norris Dam, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1904	390	858	1,680	2,600	3,000	7,780	2,720	2,990	2,070	2,510	1,170	624	2,370
1905	331	528	3,410	4,840	8,910	6,250	3,430	5,480	1,500	1,870	2,190	1,240	3,300
1906	1,190	720	4,100	6,540	3,290	4,940	5,410	3,130	1,250	2,610	5,000	3,120	3,450
1907	3,410	7,430	4,990	5,910	5,620	10,500	6,820	4,790	9,490	2,070	2,320	2,630	5,500
1908	1,070	7,870	4,250	8,490	9,410	9,510	7,460	3,860	2,290	1,560	1,470	1,280	4,850
1909	613	1,190	5,470	7,250	10,700	11,500	5,270	7,650	6,840	6,660	4,200	836	5,660
1910	625	470	1,010	5,290	5,190	4,160	3,250	5,760	3,540	4,370	2,050	2,410	3,170
1911	496	282	2,240	7,790	10,700	8,210	13,000	4,370	949	1,040	738	751	4,150
1912	2,560	2,780	4,980	5,850	7,880	14,700	15,300	7,730	2,230	2,740	2,670	1,650	5,920
1913	950	1,000	3,590	7,000	6,420	14,800	3,990	4,480	3,410	1,350	1,170	682	4,920
1914	897	1,340	2,390	2,700	5,760	5,880	12,400	2,940	1,060	911	2,080	1,190	3,270
1915	1,620	725	6,960	10,800	7,420	3,560	2,530	2,430	3,170	5,370	2,790	2,320	4,160
1916	5,140	5,100	11,700	13,400	9,280	6,510	5,150	2,000	3,340	4,880	5,960	1,240	6,070
1917	1,710	1,030	4,820	14,900	11,500	27,900	5,750	2,160	2,050	3,850	3,060	1,890	6,690
1918	1,530	1,160	1,210	12,800	8,870	5,250	7,220	4,650	2,100	1,960	1,450	1,980	4,150
1919	1,930	4,760	5,890	11,800	4,550	8,180	3,740	6,980	2,680	1,190	990	493	4,450
1920	3,350	3,160	7,930	8,360	8,970	13,200	9,930	5,180	5,000	2,250	6,150	2,740	6,180
1921	1,030	1,590	8,040	5,520	9,930	4,130	5,580	3,730	1,580	2,940	4,330	1,310	4,110
1922	872	2,900	7,250	9,510	9,840	16,300	8,000	8,210	2,890	2,590	1,080	722	5,830
1923	621	600	5,680	9,420	17,100	13,700	5,190	6,730	5,250	1,940	1,900	1,290	5,720
1924	606	861	4,400	2,500	7,460	6,560	6,170	7,440	6,830	3,190	1,360	2,050	4,940
1925	2,190	1,360	6,760	10,500	8,500	3,530	2,890	2,760	1,490	1,130	500	448	3,490
1926	2,830	5,590	2,770	7,930	9,290	5,480	5,020	3,220	1,600	1,070	1,760	2,530	3,780
1927	1,170	4,950	20,500	5,980	14,700	8,390	8,950	4,540	7,500	1,600	2,030	1,030	6,720
1928	594	1,140	4,450	4,770	4,540	6,610	11,000	6,570	8,020	6,300	2,770	4,460	5,090
1929	2,400	5,590	3,200	9,800	7,260	18,600	4,490	14,700	4,570	3,890	1,340	1,110	6,430
1930	1,740	8,670	4,140	3,370	6,370	6,440	3,240	5,060	1,030	765	728	606	3,340
1931	431	903	1,570	2,390	3,150	3,040	8,450	3,910	1,630	3,180	2,800	1,010	2,700
1932	486	497	5,300	7,460	16,200	6,950	6,750	4,970	2,310	2,630	900	496	4,540
1933	1,280	2,390	6,870	9,570	13,900	8,360	4,630	5,450	1,700	1,210	1,300	645	4,730
1934	384	437	1,470	7,700	2,674	16,460	6,103	1,723	1,108	1,191	2,220	842	3,208
1935	1,341	1,567	2,235	7,172	6,150	15,450	11,940	7,074	3,294	2,138	1,314	615	5,023
1936	524	2,467	1,872	10,890	8,617	3,361	33.0	7.51	1,459	1,113	2,673	4,444	2,866
1937	952	2,449	1,834	155	19,980	7,357	367	501	3,058	2,801	2,634	3,699	3,698
1938	6,106	19,770	9,398	2,042	1,844	136	74,02	607	4,455	4,451	6,144	5,166	4,429
1939	6,269	5,326	7,029	2,322	6,886	9,133	2,026	1,843	244	1,039	6,674	4,233	4,233
1940	6,501	6,727	4,451	1,047	617	61.2	70.6	66.6	219	206	198	3,353	1,960
1941	7,964	7,105	3,231	71.3	393	228	112	1,316	3,199	702	1,588	5,323	2,581
1942	6,924	5,019	331	69.5	60.4	67.1	41.6	96.5	109	128	4,371	6,012	1,942
1943	7,123	7,562	5,190	8,102	7,687	1,563	2,163	3,821	3,920	3,274	6,667	3,390	5,102
1944	6,125	5,840	2,639	693	720	1,880	7,012	2,778	2,057	4,235	5,671	5,051	3,728
1945	3,569	6,983	5,217	3,746	4,316	6,891	1,689	846	1,602	3,142	5,585	6,171	4,120
1946	5,019	2,735	7,714	10,760	8,451	3,621	197	97.1	329	1,108	4,440	4,217	4,045
1947	5,693	6,605	6,303	8,561	5,677	3,678	2,905	1,891	3,611	4,242	4,032	3,812	4,749
1948	1,934	3,011	3,720	4,833	2,702	4,063	3,934	4,139	4,250	2,877	2,661	3,224	3,448
1949	4,240	2,070	3,155	8,440	5,880	3,244	3,463	784	1,052	588	4,003	5,275	3,540
1950	5,952	4,639	10,650	7,313	19,970	3,144	4,895	2,117	2,485	2,160	3,820	3,177	5,767

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1904	0.15	0.31	0.64	0.98	1.06	2.93	0.99	1.13	0.76	0.95	0.44	0.23	10.57
1905	.12	.19	1.29	1.83	3.04	2.36	1.25	2.07	.55	.70	.83	.45	14.68
1906	.45	.26	1.55	2.47	1.12	1.86	1.97	1.18	.46	.99	1.88	1.14	15.33
1907	1.28	2.71	1.92	2.23	1.92	3.59	2.49	1.81	3.47	.78	.87	1.35	24.43
1908	.40	2.87	1.60	3.20	3.32	3.59	2.72	1.46	.84	.59	.56	.47	21.62
1909	.23	.43	2.06	2.74	3.64	4.33	1.92	2.89	2.50	2.51	1.58	.30	25.13
1910	.24	.17	.38	2.00	1.77	1.57	1.19	2.17	1.29	1.65	.77	.88	14.08
1911	.19	.10	.84	2.86	3.64	3.10	4.75	1.65	.35	.39	.28	.27	18.42
1912	.97	1.02	1.88	2.21	2.78	5.55	5.59	2.92	.81	1.03	1.01	.60	26.37
1913	.36	.37	1.35	6.43	2.19	5.58	1.46	1.69	1.25	.51	.44	.25	21.88
1914	.34	.49	.90	1.02	1.96	2.22	4.52	1.11	.39	.34	.78	.43	14.50
1915	.61	.26	2.62	4.09	2.53	1.46	.92	.92	1.16	2.03	1.05	.85	18.50
1916	1.94	1.86	4.41	5.05	2.92	2.46	1.88	.75	1.22	1.84	2.25	.45	27.03
1917	.52	.37	1.82	5.61	3.91	*10.53	2.10	.81	.75	1.45	1.15	.69	*29.71
1918	.58	.42	.45	*4.81	3.02	1.98	2.63	1.75	.77	.74	.55	.72	*18.42
1919	.73	1.74	2.22	4.44	1.55	3.09	1.37	2.63	.98	.45	.37	.18	19.75
1920	1.26	1.15	2.99	3.15	3.17	4.97	3.62	1.20	1.83	.85	2.32	1.00	27.51
1921	.39	.58	3.03	2.08	3.38	1.56	2.04	1.41	.58	1.11	1.63	.48	18.27
1922	.33	1.06	2.73	3.59	3.35	6.13	2.92	3.10	1.05	.98	.41	.26	22.91
1923	.23	.22	2.14	3.55	5.82	5.19	1.89	2.54	1.91	.73	.72	.47	25.41
1924	.23	.31	1.66	4.70	2.63	2.47	2.25	2.81	2.49	1.20	.51	.75	22.01
1925	.82	.50	2.55	3.97	2.90	1.33	1.05	1.04	.54	.43	.19	.16	15.48
1926	1.07	2.04	1.04	2.24	3.16	2.07	1.83	1.21	.58	.40	.66	.46	16.76
1927	.44	1.81	7.73	2.26	5.01	3.17	3.27	1.71	2.74	.60	.76	.38	29.88
1928	.23	.76	1.76	1.88	1.67	2.61	4.20	2.60	*3.06	2.49	1.09	1.70	*23.72
1929	.95	2.14	1.26	3.87	2.59	7.34	1.72	5.79	1.75	1.54	.53	.42	29.90
1930	.69	3.31	1.63	1.41	2.27	2.54	1.24	1.21	.39	.30	.29	.23	15.51
1931	.17	.35	.62	.94	1.12	1.20	3.23	1.54	.62	1.25	1.11	.39	12.54
1932	.19	.19	2.09	2.94	5.97	2.74	2.58	1.96	.88	1.04	.36	.19	21.13
1933	.50	.91	2.71	3.78	4.96	3.30	1.77	2.15	.65	.48	.51	.25	21.97
1934	.15	.17	.58	1.46	.95	6.50	2.33	.68	.42	.47	.88	.32	14.91
1935	.53	.60	.88	2.83	2.19	6.10	4.56	2.79	al.33	a.96	a.51	a.22	a23.50

* Revised.

a Adjusted for change in contents in Norris Lake; previously published figures in WSP 783 are unadjusted.

Yearly discharge, in cubic feet per second, of Clinch River below Norris Dam, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30										Calendar year		
		Observed					Adjusted 1/			Observed			Adjusted 1/	
		Momentary		Maximum	Minimum	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean	Mean
		Discharge	Date											
1904	(a)	b20,000	Mar. 25, 1904	265		2,370	-	0.776	10.57	2,490	-	11.07		
1905	(a)	b27,000	Feb. 11, 1905	265		3,300	-	1.08	14.68	3,450	-	15.34		
1906	(a)	b13,600	Jan. 25, 1906	380		3,450	-	1.13	15.33	4,270	-	18.95		
1907	(a)	b56,800	Nov. 21, 1906	740		5,500	-	1.80	24.43	5,270	-	23.42		
1908	(a)	b33,300	Apr. 4, 1908	340		4,850	-	1.59	21.62	4,370	-	19.47		
1909	(a)	*34,000	May 2, 1909	200		5,660	-	1.85	25.13	5,220	-	23.20		
1910	(a)	b18,500	Feb. 20, 1910	200		3,170	-	1.04	14.08	3,250	-	14.42		
1911	(a)	*44,300	Feb. 10, 1911	200		4,150	-	1.36	18.42	4,760	-	21.16		
1912	(a)	*62,200	Apr. 4, 1912	340		5,920	-	1.94	26.37	5,520	-	24.58		
1913	(a)	*54,800	Mar. 29, 1913	470		4,920	-	1.61	21.88	4,840	-	21.53		
1914	(a)	b37,000	Apr. 1, 1914	470		3,270	-	1.07	14.50	3,670	-	16.26		
1915	(a)	b25,300	Feb. 4, 1915	625		4,160	-	1.36	18.50	5,220	-	23.22		
1916	(a)	b53,600	Dec. 19, 1915	800		6,070	-	1.99	27.03	4,840	-	21.53		
1917	(a), 1336	*87,000	Mar. 5, 1917	740		*6,690	-	*2.19	*29.71	*6,410	-	*28.45		
1918	(a), 1336	*85,100	Jan. 30, 1918	680		*4,150	-	*1.36	*18.42	*4,880	-	*21.66		
1919	503	b56,800	Jan. 4, 1919	380		4,450	-	1.46	19.75	4,610	-	20.46		
1920	503	b51,800	Jan. 25, 1920	340		6,180	-	2.02	27.51	5,860	-	26.11		
1921	523	b26,800	Apr. 17, 1921	740		4,110	-	1.34	18.27	4,140	-	18.39		
1922	543	b40,000	Mar. 12, 1922	470		5,830	-	1.91	25.91	5,490	-	24.38		
1923	563	61,000	Feb. 5, 1923	470		5,720	-	1.87	25.41	5,630	-	25.02		
1924	583	b38,000	Jan. 3, 1924	425		4,940	-	1.62	22.01	5,320	-	23.68		
1925	603	40,800	Dec. 10, 1924	360		3,490	-	1.14	15.48	3,550	-	15.76		
1926	623	b25,100	Jan. 24, 1926	425		3,780	-	1.24	16.76	5,090	-	22.59		
1927	643	64,400	Dec. 24, 1926	628		6,720	-	2.20	29.88	5,000	-	22.32		
1928	663, 1336	46,400	June 30, 1928	500		5,090	-	*1.74	*23.72	5,500	-	25.65		
1929	683	63,400	Mar. 23, 1929	779		6,430	-	2.20	29.90	6,710	-	31.18		
1930	698	31,000	Nov. 19, 1929	420		3,340	-	1.14	15.51	2,370	-	11.02		
1931	713	18,700	Apr. 24, 1931	372		2,700	-	.924	12.54	2,990	-	13.87		
1932	728	57,200	Feb. 1, 1932	360		4,540	-	1.55	21.13	4,890	-	22.78		
1933	743	40,700	Dec. 30, 1932	397		4,730	-	1.62	21.97	4,032	-	18.75		
1934	758	43,000	Mar. 25, 1934	342		3,208	-	1.10	14.91	3,447	-	16.02		
1935	783	46,600	Mar. 26, 1935	266		5,023	c5,059	c1.73	c23.50	4,997	c5,029	c23.37		
1936	803	18,800	Jan. 23, 1936	dl.3		2,866	4,276	1.46	19.91	2,897	4,493	20.95		
1937	823	42,500	Feb. 16, 1937	10		3,698	4,639	1.59	21.64	5,438	4,676	21.79		
1938	853, 873	24,600	Feb. 9, 1938	23		4,429	4,330	1.49	20.18	3,819	4,101	19.10		
1939	873	18,000	Mar. 10, 1939	107		4,233	3,795	1.30	17.66	4,151	3,514	18.37		
1940	893	11,300	Feb. -8, 1940	18		1,960	2,379	.817	11.12	2,012	2,413	11.27		
1941	923	11,000	Oct. 8, 1940	28		2,581	1,701	.584	7.93	2,075	1,738	8.10		
1942	953	11,600	Aug. 22, 1942	23		1,942	3,027	1.04	14.10	2,580	3,967	18.49		
1943	973	24,400	Jan. 7, 1943	44		5,102	4,322	1.48	20.14	4,659	3,581	15.76		
1944	1003	15,700	Mar. 29, 1944	18		3,728	3,791	1.30	17.72	3,798	4,242	19.82		
1945	1033	8,720	Mar. 7, 1945	37		4,120	4,186	1.44	19.91	4,532	4,282	19.96		
1946	1053	21,100	Jan. 22, 1946	62		4,045	4,175	1.43	19.46	4,300	3,832	17.86		
1947	1083	20,600	Jan. 24, 1947	44		4,749	4,036	1.39	18.81	3,915	3,901	18.18		
1948	1113	8,370	June 14, 1948	56		3,448	3,420	1.17	15.98	3,518	4,077	19.05		
1949	1143	20,700	Jan. 11, 1949	45		3,540	4,494	1.54	20.94	4,432	4,464	20.80		
1950	1173	29,100	Feb. 20, 1950	69		5,767	6,036	2.07	-	-	-	-		

1/Adjusted for change in contents in Norris Lake since June 1935; no regulation prior to that date.

* Revised.

* Not previously published.

a Tennessee Division of Geology, Bull. 34.

b Maximum daily discharge.

Note.--Adjusted figures of monthly discharge in cubic feet per second per square mile and runoff in inches for the water years 1936-40, previously published in WSP 803, 823, 853, 873, and 893, may not represent natural yield because of losses resulting from increase in evaporation, back storage, and seepage. They are not included herein and should not be used.

213. Coal Creek at Lake City, Tenn.2/

Location.--Lat 36°13'02", long. 84°09'52", 700 ft downstream from Beech Grove Fork (Valley Fork) and half a mile upstream from bridge on U. S. Highway 25W at Lake City, Anderson County.

Drainage area.--24.5 sq mi (revised).

Gage.--Staff gage. Altitude of gage is 850 ft (from topographic map). Prior to Aug. 24, 1933, staff gage on U. S. Highway 25W one-half mile downstream at datum 842.91 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1932-34: Maximum gage height, 13.0 ft (revised) Mar. 19, 1933 (discharge not determined); minimum discharge, 0.3 cfs Sept. 15, 19, 1932.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	16.0	6.21	2.07	-
1933	11.4	40.1	134	67.7	203	-	51.6	38.2	5.13	4.41	6.44	10.4	-
1934	1.31	3.29	29.8	70.1	24.1	155	25.0	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	0.75	0.29	0.09	-
1933	0.53	1.82	6.33	3.19	8.63	-	2.35	1.80	0.23	.21	.30	.47	-
1934	.06	.15	1.40	3.50	1.02	7.31	1.14	-	-	-	-	-	-

214. Buffalo Creek at Norris, Tenn.

Location.--Lat 36°11'05", long. 84°03'41", 50 ft downstream from State Highway 71, 1.0 mile southeast of Norris, Anderson County, and 4½ miles upstream from mouth.

Drainage area.--9.45 sq mi.

Gage.--Water-stage recorder. Datum of gage is 901.71 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1947-50: Maximum discharge, 757 cfs Feb. 13, 1948 (gage height, 7.91 ft); minimum, 0.3 cfs Sept. 17, 1948; minimum gage height, 0.68 ft Oct. 7, 8, 10, 11, 1947, and Sept. 17, 1948.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1947	-	-	-	-	-	-	-	-	-	-	-	0.59	-
1948	0.77	1.89	4.66	8.11	59.6	29.4	7.69	1.90	0.78	3.12	1.53	.59	9.81
1949	.66	25.9	30.1	48.4	21.3	16.7	7.46	3.38	1.80	6.50	1.53	.79	13.7
1950	2.72	3.56	20.2	59.3	45.6	15.5	4.52	17.3	10.5	4.66	4.84	5.64	16.1

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1947	-	-	-	-	-	-	-	-	-	-	-	0.07	-
1948	0.09	0.22	0.57	0.99	6.80	3.59	0.91	0.23	0.09	0.38	0.19	.07	14.13
1949	.08	3.05	3.67	5.90	2.35	2.04	.88	.41	.21	.79	.19	.09	19.66
1950	.33	.42	2.46	7.24	5.03	1.89	.53	2.11	1.24	.57	.59	.67	23.08

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1948	1113	757	Feb. 13, 1948	0.4	9.81	1.04	14.13	13.9	20.05
1949	1143	636	Jan. 5, 1949	.5	13.7	1.45	19.66	11.2	16.07
1950	1173	579	Jan. 30, 1950	.5	16.1	1.70	23.08	15.8	22.63

215. Clinch River near Scarboro, Tenn. 1/

Location.--Lat 35°56'45", long. 84°13'17", 0.6 mile (revised) downstream from Beaver Creek, 2½ miles south of Scarboro, Anderson County, 4¼ miles downstream from Solway Bridge, 17 miles west of Knoxville, and at mile 39.0.

Drainage area.--3,300 sq mi. At site used prior to Feb. 1, 1941, 3,385 sq mi.

Gage.--Water-stage recorder. Datum of gage is 753.35 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Feb. 1, 1941, water-stage recorder at site 24.5 miles (corrected) downstream at datum 35.99 ft lower.

Average discharge.--14 years (1936-50), 4,439 cfs (unadjusted).

Extremes.--1936-50: Maximum discharge, 42,900 cfs Feb. 9, 1937 (gage height, 23.45 ft, site and datum then in use); minimum daily, 131 cfs at Scarboro site Jan. 23, 1941.

Remarks.--Since June 1935, flow regulated by Norris Reservoir (see elsewhere in this report). The town of Oak Ridge, beginning June 1, 1944, has diverted an average flow between 4.5 cfs and 15 cfs for municipal supply 2½ miles above the station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1937	1,081	2,421	2,941	4,644	21,710	8,364	896	*1,194	3,400	3,058	2,857	3,662	*4,568
1938	6,535	10,760	9,782	3,153	2,666	1,428	1,994	3,251	5,562	4,572	6,701	5,257	5,151
1939	6,356	5,621	7,587	3,015	10,140	11,030	3,376	2,409	457	1,332	2,244	6,617	4,984
1940	6,814	7,098	5,007	1,471	1,263	1,204	1,310	425	441	421	314	3,257	2,419
1941	7,965	7,185	3,493	293	446	697	643	1,355	3,261	1,584	1,418	5,390	*2,616
1942	6,914	5,246	581	452	980	1,220	275	273	297	399	4,703	6,200	2,298
1943	7,233	7,612	6,857	8,794	8,932	2,647	3,093	4,353	4,181	3,655	4,973	6,536	5,717
1944	6,343	6,142	2,988	1,192	2,451	3,836	8,293	3,238	2,201	4,505	5,956	6,502	4,467
1945	3,765	7,392	6,060	4,660	6,132	7,784	2,562	1,918	2,085	3,388	5,769	6,356	4,814
1946	5,155	2,967	8,738	12,870	10,420	4,667	568	845	618	1,174	4,740	4,495	4,754
1947	5,867	7,099	6,878	10,730	6,598	4,354	3,452	2,035	3,655	4,330	4,171	3,843	5,248
1948	1,939	3,108	3,808	5,018	5,267	5,354	4,450	4,213	4,260	2,988	2,634	3,240	3,875
1949	4,309	3,170	4,522	10,970	7,505	4,120	4,223	1,087	1,273	1,033	4,363	6,076	4,346
1950	6,438	5,062	11,710	9,473	22,610	4,355	5,399	3,263	2,914	2,599	4,277	3,419	6,692

* Revised.

* Not previously published; computed on basis of combined record for stations near Wheat and near Scarboro.

1/ Published as "near Wheat", prior to February 1941.

Yearly discharge, in cubic feet per second, of Clinch River near Scarboro, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted 1/				Observed	Adjusted 1/
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1937	823,1386	42,900	Feb. 9, 1937	193	*4,568	*5,509	*1.63	*22.09	*6,298	*5,537	*22.20
1938	853	25,900	Feb. 10, 1938	514	5,151	5,052	1.49	20.26	4,527	4,809	19.28
1939	873	25,200	Feb. 15, 1939	249	4,984	4,546	1.34	18.23	4,925	4,288	17.19
1940	893	11,800	Feb. 10, 1940	140	2,419	2,837	1.858	11.41	2,387	2,788	11.21
1941	923	8,720	Nov. 1, 1940	131	*2,816	*1,937	*.582	*7.90	*2,320	*1,984	*8.14
1942	953	10,900	Aug. 23, 1942	141	2,298	3,383	1.03	13.92	3,053	4,439	18.26
1943	973	22,700	Jan. 7, 1943	381	5,717	4,937	1.50	20.32	5,192	3,914	16.10
1944	1003	33,600	Sept. 29, 1944	388	4,467	4,531	1.37	18.69	4,612	5,056	20.85
1945	1033	15,100	Feb. 18, 1945	405	4,814	4,880	1.48	20.07	4,796	4,947	20.35
1946	1053	24,400	Jan. 12, 1946	236	4,754	4,884	1.48	20.09	4,996	4,528	18.62
1947	1083	22,800	Jan. 31, 1947	444	5,248	4,536	1.37	18.66	4,326	4,311	17.74
1948	1113	25,200	Feb. 14, 1948	140	3,875	3,847	1.17	15.87	4,142	4,700	19.39
1949	1143	23,700	Jan. 6, 1949	224	4,346	5,300	1.61	21.80	5,293	5,224	21.49
1950	1173	28,200	Feb. 16, 1950	341	6,692	6,961	2.11	28.64	-	-	-

1/ Adjusted for change in contents in Norris Lake.

* Revised.

* Not previously published.

Note.--Adjusted figures of monthly discharge in cubic feet per second per square mile and runoff in inches for the water years 1938 and 1939, previously published in WSP 853 and 873, may not represent natural yield because of losses resulting from increase in evaporation, bank storage, and seepage. They are not included herein and should not be used.

216. Emory River near Wartburg, Tenn. 2/

Location.--Lat 36°06'46", long. 84°36'54", 50 ft downstream from highway bridge on Wartburg-Lancing road, 1½ miles northwest of Wartburg, Morgan County, 1.1 miles (revised) downstream from Rock Creek, 6.1 miles (revised) upstream from Obed River, and at mile 34.5

Drainage area.--83.2 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,003.06 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--16 years (1934-50), 142 cfs.

Extremes.--1934-50: Maximum discharge, 18,700 cfs Feb. 3, 1939 (gage height, 25.62 ft), from rating curve extended above 7,700 cfs; no flow at times in 1935, 1936, 1944, 1947, 1948, and 1949.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	-	-	14.9	49.6	69.1	4.75	-
1935	1.43	14.7	40.0	163	283	401	*375	121	47.9	21.3	8.45	.316	*122
1936	.015	49.1	101	388	195	451	300	10.1	.269	1.47	7.13	5.41	126
1937	29.2	72.7	379	884	257	130	120	136	69.5	17.3	30.5	11.2	180
1938	24.9	16.0	128	275	197	231	238	96	105	96.5	77.4	1.39	124
1939	.184	22.0	68.7	228	869	279	179	83.0	61.0	23.7	23.1	1.23	148
1940	.95	.80	13.7	16.2	185	379	252	128	149	18.2	22.9	7.45	97.2
1941	.75	14.9	44.8	71.5	26.2	171	255	15.9	16.4	255	9.42	4.66	74.1
1942	1.0	20.7	117	124	246	391	44.2	21.0	21.8	77.6	193	15.6	106
1943	14.2	58.5	620	185	310	355	298	102	27.9	12.0	23.2	5.43	167
1944	3.05	28.1	42.8	91.5	541	442	243	101	7.75	.568	4.59	354	151
1945	45.1	166	199	295	399	223	232	338	129	18.6	31.6	.71	172
1946	1.54	50.2	222	442	405	204	112	170	109	24.0	1.25	7.24	144
1947	14.9	70.4	106	612	104	228	167	140	11.2	6.63	1.03	.14	123
1948	.003	1.59	14.1	34.0	665	359	185	12.1	.99	2.44	2.35	1.61	104
1949	.09	332	367	616	268	234	155	71.3	5.94	126	88.6	8.51	189
1950	51.6	68.8	304	849	573	288	95.9	322	130	52.1	23.7	114	238

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	-	-	0.20	0.69	0.96	0.06	-
1935	0.02	0.20	0.55	2.25	3.54	5.56	*5.03	1.68	.64	.29	.12	.0004	*19.88
1936	.0002	.66	1.40	5.38	2.52	6.25	4.02	.14	.004	.02	.10	.07	20.57
1937	.40	.96	5.26	12.22	3.22	1.80	1.61	2.19	.93	.24	.42	.15	29.42
1938	.35	.21	1.78	3.81	2.46	3.21	3.19	1.34	1.41	1.34	1.07	.02	20.19
1939	.003	.29	.95	3.15	10.87	3.86	2.40	1.15	.82	.33	.32	.02	24.16
1940	.01	.01	.19	.22	2.39	5.26	3.58	1.77	2.00	.25	.32	.10	15.90
1941	.01	.20	.62	.99	.33	2.37	3.42	.22	.20	3.53	.13	.06	12.09
1942	.01	.28	1.62	1.72	3.07	5.41	.59	.29	.29	2.67	.21	.17	17.23
1943	.20	.78	8.59	2.57	3.86	4.92	4.00	1.42	.37	.17	.32	.07	27.29
1944	.04	.38	.59	1.27	7.02	6.12	3.25	1.39	.10	.008	.06	4.47	24.70
1945	.62	2.22	2.76	4.09	4.99	3.09	3.11	4.68	1.73	.26	.44	.009	28.00
1946	.02	.67	3.08	6.13	5.07	2.83	1.50	2.36	1.46	.33	.02	.10	23.57
1947	.21	.94	1.47	8.48	1.30	3.17	2.24	1.94	.15	.09	.01	.002	20.00
1948	.00004	.02	.20	.47	8.62	4.98	2.49	.17	.01	.03	.03	.02	17.05
1949	.001	4.46	5.09	8.54	3.36	3.24	2.08	.99	.08	1.74	1.23	.11	30.92
1950	.72	.92	4.22	11.76	7.17	4.00	1.29	4.47	1.74	.72	.33	1.53	38.87

* Revised.

2/ Published as Emory River prior to 1936.

Yearly discharge, in cubic feet per second, of Emory River near Wartburg, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1934	758	-	-	-	-	-	-	-	-
1935	783,1386	4,380	Apr. 6, 1935	0	*122	*1.47	*19.88	*130	*21.17
1936	803	6,000	Apr. 6, 1936	0	126	1.51	20.57	154	†25.14
1937	823	9,210	Jan. 2, 1937	.3	180	2.16	29.42	154	25.12
1938	853	2,810	Apr. 8, 1938	.6	124	1.49	20.19	117	19.09
1939	873	18,700	Feb. 3, 1939	.05	148	1.78	24.16	142	23.13
1940	893	3,900	Mar. 30, 1940	.4	97.2	1.17	15.90	101	16.52
1941	923	5,140	Apr. 4, 1941	.1	74.1	.891	12.09	80.7	13.16
1942	953	4,440	Mar. 17, 1942	.3	106	1.27	17.23	153	24.89
1943	973	6,560	Dec. 29, 1943	1.0	167	2.01	27.29	115	18.73
1944	1003	16,000	Sept. 29, 1944	0	151	1.81	24.70	179	29.29
1945	1033	3,600	Feb. 17, 1945	.3	172	2.07	28.00	160	26.17
1946	1053	7,950	Jan. 7, 1946	.3	144	1.73	23.57	137	22.42
1947	1083	4,180	Jan. 20, 1947	0	123	1.48	20.00	108	17.60
1948	1113	12,500	Feb. 13, 1948	0	104	1.25	17.05	161	26.37
1949	1143	9,020	Jan. 5, 1949	0	189	2.27	30.92	167	27.23
1950	1173	6,760	Jan. 30, 1950	1.1	238	2.86	38.87	-	-

* Revised.

† Corrected.

217. Daddys Creek near Grassy Cove, Tenn. 1/

Location.--Lat 35°53'26", long. 84°56'16", at bridge on State Highway 68, 3.6 miles (revised) northwest of Grassy Cove, Cumberland County, 5.6 miles (revised) above mouth of Bird Creek, and at mile 27.0.

Drainage area.--51.2 sq mi (revised).

Gage.--Staff gage. Altitude of gage is 1,605 ft (from topographic map). Aug. 15, 1925, to July 7, 1927, tape gage at same site and datum.

Average discharge.--5 years (1925-30), 140 cfs.

Extremes.--1925-30: Maximum discharge, 14,600 cfs Mar. 23, 1929 (gage height, 26.3 ft, from floodmark), from rating curve extended above 900 cfs on basis of slope-area determination of peak flow; no flow several days in 1925 and 1930.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	-	-	-	-	-	-	-	-	-	-	-	0.06	-
1926	46.5	213	132	166	135	128	98.2	61.9	32.9	3.78	294	47.9	113
1927	4.82	145	565	135	*252	215	193	75.8	81.6	6.76	56.5	6.62	*144
1928	2.74	192	262	184	97.3	251	319	86.5	404	103	20.2	55.4	164
1929	55.4	250	102	290	266	657	101	224	113	72.0	32.3	28.0	183
1930	13.1	307	128	93.4	240	275	65.9	56.4	3.05	.49	0	.17	97.4

* Revised mean daily discharge for Feb. 23, 1927, is 605 cfs.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	-	-	-	-	-	-	-	-	-	-	-	0.001	-
1926	1.09	4.63	2.97	3.75	2.75	2.89	2.14	1.39	0.72	0.09	6.61	1.04	30.07
1927	.11	3.17	12.72	3.05	*5.12	4.85	4.20	1.71	1.78	.15	1.27	.14	*38.27
1928	.08	3.97	5.91	4.15	2.05	5.66	6.96	1.95	8.80	2.33	.45	1.21	43.50
1929	1.25	5.45	2.36	6.54	5.40	14.80	2.21	5.05	2.46	1.62	.73	.61	48.42
1930	.30	6.69	2.87	2.10	4.89	6.20	1.44	1.27	.07	.01	0	.004	25.84

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1925	603	-	-	0	-	-	-	-	-
1926	623	*3,430	Aug. 24, 1926*	.2	113	2.21	30.07	141	37.38
1927	643	*4,150	Dec. 25, 1926	.4	*144	*2.81	*38.27	*121	*32.21
1928	663	5,480	Nov. 17, 1927	.37	164	3.20	43.50	160	42.56
1929	683	14,600	Mar. 23, 1929	1.2	183	3.57	48.42	186	49.28
1930	698	1,480	Nov. 17, 1929	0	97.4	1.90	25.84	-	-

* Revised.

1/ Published as Daddy Creek 1925-30, as "near Crab Orchard" in 1925, and as "near Crab Orchard" in 1926.

218. Daddys Creek near Crab Orchard, Tenn. 1/

Location.--Lat 35°55'33", long. 84°54'47", 0.6 mile upstream from North Creek, 1.5 miles downstream from bridge on U. S. Highway 70, 1.5 miles downstream from Bird Creek, and 2 miles northwest of Crab Orchard, Cumberland County.

Drainage area.--93.5 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,569.19 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to May 17, 1934, staff gage at same site and datum.

Average discharge.--20 years (1930-50), 169 cfs.

Extremes.--1930-50: Maximum discharge, 11,600 cfs Feb. 13, 1948 (gage height, 21.30 ft); no flow Sept. 23, 24, 1936.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	\$9.59	18.8	127	158	226	202	207	132	6.43	3.10	3.75	2.93	\$90.6
1932	.77	2.29	462	406	601	115	300	126	6.74	24.8	8.99	1.55	170
1933	119	197	435	348	542	302	252	213	4.89	10.2	85.7	57.5	212
1934	4.42	7.52	183	335	122	699	100	97.9	173	55.6	96.5	7.96	158
1935	10.1	54.4	109	263	304	440	353	123	29.8	5.04	21.1	1.17	142
1936	1.11	167	206	426	269	489	442	16.2	.392	13.6	4.93	.281	169
1937	1.96	48.9	438	944	320	182	191	181	67.2	15.7	13.7	10.1	201
1938	36.9	23.1	181	315	231	311	355	297	145	52.3	88.6	8.18	170
1939	.95	31.2	101	332	1,069	351	247	79.6	76.8	20.5	5.45	3.75	187
1940	1.11	.65	3.39	46.5	302	417	223	125	35.6	21.5	26.6	12.4	100
1941	1.30	18.2	105	149	50.8	196	288	19.1	15.9	149	16.1	3.86	84.7
1942	5.84	42.1	212	196	340	458	51.7	19.0	33.4	109	320	15.4	150
1943	5.05	35.2	799	213	360	336	82.4	9.11	1.93			1.01	181
1944	7.94	26.8	54.2	148	628	542	277	113	9.65	7.94	24	5.53	153
1945	30.6	92.9	223	332	504	285	245	379	28.7	37.1	40.2	1.49	182
1946	6.21	91.8	408	509	476	273	129	160	95.7	16.8	7.04	42.3	183
1947	88.0	189	181	714	156	282	193	125	25.9	10.2	2.35	.99	165
1948	.91	8.28	58.0	84.5	897	514	287	19.5	4.18	3.74	1.15	1.32	154
1949	1.79	459	493	715	355	263	244	153	57.8	146	39.2	5.31	243
1950	65.1	115	353	930	648	425	107	230	57.0	134	59.4	241	279

† Corrected.

* Not previously published; partly estimated on basis of records for Caney Fork at Clifty.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	\$0.12	0.22	1.56	1.95	2.52	2.49	2.47	1.63	0.08	0.04	0.05	0.03	\$13.16
1932	.01	.03	5.69	5.01	6.93	1.42	3.58	1.56	.08	.31	.11	.02	24.75
1933	1.46	2.35	5.36	4.29	6.03	3.72	3.01	2.62	.06	.13	1.06	.69	30.78
1934	.05	.09	2.26	4.13	1.36	8.62	1.20	1.21	2.06	.69	1.19	1.10	22.96
1935	.12	.65	1.34	3.25	3.39	5.43	4.22	1.52	.36	.06	.26	.01	20.61
1936	.01	1.99	2.54	5.25	3.10	6.03	5.27	.20	.005	.17	.06	.003	24.63
1937	.02	.58	5.40	11.65	3.56	2.25	2.28	2.24	.80	.19	.17	.12	29.26
1938	.45	.28	2.23	3.89	2.57	3.83	4.24	3.66	1.73	.64	1.09	.10	24.71
1939	.01	.37	1.25	4.09	11.90	4.33	2.95	.98	.92	.25	.07	.04	27.16
1940	.01	.01	.04	.57	3.48	5.14	2.66	1.54	.42	.26	.33	.15	14.61
1941	.02	.22	1.29	1.84	.57	2.42	3.44	.24	.19	1.83	.20	.05	12.31
1942	.05	.50	2.61	2.42	3.79	5.65	.62	.23	.40	1.35	3.94	.18	21.74
1943	.06	.42	9.85	2.62	4.01	4.17	4.01	1.02	.11	.02	.01	.01	26.31
1944	.01	.32	.67	1.82	7.25	6.69	3.30	1.39	.12	.01	.003	.64	22.22
1945	.38	1.11	2.76	4.09	5.62	3.52	2.92	4.67	.34	.46	.50	.02	26.39
1946	.08	1.10	5.04	6.27	5.30	3.36	1.53	1.98	1.14	.21	.09	.50	26.60
1947	1.09	2.25	2.23	8.81	1.74	3.48	2.31	1.54	.31	.13	.03	.01	23.93
1948	.01	.10	.72	.04	10.34	6.34	3.43	.24	.05	.05	.01	.02	22.35
1949	.02	5.48	6.08	8.82	3.73	3.24	2.92	1.89	.69	1.81	.48	.06	35.22
1950	.80	1.37	4.35	11.46	7.21	5.25	1.28	2.84	.68	1.65	.73	2.87	40.49

* Not previously published; partly estimated on basis of record for Caney Fork at Clifty.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1931	713	1,440	Mar. 28, 1931	0.3	\$90.6	\$0.969	\$13.16	117	16.99
1932	728	2,790	Jan. 30, 1932	.2	170	1.82	24.75	194	28.19
1933	743	*6,120	Feb. 14, 1933*	.6	212	2.27	30.78	165	24.01
1934	758	4,760	Mar. 3, 1934	1.6	158	1.69	22.96	156	22.67
1935	763	4,120	Mar. 12, 1935	.1	142	1.52	20.61	159	23.04
1936	803	5,990	Apr. 6, 1936	0	169	1.81	24.63	179	†26.09
1937	823	7,000	Jan. 2, 1937	.3	201	2.15	29.26	180	26.22
1938	853	1,890	Apr. 8, 1938	1.0	170	1.82	24.71	161	23.38
1939	873	10,200	Feb. 3, 1939	.1	187	2.00	27.16	176	25.59
1940	893	1,400	Feb. 10, 1940	.3	100	1.07	14.61	111	16.08

* Revised.

† Corrected.

* Not previously published.

1/ Published as Daddy Creek, 1931-53.

Yearly discharge, in cubic feet per second, of Daddys Creek near Crab Orchard, Tenn.--Continued

		Water year ending Sept. 30					Calendar year		
Year	W.S.P. no.	Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1941	923	3,260	Apr. 4, 1941	0.5	84.7	0.906	12.31	95.9	13.94
1942	953	2,710	Mar. 17, 1942	.4	150	1.60	21.74	199	28.91
1943	973	6,380	Dec. 29, 1942	.1	181	1.94	26.31	117	16.98
1944	1003	3,870	Feb. 17, 1944	.03	153	1.64	22.22	175	25.47
1945	1033	3,630	Feb. 17, 1945	.8	182	1.95	26.39	195	28.36
1946	1053	4,320	Jan. 7, 1946	.9	183	1.96	26.60	179	25.95
1947	1083	3,170	Jan. 20, 1947	.4	165	1.76	23.93	132	19.19
1948	1113	11,800	Feb. 13, 1948	.2	154	1.65	22.35	227	33.10
1949	1143	7,080	Jan. 5, 1949	.08	243	2.60	35.22	208	30.16
1950	1173	6,620	Jan. 30, 1950	1.9	279	2.98	40.49	-	-

† Corrected.

219. Emory River at Deermont, Tenn. 1/

Location (revised).--Lat 36°01'39", long. 84°34'47", on county highway bridge at Deermont siding on Southern Railway, 0.4 mile upstream from Crab Orchard Creek, 2.0 miles downstream from Crooked Fork, 3.2 miles northwest of Oakdale, Morgan County, and at mile 21.8.

Drainage area.--704 sq mi. (revised).

Gage.--Chain gage. Datum of gage is 791.7 ft, datum of 1929, supplementary adjustment of 1936.

Average discharge.--7 years (1920-27), 1,384 cfs.

Extremes.--1920-27: Maximum discharge (revised), 51,300 cfs Dec. 25, 1926 (gage height, 18.2 ft), from rating curve extended above 9,500 cfs on basis of computed crest discharge at Oakdale; minimum, 2.2 cfs Aug. 22, 1924 (gage height, -0.11 ft); minimum stage was probably as low or lower during 1925.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1920	-	-	-	-	-	-	-	-	-	-	*3,510	1,050	-
1921	79.7	151	2,340	2,000	*3,690	1,660	*2,310	583	93.4	538	302	150	*1,140
1922	56.6	1,060	1,310	2,520	2,480	*5,680	*4,710	1,640	1,390	568	853	218	*1,850
1923	24.4	73.8	*2,820	2,350	*4,830	*4,320	1,730	2,160	706	290	507	89.6	*1,640
1924	9.76	32.4	1,270	2,790	*2,990	1,960	2,050	*2,650	468	144	74.3	68.0	*1,200
1925	40.6	12.2	1,110	2,880	*2,480	764	*1,460	768	35.5	40.5	6.36	4.50	*790
1926	1,380	2,340	1,210	1,410	1,860	1,540	1,140	658	645	198	2,170	450	1,250
1927	95.3	1,510	6,320	1,660	3,940	2,810	2,370	844	1,340	408	669	57.9	1,820

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1920	-	-	-	-	-	-	-	-	-	-	*5.75	1.67	-
1921	0.13	0.24	3.84	3.27	*5.46	2.71	*3.66	0.95	0.15	0.88	.49	.24	*22.02
1922	.09	1.68	2.14	4.13	3.67	*9.30	*7.47	2.68	2.21	.93	1.09	.35	*35.74
1923	.04	.12	*4.62	3.85	*7.14	*7.08	2.74	3.54	1.12	.48	.83	.14	*31.70
1924	.02	.05	2.07	4.56	*4.58	3.21	3.25	*4.34	.74	.24	.12	.11	*23.29
1925	.07	.02	1.81	4.71	*3.67	1.25	*2.31	1.26	.06	.07	.01	.007	*15.25
1926	2.26	3.70	1.99	2.31	2.75	2.51	1.81	1.08	1.02	.32	3.55	.71	24.01
1927	.16	2.39	10.35	2.71	5.82	4.60	3.75	1.38	2.13	.67	1.10	.09	35.15

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1921	523,1436	*24,800	Apr. 16, 1921	13	*1,140	*1.62	*22.02	*1,130	*21.72
1922	543,1436	*41,100	Mar. 1, 1922	12	*1,850	*2.63	*35.74	*1,900	*36.61
1923	563,1436	*33,800	Mar. 11, 1923	4.0	*1,640	*2.33	*31.70	*1,510	*29.06
1924	583,1436	*24,100	May 28, 1924*	4.5	*1,200	*1.70	*23.29	*1,190	*23.05
1925	603,1436	*24,800	Feb. 15, 1925	-	*790	*1.12	*15.25	*1,100	*21.50
1926	623	*32,200	Oct. 25, 1925	4.2	1,250	1.78	24.01	1,500	29.82
1927	643	*51,300	Dec. 25, 1926	11	1,820	2.59	35.15	-	-

* Revised.

1/ Published as Emory River.

220. Emory River at Oakdale, Tenn.1/

Location.--Lat 35°58'59", long. 84°33'29", at Oakdale, Morgan County, 1,000 ft downstream from highway bridge, 1,100 ft downstream from Mud Lick Creek, 3.4 miles north of Harriman, and at mile 18.3.

Drainage area.--764 sq mi. At site used 1927-29, 798 sq mi (revised).

Gage.--Water-stage recorder. Datum of gage is 763.38 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Oct. 1, 1929, staff gage at site 5.8 miles downstream at datum 45.60 ft lower.

Average discharge.--23 years (1927-50), 1,380 cfs.

Extremes.--1927-50: Maximum discharge, 195,000 cfs Mar. 23, 1929 (gage height, about 42.3 ft, present site and datum, from floodmarks at highway bridge), from rating curve extended above 85,000 cfs by logarithmic plotting; no flow Aug. 13-15, 1944. Maximum stage known, that of Mar. 23, 1929.

Monthly and yearly mean discharge, in cubic feet per second.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1927	-	-	-	-	-	-	-	-	-	475	+775	59.1	-
1928	10.7	1,380	2,930	2,260	1,280	2,630	3,520	1,150	5,890	2,080	682	1,120	2,070
1929	462	2,830	1,250	4,260	3,970	8,130	1,440	2,860	944	630	229	312	2,270
1930	131	5,870	1,890	1,170	3,070	3,550	959	757	64.0	20.2	7.70	13.1	1,280
1931	24.1	126	820	1,190	1,660	1,610	1,970	798	54.3	69.9	90.8	22.6	697
1932	2.44	5,465	5,000	3,130	5,240	1,110	*2,330	812	75.4	162	177	31.8	*1,330
1933	757	1,500	3,400	3,130	4,260	2,280	2,300	1,600	113	179	449	827	1,720
1934	29.1	48.6	882	1,841	1,103	5,485	1,005	562	525	351	439	54.0	1,016
1935	48.2	221	427	1,705	2,500	3,279	3,229	1,038	386	105	108	5.89	1,077
1936	4.02	782	1,232	3,408	1,960	3,991	3,160	341	16.3	48.4	30.4	23.8	1,249
1937	84.4	435	5,176	7,941	2,583	1,316	1,302	1,651	463	82.9	145	63.0	1,607
1938	127	107	978	2,337	1,853	2,292	2,320	1,744	1,006	756	1,035	40.0	1,215
1939	5.77	175	573	2,463	8,136	2,693	1,898	605	353	88.7	91.6	10.6	1,380
1940	5.96	.98	42.1	177	2,091	3,567	2,107	1,070	859	247	517	213	903
1941	10.4	125	578	1,029	422	1,699	2,480	194	182	2,145	125	61.3	757
1942	13.4	208	1,242	1,592	2,619	3,755	458	219	173	426	2,107	150	1,059
1943	66.3	378	*6,201	1,786	2,749	3,056	2,847	656	136	115	90.2	13.4	*1,505
1944	10.2	116	234	928	5,147	4,362	2,483	938	80.5	5.55	15.21	562	1,306
1945	465	816	1,728	2,745	3,962	2,371	2,008	3,484	603	230	391	12.7	1,556
1946	23.3	789	2,682	4,121	3,813	2,052	1,240	1,515	750	102	24.4	68.8	1,420
1947	154	715	998	5,123	1,223	2,362	1,366	964	163	75.2	25.7	7.53	1,370
1948	2.06	24.8	251	522	7,024	3,672	1,772	260	43.0	76.6	30.3	15.6	1,116
1949	4.62	5,497	5,821	5,999	2,685	2,105	1,699	900	162	1,183	436	66.5	1,879
1950	366	738	2,661	7,608	5,622	2,921	932	2,600	849	556	245	1,319	2,167

* Revised.

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1927	-	-	-	-	-	-	-	-	-	0.69	1.12	0.08	-
1928	0.02	1.93	4.23	3.26	1.74	3.81	4.92	1.66	8.24	3.00	.99	1.57	35.37
1929	.67	3.96	1.80	6.16	5.17	11.75	2.02	4.14	1.32	.91	.33	.44	38.67
1930	.20	5.65	2.85	1.77	4.19	5.35	1.40	1.14	.09	.03	.01	.02	22.70
1931	.04	.18	1.24	1.80	2.26	2.43	2.88	1.20	.08	.11	.14	.03	12.39
1932	.004	.008	4.53	4.72	7.40	1.67	*3.40	1.25	.11	.24	.27	.05	*25.83
1933	1.14	2.19	5.13	4.73	5.81	3.44	3.36	2.42	.16	.27	.68	1.21	30.54
1934	.04	.07	1.33	2.48	1.50	8.28	1.47	.85	.77	.53	.66	.08	18.06
1935	.07	.32	.64	2.57	3.41	4.95	4.71	1.57	.56	.16	.16	.008	19.13
1936	.006	1.14	1.86	5.14	2.77	6.02	4.61	.51	.02	.07	.05	.03	22.23
1937	.13	.63	*4.79	*11.98	3.52	*1.99	1.90	2.49	.68	.13	.22	.09	*28.55
1938	.19	.16	1.48	3.53	2.53	3.46	3.39	2.63	1.47	1.14	1.56	.06	21.60
1939	.009	.26	.87	3.75	11.09	4.06	2.77	.91	.52	.13	.14	.02	24.53
1940	.009	.001	.06	.27	2.95	5.38	3.08	1.61	1.25	.57	.78	.31	16.07
1941	.02	.16	.87	1.55	.57	2.56	3.62	.29	.27	3.24	.19	.09	13.45
1942	.02	.30	1.87	2.10	3.57	5.67	.67	.33	.25	.64	.18	.22	16.82
1943	.10	.55	*9.36	2.69	3.75	4.61	4.16	.99	.20	.17	.14	.02	*26.74
1944	.02	.17	.35	1.40	7.27	6.58	3.63	1.42	.12	.008	.02	2.28	23.27
1945	.70	1.19	2.61	4.14	5.40	3.58	2.93	5.26	.88	.35	.59	.02	27.65
1946	.04	1.15	4.05	6.22	5.20	3.10	1.81	2.29	1.10	.15	.04	.10	25.25
1947	.23	1.04	1.51	8.34	1.67	3.56	1.99	1.45	.24	.11	.04	.01	20.19
1948	.003	.04	.38	.79	9.92	5.54	2.59	.39	.06	.12	.05	.02	19.90
1949	.007	5.11	5.77	9.05	3.66	3.18	2.48	1.36	.24	1.79	.66	.10	33.41
1950	.55	1.08	4.02	11.48	7.66	4.41	1.36	3.92	1.24	.84	.37	1.93	38.86

* Revised.

† Corrected.

1/ Published as Emory River prior to 1935. Prior to Oct. 1, 1929, as "at Harriman".

Yearly discharge, in cubic feet per second, of Emory River at Oakdale, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1927	643	-	-	-	-	-	-	-	-
1928	663	*65,800	June 29, 1928	6.4	2,070	2.59	35.37	2,090	35.62
1929	683	*195,000	Mar. 23, 1929	10	2,270	2.84	38.67	2,380	40.94
1930	698	*26,400	Nov. 17, 1929	.4	1,280	1.68	22.70	870	15.46
1931	713	12,700	Mar. 28, 1931	6.1	697	.912	12.39	871	15.47
1932	728, 1386	*36,000	Feb. 3, 1932	.5	*1,330	*1.74	*23.63	*1,550	*27.55
1933	743	24,800	Dec. 28, 1932	11	1,720	2.25	30.54	1,324	23.52
1934	758	40,100	Mar. 3, 1934	11	1,016	1.33	18.06	993	17.65
1935	783	32,700	Apr. 6, 1935	1.7	1,077	1.41	19.13	1,188	21.10
1936	803	45,100	Apr. 6, 1936	.6	1,249	1.63	22.23	1,392	24.77
1937	823	57,700	Jan. 2, 1937	1.0	1,607	2.10	*28.55	1,397	24.83
1938	853	14,900	Apr. 8, 1938	10	1,215	1.59	21.60	1,176	20.91
1939	873	100,000	Feb. 3, 1939	1.3	1,380	1.81	24.53	1,321	23.46
1940	893, 923	20,300	Mar. 30, 1940	.4	903	1.18	16.07	959	17.07
1941	923	30,900	Apr. 4, 1941	6.9	757	.991	13.45	821	14.57
1942	953	26,500	Mar. 17, 1942	4.5	1,059	1.39	18.82	*1,499	*26.64
1943	973, 1386	59,900	Dec. 29, 1942	4.8	*1,505	*1.97	*26.74	972	17.27
1944	1003	58,400	Sept. 29, 1944	0	1,306	1.71	23.27	1,528	27.25
1945	1033	28,100	Feb. 17, 1945	6.4	1,556	2.04	27.65	1,597	28.39
1946	1053	52,900	Jan. 7, 1946	3.3	1,420	1.86	25.25	1,282	22.79
1947	1083	27,500	Jan. 20, 1947	1.7	1,137	1.49	20.19	1,004	17.83
1948	1113	101,000	Feb. 13, 1948	.6	1,116	1.46	19.90	1,704	30.37
1949	1143	82,800	Jan. 5, 1949	2.1	1,879	2.46	33.41	1,584	28.17
1950	1173	53,200	Jan. 30, 1950	14	2,187	2.86	38.86	-	-

* Revised.

† Corrected.

221. Whites Creek near Glen Alice, Tenn. 1/

Location (revised).--Lat 35°47'49", long. 84°45'37", 1,200 ft upstream from Black Creek, 2,200 ft upstream from Southern Railway bridge, and 1.2 miles southwest of Glen Alice, Roane County.

Drainage area.--123 sq mi.

Gage.--Water-stage recorder. Datum of gage is 758.62 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--16 years (1934-50), 218 cfs.

Extremes.--1934-50: Maximum discharge, 19,000 cfs Jan. 5, 1949 (gage height, 19.45 ft); minimum, 0.1 cfs Oct. 3-5, 1936, Oct. 6, 7, 1947; minimum gage height, 0.55 ft Oct. 3-5, 1936.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	-	-	29.2	42.3	187	16.9	-
1935	18.8	55.2	113	309	370	472	198	198	19.8	3.24	55.2	1.08	169
1936	2.59	220	251	623	357	693	521	15.9	1.15	25.7	2.30	473	226
1937	4.04	33.6	512	1,174	348	199	205	219	49.4	7.27	20.3	12.9	233
1938	60.9	23.5	253	401	225	393	452	257	242	231	128	5.72	223
1939	.638	29.5	108	446	1,176	438	245	69.3	60.1	20.5	79.5	7.02	217
1940	.87	.96	8.59	42.4	436	530	276	144	65.5	42.7	77.0	25.6	136
1941	2.53	34.4	153	178	66.9	233	388	21.0	25.0	358	25.9	2.76	125
1942	2.46	43.1	298	268	442	613	65.8	20.4	17.9	70.7	247	22.5	175
1943	5.26	22.0	1,000	311	447	455	435	80.9	10.6	8.09	5.14	2.80	231
1944	1.67	15.1	32.8	151	777	775	403	135	5.58	1.50	.85	148	201
1945	49.6	75.0	295	379	610	347	378	431	63.9	80.7	35.1	1.25	227
1946	4.07	123	515	773	595	326	150	235	145	13.4	4.33	38.6	242
1947	26.0	215	181	910	185	294	217	201	27.1	12.5	6.54	.823	190
1948	1.44	38.3	134	261	1,047	620	413	16.8	3.18	20.5	26.2	4.10	212
1949	2.73	881	566	950	391	332	332	190	16.2	255	62.5	15.0	333
1950	223	182	490	1,020	766	474	102	272	102	90.7	79.5	477	355

1/ Published as White Creek prior to 1956.

Monthly and yearly runoff, in inches, of Whites Creek near Glen Alice, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	-	-	0.26	0.40	1.75	0.15	-
1935	0.18	0.50	1.06	2.90	3.13	4.43	3.84	1.85	.18	.03	.52	.01	18.63
1936	.02	2.00	2.36	5.84	3.13	6.50	4.73	.15	.01	.24	.02	.004	25.00
1937	.04	.30	4.80	11.00	2.95	1.87	1.86	2.05	.45	.07	.19	.12	25.70
1938	.57	.21	2.37	3.76	1.91	3.68	4.10	2.41	2.19	2.17	1.20	.05	24.62
1939	.0068	.27	1.01	4.18	9.96	4.11	2.22	.65	.55	.19	.75	.06	23.96
1940	.0068	.009	.08	.40	3.83	4.96	2.50	1.35	.59	.40	.72	.23	15.08
1941	.03	.31	1.44	1.66	.57	2.19	3.52	.20	.23	3.36	2.24	.03	13.78
1942	.02	.39	2.80	2.51	3.75	5.75	.60	.19	.16	.66	2.32	.20	19.35
1943	.05	.20	9.38	2.92	3.79	4.26	3.94	.76	.10	.08	.05	.03	25.56
1944	.02	.12	.31	1.42	6.82	7.26	3.66	1.25	.05	.01	.008	1.34	22.27
1945	.46	.68	2.77	3.56	5.16	3.25	3.42	4.04	.58	.76	.33	.01	25.02
1946	.04	1.12	4.83	7.25	5.03	3.05	1.36	2.21	1.31	.13	.04	.35	26.72
1947	.24	1.95	1.69	8.53	1.57	2.76	1.97	1.88	.25	.12	.06	.007	21.03
1948	.01	.35	1.26	2.44	9.18	5.81	3.74	.16	.03	.19	.25	.04	23.46
1949	.03	7.99	5.31	8.90	3.31	3.11	3.01	1.78	.15	2.39	.59	.14	36.71
1950	2.09	1.65	4.59	9.56	6.48	4.44	.92	2.55	.92	.85	.74	4.33	39.12

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1934	783	-	-	-	-	-	-	-	-
1935	783	8,020	Mar. 12, 1935	0.3	169	1.37	18.63	193	21.27
1936	803	14,000	Mar. 24, 1936	.12	226	1.84	25.00	233	25.76
1937	823	15,600	Jan. 2, 1937	.10	233	1.89	25.70	215	23.71
1938	853	5,920	Apr. 8, 1938	1.2	223	1.81	24.62	206	22.76
1939	873	15,000	Feb. 3, 1939	.4	217	1.76	23.96	206	22.77
1940	893	2,410	Feb. 10, 1940	.4	136	1.11	15.08	151	16.76
1941	923	9,970	Apr. 4, 1941	.6	125	1.02	13.78	138	15.21
1942	953	4,650	Mar. 17, 1942	.6	175	1.42	19.35	233	25.77
1943	973	13,200	Dec. 28, 1942	.22	231	1.68	25.56	148	16.38
1944	1003	8,390	Feb. 17, 1944	.26	201	1.63	22.27	232	25.73
1945	1033	5,780	Feb. 17, 1945	.6	227	1.85	25.02	245	27.10
1946	1053	12,900	Jan. 7, 1946	.4	242	1.97	26.72	223	24.61
1947	1083	7,960	Jan. 20, 1947	.3	190	1.54	21.03	170	18.76
1948	1113	16,000	Feb. 13, 1948	.2	212	1.72	23.46	318	35.17
1949	1143	19,000	Jan. 5, 1949	.5	353	2.71	36.71	287	31.71
1950	1173	14,000	Jan. 30, 1950	3.6	355	2.89	39.12	-	-

222. Whites Creek at Glen Alice, Tenn.]

Location.--Lat 35°47'40", long. 84°44'51", 1,000 ft downstream from bridge on U. S. Highway 27, 0.5 mile downstream from Black Creek, and 0.8 mile (revised) southwest of Glen Alice, Roane County.

Drainage area.--135 sq mi (revised).

Gage.--Staff gage. Datum of gage is 753.76 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1930-34: Maximum discharge, 19,400 cfs (revised) Mar. 2, 1934 (gage height, 10.70 ft), from rating curve extended above 2,800 cfs on basis of contracted-opening determination in 1957 at gage height 16.5 ft; minimum, 0.7 cfs Oct. 27, 1931; minimum gage height, 1.80 ft Sept. 29, 30, 1931.

Flood of Mar. 23, 1929, reached a stage of 18.7 ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	4.55	65.0	253	285	319	340	308	165	6.83	8.28	6.63	4.09	146
1932	1.71	3.22	509	719	801	228	381	96.2	14.0	47.7	124	17.8	244
1933	239	346	*750	414	*812	414	318	195	17.7	36.0	140	89.1	*311
1934	6.60	8.26	135	*393	161	*1,028	141	112	36.1	-	-	-	-

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	0.04	0.54	2.16	2.44	2.46	2.90	2.55	1.41	0.06	0.07	0.06	0.03	14.72
1932	.01	.03	4.34	6.14	6.40	1.95	3.15	.82	.12	.41	1.06	.15	24.58
1933	2.04	2.86	*6.40	3.53	*6.26	3.53	2.63	1.67	.15	.31	1.20	.74	*30.78
1934	.06	.07	1.15	*3.36	1.24	*8.78	1.16	.96	.30	-	-	-	-

* Revised.

1/ Published as White Creek prior to 1956.

Yearly discharge, in cubic feet per second, of Whites Creek at Glen Alice, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1931	743	*4,010	Mar. 28, 1931	2.3	146	1.08	14.72	16.3	16.36
1932	728	*5,720	Jan. 30, 1932	.7	244	1.81	24.58	*313	*31.26
1933	743,1436	*10,600	Feb. 14, 1933	5.6	*311	*2.30	*31.32	*212	*21.00
1934	758,1436	*19,400	Mar. 2, 1934	-	-	-	-	-	-

* Revised.

223. Piney River at Spring City, Tenn.

Location.--Lat 35°41'59", long. 84°51'17", at bridge on State Highway 29, 175 ft down-stream from Southern Railway bridge and 0.6 mile northeast of Spring City, Rhea County.

Drainage area.--98.3 sq mi (revised).

Gage.--Staff gage. Datum of gage is 755.76 ft above mean sea level, Tennessee River Survey datum.

Extremes.--1927-31: Maximum discharge, 16,500 cfs Mar. 23, 1929 (gage height, 8.25 ft, from floodmarks), from rating curve extended above 5,700 cfs on basis of computed crest discharge; no flow several days during October and November 1927, and Sept. 3-10, 1930.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1927	-	-	-	-	-	-	-	-	-	7.44	36.9	2.21	-
1928	0.21	32.4	421	269	232	427	542	170	503	119	54.6	199	247
1929	153	357	140	545	511	1,020	183	477	67.2	28.7	23.5	88.5	299
1930	28.2	650	181	331	370	520	139	76.1	14.1	1.57	.68	1.29	174
1931	1.92	72.0	237	248	243	288	300	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1927	-	-	-	-	-	-	-	-	-	0.09	0.43	0.03	-
1928	0.002	0.37	4.93	3.15	2.55	5.01	6.15	1.99	5.71	1.39	.64	2.26	34.15
1929	1.79	4.05	1.64	6.39	5.41	11.97	2.08	5.59	.76	.34	.28	1.00	41.30
1930	.33	7.38	2.12	1.53	3.92	6.10	1.58	.89	.16	.02	.008	.01	24.05
1931	.02	.82	2.77	2.91	2.57	3.37	3.40	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1927	643	-	-	-	-	-	-	-	-
1928	663	*7,290	June 4, 1928	0	247	2.51	34.15	262	36.33
1929	683	16,500	Mar. 23, 1929	1.4	299	3.04	41.30	316	43.65
1930	698	*5,740	Mar. 7, 1930	0	174	1.77	24.05	129	17.83
1931	713	a3,250	Mar. 28, 1931	-	-	-	-	-	-

* Revised.

a Maximum for period October to April.

224. Watts Bar Lake near Spring City, Tenn. 1/

Location.--Lat 35°37'13", long. 84°47'00", at Watts Bar Dam on Tennessee River, 6.5 miles southeast of Spring City, Rhea County, 72.4 miles downstream from Fort Loudoun Dam, and at mile 529.9.

Drainage area.--17,310 sq mi.

Gage.--Water-stage recorder. Datum of gage is mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1941-50: Maximum elevation, 745.12 ft Mar. 9, 1942; minimum (after first filling), 733.44 ft Mar. 20, 1945.

Remarks.--Reservoir is formed by concrete dam with riprapped earth embankments. Spillway is equipped with 20 tainter gates 32 ft high by 40 ft wide, also one 2-section leaf trashway gate 16.3 ft high by 24 ft wide. Storage began with partial closure Dec. 12, 1941, and final closure Jan. 1, 1942; water in reservoir first reached minimum navigation pool elevation Feb. 17, 1942. Total level pool capacity at elevation 745.0 ft (top of gates) is 570,700 cfs-days of which 190,400 cfs days is controlled flood storage above elevation 735.0 ft (minimum navigation pool). Reservoir is used for navigation, flood control and power.

Cooperation.--Records furnished by Tennessee Valley Authority. Contents prior to Oct. 1, 1946, furnished in acre-feet based on level storage and converted to cfs-days by Geological Survey; contents since Oct. 1, 1946, furnished in cfs-days based on backwater profile.

1/ Published as Watts Bar Reservoir prior to 1954.

Contents, in thousands of cfs-days, on last day of month, of Watts Bar Lake near Spring City, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1942	12	5	41	235	527	551	502	563	509	504	473	503
1943	544	469	540	391	409	491	488	492	485	494	445	431
1944	431	427	389	384	436	472	487	487	469	464	441	491
1945	407	399	400	380	404	378	466	438	435	448	419	406
1946	389	426	385	407	396	389	494	483	486	475	454	450
1947	439	422	412	397	394	397	485	486	482	468	455	427
1948	415	394	392	393	408	422	510	499	477	489	457	425
1949	399	494	401	410	413	413	539	507	509	494	482	445
1950	503	401	389	457	386	411	488	495	496	502	489	459

225. Sewee Creek near Decatur, Tenn. 1/

Location.--Lat 35°34'53" long. 84°44'53", a third of a mile downstream from bridge on State Highway 58, half a mile downstream from Dry Fork, 4½ miles upstream from mouth, and 5 miles north of Decatur, Meigs County.

Drainage area.--117 sq mi.

Gage.--Water-stage recorder. Datum of gage is 694.32 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--16 years (1934-50), 194 cfs.

Extremes.--1934-50: Maximum discharge, 29,000 cfs Jan. 7, 1946 (gage height, 23.97 ft. from floodmarks), from rating curve extended above 6,700 cfs on basis of contracted-opening determination of peak flow; minimum, 11 cfs Sept. 24, 1935, Jan. 7-10, Oct 4, 5, 7, 11, 12, 14, 15, 1940; minimum gage height, 0.16 ft Sept. 28, 1940.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	-	-	55.6	46.7	129	39.8	-
1935	69.5	76.2	54.8	223	296	462	359	269	56.0	33.1	39.6	15.8	162
1936	23.8	155	116	595	357	632	539	61.7	33.8	102	26.2	21.4	222
1937	34.9	43.9	213	920	459	167	150	288	59.0	45.3	75.4	29.8	206
1938	65.2	30.6	98.0	276	182	419	384	211	387	334	159	47.6	216
1939	25.9	87.8	107	298	1,058	542	247	118	63.2	53.0	51.6	24.9	217
1940	19.2	22.5	26.7	40.5	237	324	247	97.4	52.6	71.4	32.5	18.6	98.5
1941	17.7	35.1	62.3	107	49.9	168	282	59.1	73.6	271	39.5	23.5	99.4
1942	21.1	36.7	108	181	335	339	87.1	91.9	56.3	125	272	56.5	142
1943	31.4	41.4	795	256	419	362	313	85.0	45.6	105	36.3	24.7	209
1944	28.6	40.2	39.3	139	657	575	292	103	50.9	33.3	46.7	107	174
1945	63.2	52.0	147	212	494	280	200	330	69.5	60.5	41.0	18.8	162
1946	35.7	102	324	1,101	439	212	160	284	94.1	42.1	28.2	44.1	239
1947	55.5	147	169	791	248	225	153	89.0	85.3	70.6	30.7	23.5	174
1948	25.3	67.2	94.8	98.1	840	453	322	64.9	40.7	66.4	38.4	21.8	173
1949	33.0	684	459	865	402	324	299	187	81.5	429	63.2	60.0	324
1950	198	156	239	716	632	516	122	117	142	144	179	323	289

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	-	-	0.53	0.46	1.27	0.38	-
1935	0.68	0.73	0.54	2.20	2.64	4.55	3.42	2.65	.53	.33	.39	.15	18.81
1936	.23	1.47	1.14	5.87	3.29	6.23	5.14	.61	.32	1.01	.26	.20	25.77
1937	.34	.42	2.10	9.06	4.08	1.65	1.43	2.84	.56	.45	.74	.28	23.95
1938	.64	.29	.97	2.72	1.62	4.12	3.66	2.08	3.69	3.29	1.57	.45	25.10
1939	.26	.84	1.06	2.93	9.42	5.34	2.35	1.16	.60	.52	.51	.24	25.23
1940	.19	.21	.26	.40	2.19	3.19	2.36	.96	.50	.70	.32	.18	11.46
1941	.17	.33	.61	1.06	.44	1.66	2.69	.58	.70	2.67	.39	.22	11.52
1942	.21	.35	1.06	1.78	2.98	3.34	.83	.91	.54	1.23	2.68	.54	16.45
1943	.31	.39	7.84	2.52	3.73	3.57	2.98	.84	.43	1.03	.36	.24	24.24
1944	.28	.38	.39	1.36	6.06	5.66	2.78	1.02	.49	.33	.46	1.02	20.23
1945	.62	.50	1.45	2.09	4.40	2.76	1.91	3.25	.66	.60	.40	.18	18.82
1946	.35	.97	3.19	10.85	3.91	2.09	1.53	2.80	.90	.41	.28	.42	27.70
1947	.55	1.40	1.66	7.79	2.19	2.22	1.46	.88	.81	.70	.30	.22	20.18
1948	.25	.64	.93	.97	7.75	4.26	3.07	.64	.39	.65	.38	.21	20.14
1949	.33	6.52	4.53	8.52	3.58	3.19	2.65	1.85	.78	4.23	.62	.57	37.57
1950	1.95	1.49	2.35	7.06	5.63	5.08	1.16	1.15	1.35	1.42	1.76	3.08	33.48

1/ Published as Sewee Creek, 1934-35.

Yearly discharge, in cubic feet per second, of Sewee Creek near Decatur, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1934	758	-	-	-	-	-	-	-	-
1935	783	4,320	Mar. 12, 1935	13	162	1.38	18.81	170	19.70
1936	803	8,350	Mar. 24, 1936	15	222	1.90	25.77	222	25.79
1937	825	6,700	Feb. 9, 1937	15	206	1.76	23.95	198	22.99
1938	853	4,110	July 22, 1938	23	216	1.85	25.10	219	25.36
1939	873	7,960	Mar. 6, 1939	18	217	1.85	25.23	204	23.70
1940	893	1,600	Mar. 14, 1940	11	98.5	.842	11.46	102	11.91
1941	923	1,970	July 5, 1941	12	99.4	.850	11.52	104	12.03
1942	953	3,270	Aug. 5, 1942	14	142	1.21	16.45	201	23.37
1943	973	9,000	Dec. 28, 1942	20	209	1.79	24.24	144	16.75
1944	1003	4,240	Mar. 29, 1944	19	174	1.49	20.23	187	21.75
1945	1033	3,700	Feb. 13, 1945	17	162	1.38	18.82	179	20.76
1946	1053	29,000	Jan. 7, 1946	17	239	2.04	27.70	231	26.80
1947	1083	5,780	Jan. 20, 1947	20	174	1.49	20.18	159	18.39
1948	1113	9,360	Feb. 14, 1948	17	173	1.48	20.14	255	29.70
1949	1143	10,600	Jan. 5, 1949	22	324	2.77	37.57	276	31.98
1950	1173	3,260	Mar. 13, 1950	31	289	2.47	33.48	-	-

226. Tennessee River at Breedenton, Tenn.

Location.--Lat 35°32'47", long. 84°48'02", at Breedenton, Meigs County, 1½ miles downstream from Sewee Creek, 2½ miles north of Decatur, 48 miles upstream from Chickamauga Dam, and at mile 523.2.

Drainage area.--17,460 sq mi, approximately.

Gage.--Water-stage recorder. Datum of gage is 666.22 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Apr. 23, 1934, staff gage at same site and datum.

Average discharge.--5 years (1934-39), 28,110 cfs (unadjusted).

Extremes.--1934-40: Maximum discharge, 205,000 cfs Mar. 29, 1936 (gage height, 27.70 ft); minimum, 3,760 cfs Jan. 29, 1940 (gage height, 1.55 ft); minimum daily, 4,200 cfs Jan. 29, 30, 1940.

Remarks.--Flow partly regulated by Norris Lake starting June 1935 (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	12,140	75,230	34,100	14,930	16,260	14,130	18,300	9,155	-
1935	13,750	13,530	18,550	42,270	36,110	74,910	64,040	32,910	17,790	14,940	12,870	9,330	29,230
1936	5,750	18,900	13,380	71,000	57,360	61,830	67,990	14,970	9,509	11,870	11,010	11,740	29,480
1937	18,310	12,120	25,230	87,080	68,880	34,820	22,510	23,060	15,310	11,970	15,490	15,250	28,980
1938	22,550	23,190	24,360	30,160	27,520	41,290	34,670	25,830	28,990	30,520	28,700	14,600	27,730
1939	12,800	16,760	19,460	24,170	82,520	54,450	29,540	16,900	12,390	13,100	11,840	12,100	25,120
1940	10,760	10,410	9,415	7,373	17,810	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	0.72	4.97	2.18	0.99	1.04	0.93	1.21	0.59	-
1935	0.91	0.86	1.23	2.79	2.15	4.95	4.09	2.17	1.14	.99	.85	.60	22.73
1936	.38	1.20	.88	4.69	3.54	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1934	758	170,000	Mar. 6, 1934	-	-	-	-	-	-
1935	783	164,000	Mar. 28, 1935	5,810	29,230	1.67	22.73	28,540	22.19
1936	803	205,000	Mar. 29, 1936	4,810	29,480	1.69	22.98	31,000	24.16
1937	825	160,000	Jan. 4, 1937	8,480	28,980	1.66	22.53	30,180	23.46
1938	853	89,500	July 25, 1938	9,980	27,730	1.59	21.56	25,950	20.18
1939	873	150,000	Feb. 16, 1939	8,250	25,120	1.44	19.53	23,570	18.33

Note.--Monthly figures of discharge in cubic feet per second per square mile and runoff in inches for months of March to September 1936, previously published in WSP 803, have been found subject to error because of regulation in Norris Lake; these figures are not published herein and should not be used. Regulation prior to March 1936 was minor.

227. Richland Creek near Dayton, Tenn.✓

Location.--Lat 35°30'17", long. 85°01'20", at Morgantown, 0.4 mile upstream from bridge on State Highway 30, 1 mile northwest of Dayton, Rhea County, and 1½ miles downstream from Payne Creek (formerly Gooch Creek).

Drainage area.--50.2 sq mi. At site used 1927-31, 52.3 sq mi.

Gage.--Water-stage recorder. Datum of gage is 728.59 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. June 22, 1927, to Sept. 30, 1931, staff gage at bridge 1 mile downstream at datum 48.61 ft lower.

Average discharge.--20 years (1927-31, 1934-50), 111 cfs.

Extremes.--1927-31, 1934-50: Maximum discharge, 9,000 cfs Jan. 7, 1946 (gage height, 9.08 ft), from rating curve extended above 4,600 cfs by logarithmic plotting; no flow July 28, Aug. 19 to Sept. 12, 1929, Sept. 14-30, 1931.

Remarks.--City of Dayton diverts an average of about 1 cfs 3 miles upstream.

Monthly and yearly mean discharge, in cubic feet per second											
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1927	-	-	-	-	-	-	-	-	-	2.50	7.39
1928	0.24	52.2	251	157	132	181	306	69.1	324	54.5	15.8
1929	104	404	80.6	194	204	569	136	485	72.3	15.3	7.77
1930	56.0	416	116	91.7	234	233	69.3	46.4	4.37	1.10	.80
1931	1.27	51.5	156	118	108	154	178	66.7	1.74	1.84	.45
1934	-	-	-	-	-	-	-	-	-	16.0	65.2
1935	6.42	32.1	65.6	150	172	257	200	94.4	7.39	1.07	4.37
1936	1.65	108	108	292	168	288	238	7.09	.222	5.57	.233
1937	.695	13.5	180	534	232	94.7	64.5	131	4.18	.506	25.9
1938	116	26.2	141	210	110	210	229	119	146	135	107
1939	.245	11.7	61.5	178	517	228	140	70.5	44.2	32.9	57.1
1940	.17	.17	1.25	12.0	241	219	135	46.0	34.9	31.6	7.86
1941	.295	19.7	78.8	127	34.0	116	178	12.4	6.48	230	12.2
1942	2.15	53.9	185	129	207	278	42.0	75.1	26.8	41.7	77.0
1943	1.57	6.55	456	149	210	187	182	37.0	4.20	6.52	.534
1944	.667	12.7	19.9	112	347	338	177	54.9	31.9	.311	.246
1945	2.14	9.04	88.4	161	268	151	193	228	18.1	53.4	53.8
1946	2.83	103	287	442	290	169	116	182	67.4	20.9	1.14
1947	10.0	111	119	431	91.1	151	122	86.6	17.4	5.18	.639
1948	.816	57.6	83.2	83.0	446	292	187	6.02	690	9.59	30.5
1949	.658	462	257	426	211	187	184	110	82.6	173	16.5
1950	160	85.1	175	446	326	267	55.6	63.0	70.3	47.2	68.6

Yearly discharge, in cubic feet per second								
Year	W.S.P. no.	Water year ending Sept. 30						Calendar year
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					Runoff in inches
1927	643	-	-	-	-	-	-	-
1928	663	*4,540	June 4, 1928	0.1	133	2.54	34.56	156
1929	683	*7,060	Mar. 23, 1929	0	192	3.67	49.88	191
1930	698	*2,560	Nov. 17, 1929	.3	103	1.97	26.70	73.3
1931	713	*1,450	Mar. 28, 1931	0	69.6	1.33	18.07	-
1934	758	-	-	-	-	-	-	-
1935	783	2,580	Mar. 12, 1935	.06	82.1	1.64	22.21	91.6
1936	803	2,580	Jan. 9, 1936	.03	101	2.01	27.45	99.5
1937	823	5,100	Jan. 2, 1937	.10	108	2.15	†29.08	115
1938	853	2,330	Apr. 8, 1938	.45	130	2.59	35.11	112
1939	873	4,010	Feb. 3, 1939	.15	108	2.15	29.09	102
1940	893	1,200	Feb. 18, 1940	.1	60.3	1.20	16.36	68.5
1941	923	5,080	July 5, 1941	.06	68.5	1.36	18.50	80.4
1942	953	1,240	Dec. 23, 1941	.1	94.1	1.87	25.43	113
1943	973	8,400	Dec. 28, 1942	.05	103	2.05	27.94	66.6
1944	1003	3,160	Mar. 28, 1944	.05	90.3	1.80	24.49	96.0
1945	1033	2,760	July 30, 1945	.16	101	2.01	27.42	126
1946	1053	9,000	Jan. 7, 1946	.1	141	2.81	38.19	128
1947	1093	2,590	Jan. 20, 1947	.09	95.7	1.91	25.88	87.5
1948	1113	7,100	Feb. 13, 1948	.03	99.1	1.97	26.86	146
1949	1143	7,100	Jan. 5, 1949	.4	176	3.51	47.67	152
1950	1173	3,760	Oct. 17, 1949	1.0	163	3.25	44.08	-

* Revised.

† Corrected.

Note.--Monthly figures of discharge, in cubic feet per second per square mile, and runoff, in inches, previously published in water-supply papers have been found subject to appreciable error because of diversion by city of Dayton. These figures are not published herein and should not be used.

✓ Published as "at Dayton", 1927-31.

228. Hiwassee River at Presley, Ga.

Location.--Lat 34°54'17", long. 83°43'01" 0.1 mile downstream from Cynth Creek, 0.5 mile southeast of Presley, Towns County, 1.3 miles upstream from Hightower Creek, and at mile 133.9.

Drainage area.--45.5 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,932.69 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--9 years (1941-50), 134 cfs.

Extremes.--1941-50: Maximum discharge, 3,660 cfs June 16, 1949 (gage height, 12.80 ft), from rating curve extended above 2,000 cfs on basis of slope-area and contracted-opening determinations at gage heights 12.80 and 15.24 ft, respectively; minimum, 27 cfs Oct. 6, 7, 1947 (gage height, 1.60 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	*40.0	*53.0	*92.8	93.7	208	231	121	154	112	75.8	81.0	87.6	*112
1943	73.0	69.9	270	242	215	222	205	159	106	182	93.0	62.3	158
1944	51.8	62.0	55.9	110	220	332	249	138	88.0	54.5	58.7	41.8	121
1945	36.5	42.5	65.2	96.5	138	136	163	141	75.9	63.5	55.2	97.3	92.1
1946	76.3	82.6	154	382	333	337	224	231	126	86.5	49.7	45.2	177
1947	57.1	58.0	59.5	204	114	124	169	109	98.6	58.2	51.0	35.7	94.7
1948	53.1	77.5	83.8	78.8	231	240	174	89.7	61.3	95.4	128	62.5	114
1949	42.9	265	206	269	238	185	213	192	214	204	124	148	191
1950	129	138	145	179	189	238	136	114	125	94.8	79.1	173	145

* Not previously published; estimated or partly estimated on basis of records for station below Hayesville, N. C.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	*1.01	*1.30	*2.35	2.37	4.76	5.85	2.96	3.90	2.75	1.92	2.05	2.15	*33.37
1943	1.85	1.71	6.84	6.13	4.92	5.62	5.03	4.03	2.59	4.61	2.36	1.53	47.22
1944	1.31	1.52	1.42	2.79	5.22	8.41	6.10	3.50	2.16	1.38	1.49	1.02	36.32
1945	.92	1.04	1.65	2.44	3.15	3.45	3.99	3.57	1.86	1.61	1.40	2.39	27.47
1946	1.93	2.03	5.90	9.68	7.61	8.54	5.48	5.85	3.10	2.19	1.26	1.11	52.68
1947	1.45	1.42	1.51	5.17	2.60	3.14	4.13	2.77	2.42	1.48	1.29	.88	28.26
1948	1.34	1.90	2.12	2.00	5.47	6.08	4.26	2.27	1.50	2.42	3.25	1.53	34.14
1949	1.09	6.45	5.22	6.83	5.45	4.89	5.21	4.86	5.25	5.16	3.13	3.84	56.97
1950	3.26	3.38	3.69	4.54	4.32	6.03	3.33	2.88	3.05	2.40	2.00	4.24	43.12

* Not previously published; estimated or partly estimated on basis of records for station below Hayesville, N. C.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1942	973	1,330	Feb. 16, 1942	-	*112	*2.46	*33.37	131	39.11
1943	973	2,600	Dec. 29, 1942	45	158	3.47	47.22	138	41.07
1944	1003	1,170	Mar. 29, 1944	34	121	2.66	36.32	119	35.68
1945	1033	750	Sept. 14, 1945	30	92.1	2.02	27.47	106	31.72
1946	1053	2,040	Feb. 10, 1946	34	177	3.89	52.68	165	49.20
1947	1083	1,510	Jan. 20, 1947	30	94.7	2.08	28.26	98.0	29.24
1948	1113	1,020	Feb. 14, 1948	28	114	2.51	34.14	139	41.54
1949	1143	3,660	June 16, 1949	39	191	4.20	56.97	183	54.54
1950	1173	2,540	Mar. 13, 1950	46	145	3.19	43.12	-	-

* Not previously published.

229. Hightower Creek near Presley, Ga.

Location (revised).--Lat 34°54'59", long. 83°41'55", 0.3 mile downstream from Swallow Creek, 1.3 miles upstream from mouth, and 1.6 miles east of Presley, Towns County.

Drainage area.--32.4 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,939.85 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1941-45: Maximum discharge, 1,470 cfs Dec. 29, 1942 (gage height, 5.37 ft), from rating curve extended above 490 cfs on basis of logarithmic plotting; minimum, 10 cfs Aug. 23, 1945 (gage height, 0.90 ft); minimum daily, 18 cfs Nov. 3-8, 13, 14, 1944, and Aug. 23, Sept. 3, 4, 10-12, 1945.
Flood of June 16, 1949, reached a stage of 9.69 ft, from floodmark.

Remarks.--Some diurnal fluctuation at low flow caused by mills above the station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	*22.5	*29.5	*51.2	44.8	103	134	76.3	89.0	75.2	56.3	50.9	47.1	*64.8
1943	41.5	41.4	149	138	136	132	126	96.2	63.5	76.7	49.6	32.9	90.1
1944	29.9	34.4	35.1	57.9	123	183	147	86.8	49.7	34.2	35.4	25.5	69.9
1945	20.8	23.4	38.2	48.6	71.6	74.3	86.5	75.2	41.1	33.6	25.2	41.2	48.3

* Not previously published; estimated or partly estimated on basis of records for Hiwassee River below Hayesville, N. C.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	*0.80	*1.02	*1.82	1.60	3.31	4.78	2.63	3.17	2.59	2.00	1.81	1.62	*27.15
1943	1.48	1.42	5.30	4.32	4.37	4.68	4.33	3.42	2.19	2.73	1.77	1.13	37.74
1944	1.06	1.18	1.25	2.06	4.08	6.50	5.07	3.09	1.71	1.22	1.26	.88	29.56
1945	.74	.81	1.36	1.73	2.30	2.64	3.05	2.68	1.42	1.19	.90	1.42	20.24

* Not previously published; estimated or partly estimated on basis of records for Hiwassee River below Hayesville, N. C.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1942	953	765	Sept. 27, 1942	-	*64.8	*2.00	*27.15	75.7	31.71
1943	973	1,470	Dec. 29, 1942	23	90.1	2.78	37.74	78.8	33.03
1944	1003	630	Mar. 28, 1944	21	69.9	2.16	29.36	68.5	28.78
1945	1033	470	Apr. 25, 1945	18	48.3	1.49	20.24	-	-

* Not previously published.

230. Shooting Creek near Hayesville, N. C.

Location.--Lat 35°01'25", long. 83°42'25", 400 ft downstream from Hothouse Branch, half a mile upstream from Chatuge Lake, and 6.5 miles east of Hayesville, Clay County.

Drainage area.--37.6 sq mi. At site used 1922-24, 38.9 sq mi (revised).

Gage.--Water-stage recorder. Datum of gage is 1,930.33 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Aug. 15, 1922, to Mar. 13, 1924, chain gage at bridge 0.7 mile downstream at datum 16.82 ft, lower.

Average discharge.--10 years (1922-23, 1941-50), 94.0 cfs.

Extremes.--1922-24, 1941-50: Maximum discharge, 6,820 cfs June 16, 1949 (gage height, 9.20 ft), from rating curve extended above 1,300 cfs on basis of slope-area determination of peak flow; minimum, 11 cfs Oct. 4, 1947 (gage height, 1.32 ft).

Remarks.--Slight diurnal fluctuation caused by small mill above station.

Monthly and yearly mean discharge, in cubic feet per second, of Shooting Creek near Hayesville, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1922	-	-	-	-	-	-	-	-	-	-	-	38.4	-
1923	27.8	29.2	195	141	211	182	140	159	146	100	86.5	42.8	121
1924	28.2	35.0	87.9	157	97.5	-	-	-	-	-	-	-	-
1942	*23.3	*32.0	*65.0	*68.0	*128	152	72.1	90.4	64.4	68.8	73.4	53.9	*74.0
1943	50.7	54.2	171	182	172	175	127	91.2	59.4	84.8	42.1	33.9	103
1944	26.4	32.8	40.6	63.5	184	196	148	87.0	46.2	28.9	28.6	20.9	74.9
1945	18.5	25.8	56.5	72.1	124	103	118	102	47.8	32.7	28.8	42.1	63.8
1946	*43.8	*50.0	*92.0	*238	*225	*209	*129	*151	*73.0	*58.5	*29.4	*26.9	*110
1947	34.2	36.1	41.2	193	82.6	95.6	110	68.7	48.3	33.5	30.7	17.7	66.0
1948	27.8	49.0	56.6	54.1	178	164	124	54.9	42.1	60.1	84.5	34.3	77.1
1949	22.9	143	159	174	180	112	133	120	200	190	96.8	100	135
1950	83.5	95.9	94.3	155	179	201	115	81.3	91.5	101	64.8	118	115

* Not previously published; estimated or partly estimated on basis of records for Nantahala River near Rainbow Springs and Hiwassee River at Presley, Ga.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1922	-	-	-	-	-	-	-	-	-	-	-	1.10	-
1923	0.83	0.84	5.77	4.17	5.66	5.39	4.00	4.71	4.13	2.98	2.56	1.23	42.32
1924	.83	1.00	2.61	4.66	2.70	-	-	-	-	-	-	-	-
1942	*.71	*.95	*1.99	*2.09	*3.54	4.66	2.14	2.77	1.91	2.11	2.24	1.60	*26.72
1943	1.56	1.61	5.23	5.57	4.76	5.38	3.76	2.80	1.76	2.60	1.29	1.00	57.32
1944	.81	.97	1.25	1.95	5.28	6.02	4.40	2.67	1.37	.89	.88	.62	27.11
1945	.57	.76	1.73	2.21	3.44	3.15	3.50	3.13	1.42	1.00	.88	1.25	23.04
1946	*1.34	*1.48	*2.82	*7.30	*6.23	*6.41	*3.83	*4.63	*2.17	*1.79	*.90	*.80	*39.70
1947	1.05	1.07	1.26	5.91	2.29	2.93	3.28	2.11	1.43	1.03	.94	.52	23.82
1948	.85	1.45	1.74	1.66	5.10	5.03	3.69	1.68	1.25	1.84	2.59	1.02	27.90
1949	.70	4.25	4.86	5.33	4.99	3.42	3.94	3.67	5.93	5.84	2.97	2.98	48.88
1950	2.56	2.85	2.89	4.75	4.95	6.16	3.41	2.49	2.72	3.10	1.99	3.49	41.36

* Not previously published; estimated or partly estimated on basis of records for Nantahala River near Rainbow Springs and Hiwassee River at Presley, Ga.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1922	563	-	-	-	-	-	-	-	-
1923	563	a2,380	Dec. 17, 1922	21	121	3.11	42.32	113	39.32
1924	583	*b605	Jan. 16, 1924	-	-	-	-	-	-
1942	953	c690	May 20, 1942	-	*74.0	*1.97	*26.72	*87.2	*31.47
1943	973	1,420	Jan. 18, 1943	20	103	2.74	37.32	88.5	31.95
1944	1003	871	Feb. 27, 1944	15	74.9	1.99	27.11	75.0	27.14
1945	1033	790	May 17, 1945	15	63.8	1.70	25.04	*71.0	*25.62
1946	-	-	-	-	*110	*2.93	*39.70	*104	*37.44
1947	1083	1,210	Jan. 20, 1947	14	66.0	1.76	23.82	67.8	24.48
1948	1113	1,240	Aug. 2, 1948	13	77.1	2.05	27.90	93.0	33.67
1949	1143	6,820	June 16, 1949	21	135	3.59	48.88	131	47.37
1950	1173	1,390	Mar. 13, 1950	36	115	3.06	41.36	-	-

* Not previously published.

a Maximum observed.

b Maximum observed during period October to March.

c Maximum during period February to September.

231. Chatuge Lake near Hayesville, N. C. 1/

Location.--Lat 35°01'01", long. 83°47'28", at Chatuge Dam on Hiwassee River, 2.0 miles upstream from Hyatt Mill Creek, 2.5 miles downstream from Georgia-North Carolina State line, and 2.5 miles southeast of Hayesville, Clay County.

Drainage area.--189 sq mi.

Gage.--Water-stage recorder. Datum of gage is mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Aug. 4, 1942, staff gages on dam or intake tower and Aug. 4 to Sept. 18, 1942, indicator on Selsyn transmitter was used, all at present datum.

Extremes.--1942-50: Maximum contents, 124,200 cfs-days Apr. 20, 1943 (elevation, 1,927.80 ft); minimum (after first filling), 9,400 cfs-days Sept. 5, 1947 (elevation, 1,860.11 ft).

Remarks.--Lake is formed by rolled earth-fill dam with side channel spillway equipped with flashboards. Storage began Feb. 12, 1942; water in lake first reached minimum pool elevation Feb. 26, 1942. Total capacity at elevation 1,928.0 ft (top of flashboards) is 124,900 cfs-days, of which 115,600 cfs-days is controlled storage above elevation 1,860.0 ft (minimum pool). Lake is used for navigation, flood control, and power.

Cooperation.--Records furnished by Tennessee Valley Authority.

1/ Published as Chatuge Reservoir prior to 1954.

Contents, in cfs-days, on last day of month of Chatuge Lake near Hayesville, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1942	-	-	-	-	10,200	31,200	41,200	54,500	63,900	71,800	80,900	88,100
1943	95,000	101,600	115,400	111,000	109,900	116,500	123,400	122,600	113,000	105,600	91,200	54,600
1944	54,700	59,800	54,900	62,900	86,400	112,600	123,100	122,900	112,700	91,600	64,100	46,300
1945	43,600	47,500	35,500	44,800	58,500	72,200	88,000	99,900	87,000	70,900	53,200	46,100
1946	45,900	52,100	65,900	78,700	83,700	104,400	93,500	113,400	114,800	102,700	73,400	40,300
1947	44,700	48,400	52,800	78,000	81,100	91,100	91,100	59,200	41,900	19,100	9,600	10,000
1948	9,800	15,800	23,600	30,900	53,400	77,000	91,700	84,800	58,700	54,400	55,700	39,400
1949	42,700	65,900	73,500	78,900	85,300	86,500	90,800	101,500	112,900	118,600	102,600	85,200
1950	71,500	72,700	71,800	78,700	83,200	89,800	86,200	78,700	81,900	79,900	64,400	61,500

232. Hiwassee River below Chatuge Dam, near Hayesville, N. C.

Location.--Lat 35°01'45", long. 83°47'45", 0.4 mile upstream from Hyatt Mill Creek, 1.6 miles downstream from Chatuge Dam, 1.7 miles southeast of Hayesville, Clay County, and at mile 119.3.

Drainage area.--190 sq mi.

Supplemental records available.--May 1907 to December 1909, and August 1922 to September 1923, gage heights only. Records of chemical analyses for water year 1947 are published in WSP 1102.

Gage.--Water-stage recorder. Datum of gage is 1,789.90 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. May 20, 1907, to Dec. 31, 1909, staff gage and Aug. 16, 1922, to Sept. 30, 1923, chain gage, at site 1.1 miles upstream at different datum.

Average discharge.--8 years (1942-50), 461 cfs (adjusted for storage).

Extremes.--1942-50: Maximum discharge, 3,040 cfs Dec. 31, 1942 (gage height, 8.00 ft); minimum, 1 cfs Aug. 3, 4, 1942; minimum gage height, 0.30 ft Aug. 3, 1942.

1907-9, 1922-23: Maximum stage recorded, 11.9 ft Mar. 13, 1909, site and datum then in use (discharge not determined).

Remarks.--Flow regulated beginning Feb. 12, 1942, by Chatuge Lake (see preceding station).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	-	-	-	-	-	-	2.52	3.02	2.17	2.66	2.23	2.50	-
1943	2.37	2.03	4.24	1,006	828	621	401	505	654	749	725	1,431	610
1944	155	1.75	366	69.1	6.09	150	410	447	575	879	1,128	789	417
1945	210	1.78	667	3.02	3.80	3.37	3.47	41.1	665	744	769	534	306
1946	245	35.2	3.24	634	895	443	1,102	181	356	695	1,171	1,378	591
1947	43.8	55.5	57.1	7.16	263	129	551	1,488	921	1,023	532	107	433
1948	173	37.2	1.67	1.91	4.82	3.73	92.8	525	1,180	493	350	781	303
1949	18.6	3.89	462	687	609	566	559	264	420	527	970	1,098	515
1950	920	375	472	446	548	371	967	689	311	460	805	603	583

Monthly and yearly runoff, in inches (adjusted) 1/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	-	-	-	-	-	-	1.98	2.62	1.84	1.57	1.79	1.44	-
1943	1.36	1.30	5.29	5.24	4.32	5.05	3.70	2.92	1.94	3.05	1.63	1.24	37.04
1944	.95	1.02	1.25	1.99	4.63	6.05	4.46	2.67	1.37	1.21	1.45	1.15	28.20
1945	.74	.78	1.70	1.83	2.71	2.69	3.12	2.58	1.37	1.36	1.20	1.75	21.83
1946	1.45	1.41	2.72	6.35	5.88	6.75	4.33	4.99	2.37	1.86	1.37	1.60	41.08
1947	1.13	1.05	1.21	4.98	2.05	2.74	3.24	2.78	2.02	1.74	1.37	.71	25.02
1948	1.01	1.39	1.54	1.44	4.43	4.64	3.42	1.84	1.82	2.15	2.38	1.39	27.45
1949	.76	4.56	4.29	5.23	4.59	3.67	4.12	3.68	4.74	4.31	2.75	3.04	45.72
1950	2.86	2.48	2.69	4.06	3.89	5.50	3.02	2.71	2.45	2.52	1.85	2.98	37.01

1/ Adjusted for change in contents in Chatuge Lake.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year			
		Observed			Adjusted 1/			Observed		Adjusted 1/	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1942	953	-	-	-	-	-	-	-	-	-	-
1943	973	3,040	Dec. 31, 1942	1.5	610	519	2.73	37.04	618	452	32.31
1944	1003	1,540	Mar. 30, 1944	1.5	417	394	2.07	28.20	447	394	28.20
1945	1033	1,060	Dec. 5, 1944	1.5	306	306	1.61	21.83	256	339	24.19
1946	1053	2,280	Apr. 9, 1946	1.5	591	575	3.03	41.08	580	544	38.89
1947	1083	2,040	May 16, 1947	2.0	433	350	1.84	25.02	438	358	25.57
1948	1113	2,310	June 3, 1948	1.4	303	383	2.02	27.45	326	462	33.12
1949	1143	2,120	Sept. 12, 1949	1.4	515	640	3.37	45.72	622	618	44.14
1950	1173	2,320	Apr. 26, 1950	3.0	583	518	2.73	37.01	-	-	-

1/ Adjusted for change in contents in Chatuge Lake.

233. Hiwassee River below Hayesville, N. C.

Location.--Lat 35°04'30" long. 83°49'55", three-quarters of a mile downstream from mouth of Tusquitee Creek and 2½ miles northwest of Hayesville, Clay County.

Drainage area.--252 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,760.33 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--11 years (1934-45), 519 cfs (adjusted).

Extremes.--1934-45: Maximum discharge, 10,600 cfs Apr. 2, 1936 (gage height, 12.42 ft); minimum, 39 cfs (regulated) Nov. 6-8, 1944; minimum daily, 39 cfs Nov. 7, 8, 1944. Maximum stage known, 16.1 ft Oct. 3, 1898, from floodmark cut in tree by gage observer shortly after flood (discharge, 17,000 cfs).

Remarks.--Considerable regulation beginning Feb. 12, 1942 by Chatuge Lake (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	-	-	-	309	494	246	-
1935	438	415	555	760	561	840	902	590	351	284	294	175	514
1936	136	314	225	1,433	1,287	990	1,847	525	301	263	188	230	641
1937	295	235	589	1,596	1,027	641	1,755	629	442	315	376	342	602
1938	529	319	395	494	412	718	1,030	548	541	1,189	765	357	612
1939	228	310	274	512	1,544	1,147	744	589	498	367	371	227	563
1940	161	150	178	236	545	529	704	432	425	377	552	322	383
1941	196	280	348	446	299	415	437	258	200	746	306	189	344
1942	170	222	404	395	404	222	110	136	89.8	98.4	138	102	207
1943	63.0	75.3	687	1,243	1,065	888	595	629	751	965	791	1,461	768
1944	215	66.5	436	173	335	462	647	598	649	907	1,139	822	538
1945	249	61.5	773	153	237	153	184	202	740	798	808	587	412

Monthly and yearly runoff, in inches (adjusted)^{1/}

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	-	-	-	1.41	2.28	1.09	-
1935	2.00	1.84	2.54	3.48	2.32	3.84	4.00	2.70	1.55	1.30	1.34	.77	27.68
1936	.62	1.39	1.03	6.56	5.51	4.53	8.18	2.40	1.33	1.20	.86	1.02	34.63
1937	1.35	1.04	2.70	7.30	4.24	2.93	3.34	2.88	1.96	1.44	1.72	1.51	32.41
1938	2.42	1.41	1.81	2.26	1.70	3.29	4.56	2.51	2.39	5.44	3.59	1.58	32.96
1939	1.04	1.37	1.25	2.34	6.38	5.25	3.29	2.70	2.20	1.77	1.70	1.01	30.30
1940	.74	.66	.82	1.08	2.33	2.42	3.12	1.97	1.88	1.73	2.52	1.43	20.70
1941	.90	1.24	1.59	2.04	1.23	1.90	1.94	1.18	.88	3.41	1.40	.84	18.55
1942	.78	.98	1.85	1.81	3.17	4.13	1.97	2.59	1.77	1.62	1.97	1.52	24.16
1943	1.39	1.31	5.19	5.03	4.24	5.03	3.65	2.77	1.90	3.28	1.54	1.07	36.40
1944	.99	1.05	1.27	1.97	4.90	5.99	4.41	2.71	1.36	1.04	1.15	1.01	27.85
1945	.74	.85	1.77	1.98	3.01	2.72	3.15	2.68	1.36	1.28	1.09	1.56	22.19

^{1/} Adjusted for change in contents in Chatuge Lake since February 1942; no regulation prior to that date.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted ^{1/}			Observed	Adjusted ^{1/}	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1934	758	-	-	-	-	-	-	-	-	-	-
1935	783	4,120	Mar. 12, 1935	121	514	-	2.04	27.68	452	-	24.34
1936	803	10,600	Apr. 2, 1936	112	641	-	2.54	34.63	679	-	36.68
1937	823	5,850	Jan. 3, 1937	196	602	-	2.39	32.41	612	-	32.96
1938	853	8,720	July 23, 1938	199	612	-	2.43	32.96	575	-	30.98
1939	873	5,980	Feb. 15, 1939	188	563	-	2.23	30.30	536	-	28.86
1940	893	4,610	Aug. 13, 1940	132	383	-	1.52	20.70	411	-	22.21
1941	923	5,070	July 5, 1941	140	344	-	1.37	18.55	342	-	18.43
1942	953	2,140	Feb. 6, 1942	55	207	448	1.78	24.16	211	528	28.44
1943	973	4,960	Dec. 29, 1942	62	768	676	2.68	36.40	757	591	31.82
1944	1003	2,240	Mar. 29, 1944	57	536	516	2.05	27.85	570	517	27.90
1945	1033	1,330	Feb. 17, 1945	39	412	412	1.63	22.19	-	-	-

^{1/} Adjusted for change in contents in Chatuge Lake since February 1942; no regulation prior to that date.

234. Hiwassee River above Murphy, N. C. 1/

Location.--Lat 35°04'50", long. 84°00'10", on U. S. Highway 64, 600 ft upstream from Will Scott Creek, 2 miles east of Murphy, Cherokee County, and at mile 99.2.

Drainage area.--406 sq mi. At site used 1897-1939, 421 sq mi.

Supplemental records available.--Records of chemical analyses for water year 1947 are published in WSP 1102.

Gage.--Water-stage recorder at present site since Aug. 29, 1939. Datum of gage is 1,538.23 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Oct. 20, 1897, to June 30, 1917, and Oct. 27, 1918, to Jan. 30, 1921, wire-weight or chain gages at bridge 2.8 miles downstream at datum 30.40 ft lower. Jan. 31, 1921, to Nov. 8, 1926, chain gage 2.8 miles downstream at datum 28.40 ft lower. Nov. 9, 1926, to Apr. 30, 1940, water-stage recorder 2.8 miles downstream at datum 28.20 ft lower.

Average discharge.--53 years (1897-50), 927 cfs (adjusted for storage).

Extremes.--1897-50: Maximum discharge, 23,100 cfs Mar. 19, 1899 (gage height, 18.4 ft, site and datum then in use), from rating curve extended above 5,000 cfs; minimum daily, 10 cfs Dec. 3, 1924, result of freezeup and filling of Andrews Lake; minimum daily during normal regulation, 82 cfs Nov. 2, 1948.

Remarks.--Considerable diurnal fluctuation caused by Mission powerplant at Andrews Dam (normal regulated storage, about 75 cfs-days) beginning Dec. 2, 1924. Flow regulated by Chatuge Lake (see elsewhere in this report) beginning Feb. 12, 1942.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1898	258	339	753	960	509	1,090	1,390	583	380	618	2,100	2,480	*956
1899	2,450	1,130	960	817	2,860	3,430	1,490	690	440	447	407	371	*1,290
1900	334	353	771	800	1,780	2,070	1,660	841	1,650	1,140	503	574	1,030
1901	507	646	1,020	1,660	1,500	1,600	2,550	1,990	1,340	868	3,110	1,330	1,510
1902	640	478	2,000	1,270	2,320	2,590	1,390	706	598	389	237	336	1,070
1903	341	455	873	733	2,530	3,720	2,150	950	1,100	717	496	299	1,190
1904	247	281	253	397	663	1,260	765	595	520	377	558	278	516
1905	166	217	434	680	1,520	889	804	1,250	653	1,020	637	319	711
1906	441	315	1,420	1,660	816	1,360	1,370	729	890	1,100	1,450	1,540	1,090
1907	1,830	1,820	1,570	1,200	1,410	1,320	1,120	1,020	1,110	973	776	1,040	1,260
1908	531	814	1,070	1,680	1,950	1,890	1,560	1,230	668	688	581	408	1,090
1909	444	407	1,170	1,150	1,980	2,690	1,430	2,680	2,010	1,200	791	572	1,380
1910	602	393	742	924	980	952	686	1,600	1,210	1,100	629	537	*866
1911	385	326	642	1,100	1,110	844	2,100	878	488	627	435	340	*769
1912	402	532	787	1,040	1,420	2,410	1,540	1,170	863	*1,070	584	528	*1,020
1913	432	424	568	1,050	*1,090	2,720	1,120	*794	*685	447	384	298	*834
1914	303	293	388	413	706	751	1,090	516	337	298	286	208	*464
1915	398	503	1,650	1,400	1,420	909	618	691	572	567	383	327	784
1916	763	591	1,770	1,480	1,590	1,030	776	*990	1,080	2,540	1,130	572	1,200
1917	495	520	733	1,440	1,830	3,780	1,690	948	847	674	591	665	1,180
1918	487	437	442	1,200	1,300	806	870	961	705	628	409	*408	718
1919	*990	832	1,730	1,620	1,510	1,580	1,070	903	770	838	511	301	1,040
1920	380	401	1,090	1,350	1,190	1,660	2,640	1,100	819	805	1,580	899	1,160
1921	456	561	1,540	1,310	2,080	1,040	1,130	1,050	584	515	528	356	923
1922	318	778	918	2,390	1,700	2,490	1,780	1,610	1,060	747	473	446	1,220
1923	346	299	1,530	1,360	1,920	1,800	1,400	1,720	1,490	915	778	416	1,160
1924	311	325	804	1,590	1,070	1,430	1,390	1,180	798	452	225	372	828
1925	265	210	559	1,550	684	727	524	391	209	169	144	120	463
1926	358	548	552	1,020	803	820	738	371	249	221	461	247	531
1927	264	703	1,790	853	1,290	1,570	1,030	692	933	697	590	377	897
1928	320	466	1,520	870	843	1,580	1,530	1,580	1,260	1,260	1,130	1,430	1,150
1929	671	555	519	1,150	1,420	2,950	1,620	2,650	1,550	999	633	1,180	1,320
1930	830	2,350	1,070	1,040	1,110	1,270	863	1,030	538	357	238	267	911
1931	223	387	387	539	585	604	1,550	777	402	462	323	274	542
1932	156	183	1,380	1,390	1,880	1,210	1,200	1,130	731	923	472	301	913
1933	684	903	3,350	1,750	1,630	1,330	1,260	1,350	562	410	390	325	1,180
1934	207	207	255	515	540	1,740	716	524	726	483	759	363	587
1935	634	600	789	1,064	855	1,411	1,459	878	533	426	396	238	774
1936	202	449	309	2,269	2,035	1,528	3,007	752	419	388	279	334	991
1937	421	341	937	2,556	1,602	986	1,200	986	654	470	515	451	924
1938	659	423	544	702	595	1,144	1,716	858	899	1,834	1,268	513	933
1939	322	442	406	784	2,482	1,791	1,142	849	707	572	512	331	851
1940	235	223	274	373	849	851	1,077	655	664	567	745	443	578
1941	271	389	505	620	416	605	600	344	275	1,146	429	253	490
1942	225	310	543	577	802	694	317	381	302	319	397	290	428
1943	244	229	1,320	1,826	1,602	1,487	983	937	988	1,430	961	1,628	1,134
1944	318	171	574	411	1,047	1,199	1,166	871	819	1,027	1,270	905	814
1945	336	156	993	396	736	471	525	513	901	929	916	700	631
1946	384	259	388	1,493	2,059	1,210	1,712	1,024	762	975	1,311	1,504	1,082
1947	210	233	299	1,319	692	642	947	1,749	1,134	1,207	697	200	780
1948	262	213	214	223	891	636	728	815	1,402	776	681	894	641
1949	130	642	1,113	1,598	1,500	1,078	1,245	804	218	1,250	1,350	1,459	1,087
1950	1,360	791	933	1,199	1,306	1,389	1,417	1,056	701	1,008	1,050	866	1,089

* Only monthly figures revised; revised daily figures not available.

† Corrected.

* Not previously published; estimated or partly estimated on basis of records for French Broad River at Asheville.

1/ Published as "at Murphy" 1897 to 1940 (1897-1939 used herein); and as "above Murphy" 1940-50.

Monthly and yearly runoff, in inches, of Hiwassee River above Murphy, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1898	*0.71	0.90	2.06	2.63	1.26	2.98	3.69	1.60	1.01	1.69	5.74	6.57	*30.84
1899	6.72	2.98	2.63	2.24	7.08	9.39	3.95	1.89	1.17	*1.36	1.11	.98	*41.50
1900	.92	.94	2.11	2.19	4.41	5.66	4.41	2.30	4.36	3.11	1.38	1.52	33.31
1901	1.39	1.71	2.79	4.54	3.70	4.39	6.76	5.45	3.54	2.38	8.51	3.53	48.69
1902	1.75	1.27	5.47	3.47	5.73	7.10	3.68	1.93	1.59	1.06	.65	.89	34.60
1903	.85	1.21	2.39	2.01	6.26	10.18	5.70	2.60	2.91	1.96	1.36	.79	38.30
1904	.68	.74	.69	1.09	1.70	3.44	2.03	1.63	1.38	1.03	1.53	.74	16.68
1905	.46	.58	1.19	1.86	3.76	2.44	2.13	3.43	1.73	2.79	1.74	.85	22.96
1906	1.21	.84	3.88	4.56	2.02	3.72	3.63	2.00	2.36	3.02	3.97	4.08	35.29
1907	5.01	4.83	4.31	3.28	3.48	3.61	2.96	2.79	2.95	2.67	2.13	2.77	40.79
1908	1.45	2.16	2.92	4.61	4.99	5.16	4.12	3.37	1.77	1.88	1.59	1.06	35.08
1909	1.21	1.08	3.20	3.16	4.89	7.35	3.79	7.34	5.33	3.30	2.17	1.52	44.34
1910	1.65	1.04	2.03	2.53	2.42	2.61	1.82	4.39	3.28	3.01	1.72	1.42	*27.92
1911	1.06	.86	1.76	3.00	2.74	2.31	5.57	2.40	1.29	1.72	1.19	.90	24.80
1912	1.10	1.41	2.16	2.85	3.64	6.60	4.07	3.20	2.29	*2.75	1.60	1.40	*33.07
1913	1.18	1.12	1.55	2.87	*2.70	7.46	2.97	*2.17	*1.81	1.22	1.05	.79	*26.89
1914	.83	.78	1.06	1.13	1.75	2.06	2.89	1.41	.89	.82	.78	.55	*14.95
1915	1.09	1.33	4.51	3.82	3.52	2.49	1.64	1.89	1.52	1.55	1.05	.87	25.28
1916	2.09	1.57	4.86	4.04	4.07	2.83	2.06	*2.71	2.87	6.97	3.08	1.52	*38.67
1917	1.36	1.38	2.01	3.93	4.52	10.35	4.49	2.59	2.24	1.85	1.62	1.76	38.10
1918	1.33	1.16	1.21	3.29	5.22	2.21	2.31	2.63	1.87	1.72	1.12	*1.08	*23.15
1919	*2.71	2.20	4.74	4.44	3.24	4.34	2.82	2.47	2.04	2.30	1.40	.80	*33.50
1920	1.04	1.06	3.00	3.69	3.06	4.56	6.99	3.00	2.17	2.20	4.34	2.38	37.49
1921	1.25	1.49	4.21	3.58	5.15	2.86	3.00	2.87	1.55	1.41	1.44	.94	29.75
1922	.87	2.06	2.51	6.54	4.21	6.83	4.71	4.41	2.81	2.05	1.29	1.18	39.47
1923	.95	.79	4.19	3.72	4.74	4.92	3.72	4.70	3.95	2.51	2.13	1.10	37.42
1924	.85	.86	2.20	4.35	2.73	3.90	3.69	3.24	2.11	1.24	.62	.98	26.77
1925	.72	.56	1.53	4.25	1.69	1.99	1.39	1.07	.55	.46	.39	.32	14.92
1926	.98	1.45	1.51	2.80	1.99	2.25	1.95	1.02	.66	.60	1.26	.66	17.13
1927	.72	1.86	4.89	2.34	3.19	4.29	2.74	1.90	2.47	1.91	1.62	1.00	28.93
1928	.88	1.24	4.17	2.38	2.16	4.33	4.07	4.33	3.33	3.45	3.08	3.80	37.22
1929	1.83	1.47	1.42	3.14	3.51	8.08	4.30	7.26	4.11	2.74	1.73	3.12	42.71
1930	2.27	6.23	2.92	2.84	2.75	3.47	2.29	2.83	1.42	.98	.65	.71	29.36
1931	.61	1.02	1.06	1.48	1.45	1.66	4.12	2.13	1.07	1.26	.89	.73	17.46
1932	.43	4.48	3.79	3.81	4.83	3.32	3.18	3.11	1.94	2.53	1.29	.80	29.51
1933	1.87	2.39	9.18	4.78	4.52	3.64	5.33	3.69	1.49	1.12	1.07	.86	37.94
1934	.57	.55	1.70	1.41	1.34	4.76	1.90	1.44	1.92	1.32	2.08	.96	18.95
1935	1.74	1.59	2.16	2.91	2.12	3.86	3.87	2.40	1.41	1.17	1.08	.63	24.94
1936	.55	1.19	.85	6.21	5.21	4.19	7.97	2.06	1.11	1.06	.76	.88	32.04
1937	1.15	.90	2.57	7.00	3.96	2.70	3.18	2.70	1.73	1.29	1.41	1.19	29.78
1938	1.81	1.12	1.49	1.92	1.47	3.13	4.55	2.35	2.38	5.02	3.47	1.36	30.07
1939	.88	1.17	1.11	2.15	6.14	4.90	3.03	2.33	1.87	1.57	1.40	.88	27.43
1940	.67	.61	.78	1.06	2.26	2.42	2.96	1.86	1.83	1.61	2.11	1.22	19.39
1941	.77	1.07	1.43	1.76	1.07	1.72	1.65	.98	.76	3.25	1.22	.70	16.38
1942	.64	.85	1.54	1.64	-	-	-	-	-	-	-	-	-

* Only monthly figures revised; revised daily figures not available.

† Corrected.

† Not previously published; estimated or partly estimated on basis of records for French Broad River at Asheville.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year			
		Observed				Adjusted/		Observed		Adjusted/	
		Momentary		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1898	(a)	*22,000	Sept. 3, 1898	-	*956	-	*2.27	*30.84	1,220	-	39.50
1899	(a)	23,100	Mar. 19, 1899	-	*1,290	-	*3.06	*41.50	*1,030	-	*33.14
1900	(a)	*13,100	Feb. 13, 1900	268	1,030	-	2.45	33.31	1,090	-	35.23
1901	(a)	*13,200	Aug. 23, 1901	215	1,510	-	3.59	48.69	1,590	-	51.29
1902	(a)	*16,300	Dec. 29, 1901	198	1,070	-	2.54	34.60	951	-	30.64
1903	(a)	*12,000	Feb. 28, 1903	238	1,190	-	2.83	38.30	1,110	-	35.88
1904	(a)	*3,990	Mar. 7, 1904	205	516	-	1.23	16.68	519	-	16.80
1905	(a)	*8,490	July 12, 1905	140	711	-	1.69	22.96	826	-	26.66
1906	(a)	*7,950	Dec. 3, 1905	258	1,090	-	2.59	35.29	1,350	-	43.51
1907	(a)	*18,400	Nov. 19, 1906	425	1,260	-	2.99	40.79	1,030	-	33.17
1908	(a)	*8,730	Feb. 15, 1908	295	1,090	-	2.59	35.08	1,050	-	34.04
1909	(a)	*12,600	Mar. 13, 1909	260	1,380	-	3.28	44.34	1,350	-	43.57
1910	(a)	*8,330	May 8, 1910	350	*866	-	*2.06	*27.92	*834	-	*26.88
1911	(a)	*9,230	Apr. 5, 1911	270	*769	-	*1.83	24.80	800	-	25.79
1912	(a)	*10,500	Mar. 29, 1912	205	*1,020	-	*2.42	*33.07	*998	-	*32.25
1913	(a)	*14,400	Mar. 14, 1913	205	*934	-	*1.98	*26.89	*797	-	*25.71
1914	(a)	*6,350	Apr. 20, 1914	140	*464	-	*1.10	*14.95	*596	-	*19.21
1915	(a)	*9,950	Dec. 26, 1914	185	784	-	1.86	25.28	833	-	26.87
1916	(a)	*12,300	Dec. 29, 1915	365	1,200	-	2.85	*38.67	1,080	-	*34.90
1917	(a)	*15,400	Mar. 4, 1917	-	1,180	-	2.80	38.10	1,150	-	37.05
1918	(a)	-	-	-	718	-	1.71	*23.15	902	-	*29.10
1919	503	*16,000	Dec. 22, 1918	225	1,040	-	2.47	*33.50	898	-	28.95
1920	503	15,100	Dec. 2, 1920	225	1,160	-	2.76	37.49	1,220	-	39.34

† Adjusted for change in contents in Chatuge Lake since February 1942; no regulation prior to that date.

* Revised.

† Corrected.

† Not previously published.

a Tennessee Division of Geology, Bull. 34.

TENNESSEE RIVER BASIN

Yearly discharge, in cubic feet per second, of Hiwassee River above Murphy, N. C.--Continued

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted ¹			Observed	Adjusted ¹	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1921	523	12,400	Dec. 14, 1920	240	923	-	2.19	29.75	876	-	28.24
1922	543	*18,300	Jan. 21, 1922	240	1,220	-	2.90	39.47	1,240	-	39.96
1923	563	18,400	Dec. 17, 1922	250	1,160	-	2.76	37.42	1,100	-	35.40
1924	583	*8,500	Mar. 5, 1924	145	828	-	1.97	26.77	794	-	25.67
1925	603	*6,520	Jan. 18, 1925	10	463	-	1.10	14.92	498	-	16.05
1926	623	*7,240	Jan. 18, 1926	120	531	-	1.26	17.13	641	-	20.66
1927	643	10,300	Dec. 28, 1926	194	897	-	2.13	28.93	860	-	27.75
1928	663	17,400	Mar. 30, 1928	216	1,150	-	2.73	37.22	1,100	-	35.65
1929	683	14,300	Sept. 26, 1929	289	1,320	-	3.14	42.71	1,530	-	49.41
1930	698	7,330	Nov. 3, 1929	156	911	-	2.16	29.36	640	-	20.63
1931	713	8,500	Apr. 4, 1931	141	542	-	1.29	17.48	604	-	19.49
1932	728	10,100	Dec. 14, 1931	103	913	-	2.17	29.51	1,180	-	38.25
1933	743	18,700	Dec. 28, 1932	190	1,180	-	2.80	37.94	816	-	26.32
1934	758	15,200	Mar. 3, 1934	84	587	-	1.39	18.95	701	-	22.62
1935	783	7,880	Mar. 12, 1935	180	774	-	1.84	24.94	684	-	22.04
1936	803	20,200	Feb. 4, 1936	157	991	-	2.35	32.04	1,054	-	34.07
1937	823	11,800	Jan. 3, 1937	260	924	-	2.19	29.78	918	-	29.58
1938	853	12,400	July 23, 1938	183	933	-	2.22	30.07	894	-	28.81
1939	873	10,100	Feb. 15, 1939	277	851	-	2.02	27.43	814	-	26.33
1940	893	5,940	Aug. 13, 1940	198	578	-	1.42	19.39	614	-	20.60
1941	923	6,660	July 5, 1941	184	490	-	1.21	16.36	482	-	16.14
1942	953	5,240	Feb. 16, 1942	130	428	*669	*1.65	*22.38	489	805	26.92
1943	973,1003	10,300	Dec. 29, 1942	176	1,134	1,043	2.57	34.86	1,073	907	30.31
1944	1003	6,120	Feb. 27, 1944	116	614	791	1.95	26.53	850	797	28.49
1945	1033	4,920	Feb. 17, 1945	91	631	630	1.55	21.09	592	675	22.58
1946	1053	14,400	Feb. 10, 1946	103	1,082	1,066	2.63	35.65	1,058	1,022	34.17
1947	1083	11,600	Jan. 20, 1947	90	780	697	1.72	23.30	775	695	23.25
1948	1113	6,590	Feb. 12, 1948	110	641	722	1.78	24.20	742	878	29.43
1949	1143	10,400	Nov. 28, 1948	82	1,087	1,213	2.99	40.55	1,189	1,184	39.59
1950	1173	11,100	Mar. 13, 1950	266	1,089	1,025	2.52	34.26	-	-	-

¹Adjusted for change in contents in Chatuge Lake since February 1942; no regulation prior to that date.

* Revised.

† Not previously published.

235. Valley River at Andrews, N. C.

Location--Lat 35°12'20", long. 83°49'03", 300 ft downstream from county bridge, 0.1 mile downstream from Tatham Creek, 0.5 mile northeast of Andrews, Cherokee County, and 0.8 mile upstream from Britton Creek.

Drainage area--41.8 sq mi.

Gage--Staff gage. Datum of gage is 1,758.36 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes--1946-47: Maximum discharge, 2,560 cfs Jan. 20, 1947 (gage height, 7.9 ft, from floodmark); minimum observed, 11 cfs Sept. 28, 30, 1947 (gage height, 0.66 ft).

Remarks--Small diversion above station for industrial use.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1946	-	-	-	-	-	-	-	-	-	-	21.1	20.0	-
1947	25.0	33.2	66.0	393	104	128	110	76.9	46.9	32.5	24.2	15.9	88.3

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1946	-	-	-	-	-	-	-	-	-	-	0.58	0.53	-
1947	0.69	0.89	1.82	10.85	2.59	3.53	2.94	2.12	1.25	0.90	.67	.43	28.68

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1946	1053	-	-	-	-	-	-	-	-
1947	1083	2,560	Jan. 20, 1947	11	88.3	2.11	28.68	-	-

236. Valley River at Tomotla, N. C.

Location.--Lat 35°08'20", long. 83°58'50", at highway bridge at Tomotla, Cherokee County, 0.2 mile upstream from Rogers Creek, 4.7 miles northeast of Murphy, and 6.6 miles upstream from mouth.

Drainage area.--104 sq mi.

Gage.--Water-stage recorder and concrete control. Datum of gage is 1,556.46 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to May 11, 1934, various staff or chain gages at same site and datum.

Average discharge.--38 years (1904-9, 1914-16, 1919-50), 257 cfs.

Extremes.--1904-9, 1914-17, 1918-50: Maximum discharge, 9,030 cfs Nov. 19, 1906 (gage height, 17.3 ft), from rating curve extended above 5,000 cfs; minimum, 12 cfs several times in August and September 1925 (gage height, 0.52 ft).

Monthly and yearly mean discharge, in cubic feet per second													The year
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1904	-	-	-	-	-	-	-	-	-	65.6	133	55.2	-
1905	32.9	59.5	181	262	642	312	265	281	154	361	221	86.4	236
1906	102	85.2	502	514	250	425	403	204	310	395	322	373	325
1907	442	663	521	483	449	480	321	306	297	211	160	168	375
1908	123	253	323	432	437	495	347	259	162	150	133	75.6	265
1909	73.9	78.1	285	299	697	676	316	463	452	308	178	203	334
1910	130	87.4	205	-	-	-	-	-	-	-	-	-	-
1914	-	-	-	-	332	259	334	147	81.1	89.9	91.6	55.7	-
1915	120	93.3	492	389	381	270	168	165	105	143	73.7	78.3	206
1916	138	133	422	458	423	304	210	191	252	362	192	97.8	265
1917	81.4	128	231	541	740	#1,380	448	-	-	-	-	-	-
1919	-	178	395	441	355	417	247	231	162	143	90.5	57.3	-
1920	135	104	307	487	354	557	832	288	163	226	563	322	362
1921	119	139	470	373	635	256	331	303	146	161	228	120	271
1922	94.1	351	406	786	523	806	510	442	275	184	92.1	82.3	379
1923	69.4	67.3	467	435	688	591	417	396	312	192	150	84.0	320
1924	56.2	71.0	175	451	281	353	357	334	189	161	82.3	109	218
1925	63.4	51.6	207	497	236	226	166	156	90.9	51.3	24.6	21.3	149
1926	67.8	156	140	338	296	314	271	142	116	72.8	183	74.0	180
1927	67.8	209	655	286	471	541	288	176	294	159	230	102	287
1928	82.1	121	543	308	296	512	441	413	445	370	242	434	352
1929	156	165	158	482	447	741	494	755	306	177	105	228	351
1930	138	685	264	292	288	462	243	303	122	91.0	37.5	56.6	248
1931	46.3	80.5	122	160	202	171	419	180	82.5	78.5	59.2	44.5	136
1932	33.3	44.6	439	418	711	310	312	284	174	318	98.5	64.9	266
1933	139	271	1,050	467	716	375	279	379	118	92.1	81.7	61.1	334
1934	43.2	38.6	57.4	198	137	554	229	153	182	119	197	97.6	168
1935	112	96.8	143	249	291	480	494	227	110	81.3	70.0	39.0	199
1936	37.5	102	76.7	754	669	524	835	158	78.9	59.1	54.0	48.0	281
1937	70.6	72.9	221	704	484	262	285	250	113	88.1	112	72.9	227
1938	87.7	69.5	125	223	174	382	557	272	322	415	392	132	263
1939	71.2	95.2	106	267	721	529	349	195	143	117	79.0	45.6	223
1940	36.3	39.4	63.7	93.0	221	287	326	165	174	108	89.1	52.0	137
1941	44.2	74.0	88.4	158	92.7	219	176	88.9	61.5	215	99.9	61.8	115
1942	43.7	80.6	131	181	373	458	168	215	181	198	221	134	198
1943	119	111	624	489	477	465	310	223	127	301	147	95.8	291
1944	66.0	74.1	101	189	662	645	458	233	115	73.1	69.9	77.0	228
1945	73.5	82.5	237	268	489	314	301	300	127	109	83.3	72.7	203
1946	83.8	145	277	579	696	396	333	361	162	129	64.6	61.7	272
1947	64.7	83.6	144	883	271	308	257	191	130	105	76.3	48.1	214
1948	45.6	79.3	116	133	530	428	445	154	105	122	144	53.9	195
1949	42.7	401	460	659	588	361	405	279	207	443	177	182	349
1950	232	237	340	594	556	684	300	226	285	320	151	132	338

* Not previously published; partly estimated on basis of records for Hiwassee River at Murphy.

Monthly and yearly runoff, in inches													The year
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1904	-	-	-	-	-	-	-	-	-	0.73	1.47	0.59	-
1905	0.37	0.64	2.00	2.90	6.43	3.46	2.84	3.12	1.65	4.00	2.45	.93	30.79
1906	1.13	.91	5.57	5.70	2.50	4.71	4.32	2.26	3.33	4.37	3.57	4.00	42.37
1907	4.91	7.11	5.78	5.36	4.49	5.32	3.45	3.59	3.19	2.34	1.77	1.80	48.91
1908	1.36	2.71	3.58	4.79	4.53	5.49	3.72	2.87	1.74	1.66	1.47	.81	34.73
1909	.82	.84	3.16	3.31	6.98	7.49	3.40	5.13	4.85	3.41	1.98	2.18	43.55
1910	1.44	.94	2.27	-	-	-	-	-	-	-	-	-	-
1914	-	-	-	-	3.32	2.87	3.59	1.63	.87	1.00	1.02	.60	-
1915	1.33	1.00	5.46	4.32	3.61	3.00	1.80	1.85	1.12	1.58	.82	.84	26.91
1916	1.53	1.43	4.68	5.07	4.39	3.37	2.26	2.12	2.70	4.02	2.13	1.05	34.75
1917	.90	1.38	2.57	5.99	7.41	#15.29	4.81	-	-	-	-	-	-
1919	-	1.91	4.38	4.89	3.56	4.62	2.65	2.56	1.74	1.58	1.00	.61	-
1920	1.50	1.12	3.41	5.39	3.67	6.18	8.92	3.19	1.75	2.51	6.24	3.45	47.33

* Not previously published; partly estimated on basis of records for Hiwassee River at Murphy.

Monthly and yearly runoff, in inches, of Valley River at Tomotls, N. C.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	1.32	1.49	5.21	4.14	6.35	2.84	3.55	3.36	1.57	1.78	2.53	1.29	35.43
1922	1.04	3.76	4.50	8.71	5.24	8.94	5.47	4.90	2.95	2.03	1.02	.88	49.44
1923	.77	.72	5.17	4.83	6.89	6.55	4.48	4.39	3.35	2.13	1.66	.90	41.84
1924	.62	.76	1.94	5.00	2.91	3.91	3.83	3.70	2.03	1.79	.91	1.17	28.57
1925	.70	.55	2.30	5.51	2.37	2.51	1.78	1.73	.98	.57	.27	.23	19.50
1926	.75	1.67	1.55	3.75	2.97	3.48	2.91	1.57	1.25	.81	2.03	.79	23.53
1927	.75	2.24	7.26	2.95	4.72	5.99	3.09	1.95	3.16	1.77	2.55	1.09	37.52
1928	.91	1.30	6.02	3.42	3.07	5.68	4.73	4.58	4.77	4.10	2.68	4.65	45.92
1929	1.73	1.77	1.75	5.34	4.48	8.21	5.29	8.37	3.28	1.96	1.17	2.45	45.80
1930	1.53	7.34	2.92	3.24	2.88	5.12	2.61	3.36	1.31	1.01	.42	.61	32.35
1931	.51	.86	1.35	1.77	2.03	1.89	4.50	2.00	.88	.87	.66	.48	17.80
1932	.37	.48	4.87	4.94	7.38	3.44	3.35	3.15	1.87	5.52	1.09	.70	34.86
1933	1.54	2.90	11.59	5.17	7.17	4.16	2.99	4.20	1.26	1.02	.91	.66	43.57
1934	.48	.41	.64	2.20	1.37	6.15	2.45	1.70	1.96	1.32	2.18	1.05	21.91
1935	1.25	1.04	1.59	2.76	2.91	5.32	5.30	2.51	1.18	.90	.78	.42	25.95
1936	.42	1.09	.85	8.35	6.94	5.81	8.96	1.75	.85	.66	.60	.51	36.79
1937	.78	.78	2.44	7.80	4.84	2.90	3.06	2.77	1.22	.98	1.24	.78	29.59
1938	.97	.75	1.38	2.47	1.74	4.23	5.98	3.02	3.46	4.60	4.35	1.42	34.37
1939	.79	1.02	1.18	2.96	7.22	5.87	3.75	2.16	1.53	1.29	.88	.49	29.14
1940	.40	.42	.71	1.03	2.29	3.18	3.49	1.83	1.86	1.20	.99	.56	17.96
1941	.49	.79	.98	1.75	.93	2.42	1.89	.99	.66	2.39	1.11	.66	15.06
1942	.48	.66	1.45	2.01	3.74	5.08	1.81	2.38	1.94	2.19	2.45	1.44	25.83
1943	1.32	1.19	6.92	5.42	4.78	5.15	3.32	2.47	1.36	3.34	1.63	1.01	37.91
1944	.73	.79	1.12	2.10	6.86	7.15	4.92	2.58	1.24	.81	.78	.83	29.91
1945	.81	.88	2.63	2.97	4.90	3.48	3.23	3.33	1.36	1.21	.92	.78	26.50
1946	.93	1.56	3.07	6.42	6.97	4.40	3.57	4.00	1.74	1.43	.72	.66	35.47
1947	.72	.90	1.60	9.79	7.72	3.42	2.76	2.11	1.39	1.16	.85	.52	27.94
1948	.51	.85	1.28	1.48	5.49	4.74	4.77	1.71	1.13	1.35	1.60	.58	25.49
1949	.47	4.30	5.10	7.30	5.89	4.00	4.34	3.09	2.22	4.91	1.97	1.96	45.55
1950	2.58	2.55	3.77	6.58	5.57	7.59	3.22	2.50	3.08	3.55	1.68	1.42	44.07

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1904	503	-	-	-	-	-	-	-	-
1905	-	*5,430	July 12, 1905	22	236	2.27	30.79	271	35.39
1906	503	*2,660	July 14, 1906	58	325	3.12	42.37	403	52.56
1907	503	9,030	Nov. 19, 1906	86	375	3.61	48.91	297	38.76
1908	503	*2,290	Feb. 15, 1908	58	265	2.55	34.73	244	31.90
1909	503	*3,880	Feb. 15, 1909	58	354	3.21	45.55	332	43.58
1910	503	-	-	-	-	-	-	-	-
1914	503	*a1,120	Feb. 19, 1914	-	-	-	-	-	-
1915	503	a4,000	Dec. 25, 1914	45	206	1.98	26.91	205	26.76
1916	503	a3,650	Dec. 18, 29, 1915	60	265	2.55	34.75	244	31.96
1917	503	*a7,610	Mar. 4, 1917	-	-	-	-	-	-
1919	503	*4,050	Dec. 22, 1918	-	-	-	-	224	29.24
1920	503	*6,480	Apr. 2, 1920	34	362	3.48	47.33	377	49.32
1921	523	3,950	Dec. 14, 1920	74	271	2.61	35.43	281	36.71
1922	543	*7,250	Jan. 21, 1922	65	379	3.64	49.44	359	46.80
1923	563	3,820	Dec. 17, 1922	56	320	3.08	41.84	295	38.50
1924	583	2,030	Jan. 3, 1924	48	218	2.10	28.57	220	28.80
1925	603	*1,670	Dec. 8, 1924	12	149	1.43	19.50	153	19.92
1926	623	2,120	Jan. 18, 1926	19	180	1.73	23.53	228	29.81
1927	643	a2,900	Dec. 25, 1926	50	287	2.76	37.52	272	35.50
1928	663	5,050	Mar. 30, 1928	56	352	3.38	45.92	328	42.94
1929	683	3,650	Apr. 28, 1929	66	351	3.38	45.80	401	52.34
1930	698	*2,620	Nov. 15, 1929	29	248	2.38	32.35	178	23.28
1931	713	1,900	Apr. 4, 1931	18	136	1.31	17.80	159	20.80
1932	728	3,650	Jan. 30, 1932	23	266	2.56	34.86	345	45.17
1933	743	*6,850	Dec. 28, 1932	30	334	3.21	43.57	223	29.07
1934	758	5,200	Mar. 3, 1934	24	166	1.62	21.91	186	24.25
1935	783	2,900	Mar. 12, 1935	29	199	1.91	25.95	187	24.44
1936	803	8,100	Feb. 4, 1936	27	281	2.70	36.79	294	38.43
1937	823	3,540	Jan. 3, 1937	44	227	2.18	29.59	220	28.69
1938	853	3,240	Apr. 8, 1938	44	263	2.53	34.37	262	34.26
1939	873	3,350	Feb. 15, 1939	37	223	2.14	29.14	212	27.68
1940	893	1,440	Apr. 19, 1940	31	137	1.32	17.96	143	18.69
1941	923	915	July 16, 1941	35	115	1.11	15.06	119	15.59
1942	953	2,400	Feb. 17, 1942	27	198	1.90	25.83	249	32.47
1943	973	5,500	Dec. 29, 1942	59	291	2.80	37.91	239	31.12
1944	1003	3,900	Feb. 27, 1944	41	228	2.19	29.91	241	31.59
1945	1033	2,670	Feb. 17, 1945	38	203	1.95	26.50	212	27.74
1946	1053	5,570	Feb. 10, 1946	44	272	2.62	35.47	254	33.13
1947	1083	6,130	Jan. 20, 1947	32	214	2.06	27.94	210	27.56
1948	1113	3,150	Feb. 12, 1948	32	195	1.88	25.49	250	32.72
1949	1143	5,920	Nov. 28, 1948	36	349	3.36	45.55	342	44.58
1950	1173	5,460	Jan. 19, 1950	64	338	3.25	44.07	-	-

* Revised.

* Not previously published.

a Maximum observed.

237. Nottely River near Blairsville, Ga.

Location.--Lat 34°50'28", long. 83°56'10", 250 ft upstream from county road bridge, 0.1 mile downstream from Arkacqua Creek, 0.2 mile upstream from Akins Creek, and 2.7 miles southeast of Blairsville, Union County.

Drainage area.--74.8 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,812.47 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years (1942-50), 177 cfs.

Extremes.--1942-50: Maximum discharge, 4,320 cfs (revised) Mar. 13, 1950 (gage height, 11.43 ft), from rating curve extended above 3,000 cfs on basis of contracted-opening determination of peak flow; minimum, 27 cfs Sept. 8, Oct. 7, 1947 (gage height, 1.77 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	-	-	-	#112	306	328	160	152	130	93.6	125	124	-
1943	95.8	98.4	352	316	301	319	249	206	132	155	94.2	65.3	198
1944	54.4	66.6	69.9	125	293	409	291	182	106	59.9	66.5	48.8	147
1945	46.9	52.8	76.1	108	194	177	201	157	81.5	80.5	112	119	117
1946	92.3	113	220	568	515	476	292	332	171	120	65.6	65.6	251
1947	77.8	85.3	91.1	341	154	174	208	142	108	61.0	49.5	39.7	128
1948	66.0	104	110	101	335	328	217	110	81.0	136	139	69.4	149
1949	48.9	328	246	365	336	258	277	218	196	279	140	163	237
1950	144	153	181	255	246	344	189	155	169	125	98.9	197	188

* Not previously published; estimated on basis of records for station near Ranger, N. C.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	-	-	-	#1.73	4.26	5.05	2.39	2.35	1.94	1.44	1.93	1.86	-
1943	1.48	1.47	5.43	4.87	4.19	4.91	3.71	3.18	1.97	2.39	1.45	.97	36.02
1944	.84	.99	1.08	1.93	4.22	6.31	4.34	2.80	1.59	.92	1.03	.73	26.78
1945	.72	.79	1.17	1.67	2.70	2.72	3.00	2.43	1.22	1.24	1.72	1.77	21.15
1946	1.42	1.68	3.39	8.76	7.17	7.34	4.36	5.12	2.54	1.86	1.01	.98	45.63
1947	1.20	1.27	1.40	5.25	2.14	2.68	3.10	2.19	1.61	.94	.76	.59	23.13
1948	1.02	1.55	1.69	1.56	4.83	5.06	3.24	1.69	1.21	2.10	2.13	1.04	27.12
1949	.75	4.89	3.79	5.63	4.68	3.97	4.14	3.35	2.92	4.30	2.16	2.43	43.01
1950	2.21	2.28	2.78	3.92	3.43	5.31	2.82	2.38	2.53	1.92	1.52	2.94	34.04

* Not previously published; estimated on basis of records for station near Ranger, N. C.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1942	953	2,430	Feb. 16, 1942	-	-	-	-	#173	#31.33
1943	973,1053	2,860	Dec. 29, 1942	46	198	2.65	36.02	168	30.55
1944	1003	1,840	Mar. 19, 1944	39	147	1.97	26.78	146	26.55
1945	1033	1,040	Sept. 16, 1945	37	117	1.56	21.15	138	24.96
1946	1053	*4,160	Feb. 10, 1946	45	251	3.36	45.63	237	43.01
1947	1083	3,100	Jan. 20, 1947	50	128	1.71	23.13	150	23.52
1948	1113	1,980	Feb. 12, 1948	28	149	1.99	27.12	177	32.29
1949	1143	2,900	Jan. 5, 1949	45	237	3.17	43.01	225	40.85
1950	1173	*4,320	Mar. 13, 1950	62	188	2.51	34.04	-	-

* Revised.

* Not previously published.

238. Coosa Creek near Blairsville, Ga.

Location.--Lat 34°51'05", long. 83°59'35", 0.2 mile downstream from bridge on U. S. Highway 76 between Blairsville and Blue Ridge, 0.2 mile downstream from Anderson Creek, and 2.6 miles southwest of Blairsville, Union County.

Drainage area.--21.1 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,789.46 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Apr. 3, 1942, water-stage recorder at site 600 ft upstream at datum 2.66 ft higher.

Extremes.--1942-45: Maximum discharge, 706 cfs Feb. 16, 1942 (gage height, 5.83 ft, site and datum then in use); minimum, 9.8 cfs Sept. 23, 1944 (gage height, 1.42 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	-	-	-	28.7	60.4	78.1	40.2	39.5	27.9	18.2	34.1	24.9	-
1943	22.6	21.1	75.8	74.7	77.7	83.2	62.5	46.9	33.6	33.8	22.3	18.3	47.6
1944	14.9	16.4	17.9	27.8	70.6	90.5	67.1	45.0	24.7	16.2	15.9	11.6	34.7
1945	10.5	12.3	17.8	22.4	43.4	37.9	45.0	37.2	22.1	22.2	31.4	26.8	27.3

Monthly and yearly runoff, in inches, of Coosa Creek near Blairsville, Ga.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	-	-	-	1.57	2.98	4.27	2.13	2.16	1.47	0.99	1.86	1.32	-
1943	1.24	1.12	4.14	4.08	3.83	4.55	3.30	2.56	1.78	1.85	1.22	.97	30.64
1944	.81	.87	.98	1.52	3.61	4.94	3.55	2.46	1.31	.89	.87	.61	22.42
1945	.58	.65	.96	1.22	2.14	2.07	2.38	2.03	1.17	1.21	1.71	1.42	17.54

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1942	953	706	Feb. 16, 1942	-	-	-	-	39.3	25.25		
1943	973	675	Jan. 18, 1943	11	47.6	2.26	30.64	41.6	26.80		
1944	1003	631	May 19, 1944	10	34.7	1.64	22.42	34.0	21.95		
1945	1033	543	Aug. 7, 1945	10	27.3	1.29	17.54	-	-		

239. Youngcane Creek near Youngcane, Ga.

Location.--Lat 34°52'41", long. 84°03'57", at county road bridge, 0.3 mile east of Davenport Mill, 0.6 mile downstream from Odom Creek, and 3.4 miles north of Youngcane, Union County.

Drainage area.--27.6 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,783.60 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1941-45: Maximum discharge, 1,400 cfs Jan. 18, 1943 (gage height, 8.34 ft); minimum, 14 cfs Aug. 3, 4, 1942; minimum gage height, 1.62 ft Feb. 1, 1945.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	*17.9	*20.5	*31.5	*32.0	54.5	67.1	35.3	35.0	29.1	23.9	44.5	30.4	*35.1
1943	31.2	26.7	76.6	78.2	68.8	81.2	55.8	44.1	36.4	37.7	30.4	29.0	49.7
1944	23.7	24.9	26.3	31.3	77.6	95.9	72.6	47.5	30.1	24.3	23.3	19.2	41.3
1945	17.6	22.9	30.5	32.3	58.2	42.4	47.5	45.7	26.7	27.3	34.8	27.8	34.3

* Not previously published; estimated or partly estimated on basis of records for Nottely River near Ranger, N. C.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	*0.75	*0.83	*1.32	*1.54	2.05	2.80	1.43	1.46	1.18	1.00	1.86	1.23	*17.25
1943	1.50	1.08	3.20	3.27	2.60	3.39	2.26	1.84	1.47	1.58	1.27	1.17	24.43
1944	.99	1.01	1.10	1.51	3.03	4.01	2.94	1.98	1.22	1.02	.97	.77	20.35
1945	.74	.93	1.27	1.35	2.20	1.77	1.82	1.91	1.08	1.14	1.45	1.13	16.89

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1942	953	920	Feb. 16, 1942	-	*35.1	*1.27	*17.25	*40.5	*19.93		
1943	973	1,400	Jan. 18, 1943	19	49.7	1.80	24.43	44.6	21.95		
1944	1003	744	Mar. 19, 1944	17	41.3	1.50	20.35	40.9	20.19		
1945	1033	717	Feb. 17, 1945	17	34.3	1.24	16.89	-	-		

* Not previously published.

240. Ivylog Creek near Ivylog, Ga.

Location.--Lat 34°56'26", long. 84°01'27", 30 ft downstream from Barnes Creek, 2.5 miles southeast of Ivylog, Union County, and 3.1 miles upstream from mouth.

Drainage area.--16.7 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,780.44 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1941-45: Maximum discharge, 1,050 cfs Jan. 18, 1943 (gage height, 5.81 ft), from rating curve extended above 360 cfs; minimum, 5.8 cfs Sept. 12, 1945 (gage height, 1.57 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	*9.0	*10.5	*18.0	*18.5	*30.2	33.8	19.2	18.2	16.4	15.5	19.3	17.1	*18.7
1943	15.8	15.1	39.5	48.9	38.1	50.7	36.8	27.1	26.2	36.5	17.0	15.9	30.8
1944	13.3	13.9	15.1	17.9	47.4	51.6	39.9	27.0	20.4	16.5	13.8	9.94	23.8
1945	11.3	11.8	17.7	19.5	33.4	23.8	28.5	24.3	15.4	14.2	12.6	11.5	18.6

* Not previously published; estimated or partly estimated on basis of records for Nottely River near Ranger, N. C.

Monthly and yearly runoff, in inches, of Ivylog Creek near Ivylog, Ga.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	*0.02	*0.70	*1.24	*1.28	*1.89	2.33	1.28	1.28	1.09	1.07	1.33	1.14	*15.23
1943	1.09	1.01	2.72	3.37	2.38	3.50	2.46	1.87	1.75	2.66	1.17	1.07	25.05
1944	.92	.93	1.04	1.23	3.06	3.56	2.66	1.87	1.36	1.14	.95	.66	19.38
1945	.78	.79	1.22	1.35	2.08	1.64	1.90	1.68	1.03	.98	.87	.77	15.09

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1942	953	a797	Feb. 16, 1942	-	*18.7	*1.12	*15.23	*21.5	*17.49
1943	973	1,050	Jan. 18, 1943	8.7	30.8	1.84	25.05	28.4	23.12
1944	1003	460	Feb. 26, 1944	8.2	23.8	1.43	19.38	23.7	19.28
1945	1033	445	July 21, 1945	6.2	18.6	1.11	15.09	-	-

* Not previously published.

a Maximum during period February to September.

241. Nottely River near Ivylog, Ga.

Location.--Lat 34°55'32", long. 84°03'39", just downstream from Ivylog Creek, and 2.5 miles south of Ivylog, Union County.

Drainage area.--191 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,680.47 ft above mean sea level, datum of 1929.

Average discharge.--6 years (1936-42), 318 cfs.

Extremes.--1936-42: Maximum discharge, 11,500 cfs July 22, 1938 (gage height, 12.25 ft), by slope-area method; minimum, 71 cfs June 21, 1941 (gage height, 1.26 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1937	205	180	398	897	597	396	504	399	244	195	242	169	366
1938	291	196	235	281	235	449	711	337	310	919	435	240	388
1939	152	219	193	365	1,038	734	507	411	301	214	231	142	371
1940	107	105	132	174	388	350	467	254	276	214	321	182	247
1941	122	197	251	277	198	280	260	156	126	639	209	121	237
1942	122	154	269	258	*510	*605	*320	*327	*275	*207	*334	*230	*300

* Not previously published; estimated or partly estimated on basis of records for Nottely River near Ranger, N. C.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1937	1.23	0.94	2.40	5.42	3.26	2.39	2.94	2.41	1.43	1.18	1.46	0.99	26.05
1938	1.75	1.15	1.42	1.70	1.28	2.71	4.15	2.03	1.81	5.54	2.62	1.41	27.57
1939	.92	1.28	1.16	2.20	5.65	4.43	2.96	2.48	1.76	1.29	1.40	.83	26.36
1940	.65	.61	.80	1.05	2.19	2.11	2.73	1.53	1.61	1.29	1.94	1.06	17.57
1941	.73	1.15	1.52	1.67	1.08	1.69	1.52	.94	.74	3.86	1.26	.71	16.87
1942	.74	.90	1.62	1.56	*2.78	*3.65	*1.87	*1.97	*1.61	*1.25	*2.02	*1.34	*21.31

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1937	823	4,090	Jan. 3, 1937	112	366	1.92	26.05	363	25.80
1938	853	11,500	July 22, 1938	113	398	2.03	27.57	374	26.61
1939	873	5,260	Feb. 15, 1939	119	371	1.94	26.36	353	25.06
1940	893	3,940	Apr. 19, 1940	91	247	1.29	17.57	265	18.91
1941	923	6,410	July 5, 1941	79	237	1.24	16.87	235	16.73
1942	953	-	-	-	*300	*1.57	*21.31	-	-

* Not previously published.

TENNESSEE RIVER BASIN

242. Nottely Lake near Ivylog, Ga.^{1/}

Location.--Lat 34°57'29", long. 84°05'22", at Nottely Dam on Nottely River, 1.3 miles up-stream from Dooley Creek, 1.8 miles west of Ivylog, Union County, and 2.5 miles up-stream from Georgia-North Carolina State line.

Drainage area.--214 sq mi.

Gage.--Water-stage recorder. Datum of gage is mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1942-50: Maximum contents, 94,100 cfs-days Apr. 20, 1943 (elevation, 1,780.50 ft); minimum (after first filling), 200 cfs-days Oct. 6, 1947 (elevation, 1,638.6 ft).

Remarks.--Lake is formed by rock and rolled earth-fill dam with side channel spillway equipped with flashboards. Storage began Jan. 24, 1942; water in lake first reached minimum pool elevation Jan. 26, 1942. Total capacity at elevation 1,780.00 ft (top of flashboards) is 93,000 cfs-days, of which 92,800 cfs-days is controlled storage above elevation 1,640.00 ft (minimum pool). Lake is used for navigation, flood control, and power.

Cooperation.--Records furnished by Tennessee Valley Authority.

Contents, in cfs-days, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1942	-	-	-	2,200	17,300	36,600	46,300	56,400	64,400	70,600	80,800	84,400
1943	41,500	40,200	64,000	82,300	71,800	87,900	93,500	80,200	65,800	56,900	33,400	29,700
1944	31,000	36,100	30,700	37,600	58,100	84,600	92,000	89,400	71,600	43,000	32,600	23,600
1945	19,800	24,200	10,900	19,300	32,400	44,100	57,400	65,600	34,200	36,000	43,700	21,900
1946	19,600	27,100	40,700	43,000	48,200	66,400	62,200	82,400	83,600	70,700	37,900	14,200
1947	20,700	27,400	25,800	44,200	45,000	53,800	40,200	14,600	14,300	8,400	2,900	300
1948	700	6,500	13,800	10,600	29,600	48,200	61,100	53,800	26,800	28,500	22,300	5,600
1949	9,700	30,400	39,000	43,800	49,300	53,300	54,500	61,600	63,200	80,100	73,800	60,200
1950	38,600	36,300	37,400	43,000	47,300	63,300	41,400	42,800	45,000	47,100	36,200	33,400

243. Nottely River at Nottely Dam, near Ivylog, Ga.

Location.--Lat 34°57'55", long. 84°05'25", 0.6 mile downstream from Nottely Dam, 0.6 mile upstream from Dooley Creek, and 1.8 miles west of Ivylog, Union County.

Drainage area.--215 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,599.21 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years (1942-50), 417 cfs (adjusted for storage).

Extremes.--1942-50: Maximum discharge, 2,830 cfs May 25, 1944 (gage height, 6.34 ft); minimum, 0.5 cfs at times in January and February 1945, July and November 1947; minimum gage height, 0.22 ft Nov. 8-10, 21, 1947.

Remarks.--Flow completely regulated by Nottely Lake (see preceding station).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	-	-	-	-	-	-	-	-	-	1.9	2.6	132	-
1943	1,641	284	1.92	127	1,066	248	376	903	828	679	1,016	330	623
1944	123	1.03	357	69.5	1.67	27.4	361	483	860	1,108	528	454	366
1945	259	1.02	638	.94	1.09	1.03	1.17	90.1	1,284	155	1.03	982	284
1946	303	1.03	1.10	968	956	402	797	200	395	750	1,270	1,033	587
1947	26.1	1.03	283	235	350	177	920	1,193	296	382	355	225	371
1948	153	33.3	1.10	336	68.3	1.26	80.2	508	1,208	223	522	752	323
1949	8.25	1.36	282	561	550	442	599	250	407	1.67	627	834	378
1950	1,150	465	361	397	419	347	1,202	385	336	318	607	491	540

Monthly and yearly runoff, in inches (adjusted)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1942	-	-	-	-	-	-	-	-	-	1.13	1.85	1.35	-
1943	1.38	1.25	4.12	3.86	3.35	4.11	2.91	2.55	1.80	2.10	1.39	1.07	29.89
1944	.89	.89	.98	1.58	3.55	4.73	3.15	2.15	1.37	1.01	1.03	.80	22.13
1945	.72	.76	1.14	1.45	2.27	2.03	2.31	1.90	1.21	1.15	1.33	1.34	17.61
1946	1.22	1.30	2.37	5.59	5.53	5.31	3.40	4.57	2.25	1.79	1.14	1.26	35.73
1947	1.26	1.16	1.24	4.44	1.84	2.47	2.42	1.97	1.49	1.04	.95	.72	21.00
1948	.89	1.18	1.27	1.25	3.63	3.40	2.47	1.46	1.43	1.66	1.73	1.02	21.39
1949	.75	3.59	2.83	4.01	3.61	3.06	3.31	2.57	2.39	2.93	2.28	1.98	33.31
1950	2.43	2.02	2.13	3.10	2.77	4.63	2.45	2.31	2.13	2.07	1.37	2.06	29.47

Note.--Figures of runoff are adjusted for change in contents in Nottely Lake.

^{1/} Published as Nottely Reservoir prior to 1954.

Yearly discharge, in cubic feet per second, of Nottely River at Nottely Dam, near Ivylog, Ga.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year		
		Observed				Adjusted 1/			Observed	Adjusted 1/
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean
		Discharge	Date							Runoff in inches
1942	953	-	-	-	-	-	-	-	-	-
1943	973	2,270	Oct. 1, 1942	1.0	623	473	2.20	29.89	501	410
1944	1003	2,830	May 25, 1944	1.0	366	350	1.63	22.13	401	347
1945	1033	2,370	Sept. 25, 1945	.5	284	279	1.30	17.61	233	315
1946	1053	2,580	Feb. 11, 1946	1.0	587	566	2.63	35.73	587	547
1947	1083	1,810	Apr. 18, 1947	.5	371	333	1.55	21.00	360	327
1948	1113	2,490	June 3, 1948	.5	323	338	1.57	21.39	332	398
1949	1143	2,600	Sept. 12, 1949	.6	378	528	2.46	33.31	520	518
1950	1173	2,490	Feb. 14, 1950	.8	540	466	2.17	29.47	-	-

1/ Adjusted for change in contents in Nottely Lake.

244. Nottely River near Ranger, N. C.

Location.--Lat 35°01'40", long. 84°07'00", 200 ft upstream from bridge on U. S. Highway 64, half a mile downstream from Ranger, Cherokee County.

Drainage area.--272 sq mi.

Gage.--Water-stage recorder since May 16, 1934. Datum of gage is 1,544.28 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. During 1901-5, a vertical staff on pier of old wooden bridge at site of present bridge; Jan. 22, 1914, to Oct. 27, 1918, a vertical staff on left bank 75 ft upstream from highway bridge; Oct. 28, 1918, to Mar. 15, 1928, a chain gage on downstream handrail of highway bridge. These three gages set to datum 1.66 ft below datum of described gage. Mar. 16, 1928, to May 15, 1934, a vertical staff at described site and datum.

Average discharge.--32 years (1901-5, 1914-16, 1919-45), 501 cfs (adjusted for storage).

Extremes.--1901-5, 1914-17, 1918-45: Maximum discharge, 14,100 cfs Feb. 28, 1902 (gage height, 21.0 ft, site and datum then in use); minimum, 23 cfs (regulated) Sept. 5, 1945 (gage height, 0.97 ft).

Remarks.--Flow regulated by Nottely Lake (see elsewhere in this report) since Jan. 24, 1942.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1901	-	-	-	-	-	850	1,030	1,020	815	616	1,870	866	-
1902	463	386	1,240	640	1,360	1,220	720	474	325	309	216	237	628
1903	217	294	586	434	1,320	1,430	1,110	576	858	508	398	238	663
1904	208	291	250	296	427	675	478	366	341	211	313	175	331
1905	105	125	266	536	750	517	425	649	369	472	290	176	388
1906	252	166	840	-	-	-	-	-	-	-	-	-	-
1914	-	-	-	-	314	313	570	266	166	219	168	118	-
1915	298	324	912	708	768	537	359	422	321	292	186	236	446
1916	578	288	920	720	840	539	422	455	607	1,630	592	377	667
1917	315	467	472	802	1,130	2,230	1,080	-	-	-	-	-	-
1919	-	529	1,070	961	866	1,030	760	659	481	587	336	223	-
1920	300	368	657	735	832	1,020	1,570	779	581	538	1,140	598	751
1921	357	450	814	794	1,400	645	698	676	400	387	344	259	597
1922	239	439	489	1,090	948	1,230	1,060	1,070	715	502	352	284	704
1923	270	229	847	531	812	875	765	984	877	670	561	346	647
1924	267	300	544	795	581	813	912	749	578	371	239	288	536
1925	229	208	381	787	380	424	334	277	197	137	78.6	73.9	292
1926	212	263	275	488	453	439	417	243	160	150	342	159	299
1927	159	340	773	408	638	698	602	397	402	315	304	219	436
1928	200	278	591	453	405	755	744	762	689	745	703	835	578
1929	492	383	335	625	718	1,510	946	1,580	809	822	496	675	797
1930	*500	*1,330	*630	*610	*650	*740	*520	*610	*330	*230	*160	*180	*539
1931	*150	*250	*250	*330	*360	*370	*900	*470	*260	*290	*210	*180	*334
1932	*110	*130	*800	*800	963	701	835	706	607	462	318	236	*556
1933	455	640	1,650	855	886	723	688	872	386	294	298	268	668
1934	165	146	177	344	343	912	449	349	515	318	330	207	354
1935	365	278	343	558	451	703	795	499	306	248	200	126	408
1936	122	306	181	1,147	1,054	756	1,655	490	296	253	211	213	554
1937	270	219	528	1,196	832	561	711	545	312	254	306	210	494
1938	344	229	282	340	296	596	1,013	443	424	1,168	572	324	504
1939	217	298	261	463	1,293	992	677	526	398	284	291	186	485
1940	152	156	188	239	463	440	560	334	383	267	360	217	314
1941	165	237	288	320	231	324	316	184	155	791	295	160	290
1942	157	193	332	259	137	157	78.4	83.3	77.1	58.7	90.6	171	150
1943	1,672	347	224	294	1,229	429	435	984	925	759	1,077	379	733
1944	178	51.2	412	153	200	279	548	594	934	1,169	582	509	468
1945	280	34.2	703	77.0	178	107	108	182	1,344	1,204	41.8	019	355

* Only monthly figures revised; revised daily figures not available.

Monthly and yearly runoff, in inches (adjusted)1/, of Nottely River near Ranger, N. C.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1901	-	-	-	-	-	3.60	4.23	4.32	3.35	2.61	7.93	3.55	-
1902	1.96	1.58	5.26	2.71	5.21	5.18	2.96	2.01	1.33	1.31	.92	.97	31.40
1903	.92	1.20	2.48	1.84	5.05	6.32	4.55	2.44	3.51	2.16	1.68	.98	33.13
1904	.88	1.19	1.06	1.26	1.69	2.86	1.96	1.56	1.40	.89	1.53	.72	16.80
1905	.44	.51	1.13	2.27	2.87	2.19	1.74	2.76	1.52	2.01	1.23	.72	19.39
1906	1.07	.68	3.56	-	-	-	-	-	-	-	-	-	-
1914	.48	.71	.93	.68	1.13	2.34	1.33	1.20	-	-	-	-	-
1915	1.27	1.33	3.86	3.00	2.94	2.27	1.47	1.79	1.32	1.23	.79	.97	22.24
1916	2.44	1.18	3.90	3.06	3.33	2.38	1.73	1.92	2.49	6.91	2.51	1.55	33.40
1917	1.34	1.92	2.01	3.40	4.32	9.53	4.43	-	-	-	-	-	-
1919	2.10	2.16	4.53	4.07	3.31	4.50	3.11	2.79	1.98	2.49	1.43	.91	-
1920	1.27	1.51	2.79	3.11	3.30	4.32	6.44	3.30	2.39	2.28	4.83	2.46	38.00
1921	1.51	1.84	3.45	3.37	5.36	2.73	2.87	2.87	1.64	1.64	1.45	1.06	29.79
1922	1.01	1.80	2.07	4.64	3.63	5.41	4.33	4.54	2.93	2.13	1.49	1.16	35.14
1923	1.14	†.94	†3.59	†2.25	†3.11	†3.71	†3.14	†4.17	†3.60	†2.84	†2.38	†1.42	†32.29
1924	1.13	1.23	2.31	3.37	2.31	3.45	3.74	3.17	2.36	1.57	1.01	1.18	26.83
1925	.97	.85	1.61	3.33	1.46	1.80	1.37	1.18	.81	.58	.33	.30	14.59
1926	.90	1.08	1.16	2.06	1.74	1.82	1.71	1.03	.66	.64	1.45	.65	14.90
1927	.67	1.40	3.27	1.73	2.45	2.92	2.47	1.68	1.65	1.34	1.29	.90	21.77
1928	.85	1.14	2.50	1.92	1.61	3.20	3.06	3.23	2.82	3.16	2.97	3.42	29.88
1929	2.09	1.57	1.42	2.65	2.75	6.40	3.88	6.70	3.31	2.64	2.10	2.77	38.28
1930	*2.12	*5.46	*2.67	*2.59	*2.49	*3.14	*2.13	*2.59	*1.35	*.97	*.68	*.74	*26.93
1931	*.64	*1.03	*1.06	*1.40	*1.38	*1.57	*3.69	*1.99	*1.07	*1.23	*.89	*.74	*16.69
1932	*.47	*.53	*3.39	*3.39	3.82	2.97	3.42	3.00	2.49	2.04	1.35	.97	*27.84
1933	1.92	2.62	7.00	3.62	3.40	3.07	2.82	3.70	1.58	1.24	1.27	1.10	133.34
1934	.68	.60	.75	1.45	1.31	3.86	1.84	1.48	2.11	1.35	1.40	.85	17.68
1935	1.64	1.14	1.45	2.36	1.73	2.97	3.26	2.11	1.25	1.05	.85	.52	20.33
1936	.52	1.25	.77	4.86	4.18	3.20	6.78	2.08	1.22	1.07	.89	.87	27.69
1937	1.14	.90	2.24	5.07	3.19	2.38	2.91	2.31	1.28	1.08	1.29	.86	24.65
1938	1.45	.94	1.20	1.44	1.14	2.52	4.15	1.88	1.74	4.95	2.42	1.33	25.16
1939	.92	1.23	1.11	1.96	4.95	4.21	2.78	2.22	1.63	1.20	1.23	.76	24.20
1940	.64	.64	.80	1.01	1.92	1.87	2.30	1.42	1.57	1.13	1.52	.89	15.71
1941	.70	.97	1.22	1.36	.88	1.37	1.30	.78	.64	3.35	1.25	.66	14.48
1942	.66	.79	1.41	1.43	2.55	3.34	1.71	1.80	1.46	1.15	1.83	1.23	19.34
1943	1.22	1.25	4.20	3.75	3.27	4.02	2.79	2.36	1.82	2.00	1.35	1.04	29.07
1944	.93	.91	1.01	1.60	3.59	4.80	3.25	2.17	1.38	1.06	1.04	.86	22.60
1945	.66	.74	1.18	1.47	2.47	2.05	2.26	1.90	1.20	1.12	1.23	1.21	17.49

1/Adjusted for change in contents in Nottely Lake since January 1942; no regulation prior to that date.

* Only monthly figures revised; revised daily figures not available.

† Corrected.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30										Calendar year		
		Observed					Adjusted1/					Observed		Adjusted1/
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date											
1901	803	-	-	-	-	-	-	-	-	-	-	-	-	-
1902	803	14,100	Feb. 28, 1902	141	628	-	2.31	31.40	544	-	-	-	-	27.20
1903	803	-	-	121	663	-	2.44	33.13	629	-	-	-	-	31.66
1904	803	-	-	103	331	-	1.22	16.80	315	-	-	-	-	15.75
1905	803	-	-	103	368	-	1.43	19.39	453	-	-	-	-	22.62
1906	803	-	-	-	-	-	-	-	-	-	-	-	-	-
1914	383	-	-	-	-	-	-	-	-	-	-	-	-	-
1915	803	5,060	Dec. 4, 1914	89	446	-	1.64	22.24	467	-	-	-	-	23.30
1916	803	11,200	July 10, 1916	182	667	-	2.45	33.40	622	-	-	-	-	31.15
1917	803	a8,440	Mar. 1, 1917	-	-	-	-	-	-	-	-	-	-	-
1919	803	11,400	Dec. 22, 1918	-	-	-	-	-	596	-	-	-	-	30.16
1920	803	12,300	Apr. 2, 1920	164	751	-	2.76	38.00	784	-	-	-	-	39.23
1921	523	7,000	Dec. 14, 1920	181	597	-	2.19	29.79	558	-	-	-	-	27.87
1922	543	7,000	Jan. 20, 1922	198	704	-	2.59	35.14	†720	-	-	-	-	†35.93
1923	563	7,000	Dec. 17, 1922	207	64	-	†2.38	†32.29	†627	-	-	-	-	†31.29
1924	583	5,350	Mar. 5, 1924	181	536	-	1.97	25.83	512	-	-	-	-	25.59
1925	603	3,080	Jan. 18, 1925	41	292	-	1.07	14.59	287	-	-	-	-	14.30
1926	623	3,610	Jan. 18, 1926	95	299	-	1.10	14.90	343	-	-	-	-	17.10
1927	643	a3,860	Dec. 28, 1926	101	436	-	1.60	21.77	419	-	-	-	-	20.92
1928	663	5,630	Mar. 30, 1928	147	597	-	2.19	29.88	609	-	-	-	-	30.47
1929	683	6,160	Sept. 26, 1929	207	768	-	2.82	38.28	*871	-	-	-	-	*43.45
1930	-	2,680	Nov. 16, Mar. 7	-	*539	-	*1.98	*26.93	*389	-	-	-	-	*19.41

1/Adjusted for change in contents in Nottely Lake since January 1942; no regulation prior to that date.

* Revised.

† Corrected.

a Estimated.

Yearly discharge, in cubic feet per second, of Nottely River near Ranger, N. C.--Continued

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted ^{1/}			Observed	Adjusted ^{1/}	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1931	-	4,330	Apr. 4, 21, 1931	-	*334	-	*1.23	*16.69	*368	-	*18.35
1932	728	5,160	Dec. 14, 1931	-	*556	-	*2.04	*27.84	*700	-	*34.99
1933	743	7,160	Dec. 28, 1932	169	668	-	2.46	†33.34	477	-	23.83
1934	758	5,410	Mar. 3, 1934	123	354	-	1.30	17.68	399	-	19.88
1935	783	3,510	Mar. 12, 1935	104	408	-	1.50	20.33	374	-	18.64
1936	803	12,300	Apr. 2, 1936	101	554	-	2.04	27.69	588	-	29.43
1937	823	4,360	Jan. 3, 1937	155	494	-	1.82	24.65	480	-	23.96
1938	853	11,300	July 23, 1938	153	504	-	1.85	25.16	497	-	24.83
1939	873	4,820	Feb. 15, 1939	152	485	-	1.78	24.20	462	-	23.02
1940	893	3,560	Apr. 19, 1940	132	314	-	1.15	15.71	330	-	16.52
1941	923	4,780	July 6, 1941	102	290	-	1.07	14.48	290	-	14.45
1942	953	2,170	Feb. 16, 1942	38	150	388	1.43	19.34	282	457	22.82
1943	973	2,870	Dec. 28, 1942	36	733	583	2.14	29.07	597	506	25.25
1944	1003	2,820	May 26, 1944	30	468	452	1.66	22.60	500	446	22.33
1945	1033	2,340	Sept. 25, 1945	24	355	350	1.29	17.49	-	-	-

^{1/}Adjusted for change in contents in Nottely Lake since January 1942; no regulation prior to that date.

* Revised.

† Corrected.

245. Hiwassee Lake at Hiwassee Dam, N. C.^{2/}

Location--Lat 35°09'05", long. 84°10'40", at Hiwassee Dam on Hiwassee River, a third of a mile northwest of village of Hiwassee Dam, Cherokee County, and 3.9 miles upstream from Shoal Creek.

Drainage area--968 sq mi.

Gage--Water-stage recorder. Datum of gage is mean sea level, preliminary adjustment of 1929. Subtract 0.63 ft from all elevations to reduce to datum of 1929, supplementary adjustment of 1936.

Extremes--1939-50: Maximum contents, 220,700 cfs-days Apr. 24, 1944 (elevation, 1,526.48 ft); minimum (after first filling), 35,800 cfs-days Jan. 28, 1948 (elevation, 1,413.41 ft).

Remarks--Lake is formed by gravity overflow concrete dam with 7 taintor gates 23 ft high by 32 ft long. Slight storage began Apr. 13, 1939, during construction; systematic storage operations began Jan. 14, 1940; dam completed February 1940; water in lake first reached minimum pool elevation Feb. 23, 1940. Total capacity at elevation 1,526.5 ft (top of gates) is 220,800 cfs-days, of which 183,800 cfs-days is controlled storage above elevation 1,415.0 ft (minimum pool). Lake is used for navigation, flood control, and power.

Cooperation--Records furnished by Tennessee Valley Authority.

Contents, in cfs-days, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1939	-	-	-	-	-	-	-	-	-	-	-	2,100
1940	5,500	2,100	2,000	8,300	48,700	106,800	175,500	204,900	203,800	202,800	211,400	173,400
1941	99,500	66,800	49,800	58,100	43,400	78,500	115,400	116,400	100,100	165,600	157,000	104,900
1942	54,500	52,800	84,100	82,900	126,900	182,100	201,700	209,900	208,600	200,000	210,800	163,500
1943	131,700	100,800	138,300	69,400	89,000	156,200	217,600	210,200	205,000	208,200	204,600	191,500
1944	159,600	114,700	73,300	88,100	155,000	205,900	219,600	208,500	206,900	208,600	200,700	190,800
1945	132,900	61,800	70,500	56,900	88,000	120,200	148,000	169,200	199,000	203,600	202,700	203,100
1946	159,300	126,400	74,000	85,000	91,300	128,000	181,400	211,800	205,000	204,700	200,700	203,800
1947	137,700	89,200	57,900	83,100	80,200	88,100	135,200	208,900	209,100	200,100	168,200	124,000
1948	82,800	73,000	43,900	39,700	76,200	96,500	128,800	155,600	202,500	202,500	200,300	196,800
1949	134,400	131,600	74,100	85,800	92,400	128,300	183,400	199,900	203,900	210,000	202,100	200,800
1950	212,600	156,200	73,700	94,800	90,000	130,200	178,500	203,400	199,600	213,600	199,800	201,100

^{2/} Published as Hiwassee Reservoir prior to 1954.

246. Hiwassee River at Hiwassee Dam, N. C.1/

Location.--Lat 35°08'44", long. 84°11'09", 3,500 ft downstream from Hiwassee Lake and village of Hiwassee Dam, Cherokee County, and 3.2 miles upstream from Shoal Creek.

Drainage area.--968 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,263.40 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Dec. 15, 1934, staff gage 300 ft downstream at same datum.

Average discharge.--9 years (1934-43), 1,769 cfs (adjusted for storage).

Extremes.--1934-43: Maximum discharge, 42,800 cfs Feb. 4, 1936 (gage height, 13.41 ft); minimum daily, 1 cfs (regulated) several days in period Feb. 24 to Apr. 7, 1940.

Remarks.--Flow completely regulated by Hiwassee Lake after Jan. 14, 1940, with some minor regulation since April 1939, Nottely Lake after Jan. 24, 1942, and Chatuge Lake after Feb. 12, 1942 (see pp.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934												905	
1935	1,341	1,108	1,484	2,185	1,945	3,077	3,378	1,896	1,152	918	786	496	1,646
1936	416	1,041	730	4,869	4,458	5,383	6,747	1,799	1,033	888	708	698	2,217
1937	918	750	1,890	5,256	3,430	2,121	2,491	2,130	1,297	969	1,112	891	1,932
1938	1,245	848	1,152	1,554	1,332	2,570	4,330	2,043	2,215	4,120	2,908	1,244	2,136
1939	752	999	938	1,922	5,425	4,097	2,589	1,801	1,490	1,240	1,031	626	1,886
1940	410	594	571	654	372	1.5	22.8	412	1,348	1,046	981	1,999	700
1941	3,059	1,943	1,523	987	1,341	292	37.0	656	1,119	252	1,168	2,281	1,219
1942	2,178	755	188	1,282	164	70.4	146	740	902	1,140	699	2,431	895
1943	3,308	1,910	1,744	5,624	3,342	945	259	2,757	2,469	2,883	2,548	2,738	2,545

Monthly and yearly runoff, in inches (adjusted)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934												1.04	
1935	1.60	1.28	1.77	2.60	2.09	3.67	3.89	2.26	1.33	1.09	0.94	.57	23.09
1936	.50	1.20	.87	5.80	4.97	4.03	7.78	2.14	1.19	1.06	.84	.80	31.18
1937	1.09	.86	2.25	6.28	3.69	2.53	2.87	2.54	1.50	1.15	1.32	1.03	27.09
1938	1.48	.98	1.37	1.85	1.43	3.06	4.99	2.43	2.55	4.91	3.46	1.43	29.94
1939	.90	1.15	1.12	2.29	5.84	4.88	2.98	2.15	1.72	1.48	1.23	.72	26.46
1940	.62	.55	.68	1.02	1.97	2.24	2.67	1.62	1.51	1.21	1.50	.94	16.43
1941	.81	.98	1.16	1.49	.88	1.70	1.46	.82	.66	2.82	1.06	.63	14.47
1942	.65	.81	1.43	1.57	2.78	3.67	1.67	2.11	1.67	1.59	2.02	1.42	21.39
1943	1.33	1.22	4.97	4.58	3.90	4.58	3.14	2.46	1.72	2.92	1.45	1.10	33.37

Note.--Adjusted for change in contents in Hiwassee Lake since October 1939, in Nottely Lake since January 1942, and in Chatuge Lake since February 1942; only minor regulation prior to October 1939.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted			Observed	Adjusted	
		Discharge	Maximum	Minimum	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
			Date	day							
1934	783	-	-	-	-	-	-	-	-	-	-
1935	783	14,900	Mar. 12, 1935	355	1,646	-	1.70	23.09	1,498	-	21.01
1936	803	42,800	Feb. 4, 1936	316	2,217	-	2.29	31.18	2,334	-	32.81
1937	823	22,400	Jan. 3, 1937	566	1,932	-	2.00	27.09	1,905	-	26.72
1938	853	26,200	Apr. 8, 1938	510	2,136	-	2.21	29.94	2,089	-	29.28
1939	873	21,200	Feb. 15, 1939	360	1,886	-	1.95	26.46	1,792	1,798	25.21
1940	893	8,200	June 14, 1940	1	700	1,167	1.21	16.43	1,115	1,246	17.53
1941	923	4,610	Nov. 9, 12, 1940	8	1,219	1,032	1.07	14.47	933	1,027	14.41
1942	953	4,610	Jan. 26, 1942	21	895	1,525	1.58	21.39	1,218	1,897	26.06
1943	973	9,920	Jan. 7, 1943	26	2,545	2,380	2.46	33.37	-	-	-

Note.--Adjusted for change in contents in Hiwassee Lake since October 1939, in Nottely Lake since January 1942, and in Chatuge Lake since February 1942; only minor regulation prior to October 1939.

1/ Published as "near Vests," prior to 1936.

247. Apalachia Lake at Apalachia Dam, N. C. 1/

Location.--Lat 35°10'04", long. 84°17'49", at Apalachia Dam on Hiwassee River in Cherokee County, 0.1 mile upstream from North Carolina-Tennessee State line, 1.5 miles northeast of Fanner, Polk County, Tenn., and 9.8 miles downstream from Hiwassee Dam.

Drainage area.--1,018 sq mi.

Gage.--Water-stage recorder. Datum of gage is mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1943-50: Maximum contents, 30,200 cfs-days Feb. 10, 1946 (elevation, 1,281.23 ft); minimum (after first filling), 19,900 cfs-days July 27, 1943 (elevation, 1,261.45 ft).

Remarks.--Lake is formed by concrete gravity dam. Spillway equipped with 10 radial gates. Storage began Feb. 14, 1943; water in lake first reached minimum pool elevation Feb. 21, 1943. Total capacity at elevation 1,280.00 ft (top of gates) is 29,500 cfs-days, of which 18,000 cfs-days is controlled storage above elevation 1,240.00 ft (minimum pool). Lake is used for navigation, flood control, and power.

Cooperation.--Records furnished by Tennessee Valley Authority.

Contents, in cfs-days, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1943	-	-	-	-	18,000	18,200	18,900	18,700	18,800	24,300	23,100	23,100
1944	28,100	29,100	29,100	28,700	28,300	25,700	27,400	28,700	26,000	26,100	26,600	25,800
1945	26,400	29,100	26,500	23,900	26,400	27,100	29,000	28,500	27,500	27,100	26,700	23,100
1946	24,600	27,800	29,300	27,100	28,800	28,200	25,800	25,600	26,000	26,800	28,500	26,300
1947	28,700	29,000	26,300	29,200	27,500	26,900	26,900	27,100	26,900	26,200	25,800	27,000
1948	28,300	25,800	26,200	27,200	26,200	28,800	27,000	26,500	27,100	26,600	27,000	28,100
1949	27,700	28,200	25,300	27,100	28,900	28,700	28,400	27,000	26,400	27,800	27,400	26,700
1950	29,300	28,100	29,000	29,000	28,000	26,900	27,100	27,000	27,200	26,400	27,200	26,500

248. Turtletown Creek at Turtletown, Tenn.

Location.--Lat 35°07'57", long. 84°20'37", half a mile north of Turtletown, Polk County, three-quarters of a mile downstream from Nigger Creek, and 6 miles upstream from mouth.

Drainage area.--26.9 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,490.61 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--17 years (1933-50), 48.1 cfs.

Extremes.--1933-50: Maximum discharge, 1,000 cfs Jan. 20, 1947 (gage height, 6.18 ft); minimum, 9.3 cfs Oct. 10, 1941 (gage height, 0.86 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	18.2	18.0	19.5	34.0	32.2	82.5	44.0	37.5	80.1	43.4	43.7	30.3	40.3
1935	43.0	31.9	30.2	44.3	55.3	80.8	91.5	56.0	41.6	33.6	27.1	17.7	45.9
1936	17.1	35.3	23.2	101	95.2	83.7	157	66.7	39.3	33.4	25.7	23.0	58.1
1937	25.7	20.3	40.4	90.7	63.0	47.4	48.0	49.1	37.3	31.3	37.2	23.7	42.8
1938	28.6	22.8	27.3	36.2	31.3	58.4	93.7	57.9	59.3	83.8	48.0	34.2	48.6
1939	24.7	34.1	27.1	46.3	109	100	67.2	48.0	40.6	36.0	34.8	19.0	48.5
1940	16.7	17.0	20.6	24.4	35.5	39.2	42.9	29.0	33.8	23.8	19.2	13.2	26.2
1941	14.2	17.4	19.0	25.9	16.9	26.8	24.3	15.2	17.6	44.1	26.0	13.5	21.8
1942	14.3	19.1	26.7	29.3	49.2	71.5	40.5	43.5	46.4	44.1	42.4	32.5	38.2
1943	29.4	26.8	65.9	69.0	73.2	93.4	74.2	55.6	46.0	63.3	30.9	29.5	56.4
1944	24.4	23.2	25.8	35.6	95.0	133	105	67.0	42.0	34.0	32.1	24.5	53.3
1945	20.7	21.7	33.7	36.8	74.8	59.7	53.0	55.4	38.7	28.8	22.3	19.0	38.5
1946	23.9	30.9	44.1	90.6	106	78.3	74.6	91.6	66.9	75.2	38.1	36.1	62.8
1947	36.3	46.8	42.9	156	76.0	75.4	69.5	50.4	41.2	33.5	27.4	21.5	56.4
1948	18.7	28.4	26.6	27.8	88.9	80.1	71.2	42.7	32.2	33.8	26.4	19.1	41.1
1949	17.3	70.6	64.1	106	96.8	77.9	90.0	72.8	51.3	50.7	44.6	51.1	65.8
1950	80.0	78.3	63.9	94.1	97.8	128	78.9	62.0	57.7	51.5	41.4	41.2	72.8

* Not previously published; estimated or partly estimated on basis of records for Toccoa River near Dial, Ga.

1/ Published as Apalachia Reservoir.

Monthly and yearly runoff, in inches, of Turtletown Creek at Turtletown, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	#0.78	#0.75	#0.84	#1.46	#1.25	#3.54	#1.82	#1.61	3.32	1.86	1.87	1.26	#20.36
1935	1.84	1.33	1.29	1.90	2.06	3.46	3.79	2.40	1.73	1.44	1.16	.73	23.13
1936	.73	1.46	.99	4.32	3.82	3.59	6.52	2.86	1.63	1.43	1.10	.95	29.40
1937	1.10	.84	1.73	3.89	2.44	2.03	1.99	2.11	1.55	1.34	1.59	.98	21.59
1938	1.23	.95	1.17	1.55	1.21	2.50	3.89	2.48	2.46	3.59	2.06	1.42	24.51
1939	1.06	1.41	1.16	1.98	4.23	4.29	2.79	2.06	1.68	1.54	1.49	-.79	24.48
1940	.72	.70	.88	1.04	1.42	1.68	1.78	1.24	1.40	1.02	.82	.55	13.25
1941	.61	.72	.82	1.11	.65	1.15	1.01	.65	.73	1.89	1.11	.56	11.01
1942	.61	.79	1.14	1.28	1.90	3.07	1.68	1.86	1.92	1.89	1.82	1.35	19.29
1943	1.28	1.11	3.68	2.96	2.84	4.00	3.08	2.38	1.91	2.71	1.32	1.22	28.47
1944	1.05	.96	1.11	1.53	3.81	5.68	4.36	2.87	1.74	1.46	1.37	1.02	26.96
1945	.89	.90	1.45	1.58	2.89	2.56	2.20	2.37	1.61	1.23	.96	.79	19.43
1946	1.03	1.28	1.89	3.88	4.12	3.35	3.09	3.93	2.77	3.22	1.63	1.50	31.69
1947	1.56	1.94	1.84	6.68	2.94	3.23	2.88	2.16	1.71	1.44	1.17	.89	28.44
1948	.80	1.18	1.14	1.19	3.56	3.43	2.95	1.83	1.33	1.45	1.13	.79	20.78
1949	.74	2.93	2.75	4.52	3.75	3.34	3.73	3.12	2.13	2.17	1.91	2.12	33.21
1950	3.43	3.25	2.74	4.03	3.79	3.51	3.27	2.66	2.39	2.21	1.77	1.71	36.76

* Not previously published; estimated or partly estimated on basis of records for Toccoa River near Dial, Ga.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1934	758	-	-	-	#40.3	#1.50	#20.36	#44.5	#22.45
1935	783	488	Mar. 12, 1935	14	45.9	1.71	23.13	43.4	21.85
1936	803	924	Feb. 4, 1936	14	58.1	2.16	29.40	59.0	29.89
1937	823	422	Jan. 3, 1937	18	42.8	1.59	21.59	42.1	21.27
1938	853	545	Apr. 8, 1938	18	48.6	1.81	24.51	49.1	24.79
1939	873	476	Feb. 14, 1939	16	48.5	1.80	24.48	45.9	23.15
1940	893	177	Jan. 14, 1940	11	26.2	.974	13.25	25.9	13.10
1941	923	299	Aug. 25, 1941	10	21.8	.810	11.01	22.6	11.40
1942	953	397	May 20, 1942	9.7	38.2	1.42	19.29	45.2	22.80
1943	973	517	Dec. 29, 1942	19	56.4	2.10	28.47	50.6	25.54
1944	1003	559	Mar. 29, 1944	17	53.3	1.98	26.96	53.5	27.08
1945	1033	479	Feb. 13, 1945	13	38.5	1.43	19.43	40.4	20.39
1946	1053	765	Feb. 10, 1946	15	62.8	2.33	31.69	65.1	32.83
1947	1083	1,000	Jan. 20, 1947	17	56.4	2.10	28.44	52.0	26.22
1948	1113	533	Feb. 12, 1948	16	41.1	1.53	20.78	47.6	24.08
1949	1143	905	Nov. 26, 1948	15	65.8	2.45	33.21	71.8	36.21
1950	1173	959	Oct. 30, 1949	29	72.8	2.71	36.76	-	-

* Not previously published.

249. Hiwassee River near McFarland, Tenn.

Location.--Lat 35°10'48", long. 84°26'36", a quarter of a mile downstream from Smith Creek, 0.4 mile downstream from Apalachia powerhouse of Tennessee Valley Authority, 2.8 miles west of McFarland, Polk County, and at mile 53.2.

Drainage area.--1,136 sq mi.

Gage.--Water-stage recorder. Datum of gage is 830.56 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years (1942-50), 2,465 cfs (unadjusted).

Extremes.--1942-50: Maximum discharge, 15,500 cfs Feb. 11, 1946 (gage height, 8.65 ft); minimum daily, 55 cfs Sept. 12, 1943.

Remarks.--Flow regulated by Chatuge, Nottely and Hiwassee Lakes for period of record and by Apalachia Lake since February 1943 (see pp. 251, 262, 265, and 267).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	3,344	1,973	2,374	5,888	3,125	1,496	659	3,054	2,624	2,940	2,767	2,872	2,765
1944	1,721	2,069	2,798	830	1,326	2,557	3,043	2,839	2,357	2,457	2,492	2,098	2,218
1945	2,740	2,870	2,277	1,801	1,444	611	700	1,100	1,803	1,450	1,329	2,082	1,684
1946	2,480	1,885	3,052	4,316	5,521	2,170	2,330	2,096	2,387	2,554	3,116	2,959	2,890
1947	2,828	2,505	2,458	4,265	2,567	2,056	1,467	1,509	2,166	2,498	2,593	2,257	2,433
1948	2,129	1,147	1,695	1,230	1,744	1,593	1,496	1,192	1,497	1,836	1,846	2,103	1,809
1949	2,534	2,425	5,056	4,387	4,030	1,945	1,920	1,967	2,183	2,533	3,141	3,231	2,943
1950	3,352	4,295	5,802	3,137	4,385	3,422	2,527	1,783	2,363	2,202	2,899	2,006	3,177

Yearly discharge, in cubic feet per second, of Hiwassee River near McFarland, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30									Calendar year		
		Observed					Adjusted 1/				Observed		Adjusted 1/
		Momentary		maximum	Minimum	Mean	Mean	Per square mile	Runoff in inches		Mean	Mean	Runoff in inches
		Discharge	Date		day								
1943	973	9,960	Feb. 5, 1943	55	2,765	2,663	2.34	31.82	2,671	2,315	27.66		
1944	1003	15,100	Apr. 27, 1944	134	2,218	2,185	1.92	26.18	2,326	2,205	26.42		
1945	1033	5,980	Feb. 17, 1945	90	1,684	1,705	1.50	20.37	1,647	1,829	21.85		
1946	1053	15,500	Feb. 11, 1946	173	2,890	2,863	2.52	34.22	2,920	2,791	33.35		
1947	1083	12,200	Jan. 20, 1947	142	2,433	2,096	1.85	25.04	2,198	2,046	24.44		
1948	1113	8,780	Feb. 12, 1948	104	1,609	1,906	1.68	22.83	2,033	2,315	27.74		
1949	1143	10,200	Nov. 28, 1948	148	2,943	3,225	2.84	38.54	3,229	3,232	38.62		
1950	1173	12,700	Dec. 23, 1949	227	3,177	3,039	2.68	36.31	-	-	-		

1/ Adjusted for change in contents in Chatuge, Nottely, Hiwassee, and Apalachia Lakes.

250. Hiwassee River near Reliance, Tenn.2/

Location (revised).--Lat 35°13'20", long. 84°31'34", on State Highway 40, half a mile downstream from Spring Creek, 2.9 miles downstream from Reliance, Polk County, and 8.6 miles downstream from Apalachia powerhouse of Tennessee Valley Authority, and at mile 45.0.

Drainage area.--1,223 sq mi. At site used prior to 1927, 1,181 sq mi.

Gage.--Water-stage recorder. Datum of gage is 718.34 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Aug. 7, 1900, to Dec. 31, 1913, Feb. 1, 1919, to Nov. 9, 1921, staff gage at site 3.2 miles upstream and Nov. 10, 1921, to Sept. 30, 1926, chain gage at site 2.9 miles upstream, each gage at different datum.

Average discharge.--44 years (1900-1914, 1918-48), 2,496 cfs, unadjusted.

Extremes.--1900-1914, 1918-48: Maximum discharge (revised), 69,000 cfs Nov. 19, 1906 (gage height, 16.5 ft, from graph based on gage readings); minimum daily, 86 cfs Sept. 12, 1943.

Remarks.--Flow regulated by Hiwassee Lake starting Apr. 13, 1939, by Nottley Lake starting Jan. 24, 1942, by Chatuge Lake starting Feb. 12, 1942, and by Apalachia Lake starting Feb. 14, 1943 (see pp. 265, 262, 251, and 267).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1900	-	-	-	-	-	-	-	-	-	-	-	1,610	-
1901	1,540	2,030	2,620	5,010	3,450	4,590	6,280	5,470	3,580	2,110	6,190	3,350	4,020
1902	1,790	1,490	6,260	3,320	5,730	6,070	3,630	2,210	1,490	1,240	8,750	1,050	2,920
1903	1,030	1,350	2,390	2,200	5,900	8,600	5,860	2,400	3,200	2,070	1,390	843	3,160
1904	789	979	893	1,400	1,960	3,560	2,210	1,630	1,170	950	1,280	625	1,450
1905	412	562	1,280	2,680	4,860	2,450	2,320	3,170	1,640	1,910	1,500	832	1,950
1906	976	803	3,840	4,810	2,200	3,680	3,580	1,940	2,540	4,090	3,540	3,970	3,010
1907	4,990	5,580	4,160	3,390	4,000	3,470	2,830	2,870	2,920	2,290	1,890	1,740	3,340
1908	1,440	2,350	2,950	4,710	4,600	4,970	3,740	2,920	1,920	1,770	1,450	1,020	2,820
1909	1,050	1,000	3,330	3,030	6,300	6,830	3,600	6,340	5,650	3,510	2,180	1,540	3,680
1910	1,650	1,140	2,100	2,430	2,730	2,540	2,120	4,750	3,650	3,430	2,470	1,770	2,570
1911	1,180	1,040	2,170	3,220	3,390	2,330	5,680	2,170	1,240	1,240	889	844	2,110
1912	1,210	1,280	1,850	2,750	3,960	6,020	4,760	3,300	2,580	2,800	1,600	1,330	2,790
1913	1,370	1,200	1,640	3,410	4,100	8,050	3,200	2,540	1,830	1,220	1,030	750	2,520
1914	785	752	961	*1,160	*2,000	*2,100	*3,030	*1,450	*950	*820	*800	*585	*1,280
1919	*2,950	*2,400	*5,000	*4,700	3,820	4,890	3,000	2,630	2,110	2,270	1,380	849	*3,000
1920	1,380	1,120	2,950	3,460	3,480	4,990	8,930	3,170	2,250	2,150	5,690	2,860	3,530
1921	1,370	1,420	4,720	3,550	6,870	2,750	3,390	2,810	1,570	1,570	1,720	1,100	2,710
1922	1,010	2,250	2,600	6,790	4,540	7,050	4,760	4,370	2,920	2,030	1,190	988	3,360
1923	935	863	4,260	3,420	5,040	4,820	3,790	4,390	3,810	2,740	2,170	1,200	3,110
1924	918	998	2,000	3,950	2,650	3,630	4,140	3,470	2,360	1,820	1,040	1,170	2,350
1925	864	714	1,790	4,230	1,990	2,090	1,670	1,410	893	580	319	211	1,400
1926	847	1,370	1,240	2,770	2,300	2,480	2,470	1,340	962	863	1,600	806	1,580
1927	750	1,780	5,090	2,640	3,940	4,790	3,360	1,380	2,440	1,770	1,650	1,030	2,590
1928	879	1,200	3,950	2,690	2,510	4,020	4,420	4,100	3,520	3,150	2,610	3,920	3,080
1929	1,800	1,600	1,530	3,190	3,940	7,630	4,710	7,520	3,760	2,470	1,600	2,700	3,540
1930	1,950	6,140	3,110	2,840	3,200	3,940	2,660	3,020	1,540	1,070	679	790	2,570
1931	685	1,200	1,370	1,750	1,910	2,000	4,320	2,320	1,050	1,180	961	774	1,620
1932	465	564	3,830	4,070	5,610	3,220	3,490	3,380	2,160	2,550	1,320	903	2,620
1933	1,700	2,490	8,420	4,650	5,880	3,910	3,430	4,000	1,590	1,260	1,210	991	3,280
1934	639	621	766	1,844	1,506	5,063	2,121	1,570	2,206	1,380	2,038	1,080	1,717
1935	1,702	1,364	1,763	2,749	2,661	4,084	4,452	2,397	1,415	1,135	968	591	2,106
1936	510	1,442	967	6,627	5,606	4,479	8,311	2,200	1,228	1,046	842	758	2,819
1937	1,128	893	2,253	6,662	4,242	2,640	2,988	2,678	1,545	1,154	1,348	1,040	2,374
1938	1,594	1,001	1,362	1,967	1,641	3,334	5,539	2,496	2,752	4,935	3,287	1,488	2,608
1939	914	1,276	1,180	2,299	6,673	5,105	3,226	2,214	1,861	1,517	1,261	734	2,326
1940	479	686	774	803	840	437	564	627	1,692	1,151	1,150	2,022	933

* Only monthly figures revised; revised daily figures not available. Figure supersedes record previously published in Tennessee Division of Geology, Bull. 34.

2/ Published as "at Reliance" prior to 1927.

TENNESSEE RIVER BASIN

Monthly and yearly mean discharge, in cubic feet per second, of Hiwassee River near Reliance, Tenn.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1941	3,061	2,148	1,680	1,326	1,442	748	392	799	1,258	649	1,335	2,345	1,431
1942	2,278	932	382	1,496	755	904	372	1,000	1,124	1,525	1,017	2,608	1,202
1943	3,465	1,991	2,722	6,001	3,462	1,738	811	3,117	2,676	3,019	2,806	2,930	2,899
1944	1,739	2,067	2,851	940	1,899	2,978	3,205	2,897	2,406	2,500	2,524	2,119	2,345
1945	2,743	2,848	2,341	1,893	1,617	774	812	1,234	1,827	1,458	1,327	2,063	1,758
1946	2,510	1,947	3,217	4,753	6,072	2,439	2,492	2,316	2,457	2,587	3,158	3,031	3,063
1947	2,877	2,628	2,592	5,141	2,690	2,252	1,550	1,539	2,150	2,489	2,581	2,232	2,564
1948	2,079	1,112	1,684	1,321	2,472	1,841	1,720	1,213	1,503	1,679	1,840	2,071	1,708

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1900	-	-	-	-	-	-	-	-	-	-	-	1.52	-
1901	1.50	1.92	2.55	4.89	3.04	4.49	5.95	5.34	3.38	2.06	7.99	3.16	46.25
1902	1.75	1.41	6.11	3.24	5.05	5.92	3.43	2.15	1.41	1.21	.85	1.00	33.53
1903	1.01	1.28	2.33	2.15	6.08	8.40	5.54	2.35	3.03	2.02	1.36	.80	36.35
1904	.77	.93	.88	1.57	1.79	3.48	2.09	1.59	1.10	.91	1.25	.59	16.75
1905	.40	.53	1.25	2.61	4.31	2.39	2.19	3.10	1.55	1.86	1.47	.79	22.45
1906	.95	.76	3.75	4.69	1.94	3.59	3.38	1.89	2.40	3.99	3.46	3.75	34.55
1907	4.88	5.27	4.06	3.30	3.53	3.39	2.67	2.80	2.76	2.24	1.84	1.65	38.39
1908	1.41	2.22	2.88	4.60	4.20	4.85	3.54	2.85	1.82	1.73	1.42	.97	32.49
1909	1.03	.95	3.25	2.96	5.55	6.67	3.40	6.19	5.32	3.42	2.12	1.45	42.31
1910	1.61	1.08	2.05	2.37	2.41	2.48	2.00	4.63	3.45	3.35	2.41	1.67	29.51
1911	1.15	.99	2.12	3.15	2.99	2.27	5.37	2.12	1.17	1.21	.87	.80	24.21
1912	1.18	1.21	1.81	2.69	3.61	5.88	4.50	3.22	2.44	2.73	1.57	1.06	32.10
1913	1.34	1.13	1.60	3.33	3.62	7.86	3.02	2.48	1.73	1.19	1.00	.71	29.01
1914	.76	.71	.94	*1.13	*1.76	*2.05	*2.86	*1.42	*.90	*.82	*.78	*.55	14.68
1919	*2.68	*2.27	*4.84	*4.59	3.37	4.77	2.83	2.57	1.99	2.21	1.34	.80	*34.50
1920	1.34	1.06	2.88	3.37	3.18	4.87	8.44	3.09	2.11	2.10	5.56	2.70	40.70
1921	1.54	1.34	4.60	3.46	6.06	2.68	3.21	2.74	1.49	1.53	1.68	1.04	31.17
1922	.99	2.13	2.53	6.63	3.92	6.88	4.50	4.27	2.76	1.99	1.17	.93	38.70
1923	.91	.82	4.15	3.34	4.44	4.71	3.58	4.29	3.60	2.67	2.12	1.14	35.77
1924	.90	.94	1.95	3.86	2.42	3.54	3.91	3.38	2.23	1.77	1.08	1.11	27.03
1925	.84	.67	1.75	4.13	1.76	2.04	1.58	1.37	.84	.57	.31	.20	16.06
1926	.83	1.29	1.22	2.71	2.03	2.42	2.34	1.51	.91	.84	1.56	.76	18.22
1927	.69	1.62	4.80	2.49	3.35	4.52	3.07	1.86	2.23	1.67	1.55	.94	28.79
1928	.83	1.09	3.72	2.54	2.21	3.79	4.03	3.87	3.21	2.97	2.46	3.58	34.30
1929	1.69	1.46	1.44	3.01	3.35	7.20	4.30	7.09	3.43	2.33	1.51	2.47	39.28
1930	1.84	5.60	2.93	2.68	2.72	3.71	2.43	2.84	1.41	1.01	.64	.72	28.53
1931	.65	1.09	1.29	1.65	1.63	1.89	3.95	2.18	.96	1.11	.91	.71	18.02
1932	.44	.51	3.61	3.84	4.95	3.04	3.18	3.18	1.97	2.40	1.25	.82	29.19
1933	1.60	2.27	7.93	4.38	5.01	3.68	3.13	3.77	1.45	1.19	1.14	.90	36.45
1934	.60	.57	.72	1.55	1.28	4.77	1.93	1.48	2.01	1.23	1.92	.99	19.05
1935	1.60	1.24	1.68	2.59	2.27	3.85	4.06	2.26	1.29	1.07	.91	.54	23.36
1936	.48	1.32	.91	6.25	4.94	4.22	7.58	2.07	1.12	.99	.79	.69	31.36
1937	1.06	.81	2.12	6.28	3.61	2.49	2.73	2.52	1.41	1.09	1.27	.95	26.34
1938	1.31	.91	1.30	1.86	1.39	3.15	5.05	2.35	2.51	4.68	3.10	1.36	28.95
1939	.86	1.16	1.11	2.17	5.68	4.61	2.94	2.09	1.70	1.43	1.19	.67	25.81

* Only monthly figures revised; revised daily figures not available. Figure supersedes record previously published in Tennessee Division of Geology, Bull. 34.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted ^{1/}			Observed	Adjusted ^{1/}	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1900	(a)	-	-	-	-	-	-	-	-	-	-
1901	65,	75	b37,500	May 22, 1901	870	4,020	-	3.40	46.25	4,310	-
1902	83	b38,000	Feb. 28, 1902	700	2,920	-	-	2.47	33.53	2,510	-
1903	98	b36,500	Feb. 28, 1903	590	3,160	-	-	2.68	36.35	2,980	-
1904	128	b12,300	Mar. 23, 1904	460	1,450	-	-	1.23	16.75	1,420	-
1905	169	b22,700	Feb. 9, 1905	380	1,950	-	-	1.65	22.45	2,240	-
1906	205	*23,500	Jan. 23, 1906	602	3,010	-	-	2.55	34.55	3,770	-
1907	243	b69,000	Nov. 19, 1906	1,000	3,340	-	-	2.83	38.39	2,670	-
1908	243	b24,400	Mar. 24, 1908	690	2,820	-	-	2.39	32.49	2,710	-
1909	(a)	b56,500	Mar. 14, 1909	690	3,680	-	-	3.12	42.31	3,640	-
1910	(a)	*13,600	May 9, 1910	998	2,570	-	-	2.18	29.51	2,520	-
1911	(a)	b18,500	Dec. 6, 1910	638	2,110	-	-	1.79	24.21	2,100	-
1912	(a)	b33,000	Mar. 29, 1912	538	2,790	-	-	2.36	32.10	2,770	-
1913	(a)	b29,500	Mar. 27, 1913	638	2,520	-	-	2.13	29.01	2,580	-
1914	(a)	-	-	-	*1,280	-	-	*1.08	*14.68	-	-
1919	(a), 503	-	-	-	*3,000	-	-	*2.54	*34.50	*2,590	-
1920	503	56,000	Apr. 2, 1920	585	3,530	-	-	2.99	40.70	3,710	-

^{1/}Adjusted for change in contents in Hiwassee Lake since October 1939, Nottely Lake since Jan. 24, 1942, Chatuge Lake since Feb. 12, 1942, and Apalachia Lake since Feb. 14, 1943; only minor regulation prior to October 1939.

* Only monthly figures revised; revised daily discharges not available.

† Not previously published.

a Tennessee Division of Geology, Bull. 34.

b Maximum daily discharge.

Yearly discharge, in cubic feet per second, of Hiwassee River near Reliance, Tenn.--Continued

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted ¹			Observed		Adjusted ¹
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1921	523	36,000	Feb. 10, 1921	880	2,710	-	2.29	31.17	2,570	-	29.54
1922	543	40,500	Jan. 20, 1922	759	3,360	-	2.85	38.70	3,390	-	38.93
1923	563	28,000	Dec. 17, 1922	810	3,110	-	2.63	35.77	2,930	-	33.68
1924	583	18,300	Apr. 18, 1924	724	2,350	-	1.99	27.03	2,300	-	26.50
1925	603	13,200	Dec. 9, 1924	143	1,400	-	1.19	16.06	1,400	-	16.14
1926	623	16,600	Jan. 18, 1926	316	1,580	-	1.34	18.22	1,930	-	21.99
1927	643	*22,400	Dec. 28, 1926*	590	2,590	-	2.12	28.79	2,460	-	27.32
1928	663	*30,000	Mar. 30, 1928*	656	3,080	-	2.52	34.30	2,990	-	33.25
1929	683	24,600	Sept. 26, 1929	895	3,540	-	2.89	39.28	4,060	-	45.06
1930	698	18,600	Nov. 15, 1929	303	2,570	-	2.10	28.53	1,916	-	21.19
1931	713	17,600	Apr. 5, 1931	365	1,620	-	1.32	18.02	1,760	-	19.55
1932	728	22,000	Dec. 14, Jan. 30	325	2,620	-	2.14	29.19	3,270	-	36.43
1933	743	40,600	Dec. 28, 1932	586	3,280	-	2.68	36.45	2,392	-	26.54
1934	758	30,000	Mar. 4, 1934	497	1,717	-	1.40	19.05	1,955	-	21.68
1935	783	20,700	Mar. 13, 1935	435	2,106	-	1.72	23.36	1,941	-	21.55
1936	803	45,300	Feb. 4, 1936	402	2,819	-	2.30	31.36	2,935	-	32.64
1937	823	26,300	Jan. 3, 1937	664	2,374	-	1.94	26.34	2,331	-	25.87
1938	853	36,000	Apr. 8, 1938	575	2,608	-	2.13	28.95	2,573	-	28.56
1939	873	25,500	Feb. 15, 1939	445	2,326	-	1.90	25.81	2,206	2,212	24.55
1940	893, 1083	4,200	June 13, 1940	142	933	1,401	1.15	15.59	1,348	1,478	16.45
1941	923	5,100	July 4, 1941	*132	1,431	1,243	1.02	13.80	1,154	1,248	13.85
1942	953	5,740	July 9, 1942	118	1,202	1,832	1.50	20.34	1,589	2,229	24.74
1943	973	14,100	Dec. 29, 1942	86	2,899	2,797	2.29	31.05	2,770	2,414	26.79
1944	1003	15,800	Mar. 28, 1944	182	2,545	2,312	1.89	25.73	2,451	2,329	25.92
1945	1033	11,000	Feb. 13, 1945	112	1,758	1,779	1.45	19.74	1,738	1,920	21.32
1946	1053	20,300	Feb. 10, 1946	188	3,063	3,037	2.48	33.71	3,098	2,969	32.95
1947	1083	22,100	Jan. 20, 1947	256	2,564	2,226	1.82	24.70	2,294	2,142	23.78
1948	1113	16,300	Feb. 12, 1948	131	1,708	2,005	1.64	23.31	-	-	-

¹Adjusted for change in contents in Hiwassee Lake since October 1939, Nottely Lake since Jan. 24, 1942, Chatuge Lake since Feb. 12, 1942, and Apalachia Lake since Feb. 14, 1943; only minor regulation prior to October 1939.

* Revised (monthly figures only; revised daily discharges not available).

† Corrected.

251. Toccoa River near Dial, Ga.

Location.--Lat 34°47'24", long. 84°14'24", 1.4 miles upstream from Shallowford Bridge, 1.8 miles upstream from Stanley Creek, 2.5 miles northwest of Dial, Fannin County, and 3.3 miles downstream from Noontootla Creek.

Drainage area.--177 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,782.08 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Oct. 1, 1927, water-stage recorder and Oct. 1, 1927, to Nov. 16, 1928, staff gage at same site and datum.

Average discharge.--38 years (1912-50), 491 cfs.

Extremes.--1912-50: Maximum discharge, 9,200 cfs July 9, 1916 (gage height, 10.0 ft), from rating curve extended above 5,000 cfs; minimum, 60 cfs Sept. 6, 1925 (gage height, 0.40 ft).

Flood in 1898 reached a stage of about 14.0 ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1913	*252	*247	*321	616	744	1,470	889	660	466	302	230	184	*531
1914	221	166	224	212	336	323	535	338	207	187	192	138	256
1915	232	247	778	787	955	650	408	414	311	295	197	193	453
1916	458	305	794	699	817	598	452	469	567	1,750	609	365	659
1917	280	283	397	669	934	1,780	1,170	845	493	349	296	322	633
1918	314	264	227	512	558	379	568	531	403	330	240	182	374
1919	453	481	1,110	985	654	1,030	732	695	426	382	288	191	637
1920	229	267	655	588	799	906	1,430	865	570	475	1,290	769	736
1921	404	397	815	689	1,460	683	661	614	396	340	270	210	573
1922	176	272	392	858	766	1,150	1,050	1,050	686	423	293	221	611
1923	195	168	481	451	672	677	769	1,010	941	663	483	336	570
1924	255	274	477	795	593	778	794	657	502	343	236	*240	*495
1925	200	165	322	613	372	391	533	289	209	181	102	82.4	272
1926	183	288	258	468	440	453	504	336	255	224	321	219	328
1927	197	364	730	518	562	662	615	452	353	297	286	235	439
1928	201	276	582	424	435	582	796	781	695	763	584	628	563
1929	464	368	333	535	642	1,520	901	1,320	825	570	377	564	703
1930	411	1,190	626	532	584	724	515	610	355	245	173	194	504
1931	158	264	281	345	351	410	780	575	332	321	250	211	356
1932	138	175	818	861	978	796	773	706	508	499	331	261	570
1933	419	501	*1,480	1,140	903	763	772	882	501	348	285	227	*685
1934	147	145	160	318	298	845	428	356	518	389	345	238	350
1935	350	327	410	604	501	638	774	566	374	248	215	144	429

* Revised.

† Not previously published; estimated on the basis of records for station Hiwassee River at Murphy, N. C.

Monthly and yearly mean discharge, in cubic feet per second, of Toccoa River near Dial, Ga.--Con.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1936	130	255	184	971	942	679	1,498	545	300	240	201	180	508
1937	202	174	396	1,054	788	554	650	598	361	260	270	204	458
1938	324	234	298	372	327	501	1,011	488	416	775	558	314	469
1939	208	240	209	381	1,103	959	680	549	420	279	276	194	454
1940	151	138	162	196	402	434	544	374	339	322	383	235	306
1941	174	238	312	353	264	340	327	228	193	535	267	182	285
1942	169	211	336	343	658	817	514	459	456	344	366	352	417
1943	283	267	781	770	819	884	729	591	384	359	279	214	529
1944	178	184	200	293	703	1,010	654	547	339	229	196	163	405
1945	142	158	205	287	471	453	493	478	310	266	299	274	319
1946	235	269	518	1,304	1,344	1,161	884	1,171	756	523	308	263	725
1947	247	261	271	950	548	560	598	488	390	253	200	152	409
1948	195	268	280	268	808	770	687	412	292	356	409	223	412
1949	174	672	655	951	914	729	790	596	477	646	660	486	644
1950	491	492	549	745	805	1,022	641	512	552	413	313	439	580

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1913	*1.64	*1.56	*2.09	4.01	4.38	9.57	5.60	4.30	2.94	1.97	1.50	1.16	*40.72
1914	1.44	1.04	1.46	1.38	1.98	2.11	3.37	2.20	1.30	1.21	1.25	.87	19.61
1915	1.51	1.56	5.07	5.12	5.62	4.23	2.57	2.70	1.96	1.92	1.28	1.21	34.75
1916	2.98	1.92	5.17	4.55	4.98	3.89	2.85	3.06	3.58	11.39	3.96	2.30	50.63
1917	1.82	1.79	2.59	4.36	5.49	11.57	7.40	4.20	3.11	2.27	1.93	2.03	48.56
1918	2.04	1.60	1.48	3.33	3.28	2.47	3.58	3.46	2.54	2.15	1.57	1.15	28.65
1919	2.95	3.03	7.26	6.41	5.03	6.69	4.74	4.52	2.68	2.48	1.87	1.20	48.86
1920	1.49	1.68	4.26	3.83	4.87	5.90	9.00	5.64	3.59	3.09	8.37	4.85	56.57
1921	2.63	2.50	5.31	4.49	8.60	4.45	4.17	4.00	2.50	2.21	1.76	1.32	43.94
1922	1.15	1.72	2.55	5.59	4.50	7.48	6.63	6.86	4.33	2.76	1.91	1.40	46.88
1923	1.27	1.06	3.13	2.94	3.95	4.41	4.85	6.55	5.93	4.32	3.15	2.12	43.68
1924	1.66	1.73	3.11	5.18	3.62	5.07	5.01	4.28	3.17	2.24	1.54	*1.51	*38.12
1925	1.30	1.04	2.10	3.99	2.19	2.55	2.10	1.88	1.32	1.18	.66	.52	20.83
1926	1.19	1.82	1.68	3.05	2.59	2.95	3.17	2.19	1.61	1.46	2.09	1.38	25.18
1927	1.28	2.30	4.76	3.58	3.31	4.31	3.88	2.94	2.23	1.93	1.86	1.48	33.66
1928	1.31	1.74	3.79	2.76	2.65	3.79	5.02	5.09	4.38	4.97	3.80	3.96	43.26
1929	3.02	2.32	2.17	3.48	3.78	9.90	5.68	8.62	5.20	3.71	2.45	3.55	53.88
1930	2.68	7.51	4.08	3.47	3.43	4.72	3.24	3.32	2.24	1.60	1.13	1.22	38.64
1931	1.03	1.66	1.83	2.25	2.07	2.67	4.92	3.75	2.09	2.09	1.63	1.33	27.32
1932	.90	1.10	5.33	5.61	5.96	5.19	4.87	4.80	3.20	3.25	2.16	1.65	43.82
1933	2.72	3.16	*9.61	7.44	5.31	4.97	4.86	5.75	3.16	2.27	1.85	1.43	*52.53
1934	.96	.92	1.04	2.07	1.76	5.51	2.70	2.32	3.27	2.53	2.25	1.50	26.83
1935	2.28	2.06	2.67	3.93	2.95	4.15	4.88	3.69	2.36	1.61	1.40	.91	32.89
1936	.84	1.61	1.20	6.32	5.74	4.42	9.44	3.55	1.89	1.56	1.31	1.14	39.02
1937	1.31	1.10	2.58	6.86	4.63	3.61	4.10	3.90	2.28	1.70	1.76	1.28	35.11
1938	2.11	1.48	1.94	2.43	1.92	3.26	6.37	3.18	2.62	5.05	3.64	1.98	35.98
1939	1.36	1.51	1.36	2.48	6.49	6.25	4.28	3.57	2.65	1.82	1.80	1.22	34.79
1940	.99	.87	1.06	1.27	2.45	2.83	3.43	2.43	2.14	2.10	2.50	1.48	23.55
1941	1.13	1.50	2.03	2.30	1.56	2.21	2.06	1.49	1.22	3.48	1.74	1.15	21.87
1942	1.10	1.33	2.19	2.23	3.87	5.32	3.24	2.99	2.87	2.24	2.39	2.22	31.99
1943	1.84	1.69	5.09	5.02	4.82	5.76	4.59	3.85	2.42	2.34	1.82	1.35	40.59
1944	1.16	1.16	1.30	1.91	4.28	6.58	5.26	3.56	2.13	1.49	1.28	1.02	31.13
1945	.92	.99	1.54	1.87	2.79	2.95	3.11	3.11	1.95	1.73	1.95	1.73	24.44
1946	1.53	1.69	3.37	8.50	7.91	7.56	5.57	7.63	4.77	3.40	2.00	1.66	55.59
1947	1.61	1.84	1.77	6.19	3.22	3.65	3.77	3.18	2.46	1.65	1.30	.96	31.40
1948	1.27	1.69	1.82	1.74	4.92	5.02	4.33	2.68	1.84	2.32	2.66	1.40	31.69
1949	1.13	4.27	4.27	6.20	5.38	4.75	4.98	3.88	3.01	4.21	4.30	3.06	49.40
1950	3.20	3.10	3.58	4.85	4.74	6.65	4.04	3.33	3.48	2.69	2.04	2.77	44.47

* Revised.

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1913	403	a5,140	Mar. 14, 1913	-	*551	*3.00	*40.72	513	39.37
1914	403	a1,260	Apr. 14, 1914	119	256	1.45	19.61	311	23.81
1915	403	a2,680	Dec. 4, 25, 1914	109	453	2.56	34.75	478	36.68
1916	433	9,200	July 9, 1916	225	659	3.72	50.63	608	46.76
1917	453	a4,700	Mar. 4, 1917	195	633	3.58	48.56	619	47.48
1918	475	a1,880	Jan. 29, 1918	140	377	2.11	28.65	367	27.77
1919	503	a3,080	Dec. 22, 1918	125	637	3.60	48.86	562	43.05
1920	503	5,560	Apr. 2, 1920	135	736	4.16	56.57	777	59.58
1921	525	8,220	Feb. 10, 1921	150	573	3.24	43.94	507	38.92
1922	543	6,600	Jan. 21, 1922	120	611	3.45	46.88	612	46.92
1923	563	*3,160	Dec. 17, 1922	155	570	3.22	43.68	583	44.72
1924	583,1386	*3,660	Mar. 5, 1924	174	*495	*2.80	*38.12	*469	36.06
1925	603	2,450	Dec. 31, 1924	60	272	1.54	20.83	275	21.08
1926	623	2,400	Jan. 18, 1926	90	328	1.85	25.18	376	28.83
1927	643	*3,060	Dec. 28, 1926	167	439	2.48	33.66	419	32.16
1928	663	1,980	Mar. 30, 1928	157	563	3.18	43.26	571	43.93
1929	683	*4,810	Sept. 25, 1929	276	703	3.97	53.88	791	60.64
1930	698	*3,260	Nov. 15, Mar. 7*	130	504	2.85	38.64	377	28.89

* Revised.

* Not previously published.

a Maximum daily discharge.

Yearly discharge, in cubic feet per second, of Toccoa River near Dial, Ga.--Continued

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff inches	Mean	Runoff inches
		Discharge	Date						
1931	713	2,400	Apr. 4, 1931†	132	356	2.01	27.32	393	30.13
1932	728	*6,060	Dec. 14, 1931	115	570	3.22	43.82	*676	*51.98
1933	743,1386	*6,190	Dec. 28, 1932	159	*685	*3.87	*52.53	521	39.96
1934	758	*4,810	Mar. 3, 1934	124	350	1.98	26.83	403	30.92
1935	783	1,900	Mar. 12, 1935	114	429	2.42	32.89	385	29.53
1936	803	8,140	Apr. 2, 1936	112	508	2.87	39.02	525	*40.36
1937	823	3,340	Jan. 3, 1937	145	458	2.59	35.11	465	35.65
1938	853	6,450	Apr. 8, 1938	151	469	2.65	35.98	452	34.68
1939	873	3,240	Feb. 3, 1939	164	454	2.56	34.79	437	33.48
1940	893	2,940	Aug. 13, 1940	117	306	1.73	23.55	329	25.29
1941	923	4,330	July 5, 1941	139	285	1.61	21.87	284	21.83
1942	953	3,880	Feb. 17, 1942	130	417	2.36	31.99	469	35.99
1943	973	4,810	Dec. 29, 1942	167	529	2.99	40.59	464	35.59
1944	1003	3,040	Feb. 27, Mar. 19*	136	405	2.29	31.13	400	30.76
1945	1033	1,610	Sept. 16, 1945	123	319	1.80	24.44	362	27.78
1946	1053	7,490	Feb. 10, 1946	175	725	4.10	55.59	704	54.02
1947	1083	6,160	Jan. 20, 1947	130	409	2.31	31.40	406	31.16
1948	1113	4,020	Feb. 12, 1948	127	412	2.33	31.69	475	36.54
1949	1143	6,250	Aug. 17, 1949	158	644	3.64	49.40	647	49.65
1950	1173	6,380	Mar. 13, 1950	243	580	3.28	44.47	-	-

* Revised.

† Corrected.

252. Blue Ridge Lake near Blue Ridge, Ga.1/

Location.--Lat 34°52'52", long. 84°16'49", 400 ft upstream from Blue Ridge Dam on Toccoa River, 2½ miles northeast of Blue Ridge, Fannin County, and at mile 53.0.

Drainage area.--232 sq mi.

Gage.--Water-stage recorder. Datum of gage is Tennessee Electric Power Co. datum. To convert elevations given herein to datum of 1929, supplementary adjustment of 1936, subtract 0.18 ft.

Extremes.--1930-50: Maximum 12 p.m. contents, 100,900 cfs-days Feb. 11, 1946 (elevation, 1,690.83 ft); minimum (after first filling), 8,900 cfs-days Feb. 6, 1940 (elevation, 1,594.21 ft).

Remarks.--Reservoir is formed by earth dam. Spillway equipped with five taintor gates 15 ft high by 22 ft wide. Dam completed and storage began Dec. 6, 1930. Total capacity at elevation 1,690.0 ft (top of gates) is 99,600 ft cfs-days, of which 92,300 cfs-days is controlled storage above elevation 1,590.0 ft (minimum pool). Reservoir is used for power.

Cooperation.--Records furnished by Tennessee Valley Authority.

Contents, in thousands of cfs-days, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1931	-	-	9.7	21.5	32.4	43.7	68.5	86.0	87.9	78.9	61.9	45.4
1932	30.6	17.8	43.3	70.8	70.3	91.4	94.6	95.0	97.1	95.8	94.8	68.4
1933	70.2	77.3	87.9	70.6	70.8	80.6	91.9	96.0	89.6	77.1	64.5	50.6
1934	31.1	17.2	12.9	25.1	35.4	65.8	76.2	80.1	91.2	85.4	77.7	56.1
1935	41.5	25.1	14.2	26.8	41.8	64.1	89.0	97.2	87.6	74.7	61.7	39.7
1936	26.3	21.7	15.2	51.5	79.1	93.6	93.0	85.1	77.9	69.6	57.9	43.5
1937	29.1	17.5	18.0	54.2	74.1	79.1	89.2	85.2	86.0	82.1	78.7	62.6
1938	50.3	32.9	25.7	29.1	40.3	59.4	93.2	92.4	92.1	98.0	85.8	65.3
1939	44.3	25.6	14.6	21.3	58.7	77.0	88.0	91.5	83.7	71.9	64.1	48.9
1940	37.9	21.0	14.1	9.8	20.7	37.4	54.7	67.7	79.0	85.3	83.5	67.3
1941	41.2	25.1	17.8	24.0	27.5	39.0	50.7	52.4	45.1	62.3	61.1	42.5
1942	25.1	14.8	25.6	33.8	54.5	83.6	89.4	95.7	95.3	87.2	90.1	78.7
1943	65.8	46.7	50.4	69.6	78.0	89.7	95.3	95.7	87.1	86.5	73.3	59.1
1944	43.6	27.0	24.0	34.2	58.2	95.7	98.6	98.6	90.3	86.3	86.2	67.4
1945	43.0	18.4	18.2	29.9	46.1	63.2	69.0	78.3	67.4	53.3	52.6	44.3
1946	45.2	47.3	66.7	97.2	96.8	99.8	98.6	98.3	97.4	94.2	75.4	58.3
1947	35.3	31.8	32.4	61.7	67.9	76.7	87.1	89.1	84.4	71.5	57.4	36.8
1948	18.9	20.9	22.5	18.0	47.3	72.1	82.2	72.7	61.7	53.9	50.4	32.7
1949	18.8	42.4	59.7	76.4	93.1	96.8	99.4	94.5	90.3	97.5	94.0	81.9
1950	72.3	82.3	91.3	97.9	96.5	95.8	95.8	86.5	79.3	79.0	59.4	53.7

1/ Published as Blue Ridge Reservoir prior to 1954.

253. Toccoa River near Blue Ridge, Ga. 1/

Location.--Lat 34°53'14", long. 84°17'07", three-eighths of a mile downstream from Blue Ridge Dam of Tennessee Valley Authority, 2½ miles west of Morganton, and 2½ miles northeast of Blue Ridge, Fannin County.

Drainage area.--233 sq mi. At site used December 1898 to March 1903 and October 1913 to April 1927, 231 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,538.77 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Apr. 20, 1931, staff gage and water-stage recorders at sites within 1 mile of present site at different datums.

Average discharge.--42 years (1898-1902, 1912-50), 629 cfs (unadjusted).

Extremes.--1898-1902, 1912-50: Maximum daily discharge (revised), 15,500 cfs Aug. 22, 1901 (gage height, 14.0 ft, site and datum then in use), from rating curve extended above 5,000 cfs; no flow Dec. 6, 1930, to Mar. 3, 1931 (caused by closing of Blue Ridge Dam).

Remarks.--Flow completely regulated beginning Dec. 6, 1930, by Blue Ridge Lake (see preceding station).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1899	*1,400	*848	666	802	1,910	1,780	1,470	817	577	557	465	331	*962
1900	292	308	*482	*574	*1,110	*1,250	862	*758	*1,220	1,160	756	626	*780
1901	1,020	750	709	1,110	786	1,090	1,410	1,600	1,010	790	a2,290	1,230	a1,150
1902	648	509	a2,300	1,550	1,950	2,010	1,410	720	557	398	395	557	a1,080
1903	432	504	879	655	1,590	1,960	-	-	-	-	-	-	-
1913	*310	*305	*405	*750	*780	*1,940	1,140	978	695	409	309	252	*889
1914	256	219	281	262	426	425	696	388	243	216	227	147	315
1915	299	279	930	896	1,190	770	479	511	395	368	236	256	548
1916	514	358	921	847	1,010	722	536	561	667	2,510	667	411	813
1917	361	366	462	753	1,160	2,280	1,350	768	670	461	393	433	786
1918	285	264	267	636	705	473	696	725	550	400	324	286	466
1919	577	545	1,220	1,210	1,070	1,240	919	830	546	564	389	270	780
1920	317	336	869	739	970	1,080	2,050	1,080	731	638	1,580	954	944
1921	541	509	1,040	879	1,720	820	777	740	512	450	356	301	*715
1922	239	373	448	1,010	919	1,360	1,190	1,220	830	519	363	295	730
1923	262	208	566	517	859	894	967	1,210	1,140	824	652	455	712
1924	355	371	666	1,020	785	965	957	839	632	436	298	298	635
1925	244	188	352	724	447	474	406	338	247	197	115	85.0	318
1926	214	289	266	520	472	548	597	385	277	241	378	236	368
1927	211	*420	*821	610	715	820	804	578	462	368	300	239	*528
1928	250	306	691	517	472	714	887	978	889	1,000	765	840	692
1929	554	454	409	875	802	1,700	1,070	*1,600	*980	720	468	673	*843
1930	507	1,360	793	635	695	891	646	624	414	286	212	234	607
1931	*207	*329	*44.2	0	0	109	5.0	15.6	307	658	887	830	*284
1932	634	631	113	75.2	1,150	214	808	839	599	649	408	1,150	601
1933	418	302	1,460	1,800	1,070	559	461	860	756	842	758	750	838
1934	809	632	342	3.05	6.59	9.72	134	258	198	588	657	989	388
1935	852	884	792	268	8.74	15.6	28.0	351	770	749	685	903	529
1936	583	485	444	25.6	183	336	1,797	903	637	599	640	723	612
1937	716	609	496	100	199	491	461	846	421	471	466	780	506
1938	774	834	582	337	57.6	11.1	146	596	522	853	1,046	1,059	568
1939	932	884	605	273	57.5	538	423	512	776	722	595	723	590
1940	518	703	427	389	147	4.68	69.6	13.5	22.9	147	478	773	308
1941	998	772	581	218	181	55.8	6.99	191	457	103	332	791	391
1942	708	557	73.6	152	70.3	42.4	380	338	524	650	354	760	365
1943	736	923	528	627	731	827	628	647	705	440	727	712	568
1944	689	743	341	52.0	118	40.9	905	712	597	396	251	821	471
1945	947	996	298	6.69	73.2	17.4	408	278	718	770	399	595	459
1946	254	253	11.5	549	1,702	1,302	1,124	1,456	983	766	989	899	851
1947	1,026	442	322	307	417	396	377	522	608	727	703	834	559
1948	823	293	308	486	29.8	146	464	817	725	687	610	870	523
1949	662	81.4	224	617	491	757	811	888	735	528	859	991	638
1950	964	211	355	662	998	1,260	774	957	916	527	1,033	707	778

* Revised.

† Corrected.

‡ Not previously published; estimated or partly estimated on the basis of records for Hiwassee River at Murphy, N. C.

a Revised; supersedes records previously published in Tennessee Division of Geology, Bull. 34.

1/ Published as "near Morganton," 1899-1903, 1913-30.

Monthly and yearly runoff, in inches, of Toccoa River near Blue Ridge, Ga.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1899	\$6.99	\$4.10	3.32	4.00	8.61	8.89	7.10	4.06	2.79	2.78	2.32	1.60	\$56.58
1900	1.45	1.48	\$2.41	\$2.86	\$5.01	\$6.24	4.16	\$3.78	\$5.89	5.79	3.77	3.02	\$45.86
1901	5.10	3.53	3.54	5.54	3.54	5.44	6.81	7.99	4.88	3.94	all.42	5.94	a67.67
1902	3.24	2.46	all.48	7.74	8.79	10.03	6.81	3.60	2.69	1.98	1.97	2.69	a63.48
1903	2.16	2.43	4.39	3.27	7.16	9.78	-	-	-	-	-	-	-
1913	\$1.54	\$1.47	\$2.02	\$3.75	\$3.52	\$9.68	5.51	4.88	3.36	2.04	1.54	1.22	\$40.53
1914	1.28	1.06	1.41	1.30	1.92	2.12	3.36	1.94	1.17	1.06	1.13	.71	18.48
1915	1.49	1.35	4.65	4.47	5.36	3.84	2.31	2.55	1.91	1.83	1.18	1.24	32.18
1916	2.57	1.73	4.60	4.23	4.71	3.61	2.59	2.80	3.22	12.57	3.33	1.99	47.95
1917	1.80	1.78	2.31	3.76	5.23	11.38	6.52	3.83	3.24	2.31	1.96	2.09	46.19
1918	1.42	1.27	1.34	3.17	3.18	2.56	3.36	3.62	2.66	1.99	1.61	1.38	27.56
1919	2.88	2.63	6.09	6.04	4.82	6.19	4.44	4.14	2.63	2.81	1.94	1.30	45.91
1920	1.58	1.62	4.34	3.69	4.53	5.36	9.91	5.38	3.54	3.18	7.69	4.61	\$55.65
1921	2.70	2.46	5.19	4.39	7.76	4.09	3.75	3.69	2.48	2.25	1.78	1.45	41.99
1922	1.19	1.80	2.24	5.04	4.14	6.79	5.75	6.09	4.00	2.59	1.81	1.43	42.87
1923	1.30	1.00	2.82	2.58	3.87	4.46	4.68	6.04	5.51	4.12	3.25	2.20	41.83
1924	1.78	1.80	3.32	5.10	3.67	4.82	4.62	4.18	3.06	2.18	1.49	1.44	37.46
1925	1.22	.91	1.75	3.61	2.02	2.36	1.96	1.68	1.19	.98	.57	.41	18.66
1926	1.07	1.40	1.33	2.59	2.12	2.73	2.88	1.90	1.32	1.19	1.87	1.13	21.53
1927	1.04	*2.01	*4.06	3.02	3.20	4.06	3.85	2.86	2.21	1.62	1.48	1.14	\$30.75
1928	1.14	1.47	3.42	2.56	2.18	3.53	4.25	4.84	4.26	4.96	3.78	4.02	40.41
1929	2.74	2.17	2.02	3.34	3.59	*6.41	*5.11	*7.91	*4.69	3.56	2.32	3.22	*49.06
1930	2.51	6.53	3.93	3.14	3.10	4.41	3.10	3.09	1.98	1.41	1.05	1.12	\$35.37
1931	*1.02	*1.58	-	-	-	-	-	-	-	-	-	-	-

* Revised.

† Corrected.

* Not previously published; see footnote to preceding table.

a Revised; supersedes records previously published in Tennessee Division of Geology, Bull. 34.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year			
		Observed			Adjusted 1/			Observed		Adjusted 1/	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1899	{a}	-	-	-	\$982	-	\$4.16	\$56.58	\$807	-	\$47.51
1900	{a}	-	-	-	\$780	-	\$3.38	\$45.86	\$895	-	\$52.69
1901	{a}, 1386	b15,500	Aug. 22, 1901	425	c1,150	-	c4.98	c57.67	c1,240	-	c72.66
1902	{a}, 1386	b12,300	Dec. 14, 1901	310	c1,080	-	c4.68	c63.48	941	-	55.28
1903	{a}	-	-	-	-	-	-	-	-	-	-
1913	403	-	-	-	\$689	-	\$2.98	\$40.53	\$667	-	\$39.25
1914	403	\$2,330	Apr. 14, 1914	129	315	-	1.36	18.48	378	-	22.22
1915	403	b2,990	Dec. 4, 1914	129	548	-	2.37	32.18	572	-	33.59
1916	433	13,900	July 9, 1916	254	813	-	3.52	47.95	762	-	44.92
1917	453	b9,410	Mar. 4, 1917	285	786	-	3.40	46.19	754	-	44.35
1918	473	b2,220	Jan. 28, 1918	196	466	-	2.02	27.36	594	-	34.93
1919	503	b6,370	Dec. 22, 1918	214	780	-	3.38	45.91	712	-	41.85
1920	503	b12,100	Apr. 2, 1920	214	944	-	\$4.09	\$55.65	992	-	58.46
1921	523	11,800	Feb. 10, 1921	238	\$715	-	\$3.10	41.99	627	-	36.87
1922	543	9,730	Jan. 21, 1922	194	730	-	3.16	42.87	728	-	42.76
1923	563	6,850	Dec. 17, 1922	190	712	-	3.08	41.83	742	-	45.61
1924	563	6,370	Mar. 5, 1924	232	655	-	2.75	37.46	584	-	34.44
1925	603	1,930	Dec. 31, 1924	73	318	-	1.58	18.66	317	-	16.58
1926	623	3,070	Jan. 18, 1926	95	368	-	1.58	21.53	*426	-	*24.84
1927	643, 1386	4,570	Dec. 28, 1926	176	*528	-	*2.27	*30.75	509	-	29.67
1928	663	*4,380	Mar. 30, 1928	176	692	-	2.97	40.41	707	-	41.31
1929	683, 1386	*5,060	May 7, 1929	337	*843	-	*3.62	*49.08	*946	-	*55.12
1930	698	3,330	Nov. 15, 1929	175	607	-	2.61	35.37	*433	\$460	\$26.78
1931	713, 1386	2,080	June 18, 1931	0	*284	\$408	\$1.75	\$23.80	351	\$443	\$25.79
1932	725	2,600	July 5, 1932	2.9	601	\$684	\$2.85	\$38.79	670	\$792	\$46.25
1933	743	\$3,400	Dec. 28, 1932	41	838	\$790	\$3.39	\$48.02	803	\$597	\$34.75
1934	758	1,610	June 26, 1934	.7	388	404	1.73	23.48	450	454	26.47
1935	783	1,800	Oct. 22, May 20	6.8	529	464	2.08	28.24	443	446	25.93
1936	803	3,900	Apr. 6, 1936	2.6	612	622	2.67	36.34	638	645	37.70
1937	823	2,100	Apr. 29, 1937	1.2	506	558	2.39	32.58	537	559	32.60
1938	853	4,680	July 23, 1938	1.3	568	576	2.47	33.52	587	556	32.34
1939	873	1,700	Mar. 4, 1939	2.0	590	546	2.34	31.75	525	523	30.49
1940	893	1,820	Sept. 26, 1940	.7	308	358	1.54	20.89	367	377	22.04
1941	923	1,760	Oct. 12, 1940	.7	391	323	1.39	18.83	306	327	19.03
1942	953	1,940	Sept. 1, 1942	1.7	385	464	2.08	28.21	456	551	32.12
1943	973	2,140	Jan. 18, 1943	10	668	614	2.64	35.79	633	534	31.09
1944	1003	2,020	May 25, 1944	1.1	471	494	2.12	26.83	509	493	28.81
1945	1033	1,800	Oct. 2, 1944	1.7	459	396	1.70	23.04	315	448	26.11

1/Adjusted for change in contents in Blue Ridge Lake since Dec. 6, 1930; no regulation prior to that date.

* Revised.

† Corrected.

* Not previously published.

a Tennessee Division of Geology, Bull. 34.

b Maximum daily discharge.

c Revised; supersedes records previously published in Tennessee Division of Geology, Bull. 34.

Yearly discharge, in cubic feet per second, of Toccoa River near Blue Ridge, Ga.--Continued

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted ^{1/}			Observed	Adjusted ^{1/}	
		Momentary		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1946	1053	5,160	Feb. 12, 1946	8.4	851	889	3.82	51.81	958	865	50.37
1947	1083	1,840	June 17, 1947	3.1	559	501	2.15	29.16	529	502	29.22
1948	1113	1,830	Apr. 20, 1948	9.3	523	512	2.20	29.92	485	587	34.22
1949	1143	2,030	Sept. 6, 1949	6.7	638	773	3.32	45.02	684	770	44.88
1950	1173	8,140	Mar. 13, 1950	18	778	701	3.01	40.84	-	-	-

^{1/} Adjusted for change in contents in Blue Ridge Lake since Dec. 6, 1930; no regulation prior to that date.

Note.--Previously published figures of monthly and annual discharge in cubic feet per second per square mile and runoff in inches, for the period December 1930 to September 1933, are unadjusted for storage and should not be used. Similar monthly figures for the period October 1933 to September 1939, while adjusted, may not represent natural yield because of losses resulting from increase in evaporation, bank storage, and seepage. They are not included herein and should not be used.

254. Ocoee River at Copperhill, Tenn.

Location.--Lat 34°59'29", long. 84°22'36", 0.2 mile upstream from Fightingtown Creek and 0.4 mile downstream from Copperhill, Polk County.

Drainage area.--352 sq mi.

Supplemental records available.--November 1914 to August 1925, gage heights only.

Gage.--Water-stage recorder and wooden control. Datum of gage is 1,445.28 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Aug. 27, 1925, staff or chain gages at several sites within 0.5 mile of present site at different datum.

Average discharge.--18 years (1902-6, 1907-13, 1942-50), 871 cfs, unadjusted.

Extremes.--1902-13, 1942-50: Maximum gage height observed, 18.5 ft Nov. 19, 1906, site and datum then in use (discharge not determined); minimum daily discharge, 76 cfs Dec. 24, 1943, Oct. 5, 1947.

Remarks.--Sixty-six percent of drainage area regulated since Dec. 6, 1930, by Blue Ridge Lake (see elsewhere in this report). Record includes diversion from this stream by Tennessee Copper Co.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1903	*375	*470	*775	*675	*2,120	*3,150	1,800	983	1,330	977	642	419	*1,140
1904	365	398	340	435	630	927	745	610	475	403	470	279	506
1905	226	261	407	696	1,030	766	663	859	661	697	592	401	604
1906	459	344	1,010	1,510	896	1,300	1,160	853	1,060	1,330	1,180	1,210	1,030
1907	1,340	-	1,180	1,040	1,110	1,000	891	857	861	705	598	681	-
1908	522	694	920	1,280	1,560	1,290	1,290	1,090	736	768	658	485	939
1909	424	400	930	873	1,700	2,380	1,350	1,590	1,570	995	678	538	*1,120
1910	535	391	626	621	678	656	575	1,170	1,290	1,300	942	756	796
1911	453	376	*610	*950	*955	*750	1,430	855	503	610	398	367	*686
1912	459	463	710	874	1,320	1,970	1,710	1,410	1,060	895	649	698	1,020
1913	583	527	629	1,070	1,410	2,470	1,410	1,100	766	478	451	330	933
1943	*895	1,047	955	1,022	1,137	1,165	998	848	886	652	869	874	*944
1944	806	846	451	220	503	587	1,355	998	752	506	398	951	696
1945	1,023	1,091	428	165	405	262	639	515	909	922	*555	708	*635
1946	375	407	258	1,065	2,415	1,773	1,515	1,966	1,319	1,006	1,140	1,041	1,181
1947	1,218	612	484	916	690	681	651	757	791	872	844	919	788
1948	894	433	438	624	439	515	794	1,042	887	820	729	934	713
1949	730	445	498	1,078	920	1,073	1,213	1,134	914	753	1,051	1,143	912
1950	1,199	442	550	1,014	1,378	1,785	1,092	1,176	1,063	758	1,155	843	1,039

* Revised.

† Corrected.

* Not previously published; estimated or partly estimated for 1902-3 and 1911 on the basis of records for Hiwassee River above Murphy, N. C., and for October 1942 on basis of Ocoee River at McHarg, Tenn.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1903	*1.23	*1.49	*2.54	*2.21	*6.27	*10.31	5.70	3.22	4.21	3.20	2.10	1.33	*43.81
1904	1.20	1.26	1.11	1.43	1.94	3.03	2.36	2.00	1.51	1.32	1.54	1.88	19.58
1905	.74	.83	1.33	2.28	3.05	2.57	2.10	2.81	2.09	2.28	1.94	1.27	23.29
1906	1.50	1.09	3.30	4.93	2.65	4.25	3.68	2.79	3.37	4.34	3.86	3.83	39.59
1907	4.40	-	3.88	3.41	3.29	3.28	2.82	2.81	2.73	2.31	1.96	2.16	-
1908	1.71	2.20	3.01	4.19	4.79	4.23	4.09	3.56	2.33	2.52	2.16	1.54	36.33
1909	1.39	1.27	3.04	2.86	5.02	7.79	4.28	5.20	4.96	3.26	2.22	*1.70	*43.00
1910	1.75	1.24	2.05	2.03	2.00	2.15	1.82	3.84	4.10	4.24	3.09	2.40	30.71
1911	1.48	1.19	2.00	*3.11	*2.83	*2.46	4.54	2.80	1.59	2.00	1.30	1.16	*27.46
1912	1.50	1.47	2.33	2.86	4.05	6.46	5.43	4.61	3.37	2.93	2.13	2.21	39.35
1913	1.91	1.67	2.06	3.50	4.16	8.10	4.48	3.60	2.43	1.56	1.48	1.05	36.00

† Corrected.

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second, of Ocoee River at Copperhill, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30										Calendar year		
		Observed				Adjusted 1/				Observed		Adjusted 1/		
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date											
1903	(a)	-	-	-	\$1,140	-	\$3.24	\$43.81	\$1,090	-	-	-	-	\$42.12
1904	(a)	b2,330	Mar. 23, 1904	230	506	-	1.44	19.58	490	-	-	-	-	18.91
1905	(a)	b5,710	Jan. 12, 1905	215	604	-	1.72	23.23	682	-	-	-	-	26.28
1906	(a)	\$6,580	Jan. 23, 1906	314	1,030	-	2.93	39.59	-	-	-	-	-	-
1907	(a)	-	Nov. 19, 1906	360	-	-	-	-	822	-	-	-	-	31.69
1908	(a)	\$6,950	Feb. 15, 1908	380	939	-	2.67	36.33	908	-	-	-	-	35.11
1909	(a)	-	Mar. 13, 1909	360	\$1,120	-	\$3.18	\$43.00	1,100	-	-	-	-	\$42.34
1910	(a)	\$3,510	May 21, 1910	360	796	-	2.26	30.71	\$787	-	-	-	-	\$30.34
1911	(a)	-	-	-	\$686	-	\$1.95	\$26.46	\$702	-	-	-	-	\$27.09
1912	(a)	b8,100	Mar. 29, 1912	274	1,020	-	2.90	39.35	1,030	-	-	-	-	39.69
1913	(a)	b8,700	Mar. 14, 1913	130	933	-	2.65	36.00	-	-	-	-	-	-
1943	973	4,570	Jan. 18, 1943	-	\$944	\$890	\$2.53	\$34.33	877	777	29.98	-	-	-
1944	1003	2,720	Mar. 29, 1944	76	696	718	2.04	27.77	732	716	27.70	-	-	-
1945	1033	2,580	Feb. 17, Aug. 4	91	\$635	\$572	\$1.62	\$22.04	\$509	\$642	\$24.76	-	-	-
1946	1053	12,100	Feb. 10, 1946	80	1,181	1,219	3.46	47.02	1,289	1,195	46.08	-	-	-
1947	1083	6,620	Jan. 20, 1947	80	788	729	2.07	28.10	741	714	27.54	-	-	-
1948	1113	2,810	Feb. 12, 1948	76	713	702	1.99	27.13	705	807	31.21	-	-	-
1949	1143	7,200	Nov. 28, 1948	82	912	1,047	2.97	40.38	956	1,043	40.22	-	-	-
1950	1173	10,800	Mar. 13, 1950	128	1,039	962	2.73	37.08	-	-	-	-	-	-

1/ Adjusted for change in contents in Blue Ridge Lake beginning since Dec. 6, 1930; no regulation 1903-13.

* Revised.

† Corrected.

‡ Not previously published.

a Tennessee Division of Geology, Bull. 34.

b Maximum daily discharge.

255. Fightingtown Creek at McCaysville, Ga.

Location.--Lat 34°58'53", long. 84°23'12", 0.2 mile upstream from county highway bridge, 0.9 mile upstream from mouth, and 0.9 mile west of McCaysville, Fannin County.

Drainage area.--70.9 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,449.75 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years (1942-50), 208 cfs.

Extremes.--1942-50: Maximum discharge, 5,280 cfs Jan. 20, 1947 (gage height, 11.32 ft); minimum, 39 cfs Oct. 5, 6, 1947 (gage height, 1.36 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	\$97.0	\$88.1	298	290	321	343	269	186	124	154	108	109	\$199
1944	74.5	74.0	81.6	152	366	530	367	249	156	102	93.1	72.4	192
1945	63.1	68.1	120	169	320	241	214	234	131	100	98.6	69.8	151
1946	66.1	95.5	198	497	597	384	300	350	332	286	128	104	276
1947	95.6	116	125	617	275	253	247	176	134	97.9	78.4	52.1	189
1948	58.0	94.2	101	108	346	347	319	178	111	120	122	75.0	164
1949	57.5	342	288	501	434	292	229	151	163	141	146	146	254
1950	241	210	237	353	350	431	261	179	173	174	128	132	240

* Not previously published; estimated or partly estimated on the basis of records for Turtletown Creek at Turtletown, Tenn.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1943	\$1.58	\$1.39	4.94	4.71	4.71	5.59	4.24	3.03	1.95	2.51	1.76	1.72	\$38.03
1944	1.21	1.16	1.33	2.46	5.57	8.61	5.78	4.05	2.45	1.66	1.51	1.14	36.93
1945	1.03	1.07	1.95	2.75	4.70	3.92	3.37	3.81	2.06	1.63	1.60	1.10	28.99
1946	1.07	1.52	3.22	8.08	8.77	6.24	4.72	5.69	5.23	4.65	2.09	1.64	52.92
1947	1.56	1.83	2.03	10.03	4.04	4.11	3.88	2.86	2.11	1.59	1.28	1.82	36.14
1948	.94	1.48	1.64	1.75	5.27	5.64	5.02	2.89	1.75	1.96	1.98	1.15	31.47
1949	.94	5.39	4.68	8.14	6.37	4.75	4.60	3.73	2.38	2.97	2.29	2.30	48.54
1950	3.92	3.31	3.86	5.90	5.14	7.01	4.10	2.91	2.73	2.83	2.08	2.08	45.87

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date							
1943	973	1,590	Dec. 29, 1942	-	\$199	\$2.81	\$38.03	177	-	33.92
1944	1003	1,890	Mar. 29, 1944	52	192	2.71	36.93	194	-	37.28
1945	1033	1,630	Feb. 13, 1945	49	151	2.13	28.99	161	-	30.75
1946	1053	5,180	Feb. 10, 1946	50	276	3.89	52.92	274	-	52.53
1947	1083	5,280	Jan. 20, 1947	43	189	2.67	36.14	182	-	34.78
1948	1113	1,690	Feb. 12, 1948	42	164	2.31	31.47	200	-	38.42
1949	1143	5,140	Nov. 28, 1948	51	254	3.58	48.54	254	-	48.62
1950	1173	2,900	Oct. 30, 1949	93	240	3.39	45.87	-	-	-

* Not previously published.

256. Davis Mill Creek at Copperhill, Tenn.1/

Location.--Lat 34°59'43", long. 84°22'56", 0.4 mile northwest of Louisville & Nashville Railroad station, 0.8 mile from post office at Copperhill, Polk County, and 700 ft upstream from mouth.

Drainage area.--5.16 sq mi (revised).

Gage.--Water-stage recorder and 3-ft concrete San Dimas flume and dam. Datum of gage is 1,451.06 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. July 16, 1940, to Sept. 30, 1941, water-stage recorder and sharp-crested weir at site 145 ft upstream at datum 1.58 ft higher.

Extremes.--1940-41, 1948-50: Maximum discharge, 3,950 cfs Oct. 6, 1949 (gage height, 6.02 ft), from rating curve extended above 130 cfs on basis of critical depth determination of peak flow; minimum daily, 3.1 cfs July 30, 1940.

Remarks.--Flow includes an unknown amount of diversion from other drainage basins through the sulphuric acid plant of the Tennessee Copper Co.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1940	-	-	-	-	-	-	-	-	-	-	8.79	6.39	-
1941	6.35	7.03	7.65	6.85	5.53	6.44	6.37	5.72	6.40	9.97	8.56	6.80	6.99
1949	-	-	23.0	33.8	31.2	27.1	29.2	25.5	26.1	34.4	30.0	25.5	-
1950	51.1	25.6	22.5	28.3	28.4	37.8	27.8	32.1	29.6	46.0	33.7	28.2	32.7

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1940	893	-	-	-	-	-	-	-	-
1941	923	355	July 16, 1941	4.0	6.99	-	-	-	-
1949	1206	-	-	-	-	-	-	30.2	-
1950	1206	3,950	Oct. 6, 1949	19	32.7	-	-	-	-

257. North Potato Creek near Ducktown, Tenn.2/

Location.--Lat 35°00'54", long. 84°22'58", 50 ft upstream from bridge on State Highway 40, 1½ miles south of Ducktown, Polk County, and 2 miles upstream from mouth.

Drainage area.--13.0 sq mi.

Gage.--Water-stage recorder and 4-ft concrete San Dimas flume. Datum of gage is 1,492.51 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Oct. 8, 1935, water-stage recorder and wooden weir and Oct. 8, 1935, to Aug. 25, 1948, water-stage recorder and a wooden Parshall flume at same site and datum.

Average discharge.--16 years (1934-50), 27.1 cfs.

Extremes.--1934-50: Maximum discharge, 7,080 cfs Apr. 6, 1936 (gage height, 7.2 ft), from rating curve then in use, extended above 1,100 cfs; minimum daily, 2.8 cfs June 16, 1941.

Remarks.--Discharge includes diversions from Brush Creek and from Ocoee River. These diversions were small prior to June 1941. Some fluctuations caused by irregular pumpage from mines by Tennessee Copper Co.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	-	-	33.0	25.1	28.5	14.2	-
1935	26.1	13.7	18.9	27.5	21.5	44.2	46.9	17.8	*18.7	17.3	14.2	8.82	*23.0
1936	9.42	21.9	11.4	48.0	45.9	36.1	74.0	33.2	19.7	18.6	13.7	13.0	28.6
1937	19.5	11.3	23.7	43.8	32.0	23.9	25.4	22.3	22.0	18.9	31.1	14.3	24.0
1938	15.0	10.9	13.5	16.0	14.1	28.2	38.3	35.4	30.1	70.5	23.7	20.5	26.5
1939	12.5	22.2	12.3	23.3	51.3	44.1	28.0	23.7	22.3	20.3	12.5	9.70	23.3
1940	7.91	7.65	10.8	12.3	16.6	17.0	15.8	11.8	19.1	11.4	16.6	8.16	12.9
1941	9.81	9.98	10.5	11.3	9.00	13.6	11.8	7.21	12.0	36.6	18.3	12.9	13.7
1942	14.9	13.8	18.4	15.8	24.8	31.4	18.0	35.1	30.0	27.8	31.4	19.6	23.4
1943	19.6	13.5	38.7	32.5	29.4	34.1	24.9	25.9	31.8	46.4	22.5	21.5	28.4
1944	16.1	13.6	14.9	17.8	43.4	76.5	46.3	36.1	24.0	21.2	21.7	20.5	29.3
1945	15.0	14.3	20.3	21.5	39.1	26.7	30.5	28.2	22.2	19.1	19.0	14.2	22.4
1946	17.3	19.1	22.4	42.8	50.4	41.7	37.2	43.4	33.3	39.7	23.8	22.6	32.7
1947	19.8	25.2	25.0	71.2	35.5	30.7	29.3	36.8	32.1	25.1	22.2	22.6	31.3
1948	19.5	27.2	20.9	19.5	47.1	47.6	40.0	28.8	28.8	33.1	29.1	20.1	30.1
1949	16.1	63.9	38.3	56.6	48.6	39.6	51.1	40.4	33.4	44.4	38.3	33.8	41.9
1950	62.5	32.5	30.7	45.1	48.0	59.8	37.9	40.9	36.5	48.7	34.7	28.8	42.2

* Revised.

1/ Published as "Mill Creek", 1940-41.

2/ Published as "Potato Creek" prior to Oct. 1, 1950.

Monthly and yearly runoff, in inches, of North Potato Creek near Ducktown, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	-	-	2.83	2.22	2.53	1.22	-
1935	2.31	1.17	1.67	2.43	1.73	3.92	4.03	1.58	*1.61	1.54	1.26	.76	*24.01
1936	.84	1.88	1.01	4.26	3.81	3.20	6.35	2.94	1.69	1.65	1.21	1.12	29.96
1937	1.73	.97	2.10	3.89	2.56	2.12	2.18	1.98	1.89	1.67	2.76	1.23	25.08
1938	1.33	.93	1.20	1.42	1.15	2.50	3.28	3.14	2.59	6.25	2.10	1.76	27.63
1939	1.11	1.91	1.09	2.06	4.11	3.91	2.40	2.10	1.91	1.80	1.11	.83	24.34
1940	.70	.66	.96	1.09	1.38	1.51	1.36	1.04	1.64	1.02	1.47	.70	13.53

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1934	758	-	-	-	-	-	-	-	-
1935	783,1386	1,120	Aug. 14, 1935	6.4	*23.0	*1.77	*24.01	*21.6	*22.59
1936	803	7,080	Apr. 6, 1936	6.2	28.6	2.20	29.96	29.6	31.03
1937	823	2,940	Aug. 25, 1937	8.6	24.0	1.85	25.08	22.7	23.74
1938	853	5,440	July 19, 1938	5.6	26.5	2.04	27.63	27.1	26.28
1939	873	2,180	Feb. 15, 1939	5.5	23.3	1.79	24.34	21.6	22.55
1940	893	2,200	Aug. 29, 1940	4.6	12.9	.992	13.53	13.2	-
1941	923	1,390	July 16, 1941	2.8	13.7	-	-	15.1	-
1942	953	3,970	May 20, 1942	7.2	23.4	-	-	25.5	-
1943	973	3,080	July 10, 1943	11	28.4	-	-	26.1	-
1944	1003	4,550	Mar. 27, 1944	10	29.3	-	-	29.7	-
1945	1033	3,950	Aug. 22, 1945	9.5	22.4	-	-	23.2	-
1946	1053	2,000	July 2, 1946	10	32.7	-	-	33.7	-
1947	1083	876	Jan. 20, 1947	9.0	31.3	-	-	31.1	-
1948	1113	763	June 8, 1948	12	30.1	-	-	34.5	-
1949	1143	1,740	Apr. 28, 1949	12	41.9	-	-	42.7	-
1950	1173	4,600	Oct. 6, 1949	20	42.2	-	-	-	-

* Revised.

258. Ocoee River at McHarg, Tenn.

Location.--Lat 35°00'25", long. 84°24'46", 0.6 mile (revised) downstream from highway bridge, 1 mile downstream from McHarg railroad siding, Polk County, 1 mile downstream from North Potato Creek (formerly Potato Creek), 3 miles downstream from Copperhill, and at mile 34.6.

Drainage area.--447 sq mi. At site used 1917-31, 446 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,427.16 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Oct. 10, 1931, staff gage 0.6 mile upstream at datum 2.84 ft higher.

Average discharge.--26 years (1916-42), 1,073 cfs (unadjusted).

Extremes.--1916-42: Maximum discharge, 17,300 cfs July 22, 1938 (gage height, 9.58 ft); minimum, about 105 cfs (regulated) Oct. 3, 4, 1931 (gage height -0.1 ft, estimated, site and datum then in use); minimum daily, 120 cfs Aug. 27, 31, Sept. 21-23, 1925.

Remarks.--Flow regulated since Dec. 6, 1930, by Blue Ridge Lake (see elsewhere in this report). Some flow diverted above station by Tennessee Copper Co. into North Potato Creek.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1917	*581	*612	*900	*1,580	*2,260	*4,940	*2,580	1,420	1,140	868	1,020	909	*1,560
1918	628	489	407	1,330	1,340	834	1,250	1,270	*1,020	*840	*805	*505	*873
1919	*1,030	*1,000	*2,010	2,090	1,890	2,250	1,600	1,440	1,080	1,080	729	427	*1,390
1920	655	609	1,280	1,270	1,580	1,870	*3,400	1,990	1,440	1,100	2,310	1,540	*1,540
1921	843	830	1,810	1,570	*3,000	1,370	1,380	1,160	920	863	739	619	*1,250
1922	533	955	1,100	*2,270	1,850	2,780	2,100	2,120	1,390	882	659	512	*1,420
1923	483	394	1,190	1,010	1,510	1,450	1,790	1,680	1,860	1,690	1,180	720	1,240
1924	580	585	1,100	1,720	1,320	1,580	1,840	1,560	1,290	1,010	653	617	1,160
1925	463	388	760	1,490	850	884	762	570	432	316	171	145	602
1926	518	609	532	1,170	940	1,040	1,040	720	527	553	868	503	751
1927	406	756	1,620	981	1,240	1,590	1,450	1,010	903	700	636	528	984
1928	434	526	1,230	853	830	*1,610	1,720	1,680	1,760	1,740	1,390	1,660	*1,290
1929	937	796	694	1,290	1,420	2,820	2,020	3,160	1,790	1,260	852	1,230	1,520
1930	829	2,360	1,320	1,180	1,310	1,600	1,190	1,200	808	629	381	466	1,100
1931	329	624	257	283	345	492	808	469	560	1,040	1,190	1,030	620
1932	820	785	871	893	2,180	929	1,500	1,590	1,220	1,180	803	1,570	1,190
1933	894	879	2,910	2,620	2,070	1,330	1,070	1,590	1,080	1,260	1,230	1,040	1,500
1934	1,026	861	562	363	2,78	608	604	643	706	938	1,032	1,294	762
1935	1,275	1,155	1,072	652	376	708	729	833	1,159	1,056	928	1,088	923

* Revised.

* Not previously published; estimated or partly estimated on basis of records for station at Emf.

Monthly and yearly mean discharge, in cubic feet per second, of Ocoee River at McHarg, Tenn.--Con.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1936	740	814	657	1,074	1,222	998	3,583	1,473	978	933	871	966	1,188
1937	985	798	907	1,119	924	1,013	1,096	1,446	823	784	819	1,020	977
1938	1,036	1,045	838	816	246	499	1,110	1,123	1,054	2,080	1,649	1,447	1,067
1939	1,177	1,208	874	686	1,068	1,524	1,117	952	1,138	993	816	919	1,038
1940	854	860	610	585	475	376	432	275	325	370	682	910	546
1941	1,151	966	805	443	340	298	221	333	603	539	612	961	607
1942	903	807	383	518	681	775	849	806	973	1,006	792	1,085	798
1943	1,012	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1917	*1.50	*1.53	*2.33	*4.08	*5.28	*12.77	*6.45	3.66	2.84	2.24	2.64	2.28	*47.60
1918	1.62	1.22	1.05	3.44	3.14	2.16	3.13	3.27	*2.55	*2.17	*1.56	*1.25	*28.56
1919	*2.66	*2.50	*5.19	5.41	4.42	5.83	4.00	3.72	2.70	2.78	1.88	1.07	*42.16
1920	1.69	1.52	3.30	3.29	3.83	4.63	*8.50	4.38	2.86	2.86	5.97	3.86	*46.89
1921	2.18	2.08	4.69	4.05	*7.00	3.54	3.44	2.99	2.30	2.23	1.91	1.55	*37.96
1922	1.38	2.34	2.84	*5.86	4.27	7.17	5.26	5.48	3.48	2.28	1.70	1.28	*43.34
1923	1.25	.98	3.07	2.60	3.69	3.91	3.62	4.62	4.66	4.34	3.07	1.80	*37.61
1924	1.50	1.46	2.85	4.45	3.20	4.09	4.80	4.05	3.22	2.62	1.69	1.54	35.27
1925	1.20	.97	1.97	3.84	1.98	2.28	1.91	1.47	1.08	.82	.44	.36	18.32
1926	1.34	1.52	1.38	3.04	2.19	2.69	2.60	1.86	1.32	1.43	2.24	1.28	22.87
1927	1.05	1.89	4.18	2.54	2.90	4.10	3.63	2.62	2.26	1.81	1.64	1.32	29.94
1928	1.12	1.32	3.17	2.20	2.01	*4.15	4.31	4.34	4.41	3.59	4.16	4.16	*39.27
1929	2.42	1.99	1.79	3.34	3.33	7.28	5.06	8.16	4.49	3.26	2.20	3.08	46.40
1930	2.14	5.90	3.41	3.05	3.07	4.13	2.96	3.11	2.02	1.62	.98	1.17	33.56
1931	.85	1.56	-	-	-	-	-	-	-	-	-	-	-

* Revised.

* Not previously published; estimated or partly estimated on basis of records for station at Emf.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year					
		Observed				Adjusted ¹		Observed		Adjusted ¹			
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean	Mean
		Discharge	Date										
1917	453	-	-	-	*1,560	-	*3.50	*47.60	*1,520	-	*46.13	-	-
1918	473	*8,790	Jan. 28, 1918	-	*873	-	*1.96	*26.56	*1,090	-	*33.02	-	-
1919	(a), 1436	*13,500	Dec. 22, 1918	-	*1,390	-	*3.12	*42.16	1,260	-	38.32	-	-
1920	(a), 1436	*16,200	Apr. 2, 1920	330	*1,540	-	*3.45	*46.89	*1,620	-	*49.33	-	-
1921	523, 1436	*15,400	Dec. 14, 1920*	380	*1,250	-	*2.80	*37.96	*1,170	-	*35.57	-	-
1922	543, 1436	17,000	Jan. 21, 1922	348	*1,420	-	*3.18	*43.34	*1,380	-	*42.08	-	-
1923	563	*7,700	Dec. 17, 1922	311	1,240	-	2.78	37.61	1,250	-	38.12	-	-
1924	583	*9,740	Mar. 5, 1924	420	1,160	-	2.60	35.27	1,100	-	33.60	-	-
1925	603	*6,260	Dec. 8, 1924	120	602	-	1.35	18.32	606	-	18.42	-	-
1926	623	*8,240	Jan. 18, 1926	149	751	-	1.68	22.87	846	-	25.75	-	-
1927	643	*8,790	Dec. 28, 1926	286	984	-	2.21	29.94	934	-	28.43	-	-
1928	663, 1436	*16,200	Mar. 30, 1928	297	*1,290	-	*2.69	*39.27	*1,310	-	*39.86	-	-
1929	683	*12,800	May 6, 1929	580	1,520	-	3.41	46.40	1,700	-	51.65	-	-
1930	698	6,620	Mar. 7, 1930	252	1,100	-	2.47	33.56	828	854	26.00	-	-
1931	713	5,150	Apr. 4, 1931	125	620	*744	*1.67	*22.65	727	*819	*24.87	-	-
1932	728	8,080	June 20, 1932	140	1,190	*1,250	*2.80	*38.16	1,380	*1,500	*45.65	-	-
1933	743	11,000	Dec. 28, 1932	317	1,500	*1,450	*3.24	*44.03	1,309	*1,103	*33.50	-	-
1934	758	5,380	Mar. 3, 1934	174	762	*777	*1.74	*23.61	851	*854	*25.95	-	-
1935	783	3,820	Aug. 14, 1935	154	923	*878	*1.96	*26.65	814	*817	*24.80	-	-
1936	803	15,800	Feb. 4, 1936	125	1,188	*1,198	*2.68	*36.48	1,227	*1,235	*37.58	-	-
1937	823	4,970	Aug. 25, 1937	175	977	*1,030	*2.30	*31.26	998	*1,019	*30.94	-	-
1938	853	17,300	July 22, 1938	218	1,067	*1,075	*2.40	*32.64	1,096	*1,065	*32.35	-	-
1939	873	4,070	Feb. 15, 1939	158	1,038	*994	*2.22	*30.17	943	*942	*28.60	-	-
1940	893	3,750	Aug. 29, 1940	142	546	596	1.33	*18.15	613	623	18.98	-	-
1941	923	3,370	July 16, 1941	132	607	539	1.21	16.38	537	558	16.96	-	-
1942	953	5,930	May 20, 1942	138	798	897	2.01	27.24	-	-	-	-	-

¹Adjusted for change in contents in Blue Ridge Lake since Dec. 6, 1930; no regulation prior to that date.

* Revised.

† Corrected.

* Not previously published.

a Tennessee Division of Geology, Bull. 34.

Note.--Figures of monthly and annual discharge in cubic feet per second per square mile and runoff in inches for the period December 1930 to September 1936, previously published in WSP 713, 728, 743, 758, 783, and 803, are unadjusted for storage and should not be used.

259. Brush Creek near Ducktown, Tenn.

Location.--Lat 35°02'12", long. 84°26'09", 100 ft downstream from bridge on U. S. Highway 64, three-quarters of a mile upstream from mouth, and 3 miles west of Ducktown, Polk County,

Drainage area.--14.4 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,421.37 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--9 years (1933-42), 25.8 cfs.

Extremes.--1933-42: Maximum discharge, about 3,700 cfs July 19, 1938 (gage height, 7.24 ft), from rating curve extended above 710 cfs; minimum, 1.9 cfs Jan. 6, 1940, revised (gage height, 0.63 ft).

Remarks.--The Tennessee Copper Co. diverted an average of about 0.7 cfs to North Potato Creek about 5 miles upstream.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	7.58	7.45	8.36	18.5	17.1	56.0	25.9	21.2	55.8	23.2	22.9	15.5	23.3
1935	27.7	16.8	17.9	30.3	32.8	50.1	56.6	27.4	19.6	20.0	15.0	9.73	27.1
1936	8.10	23.2	14.0	80.8	73.7	45.5	104	32.7	16.8	14.0	10.3	8.66	35.8
1937	13.0	8.85	26.4	65.0	40.0	28.2	32.4	30.8	17.6	13.1	27.5	12.7	26.3
1938	15.4	11.0	16.4	23.0	18.7	37.5	59.8	34.7	38.5	97.0	25.7	16.4	33.0
1939	11.2	16.8	14.2	28.1	90.5	69.5	32.5	21.4	21.8	15.1	14.3	8.86	28.3
1940	6.37	6.53	8.62	12.8	24.1	22.9	28.3	17.1	26.0	11.4	13.0	6.89	15.3
1941	8.29	11.4	14.0	15.9	10.3	19.0	17.5	8.89	13.0	39.7	20.5	7.92	15.6
1942	9.26	10.4	24.3	22.3	42.9	51.1	23.9	25.1	33.7	38.3	31.5	20.9	27.7

* Not previously published; estimated or partly estimated on basis of records for station Toccoa River near Dial, Ga.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	0.61	0.58	0.67	1.48	1.24	4.48	2.01	1.70	4.33	1.86	1.83	1.20	21.99
1935	2.22	1.46	1.43	2.43	2.37	4.01	4.39	2.19	1.52	1.60	1.20	.75	25.57
1936	.65	1.80	1.12	6.47	5.52	3.64	8.09	2.62	1.30	1.12	.82	.67	33.92
1937	1.04	.69	2.11	5.20	2.89	2.26	2.51	2.47	1.36	1.05	2.20	.98	24.76
1938	1.23	.85	1.31	1.84	1.35	3.00	4.63	2.78	2.98	7.77	2.06	1.27	31.07
1939	.90	1.30	1.13	2.25	6.57	5.57	2.52	1.71	1.69	1.21	1.15	.69	28.69
1940	.51	.51	.69	1.03	1.80	1.83	2.19	1.37	2.01	.91	1.04	.53	14.42
1941	.66	.88	1.12	1.28	.75	1.52	1.36	.71	1.01	3.18	1.64	.61	14.72
1942	.74	.81	1.95	1.78	3.10	4.09	1.85	2.01	2.61	3.07	2.52	1.62	26.15

* Not previously published; estimated or partly estimated on basis of records for station Toccoa River near Dial, Ga.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1934	758	-	-	-	23.3	1.62	21.99	26.8	25.24
1935	783	982	July 3, 1935	5.4	27.1	1.88	25.57	25.5	24.03
1936	803	2,720	Feb. 4, 1936	5.2	35.8	2.49	33.82	36.1	34.09
1937	823	1,810	Aug. 10, 1937	6.9	26.3	1.83	24.76	25.8	24.31
1938	853	3,700	July 19, 1938	8.4	33.0	2.29	31.07	32.9	31.01
1939	873	948	Feb. 15, 1939	6.0	28.3	1.97	26.69	26.6	25.07
1940	893	460	June -8, 1940	5.1	15.3	1.06	14.42	16.3	15.37
1941	923	1,580	July 1, 1941	5.5	15.6	1.08	14.72	16.5	15.56
1942	953	1,310	July 9, 1942	8.0	27.7	1.92	26.15	-	-

† Corrected.

* Not previously published.

a Estimated.

260. Ocoee No. 3 Lake near Ducktown, Tenn.1/

Location.--Lat 35°02'25", long. 84°28'00", at Ocoee No. 3 Dam on Ocoee River, 5 miles west of Ducktown, Polk County, and at mile 29.2.

Drainage area.--496 sq mi.

Gage.--Water-stage recorder. Datum of gage is 1,410.00 ft above mean sea level, datum of 1929, supplementary adjustment of 1936; gage readings have been adjusted to mean sea level.

Extremes.--1942-50: Maximum contents, 7,800 cfs-days Jan. 8, 1946 (elevation, 1,436.7 ft, estimated); minimum 12 p.m. contents (after first filling), 1,100 cfs-days Apr. 3, 1943 (elevation, 1,394.95 ft).

1/ Published as Ocoee No. 3 Reservoir prior to 1954.

260. Ocoee No. 3 Lake near Ducktown, Tenn.--Continued

Remarks.--Reservoir is formed by concrete dam. Spillway with crest at elevation 1,412.00 ft equipped with seven tainter gates 23 ft high and 32 ft wide. Storage began Aug. 15, 1942; water in reservoir first reached minimum pool elevation Dec. 28, 1942. Capacity of reservoir has been considerably reduced by silting; revised capacity tables used after Sept. 30, 1946. Total capacity at elevation 1,435.00 ft (top of gates) is 5,900 cfs-days, of which 3,700 cfs-days is controlled storage above elevation 1,413.00 ft (minimum pool). Reservoir is used for power.

Cooperation.--Records furnished by Tennessee Valley Authority.

Contents, in thousands of cfs-days, on last day of month												
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1943	0.9	1.1	1.8	2.4	2.2	2.6	5.2	5.1	5.7	4.6	5.7	6.5
1944	6.0	4.2	6.3	6.0	7.1	7.1	6.8	7.3	6.6	4.1	6.1	7.1
1945	6.4	6.8	7.0	5.5	3.3	4.3	5.5	5.3	5.8	5.3	6.0	5.7
1946	4.1	5.9	6.9	7.0	7.1	7.1	7.1	5.6	5.7	6.6	6.9	4.7
1947	44.9	5.2	4.2	5.4	4.3	4.3	4.3	4.2	4.3	5.0	4.0	4.2
1948	4.8	4.5	4.5	5.3	4.7	5.1	4.9	5.0	4.6	5.4	4.4	5.2
1949	5.4	5.1	5.2	5.9	4.7	5.6	5.4	4.2	5.0	3.7	5.6	5.7
1950	5.5	5.5	4.3	5.4	4.7	5.4	4.0	4.8	4.8	4.6	4.6	5.4

a Contents by capacity table used beginning Oct. 1, 1946; contents Oct. 31, 1946, by capacity table used prior to Oct. 1, 1946, was 6.3 cfs-days.

261. Ocoee River at Emf, Tenn.

Location.--Lat 35°05'48", long. 84°32'07", on left bank 700 ft downstream from Tennessee Valley Authority powerplant, three-quarters of a mile (revised) upstream from former village of Emf, Polk County, and 2 miles downstream from Goforth Creek.

Drainage area.--524 sq mi.

Gage.--Water-stage recorder. Datum of gage is 837.88 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. September 1912 to June 18, 1924, water-stage recorder at site 500 ft downstream from powerhouse. June 19, 1924, to Mar. 10, 1936, water-stage recorder at site 600 ft downstream from powerhouse. All gages to same datum.

Average discharge.--38 years (1912-50), 1,242 cfs (unadjusted).

Extremes.--1912-50: Maximum discharge, 29,400 cfs July 10, 1916 (gate height, 13.7 ft), from rating curve extended above 17,000 cfs; minimum daily, 5.0 cfs July 28, 1944.

Remarks.--Flow regulated by Blue Ridge Lake, beginning Dec. 6, 1930, and Ocoee No. 3 Lake beginning Aug. 15, 1942 (see pp. 273 and 281), and by powerplant above station.

Monthly and yearly mean discharge, in cubic feet per second													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1913	*612	*602	*805	1,867	2,806	4,271	2,152	1,623	1,246	806	647	477	*1,486
1914	497	449	648	586	931	850	1,459	730	584	521	478	349	671
1915	572	517	2,151	1,910	2,338	1,647	1,003	1,005	900	851	530	550	1,160
1916	1,088	748	2,218	1,755	1,996	1,353	981	1,145	1,300	3,512	1,250	691	1,507
1917	644	678	1,002	1,777	2,507	5,481	2,861	1,504	1,183	925	868	891	1,690
1918	723	549	512	1,641	1,640	998	1,437	1,431	1,139	927	667	557	1,015
1919	1,149	1,110	2,453	2,397	2,125	2,639	1,757	1,636	1,188	1,159	768	486	1,573
1920	796	615	1,302	1,305	1,625	1,950	4,313	1,966	1,324	1,211	2,699	1,664	1,729
1921	836	908	2,559	1,893	3,346	1,640	1,703	1,406	958	1,040	870	617	1,471
1922	547	1,077	1,175	2,769	2,168	3,650	2,418	2,431	1,640	1,115	740	568	1,690
1923	520	434	1,574	1,215	1,757	1,710	1,738	2,144	2,140	1,771	1,321	770	1,423
1924	590	652	1,268	2,024	1,507	1,831	2,220	1,740	1,370	1,199	655	642	1,308
1925	474	408	681	1,647	978	997	869	699	490	368	224	183	685
1926	590	726	667	1,191	1,065	1,161	1,213	811	587	572	805	468	820
1927	412	763	1,755	1,149	1,430	1,760	1,696	1,124	1,001	758	687	477	1,082
1928	462	561	1,516	1,051	1,032	1,652	1,952	1,850	1,784	1,927	1,500	1,934	1,436
1929	1,061	917	836	1,435	1,614	3,209	2,241	3,586	1,908	1,361	880	1,215	1,691
1930	876	2,700	1,447	1,293	1,444	1,805	1,325	1,235	789	559	391	488	1,192
1931	410	690	445	448	482	640	995	573	563	1,006	1,153	1,043	704
1932	837	847	1,113	1,396	2,848	1,070	1,792	1,743	1,328	1,242	829	1,487	1,370
1933	972	1,073	3,415	2,780	2,201	1,417	1,213	1,751	1,164	1,348	1,207	950	1,625
1934	1,092	931	641	497	356	1,143	718	722	931	986	1,126	1,263	870
1935	1,324	1,159	1,119	851	647	975	1,105	972	1,157	1,128	1,005	1,083	1,046
1936	747	891	743	1,533	1,713	1,348	4,040	1,591	1,013	972	905	991	1,368
1937	1,009	825	1,060	1,496	1,122	1,120	1,223	1,554	906	874	984	1,057	1,104
1938	1,147	1,146	1,003	833	404	822	1,546	1,292	1,268	2,439	1,733	1,479	1,265
1939	1,207	1,283	989	898	1,598	1,840	1,314	1,119	1,297	1,116	926	1,011	1,213
1940	667	890	663	663	672	544	641	379	436	432	741	959	639
1941	1,238	1,056	911	529	416	461	351	397	686	776	790	1,025	722
1942	949	851	481	617	886	1,109	936	900	1,122	1,112	939	1,174	922
1943	1,066	1,277	1,772	1,645	1,754	1,803	1,424	1,275	1,198	1,100	1,113	1,108	1,376
1944	990	1,102	586	552	1,369	1,741	2,250	1,495	1,094	826	509	1,077	1,129
1945	1,185	1,254	691	548	1,186	708	1,067	1,007	1,152	1,140	753	867	960

* Not previously published; estimated or partly estimated on the basis of records for station Hiwassee River at Murphy, N. C.

Monthly and yearly mean discharge, in cubic feet per second, of Ocoee River at Bnf, Tenn.--Con.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1946	553	553	664	1,953	3,426	2,577	2,215	2,786	1,953	1,568	1,453	1,410	1,748
1947	1,405	950	849	2,501	1,341	1,305	1,155	1,165	1,171	1,119	1,095	1,075	1,245
1948	1,034	669	673	875	1,355	1,264	1,505	1,434	1,138	1,110	1,040	1,076	1,095
1949	870	1,220	1,140	2,133	1,894	1,748	1,983	1,761	1,288	1,288	1,366	1,604	1,521
1950	1,915	909	1,088	1,826	2,318	2,840	1,728	1,649	1,591	1,298	1,580	1,208	1,660

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1913	\$1.35	\$1.28	\$1.77	4.11	5.58	9.40	4.58	3.57	2.65	1.77	1.42	1.02	\$38.50
1914	1.09	.96	1.42	1.29	1.85	1.87	3.11	1.61	1.24	1.15	1.05	.74	17.38
1915	1.26	1.10	4.73	4.20	4.65	3.62	2.14	2.21	1.92	1.87	1.17	1.17	30.04
1916	2.39	1.59	4.88	3.86	4.11	2.98	2.09	2.52	2.77	7.73	2.75	1.47	39.14
1917	1.42	1.44	2.20	3.91	4.98	12.06	6.09	3.31	2.52	2.04	1.91	1.90	43.78
1918	1.59	1.17	1.13	3.61	3.26	2.20	3.06	3.15	2.43	2.04	1.47	1.19	26.30
1919	2.53	2.36	5.40	5.27	4.22	5.81	3.74	3.60	2.53	2.55	1.69	1.03	40.73
1920	1.75	1.31	2.87	2.87	3.34	4.29	9.18	4.33	2.82	2.66	5.54	3.54	44.90
1921	1.84	1.93	5.63	4.16	6.65	3.61	3.63	3.09	2.04	2.29	1.91	1.31	38.09
1922	1.20	2.29	2.58	6.03	8.03	5.15	5.35	3.49	2.45	1.83	1.21	1.21	45.79
1923	1.15	.92	3.46	2.67	3.49	3.76	3.70	4.72	4.56	3.90	2.91	1.64	36.88
1924	1.30	1.39	2.79	4.45	3.10	4.03	4.73	3.83	2.92	2.64	1.44	1.37	33.99
1925	1.04	.87	1.94	3.62	1.94	2.19	1.85	1.54	1.04	.81	.49	.39	17.72
1926	1.30	1.55	1.47	2.62	2.12	2.56	2.58	1.78	1.25	1.26	1.77	1.00	21.26
1927	.91	1.63	3.86	2.53	2.84	3.87	3.61	2.47	2.13	1.69	1.47	1.01	28.02
1928	1.02	1.19	3.33	2.31	2.13	3.63	4.16	4.07	3.80	4.24	3.30	4.12	37.30
1929	2.34	1.95	1.84	5.16	3.21	7.08	4.77	7.89	4.06	2.99	1.94	2.59	45.80
1930	1.93	5.75	3.18	2.84	2.87	3.97	2.82	2.72	1.68	1.23	.86	1.04	30.89
1931	.90	1.47	-	-	-	-	-	-	-	-	-	-	-

† Not previously published; estimated or partly estimated on the basis of records for station Hiwassee River at Murphy, N. C.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted/			Observed	Adjusted/	Runoff/
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1913	783	a20,200	Mar. 27, 1913	-	\$1,486	-	\$2.84	\$38.50	1,450	-	37.57
1914	783	a3,920	Apr. 14, 1914	117	671	-	1.28	17.38	811	-	21.00
1915	783	a9,140	Dec. 25, 1914	291	1,160	-	2.21	30.04	1,228	-	31.81
1916	783	29,400	July 10, 1916	517	1,507	-	2.88	39.14	1,360	-	35.34
1917	783	a25,400	Mar. 4, 1917	503	1,690	-	3.23	43.78	1,644	-	42.61
1918	783	a7,570	Jan. 30, 1918	290	1,015	-	1.94	26.30	1,262	-	32.70
1919	783	a16,400	Dec. 22, 1918	408	1,573	-	3.00	40.73	1,404	-	36.37
1920	783	24,200	Apr. 2, 1920	396	1,729	-	3.50	44.90	1,862	-	48.37
1921	783	17,900	Feb. 10, 1921	396	1,471	-	2.81	38.09	1,342	-	34.77
1922	783	24,600	Jan. 21, 1922	390	1,690	-	3.23	43.79	1,669	-	43.24
1923	783	15,000	Dec. 17, 1922	360	1,423	-	2.72	36.88	1,421	-	36.83
1924	783	12,900	Apr. 18, 1924	448	1,308	-	2.50	33.99	1,246	-	32.36
1925	783	11,800	Dec. 8, 1924	140	685	-	1.31	17.72	702	-	18.19
1926	783	8,080	Jan. 18, 1926	207	820	-	1.56	21.26	901	-	23.34
1927	783	9,540	Dec. 28, 1926	320	1,082	-	2.06	28.02	1,049	-	27.16
1928	783	16,100	Mar. 30, 1928	370	1,456	-	2.74	37.30	1,458	-	37.89
1929	783	14,300	May 6, 1929	611	1,691	-	3.23	43.80	1,873	-	48.53
1930	783	7,800	Nov. 14, 1929	320	1,192	-	2.27	30.89	902	\$929	\$24.07
1931	783	6,590	Apr. 4, 1931	236	704	\$829	\$1.58	\$21.47	810	\$902	\$23.38
1932	783	14,300	Apr. 30, 1932	137	1,370	\$1,433	\$2.73	\$37.21	1,595	\$1,716	\$44.58
1933	783	13,900	Dec. 28, 1932	286	1,625	\$1,577	\$3.01	\$40.84	1,588	\$1,853	\$30.64
1934	783	9,860	June 6, 1934	220	870	\$885	\$1.69	\$22.93	949	\$953	\$24.69
1935	783	8,080	Mar. 12, 1935	232	1,046	\$1,001	\$1.91	\$25.93	943	\$946	\$24.50
1936	803	22,600	Apr. 8, 1936	146	1,368	\$1,378	\$2.63	\$35.80	1,412	\$1,419	\$36.86
1937	823	6,200	Aug. 10, 1937	234	1,104	\$1,156	\$2.21	\$29.94	1,137	\$1,158	\$30.00
1938	853	15,400	Apr. 8, 1938	318	1,265	\$1,273	\$2.43	\$32.97	1,280	\$1,250	\$32.37
1939	873	6,720	Aug. 15, 1939	206	1,213	\$1,168	\$2.23	\$30.27	1,107	1,106	28.65
1940	893	3,680	Aug. 29, 1940	158	639	\$690	\$1.32	\$17.92	722	733	19.03
1941	923	3,590	July 16, 1941	178	722	654	1.25	16.93	644	665	17.22
1942	953	7,520	May 20, 1942	22	922	1,022	1.95	26.46	1,077	1,177	30.49
1943	973	11,520	Dec. 29, 1942	494	1,376	1,358	2.55	34.66	1,255	1,167	30.24
1944	1003	11,800	Mar. 28, 1944	5.0	1,129	1,153	2.20	29.95	1,166	1,152	29.94
1945	1033	10,200	Feb. 13, 1945	48	960	893	1.70	23.14	846	979	25.36
1946	1053	17,900	Feb. 10, 1946	18	1,748	1,784	3.40	46.21	1,869	1,771	45.89
1947	1083	17,100	Jan. 20, 1947	70	1,245	1,188	2.27	30.77	1,176	1,149	29.77
1948	1113	11,200	Feb. 12, 1948	48	1,095	1,086	2.07	28.21	1,166	1,269	32.97
1949	1143	19,400	Nov. 28, 1948	41	1,521	1,657	3.16	42.93	1,580	1,664	43.10
1950	1173	17,200	Mar. 13, 1950	120	1,660	1,582	3.02	40.99	-	-	-

/ Adjusted for change in contents in Blue Ridge Lake, beginning Dec. 6, 1930, and in Ocoee No. 3 Lake, beginning Aug. 15, 1943; no regulation prior to Dec. 6, 1930.

† Corrected.

* Not previously published.

a Maximum daily discharge.

Note.--Figures of discharge in cubic feet per second per square mile, and runoff in inches, for months December 1930 to September 1936, for water years 1931-39, and for calendar years 1930-39 previously published in WSP 783, 803, 823, 853, and 873, are unadjusted for storage and should not be used.

262. Parksville Lake at Parksville, Tenn. 1/

Location.--Lat 35°05'44", long. 84°38'51", at Parksville Dam on Ocoee River at Parksville, Polk County, Tenn., 13½ miles east of Cleveland, and at mile 11.9.

Drainage area.--595 sq mi.

Gage.--Indicator gage. Datum of gage is 7.00 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Gage readings have been reduced to elevation above mean sea level.

Extremes.--1914-50: Maximum 12 p.m. contents, 53,300 cfs-days July 9, 1916; maximum 12 p.m. elevation, 840.3 ft Feb. 10, 1946; minimum contents, 28,100 cfs-days Jan. 11, 30, 1940; minimum 12 p.m. elevation, 814.9 ft Dec. 14, 1934.

Remarks.--Reservoir is formed by concrete dam with 347 ft of spillway. Spillway is equipped with four flood gates 7 ft high by 20 ft wide and 265 ft of flashboards about 5 2/3 ft high. Crest of spillway is 1.0 ft lower under gates. Dam completed and storage began in 1911. Capacity of reservoir has been considerably reduced by silting. Total capacity at elevation 837.66 ft (top of flashboards) is 45,900 cfs-days, of which 16,600 cfs-days is controlled storage above elevation 817.0 ft (minimum pool). Reservoir is used for power.

Cooperation.--Records furnished by Tennessee Valley Authority.

Contents, in thousands of cfs-days, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1914	-	-	-	-	-	-	-	-	36.8	40.8	41.8	38.5
1915	43.3	46.3	50.5	50.6	50.7	50.6	50.5	51.3	51.2	50.4	50.9	45.4
1916	45.1	42.4	47.2	45.8	49.8	50.3	46.0	50.5	46.4	49.8	46.3	42.6
1917	35.2	36.7	41.0	49.7	46.8	47.1	49.4	47.4	42.2	45.0	47.5	49.4
1918	45.9	36.8	39.2	48.3	49.0	40.6	49.6	49.2	49.2	41.8	36.3	41.5
1919	47.0	47.5	46.1	48.3	48.2	47.0	47.5	45.4	47.0	47.7	47.8	36.2
1920	47.4	36.5	48.6	49.1	45.3	48.1	47.9	49.1	48.6	45.2	49.0	48.3
1921	48.0	49.1	45.8	43.8	44.3	42.4	48.8	48.7	48.2	46.1	47.8	47.6
1922	35.2	48.2	47.8	45.5	47.9	46.0	49.0	45.8	48.0	48.4	48.7	40.4
1923	33.8	32.4	46.8	45.4	45.9	47.4	48.9	48.8	47.6	48.4	49.3	48.4
1924	44.6	42.4	46.0	46.4	42.4	46.6	49.6	47.7	45.6	41.5	41.7	46.5
1925	37.7	35.3	32.9	47.1	36.9	42.9	41.5	41.2	34.8	33.1	32.3	31.1
1926	40.1	35.0	35.6	42.8	46.8	48.4	43.0	45.8	45.9	48.2	43.9	34.9
1927	39.8	38.4	46.7	41.8	47.1	47.4	45.3	44.5	44.8	44.7	40.2	35.0
1928	35.4	31.8	48.1	38.9	34.8	46.5	48.3	48.1	47.1	48.2	45.3	41.4
1929	41.2	34.1	33.8	40.4	48.0	45.3	46.2	45.1	47.5	45.4	41.4	38.7
1930	31.9	47.2	47.0	39.8	37.8	47.1	37.9	43.3	38.0	35.3	31.9	33.8
1931	33.0	31.0	34.6	32.7	38.3	43.4	44.7	39.3	43.3	44.7	41.5	43.8
1932	36.8	31.4	46.4	44.8	46.6	46.6	47.9	46.9	40.9	36.4	41.8	45.1
1933	46.2	46.2	46.5	44.1	44.3	43.6	46.1	45.2	37.8	40.6	43.2	41.3
1934	40.5	31.8	34.4	29.6	35.1	44.3	36.4	43.2	45.3	45.9	46.2	44.6
1935	42.0	30.8	33.5	29.7	35.4	30.3	44.5	42.6	45.1	45.9	44.4	44.5
1936	42.8	39.4	30.3	31.9	31.1	37.9	44.8	43.4	41.3	45.1	45.6	43.7
1937	40.1	33.9	37.6	39.5	37.8	42.1	43.3	44.6	42.1	44.0	43.5	44.0
1938	44.4	42.6	42.2	36.0	31.1	30.5	43.4	43.0	44.0	44.0	44.7	43.6
1939	43.9	34.2	32.7	31.9	43.4	37.9	34.0	38.5	41.1	39.8	38.3	36.8
1940	38.2	35.3	32.1	28.5	30.7	34.5	41.9	41.5	41.1	43.3	44.7	36.9
1941	33.9	30.3	32.0	30.7	31.6	33.5	37.3	37.5	36.1	42.6	42.5	b37.7
1942	30.8	34.2	34.0	31.0	42.2	39.2	38.9	43.4	42.9	40.7	43.6	45.5
1943	44.1	44.6	44.0	42.5	41.8	41.5	44.9	42.1	44.0	43.8	43.3	43.0
1944	40.9	37.9	30.1	29.5	44.2	43.2	41.6	42.3	41.0	42.2	40.2	43.4
1945	42.1	38.9	32.9	30.6	43.0	35.8	44.1	40.4	42.7	43.4	41.1	43.4
1946	34.2	37.2	42.0	43.6	38.8	43.4	43.9	42.7	44.1	44.8	43.3	43.8
1947	43.8	42.7	44.5	39.4	40.9	40.7	40.7	44.4	44.0	42.9	43.0	43.7
1948	43.2	40.6	38.8	30.8	32.8	36.9	36.0	42.1	42.6	43.6	43.0	43.0
1949	43.0	43.6	38.8	42.5	42.8	43.5	41.0	44.0	43.3	44.7	43.2	41.7
1950	44.9	39.4	41.5	41.1	42.7	43.2	39.0	42.7	44.0	43.8	44.3	40.1

* Not previously published; estimated on basis of records for Feb. 1, 2, 1915.

a Contents for Oct. 30; no reading Oct. 31.

b Interpolated.

Note.--Contents prior to water year 1939 have been adjusted for the effect of silt (see WSP 893, p. 614).

1/ Published as Parksville Reservoir prior to 1954.

263. Ocoee River at Parksville, Tenn.

Location.--Lat 35°05'48", long. 84°39'15", on right bank 0.4 mile downstream from dam and Ocoee No. 1 powerplant of Tennessee Valley Authority at Parksville, Polk County, and at mile 11.5.

Drainage area.--595 sq mi.

Gage.--Water-stage recorder. Datum of gage is 716.96 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--34 years (1911-16, 1921-50), 1,284 cfs (unadjusted).

Extremes.--1911-16, 1921-50: Maximum discharge, 19,000 cfs Apr. 6, 1936 (gage height, 18.32 ft); minimum daily (revised), 10 cfs Oct. 28, 1925.

Remarks.--Flow regulated by Parksville Lake, beginning Dec. 15, 1911, by Blue Ridge Lake, beginning Dec. 6, 1930, and by Ocoee No. 3 Lake, beginning Aug. 15, 1942 (see pp. 284, 273, and 281).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1911	-	-	-	1,670	1,610	1,190	2,620	1,340	784	842	551	527	-
1912	649	710	1,040	1,290	2,230	4,000	3,240	2,610	1,880	1,400	974	920	1,740
1913	888	756	848	2,030	2,600	3,670	1,790	1,540	1,470	624	719	490	1,450
1914	527	569	582	659	670	976	1,220	1,200	1,000	409	469	516	732
1915	394	405	2,620	1,970	2,320	1,670	1,130	1,110	1,040	1,020	529	622	1,230
1916	1,060	814	2,450	2,090	2,010	1,550	1,270	953	1,550	2,790	1,590	810	1,580
1921	-	-	-	-	-	-	1,750	1,420	987	1,140	797	607	-
1922	913	788	1,360	2,780	2,160	3,650	2,260	2,480	1,580	1,100	729	852	1,720
1923	704	436	998	1,280	1,890	1,880	1,850	2,640	2,230	1,920	1,400	908	1,510
1924	686	783	1,170	2,130	1,730	1,870	2,460	2,020	1,520	1,460	655	538	1,420
1925	802	621	1,030	1,520	1,450	913	1,020	760	759	415	242	225	807
1926	233	963	614	1,140	988	1,330	1,550	754	598	557	924	800	868
1927	228	843	1,970	1,360	1,940	2,100	1,970	1,190	1,140	811	803	679	1,210
1928	453	730	1,220	1,440	1,210	1,520	2,050	1,890	1,920	1,970	1,630	2,240	1,520
1929	1,000	1,130	799	1,240	1,440	3,750	2,540	4,240	1,850	1,400	979	1,350	1,810
1930	1,050	2,510	1,500	1,550	1,600	1,660	1,670	1,070	911	587	423	394	1,240
1931	373	732	329	544	302	551	1,160	782	354	903	1,150	886	674
1932	967	977	776	1,400	2,700	1,090	1,740	1,840	1,550	1,530	620	1,360	1,370
1933	949	1,190	3,760	3,140	2,530	1,470	1,150	1,940	1,220	1,000	1,020	1,020	1,700
1934	943	1,062	445	585	212	1,228	974	478	848	978	1,084	1,276	846
1935	1,483	1,602	1,055	1,094	625	1,459	914	1,089	1,081	1,039	966	1,018	1,123
1936	748	1,045	977	1,965	1,989	1,243	4,214	1,696	1,068	859	895	1,078	1,475
1937	1,167	1,042	1,024	1,868	1,367	1,035	1,261	1,580	987	783	996	1,002	1,176
1938	1,107	1,136	994	1,067	651	1,042	1,504	1,332	1,321	2,730	1,773	1,582	1,359
1939	1,218	1,682	1,064	1,022	1,572	2,294	1,534	957	1,234	1,141	968	938	1,299
1940	710	1,010	821	804	754	510	467	422	493	547	736	1,143	700
1941	1,386	1,186	885	669	381	481	295	397	725	632	779	1,176	751
1942	1,155	712	507	766	594	1,376	969	803	1,190	1,283	898	1,102	949
1943	1,137	1,252	1,978	1,770	1,947	2,134	1,419	1,411	1,110	1,132	1,119	1,110	1,358
1944	1,065	1,234	931	731	1,382	2,155	2,341	1,474	1,126	780	597	976	1,230
1945	1,225	1,382	1,001	743	1,084	1,130	898	1,268	1,091	1,123	867	848	1,055
1946	968	546	630	2,287	4,027	2,581	2,271	3,006	1,956	1,552	1,463	1,368	1,874
1947	1,379	1,031	855	3,065	1,336	1,407	1,218	1,045	1,176	1,128	1,050	996	1,309
1948	1,061	802	762	1,198	1,692	1,345	1,638	1,195	1,106	1,047	1,036	1,011	1,600
1949	833	1,416	1,402	2,246	1,997	1,760	2,135	1,655	1,287	1,238	1,379	1,605	1,576
1950	1,919	1,136	1,065	2,120	2,409	3,068	1,853	1,465	1,534	1,321	1,544	1,396	1,733

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1911	-	-	-	3.24	2.82	2.31	4.92	2.60	1.47	1.63	1.07	0.99	-
1912	1.26	1.33	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30								Calendar year		
		Observed				Adjusted 1/				Observed		Adjusted 1/
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	
		Discharge	Date									
1911	403	-	-	-	-	-	-	-	1,120	-	-	
1912	403	a16,500	Mar. 29, 1912	300	1,740	-	-	-	1,750	-	-	
1913	403	a14,764	Mar. 14, 1913	85	1,450	-	-	-	1,580	-	-	
1914	403	a3,620	June 10, 1914	30	732	-	-	-	881	-	-	
1915	403	a9,800	Dec. 5, 1914	35	1,230	1,250	2.10	28.55	1,510	1,300	29.64	
1916	433	17,000	Dec. 29, July 10*	93	1,580	1,570	2.64	35.98	-	-	-	
1921	523	-	-	-	-	-	-	-	-	-	-	
1922	543	a11,900	Jan. 20, 1922	13	1,720	1,700	2.86	38.81	1,640	1,640	37.43	
1923	563	6,510	May 16, 1923	24	1,510	1,530	2.57	34.94	1,550	1,550	35.34	
1924	583	11,300	Apr. 18, 1924	45	1,420	1,410	2.37	32.33	1,400	1,370	31.28	
1925	603	4,220	Jan. 19, 1925	46	807	765	1.29	17.45	752	759	17.31	

1/ Adjusted for storage in Parksville Lake beginning June 14, 1914, in Blue Ridge Lake beginning Dec. 6, 1930, and in Ocoee No. 3 Lake beginning Aug. 15, 1942; adjusted figures 1915-39 not previously published.

* Revised.

a Maximum daily discharge.

Yearly discharge, in cubic feet per second, of Ocoee River at Parksville, Tenn.--Continued

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted 1/			Observed	Adjusted 1/	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1926	623	6,760	Apr. 14, 1926	10	868	879	1.48	20.05	973	1,000	22.90
1927	643	11,500	Dec. 28, 1926	12	1,210	1,210	2.03	27.67	1,160	1,160	26.52
1928	663	15,000	Mar. 20, Sept. 3	33	1,520	1,540	2.59	35.22	1,570	1,530	34.93
1929	683	12,100	May 7, 1929	30	1,810	1,800	3.03	41.17	1,990	2,020	46.20
1930	698	8,600	Nov. 15, 1929	85	1,240	1,230	2.07	27.99	937	930	21.21
1931	713	6,920	Apr. 4, 1931	100	674	826	1.39	18.84	782	907	20.69
1932	728	10,300	Jan. 30, 1932	95	1,370	1,440	2.42	32.88	1,640	1,760	40.30
1933	743	15,000	Dec. 28, 1932	128	1,700	1,640	2.76	37.37	1,405	1,166	26.61
1934	758	5,370	Mar. 25, 1934	76	846	870	1.46	19.85	988	989	22.56
1935	783	5,370	Oct. 6, 1934	95	1,123	1,077	1.81	24.58	1,008	1,002	22.85
1936	803	19,000	Apr. 6, 1936	110	1,475	1,483	2.49	33.92	1,514	1,541	35.26
1937	823	4,960	Jan. 4, 1937	136	1,176	1,229	2.07	28.03	1,176	1,209	27.59
1938	853	14,500	July 24, 1938	148	1,359	1,365	2.29	31.14	1,419	1,362	31.08
1939	873	5,170	Feb. 15, 1939	181	1,299	1,241	2.09	28.32	1,180	1,177	26.86
1940	893	3,550	Dec. 11, 1939	163	700	750	1.26	17.17	777	787	18.01
1941	923	3,550	Nov. 20, 1940	147	751	680	1.14	15.52	661	687	15.68
1942	953	5,950	July 9, 1942	162	949	1,069	1.80	24.39	1,116	1,244	28.38
1943	973	10,300	Dec. 29, 1942	150	1,458	1,413	2.37	32.24	1,362	1,237	28.22
1944	1003	11,000	Mar. 29, 1944	225	1,230	1,255	2.11	28.71	1,261	1,255	28.70
1945	1033	2,410	Feb. 21, 1945	236	1,055	988	1.66	22.53	933	1,090	24.88
1946	1053	18,800	Feb. 10, 1946	217	1,874	1,911	3.21	43.60	1,968	1,877	42.83
1947	1083	16,400	Jan. 20, 1947	182	1,303	1,252	2.10	28.55	1,255	1,213	27.68
1948	1113	4,670	Feb. 15, 1948	118	1,160	1,149	1.93	26.29	1,245	1,349	30.85
1949	1143	15,800	Nov. 28, 1948	126	1,576	1,708	2.87	38.97	1,616	1,708	38.96
1950	1173	17,300	Mar. 13, 1950	182	1,733	1,650	2.77	37.65	-	-	-

1/Adjusted for storage in Parksville Lake beginning June 14, 1914, in Blue Ridge Lake beginning Dec. 6, 1930, and in Ocoee No. 3 Lake beginning Aug. 15, 1942; adjusted figures 1915-39 not previously published.

Note.--Figures of discharge, in cubic feet per second per square mile and in runoff in inches, for months December 1911 to September 1916, March 1921 to October 1936, for water years 1916 and 1922-36, and for calendar years 1934 and 1935, previously published in water-supply papers and in Tennessee Division of Geology, Bull. 34, are unadjusted for storage. These figures are not published herein and should not be used.

264. Hiwassee River at Charleston, Tenn.

Location.--Lat 35°17'16", long. 84°45'07", at Epperson packing plant, 250 ft downstream from old highway bridge, 250 ft upstream from Southern Railway bridge, 1,700 ft upstream from new bridge on U. S. Highway 11 at Charleston, Bradley County, and at mile 18.9.

Drainage area.--2,298 sq mi.

Supplemental records available.--Gage-height records collected at this station during the period Dec. 1, 1884, to Dec. 31, 1889, are contained in United States War Department Stages of Ohio River and Principal Tributaries, 1858-89, Part 1, and during period Jan 1, 1890, to Dec. 31, 1943, are contained in reports of the U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 665.56 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Sept. 29, 1922, staff gage, Sept. 29, 1922, to July 17, 1925, chain gage, and July 18, 1925, to Sept. 6, 1926, water-stage recorder at Southern Railway bridge 250 ft downstream at datum 1.5 ft higher.

Auxiliary staff gages at several sites and datums used Jan. 1, 1921, to Aug. 16, 1924, July 6 to Aug. 9, 1930, and since Nov. 21, 1934.

Average discharge.--22 years (1900-1902, 1919-39), 4,821 cfs, unadjusted.

Extremes.--1898-1903, 1919-40: Maximum discharge, 55,800 cfs Dec. 29, 1932 (gage height, 28.58 ft); minimum (corrected), 260 cfs Sept. 14, 1925 (gage height, -1.28 ft). Maximum stage known, 34.0 ft, present datum, Mar. 31, 1886 (discharge, about 70,000 cfs).

Remarks.--Flow regulated by Parksville Lake beginning Dec. 15, 1911, by Blue Ridge Lake beginning Dec. 6, 1930, and Hiwassee Lake beginning Apr. 13, 1939 (see pp. 284, 273, and 265).

Monthly and yearly mean discharge, in cubic feet per second, of Hiwassee River at Charleston, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1899	-	4,720	4,320	5,620	14,600	18,700	9,500	-	-	-	-	-	-
1900	-	1,630	3,350	4,030	8,030	8,690	7,100	3,880	6,390	4,780	2,540	2,690	-
1901	2,880	3,790	4,770	7,770	5,860	7,550	10,400	9,000	6,330	3,790	11,000	5,630	6,570
1902	3,340	2,710	9,660	7,340	8,180	12,300	6,450	4,200	2,860	2,270	1,600	1,860	*5,230
1903	1,840	2,620	4,380	3,990	10,800	14,000	10,800	-	-	-	-	-	-
1920	2,210	2,500	7,690	5,320	7,390	9,190	14,800	5,250	4,010	4,120	10,100	5,810	6,530
1921	2,760	2,910	9,550	6,540	11,800	5,180	6,090	4,660	2,830	3,410	2,940	1,690	4,990
1922	2,090	3,840	4,040	10,100	7,860	13,000	8,600	7,510	4,740	3,290	2,190	2,010	5,780
1923	1,490	1,220	6,090	5,620	9,300	9,150	6,730	8,140	6,880	5,370	4,070	2,220	5,510
1924	1,620	1,860	3,970	8,410	5,640	7,310	8,620	6,930	4,410	3,800	1,950	1,700	4,690
1925	1,550	1,310	3,190	6,920	4,810	3,470	3,240	2,700	1,690	1,110	699	526	2,550
1926	1,880	3,320	2,450	5,010	4,230	4,740	5,320	2,640	1,840	1,570	3,410	1,800	3,190
1927	1,090	2,930	10,100	4,920	7,400	8,740	6,190	3,490	4,270	3,000	2,740	1,900	4,710
1928	1,430	2,220	*6,100	4,970	4,420	6,720	8,090	7,000	6,620	6,100	4,720	7,170	*5,460
1929	3,360	3,260	2,670	5,470	6,580	16,100	8,570	14,500	6,700	4,540	3,030	4,250	6,600
1930	3,300	11,200	5,570	5,340	6,040	7,220	5,120	5,030	2,890	1,950	1,320	1,440	4,690
1931	1,210	2,300	2,190	2,820	2,670	3,150	6,980	3,730	1,700	2,530	2,550	1,960	2,810
1932	1,600	1,700	6,320	7,140	11,900	5,480	6,360	6,190	4,420	4,900	2,120	2,380	5,020
1933	2,870	4,310	15,000	10,000	11,800	7,080	5,690	7,420	3,440	3,340	2,900	2,680	6,370
1934	1,842	1,887	1,515	3,227	2,268	8,371	3,951	2,685	3,619	2,752	3,749	2,617	3,217
1935	3,364	3,006	2,882	4,308	4,281	7,027	7,030	3,890	2,698	2,399	2,124	1,819	3,732
1936	1,412	3,029	2,227	11,280	9,727	6,887	14,920	4,145	2,414	2,082	1,860	1,882	5,126
1937	2,401	2,037	3,760	12,090	7,519	4,424	4,919	5,569	2,827	2,249	2,824	2,268	4,365
1938	2,707	2,320	2,616	3,580	2,790	5,408	9,212	4,511	5,043	8,519	5,539	3,209	4,635
1939	2,195	3,256	2,501	3,946	11,120	9,361	5,621	3,488	3,399	2,905	2,514	1,835	4,299
1940	1,260	1,612	1,760	1,757	-	-	-	-	-	-	-	-	-

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1899	-	2.29	2.17	2.82	6.63	9.40	4.61	-	-	-	-	-	-
1900	-	.79	1.67	2.02	3.64	4.36	3.45	1.95	3.10	2.40	1.27	1.31	-
1901	1.45	1.84	2.39	3.90	2.65	3.79	5.04	4.51	3.07	1.90	5.54	2.73	38.81
1902	1.68	1.32	*4.85	3.68	3.71	6.18	3.13	2.11	1.39	1.14	.80	.90	*30.89
1903	.92	1.10	2.20	2.00	4.88	7.05	5.27	-	-	-	-	-	-

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted ^{1/}			Observed		Adjusted ^{1/}
		Momentary		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	maximum Date								
1899	(a)	b45,900	Mar. 20, 1899	-	-	-	-	-	-	-	-
1900	(a)	b51,100	Feb. 14, 1900	-	-	-	-	-	-	4,940	29.18
1901	65	b55,200	May 22, 1901	1,700	6,570	-	2.86	38.81	*6,940	-	*40.98
1902	83, 1436	b46,200	Dec. 30, 1901	1,120	*5,230	-	*2.28	*30.89	4,620	-	27.26
1903	(a)	b34,700	Mar. 1, 1903	-	-	-	-	-	-	-	-
1920	(a)	b53,500	Apr. 3, 1920	1,050	6,530	6,560	2.85	38.85	6,760	6,760	40.01
1921	523	b40,200	Feb. 11, 1921	1,070	4,990	4,990	2.17	29.46	4,570	4,580	27.03
1922	543	*43,900	Jan. 22, 1922	1,280	5,780	5,760	2.51	34.02	5,660	5,660	35.40
1923	563	b29,500	Dec. 18, 1922	860	5,510	5,530	2.41	32.66	5,390	5,390	31.85
1924	583	b33,700	Apr. 19, 1924	1,000	4,690	4,680	2.04	27.72	4,570	4,530	26.85
1925	603	16,500	Dec. 9, 1924	275	2,550	2,510	1.09	14.83	2,680	2,690	15.90
1926	623	19,400	Jan. 19, 1926	500	3,190	3,200	1.39	18.88	3,730	3,760	22.24
1927	643	32,700	Dec. 29, 1926	870	4,710	4,710	2.05	27.82	*4,340	4,350	25.67
1928	663, 1436	35,600	Sept. 3, 1928	840	*5,460	5,480	2.33	32.46	5,420	5,380	31.88
1929	683	37,800	Mar. 24, 1929	1,280	6,600	6,590	2.87	38.93	7,490	7,530	44.48
1930	698	33,600	Nov. 15, 1929	860	4,690	4,680	2.04	27.62	3,490	3,480	20.57
1931	713	20,500	Apr. 5, 1931	798	2,810	2,960	1.29	17.51	3,150	3,270	19.33
1932	728	36,300	Jan. 31, 1932	765	5,020	5,090	2.21	30.13	6,080	6,202	36.74
1933	743	55,800	Dec. 29, 1932	1,210	6,370	6,510	2.75	37.26	4,932	4,693	27.72
1934	758	32,000	Mar. 4, 1934	1,010	3,217	*3,241	1.41	19.14	3,554	3,555	21.00
1935	783	25,600	Mar. 13, 1935	1,120	3,732	3,687	1.60	21.78	3,513	3,507	20.71
1936	803	*53,400	Feb. 5, 1936*	918	5,126	5,134	2.23	30.41	5,258	5,285	31.31
1937	823	31,000	Jan. 3, 1937	1,150	4,365	4,418	1.92	26.10	4,517	4,531	25.70
1938	853	39,300	Apr. 9, 1938	1,080	4,633	4,639	2.02	27.40	4,656	4,600	27.17
1939	873	34,800	Feb. 16, 1939	1,270	4,299	4,240	1.85	25.05	4,038	4,040	23.86
1940	893	-	-	-	-	-	-	-	-	-	-

^{1/}Adjusted for change in contents in Parksville Lake beginning Oct. 1, 1919, in Blue Ridge Lake beginning Dec. 6, 1930, and in Hiwassee Lake beginning Apr. 13, 1939; adjusted figures for 1920-40 not previously published.

* Revised.

a Tennessee Division of Geology, Bull. 34.

b Maximum daily discharge.

Note.--Figures of discharge, in cubic feet per second per square mile and runoff in inches for months October 1919 to January 1940 for water-years 1920-29, and for calendar years 1934-39, previously published in water-supply papers, are unadjusted for storage. These figures are not published herein and should not be used.

265. Chickamauga Lake near Chattanooga, Tenn.

Location.--Lat 35°06'07", long. 85°13'42", at Chickamauga Dam on Tennessee River, 5½ miles northeast of Chattanooga, Hamilton County, 58.9 miles downstream from Watts Bar Dam, and at mile 471.0.

Drainage area.--20,790 sq mi, approximately.

Gage.--Water-stage recorder. Datum of gage is mean sea level, datum of 1929.

Extremes.--1939-50: Maximum elevation, 685.37 ft May 20, 1950; minimum (after first filling), 673.27 ft Jan. 21, 1942. Contents based on backwater profile.

Remarks.--Lake is formed by concrete dam with riprapped earth embankments. Spillway equipped with eighteen 2-section lift gates 40.44 ft high by 40 ft wide. Closure of dam was made Jan. 15, 1940; water in lake first reached minimum navigation pool elevation Mar. 10, 1940. Total level pool capacity at elevation 685.44 ft (top of gates), is 355,600 cfs-days, of which 166,100 cfs-days is controlled flood storage above elevation 675.0 ft (minimum navigation pool).

Lake is used for navigation, flood control, and power production.

Cooperation.--Records furnished by Tennessee Valley Authority.

Contents, in thousands of cfs-days, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
	#2	#3	#2	1	125	308	304	285	313	280	261	#265
1940												
1941	246	226	245	220	180	292	324	218	219	305	230	196
1942	205	237	240	193	265	330	253	321	307	295	288	268
1943	249	240	337	201	208	284	315	289	258	310	276	254
1944	214	191	203	183	253	276	258	253	242	220	231	248
1945	217	223	196	208	191	204	332	300	295	274	235	215
1946	198	201	204	213	201	243	292	275	259	266	266	225
1947	a229	232	218	220	208	202	308	298	282	279	262	238
1948	247	203	194	194	194	220	317	290	299	303	272	249
1949	232	315	218	213	208	233	339	291	306	269	287	281
1950	293	224	203	267	215	234	295	302	320	298	287	246

* Not previously published.

a Contents by capacity table used beginning Oct. 1, 1946; contents Oct. 31, 1946, by capacity table used prior to Oct. 1, 1946, was 225,000 cfs-days.

266. South Chickamauga Creek near Chickamauga, Tenn.1/

Location.--Lat 35°00'50", long. 85°12'27", on right bank a third of a mile upstream from bridge on U. S. Highway 11, 1½ miles south of Chickamauga, Hamilton County, 6 miles east of Chattanooga, and 12 miles upstream from mouth.

Drainage area.--428 sq mi.

Gage.--Water-stage recorder. Datum of gage is 651.12 ft above mean sea level, datum of 1929. Prior to Oct. 7, 1930, staff gage at same site and datum.

Average discharge.--22 years (1928-50), 709 cfs (revised).

Extremes.--1928-50: Maximum discharge, 24,900 cfs Nov. 29, 1948 (gage height, 19.83 ft); minimum, 61 cfs Oct. 8, 1941; minimum gage height, 0.48 ft Sept. 10, 1931.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1929	292	375	276	1,020	1,200	3,780	910	2,090	469	325	237	279	941
1930	231	2,710	832	727	987	1,170	715	553	309	216	143	245	731
1931	141	#500	#415	761	618	790	917	399	146	181	195	119	#431
1932	91.2	112	1,330	1,710	2,010	860	843	779	426	*555	*243	*115	*753
1933	643	951	3,270	1,080	1,570	842	761	857	219	296	296	215	915
1934	113	129	261	699	443	2,235	357	266	416	268	479	169	489
1935	716	226	271	1,013	1,269	1,820	1,812	790	237	167	301	114	725
1936	114	309	364	2,983	1,996	879	2,834	224	246	286	277	136	681
1937	119	111	409	2,726	1,002	476	944	966	197	150	214	222	628
1938	374	169	309	631	355	1,280	2,515	397	902	934	346	143	696
1939	116	299	206	854	2,727	1,847	740	605	408	224	190	123	682
1940	97.1	98.8	119	160	1,285	1,135	442	233	255	266	204	117	364
1941	91.0	122	597	697	246	522	441	143	179	1,018	274	109	373
1942	102	115	565	467	1,974	1,282	308	166	167	136	445	219	417
1943	122	131	2,094	733	950	1,765	1,214	304	210	329	237	313	701
1944	142	133	253	699	2,733	2,506	1,214	395	205	197	140	168	724
1945	144	114	289	679	2,135	827	798	1,038	430	274	221	121	579
1946	147	318	1,113	2,947	2,471	1,296	733	1,668	662	251	160	236	994
1947	193	769	639	3,752	846	1,051	666	273	234	156	167	144	743
1948	148	400	403	576	3,439	1,631	1,049	256	176	208	228	141	709
1949	115	2,304	1,471	2,892	1,972	875	1,182	715	541	618	247	236	1,090
1950	774	717	525	1,834	1,326	1,899	403	271	610	813	405	2,960	1,041

* Revised.

* Not previously published; estimated on the basis of records for Sequatchie River near Whitwell.

1/ Published as Chickamauga Creek, 1929-37.

Monthly and yearly runoff, in inches, of South Chickamauga Creek near Chickamauga, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1929	0.79	0.98	0.74	2.74	2.93	10.20	2.37	5.64	1.22	0.88	0.64	0.73	29.86
1930	.62	7.06	2.24	1.96	2.40	3.14	1.86	1.49	.80	.58	.39	.64	23.18
1931	.38	*1.30	*1.12	2.05	1.50	2.13	2.39	1.07	.38	.49	.53	.31	*13.65
1932	.25	.29	3.58	4.61	5.06	2.32	2.20	2.10	1.11	*1.49	*.65	*.30	*23.96
1933	1.73	2.48	8.81	2.91	3.82	2.27	1.98	2.31	.57	.80	.80	.56	29.04
1934	.31	.54	.70	1.86	1.08	6.02	.95	.72	1.08	.72	1.29	.44	15.51
1935	1.93	.59	.73	2.73	3.09	4.90	4.72	2.13	.82	.45	.81	.30	23.00
1936	.31	.81	.98	8.03	5.03	2.37	7.39	.60	.64	.77	.75	.35	28.03
1937	.32	.29	1.10	7.31	2.44	1.28	2.47	2.61	.51	.40	.58	.58	19.89
1938	1.01	.44	.83	1.70	.86	3.45	6.56	1.07	2.35	2.52	.93	.37	22.09
1939	.31	.78	.55	2.30	6.64	4.98	1.93	1.63	1.06	.60	.51	.32	21.61
1940	.26	.26	.32	.43	3.24	3.06	1.15	.63	.66	.72	.55	.31	11.59
1941	.25	.32	1.61	1.88	.60	1.41	1.15	.39	.47	2.74	.74	.29	11.85
1942	.28	.30	1.52	1.26	2.61	3.45	.80	.45	.43	.37	1.20	.57	13.24
1943	.33	.34	5.64	1.98	2.31	4.75	3.17	.82	.55	.89	.64	.82	22.24
1944	.38	.35	.68	1.88	6.89	6.75	3.16	1.06	.53	.53	.38	.44	23.03
1945	.39	.30	.78	1.83	5.19	2.23	2.08	2.80	1.12	.74	.60	.32	18.38
1946	.40	.83	3.00	7.94	6.01	3.49	1.91	4.49	1.73	.68	.43	.62	31.53
1947	.52	2.01	1.72	10.11	2.05	2.83	1.74	.74	.61	.42	.45	.38	23.59
1948	.40	1.04	1.09	1.55	8.67	4.39	2.73	.69	.46	.56	.61	.37	22.56
1949	.31	6.01	3.96	7.79	4.80	2.36	3.08	1.93	1.41	1.66	.66	.62	34.59
1950	2.09	1.87	1.41	4.94	3.22	5.12	1.05	.73	1.59	2.19	1.09	7.71	33.01

* Revised.

† Not previously published; estimated on the basis of records for Sequatchie River near Whitwell.

Yearly discharge, in cubic feet per second									
Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1929	683	15,400	Mar. 15, 1929	144	941	2.20	29.86	1,175	37.27
1930	698	15,100	Nov. 15, 1929	108	731	1.71	23.18	*507	*16.06
1931	713	4,810	Nov. 17, 1930	-	*431	*1.01	*13.65	472	14.97
1932	728, 1386	12,100	Jan. 30, 1932	74	*753	*1.76	*23.96	*1,030	*32.86
1933	743	13,500	Dec. 29, 1932	98	915	2.14	29.04	547	17.37
1934	758	13,500	Mar. 4, 1934	107	489	1.14	15.51	549	17.41
1935	783	11,000	Mar. 13, 1935	98	725	1.69	23.00	689	21.85
1936	803	20,000	Feb. 5, 1936	94	881	2.06	28.03	869	*27.64
1937	853	11,200	Jan. 3, 1937	97	628	1.47	19.89	646	20.46
1938	853	18,400	Apr. 9, 1938	112	696	1.63	22.09	676	21.45
1939	873	11,800	Mar. 1, 1939	104	682	1.59	21.61	656	20.81
1940	893	6,200	Feb. 19, 1940	77	364	.850	11.59	406	12.93
1941	923	4,720	Dec. 29, 1940	71	373	.871	11.85	370	11.77
1942	953	5,400	Mar. 22, 1942	67	417	.974	13.24	550	17.45
1943	973	21,400	Dec. 29, 1942	99	701	1.64	22.24	546	17.34
1944	1003	12,300	Mar. 30, 1944	111	724	1.69	23.03	726	23.09
1945	1033	11,600	Feb. 14, 1945	100	579	1.35	18.38	666	21.14
1946	1053	18,400	Feb. 11, 1946	98	994	2.32	31.53	995	31.55
1947	1083	18,100	Jan. 21, 1947	107	743	1.74	23.59	689	21.87
1948	1113	20,300	Feb. 13, 1948	101	709	1.66	22.56	953	30.31
1949	1143	24,900	Nov. 29, 1948	96	1,090	2.55	34.59	936	29.68
1950	1173	18,600	Sept. 8, 1950	131	1,041	2.43	33.01	-	-

* Revised.

† Corrected.

‡ Not previously published.

267. Tennessee River at Chattanooga, Tenn.

Location.--Lat 35°05'12", long. 85°16'43", on right bank at Meadow Lake Country Club golf course, half a mile downstream from South Chickamauga Creek, 3 miles downstream from Chickamauga Dam, 3½ miles upstream from Walnut Street Bridge in Chattanooga, Hamilton County, and at mile 467.6.

Drainage area.--21,400 sq mi, approximately; at site used July 1930 to December 1935, 21,800 sq mi, approximately.

Gage.--Water-stage recorder. Datum of gage is 621.12 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Feb. 1, 1939, staff or chain gages or water-stage recorders at several sites from 7 miles upstream from Chattanooga to Hales Bar Dam, 33 miles downstream, at or within 0.2 ft of present datum; except staff gage at Bridgeport, Ala., 49.9 miles downstream at different datum Oct. 22, 1913, to Feb. 28, 1915, and Oct. 1, 1918, to Jan. 5, 1921. Auxiliary gages at several sites parts of period since Feb. 28, 1915. Present auxiliary gage at site 2½ miles downstream from base gage.

Average discharge.--76 years (1874-1950), using records at Hales Bar July 1930 to December 1935, 37,440 cfs.

Extremes.--1874-1950: Maximum discharge, 410,000 cfs Mar. 1, 1875 (gage height, 53.8 ft, present datum, at Walnut Street), from rating curve extended above 250,000 cfs; minimum daily discharge, 3,300 cfs (estimated) Sept. 7, 13, 1925; minimum gage height, 0.0 ft Sept. 11-14, 1881, Sept. 19, 1883 (before filling of Hales Bar pool). Maximum stage known, 57.9 ft, present datum, at Walnut Street Mar. 11, 1867 (discharge, about 459,000 cfs).

Remarks.--Since 1936 flow regulated by an increasing number of reservoirs above station.

Monthly and yearly mean discharge, in cubic feet per second, of Tennessee River at Chattanooga, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1874	-	-	-	-	-	-	-	108,000	74,600	20,300	17,200	23,000	-
1875	15,600	23,800	34,200	59,300	100,000	179,000	72,800	39,500	24,300	51,600	37,000	19,600	54,700
1876	17,300	30,700	58,600	70,900	78,000	67,700	54,400	66,100	57,900	31,200	22,000	15,800	47,200
1877	10,700	11,600	13,000	72,900	24,400	55,900	94,000	36,900	19,600	17,500	11,300	12,900	31,800
1878	13,700	37,000	31,900	46,500	63,000	40,800	37,000	32,400	16,800	11,800	15,200	16,900	30,000
1879	13,400	24,600	55,900	92,200	67,200	37,600	40,500	25,200	12,700	8,300	15,900	9,360	33,400
1880	19,600	15,100	68,700	38,600	56,800	127,000	67,700	41,700	20,300	20,800	18,800	14,700	42,600
1881	9,900	18,200	62,700	60,200	76,300	58,800	62,100	30,500	19,600	12,400	8,080	14,500	35,700
1882	8,880	56,900	64,800	75,000	24,000	86,000	49,200	34,100	37,800	22,600	23,900	40,000	58,500
1883	14,000	15,600	25,500	96,100	66,800	40,400	19,000	34,200	25,300	15,700	10,500	7,600	38,600
1884	11,700	21,800	29,800	52,400	48,000	57,000	68,500	40,600	34,900	27,900	19,600	9,000	51,500
1885	6,080	7,940	25,400	70,500	42,100	39,400	36,800	31,300	35,500	20,500	15,400	9,750	28,300
1886	26,300	65,400	53,500	76,700	49,200	61,300	36,000	50,400	64,400	50,000	28,500	15,200	56,400
1887	10,000	30,300	49,000	58,100	99,700	66,700	45,100	30,800	38,700	18,900	28,500	11,900	†40,300
1888	13,600	11,700	18,800	71,700	47,900	53,800	62,000	32,500	28,600	19,400	16,900	46,800	35,200
1889	39,500	67,400	28,100	60,300	87,500	37,500	29,600	20,400	42,200	31,800	36,900	29,600	42,100
1890	115,600	47,900	26,700	40,600	75,100	17,000	66,500	50,500	24,400	21,800	26,600	23,100	†44,500
1891	35,000	21,000	32,500	60,200	47,000	24,000	†63,000	25,900	33,000	21,200	37,800	20,200	51,200
1892	10,300	16,900	36,500	94,100	45,400	44,200	96,400	37,200	41,200	42,700	19,600	14,500	41,500
1893	9,430	22,700	28,700	21,500	01,000	49,400	40,000	70,600	48,800	20,200	17,300	30,000	37,800
1894	19,900	15,800	19,400	34,300	73,400	45,400	32,900	26,900	15,400	18,700	16,700	11,100	27,200
1895	8,590	8,420	25,900	72,800	33,600	75,200	50,300	42,000	21,200	25,000	21,800	13,000	33,300
1896	7,320	9,760	14,400	23,500	†55,600	37,600	71,400	17,800	21,400	56,500	19,500	10,900	28,700
1897	10,400	20,400	31,200	25,400	84,600	†44,000	78,200	50,900	25,100	31,900	19,600	8,640	44,100
1898	7,960	7,550	22,400	57,100	23,700	25,000	57,300	24,500	17,000	20,600	48,400	46,000	29,800
1899	42,800	26,400	28,700	50,300	03,000	55,000	74,400	43,000	24,500	16,100	12,600	10,700	48,800
1900	8,380	8,760	23,200	30,400	55,900	70,800	49,700	22,500	35,200	26,300	15,500	14,300	29,900
1901	15,300	27,000	30,700	53,100	38,400	47,300	99,500	71,900	49,300	25,400	79,400	40,700	48,200
1902	20,400	14,000	68,800	73,900	62,900	13,000	57,400	29,800	20,500	23,800	11,500	12,100	42,400
1903	14,200	14,000	35,500	31,700	94,400	15,000	105,000	30,300	40,400	21,500	17,200	8,460	43,500
1904	7,390	12,600	12,500	21,300	28,300	64,500	29,500	27,400	17,600	15,900	16,700	9,170	21,900
1905	5,510	7,070	20,500	36,500	73,200	48,100	32,100	46,900	24,100	34,100	30,700	14,400	30,900
1906	13,100	10,200	43,500	60,600	34,100	47,300	48,700	28,600	30,400	44,300	41,800	49,600	37,800
1907	58,900	56,300	40,100	47,500	41,800	62,700	47,200	41,900	52,800	26,800	21,100	†24,300	43,400
1908	16,400	37,600	34,500	71,000	69,700	62,800	52,300	45,000	30,300	24,600	25,300	15,500	40,300
1909	12,600	18,200	45,100	52,800	83,900	90,100	49,800	71,400	72,000	50,500	34,500	17,800	49,700
1910	15,800	10,600	18,900	35,200	36,800	36,100	23,700	44,900	39,200	42,300	25,100	23,400	29,500
1911	12,100	8,420	21,000	51,100	62,100	42,400	90,100	32,700	14,700	16,700	13,600	12,800	31,200
1912	20,500	22,700	37,700	40,100	53,900	86,000	91,600	58,900	28,600	34,700	22,600	16,900	42,800
1913	13,000	12,000	23,800	75,700	51,600	102,000	49,100	38,000	32,700	13,900	12,300	9,000	36,000
1914	8,180	11,300	15,100	18,400	42,900	37,500	67,500	22,800	12,100	13,200	11,200	11,000	22,400
1915	15,300	9,940	68,300	75,000	65,700	36,500	27,100	24,700	26,000	32,800	16,700	17,700	34,600
1916	30,800	30,700	61,000	89,800	60,600	46,200	35,600	21,500	34,500	72,300	38,000	14,500	44,700
1917	13,700	12,800	24,800	75,400	70,300	†61,000	57,100	23,600	22,900	32,900	19,400	17,100	44,200
1918	15,500	12,000	10,300	41,900	77,400	34,300	50,400	36,900	25,000	18,200	14,700	13,800	28,800
1919	21,500	45,300	55,400	84,500	51,200	74,300	39,500	41,100	25,400	20,800	14,900	9,100	40,300
1920	17,900	16,600	51,600	46,700	57,000	86,300	106,000	35,500	36,000	28,000	75,300	36,900	49,300
1921	14,100	16,200	66,400	51,300	65,600	37,500	49,400	34,800	18,800	26,100	31,700	12,200	36,800
1922	13,200	23,000	37,000	69,900	63,500	†104,000	64,100	60,300	35,400	28,600	16,100	11,300	43,800
1923	9,110	7,730	46,000	52,200	96,900	88,100	47,000	55,700	46,200	27,800	22,600	13,500	42,400
1924	8,390	10,200	26,400	68,800	44,700	58,400	57,200	49,500	57,400	23,500	14,000	13,600	34,300
1925	15,700	10,300	33,900	66,100	41,200	26,800	22,100	23,100	10,800	9,370	4,760	3,990	22,200
1926	17,800	30,200	21,100	38,600	46,300	42,300	41,900	21,700	14,600	10,600	19,500	11,500	26,200
1927	9,300	27,000	94,800	46,400	86,700	75,400	54,600	25,600	47,800	19,900	20,000	11,800	43,200
1928	9,660	14,800	42,800	40,100	35,300	45,100	67,900	57,200	59,100	53,800	36,000	51,500	42,700
1929	26,400	32,000	23,400	52,700	51,800	†41,000	47,000	98,000	40,900	30,900	16,800	16,600	48,500
1930	25,000	72,400	36,000	35,000	46,600	60,500	32,800	29,300	15,000	10,500	9,040	9,510	31,900
1931	7,340	13,300	17,900	25,000	25,000	24,500	61,900	31,300	15,200	17,700	18,900	12,500	22,700
1932	6,820	7,040	45,400	49,800	17,000	47,900	53,600	43,700	22,500	24,900	13,900	†8,930	†36,470
1933	21,800	30,400	†44,400	†79,300	†1,000	55,700	43,100	47,200	18,800	15,900	17,400	17,900	†43,300
1934	*9,139	*8,940	11,070	29,600	14,980	†102,600	43,370	20,850	23,680	19,450	24,830	13,400	†26,970
1935	19,520	16,380	23,790	50,590	45,630	92,140	61,850	41,390	22,350	18,100	16,940	11,370	36,900
1936	7,393	23,260	18,750	91,950	73,530	71,330	92,550	20,090	12,930	15,470	13,760	14,300	37,770
1937	21,210	15,250	30,900	†114,100	83,460	41,680	30,370	33,860	19,690	15,490	19,800	18,320	36,810
1938	26,260	26,420	28,190	37,660	32,760	51,870	52,140	32,650	39,610	43,850	37,920	18,780	35,720
1939	16,290	21,310	22,580	31,020	†105,800	73,850	39,720	23,070	17,560	16,890	14,900	14,370	32,620
1940	12,500	12,660	11,750	9,846	20,530	28,070	33,300	17,730	14,700	16,830	31,600	26,710	19,660
1941	20,530	20,220	17,620	21,550	14,770	21,990	25,370	15,840	13,580	31,360	16,010	16,440	19,650
1942	15,160	13,520	12,920	12,930	56,790	18,770	14,510	17,900	21,250	38,500	29,240	20,860	30,860
1943	26,330	30,350	61,760	69,530	64,850	36,580	35,950	30,940	24,880	26,360	26,600	25,700	38,450
1944	26,340	28,060	20,620	20,720	46,250	71,280	55,170	31,350	23,060	23,750	23,290	24,710	32,970
1945	25,910	28,180	35,860	37,980	50,150	44,280	26,200	33,350	26,470	26,190	28,970	27,310	32,490
1946	24,560	23,400	57,210	98,330	87,600	38,620	22,680	32,350	25,780	26,350	29,240	31,140	41,230
1947	30,980	32,260	33,490	90,920	45,640	38,760	22,610	25,900	22,070	20,120	21,500	21,670	33,810
1948	19,610	25,920	28,970	26,410	67,500	46,870	29,670	26,170	24,340	20,950	23,300	25,300	30,430
1949	25,450	58,110	70,870	84,230	55,350	55,430	27,480	29,510	24,880	40,630	37,010	39,990	42,410
1950	40,720	50,990	63,730	66,690	13,100	35,050	29,330	26,920	27,500	26,180	30,300	38,200	46,990

* Revised.

Monthly and yearly runoff, in inches, of Tennessee River at Chattanooga, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1874	-	-	-	-	-	-	5.63	4.02	1.06	0.93	1.23	1.02	-
1875	0.73	1.24	1.84	3.19	4.86	9.64	3.79	2.13	1.27	2.78	1.99	1.20	34.66
1876	.93	1.60	3.16	3.82	3.83	3.64	2.83	3.56	3.02	1.68	1.19	.72	29.98
1877	.58	.60	.70	3.93	1.19	3.01	4.90	1.98	1.02	.94	.61	.67	20.13
1878	.74	1.93	1.72	2.50	3.06	2.20	1.93	1.74	.88	.64	.82	.88	19.04
1879	.72	1.28	3.01	4.97	3.27	2.03	2.11	1.36	.66	.45	.86	.49	21.21
1880	1.06	.79	3.70	2.08	2.86	6.84	3.53	2.25	1.06	1.12	1.01	.77	27.07
1881	.53	.95	3.38	3.24	3.72	3.06	3.24	1.65	1.02	.67	.44	.76	22.66
1882	.48	1.92	3.48	9.43	6.03	4.64	2.57	1.83	1.98	1.43	1.29	2.09	37.17
1883	.75	.71	1.37	5.18	3.25	2.18	6.20	1.84	1.32	.85	.57	.40	24.72
1884	.63	1.14	1.60	2.82	7.46	8.46	3.57	2.19	1.82	1.50	1.06	.47	32.62
1885	.33	.41	1.37	3.79	2.05	2.12	1.92	1.68	1.85	1.10	.83	.51	17.96
1886	1.42	3.46	2.88	4.13	2.40	3.30	7.10	2.72	3.36	2.70	1.53	.79	35.79
1887	.54	1.58	2.64	3.12	4.85	3.60	2.35	1.66	2.02	1.02	1.53	.62	25.53
1888	.73	.81	1.01	3.68	2.42	2.89	3.24	1.75	1.50	1.04	.91	.24	22.40
1889	2.13	3.51	1.51	3.25	4.25	2.02	1.54	1.10	2.20	1.71	1.98	1.54	26.74
1890	†84	2.50	1.44	2.19	3.66	6.31	3.47	2.72	1.27	1.18	1.43	1.20	†28.21
1891	1.89	1.09	1.75	3.24	7.15	6.68	†3.28	1.40	1.72	1.14	2.04	1.05	†32.43
1892	.55	.88	1.97	5.07	2.29	†2.38	5.03	2.01	2.15	2.29	1.06	.76	†26.44
1893	.51	1.18	1.54	1.15	4.92	2.66	2.09	3.80	2.54	1.09	.93	1.57	23.98
1894	1.07	.82	1.05	1.86	3.57	2.44	1.72	1.45	.80	1.01	.90	.58	17.27
1895	.46	.44	1.40	3.92	1.64	4.05	2.62	2.26	1.10	1.35	1.18	.68	21.10
1896	.39	.51	.78	1.27	†2.80	2.03	3.73	.96	1.12	3.04	1.05	.57	†18.25
1897	.56	1.06	1.68	1.37	4.11	7.78	4.07	2.74	1.36	1.72	1.06	.45	27.96
1898	.43	.39	1.21	3.08	1.16	1.35	2.99	1.31	.88	1.11	2.61	2.40	18.92
1899	2.31	1.48	1.54	2.71	5.01	8.35	3.88	2.32	1.27	.87	.68	.56	30.98
1900	.45	.46	1.24	1.64	2.72	3.82	2.59	1.21	1.83	1.42	.83	.75	18.96
1901	.82	1.41	1.65	2.86	1.86	2.55	5.19	3.87	2.60	1.37	4.28	2.13	30.59
1902	1.10	.73	3.71	3.98	3.06	6.09	2.99	1.60	1.07	1.28	.62	.63	26.86
1903	.77	.73	1.91	1.71	4.59	6.19	5.48	1.64	2.11	1.16	.95	.44	27.65
1904	.40	.67	.67	1.15	1.38	3.47	1.54	1.48	.92	.86	.90	.48	13.91
1905	.30	.37	1.10	1.97	3.56	2.59	1.67	2.52	1.26	1.83	1.65	.75	19.57
1906	.71	.53	2.34	3.26	1.66	2.55	2.54	1.54	1.58	2.39	2.25	2.59	23.94
1907	3.17	2.93	2.16	2.56	2.03	3.38	2.47	2.26	2.76	1.44	1.14	†1.27	†27.57
1908	.88	1.96	1.86	3.83	3.52	3.38	2.72	2.42	1.58	1.33	1.36	.81	25.65
1909	.68	.95	2.45	2.85	4.08	4.85	2.60	3.85	3.75	2.72	1.86	.93	31.55
1910	.85	.55	1.02	1.89	1.88	1.95	1.24	2.42	2.04	2.28	1.35	1.22	18.69
1911	.65	.44	1.13	2.76	3.02	2.28	4.70	1.76	.77	.90	.73	.67	19.81
1912	1.10	1.19	2.03	2.16	2.72	4.64	4.78	3.17	1.50	1.87	1.22	.88	27.25
1913	.70	.63	1.28	4.08	2.51	5.50	2.56	2.05	1.71	.73	.66	.47	22.88
1914	.44	.59	.81	.99	2.08	2.02	3.51	1.23	.63	.71	.60	.57	14.18
1915	.82	.52	3.68	4.04	3.20	1.97	1.42	1.33	1.35	1.76	.90	.92	21.91
1916	1.66	1.60	3.29	4.84	3.05	2.49	1.85	1.15	1.80	3.90	2.05	.76	28.44
1917	.74	.67	1.34	4.06	3.43	8.67	2.98	1.27	1.19	1.78	1.05	.89	28.07
1918	.65	.63	1.85	2.28	3.77	1.84	2.63	.98	1.30	.98	.79	.72	18.28
1919	1.15	2.36	2.99	4.58	2.49	4.00	2.06	2.21	1.33	1.12	.80	.47	26.53
1920	.96	.87	2.78	2.51	2.87	4.65	5.52	1.90	1.87	1.51	3.95	1.92	31.31
1921	.76	.84	3.58	2.77	4.16	2.02	2.58	1.88	.98	1.41	1.71	.64	23.33
1922	.71	1.19	1.99	3.77	3.09	5.60	3.35	3.25	1.84	1.54	.87	.59	27.79
1923	.49	.40	2.48	2.81	4.72	4.75	2.46	3.00	2.41	1.50	1.22	.70	26.94
1924	.45	.53	1.42	3.70	2.25	3.15	2.98	2.66	1.95	1.27	.75	.71	21.82
1925	.85	.54	1.82	3.56	2.01	1.44	1.15	1.24	.56	.50	.26	.21	14.14
1926	.96	1.57	1.14	2.08	2.25	2.28	2.19	1.16	.76	.57	1.05	.60	16.61
1927	.50	1.41	5.11	2.61	4.22	4.06	2.84	1.40	2.49	1.08	1.08	.61	27.41
1928	.52	.77	2.31	2.16	1.78	2.43	3.54	3.08	3.08	2.89	1.94	.69	27.19
1929	1.42	1.67	1.26	2.84	2.52	7.60	2.46	5.28	2.13	1.66	.90	.27	30.71
1930	1.35	3.77	1.98	1.89	2.36	3.26	1.71	1.58	.78	.55	.48	.49	20.20
1931	.39	.68	.95	1.32	1.20	1.30	3.27	1.65	.78	.94	1.00	.64	14.12
1932	.56	.56	2.40	2.63	5.76	2.53	2.74	2.31	1.15	1.32	.74	*.46	*22.76
1933	1.16	1.56	*3.94	*4.19	4.82	2.95	2.21	2.50	.96	.84	.92	.92	*26.97
1934	*.48	*.46	.62	1.57	.72	5.47	2.22	1.10	1.21	1.03	1.31	.69	23.81
1935	1.03	.94	1.26	2.66	2.18	4.87	4.19	2.19	1.14	.96	.90	.58	22.92
1936	.39	1.19	.99	4.96	3.71	-	-	-	-	-	-	-	-

* Revised.

† Corrected.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1874	353	195,000	May 1, 1874	-	-	-	-	-	-
1875	353	410,000	Mar. 1, 1875	6,830	54,700	2.56	34.66	57,600	36.54
1876	353	227,000	Dec. 31, 1875	11,400	47,200	2.21	29.98	41,200	26.17
1877	353	*190,000	Apr. 11, 1877	7,850	31,800	1.49	20.13	35,700	22.64
1878	353	125,000	Feb. 25, 1878	7,500	30,000	1.40	19.04	31,000	19.66
1879	353	252,000	Jan. 15, 1879	5,900	33,400	1.56	21.21	34,300	21.75
1880	353	254,000	Mar. 18, 1880	5,330	42,600	1.99	27.07	41,500	26.38
1881	353	174,000	Dec. 3, 1880	4,800	35,700	1.67	22.66	37,300	23.68
1882	353	*275,000	Jan. 19, 1882	5,900	58,500	2.73	37.17	53,700	34.12
1883	353	*261,000	Jan. 23, 1883	4,800	38,800	1.81	24.62	39,700	25.16
1884	353	285,000	Mar. 10, 1884	6,510	51,500	2.41	32.72	49,500	31.46
1885	353	174,000	Jan. 18, 1885	5,330	28,300	1.32	17.96	37,300	23.61

* Not previously published.

Yearly discharge, in cubic feet per second, of Tennessee River at Chattanooga, Tenn.--Continued

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1886	353	*391,000	Apr. 3, 1886	11,900	56,400	2.84	35.79	51,700	32.79
1887	353	*181,000	Feb. 28, 1887	8,580	†40,300	1.88	†25.53	†36,500	†23.12
1888	353	178,000	Mar. 31, 1888	8,580	35,200	1.84	22.40	42,800	27.20
1889	353	*198,000	Feb. 18, 1889	13,800	42,100	1.97	26.74	†38,400	†24.37
1890	353	283,000	Mar. 2, 1890	11,900	†44,500	†2.08	†28.21	44,400	28.16
1891	353	259,000	Mar. 11, 1891	11,500	51,200	2.39	†32.43	†49,100	†31.10
1892	353	252,000	Jan. 17, 1892	8,580	41,500	1.94	†26.44	41,300	26.27
1893	353	221,000	Feb. 20, 1893	8,210	37,800	1.77	23.98	37,400	23.69
1894	353	167,000	Feb. 6, 1894	7,160	27,200	1.27	17.27	26,200	16.63
1895	353	212,000	Jan. 12, 1895	6,830	33,500	1.56	21.10	32,300	20.48
1896	353	269,000	Apr. 5, 1896	6,830	28,700	1.34	†18.25	†31,200	†19.87
1897	353	*257,000	Mar. 14, 1897	6,830	44,100	2.06	27.96	42,100	26.69
1898	353	*167,000	Sept. 5, 1898	5,900	29,800	1.39	18.92	35,000	22.22
1899	353	*273,000	Mar. 22, 1899	7,650	48,800	2.28	30.98	43,800	27.80
1900	353	*159,000	Feb. 15, 1900	7,160	29,900	1.40	18.96	32,600	20.69
1901	353	*221,000	May 25, Aug. 17	8,580	48,200	2.25	30.59	50,800	32.25
1902	353	271,000	Jan. 2, 1902	8,580	42,400	1.98	26.86	39,000	24.73
1903	353	210,000	Apr. 11, 1903	6,510	43,500	2.03	27.66	40,900	25.98
1904	353	*144,000	Mar. 25, 1904	6,510	21,900	1.02	15.91	21,900	15.95
1905	353	146,000	Feb. 11, 1905	5,060	30,900	1.44	18.57	33,700	21.38
1906	353	140,000	Jan. 26, 1906	8,580	37,800	1.77	23.94	45,100	28.62
1907	353	*222,000	Nov. 22, 1906	12,400	43,400	2.03	†27.57	37,800	†24.01
1908	353	*163,000	Feb. 17, 1908	9,750	40,300	1.88	25.65	39,300	25.01
1909	353	163,000	June 6, 1909	8,960	49,700	2.32	31.55	47,100	29.91
1910	353	*86,600	Feb. 19, 20, 1910	9,900	29,500	1.38	18.69	29,200	18.49
1911	353	*198,000	Apr. 8, 1911	8,050	31,200	1.46	19.81	34,500	21.90
1912	353	190,000	Mar. 31, 1912	11,200	42,800	2.00	27.25	40,100	25.55
1913	353	*222,000	Apr. 30, 1913	7,070	36,000	1.68	22.88	34,800	22.11
1914	(a)	*105,000	Apr. 3, 1914	5,500	22,400	1.05	14.18	27,400	17.36
1915	(a)	*185,000	Dec. 28, 1914	6,000	34,600	1.62	21.91	37,000	23.44
1916	433	*197,000	Dec. 20, 1915*	11,500	44,700	2.09	28.41	38,700	24.64
1917	453, 783	*341,000	Mar. 7, 1917	11,000	44,200	2.07	28.07	43,100	27.33
1918	473, (a)	270,000	Feb. 2, 1918	8,000	28,800	1.35	18.28	35,900	22.77
1919	503	189,000	Jan. 5, 1919	6,000	40,300	1.88	25.53	37,300	23.64
1920	503	275,000	Apr. 5, 1920	5,500	49,300	2.30	31.31	50,200	31.68
1921	523	213,000	Feb. 13, 1921	9,890	36,800	1.72	23.33	34,700	22.04
1922	543	229,000	Jan. 23, 1922	8,340	43,800	2.05	27.79	43,000	27.27
1923	563	188,000	Feb. 7, 1923	6,780	42,400	1.98	26.94	40,900	25.97
1924	583	143,000	Jan. 5, 1924	6,780	34,300	1.60	21.82	35,600	22.63
1925	603	138,000	Dec. 11, 1924	3,300	22,200	1.04	14.14	23,000	14.60
1926	623	92,900	Apr. 16, 1926	4,290	26,200	1.22	16.61	31,500	19.96
1927	643	249,000	Dec. 29, 1926	7,500	43,200	2.02	27.41	37,800	23.99
1928	663	184,000	July 2, 1928	6,360	42,700	2.00	27.19	43,900	27.94
1929	683	248,000	Mar. 26, 1929	9,680	48,500	2.26	30.71	52,800	33.46
1930	698	180,000	Nov. 19, 1929	5,950	31,900	1.48	20.20	23,900	15.12
1931	713	125,000	Apr. 8, 1931	6,060	22,700	1.04	14.12	24,400	15.22
1932	728, 1386	192,000	Feb. 3, 1932	5,350	*36,470	*1.67	*22.76	*42,100	*26.30
1933	743, 1386	*241,000	Dec. 31, Jan. 1*	10,000	*43,300	*1.99	*26.97	*35,070	*21.84
1934	758, 1386	*215,000	Mar. 6, 1934	*7,200	*26,970	*1.24	*16.61	29,710	18.51
1935	783	175,000	Mar. 15, 1935	6,800	36,800	1.69	22.92	35,740	22.26
1936	803	234,000	Mar. 29, 1936	6,460	37,700	1.76	23.97	39,320	†25.01
1937	823	204,000	Jan. 4, 1937	11,400	36,810	1.72	†23.35	†37,930	†24.06
1938	853	136,000	Apr. 10, 1938	13,100	35,720	1.67	22.66	33,980	21.56
1939	873	193,000	Feb. 17, 1939	11,400	32,620	1.52	20.69	30,670	19.46
1940	893	89,400	Sept. 2, 1940	5,950	19,660	.919	12.50	21,450	13.65
1941	923	58,200	July 18, 1941	9,070	19,650	.918	12.47	18,250	11.58
1942	973	72,300	Mar. 22, 1942	7,690	20,880	.976	13.24	27,530	17.46
1943	973	235,000	Dec. 30, 1942	17,200	38,450	1.80	24.39	34,600	21.95
1944	1003	201,000	Mar. 30, 1944	12,200	32,970	1.54	20.97	34,230	21.77
1945	1033	115,000	Feb. 18, 1945	13,300	32,490	1.52	20.61	33,790	21.44
1946	1053	225,000	Jan. 9, 1946	13,600	41,230	1.93	26.15	40,490	25.68
1947	1083	186,000	Jan. 20, 1947	13,200	33,810	1.58	21.45	31,940	20.26
1948	1113	225,000	Feb. 14, 1948	16,200	30,430	1.42	19.35	35,470	22.56
1949	1143	179,000	Jan. 6, 1949	18,200	42,410	1.98	26.90	44,160	28.01
1950	1173	192,000	Feb. 2, 1950	17,900	46,990	2.20	29.81	-	-

* Revised.

† Corrected.

* Not previously published.

a Tennessee Division of Geology, Bull. 34.

Note.--Records for Oct. 22, 1913, to Feb. 28, 1915, and Oct. 1, 1918, to Jan. 5, 1921, computed on basis of gage-height record at Bridgeport, Ala., and discharge measurements at Chattanooga, Tenn., and records for July 1930 to December 1935 are from station "at Hales Bar, near Chattanooga." Monthly figures of discharge, in cubic feet per second per square mile, and runoff, in inches, for the period March to September 1936 published in WSP 803 may be subject to appreciable error because of storage in Norris Lake. These figures are not published herein and should not be used.

268. Lookout Creek near Wildwood, Ga.

Location.--Lat 34°57'22", long. 85°24'12", 50 ft above dam, 1 mile southeast of Wildwood, Bade County, 1.4 miles upstream from Wauhatchie Branch, and 8 miles upstream from mouth.
Drainage area.--165 sq mi.
Gage.--Water-stage recorder. Altitude of gage is 645 ft from topographic map.
Extremes.--Maximum discharge during period August 1945 to August 1946, 6,100 cfs Jan. 8, 1946 (gage height 13.05 ft); minimum, 10 cfs Sept. 2, 1945 (gage height, 0.36 ft); minimum daily, 15 cfs several days in October 1945.
Remarks.--Diurnal fluctuation at low flow caused by mills above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	-	-	-	-	-	-	-	-	-	-	-	25.6	-
1946	27.3	104	367	1,111	806	569	316	385	176	59.6	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	-	-	-	-	-	-	-	-	-	-	-	0.17	-
1946	0.19	0.70	2.57	7.76	5.08	3.97	2.14	2.69	1.19	0.42	-	-	-

269. Hales Bar Lake near Chattanooga, Tenn.

Location.--Lat 35°02'48", long. 85°32'16" (corrected), at Hales Bar Dam on Tennessee River, 5 1/2 miles southeast of Jasper, Marion County, 8.5 miles upstream from Sequatchie River, 39.9 miles downstream from Chickamauga Dam, and at mile 431.1.

Drainage area.--21,790 sq mi, approximately.

Gage.--Water-stage recorder. Datum of gage is mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1914-50: Maximum elevation, 642.8 ft Mar. 8, 1917; minimum (after first filling) 619.0 ft Apr. 16, 1918.

Remarks.--Reservoir is formed by concrete dam with earth embankments containing concrete core walls, spillway with crest at 616.0 ft equipped with 17 taintor gates 19 ft high by 40 ft wide, and 1 trash gate 5.5 ft high by 15 ft wide (prior to July 1948 spillway with crest elevation at 626.25 ft, equipped with flashboards 3 ft high prior to July 1944 and 5 ft high thereafter). Dam completed and storage began Oct. 13, 1913. Capacity of reservoir has been considerably reduced by silting. Total level pool capacity at elevation 634.0 ft (maximum allowable pool) is 77,800 cfs-days, of which 6,600 cfs-days is controlled flood storage above elevation 632.0 ft (minimum navigation pool). Contents based on backwater profile since Oct. 1, 1946. Reservoir is used for navigation, flood control and power.

Cooperation.--Records furnished by Tennessee Valley Authority.

Contents, in thousands of cfs-days, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1915	79	78	97	89	92	82	79	80	75	74	86	76
1916	74	86	111	83	85	83	75	86	81	81	71	76
1917	78	78	96	92	89	95	75	78	78	82	76	79
1918	74	76	77	119	77	77	78	72	83	78	75	77
1919	101	81	78	81	86	82	74	78	78	67	76	76
1920	77	79	70	81	83	86	79	72	70	70	80	69
1921	76	80	79	81	80	76	75	73	76	80	74	75
1922	75	88	80	78	81	87	88	74	69	70	74	73
1923	71	72	73	93	77	76	76	83	76	77	74	73
1924	72	71	81	73	85	76	82	86	64	72	73	72
1925	71	71	72	74	74	70	81	70	74	70	70	68
1926	70	74	64	71	76	74	67	70	70	68	74	67
1927	69	76	103	74	86	69	69	77	66	69	65	66
1928	66	64	78	68	64	84	81	80	61	66	67	61
1929	69	63	63	77	95	78	79	71	74	69	67	76
1930	65	70	72	66	68	66	66	59	64	67	67	67
1931	65	65	67	65	69	75	68	63	65	64	65	65
1932	65	65	67	94	68	76	71	61	64	63	66	66
1933	63	66	101	71	73	64	66	62	61	64	64	64
1934	64	64	64	61	79	79	59	64	61	61	63	61
1935	62	63	60	65	76	75	63	59	63	65	63	63
1936	62	59	60	62	64	89	59	60	60	60	62	62
1937	57	57	73	70	67	59	67	59	62	62	60	62
1938	71	58	70	66	63	64	62	71	62	65	62	62
1939	62	60	68	74	78	66	64	64	62	62	62	62
1940	62	62	62	61	63	65	64	61	62	63	77	64

Contents in thousands of cfs-days, on last day of month, of Hales Bar Lake near Chattanooga, Tennessee--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1941	63	62	61	62	61	61	64	62	61	58	62	61
1942	60	60	61	61	60	59	62	61	61	63	66	63
1943	63	63	99	74	58	63	66	64	60	60	63	63
1944	64	61	64	62	81	84	66	59	62	66	61	68
1945	663	63	74	61	70	63	63	69	69	69	68	66
1946	66	64	65	72	65	68	70	70	64	64	65	64
1947	*65	*64	*69	*86	*65	*64	*65	*62	*64	*64	*64	*62
1948	*62	*64	*62	*65	*65	*64	*63	*62	*64	*66	*67	*66
1949	59	104	76	71	65	74	67	74	73	77	76	77
1950	87	78	72	96	74	76	75	68	67	68	69	70

† Corrected; previously published figures were computed on basis of obsolete level-storage tables. A contents by capacity table used beginning Oct. 1, 1946; contents Oct. 31, 1946, by capacity table used prior to Oct. 1, 1946, was 64,000 cfs-days.
 Note.--Record of contents not available prior to October 1914.

270. Tennessee River at Hales Bar, near Chattanooga, Tenn.

Location.--Lat 35°01'43", long. 85°32'48" in center pier of bridge on U. S. Highways 41, 64, and 72, 1.4 miles downstream from Hales Bar Dam, 5½ miles southeast of Jasper, Marion County, 7 miles upstream from Sequatchie River, 34.5 miles downstream from Chattanooga, and at mile 429.7.

Drainage area.--21,800 sq mi, approximately.

Gage.--Water-stage recorder. Datum of gage is 588.51 above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Feb. 13, 1932, water-stage recorder on lower lock wall 1.4 miles upstream at datum 0.35 ft higher. Since Jan. 27, 1939, auxiliary water-stage recorder 22 miles downstream.

Average discharge.--20 years (1930-50), 34,170 cfs.

Extremes.--1930-50: Maximum discharge (revised), 241,000 cfs Dec. 31, 1932, Jan. 1, 1933, Mar. 30, 1936 (gage height, 31.2 ft); minimum daily discharge, 5,350 cfs Oct. 27, 1931; minimum gage height, 1.21 ft Oct. 27, 1931, site and datum then in use.

Maximum stage known, 44.6 ft, present site and datum, in March 1867. A stage of 37.4 ft, present site and datum, occurred Mar. 8, 1917 (discharge, 320,000 cfs, revised, from rating curve extended above 225,000 cfs).

Remarks.--Since 1936 flow regulated by increasing number of reservoirs above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1930	-	-	-	-	-	-	-	-	-	10,500	9,040	9,510	-
1931	7,340	13,300	17,900	25,000	25,000	24,500	61,900	31,300	15,200	17,700	18,900	12,500	22,700
1932	6,820	7,040	45,400	49,800	17,000	47,900	53,600	43,700	22,500	24,900	13,900	*8,930	*36,470
1933	21,800	30,400	74,400	*79,300	101,000	55,700	43,100	47,200	18,800	15,900	17,400	17,900	*43,300
1934	*9,139	*8,940	11,070	29,600	14,980	102,600	43,370	20,850	23,680	19,450	24,830	13,400	*26,970
1935	19,520	16,380	23,790	50,600	45,630	92,140	81,850	41,390	22,330	18,100	16,940	11,370	36,800
1936	7,393	23,260	18,750	96,680	77,530	73,540	103,100	221,280	13,290	16,050	14,110	14,670	39,780
1937	21,380	15,360	31,410	22,800	85,700	44,400	31,390	36,600	19,750	15,610	19,630	18,410	38,360
1938	25,990	27,290	28,660	39,510	34,210	53,120	56,070	32,350	40,940	44,080	38,580	19,200	36,700
1939	16,570	21,440	22,910	32,440	110,200	76,790	40,340	23,500	18,210	16,970	15,430	14,680	33,610
1940	12,880	13,000	12,080	10,230	21,520	30,260	34,860	18,200	15,080	17,300	31,080	28,210	20,360
1941	20,700	20,710	18,590	22,810	15,670	23,130	26,730	16,150	14,090	32,040	16,500	17,140	20,400
1942	16,000	14,220	14,180	14,190	18,820	41,520	19,310	14,940	17,580	20,500	37,810	29,530	21,570
1943	28,190	30,750	62,900	73,010	67,370	39,250	37,610	30,730	24,860	26,210	25,740	26,190	39,270
1944	26,870	28,160	21,470	21,580	49,610	72,290	57,020	31,790	23,160	24,000	24,120	25,510	33,720
1945	26,630	28,640	35,620	39,490	53,590	46,440	27,110	34,170	26,310	25,740	28,890	27,830	33,270
1946	25,320	24,200	57,270	38,550	87,700	42,060	24,060	33,170	26,570	26,250	28,720	30,890	41,860
1947	30,590	32,570	33,630	94,220	47,180	40,180	23,690	25,900	22,240	20,220	21,590	21,850	34,500
1948	19,760	26,510	29,680	28,880	71,930	48,610	32,540	26,090	24,340	21,220	23,630	25,500	31,380
1949	26,290	40,710	72,980	88,450	57,260	37,360	29,720	29,770	24,340	41,860	39,220	39,670	43,970
1950	41,180	51,500	65,010	71,120	114,800	57,940	29,370	26,930	27,920	26,970	30,840	41,220	48,360

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1930	-	-	-	-	-	-	-	-	-	0.55	0.48	0.49	-
1931	0.39	0.68	0.95	1.32	1.20	1.30	3.27	1.65	0.78	.94	1.00	.64	14.12
1932	.36	.36	2.40	2.63	5.76	2.53	2.74	2.31	1.15	1.32	.74	*.46	*22.76
1933	1.16	1.56	*3.94	*4.19	4.82	2.95	2.21	2.50	.96	.64	.92	.92	*26.97
1934	*.48	*.46	.59	1.57	.72	5.43	2.22	1.10	1.21	1.03	1.31	.69	*16.81
1935	1.03	.94	1.26	2.68	2.18	4.87	4.19	2.19	1.14	.96	.90	.58	22.92
1936	.39	1.19	.99	5.11	3.84	-	-	-	-	-	-	-	24.64

* Revised.

Yearly discharge, in cubic feet per second, of Tennessee River at Hales Bar, near Chattanooga, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1930	698	-	-	-	-	-	-	-	-
1931	713	125,000	Apr. 8, 1931	6,080	22,700	1.04	14.12	24,400	15.22
1932	728,1386	192,000	Feb. 3, 1932	5,350	*36,470	*1.67	*22.76	*42,100	*26.30
1933	743,1386	*241,000	Dec. 31, Jan. 1*	10,000	*43,300	*1.99	*26.97	*35,070	*21.84
1934	758,1386	*215,000	Mar. 6, 1934	*7,200	*26,970	*1.24	*16.81	29,710	18.51
1935	783	175,000	Mar. 15, 1935	6,600	36,800	1.69	22.92	35,740	22.26
1936	803	241,000	Mar. 30, 1936	6,460	39,780	1.82	24.84	41,390	25.84
1937	823	209,000	Jan. 5, 1937	12,200	38,360	1.76	23.88	39,490	24.59
1938	853	136,000	Apr. 10, 1938	13,300	36,700	1.68	22.85	34,930	21.75
1939	873	189,000	Feb. 17, 1939	11,400	33,610	1.54	20.93	31,690	19.73
1940	893	87,400	Sept. 2, 1940	6,500	20,360	.934	12.71	22,210	13.86
1941	923	57,000	July 18, 1941	7,970	20,400	.936	12.70	19,090	11.89
1942	973	77,300	Mar. 22, 1942	7,940	21,570	.989	13.43	28,100	17.50
1943	973	231,000	Dec. 30, 1942	17,500	39,270	1.80	24.46	35,430	22.06
1944	1003	193,000	Mar. 30, 1944	13,000	33,720	1.55	21.05	34,930	21.81
1945	1033	124,000	Feb. 19, 1945	15,900	33,270	1.53	20.72	34,630	21.56
1946	1053	231,000	Jan. 9, 1946	14,100	41,860	1.92	26.06	41,000	25.53
1947	1083	191,000	Jan. 20, 1947	13,700	34,500	1.58	21.48	32,730	20.38
1948	1113	216,000	Feb. 14, 1948	16,300	31,380	1.44	19.59	36,770	22.96
1949	1143	194,000	Jan. 6, 1949	19,100	43,970	2.02	27.58	45,450	28.30
1950	1173	180,000	Feb. 2, 1950	16,800	48,360	2.22	30.11	-	-

* Revised.

Note.--Monthly figures of discharge, in cubic feet per second per square mile, and runoff, in inches, for the period March to September 1936 published in WSP 803 may be subject to appreciable error because of storage in Norris Lake. These figures are not published herein and should not be used.

271. Sequatchie River near Whitwell, Tenn.

Location.--Lat 35°12'22", long. 85°29'48", at highway bridge $1\frac{1}{2}$ miles east of Whitwell, Marion County, 3 miles upstream from bridge on State Highway 27, and $4\frac{1}{2}$ miles downstream from Griffith Creek.

Drainage area.--384 sq mi.

Gage.--Water-stage recorder. Datum of gage is 632.73 ft above mean sea level, datum of 1929, supplementary adjustment of 1936 (levels by Tennessee Valley Authority). Prior to Sept. 18, 1927, staff gage at datum 0.03 ft higher. Sept. 18, 1927, to Oct. 31, 1929, staff gage and Nov. 1, 1929, to Sept. 30, 1930, wire-weight gage at bridge 15 ft upstream at same datum.

Average discharge.--30 years (1920-50), 727 cfs.

Extremes.--1920-50: Maximum discharge, 21,400 cfs Jan. 5, 1949 (gage height, 16.55 ft); minimum, 16 cfs (revised) Sept. 6-21, 27, 28, 1925; minimum gage height, 0.56 ft Oct. 31, Nov. 1, 1948.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	*108	*102	*1,080	1,040	*2,470	717	*1,410	284	143	168	213	122	*643
1922	86.7	548	698	1,370	1,350	*3,400	1,620	1,060	892	294	259	139	*974
1923	69.6	50.2	1,300	1,120	1,940	1,920	1,020	1,480	701	335	289	146	859
1924	66.1	105	780	1,720	1,090	1,320	1,380	1,220	384	192	157	88.2	709
1925	*61.2	*46.4	210	1,090	521	397	720	395	*95.5	100	*54.6	*23.1	309
1926	270	1,180	652	1,040	802	896	775	271	372	124	863	235	622
1927	*81.6	652	3,150	1,010	2,060	1,650	1,530	274	229	100	144	55.0	906
1928	48.0	261	922	1,160	843	1,560	1,960	750	2,380	836	324	677	974
1929	700	1,230	508	1,860	1,500	3,450	1,010	2,010	593	424	343	365	1,170
1930	192	2,350	691	657	1,420	1,760	545	354	123	78.4	52.8	64.5	684
1931	42.2	142	363	555	633	770	995	560	115	129	84.4	41.4	368
1932	27.1	32.4	1,080	1,430	2,570	756	1,250	655	203	487	150	60.9	719
1933	382	527	1,960	1,260	2,230	1,140	1,100	966	164	156	168	264	852
1934	56.4	65.8	302	1,104	343	3,290	618	365	520	514	642	171	655
1935	122	325	378	848	1,153	1,939	1,747	595	168	92.5	94.9	52.7	622
1936	43.2	455	658	1,706	1,241	2,169	1,937	205	95.2	212	67.4	46.6	735
1937	56.3	115	899	3,736	1,579	712	596	984	205	124	194	98.0	774
1938	224	111	508	1,113	741	1,444	1,625	850	918	702	599	119	747
1939	67.4	116	218	1,003	3,589	1,794	1,063	382	427	293	223	92.1	753
1940	51.8	46.5	51.9	86.7	1,084	1,401	1,061	418	181	274	230	129	415
1941	52.0	123	266	693	271	725	1,067	179	126	654	174	96.6	370
1942	67.3	136	782	688	1,464	1,650	415	303	179	213	529	127	542
1943	57.5	69.22	441	1,286	1,561	1,289	1,217	340	141	316	134	83.1	742
1944	47.7	74.2	94.8	513	2,143	2,506	1,465	459	172	78.9	62.2	61.1	634
1945	123	61.0	282	868	1,852	1,152	1,071	1,357	238	256	389	80.0	637
1946	86.0	348	1,502	2,828	2,075	1,158	837	888	580	222	126	217	900
1947	154	613	659	3,040	873	1,115	789	382	207	119	69.9	51.8	674
1948	41.0	97.2	233	324	2,992	2,063	1,429	202	99.8	119	87.9	49.9	635
1949	40.0	1,762	2,034	3,370	1,673	1,238	1,181	781	310	681	309	112	1,140
1950	313	511	1,028	8,086	2,671	1,955	506	456	366	338	356	1,152	1,052

* Revised.

† Corrected.

† Not previously published; estimated on the basis of records for Collins River near Rowland.

Monthly and yearly runoff, in inches, of Sequatchie River near Whitwell, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	*0.32	*0.30	*3.25	3.13	*6.69	2.15	*4.11	0.85	0.41	0.50	0.64	0.36	*22.71
1922	.26	1.59	2.10	4.11	3.65	*10.20	4.70	3.17	2.59	.88	.78	.40	*34.43
1923	.21	.15	3.90	3.36	5.25	5.77	2.95	4.44	2.04	1.00	.87	.42	30.36
1924	.20	.31	2.34	5.15	3.07	3.97	4.00	3.67	1.11	.57	.47	.26	25.12
1925	.18	.13	.63	3.27	1.41	1.19	2.09	1.19	.28	.30	.16	.07	10.90
1926	.81	3.42	1.96	3.13	2.17	2.69	2.25	.81	1.08	.37	2.59	.68	21.96
1927	.25	1.89	9.46	3.04	5.60	4.95	4.44	.82	.67	.30	.43	.16	32.01
1928	.14	.76	2.77	3.48	2.37	4.70	5.70	2.25	6.92	2.51	.97	1.97	34.54
1929	2.10	3.59	1.52	5.57	4.07	10.37	2.93	6.05	1.72	1.27	1.03	1.06	41.28
1930	.58	6.84	2.08	1.97	3.86	5.28	1.58	1.06	.36	.24	.16	.19	24.20
1931	.13	.41	1.09	1.67	1.72	2.31	2.89	1.68	.34	.39	.25	.12	13.00
1932	.08	.09	3.25	4.51	7.21	2.27	3.63	1.97	.59	1.46	.45	.18	25.49
1933	1.15	1.53	5.87	3.78	6.04	3.42	3.21	2.90	.48	.47	.50	.77	30.12
1934	.17	.19	.91	3.31	.93	9.88	1.79	1.10	1.51	.94	1.93	.50	23.16
1935	.37	.94	1.13	2.55	3.13	5.82	5.08	1.78	.49	.28	.29	.15	22.01
1936	.13	1.32	1.98	5.12	3.48	6.51	5.63	.62	.28	.64	.20	.14	26.05
1937	.17	.33	2.70	11.22	4.28	2.13	1.73	2.95	.60	.37	.58	.28	27.34
1938	.67	.32	1.52	3.34	2.01	4.34	4.72	2.55	2.67	2.11	1.80	.35	26.40
1939	.20	.34	.65	3.01	9.73	5.39	3.09	1.15	1.24	.88	.67	.27	26.62
1940	.16	.14	.16	.26	3.04	4.21	3.08	1.26	.52	.82	.69	.38	14.72
1941	.16	.36	.80	2.08	.73	2.18	3.10	.54	.37	1.96	.52	.28	13.08
1942	.20	.39	2.35	2.07	3.97	4.95	1.21	.91	.52	.64	1.59	.37	19.17
1943	.17	.20	7.33	3.86	4.23	3.87	3.54	1.02	.41	.95	.40	.24	26.22
1944	.14	.22	.28	1.54	6.02	7.52	4.26	1.38	.50	.24	.19	.18	22.47
1945	.37	.18	.85	2.61	5.02	3.46	3.11	4.08	.69	.77	1.17	.23	22.54
1946	.26	1.01	4.51	8.49	5.63	3.48	2.43	2.67	1.69	.67	.38	.63	31.85
1947	.46	1.78	1.98	9.13	2.37	3.35	2.29	1.15	.80	.36	.21	.15	23.83
1948	.12	.26	.70	.97	8.40	6.20	4.15	.61	.28	.36	.26	.14	22.48
1949	.12	5.12	6.11	10.12	4.54	3.72	3.43	2.35	.90	2.65	.93	.33	40.32
1950	.94	1.48	3.08	9.27	7.22	5.87	1.47	1.37	1.06	1.01	1.07	3.35	37.19

* Revised.

* Not previously published; estimated on the basis of records for Collins River near Rowland.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1921	523,1386	*12,100	Feb. 11, 1921	-	*643	*1.67	*22.71	*645	*22.79
1922	543,1386	*16,300	Mar. 2, 1922	50	*974	*2.54	*34.43	*983	*34.74
1923	563	*7,100	Dec. 16, 1922	40	859	2.24	30.36	819	28.95
1924	583	*6,850	May 1, 1924	45	702	1.84	25.12	656	23.21
1925	603	*6,630	Apr. 28, 1925*	16	309	.805	10.90	457	16.15
1926	623	6,130	Nov. 13, 1925	37	622	1.62	21.96	775	27.37
1927	643	*13,200	Dec. 26, 1926	50	906	2.36	32.01	681	24.08
1928	663	*13,200	June 30, 1928	46	974	2.54	34.54	1,074	38.08
1929	683	19,000	Mar. 24, 1929	89	1,170	3.05	41.28	1,230	43.57
1930	698	*9,300	Nov. 15, 1929	39	684	1.78	24.20	462	16.33
1931	713	4,020	Mar. 29, 1931	31	368	.958	13.00	418	14.79
1932	728	7,640	Jan. 31, 1932	20	719	1.87	25.49	864	30.62
1933	743	*12,300	Feb. 15, 1933	52	852	2.22	30.12	646	22.84
1934	758	16,100	Mar. 3, 1934	34	655	1.71	23.16	688	24.33
1935	783	10,200	Mar. 13, 1935	42	622	1.62	22.01	650	23.00
1936	803	12,600	Mar. 28, 1936	23	735	1.91	26.05	728	25.82
1937	823	16,000	Jan. 3, 1937	33	774	2.02	27.34	755	26.65
1938	853	6,400	Apr. 9, 1938	54	747	1.95	26.40	709	25.08
1939	873	15,200	Feb. 4, 1939	51	753	1.96	26.62	732	25.89
1940	893	3,940	Feb. 19, 1940	40	415	1.08	14.72	439	15.58
1941	923	6,400	Apr. 5, 1941	37	370	.964	13.08	416	14.70
1942	953	4,300	Feb. 7, 1942	48	542	1.41	19.17	677	23.93
1943	973	19,600	Dec. 28, 1942	50	742	1.93	26.22	542	19.16
1944	1003	13,500	Mar. 29, 1944	38	634	1.65	22.47	655	23.23
1945	1033	6,440	Feb. 18, 1945	42	637	1.66	22.54	761	26.92
1946	1053	19,000	Jan. 8, 1946	58	900	2.34	31.85	856	30.29
1947	1083	9,230	Jan. 20, 1947	39	674	1.76	23.83	586	20.71
1948	1113	19,100	Feb. 14, 1948	36	635	1.65	22.48	923	32.73
1949	1143	21,400	Jan. 5, 1949	33	1,140	2.97	40.32	975	34.47
1950	1173	8,830	Jan. 19, 1950	67	1,052	2.74	37.19	-	-

* Revised.

* Not previously published.

272. Little Sequatchie River at Sequatchie, Tenn.

Location.--Lat 35°07'47", long. 85°35'10", at concrete bridge on State Highway 26, 1 mile north of Sequatchie, Marion County.

Drainage area.--116 sq mi (revised).

Gage.--Staff gage. Altitude of gage is 620 ft (from topographic map).

Extremes.--1932-34: Maximum discharge, 11,700 cfs Mar. 2, 1934 (gage height, 12.40 ft); no flow Sept. 19, 1932 (gage height, 0.94 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	*163	*11.6	*0.34	-
1933	111	278	844	356	733	347	431	484	11.4	19.9	74.9	97.0	313
1934	8.15	15.5	176	392	141	1,284	-	-	-	-	-	-	-

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	*1.62	*0.11	*0.003	-
1933	1.11	2.67	8.39	3.54	6.58	3.44	4.15	4.81	0.11	.20	.74	.93	36.67
1934	.08	.15	1.75	3.90	1.27	12.76	-	-	-	-	-	-	-

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1932	728,1436	-	-	-	-	-	-	-	-	-
1933	743	7,610	Feb. 14, 1933	0.1	313	2.70	36.67	226	26.48	-
1934	758	11,700	Mar. 2, 1934	-	-	-	-	-	-	-

273. Tennessee River near Scottsboro, Ala.

Location.--Lat 34°38'20", long. 85°58'30", in SE $\frac{1}{4}$ sec. 35, T. 4 S., R. 6 E., at B. B. Comer Bridge on State Highway 35, 2 $\frac{1}{2}$ miles downstream from Jones Creek, 3 $\frac{1}{2}$ miles upstream from Roseberry Creek, 4 miles southeast of Scottsboro, and at mile 385.8.

Drainage area.--23,430 sq mi, approximately.

Supplemental records available.--January 1939 to September 1948, gage heights only.

Gage.--Water-stage recorder. Datum of gage is 568.79 ft above mean sea level, general adjustment of 1929. Prior to June 1, 1938, staff gage on bridge pier at same datum.

Extremes.--1935-38: Maximum discharge, 247,000 cfs Mar. 31, 1936 (gage height, 26.30 ft); minimum, 6,300 cfs Oct. 9, 1935 (gage height, 0.00 ft).

Maximum stage known, 39.8 ft March 1867, as determined by Corps of Engineers, U. S. Army.

Remarks.--Flow partly regulated after February 1936 by Norris Lake.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1935	-	-	-	55,070	48,750	97,550	88,720	45,480	23,400	18,480	18,460	12,130	-
1936	7,568	24,530	21,650	98,950	80,740	73,990	116,200	22,710	13,610	18,120	14,950	15,540	42,170
1937	22,220	15,940	32,880	31,200	86,710	45,630	33,410	41,270	20,520	15,840	20,750	19,180	40,280
1938	26,430	28,260	29,880	43,260	35,860	59,650	63,160	33,340	43,460	46,540	40,910	19,440	39,220
1939	16,390	21,830	23,360	-	-	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1935	-	-	-	2.71	2.17	4.80	4.22	2.24	1.11	0.91	0.91	0.58	-
1936	0.37	1.17	1.07	4.87	3.72	-	-	-	-	-	-	-	24.50

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1935	783	174,000	Mar. 16, 1935	-	-	-	-	38,410	22.26	-
1936	803	247,000	Mar. 31, 1936	6,500	42,170	1.80	24.50	43,650	25.36	-
1937	823	216,000	Jan. 6, 1937	12,500	40,280	1.72	23.34	41,400	23.98	-
1938	853	142,000	Apr. 11, 1938	13,400	39,220	1.67	22.72	37,280	21.60	-
1939	873	-	-	-	-	-	-	-	-	-

Note.--Figures of discharge, in cubic feet per second per square mile and runoff in inches for months March to September 1936, previously published in WSP 803, may be subject to appreciable error because of storage in Norris Lake. These figures are not published herein and should not be used.

274. Short Creek near Albertville, Ala.

Location.--Lat 34°18'05", long. 86°10'53", in NE $\frac{1}{4}$ sec. 35, T. 8 S., R. 4 E., on left bank 325 ft downstream from highway bridge, 800 ft downstream from Turkey Creek, 3 miles northeast of Albertville, and 4.4 miles upstream from Scarham Creek.

Drainage area.--91.6 sq mi.

Gage.--Water-stage recorder. Datum of gage is 865.80 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--5 years (1945-50), 209 cfs.

Extremes.--1945-50: Maximum discharge, 14,800 cfs Jan. 5, 1949 (gage height, 16.37 ft); minimum, 0.01 cfs Aug. 22, 1947.
Flood of December 1942 reached a stage of 21.2 ft, from floodmarks (discharge, about 25,000 cfs).

Remarks.--City of Albertville diverts water 3 $\frac{1}{2}$ miles upstream from municipal supply.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	-	-	-	-	-	-	-	-	53.6	33.7	1.98	1.34	-
1946	11.4	50.2	270	*781	769	340	181	253	108	142	20.9	54.6	*246
1947	24.2	261	187	883	150	336	195	56.4	25.1	9.88	18.4	13.2	181
1948	.042	20.4	93.3	153	822	354	268	44.3	37.6	72.5	100	8.95	162
1949	1.55	785	322	810	563	246	230	163	72.9	111	11.8	20.1	276
1950	15.0	41.5	116	506	517	573	84.1	45.3	90.1	141	49.1	192	181

* Revised daily discharge of Jan. 20, 1946, is 427 cfs.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1945	-	-	-	-	-	-	-	-	0.65	0.42	0.02	0.02	-
1946	0.14	0.61	3.40	*9.83	8.75	4.28	2.20	3.18	1.32	1.79	.26	.67	*36.43
1947	.30	3.17	2.36	11.11	1.70	4.23	2.37	.71	.31	.12	.23	.16	26.77
1948	.0005	.25	1.17	1.92	9.68	4.46	3.27	.56	.46	.91	1.26	.11	24.05
1949	.02	9.56	4.06	10.20	6.40	3.09	2.80	2.05	.89	1.40	.15	.24	40.86
1950	.19	.51	1.48	6.37	3.60	7.21	1.02	.57	1.10	1.78	.62	2.34	26.79

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1945	1033	-	-	-	-	-	-	-	-
1946	1053	8,620	Feb. 10, 1946	0.08	*246	*2.69	*36.43	257	*36.11
1947	1083	7,110	Jan. 15, 1947	.01	181	1.98	26.77	151	22.36
1948	1113	7,110	Feb. 14, 1948	.02	162	1.77	24.05	244	36.27
1949	1143	14,800	Jan. 5, 1949	.5	276	3.01	40.86	198	29.40
1950	1173	7,890	Mar. 13, 1950	1.4	181	1.98	26.79	-	-

* Revised.

275. Tennessee River at Guntersville, Ala.

Location.--Lat 34°22'23", long. 86°17'22", in NE $\frac{1}{4}$ sec. 2, T. 8 S., R. 3 E., at bridge on U. S. Highway 431 (formerly 241), at mouth of Big Spring Creek in Guntersville, 9.0 miles (revised) upstream from Guntersville Dam, and at mile 358.0.

Drainage area.--24,340 sq mi, approximately.

Supplemental records available.--Gage-height records collected in this vicinity Dec. 1, 1904, to Dec. 31, 1912, and since Nov. 9, 1923, are contained in reports of the U. S. Weather Bureau.

Gage.--Staff gage. Datum of gage is 546.31 ft above mean sea level, datum of 1929. Prior to May 23, 1938, water-stage recorder at same site and datum. Auxiliary gage is water-stage recorder about 3,300 ft upstream from Guntersville Dam, and 8.3 miles downstream from base gage at datum 3.69 ft higher.

Average discharge.--9 years (1929-38), 39,390 cfs.

Extremes.--1929-38: Maximum discharge, 260,000 cfs Apr. 2, 1936 (gage height, 35.53 ft); minimum, 5,550 cfs Oct. 28, 1931; minimum gage height (revised), 1.21 ft Sept. 8, 1930. Maximum stage known, 48.0 ft Mar. 13 or 14, 1867, on U. S. Weather Bureau gage 1,200 ft downstream (discharge not determined).
A stage of 39.4 ft, by U. S. Weather Bureau gage, occurred Mar. 10, 1917 (discharge, about 350,000 cfs, from rating curve extended above 240,000 cfs).

Remarks.--Flow partly regulated after February 1936 by storage in Norris Lake.

Monthly and yearly mean discharge, in cubic feet per second, of Tennessee River at Guntersville, Ala.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1930	*28,400	*82,500	*41,800	*39,800	*55,200	*69,000	*37,000	*33,100	16,300	10,900	9,850	10,200	*36,000
1931	8,500	15,300	20,100	29,600	29,100	28,800	71,700	34,600	16,600	18,100	20,300	13,100	25,400
1932	7,089	7,519	54,600	55,840	140,300	52,960	62,700	49,650	23,460	29,500	15,570	9,092	41,990
1933	25,300	33,550	86,010	100,600	114,800	84,520	50,310	54,280	20,000	16,370	18,040	19,240	49,930
1934	9,691	9,011	12,210	35,890	15,600	20,200	52,350	23,500	27,980	21,250	27,470	15,120	31,030
1935	23,450	19,670	26,140	57,690	51,620	106,900	99,310	48,350	24,180	18,610	19,580	12,650	42,300
1936	7,640	24,930	22,490	109,200	89,390	71,900	28,100	23,060	13,780	19,310	15,030	15,730	44,800
1937	22,970	15,990	33,130	35,300	91,380	49,920	35,040	45,930	21,550	15,940	20,470	19,360	42,060
1938	26,300	29,480	29,680	44,790	36,980	61,080	70,910	34,640	44,920	48,730	43,550	20,340	40,980

* Not previously published; estimated on the basis of records for station at Chattanooga.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1930	*1.35	*3.78	*1.98	*1.89	*2.36	*3.27	*1.70	*1.57	0.75	0.52	0.46	0.47	*20.10
1931	.40	.70	.95	1.40	1.24	1.36	3.28	1.64	.76	.86	.96	.60	14.15
1932	.34	.34	2.58	2.64	6.22	2.51	2.88	2.35	1.08	1.40	.74	.42	23.50
1933	1.20	1.54	4.07	4.76	4.91	3.06	2.31	2.57	.92	.78	.85	.88	27.85
1934	.46	.41	.58	1.70	.67	5.69	2.40	1.11	1.28	1.01	1.30	.69	17.30
1935	1.11	.90	1.24	2.73	2.21	5.06	4.55	2.29	1.11	.88	.93	.58	23.59
1936	.36	1.14	1.07	5.17	3.96	-	-	-	-	-	-	-	25.05

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1930	698	-	-	-	*36,000	*1.48	*20.10	*26,920	*15.04
1931	713	136,000	Apr. 9, 1931	7,290	25,400	1.04	14.15	27,580	*15.36
1932	823	201,000	Feb. 4, 1932	5,940	41,990	1.73	23.50	48,320	27.05
1933	823	244,000	Jan. 3, 1933	11,000	49,930	2.05	27.85	40,320	22.49
1934	758	226,000	Mar. 8, 1934	7,720	31,030	1.27	17.30	34,260	19.10
1935	783	186,000	Mar. 17, 1935	8,200	42,300	1.74	23.59	41,080	22.91
1936	803	260,000	Apr. 2, 1936	6,640	44,800	1.84	25.05	46,270	25.87
1937	823	210,000	Jan. 6, 1937	12,900	42,060	1.73	23.46	43,160	24.07
1938	853	144,000	Apr. 11, 1938	12,500	40,980	1.68	22.85	-	-

† Corrected.

* Not previously published.

Note.--Figures of discharge, in cubic feet per second per square mile and runoff in inches for the period March to September 1936, previously published in WSP 803 may be subject to appreciable error because of storage in Norris Lake. These figures are not published herein and should not be used.

276. Guntersville Lake near Guntersville, Ala./

Location--Lat 34°25'17", long. 86°23'24", in powerhouse at Guntersville Dam on Tennessee River in sec. 14, T. 7 S., R. 2 E., 11 miles northwest of Guntersville, 82.1 miles downstream from Hales Bar Dam, and at mile 349.0.

Drainage area--24,450 sq mi, approximately.

Gage--Water-stage recorder. Datum of gage is mean sea level, datum of 1929.

Extremes--1938-50: Maximum elevation, 596.29 ft Mar. 2, 1944; minimum (after start of operation plan in April 1940), 592.00 ft Dec. 10, 1940.

Remarks--Reservoir is formed by concrete dam with riprapped earth embankments. Spillway is equipped with eighteen 2-section lift gates 40.44 ft high by 50 ft wide. Dam completed and storage began Jan. 16, 1939; water in reservoir first reached minimum navigation pool elevation Jan. 27, 1939. Total level pool capacity at elevation 595.44 ft (top of gates) is 513,600 cfs-days, of which 82,100 cfs-days is controlled flood storage above elevation 593.0 ft (minimum navigation pool). Reservoir is used for navigation, flood control, and power. Contents based on backwater profile beginning Oct. 1, 1946.

Cooperation--Records furnished by Tennessee Valley Authority.

†/ Published as Guntersville Reservoir prior to 1954.

Contents, in thousands of cfs-days, on last day of month, of Guntersville Lake near Guntersville, Ala.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1939	15	20	27	442	392	463	498	475	474	473	442	449
1940	440	450	460	434	466	484	488	500	488	461	434	450
1941	442	441	467	473	422	495	493	458	436	494	455	433
1942	431	436	493	456	457	483	463	499	494	459	449	435
1943	444	446	500	449	446	471	512	488	487	475	458	435
1944	448	456	456	416	542	492	506	487	457	484	462	464
1945	444	429	431	428	427	487	500	474	464	474	437	447
1946	432	448	459	436	440	511	513	471	493	462	447	481
1947	*4462	*455	*488	*475	*468	*457	*494	*489	*488	*440	*469	*465
1948	*443	*441	*446	*464	*454	*452	*502	*507	*469	*462	*447	*438
1949	451	644	493	468	450	479	516	508	485	467	451	453
1950	502	453	447	530	443	443	490	493	459	467	469	452

* Revised; previously published figures were computed on basis of obsolete level storage table.
 a Contents by backwater profile capacity table used beginning Oct. 1, 1946; contents Oct. 31, 1946, by level storage capacity table used prior to Oct. 1, 1946, is 453,000 cfs-days.

277. Paint Rock River near Woodville, Ala.

Location.--Lat 34°37'27", long. 86°18'23", in NW¹ sec. 10, T. 5 S., R. 3 E., 20 ft down-stream from bridge on U. S. Highway 72, 1,000 ft downstream from Southern Railway bridge, 2 miles west of Woodville, 4.1 miles (revised) upstream from Little Paint Creek, and at mile 26.6.

Drainage area.--320 sq mi.

Gage.--Water-stage recorder. Datum of gage is 570.95 ft above mean sea level, datum of 1929. Dec. 23, 1935, to Jan. 16, 1938, staff gage, and Jan. 17, 1938, to July 24, 1940, water-stage recorder at site 20 ft upstream from present site, at same datum.

Average discharge.--14 years (1936-50), 630 cfs.

Extremes.--1935-50: Maximum discharge, 31,300 cfs Dec. 28, 1942; maximum gage height, 20.84 ft Jan. 5, 1949; minimum discharge, 3.4 cfs Nov. 7, 1944.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1936	-	-	-	1,530	1,613	1,667	1,689	78.5	26.8	737	46.9	23.8	-
1937	35.6	74.4	657	3,015	1,189	722	720	1,293	84.3	30.9	29.0	35.9	658
1938	29.9	54.5	230	699	427	1,250	1,989	341	582	381	507	39.7	542
1939	16.3	218	156	910	3,941	1,708	954	196	389	192	226	42.7	723
1940	17.3	13.3	37.2	160	1,399	1,346	894	330	70.6	455	55.7	33.0	397
1941	21.3	144	274	814	246	786	663	69.4	32.8	184	73.7	12.9	278
1942	9.42	21.8	198	330	1,000	1,034	274	248	94.5	32.4	266	63.0	294
1943	20.6	54.8	367	610	1,068	1,478	934	201	77.9	41.9	52.0	180	591
1944	26.8	39.8	145	535	2,319	2,081	1,175	303	49.4	18.0	10.4	12.6	553
1945	8.85	10.0	337	844	2,263	1,114	574	805	143	48.3	59.5	31.6	509
1946	32.8	418	2,287	2,422	2,507	1,366	947	1,054	690	192	66.0	364	936
1947	84.8	1,104	750	2,845	768	1,038	842	234	177	87.6	41.9	18.2	666
1948	114	188	292	305	3,247	1,969	1,545	179	70.8	56.3	49.5	12.6	649
1949	8.66	512	1,532	3,519	1,857	1,237	1,197	875	871	546	104	63.9	1,106
1950	161	329	887	2,587	2,128	1,966	312	302	265	856	315	903	913

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1936	-	-	-	5.51	5.44	6.01	5.89	0.28	0.09	2.65	0.17	0.08	-
1937	0.13	0.26	2.37	10.86	3.87	2.60	2.51	4.66	.29	.11	.10	.13	27.89
1938	.11	.12	.83	2.52	1.39	4.50	6.93	1.23	2.03	1.37	1.83	.14	23.00
1939	.06	.76	.56	3.28	12.83	6.16	3.52	.71	1.36	.89	.81	.15	30.69
1940	.06	.05	.13	.57	4.71	4.85	3.12	1.19	.25	1.64	.20	.12	16.89
1941	.08	.50	.99	2.93	.80	2.83	2.31	.25	.11	.66	.27	.04	11.77
1942	.03	.08	.71	1.19	3.25	3.73	.96	.89	.33	.12	.96	.22	12.47
1943	.07	.19	8.53	2.20	3.54	5.32	3.26	.72	.27	.15	.19	.63	25.07
1944	.10	.14	.52	1.93	7.82	7.50	4.10	1.09	.17	.06	.04	.04	23.51
1945	.03	.03	1.21	3.04	7.37	4.01	2.00	2.90	.50	.17	.21	.11	21.58
1946	.12	1.46	4.64	8.73	8.16	4.92	3.30	3.80	2.41	.69	.24	1.27	39.74
1947	.31	3.85	2.70	10.25	2.50	3.74	2.93	.84	.62	.32	.15	.06	28.27
1948	.04	.66	1.05	1.10	10.94	7.09	5.39	.64	.25	.20	.18	.04	27.58
1949	.03	5.27	5.52	12.68	6.04	4.46	4.17	3.15	3.04	1.97	.37	.22	46.92
1950	.58	1.15	3.20	9.32	6.92	7.08	1.09	1.09	.92	3.08	1.14	3.15	38.72

Yearly discharge, in cubic feet per second, of Paint Rock River near Woodville, Ala.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1936	853	19,600	Feb. 4, 1936	-	-	-	-	879	28.88
1937	853	16,400	Jan. 5, 1937	10	658	2.08	27.89	617	26.19
1938	853	11,300	Apr. 9, 1938	11	542	1.69	23.00	550	23.32
1939	875	29,200	Feb. 4, 1939	10	723	2.26	30.69	697	29.55
1940	893	7,920	Feb. 19, 1940	10	397	1.24	16.89	428	18.22
1941	923	6,260	Mar. 8, 1941	7.2	278	.869	11.77	260	11.02
1942	953	4,570	Mar. 22, 1942	5.7	294	.919	12.47	482	20.44
1943	973	31,300	Dec. 28, 1942	12	591	1.85	25.07	402	1.04
1944	1003	14,600	Mar. 29, 1944	7.9	553	1.73	23.51	565	24.02
1945	1033	13,200	Feb. 18, 1945	4.5	509	1.59	21.58	625	26.53
1946	1053	16,400	Jan. 9, 1946	20	936	2.92	39.74	952	40.38
1947	1083	9,120	Jan. 21, 1947	9.1	666	2.08	28.27	546	23.16
1948	1113	23,600	Feb. 13, 1948	7.6	649	2.03	27.58	862	36.65
1949	1143	28,700	Jan. 5, 1949	7.6	1,106	3.46	46.92	967	41.03
1950	1173	19,400	Jan. 7, 1950	16	913	2.85	38.72	-	-

278. Flint River near Chase, Ala.

Location.--Lat 34°49'08", long. 86°28'52", in SW¹ sec. 36, T. 2 S., R. 1 E., 250 ft downstream from Nashville, Chattanooga & St. Louis Railway bridge, a quarter of a mile downstream from new highway bridge, a third of a mile downstream from Brier Fork, 5 miles northeast of Chase, and at mile 35.9.

Drainage area.--342 sq mi.

Gage.--Water-stage recorder. Datum of gage is 640.37 ft above mean sea level, datum of 1929. Prior to May 18, 1934, staff gage at railway bridge 250 ft upstream at same datum.

Average discharge.--21 years (1929-50), 518 cfs.

Extremes.--1929-50: Maximum discharge, 37,700 cfs Jan. 5, 1949 (gage height, 23.61 ft); minimum, 44 cfs Sept. 20, 27, 30, 1931; minimum gage height, 0.85 ft Sept. 20, 1941, July 25, 1942.

Flood of September 1929 reached a stage of 25.0 ft (revised) from floodmarks (discharge, 42,000 cfs, revised, from rating curve extended above 27,000 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1930	#250	#1,420	#615	#545	#1,000	#1,310	#505	#389	191	108	107	98.9	#541
1931	98.5	138	163	214	341	458	634	174	91.5	154	86.8	67.3	217
1932	73.7	92.2	848	1,270	1,620	531	569	327	131	411	423	129	533
1933	817	589	1,610	894	1,680	876	897	1,360	190	275	263	145	796
1934	106	132	230	485	337	1,810	472	384	320	168	257	137	405
1935	144	165	173	407	718	1,612	923	524	293	124	117	102	441
1936	121	378	266	985	968	1,257	1,463	174	97.9	1,113	128	108	587
1937	155	273	702	2,544	1,123	574	531	671	159	112	131	151	593
1938	193	140	295	682	439	657	1,150	689	561	444	351	146	479
1939	95.1	296	196	869	3,319	1,621	810	220	421	353	182	101	689
1940	90.9	96.4	122	151	951	1,171	654	273	130	427	124	92.7	355
1941	92.5	167	213	648	284	482	396	126	96.4	428	196	79.8	268
1942	75.2	98.6	168	233	778	707	293	169	95.1	76.5	230	120	250
1943	82.5	115	1,101	418	730	730	506	167	173	158	210	284	388
1944	97.0	121	160	485	1,724	1,909	888	355	160	96.7	86.3	89.2	510
1945	74.1	84.5	277	624	1,733	1,001	622	523	203	101	108	75.3	444
1946	80.4	216	700	2,004	2,048	1,030	628	689	610	243	149	207	710
1947	154	632	427	2,188	616	737	494	275	174	151	94.8	81.0	503
1948	82.3	204	272	246	2,128	1,552	1,006	289	139	240	224	95.8	531
1949	87.7	132	1,238	3,359	1,502	1,048	999	675	944	360	153	133	988
1950	118	138	333	2,205	1,658	1,389	355	273	156	503	409	637	677

* Not previously published; estimated on the basis of records for Elk River at Estill Springs.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1930	#0.84	#4.63	#2.07	#1.84	#3.04	#4.42	#1.65	#1.31	0.62	0.37	0.36	0.32	#21.47
1931	.33	.45	.55	.72	1.04	1.54	2.07	.59	.30	.52	.29	.22	8.62
1932	.25	.30	2.86	4.28	5.11	1.79	1.86	1.10	.43	1.39	1.43	.42	21.22
1933	2.75	1.92	5.42	3.01	5.10	2.95	2.93	4.59	.62	.93	.89	.47	31.58
1934	.36	.43	.78	1.63	1.03	6.10	1.54	1.29	1.04	.57	.87	.45	16.09
1935	.49	.54	.58	1.37	2.19	5.43	3.01	1.77	.96	.42	.40	.33	17.49
1936	.41	1.23	.90	3.32	3.05	4.24	4.77	.59	.32	3.75	.43	.35	23.36
1937	.52	.89	2.36	8.58	3.41	1.94	1.73	2.26	.52	.38	.44	.49	23.52
1938	.65	.46	.99	2.30	1.34	2.22	3.75	2.32	1.83	1.50	1.18	.48	19.02
1939	.32	.96	.66	2.93	10.10	5.47	2.64	.74	1.37	1.19	.62	.33	27.33
1940	.31	.31	.41	.51	3.00	3.95	2.13	.92	.42	1.44	.42	.30	14.12

* Not previously published; estimated on the basis of records for Elk River at Estill Springs.

Monthly and yearly runoff, in inches, of Flint River near Chase, Ala.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1941	0.31	0.55	0.72	2.19	0.87	1.62	1.29	0.43	0.31	1.44	0.66	0.26	10.65
1942	.25	.29	.57	.79	2.37	2.38	.95	.57	.31	.28	.78	.39	9.91
1943	.28	.37	3.71	1.41	2.22	2.46	1.65	.56	.57	.53	.71	.93	15.40
1944	.33	.40	.54	1.63	5.44	6.44	2.90	1.20	.52	.33	.29	.29	20.31
1945	.25	.28	.93	2.10	5.28	3.37	2.03	1.76	.66	.34	.56	.25	17.61
1946	.27	.71	2.36	6.75	6.23	3.47	2.05	2.32	1.99	.82	.50	.68	28.15
1947	.52	2.06	1.44	7.38	1.88	2.48	1.61	.93	.57	.51	.32	.26	19.96
1948	.28	.67	.92	.83	6.71	5.23	3.28	.91	.45	.81	.76	.31	21.16
1949	.30	3.69	4.17	11.32	4.57	3.53	3.26	2.28	3.08	1.28	.51	.43	38.43
1950	.40	.45	1.12	7.43	5.05	4.68	1.16	.92	.51	1.70	1.38	2.08	26.88

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1930	698	-	-	-	#541	#1.58	#21.47	#385	#15.26
1931	713	4,120	Apr. 4, 1931	47	217	.635	8.62	269	10.70
1932	728	7,540	Aug. 18, 1932	60	533	1.56	21.22	701	27.90
1933	743	14,200	May 10, 1933	91	796	2.33	31.58	581	23.08
1934	758	*20,500	Mar. 2, 1934	81	405	1.18	16.09	406	16.13
1935	783	14,500	Mar. 12, 1935	70	441	1.29	17.49	464	18.42
1936	803	22,000	July 4, 1936	66	587	1.72	23.36	618	†24.59
1937	823	13,000	Jan. 2, 1937	84	593	1.73	23.52	551	21.85
1938	853	7,680	July 21, 1938	88	479	1.40	19.02	475	18.86
1939	873	21,400	Feb. 3, 1939	88	689	2.01	27.33	666	26.42
1940	893	3,870	Mar. 14, 1940	82	355	1.04	14.12	368	14.67
1941	923	3,780	Jan. 2, 1941	64	268	.784	10.65	256	10.18
1942	953	4,150	Feb. 17, 1942	62	250	.731	9.91	331	13.16
1943	973	12,800	Dec. 28, 1942	71	388	1.13	15.40	310	12.31
1944	1003	18,500	Mar. 29, 1944	70	510	1.49	20.31	515	20.50
1945	1033	14,500	Feb. 17, 1945	68	444	1.30	17.61	491	19.49
1946	1053	20,000	Jan. 8, 1946	70	710	2.08	28.15	727	28.83
1947	1083	7,950	Jan. 20, 1947	71	503	1.47	19.96	448	17.81
1948	1113	19,800	Feb. 13, 1948	73	531	1.55	21.16	690	27.45
1949	1143	37,700	Jan. 5, 1949	82	868	2.83	38.43	812	32.23
1950	1173	13,200	Jan. 6, 1950	96	677	1.98	26.88	-	-

* Revised.

† Corrected.

* Not previously published.

279. Tennessee River at Whitesburg, Ala.1/

Location.--Lat 34°34'27", long. 86°32'42", in NE $\frac{1}{4}$ sec. 30, T. 5 S., R. 1 E., at Whitesburg, a quarter of a mile upstream from Aldridge Creek, a third of a mile upstream from Clement C. Clay Bridge on State Highway 38, $5\frac{1}{2}$ miles downstream from Flint River, 11 miles south of Huntsville, 15 $\frac{1}{2}$ miles downstream from Guntersville Dam, 58 $\frac{1}{2}$ miles upstream from Wheeler Dam, and at mile 333.3.

Drainage area.--25,610 sq mi, approximately. At site used prior to 1937, 26,900 sq mi, approximately.

Supplemental records available.--Gage-height records collected in this vicinity since 1875 (fragmentary prior to Apr. 9, 1909) are contained in files of Corps of Engineers and in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 549.00 ft above mean sea level, datum of 1929. Oct. 1, 1924, to Dec. 2, 1926, and Dec. 19, 1926, to Jan. 11, 1927, staff gage on railroad bridge 28.8 miles downstream, and Dec. 3, 1926, to Sept. 30, 1936, water-stage recorder at site 28.3 miles downstream at datum 14.70 ft lower. Since Mar. 4, 1937, auxiliary water-stage recorder, 28.3 miles downstream at datum 14.70 ft lower.

Average discharge.--26 years (1924-50), 42,450 cfs.

Extremes.--1924-50: Maximum discharge, 283,000 cfs Jan. 1, 1927 (gage height, 23.2 ft, site and datum then in use); minimum daily (revised), 1,190 cfs July 21, 1939. Maximum stage known, 31.4 ft, present site and datum, in March 1867, from high-water profile by Corps of Engineers.

Remarks.--Since 1936 flow regulated by increasing number of reservoirs above station.

1/ Published as "at Decatur" prior to 1937.

Monthly and yearly mean discharge, in cubic feet per second, of Tennessee River at Whitesburg, Ala.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	18,800	11,000	36,000	79,400	47,900	34,800	24,800	28,600	12,000	12,100	5,040	4,040	26,200
1926	19,200	41,500	30,600	53,700	55,500	52,900	50,600	26,900	20,600	14,300	31,800	17,900	34,500
1927	10,600	30,300	89,300	85,500	93,700	104,000	69,000	31,300	52,200	22,400	23,000	12,800	52,600
1928	9,570	19,000	51,500	51,900	47,000	60,400	94,700	84,100	78,700	64,200	40,700	57,000	55,200
1929	31,400	39,400	27,600	65,900	61,700	78,000	64,900	18,000	45,600	58,900	20,500	25,700	60,000
1930	33,900	11,000	46,400	45,500	59,900	79,500	41,100	36,800	18,400	11,300	9,490	10,500	41,800
1931	8,570	15,600	19,600	31,400	31,400	31,000	75,400	37,800	17,400	18,600	21,700	14,500	26,800
1932	7,360	8,180	62,800	63,300	54,000	57,600	68,800	54,600	25,400	33,400	18,200	10,100	46,600
1933	31,200	36,800	97,300	110,000	126,000	71,500	55,900	59,900	20,800	17,700	20,000	21,200	55,300
1934	9,749	9,264	12,700	38,810	16,430	28,700	58,150	25,550	29,550	22,010	28,120	16,220	33,100
1935	24,250	20,300	27,360	61,940	55,060	115,000	105,400	51,970	26,050	19,690	20,290	13,800	45,050
1936	7,828	26,730	25,330	116,800	98,960	76,160	146,400	25,280	15,010	23,210	15,960	16,710	49,240
1937	*23,400	*16,700	*35,800	*146,400	*96,000	*57,500	*38,580	*33,260	*21,490	*17,360	*22,310	*20,720	*45,600
1938	*27,320	*29,750	*31,310	*48,530	*41,510	*69,750	*80,690	*35,720	*47,740	*49,640	*46,760	*20,390	*44,020
1939	*18,670	*23,150	*24,450	*25,160	*50,800	*98,850	*51,660	*27,030	*23,100	*19,840	*18,110	*15,050	*40,570
1940	12,660	13,470	12,860	14,450	32,600	45,340	46,160	23,950	18,110	22,970	32,070	29,210	25,460
1941	21,200	22,290	*20,030	30,050	20,790	27,480	33,100	19,280	15,820	34,860	19,740	16,710	*23,490
1942	17,140	*15,890	*16,990	20,830	29,880	54,550	22,990	*16,490	19,560	22,590	40,880	31,590	*25,780
1943	27,610	30,670	74,540	92,560	81,510	53,640	47,060	34,490	25,700	27,840	26,770	28,050	45,720
1944	26,120	27,850	23,800	27,840	67,210	97,530	80,870	37,100	25,040	23,050	34,260	25,930	40,440
1945	27,280	29,930	39,320	52,940	77,160	60,230	55,350	46,590	24,470	27,930	21,590	27,730	40,160
1946	26,230	27,060	69,530	32,200	20,000	56,220	34,100	46,900	31,030	32,130	30,000	32,250	52,830
1947	33,530	44,280	41,950	30,600	59,450	54,910	30,180	28,610	23,080	22,130	20,000	21,640	42,530
1948	21,260	27,960	32,470	32,560	06,200	67,400	45,640	28,110	25,840	29,110	24,640	25,770	38,040
1949	25,700	51,670	98,060	28,900	79,920	48,610	40,420	39,390	30,560	49,710	39,170	41,990	56,130
1950	44,400	58,510	72,890	95,840	43,400	81,320	52,030	28,930	32,110	31,770	33,740	52,860	58,450

* Revised.

* Not previously published; estimated on the basis of records for stations at Guntersville, Paint Rock River near Woodville, and Flint River near Chase.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	0.81	0.46	1.54	3.40	1.85	1.49	1.03	1.23	0.50	0.52	0.22	0.17	13.22
1926	.82	1.72	1.31	2.30	2.15	2.27	2.10	1.15	.86	.61	1.36	.74	17.39
1927	.45	1.26	4.28	3.66	3.63	4.44	2.86	1.34	2.17	.96	.99	.53	26.55
1928	.41	.79	2.21	2.22	1.89	2.59	3.93	2.75	3.26	2.75	1.74	2.36	26.90
1929	1.35	1.64	1.18	2.62	2.39	7.64	2.69	5.07	1.89	1.67	.88	1.07	30.29
1930	1.45	4.55	2.07	1.95	2.32	3.40	1.70	1.58	.76	.48	.41	.44	21.11
1931	.37	.65	.85	1.35	1.21	1.33	3.13	1.62	.72	.80	.93	.60	13.56
1932	.32	.54	2.69	2.71	6.17	2.47	2.85	2.34	1.06	1.43	.78	.42	23.58
1933	1.34	1.53	4.17	4.71	4.86	3.06	2.32	2.57	.86	.76	.86	.88	27.92
1934	.42	.38	.54	1.66	.64	5.51	2.41	1.09	1.22	.94	1.21	.67	16.69
1935	1.04	.84	1.17	2.65	2.13	4.93	4.37	2.23	1.08	.84	.87	.57	22.72
1936	.34	1.11	1.09	5.01	3.97	-	-	-	-	-	-	-	24.91

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1925	623	134,000	Jan. 16, 1925	3,520	26,200	0.974	13.22	28,300	14.26
1926	623	114,000	Jan. 24, 1926	3,860	34,500	1.28	17.39	38,600	19.51
1927	643	283,000	Jan. 1, 1927	7,520	52,600	1.96	26.55	47,500	23.99
1928	663	170,000	Apr. 25, 1928	7,750	53,200	1.98	26.90	54,700	27.66
1929	683	231,000	Mar. 30, 1929	11,200	60,000	2.23	30.29	67,800	34.19
1930	698	210,000	Nov. 19, 1929	6,400	41,800	1.55	21.11	29,500	14.91
1931	713	127,000	Apr. 9, 1931	7,080	26,800	.996	13.56	29,800	15.04
1932	728	208,000	Feb. 5, 1932	6,600	46,600	1.73	23.58	53,900	27.27
1933	743	236,000	Jan. 4, 1933	11,900	55,300	2.06	27.92	44,000	22.22
1934	758	224,000	Mar. 6, 1934	7,620	33,100	1.23	16.69	36,490	18.40
1935	763	186,000	Mar. 17, 1935	9,520	45,050	1.67	22.72	44,010	22.21
1936	803	282,000	Apr. 3, 1936	6,480	49,240	1.83	24.91	*50,630	*25.93
1937	893	-	-	-	*45,600	*1.78	*24.17	*46,620	*24.71
1938	893,1436	153,000	Apr. 11, 1938	*10,600	*44,020	*1.72	*23.33	*42,160	*22.35
1939	893,1436	228,000	Feb. 18, 1939	*1,190	*40,570	*1.58	*21.50	*38,300	*20.30
1940	893	89,900	Feb. 20, 1940	6,100	25,460	.994	13.53	*27,500	14.61
1941	923,1436	67,200	Apr. 8, 1941	6,210	*23,490	*.917	*12.45	*22,360	*11.85
1942	953,1436	111,000	Mar. 22, 1942	*2,400	*25,780	1.01	*13.67	*32,780	*17.37
1943	973	249,000	Dec. 31, 1942	11,000	45,720	1.79	24.23	41,050	21.76
1944	1003	225,000	Mar. 30, 1944	8,400	40,440	1.58	21.49	42,020	22.34
1945	1033	149,000	Feb. 20, 1945	11,100	40,160	1.57	21.29	42,410	22.48
1946	1053	277,000	Jan. 9, 1946	10,500	52,830	2.06	28.00	52,520	27.84
1947	1083	243,000	Jan. 22, 1947	1,200	42,530	1.66	22.54	39,340	20.85
1948	1113	269,000	Feb. 15, 1948	2,960	58,040	1.49	20.22	45,910	24.40
1949	1143	272,000	Jan. 6, 1949	11,800	56,150	2.19	29.76	56,160	29.77
1950	1173	213,000	Mar. 15, 1950	7,600	58,450	2.28	30.98	-	-

* Revised.

* Not previously published.

Note.--Monthly figures of discharge, in cubic feet per second per square mile, and runoff, in inches, for the period March to September 1936, published in WSP 803, may be subject to appreciable error because of storage in Norris Lake. These figures are not published herein and should not be used.

TENNESSEE RIVER BASIN

280. Huntsville Spring at Huntsville, Ala.

Location.--Lat 34°43'46", long. 86°35'12" in SW $\frac{1}{4}$ sec. 36, T. 3 S., R. 1 W., just above weir at city pumping plant in Huntsville.

Gage.--Water-stage recorder. Altitude of gage is 620 ft (from topographic map).

Extremes.--1928-32: Maximum daily discharge, 45 cfs Mar. 23, 24, 1929 (gage height, 2.62 ft); minimum daily, 3.2 cfs Nov. 27, 28, 1931.

Remarks.--Water supply for city of Huntsville diverted just above gage; this flow is included in daily discharge.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1929	-	-	17.2	19.3	26.3	38.4	34.4	31.3	26.5	18.1	13.6	14.9	-
1930	19.8	32.0	34.8	32.5	28.9	32.9	32.6	24.2	21.0	13.2	10.7	9.36	24.3
1931	8.52	7.15	8.15	12.4	16.5	22.4	25.9	19.1	13.2	10.4	7.02	5.93	13.0
1932	5.7	4.6	17.0	24.6	33.8	29.2	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Maximum daily		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1929	683	45	Mar. 23, 24, 1929	-	-	-	-	25.8	-
1930	698	38	Nov. 16-18, Apr. 14	7.9	24.3	-	-	19.0	-
1931	713	29.9	Apr. 6-10, 1931	5.4	13.0	-	-	13.3	-
1932	728	-	-	a3.2	-	-	-	-	-

a Minimum during period October to March.

281. Elk River at Estill Springs, Tenn.

Location.--Lat 35°15'30", long. 86°07'17", on old bridge pier, 250 ft upstream from bridge on U. S. Highway 41A, 400 ft downstream from Nashville, Chattanooga & St. Louis Railway bridge, three-quarters of a mile southeast of Estill Springs, Franklin County, 1.0 mile upstream from Taylor Creek, 1.4 miles upstream from Rock Creek, and at mile 163.2.

Drainage area.--282 sq mi.

Gage.--Water-stage recorder. Datum of gage is 859.10 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1926, staff gage at site 100 ft downstream at same datum.

Average discharge.--30 years (1920-50), 476 cfs.

Extremes.--1920-50: Maximum discharge, 22,900 cfs Mar. 23, 1929 (gage height, 20.2 ft), from rating curve extended above 18,000 cfs; minimum, 10 cfs Oct. 9, 10, 1925; minimum gage height, 0.4 ft on several days in September, October, November, 1924, and October 1925.

Remarks.--Prior to August 1949, diurnal fluctuation caused by powerplant upstream.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	*92.0	*88.0	*415	484	1,200	468	802	244	100	157	348	143	*373
1922	180	749	475	1,010	843	2,080	1,290	790	534	143	128	72.5	690
1923	46.9	53.7	1,000	793	1,540	1,280	702	567	306	228	285	150	574
1924	63.2	90.3	749	1,110	945	833	698	759	286	209	121	54.9	493
1925	*39.8	*36.9	*96.3	400	458	289	411	254	121	*96.4	*40.3	*46.8	189
1926	117	530	355	506	484	387	370	240	373	137	526	221	352
1927	74.5	307	2,510	824	1,490	1,230	1,800	226	106	87.7	111	53.9	711
1928	28.8	202	752	737	463	942	1,400	462	910	297	115	314	553
1929	573	636	303	986	891	2,580	810	1,060	322	207	107	204	699
1930	219	1,270	545	476	892	1,170	442	454	147	71.2	52.6	55.9	480
1931	*52.6	*56.4	137	213	326	316	439	204	*68.1	*64.4	*58.6	*53.0	165
1932	44.0	44.8	879	947	1,610	434	824	533	128	445	93.5	52.5	500
1933	256	326	1,100	850	1,590	726	751	885	128	222	148	106	583
1934	53.3	52.0	103	402	191	2,054	459	200	292	144	133	89.9	350
1935	84.3	121	116	334	678	1,222	1,036	348	283	129	94.7	54.3	373
1936	47.1	146	225	819	736	1,269	1,117	149	67.0	235	62.0	51.9	409
1937	69.0	125	544	2,232	858	532	447	914	164	88.1	151	103	519
1938	139	79.7	312	798	551	718	1,147	689	753	657	399	122	530
1939	66.0	147	219	695	2,690	1,354	888	275	476	265	139	64.1	592
1940	55.0	59.4	46.2	57.4	773	1,170	654	307	158	262	116	79.1	308
1941	52.5	84.9	133	400	212	502	532	99.5	65.0	173	180	83.9	210
1942	57.9	69.9	242	232	752	686	264	277	198	100	405	143	283
1943	60.5	112	1,474	674	925	779	675	217	95.6	141	123	81.3	445
1944	54.2	59.6	93.7	374	1,333	1,521	942	294	108	62.0	61.8	63.2	410
1945	62.1	54.1	264	825	1,346	902	591	1,208	197	143	213	74.9	486
1946	63.8	342	1,050	1,926	1,544	738	546	624	647	185	86.9	153	652
1947	121	500	465	2,095	637	723	446	228	210	139	87.9	68.3	477
1948	59.7	82.4	183	192	2,125	1,333	1,012	171	87.5	97.4	112	64.3	452
1949	57.7	679	1,135	2,457	1,142	812	760	439	234	735	168	92.5	726
1950	150	258	541	2,721	1,608	1,318	353	364	174	229	218	613	709

† Corrected.

* Not previously published; estimated on the basis of records for Collins River near Rowland.

Monthly and yearly runoff, in inches, of Elk River at Estill Springs, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	*0.38	*0.35	*1.70	1.98	4.44	1.91	3.17	1.00	0.59	0.64	1.42	0.57	*17.95
1922	.74	2.96	1.94	4.12	3.11	8.52	5.10	3.23	2.11	.58	.53	.29	33.23
1923	.19	.21	4.11	3.24	5.67	5.22	2.78	2.32	1.21	.93	1.16	.60	27.64
1924	.26	.56	3.06	4.52	3.61	3.40	2.76	3.10	1.13	.86	.49	.22	23.77
1925	.16	.15	.39	1.63	1.69	1.18	1.63	1.04	.46	.39	.16	.19	9.09
1926	.48	2.10	1.45	2.07	1.79	1.58	1.46	.98	1.47	.56	2.15	.87	16.96
1927	.30	1.22	10.25	3.37	5.51	5.02	7.14	.92	.42	.36	.45	.21	35.17
1928	.24	.90	3.08	3.01	1.77	3.85	5.53	1.89	3.60	1.21	.47	1.24	26.69
1929	1.12	2.51	1.24	4.03	3.29	10.57	3.21	4.32	1.28	.85	.44	.81	33.67
1930	.90	5.04	2.23	1.95	3.29	4.80	1.75	1.86	.58	.29	.22	.22	23.13
1931	.22	.22	.56	.87	1.21	1.29	1.74	.83	.27	.26	.24	.21	7.92
1932	.18	.18	3.60	3.87	6.16	1.77	3.26	2.18	.51	1.81	.38	.21	24.11
1933	1.05	1.29	4.49	3.47	5.87	2.97	2.89	3.62	.50	.91	.60	.42	28.08
1934	.22	.21	.42	1.64	.70	8.40	1.82	.82	1.16	.59	.54	.36	16.88
1935	.34	.48	.48	1.36	2.50	5.00	4.10	1.42	1.12	.53	.39	.21	17.93
1936	.19	.58	.92	3.35	2.82	5.19	4.42	.61	.27	.96	.25	.21	19.77
1937	.28	.49	*2.22	*9.13	*3.17	*2.17	1.77	3.74	.65	.36	.62	.41	25.01
1938	.57	.32	1.27	3.26	2.04	2.93	4.54	2.82	2.98	2.69	1.63	.48	25.53
1939	.27	.58	.90	2.84	9.93	5.54	3.52	1.12	1.88	1.09	.57	.25	28.49
1940	.22	.24	.19	.23	2.96	4.78	2.59	1.26	.55	1.07	.47	.31	14.87
1941	.21	.34	.54	1.64	.78	2.05	2.11	.41	.26	.71	.74	.33	10.12
1942	.24	.28	.99	.95	2.78	2.81	1.04	1.13	.78	.41	1.65	.57	13.63
1943	.25	.44	6.03	2.76	3.42	3.19	2.67	.89	.58	.58	.50	.32	21.43
1944	.22	.24	.38	1.53	5.10	6.22	3.73	1.20	.43	.25	.25	.25	19.80
1945	.25	.21	1.08	3.37	4.97	3.69	2.34	4.94	.78	.59	.87	.30	23.39
1946	.26	1.35	4.29	7.87	5.70	3.02	2.16	2.55	2.56	.68	.36	.60	31.40
1947	.49	1.98	1.90	8.56	2.35	2.95	1.77	.93	.83	.57	.36	.27	22.96
1948	.24	.33	.75	.79	8.12	5.45	4.00	.70	.35	.40	.46	.25	21.84
1949	.24	2.68	4.84	10.05	4.22	3.32	3.01	1.80	.93	3.00	.69	.37	34.95
1950	.61	1.02	2.21	11.12	5.93	5.39	1.40	1.49	.69	.94	.89	2.43	34.12

† Corrected.

* Not previously published; estimated on the basis of records for Collins River near Rowland.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1921	523	8,000	Feb. 10, 1921	-	*373	*1.32	*17.95	440
1922	543	*12,400	Mar. 2, 1922	48	690	2.45	33.23	667
1923	563	5,320	Feb. 4, 1923	25	574	2.04	27.64	557
1924	583	4,120	Feb. 27, 1924	12	493	1.75	23.77	471
1925	603	2,490	Apr. 28, 1925	12	189	.670	9.09	258
1926	623	2,510	Nov. 9, 1925	11	352	1.25	16.96	513
1927	643	14,800	Dec. 26, 1926	46	731	2.59	35.17	572
1928	663	8,060	Apr. 23, 1928	25	553	1.96	26.69	569
1929	683	22,900	Mar. 23, 1929	50	699	2.48	33.67	768
1930	698	4,930	Nov. 16, 1929	44	460	1.70	23.13	331
1931	713	1,560	Mar. 29, 1931	47	165	.585	7.92	226
1932	728	4,100	Apr. 26, 1932	43	500	1.77	24.11	559
1933	743	8,960	Feb. 15, 1933	58	583	2.07	28.08	459
1934	803	11,500	Mar. 3, 1934	50	350	1.24	16.88	360
1935	803	6,240	Mar. 13, 1935	47	373	1.32	17.93	381
1936	803	5,260	Mar. 25, 1936	46	409	1.45	19.77	436
1937	823	7,050	Jan. 3, 1937	50	519	1.84	25.01	502
1938	853	4,280	Apr. 23, 1938	55	530	1.88	25.53	522
1939	873	13,500	Feb. 4, 1939	†50	592	2.10	28.49	569
1940	893	3,000	Mar. 14, 1940	41	308	1.09	14.87	317
1941	923	3,480	Apr. 5, 1941	49	210	.745	10.12	219
1942	953	2,520	Mar. 17, 1942	51	283	1.00	13.63	391
1943	973	14,400	Dec. 29, 1942	55	445	1.58	21.43	323
1944	1003	8,440	Mar. 29, 1944	49	410	1.45	19.80	425
1945	1033	8,280	May 13, 1945	49	466	1.72	23.39	576
1946	1053	15,200	Jan. 8, 1946	57	652	2.31	31.40	620
1947	1083	5,800	Jan. 20, 1947	60	477	1.69	22.96	413
1948	1113	16,400	Feb. 13, 1948	55	452	1.60	21.84	582
1949	1143	18,500	Jan. 6, 1949	44	726	2.57	34.95	649
1950	1173	10,800	Jan. 20, 1950	70	709	2.51	34.12	-

* Revised.

† Corrected.

* Not previously published.

282. Boiling Fork Creek at Cowan, Tenn.

Location.--Lat 35°09'28", long. 86°00'57", at county highway bridge 2 blocks south of city water standpipe in Cowan, Franklin County.

Drainage area.--20.2 sq mi (revised).

Gage.--Staff gage. Altitude of gage is 932 ft (from topographic map).

Extremes.--August and September, 1932: Maximum discharge observed, 351 cfs Aug. 18 (gage height, 3.50 ft); minimum, 1.0 cfs Sept. 17, 30 (gage height, 0.96 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	-	14.6	1.66	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	-	0.83	0.09	-

283. Boiling Fork Creek at Winchester, Tenn.

Location (revised).--Lat 35°11'55", long. 86°07'29", at bridge on State Highway 130 (formerly State Highway 16), 1.1 miles northwest of Winchester, Franklin County, and 3 miles upstream from mouth.

Drainage area.--77.1 sq mi (revised).

Gage.--Staff gage. Altitude of gage is 840 ft (from topographic map).

Extremes.--1932-34: Maximum discharge observed, 4,880 cfs Mar. 2, 1934 (gage height, 9.70 ft), from rating curve extended above 1,500 cfs; minimum, 11 cfs Oct. 9, Nov. 14, 17, 20, 27, Dec. 2, 1933.

Maximum stage known, 12.3 ft Mar. 23, 1929, from floodmarks (discharge not determined).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	182	82.8	25.6	-
1933	134	133	613	278	575	284	286	305	67.4	84.7	48.8	26.4	235
1934	13.9	15.3	32.4	122	63.4	713	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	2.72	0.94	0.37	-
1933	2.00	1.93	9.17	4.16	7.77	4.25	4.14	4.56	0.98	1.27	.73	.38	41.34
1934	.21	.22	.48	1.82	.86	10.66	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1932	728	-	-	-	-	-	-	-	-
1933	743	4,280	May 10, 1933	16	235	3.05	41.34	166	29.15
1934	758	4,880	Mar. 2, 1934	-	-	-	-	-	-

a Maximum observed during period October to March.

284. East Fork Mulberry Creek at Lynchburg, Tenn.

Location.--Lat 35°16'53", long. 86°22'21" at highway bridge one block southeast of courthouse in Lynchburg, Moore County.

Drainage area.--23.1 sq mi.

Gage.--Staff gage. Altitude of gage is 775 ft (from topographic map).

Extremes.--June to September 1932: Maximum gage height during period, 8.5 ft Aug. 14 (discharge not determined); minimum discharge, 3.0 cfs several days in August and September 1932 (gage height 0.80 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	45.1	35.0	8.19	-

Monthly and yearly runoff, in inches, of East Fork Mulberry Creek at Lynchburg, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	2.25	1.75	0.40	-

285. Elk River above Fayetteville, Tenn.

Location.--Lat 35°08'04" long.86°32'23", 100 ft downstream from Eldad Bridge, 1½ miles southeast of Fayetteville, Lincoln County, 4 miles upstream from Norris Creek, and at mile 93.9.

Drainage area.--827 sq mi.

Gage.--Water-stage recorder. Datum of gage is 650.58 ft above mean sea level, datum of 1929.

Average discharge.--16 years (1934-50), 1,378 cfs.

Extremes.--1934-50: Maximum discharge, 35,500 cfs Jan. 5, 1949 (gage height, 27.14 ft); minimum, 128 cfs Oct. 14, 1935; minimum gage height, 1.02 ft Oct. 27, 1941.

Remarks.--Prior to August 1949, diurnal fluctuation caused by powerplant upstream.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	-	-	-	-	-	-	316
1935	298	291	308	892	1,863	3,767	2,965	977	718	279	265	174	1,060
1936	161	526	631	2,471	2,143	3,316	3,223	479	210	1,867	269	182	1,288
1937	301	560	1,525	7,182	2,732	1,578	1,405	2,391	615	518	672	390	1,640
1938	524	286	339	2,166	1,471	1,805	3,257	1,792	1,543	1,427	921	338	1,373
1939	217	791	693	2,100	8,059	4,227	2,327	702	855	723	418	241	1,756
1940	190	186	232	265	2,182	3,146	1,753	772	386	619	335	237	871
1941	175	315	412	1,219	621	1,327	1,585	310	215	919	382	206	625
1942	178	235	548	639	2,189	1,913	755	556	473	277	1,201	466	778
1943	215	341	3,668	1,965	2,455	2,099	1,886	704	347	393	345	446	1,234
1944	200	218	303	1,191	4,020	4,732	2,772	1,013	434	238	200	239	1,286
1945	200	183	615	2,027	4,093	2,545	1,369	2,568	554	336	433	227	1,264
1946	212	1,020	2,823	5,474	4,766	2,248	1,664	1,896	1,961	521	316	483	1,933
1947	386	1,524	1,473	5,861	1,866	2,178	1,324	620	645	573	262	233	1,414
1948	161	441	731	672	5,966	3,871	3,250	712	356	348	320	181	1,396
1949	173	1,836	3,501	7,503	3,497	2,382	2,084	1,428	1,251	1,619	500	328	2,156
1950	379	694	1,378	7,166	4,878	3,636	1,138	956	530	612	705	1,787	1,992

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	-	-	-	-	-	-	0.43
1935	0.42	0.39	0.43	1.24	2.35	5.25	4.00	1.36	0.97	0.39	0.37	0.37	17.40
1936	.23	.71	.88	3.44	2.79	4.62	4.35	.67	.28	2.60	.38	.25	21.20
1937	.42	.76	2.13	10.01	3.44	2.20	1.90	3.33	.83	.44	.94	.53	126.93
1938	.73	.39	1.31	3.05	1.85	2.52	4.39	2.50	2.08	1.99	1.28	.46	22.55
1939	.30	1.07	.97	2.93	10.15	5.89	3.14	.98	1.15	1.01	.58	.32	28.49
1940	.26	.25	.32	.37	2.85	4.39	2.36	1.08	.52	1.14	.47	.32	14.33
1941	.24	.43	.57	1.70	.78	1.85	1.87	.43	.29	1.28	.53	.28	10.25
1942	.25	.32	.76	.89	2.76	2.67	1.02	.78	.64	.39	1.87	.63	12.78
1943	.30	.46	5.11	2.74	3.09	2.93	2.54	.98	.47	.55	.48	.60	20.25
1944	.28	.29	.42	1.66	5.24	6.60	3.74	1.41	.59	.33	.28	.32	21.16
1945	.28	.25	1.14	2.83	5.15	3.55	1.85	3.58	.75	.47	.60	.31	20.76
1946	.30	1.38	3.94	7.63	6.00	3.13	2.24	2.64	2.65	.73	.44	.65	31.73
1947	.54	2.06	2.05	8.17	2.35	3.04	1.79	.86	.87	.80	.37	.31	23.21
1948	.22	.59	1.02	.94	7.78	5.40	4.38	.99	.48	.49	.45	.24	22.98
1949	.24	2.48	4.60	10.46	4.40	3.32	2.81	1.99	1.69	2.26	.70	.44	35.39
1950	.53	.94	1.92	9.99	6.14	5.07	1.53	1.33	.72	1.13	.98	2.41	32.69

† Corrected.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1934	758	-	-	-	-	-	-	-	-
1935	783	13,900	Mar. 14, 1935	134	1,060	1.28	17.40	1,095	17.98
1936	803	20,200	July 4, 1936	131	1,288	1.56	21.20	1,378	†22.69
1937	823	19,600	Jan. 2, 1937	150	1,640	1.98	126.93	1,587	26.04
1938	853	9,300	Apr. 25, 1938	217	1,373	1.66	22.55	1,368	22.46
1939	873	21,700	Feb. 15, 1939	194	1,736	2.10	28.49	1,645	26.98
1940	893	7,800	Mar. 14, 1940	165	871	1.05	14.33	895	14.74
1941	923	5,930	Apr. 6, 1941	149	625	.756	10.25	630	10.34
1942	953	7,960	Mar. 17, 1942	153	778	.941	12.78	1,055	17.32
1943	973	19,000	Dec. 30, 1942	179	1,234	1.49	20.25	937	15.37
1944	1003	22,700	Mar. 29, 1944	157	1,286	1.56	21.16	1,326	21.84
1945	1033	13,500	Feb. 22, 1945	154	1,264	1.53	20.76	1,504	24.71
1946	1053	24,000	Jan. 9, 1946	173	1,933	2.34	31.73	1,874	30.76
1947	1083	14,300	Jan. 20, 1947	155	1,414	1.71	23.21	1,243	20.39
1948	1113	29,200	Feb. 14, 1948	150	1,396	1.69	22.98	1,729	28.47
1949	1143	35,500	Jan. 5, 1949	158	2,156	2.61	35.39	1,916	31.46
1950	1173	16,800	Jan. 7, 1950	214	1,992	2.41	32.69	-	-

† Corrected.

286. Elk River near Fayetteville, Tenn.

Location.--Lat 35°08'10", long. 86°35'15", at old dam and powerhouse of Tennessee Electric Power Co., 2 miles southwest of Fayetteville, Lincoln County, and at mile 88.4.

Drainage area.--897 sq mi (revised).

Gage.--Water-stage recorder. Datum of gage is 637.67 ft above mean sea level, Tennessee River Survey Datum of 1912. Prior to Nov. 4, 1925, staff gage at same site and datum.

Average discharge.--9 years (1925-34), 1,587 cfs.

Extremes.--1925-34: Maximum discharge, 45,600 cfs Mar. 23, 1929 (gage height, 28.2 ft, from high-water mark); minimum, 40 cfs Oct. 15, 16, 1931 (gage height, 0.73 ft).

Remarks.--Prior to August 1943, diurnal fluctuation caused by powerplants upstream.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1926	#511	1,510	915	1,520	1,300	1,090	849	474	1,590	399	1,540	414	#1,010
1927	269	1,050	8,660	2,250	3,950	3,610	5,210	864	525	419	447	207	2,280
1928	213	689	1,810	1,800	1,340	2,900	4,200	1,620	2,820	910	452	672	1,620
1929	1,420	2,260	1,010	3,670	2,880	7,760	2,370	3,610	1,080	758	512	1,120	2,360
1930	718	4,310	1,760	1,300	2,480	3,470	1,130	1,750	540	311	273	210	1,510
1931	211	252	413	623	974	1,100	1,280	544	206	243	212	138	513
1932	115	138	2,760	2,920	4,890	1,280	2,170	1,340	440	1,310	732	248	1,520
1933	1,570	1,170	3,490	2,590	6,260	2,330	2,190	4,270	513	922	642	428	2,180
1934	195	246	607	1,491	714	7,503	1,442	707	1,153	549	458	345	1,294

* Not previously published; partly estimated on the basis of record for station near Elkmont, Ala.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1926	#0.66	1.88	1.18	1.95	1.51	1.40	1.06	0.61	1.97	0.51	1.98	0.51	#15.22
1927	.35	1.31	11.13	2.89	4.59	4.64	6.48	1.11	.65	.54	.57	.26	34.52
1928	.27	.86	2.33	2.31	1.62	3.73	5.22	2.08	3.51	1.17	.58	.84	24.52
1929	1.83	2.81	1.29	4.71	3.35	9.98	2.95	4.65	1.35	.97	.40	1.39	35.68
1930	.92	5.36	2.26	1.67	2.87	4.46	1.40	2.25	.67	.40	.35	.26	22.87
1931	.27	.31	.53	.80	1.13	1.41	1.59	.70	.26	.31	.27	.17	7.75
1932	.15	.17	3.55	3.75	5.87	1.64	2.69	1.72	.55	1.68	.94	.31	23.02
1933	2.02	1.45	4.49	3.32	7.26	3.00	2.72	5.49	.64	1.19	.82	.53	32.93
1934	.25	.31	.78	1.92	1.83	9.64	1.79	.91	1.43	.71	.59	.43	19.69

* Not previously published; partly estimated on the basis of record for station near Elkmont, Ala.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1926	623	9,220	Aug. 19, 1926	-	#1,010	#1.13	#15.22	1,610	24.29
1927	643	34,900	Dec. 28, 1926	152	2,280	2.54	34.52	1,660	25.19
1928	663	18,400	Apr. 24, 1928	168	1,620	1.81	24.52	1,780	26.99
1929	683	45,600	Mar. 23, 1929	178	2,360	2.63	35.68	2,530	38.29
1930	698	15,300	Mar. 7, 1930	155	1,510	1.68	22.87	1,020	15.44
1931	713	5,400	Mar. 28, 1931	78	513	.572	7.75	694	10.51
1932	728	13,300	Jan. 30, 1932	94	1,520	1.69	23.02	1,790	27.11
1933	743	25,300	Feb. 15, 1933	185	2,180	2.43	32.93	1,739	26.31
1934	758	29,200	Mar. 3, 1934	142	1,294	1.44	19.69	-	-

* Not previously published.

287. Richland Creek near Pulaski, Tenn.

Location.--Lat 35°12'51", long. 87°06'05", 1,200 ft (revised) upstream from bridge on U. S. Highway 64, 1 mile downstream from Weakly Creek, and 4 miles west of Pulaski, Giles County.

Drainage area.--366 sq mi.

Gage.--Water-stage recorder. Datum of gage is 642.54 ft above mean sea level, datum of 1929.

Average discharge.--16 years (1934-50), 590 cfs.

Extremes.--1934-50: Maximum discharge, 42,600 cfs (revised) Feb. 13, 1948 (gage height, 24.58 ft), from rating curve extended above 21,200 cfs on basis of contracted-opening determination of peak flow; minimum, 14 cfs (estimated) Sept. 17-19, 1936.

Monthly and yearly mean discharge, in cubic feet per second, of Richland Creek near Pulaski, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	-	126	317	125	77.3	97.1	-
1935	43.9	118	155	522	1,297	1,739	*1,157	242	312	103	52.5	38.9	*476
1936	99.6	480	191	852	610	1,223	1,664	114	42.5	*582	141	172	*513
1937	116	474	1,087	5,754	959	405	611	1,741	155	74.8	177	100	808
1938	292	117	427	1,242	542	632	961	264	*330	180	174	72.6	*436
1939	35.6	278	238	1,353	3,618	1,675	1,094	367	1,111	171	75.5	30.3	817
1940	33.1	47.1	71.3	75.3	768	1,127	1,154	321	85.5	208	73.2	29.0	330
1941	35.5	131	259	409	191	426	589	84.6	46.3	534	152	28.0	241
1942	33.9	108	283	495	956	854	482	105	92.4	69.5	237	67.5	311
1943	41.5	72.8	628	245	741	967	649	515	77.1	66.0	70.8	271	360
1944	50.3	78.9	*154	633	2,526	2,549	1,082	577	91.3	96.0	64.6	235	*671
1945	99.7	66.6	1,001	1,494	3,152	1,128	594	829	169	63.6	55.4	32.4	709
1946	38.5	616	1,338	2,437	2,312	1,346	540	313	126	134	88.6	122	776
1947	54.1	640	348	2,193	592	924	738	000	232	147	56.3	38.4	548
1948	31.4	76.7	163	251	*3,447	1,548	1,278	140	70.6	91.5	107	40.4	*591
1949	114	1,510	1,468	2,458	1,184	1,232	663	452	490	881	179	118	896
1950	198	166	578	4,126	2,949	1,286	365	490	235	208	340	562	949

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	-	0.40	0.97	0.39	0.24	0.30	-
1935	0.14	0.36	0.49	1.64	3.69	5.48	*3.53	.76	.95	.52	.17	.12	*17.65
1936	.31	1.46	.60	2.68	1.80	3.85	5.07	.36	.13	*1.83	.44	.52	*19.05
1937	.37	1.45	3.42	11.88	2.73	1.28	1.86	5.49	.47	.24	.56	.30	30.05
1938	.92	.36	1.34	3.91	1.54	1.99	2.93	.83	*1.01	.57	.55	.22	*16.17
1939	.11	.85	.75	4.26	10.29	5.28	3.33	1.15	3.39	.54	.24	.09	30.28
1940	.10	.14	.22	.24	2.26	3.55	3.52	1.01	.26	.66	.23	.09	12.28
1941	.11	.40	.81	1.29	.54	1.34	1.79	.27	.14	1.68	.48	.09	8.94
1942	.11	.33	.89	1.56	2.72	2.39	1.47	.33	.28	.22	.75	.21	13.56
1943	.13	.22	1.98	.77	2.11	3.05	1.98	1.62	.24	.21	.22	.83	13.36
1944	.16	.24	*.48	1.99	7.44	8.03	3.30	1.82	.28	.30	.20	.72	*24.96
1945	.31	.20	3.15	4.71	8.97	3.55	1.81	2.61	.51	.20	.17	.10	26.29
1946	.12	1.88	4.21	7.68	6.58	4.24	1.65	.99	.38	.42	.28	.37	28.80
1947	.17	1.95	1.10	6.91	1.68	2.91	2.25	1.89	.71	.46	.18	.12	20.33
1948	.10	.23	.51	.79	*10.16	4.87	3.90	.44	.22	.29	.34	.12	*21.97
1949	.36	4.60	4.63	7.74	3.37	3.88	2.02	1.42	1.49	2.77	.56	.36	33.20
1950	.62	.51	1.82	13.00	8.39	4.05	1.11	1.54	.72	.65	1.07	1.71	35.19

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1934	758	-	-	-	-	-	-	-	-	-	-
1935	783,1386	12,700	Mar. 12, 1935	18	*476	*1.30	*17.65	*513	*19.03		
1936	803,1386	16,700	Apr. 6, 1936	14	*513	*1.40	*19.05	*590	*21.92		
1937	823	25,400	Jan. 2, 1937	30	808	2.21	30.05	738	27.43		
1938	853,1386	6,850	Jan. 23, 1938	33	*436	*1.19	*16.17	*411	*15.26		
1939	873	21,900	Feb. 3, 1939	22	817	2.23	30.28	783	29.03		
1940	893	9,950	Apr. 19, 1940	17	330	.902	12.28	353	13.14		
1941	923	6,240	Apr. 4, 1941	16	241	.658	8.94	241	8.95		
1942	953	4,460	Jan. 1, 1942	16	311	.850	11.56	338	12.56		
1943	973	6,060	May 11, 1943	16	360	.984	13.36	321	*11.91		
1944	1003,1386	17,200	Mar. 29, 1944	27	*671	*1.83	*24.96	746	27.74		
1945	1033	*33,600	Feb. 22, 1945	20	709	1.94	26.29	778	28.84		
1946	1053	*28,000	Jan. 8, 1946	27	776	2.12	28.80	696	25.81		
1947	1083	13,800	Jan. 2, 1947	23	548	1.50	20.33	484	17.95		
1948	1113,1386	*42,600	Feb. 13, 1948	20	*531	*1.61	*21.97	*826	*30.72		
1949	1143	14,300	Nov. 29, 1948	45	896	2.45	33.20	717	26.56		
1950	1173	*21,600	Feb. 14, 1950	61	949	2.59	35.19	-	-		

* Revised.

288. Elk River near Prospect, Tenn.1/

Location (revised).--Lat 35°01'19", long. 86°56'52". 50 ft upstream from highway bridge, 1.1 miles downstream from Richland Creek, 3.2 miles east of Prospect, Giles County, 5.4 miles upstream from Ford Creek, 7.9 miles upstream from Tennessee-Alabama State line, and at mile 41.5.

Drainage area.--1,784 sq mi. At site used prior to Feb. 1, 1934, 1,843 sq mi (revised).

Gage.--Water-stage recorder. Datum of gage is 563.29 ft above mean sea level, datum of 1929. July 1904 to February 1908 and January 1919 to March 1934, chain gage at site 11 1/2 miles downstream at datum 13.52 ft lower.

Average discharge.--34 years (1904-7, 1919-50), 3,016 cfs.

Extremes.--1904-8, 1919-50: Maximum discharge, 100,000 cfs Feb. 14, 1948 (gage height, 38.17 ft); minimum, 85 cfs Sept. 18-20, 1925, Sept. 11, 1931.

Remarks.--Prior to August 1949, diurnal fluctuation at low flow caused by powerplant upstream.

1/ Published prior to April 1934 as "near Elkmont" (record through January 1934 used herein) and since January 1934 as "near Prospect."

Monthly and yearly mean discharge, in cubic feet per second, of Elk River near Prospect, Tenn.													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1904	-	-	-	-	-	-	-	-	-	688	890	261	-
1905	252	246	1,960	2,750	7,450	4,200	1,580	3,230	3,080	2,770	995	834	2,420
1906	1,690	661	4,250	5,920	1,600	3,990	2,690	1,190	848	1,290	1,170	3,350	2,400
1907	4,690	1,740	3,840	3,750	4,560	5,990	1,710	4,700	1,660	1,190	716	979	2,960
1908	434	1,550	2,560	4,370	-	-	-	-	-	-	-	-	-
1919	-	-	-	-	3,640	10,400	2,300	3,610	2,810	959	1,130	591	-
1920	2,490	3,790	6,540	5,970	*7,210	*9,620	*9,890	4,700	5,590	1,260	6,340	1,860	*5,430
1921	623	639	2,990	3,060	8,280	2,760	*6,430	1,350	864	902	2,610	854	*2,570
1922	895	3,000	2,730	6,070	5,430	*15,400	6,700	4,440	2,890	823	915	449	*4,140
1923	287	312	4,890	4,610	9,830	8,270	4,670	5,430	2,600	1,730	2,320	990	3,800
1924	341	710	5,040	*9,180	5,920	5,610	3,490	4,570	2,200	736	525	457	*3,230
1925	241	277	1,260	3,770	3,450	1,690	1,370	1,010	500	396	241	114	1,180
1926	1,100	3,880	2,150	3,320	2,660	2,290	1,860	974	3,150	692	2,710	807	2,120
1927	499	2,890	*16,300	5,600	7,830	8,040	*9,080	1,490	795	549	825	272	*4,500
1928	355	1,340	3,520	4,090	2,360	6,070	7,270	2,980	6,490	1,650	754	880	3,140
1929	1,880	2,860	1,550	5,690	4,980	*16,900	4,720	7,420	2,100	1,150	1,484	1,450	*4,280
1930	1,240	8,140	3,560	2,770	5,480	6,940	1,710	3,900	841	440	365	316	2,960
1931	302	646	818	1,430	2,690	3,410	2,500	1,170	349	400	341	175	1,180
1932	166	262	6,580	6,610	10,800	2,660	5,050	2,720	801	2,990	1,370	441	3,350
1933	3,230	2,160	7,300	5,280	11,200	4,660	4,680	7,910	846	1,660	1,220	812	4,220
1934	303	454	1,599	2,472	1,291	12,866	2,146	1,033	1,682	822	649	521	*2,171
1935	392	565	655	2,494	4,859	7,782	5,459	1,723	1,455	544	448	427	2,215
1936	437	2,086	1,203	4,845	4,081	6,531	7,221	784	309	4,281	551	283	2,713
1937	1,006	2,082	4,357	16,790	5,768	2,904	2,746	5,627	898	536	1,071	700	3,713
1938	1,400	556	2,170	5,115	2,918	3,433	6,192	2,825	2,396	1,929	1,374	525	2,568
1939	294	1,513	1,287	5,342	16,950	9,236	5,175	1,500	3,081	1,455	679	308	3,609
1940	243	263	396	444	4,622	6,027	4,599	1,438	572	1,629	541	335	1,747
1941	235	710	1,302	2,622	1,268	2,603	2,787	502	319	2,597	712	275	1,332
1942	238	520	1,451	1,803	4,958	4,119	1,839	805	734	399	1,827	766	1,600
1943	288	570	5,277	3,250	4,253	4,276	3,482	1,621	506	600	611	1,494	2,176
1944	310	398	728	2,898	10,500	10,380	6,030	2,436	714	382	331	605	2,946
1945	354	292	2,534	5,664	11,060	5,579	2,785	4,534	993	588	622	280	2,894
1946	265	2,768	6,364	11,300	11,380	5,613	2,962	3,184	2,561	830	528	857	4,010
1947	592	3,396	2,300	12,360	3,272	4,403	2,758	1,972	1,114	971	405	311	2,827
1948	217	785	1,309	1,339	15,150	8,103	6,512	1,163	566	542	493	229	2,978
1949	336	4,542	7,360	15,720	6,756	5,337	3,823	2,609	2,571	3,507	773	515	4,487
1950	664	1,139	2,650	17,320	13,280	7,417	1,852	1,842	963	2,217	1,468	3,528	4,486

* Revised.

† Not previously published; computed on basis of equivalent record for Elkmont, Ala.

Monthly and yearly runoff, in inches													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1904	-	-	-	-	-	-	-	-	-	0.43	0.56	0.16	-
1905	0.16	0.15	1.23	1.72	4.21	2.63	0.96	2.02	1.86	1.73	.62	.51	17.80
1906	1.05	.40	2.66	3.70	.90	2.50	1.63	.75	.51	.80	.73	2.03	17.66
1907	2.93	1.05	2.40	2.34	2.58	3.75	1.03	2.94	1.01	.75	.45	.59	21.82
1908	.27	.94	1.60	2.73	-	-	-	-	-	-	-	-	-
1919	-	-	-	-	2.05	6.53	1.39	2.26	1.70	.60	.71	.36	-
1920	1.56	2.29	4.09	3.73	*4.22	*6.02	*5.99	2.94	3.38	.79	3.97	1.13	*40.11
1921	.39	.39	1.87	1.92	4.68	1.73	*3.89	.84	.52	.56	1.63	.52	*18.94
1922	.56	1.82	1.71	3.80	3.07	*9.63	4.05	2.78	1.75	.51	.57	.27	*30.52
1923	.18	.19	3.06	2.88	5.56	5.17	2.83	3.39	1.58	1.08	1.45	.60	27.97
1924	.21	.43	3.15	*5.74	3.46	3.51	2.11	2.86	1.33	.46	.33	.28	*23.87
1925	.15	.17	.79	2.36	1.95	1.06	.83	.63	.30	.25	.15	.07	8.71
1926	.69	2.35	1.34	2.08	1.50	1.43	1.13	.61	1.91	.43	1.69	.49	15.65
1927	.31	1.75	*10.20	3.50	4.42	5.03	*5.49	.93	.48	.34	.52	.16	*33.13
1928	.22	.81	2.20	2.56	1.38	3.79	4.40	1.86	3.93	1.03	.47	.53	23.18
1929	1.18	1.73	.97	3.56	2.82	*10.59	2.86	4.64	1.27	.72	.30	.88	*51.52
1930	.78	4.93	2.23	1.73	3.09	4.34	1.03	2.44	.51	.28	.23	.19	21.78
1931	.19	.39	.51	.90	1.52	2.13	1.52	.73	.21	.25	.21	.11	8.67
1932	.10	.16	4.12	4.13	6.35	1.66	3.06	1.70	.48	1.87	.85	.27	24.75
1933	2.02	1.31	4.57	3.30	6.35	2.91	2.83	4.95	.51	1.04	.76	.49	31.04
1934	.19	.27	1.00	1.55	.75	8.31	1.34	.67	1.05	.53	.42	.33	*16.41
1935	.25	.35	.42	1.61	2.84	5.03	3.41	1.11	.91	.35	.29	.27	16.84
1936	.28	1.30	.78	3.13	2.47	4.22	4.52	.51	.19	2.77	.36	.18	20.71
1937	.65	1.30	*2.82	10.85	*3.37	1.88	1.72	*3.64	.56	.35	.69	.44	*28.27
1938	.90	.35	1.40	3.31	1.70	2.22	3.87	1.83	1.50	1.25	.89	.33	19.55
1939	.19	.95	.83	3.45	9.89	5.97	3.24	.97	1.93	.94	.44	.19	28.99
1940	.16	.16	.26	.29	2.79	3.89	2.88	.93	.36	1.05	.35	.21	13.33
1941	.15	.44	.84	1.69	.74	1.68	1.74	.32	.20	1.68	.46	.17	10.11
1942	.15	.32	.94	1.17	2.88	2.66	1.15	.52	.46	.26	1.18	.48	12.17
1943	.19	.36	3.41	2.10	2.48	2.76	2.18	1.05	.32	.39	.40	.93	16.57
1944	.20	.25	.47	1.87	6.35	6.70	3.77	1.57	.45	.25	.21	.38	22.47
1945	.23	.18	1.64	3.66	6.46	3.61	1.74	2.93	.62	.38	.40	.18	22.03
1946	.17	1.73	4.11	7.30	6.65	3.63	1.85	2.06	1.60	.54	.34	.54	30.52
1947	.38	2.12	1.49	7.99	1.91	2.85	1.72	1.27	.70	.63	.26	.19	21.51
1948	.14	.49	.85	.87	9.16	5.24	4.07	.75	.35	.35	.32	.14	22.73
1949	.22	2.84	4.76	10.16	3.94	3.45	2.39	1.69	1.61	2.27	.50	.32	34.15
1950	.43	.71	1.71	11.20	7.75	4.79	1.16	1.19	.60	1.43	.95	2.21	34.13

* Revised.

† Corrected.

‡ Not previously published; computed on basis of equivalent record for Elkmont, Ala.

Yearly discharge, in cubic feet per second, of Elk River near Prospect, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff inches	Mean	Runoff inches
		Discharge	Date						
1904	523	-	-	-	-	-	-	-	-
1905	523	*a22,100	Feb. 9, 1905	165	2,420	1.31	17.80	2,770	20.37
1906	523	*a24,400	Jan. 22, 1906	300	2,400	1.30	17.66	2,710	19.93
1907	523	*a22,800	Mar. 2, 1907	430	2,960	1.61	21.82	2,460	18.25
1908	523	-	-	-	-	-	-	-	-
1919	523	*b29,700	Mar. 18, 1919	-	-	-	-	-	-
1920	523,1436	*c49,500	Mar. 13, 1920	275	*5,430	*2.95	*40.11	*4,710	*34.82
1921	523,1436	*c41,500	Apr. 17, 1921	360	*2,570	*1.39	*18.94	*2,770	*20.38
1922	543,1436	*c41,500	Mar. 12, 1922	330	*4,140	*2.25	*30.52	*4,050	*29.86
1923	563	*30,000	Feb. 14, 1923	200	3,800	2.06	27.97	3,850	28.33
1924	583,1436	*c35,000	Jan. 4, 1924	220	*3,230	*1.75	*23.87	*2,870	*21.19
1925	603	12,400	Jan. 11, 1925	85	1,180	.640	8.71	1,630	11.98
1926	623	18,700	Nov. 13, 1925	135	2,120	1.15	15.65	*3,200	*23.53
1927	643,1436	*61,100	Dec. 28, 1926	185	*4,500	*2.44	*33.13	*3,280	*24.10
1928	663	26,100	Apr. 23, 1928	205	3,140	1.70	23.18	3,230	23.83
1929	683,1436	*61,500	Mar. 24, 1929	270	*4,280	*2.32	*31.52	*4,830	*35.58
1930	698	24,800	Mar. 8, 1930	197	2,960	1.61	21.78	2,030	14.93
1931	713	*15,700	Mar. 29, 1931	85	1,180	.640	8.67	1,620	11.96
1932	738	*26,300	Jan. 31, 1932	120	3,350	1.82	24.75	3,830	28.27
1933	743	*c31,900	Feb. 17, 1933	284	4,220	2.29	31.04	3,342	24.60
1934	758	42,100	Mar. 4, 1934	191	*2,171	*1.20	*16.41	*2,107	*15.97
1935	763	28,200	Mar. 14, 1935	185	2,215	1.24	16.84	2,390	18.18
1936	803	29,900	Apr. 7, 1936	179	2,713	1.52	20.71	3,028	23.12
1937	823	43,200	Jan. 3, 1937	164	3,713	2.08	*28.27	3,436	*26.15
1938	853	16,100	Apr. 22, 1938	315	2,568	1.44	19.55	2,478	18.87
1939	873	41,900	Feb. 16, 1939	250	3,809	2.14	28.99	3,626	27.60
1940	893	17,700	Apr. 20, 1940	215	1,747	.979	13.33	1,860	14.18
1941	923	16,200	Apr. 5, 1941	172	1,332	.747	10.11	1,329	10.09
1942	953	16,900	Mar. 18, 1942	168	1,600	.897	12.17	1,933	14.72
1943	973	21,000	Dec. 29, Jan. 1	192	2,176	1.22	16.57	1,778	13.53
1944	1003	43,400	Mar. 30, 1944	189	2,946	1.65	22.47	3,094	23.60
1945	1033	46,000	Feb. 22, 1945	214	2,894	1.62	22.03	3,416	25.99
1946	1053	46,600	Jan. 9, 1946	212	4,010	2.25	30.52	3,744	28.50
1947	1083	31,200	Jan. 3, 1947	195	2,887	1.58	21.51	2,497	19.00
1948	1113	100,000	Feb. 14, 1948	172	2,978	1.67	22.73	3,809	29.07
1949	1143	58,700	Jan. 6, 1949	224	4,487	2.52	34.15	5,835	29.18
1950	1173	47,300	Jan. 7, 1950	321	4,486	2.51	34.13	-	-

* Revised.

† Corrected.

‡ Not previously published.

a Maximum observed.

b Maximum observed during period January to September.

c Estimated.

289. Elk River near Rogersville, Ala.

Location.--Lat 34°48'11", long. 87°13'56", in sec. 12, T. 3 S., R. 7 W. at bridge on U. S. Highway 72, 4 miles east of Rogersville, and at mile 4.8.

Drainage area.--2,239 sq mi (revised).

Gage.--Staff gage. Datum of gage is 518.31 ft above mean sea level, datum of 1929.

Average discharge.--8 years (1927-35), 3,654 cfs.

Extremes.--1927-35: Maximum discharge, 61,600 cfs Mar. 25, 1929 (gage height, 22.4 ft, from high water mark), from rating curve extended above 29,000 cfs; minimum, 110 cfs Sept. 12, 1931 (gage height, 0.50 ft).

Remarks.--Slight diurnal fluctuation at low flow caused by powerplants upstream.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1928	451	1,620	3,750	5,040	2,890	7,180	8,950	3,930	8,520	2,310	1,030	1,010	3,680
1929	1,950	2,810	1,780	6,400	5,630	19,400	5,620	9,220	2,570	1,440	*595	1,780	4,950
1930	1,400	9,970	4,130	3,470	6,680	8,660	2,200	4,980	1,060	546	404	372	3,640
1931	390	842	1,180	1,830	3,290	4,270	3,130	1,430	423	556	500	204	1,490
1932	183	317	7,500	7,440	14,300	3,200	6,240	3,500	983	3,710	1,780	554	4,110
1933	4,380	2,590	9,790	8,160	15,000	5,840	6,040	9,500	1,030	1,800	1,350	979	5,490
1934	417	564	2,041	3,137	1,688	15,680	2,703	1,298	1,873	1,066	816	684	2,868
1935	559	776	881	3,107	6,009	10,900	7,664	2,352	1,899	682	591	532	2,975
1936	777	3,183	1,715	-	-	-	-	-	-	-	-	-	-

* Revised.

Monthly and yearly runoff, in inches, of Elk River near Rogersville, Ala.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1928	0.23	0.81	1.93	2.59	1.39	3.70	4.46	2.02	4.25	1.19	0.53	0.50	23.60
1929	1.00	1.45	.92	3.29	2.62	9.97	2.80	4.75	1.28	.74	*.31	.89	*30.02
1930	.72	4.97	2.13	1.79	3.11	4.46	1.10	2.57	.54	.28	.21	.19	22.07
1931	.20	.42	.61	.94	1.53	2.20	1.56	.73	.21	.29	.26	.10	9.05
1932	.09	.16	3.86	3.83	6.90	1.65	3.11	1.60	.49	1.91	.92	.28	25.00
1933	2.26	1.29	5.04	4.20	7.00	3.01	3.01	4.89	.52	.93	.69	.49	33.33
1934	.21	.28	1.05	1.62	.79	8.08	1.35	.67	.93	.55	.42	.34	16.29
1935	.29	.39	.45	1.60	2.79	5.61	3.82	1.21	.95	.35	.30	.27	18.05
1936	.40	1.59	.88	-	-	-	-	-	-	-	-	-	-

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1928	663	30,000	Apr. 24, 1928	200	3,880	1.73	25.60	3,950	24.00
1929	663,1436	61,600	Mar. 25, 1929	*315	4,950	2.21	*30.02	*5,690	*34.47
1930	699	29,600	Mar. 8, 1930	255	3,640	1.63	22.07	2,550	15.48
1931	713	19,000	Mar. 28, 1931	110	1,490	.665	9.05	1,970	11.93
1932	728	27,200	Jan. 30, 1932	150	4,110	1.84	25.00	4,850	29.48
1933	743	39,000	Feb. 17, 1933*	360	5,490	2.45	33.33	4,354	26.28
1934	758	45,800	Mar. 5, 1934	318	2,686	1.20	16.29	2,617	15.88
1935	783	30,700	Mar. 14, 1935	195	2,975	1.33	18.05	3,262	19.77
1936	803	-	-	-	-	-	-	-	-

* Revised.

290. Wheeler Lake at Wheeler Dam, Ala.^{1/}

Location (revised).--Lat 34°47'52", long. 87°22'51", in SW¹/₄ sec. 9, T. 3 S., R. 8 W., at Wheeler Dam on Tennessee River, 0.8 mile upstream from Big Nance Creek, 30.1 miles downstream from Decatur, Ala., 74.1 miles downstream from Guntersville Dam, and at mile 274.9.

Drainage area.--29,590 sq mi, approximately.

Gage.--Water-stage recorder. Datum of gage is mean sea level, datum of 1929.

Extremes.--1936-50: Maximum elevation, 557.82 ft Mar. 1, 1944; minimum (after start of operation plan in August 1937), 548.92 ft Nov. 1, 1937.

Remarks.--Contents based on backwater profile since Oct. 1, 1946, and by level storage prior to that date. Reservoir is formed by concrete dam with 60 taintor gates 15 ft high by 40 ft wide and 2 trashway gates 6 ft high by 37.5 ft wide. Storage began Oct. 3, 1936; water in reservoir first reached minimum pool elevation Dec. 10, 1936. Total level pool capacity at elevation 556.28 ft (top of gates) is 580,000 cfs-days of which 175,200 cfs-days is controlled flood storage above elevation 550.0 (ordinary minimum pool). Reservoir used for navigation, flood control, and power.

Cooperation.--Records furnished by Tennessee Valley Authority.

Contents, in thousands of cfs-days, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1936	-	-	-	-	-	-	-	-	-	-	-	9.4
1937	250	264	472	558	353	413	600	560	532	436	451	402
1938	385	583	a414	474	421	433	541	459	508	561	480	508
1939	498	445	413	455	443	479	559	537	545	501	467	412
1940	408	409	428	427	470	523	562	508	540	507	505	444
1941	456	493	494	501	403	574	564	445	427	564	453	403
1942	409	416	504	435	559	556	480	494	515	474	499	440
1943	480	424	554	416	441	571	578	536	532	520	477	512
1944	490	440	424	399	611	577	574	568	549	516	510	497
1945	444	414	421	407	417	506	583	571	562	518	509	475
1946	444	407	411	432	448	582	573	564	537	524	502	492
1947	*b458	*485	*478	*475	*438	*487	*365	*573	*548	*527	*483	*467
1948	*453	*432	*412	*417	*414	*518	*559	*563	*547	*469	*445	*452
1949	433	673	465	436	429	518	582	579	587	504	466	448
1950	464	439	420	484	436	508	575	550	565	542	513	433

* Revised; previously published figures were based on level storage table.

a Corrected contents by capacity table used beginning Dec. 11, 1937; contents Dec. 31, 1937, by capacity table used prior to Dec. 11, 1937, was 418,000 cfs-days.

b Contents by Backwater Profiles capacity table used beginning Oct. 1, 1946; contents Oct. 31, 1946, by level storage capacity table used prior to Oct. 1, 1946, was 451,000 cfs-days.

^{1/} Published as Wheeler Reservoir prior to 1954.

291. Big Nance Creek at Courtland, Ala.

Location.--Lat 34°40'12", long. 87°19'02" (revised), in SW $\frac{1}{4}$ sec. 30, T. 4 S., R. 7 W., near right bank on downstream side of pier of bridge on State Highway 20, at Courtland, 12 $\frac{1}{2}$ miles upstream from mouth.

Drainage area.--166 sq mi.

Gage.--Water-stage recorder. Datum of gage is 537.60 ft above mean sea level, datum of 1929. July 25, 1935, to Sept. 30, 1940, staff gage at same site and datum.

Average discharge.--10 years (1935-40, 1945-50), 286 cfs.

Extremes.--1935-40, 1945-50: Maximum discharge, 12,300 cfs Jan. 7, 1950 (gage height, 22.60 ft); minimum, 0.7 cfs Sept. 24, 1935, Oct. 22, 1945, and Sept. 17-20, 1947; minimum gage height observed, 1.19 ft Sept. 28, 29, 1947.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1935	-	-	-	-	-	-	-	-	-	-	3.94	2.04	-
1936	18.0	158	81.5	436	544	667	873	46.7	9.56	95.5	29.2	25.8	247
1937	29.7	49.7	215	1,264	436	190	169	346	81.4	86.9	71.6	47.2	249
1938	160	48.3	215	321	210	479	449	94.2	44.2	327	323	24.6	209
1939	4.58	96.3	54.1	598	1,483	653	473	160	483	64.2	33.4	8.75	334
1940	3.21	1.87	2.96	14.6	424	705	463	71.5	41.4	640	45.0	11.7	202
1945	-	-	-	-	-	-	293	98.2	36.7	43.3	53.9	5.51	-
1946	2.18	22.7	272	1,141	1,382	531	203	137	70.1	114	26.5	98.7	327
1947	16.0	275	150	1,179	239	455	378	54.7	20.9	7.69	4.69	1.03	232
1948	1.79	20.8	62.1	60.5	1,350	1,198	389	86.2	35.6	45.7	8.52	21.0	268
1949	3.13	367	281	1,702	667	335	262	158	298	120	98.0	105	367
1950	16.4	16.4	143	1,312	1,058	892	173	566	115	139	286	387	423

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1935	-	-	-	-	-	-	-	-	-	-	0.03	0.01	-
1936	0.11	1.06	0.57	3.03	3.54	4.64	5.87	0.32	0.06	0.66	.20	.17	20.23
1937	.21	.33	1.50	8.77	2.74	1.31	1.14	2.40	.55	.60	.50	.32	20.37
1938	1.11	.32	1.49	2.23	1.32	3.33	3.02	.65	.30	.88	2.24	.17	17.06
1939	.03	.65	.38	4.15	9.30	4.54	3.18	1.11	3.25	.45	.23	.06	27.33
1940	.02	.01	.02	.10	2.76	4.90	3.11	.50	.28	4.44	.31	.08	16.53
1945	-	-	-	-	-	-	1.52	.53	.19	.23	.29	.03	-
1946	.02	.15	1.89	7.92	8.67	3.69	1.56	.95	.47	.79	.18	.66	26.75
1947	.11	1.85	1.04	8.19	1.50	3.16	2.54	.38	.14	.05	.03	.007	19.00
1948	.01	.14	.43	.42	8.77	8.25	2.61	.60	.24	.32	.06	.14	21.99
1949	.02	2.60	1.95	11.82	4.19	2.33	1.76	1.10	2.00	.83	.68	.70	29.98
1950	.11	.12	.99	9.11	6.64	6.20	1.16	3.93	.77	.97	1.99	2.60	34.59

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1935	783	-	-	-	-	-	-	-	-
1936	803	*6,980	Apr. 3, 1936	1.0	247	1.49	20.23	250	20.53
1937	823	3,790	Jan. 3, 1937	1.1	249	1.50	20.37	260	21.25
1938	853	3,520	Mar. 11, 1938	5.9	209	1.26	17.06	186	15.20
1939	873, 1033	6,980	Feb. 16, 1939	1.7	334	2.01	27.33	322	26.32
1940	893	4,550	July 10, 1940	1.7	202	1.22	16.53	-	-
1945	1033	-	-	-	-	-	-	-	-
1946	1053	8,180	Feb. 10, 1946	.8	327	1.97	26.75	339	27.69
1947	1083	3,960	Jan. 2, 1947	.7	232	1.40	19.00	203	18.58
1948	1113	9,060	Feb. 13, 1948	1.2	268	1.61	21.99	317	25.98
1949	1143	10,800	Jan. 5, 1949	1.8	367	2.21	29.98	326	26.63
1950	1173	12,300	Jan. 7, 1950	9.0	423	2.55	34.59	-	-

* Revised.

292. Big Nance Creek at Red Bank, Ala.

Location.--Lat 34°45'58", long. 87°22'18", in NE $\frac{1}{4}$ sec. 28, T. 3 S., R. 8 W., at highway bridge at Red Bank, 2 $\frac{1}{2}$ miles south of Wheeler Dam on Tennessee River and 2 $\frac{1}{2}$ miles upstream from mouth.

Drainage area.--188 sq mi.

Gage.--Staff gage. Altitude of gage is 515 ft (from topographic map).

Average discharge.--5 years (1935-40), 275 cfs.

Extremes.--1935-40: Maximum discharge, 4,930 cfs Apr. 3, 1936 (gage height, 10.00 ft), from rating curve extended above 3,300 cfs; minimum observed, 3.9 cfs Oct. 4-14, 1935 (gage height, 1.36 ft).

Monthly and yearly mean discharge, in cubic feet per second, of Big Nance Creek at Red Bank, Ala.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1935	-	-	-	-	-	-	-	-	-	-	9.89	6.42	-
1936	19.2	222	109	488	588	683	937	74.6	21.4	105	44.1	25.0	274
1937	43.9	79.9	217	1,446	537	229	210	432	139	116	100	56.7	301
1938	173	56.6	250	348	256	502	494	142	74.8	192	371	41.0	243
1939	13.3	108	66.1	663	1,390	717	479	197	556	103	51.1	17.8	356
1940	8.38	7.26	10.6	18.2	383	653	433	90.3	47.1	669	67.0	20.4	200

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1935	-	-	-	-	-	-	-	-	-	-	0.06	0.04	-
1936	0.12	1.32	0.67	3.00	3.38	4.19	5.56	0.46	0.13	0.64	.27	.15	19.89
1937	.27	.47	1.33	8.87	2.98	1.41	1.25	2.65	.82	.71	.61	.34	21.71
1938	1.06	.34	1.54	2.13	1.42	3.08	2.93	.87	.44	1.18	2.28	.24	17.51
1939	.08	.64	.41	4.07	7.70	4.40	2.84	1.21	3.30	.63	.31	.11	25.70
1940	.05	.04	.06	.11	2.20	4.00	2.57	.55	.28	4.10	.41	.12	14.49

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1935	783	-	-	-	-	-	-	-	-
1936	803	4,930	Apr. 3, 1936	3.9	274	1.46	19.89	274	19.85
1937	823	4,290	Jan. 3, 1937	5.0	301	1.60	21.71	313	22.58
1938	853	3,280	Mar. 11, 1938	9.8	243	1.29	17.51	218	15.70
1939	873	4,500	Feb. 16, 1939	7.8	356	1.89	25.70	342	24.72
1940	893	3,480	July 10, 1940	5.6	200	1.06	14.49	-	-

293. Shoal Creek above Little Shoal Creek, at Lawrenceburg, Tenn.^{1/}

Location (revised).--Lat 35°14'08", long. 87°20'13", at highway on Old State Highway 6, 0.4 mile south of Lawrence County Courthouse, a quarter of a mile below the Louisville & Nashville Railroad bridge and 1 $\frac{1}{4}$ miles above Little Shoal Creek.

Drainage area.--27.1 sq mi (revised).

Gage.--Staff gage. Altitude of gage is 803 ft (from topographic map).

Extremes.--1932-33: Maximum gage height, 15.51 ft May 7, 1933 (discharge not determined); minimum discharge, 12 cfs Sept. 18, 1933; minimum gage height, 1.18 ft Sept. 9-18, 30, 1932.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	52.6	44.6	46.8	-
1933	-	-	-	-	-	-	-	124	24.9	34.0	15.9	15.0	-

Note.--Revised mean daily discharge for June 20, 1932, is 52 cfs.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	2.24	1.90	1.93	-
1933	-	-	-	-	-	-	-	5.29	1.03	1.45	.68	.62	-

294. Shoal Creek at Lawrenceburg, Tenn.

Location.--Lat 35°14'38", long. 87°21'09", at Lawrenceburg municipal pumping station, 1,000 ft downstream from Little Shoal Creek (revised) and 1 mile west of Lawrenceburg, Lawrence County.

Drainage area.--55.5 sq mi (revised).

Gage.--Staff gage. Datum of gage is 780.4 ft above mean sea level, datum of 1929.

Extremes.--1932-34: Maximum discharge, 8,500 cfs, approximately, May 7, 1933 (gage height, 14.06 ft); minimum, 23 cfs Oct. 28, Nov. 11, 18, 1933 (gage height, 1.74 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	153	52.8	35.2	-
1933	119	58.8	155	139	278	172	153	346	54.9	74.9	42.1	37.0	135
1934	26.9	31.6	49.3	62.1	39.7	213	-	-	-	-	-	-	-

^{1/} Published as "Beeler Fork at Lawrenceburg."

Monthly and yearly runoff, in inches, of Shoal Creek at Lawrenceburg, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	3.18	1.10	0.71	-
1933	2.47	1.18	3.21	2.90	5.22	3.56	3.09	7.18	1.10	1.56	.88	.74	33.09
1934	.56	.63	1.02	1.29	.75	4.42	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1932	728	-	-	-	-	-	-	-	-
1933	743	-	May 7, 1933.	27	135	2.43	33.09	116	28.44
1934	758	†8,500	Mar. 24, 1934	-	-	-	-	-	-

† Not previously published; figure is approximate.

295. Shoal Creek at Iron City, Tenn.

Location.--Lat 35°01'20", long. 87°34'44", 600 ft upstream from Louisville & Nashville Railroad bridge, 700 ft downstream from highway bridge, 0.2 mile downstream from Holly Creek, a quarter of a mile (revised) east of Iron City, Lawrence County, and at mile 21.7.

Drainage area.--348 sq mi.

Gage.--Water-stage recorder. Datum of gage is 534.91 ft above mean sea level, datum of 1929. Prior to Feb. 25, 1931, staff gage at railroad bridge 600 ft downstream at datum 1.54 ft lower. Feb. 25, 1931, to Sept. 30, 1933, staff gage at site 75 ft downstream at present datum.

Average discharge.--25 years (1925-50), 631 cfs.

Extremes.--1925-50: Maximum discharge, 65,000 cfs Mar. 13, 1927 (gage height, 23.4 ft, present site and datum), from rating curve extended above 20,000 cfs on basis of contracted-opening determination of peak flow; minimum, 38 cfs Aug. 31, 1943 (gage height, -0.02 ft).

Flood of March 1902 reached a stage of about 6 to 7 ft higher (present datum) than that of Mar. 13, 1927, from information by local residents.

Remarks.--Diurnal fluctuation at low flow caused by powerplant at Lawrenceburg.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	-	-	-	-	-	-	-	-	-	111	95.0	†64.8	-
1926	284	812	372	551	410	538	444	226	501	200	615	144	424
1927	124	285	*2,970	1,000	1,050	*3,150	1,300	421	589	238	156	112	*953
1928	144	218	384	1,080	520	*1,290	1,330	548	1,880	381	206	156	*676
1929	151	185	170	646	1,050	*2,720	1,260	*1,960	503	276	211	307	*787
1930	251	911	506	1,040	1,430	1,280	387	1,140	236	166	142	129	631
1931	153	215	231	346	790	1,050	530	361	163	160	208	74.5	355
1932	69.4	126	1,360	*2,050	2,040	718	1,090	562	296	*1,130	234	572	*851
1933	1,290	513	1,190	1,030	2,360	1,110	1,310	1,740	331	572	227	198	983
1934	142	201	317	510	315	1,562	376	234	159	203	136	284	372
1935	160	285	290	759	1,345	1,604	1,100	507	279	175	126	96.5	555
1936	174	370	214	606	597	1,060	1,332	189	145	358	151	138	441
1937	306	481	1,023	3,082	807	575	613	1,958	232	240	261	160	815
1938	410	196	528	1,135	803	796	1,174	351	342	353	427	156	539
1939	125	388	280	1,356	2,645	1,450	1,201	916	988	285	221	139	820
1940	142	150	177	177	697	883	1,409	364	275	574	178	115	426
1941	120	275	397	519	273	429	537	172	124	588	140	84.7	306
1942	128	169	176	322	760	751	575	171	162	123	220	122	303
1943	103	139	734	278	650	885	479	200	123	105	96.7	246	335
1944	98.8	150	186	469	2,172	2,229	1,135	852	227	175	293	369	691
1945	185	151	694	1,594	2,198	1,305	900	972	500	227	240	156	752
1946	147	1,036	1,088	1,746	2,190	1,218	668	345	200	225	188	148	758
1947	138	425	312	1,535	601	920	1,132	773	317	174	244	158	559
1948	124	182	229	364	3,562	1,312	1,241	321	218	191	133	119	653
1949	119	999	1,130	1,996	996	1,436	679	573	638	641	268	183	805
1950	290	274	473	3,258	2,876	1,380	544	628	555	491	490	734	989

* Revised.

† Corrected.

Monthly and yearly runoff, in inches, of Shoal Creek at Iron City, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	-	-	-	-	-	-	-	-	-	0.37	0.31	0.21	-
1926	0.94	2.60	1.23	1.82	1.23	1.78	1.42	0.75	1.61	.66	2.04	.46	16.54
1927	.41	.91	*9.83	3.32	3.15	*10.43	4.16	1.40	1.89	.79	.52	.36	*37.17
1928	.48	.70	1.27	3.57	1.61	*4.28	4.27	1.81	6.02	1.26	.68	.50	*26.45
1929	.50	.59	.56	2.14	3.16	*9.02	4.04	*6.48	1.61	.91	.70	.98	*30.69
1930	.83	2.92	1.68	3.45	4.27	4.24	1.24	3.79	.76	.55	.47	.41	24.61
1931	.51	.69	.76	1.15	2.37	3.49	1.70	1.19	.52	.53	.69	.24	13.84
1932	.23	.40	4.50	*6.79	6.32	2.38	3.51	1.86	.95	*3.75	.77	1.83	*33.29
1933	4.27	1.65	3.95	3.42	7.05	3.69	4.19	5.77	1.08	1.89	.75	.63	38.22
1934	.47	.65	1.05	1.69	.94	F.17	1.21	.77	.51	.67	.45	.91	14.49
1935	.53	.91	.96	2.51	4.02	5.31	3.53	1.68	.89	.58	.42	.31	21.65
1936	.58	1.19	.71	2.01	1.85	3.51	4.27	.56	.47	1.19	.50	.44	17.28
1937	1.01	1.54	3.39	10.22	2.42	1.90	1.98	6.42	1.74	.80	.86	.51	31.77
1938	1.36	.63	1.75	3.76	1.80	2.84	3.76	1.16	1.10	1.17	1.41	.50	21.04
1939	.41	1.24	.93	4.49	7.91	4.80	3.85	3.04	3.17	.94	.73	.45	31.96
1940	.47	.48	.59	.59	2.16	2.93	4.52	1.21	.88	1.90	.59	.37	16.69
1941	.40	.88	1.32	1.72	.82	1.42	1.72	.57	.40	1.95	.46	.27	11.93
1942	.42	.54	.58	1.07	2.27	2.49	1.84	.57	.52	.41	.73	.39	11.83
1943	.34	.45	2.43	.92	1.95	2.93	1.53	.66	.39	.35	.32	.79	13.06
1944	.33	.48	.62	1.55	6.73	7.38	3.64	2.82	.73	.58	.97	1.18	27.01
1945	.61	.48	2.30	5.28	6.57	4.32	2.88	3.22	1.60	.75	.79	.50	29.30
1946	.49	3.32	3.60	5.78	6.55	4.04	2.14	1.14	.84	.74	.62	.47	29.54
1947	.46	1.36	1.03	5.09	1.80	3.05	3.63	2.56	1.02	.58	.81	.44	21.83
1948	.41	.58	.76	1.21	11.04	4.35	3.98	1.07	.70	.63	.44	.38	25.55
1949	.39	3.20	3.74	6.61	2.98	4.76	2.18	1.90	2.05	2.12	.89	.59	31.41
1950	.96	.88	1.57	10.79	8.61	4.57	1.74	2.08	1.78	1.63	1.62	2.35	38.58

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1925	603	-	-	-	-	-	-	-	-
1926	623	*18,700	Nov. 12, 1925*	70	424	1.22	16.54	*588	*22.92
1927	643,1436	85,000	Mar. 13, 1927	75	*953	*2.74	*37.17	*730	*28.47
1928	653,1436	*20,900	Mar. 9, 1928	87	*878	*1.94	*26.45	*656	*25.65
1929	685,1436	*29,200	Mar. 23, 1929	110	*787	*2.26	*30.69	*864	*34.47
1930	698	*11,800	Mar. 7, 1930	86	631	1.81	24.61	542	21.14
1931	713	7,120	Feb. 25, 1931	63	355	1.02	13.84	436	17.01
1932	728,1436	*18,100	July 7, 1932	62	*851	*2.45	*33.29	*972	*38.03
1933	743	*25,400	Oct. 17, 1932	113	983	2.82	38.32	785	30.62
1934	758	13,100	Mar. 3, 1934	82	372	1.07	14.49	378	14.72
1935	783	20,800	Mar. 12, 1935	61	555	1.59	21.65	557	21.73
1936	803	20,900	Apr. 6, 1936	67	441	1.27	17.28	530	20.74
1937	823	28,900	May 4, 1937	76	815	2.34	31.77	758	29.57
1938	853	7,990	Jan. 23, 1938	102	539	1.55	21.04	510	19.88
1939	873	17,500	Feb. 15, 1939	101	820	2.36	31.96	793	30.92
1940	893	22,000	Apr. 19, 1940	82	426	1.22	16.69	454	17.75
1941	923	5,420	July 12, 1941	58	306	.879	11.93	279	10.87
1942	953	3,170	Feb. 24, 1942	76	.871	11.83	34.6	346	13.51
1943	973	10,800	Dec. 28, 1942	42	335	.963	13.06	289	11.27
1944	1003	19,300	Feb. 9, 1944	82	691	1.99	27.01	741	28.97
1945	1033	23,900	Feb. 22, 1945	108	752	2.16	29.30	855	33.32
1946	1053	18,700	Jan. 8, 1946	98	758	2.18	29.54	641	24.98
1947	1083	5,810	Apr. 16, 1947	99	559	1.61	21.83	531	20.73
1948	1113	61,000	Feb. 13, 1948	91	653	1.88	25.55	796	31.13
1949	1143	17,100	Mar. 27, 1949	86	805	2.31	31.41	704	27.49
1950	1173	32,500	Feb. 14, 1950	134	989	2.84	38.58	-	-

* Revised.

† Not previously published.

296. Wilson Lake near Florence, Ala.^{1/}

Location.--Lat 34°47'46", long. 87°37'27", in SE^{1/4} sec. 18, T. 3 S., R. 10 W. at Wilson Dam on Tennessee River, 2.9 miles southeast of Florence, Ala., 4.1 miles upstream from Cypress Creek, 15.5 miles downstream from Wheeler Dam, and at mile 259.4.

Drainage area.--30,750 sq mi, approximately.

Gage.--Water-stage recorder. Datum of gage is mean sea level, datum of 1929.

Extremes.--1924-50: Maximum month-end content, 301,000 cfs-days Dec. 31, 1925 to Feb. 28, and Mar. 31, 1926; minimum, 233,200 cfs-days Apr. 6, 1927 (elevation, 501.3 ft).

Remarks.--Reservoir is formed by concrete gravity dam with fixed Ogee crest; spillway equipped with 58 Stoney gates 20.54 (18.77 prior to June 1941) ft high by 38 ft wide. Storage began Apr. 14, 1924. Closure of dam made July 8, 1924. Total capacity at elevation 507.88 ft (top of gates) is 327,700 cfs-days of which 26,700 cfs-days is controlled flood storage above elevation 504.50 ft (minimum pool). Reservoir is used for navigation, flood control, and power.

Cooperation.--Records furnished by Tennessee Valley Authority.

^{1/} Published as Wilson Reservoir prior to 1954.

Contents, in thousands of cfs-days, on last day of month, of Wilson Lake near Florence, Ala.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1924	-	-	-	-	-	-	#7	#17	#19	#65	#61	#150
1925	#87	#15	#191	#205	#210	#193	#178	#165	#172	#221	#232	#254
1926	#294	#300	#301	#295	#301	#301	#297	#296	#296	#298	300	299
1927	297	297	296	292	292	285	290	297	297	297	296	294
1928	284	294	295	294	293	283	287	289	289	301	300	297
1929	289	294	284	294	285	293	276	293	287	284	286	275
1930	287	286	286	287	286	286	293	286	284	283	278	293
1931	285	288	288	276	276	276	278	278	283	280	281	272
1932	267	268	283	284	278	274	279	280	280	269	271	274
1933	273	274	275	274	274	279	274	274	273	274	273	272
1934	267	268	270	269	273	266	262	270	262	267	277	277
1935	272	272	272	272	272	272	272	272	272	273	272	272
1936	269	271	269	269	271	259	260	262	259	262	259	260
1937	260	260	270	268	264	269	269	269	257	258	248	249
1938	267	269	250	269	247	248	264	256	267	267	251	248
1939	252	263	249	250	256	248	267	262	262	257	252	253
1940	253	253	252	259	252	266	260	260	263	254	255	261
1941	251	255	264	267	260	259	268	265	261	268	265	253
1942	255	259	254	262	268	267	262	261	254	255	259	254
1943	266	266	276	270	253	277	279	275	281	278	280	273
1944	275	271	269	254	282	281	282	280	262	285	277	277
1945	273	271	266	265	276	250	282	253	274	279	267	267
1946	266	276	272	275	275	283	280	276	273	268	263	280
1947	a276	276	281	280	279	279	271	282	274	272	278	270
1948	280	277	277	270	280	272	279	278	277	272	280	274
1949	271	274	274	276	264	268	279	281	283	279	274	276
1950	280	282	265	267	268	270	281	271	269	282	280	279

* Not previously published; computed on basis of record of pool levels collected by Corps of Engineers, U. S. Army, and capacity table furnished by Tennessee Valley Authority.

a Contents by capacity table used beginning Oct. 1, 1946; contents Oct. 31, 1946, by capacity table used prior to Oct. 1, 1946, is 276,000 cfs-days.

Note.--Contents 1924-35 adjusted for the effect of silting (see WSP 893, p. 504).

297. Tennessee River at Florence, Ala.

Location.--Lat 34°47'12", long. 87°40'08", in SW 1/4 sec. 14, T. 3 S., R. 11 W., at lock and dam 1 at lower end of Patten Island, 700 ft upstream from Southern Railway bridge, 1,000 ft upstream from O'Neal Bridge on U. S. Highway 72, 1 mile south of Florence, 1.7 miles upstream from Cypress Creek, 2.7 miles downstream from Wilson Dam, and at mile 256.7.

Drainage area.--30,810 sq mi, approximately.

Supplemental records available.--Nov. 7, 1871, to Sept. 30, 1894, gage heights only.

Gage.--Water-stage recorder. Datum of gage is 401.12 ft above mean sea level, datum of 1929. Prior to Apr. 1, 1926, several U. S. Weather Bureau staff gages at or near Southern Railway bridge, 700 ft downstream at same datum. Since Oct. 1, 1938, auxiliary water-stage recorder 15 1/2 miles downstream at datum 1.12 ft lower.

Average discharge.--56 years (1894-1950), 50,980 cfs (revised).

Extremes.--1871-1950: Maximum discharge, 444,000 cfs Mar. 19, 1897 (gage height, 32.5 ft), from rating curve extended above 320,000 cfs; minimum daily, 3,000 cfs Oct. 1, 1925; minimum gage height, -3.0 ft Oct. 8, 1925, caused by filling of Wilson Lake.

Flood of 1867 reached a stage of 31.1 ft from U. S. Weather Bureau (discharge, 421,000 cfs).

Remarks.--Slight regulation since 1924 by Wilson Lake and increasing regulation since 1936 as other reservoirs have been built above station (see elsewhere in this report). Flow now almost completely regulated.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1895	11,100	11,400	26,700	103,000	49,800	111,000	66,600	51,100	25,800	30,500	25,700	17,400	44,500
1896	11,000	12,400	20,700	32,200	100,000	61,000	98,500	24,600	23,800	56,500	21,400	13,500	39,500
1897	12,700	25,400	39,000	34,900	68,900	239,000	115,000	63,800	25,800	33,000	21,900	11,100	*58,900
1898	10,300	10,800	33,400	87,200	35,400	33,500	83,200	29,800	19,400	19,900	52,900	45,500	38,400
1899	43,100	30,600	33,900	74,900	50,000	219,000	107,000	49,100	26,000	17,900	16,500	12,800	*64,600
1900	11,400	11,700	39,000	48,600	76,300	97,700	110,000	31,700	63,600	38,800	20,700	16,100	46,800
1901	20,300	27,500	42,400	80,800	61,100	65,400	138,000	81,500	57,800	28,100	98,600	53,500	62,800
1902	24,300	15,800	77,600	114,000	97,200	61,000	91,600	34,000	20,800	24,600	13,600	12,900	57,200
1903	16,400	14,600	54,800	46,500	57,000	63,000	137,000	40,800	54,800	25,600	19,900	10,400	61,100
1904	9,640	14,800	15,500	27,800	30,500	93,600	47,300	31,000	21,900	18,100	19,100	11,500	28,400
1905	7,700	8,500	24,500	53,000	19,000	73,800	38,000	63,100	31,600	44,600	32,800	19,200	42,500
1906	17,100	13,600	60,400	90,300	44,000	75,300	65,800	32,700	32,500	54,400	45,000	59,400	49,500
1907	86,700	66,100	49,100	68,400	63,000	94,100	52,800	69,700	55,600	29,500	21,700	26,300	57,000
1908	19,100	39,900	43,500	92,400	108,000	89,900	66,200	55,500	31,600	26,200	23,500	18,600	51,000
1909	12,800	17,700	54,200	69,200	29,000	39,000	74,000	95,600	105,000	63,200	37,800	19,300	67,600
1910	19,300	13,100	24,100	51,200	58,500	50,500	30,500	58,700	54,600	65,400	28,900	26,100	40,000
1911	15,600	11,500	29,500	80,000	94,300	55,100	167,000	40,800	17,600	22,900	19,200	13,100	46,700
1912	20,100	23,800	74,400	75,400	84,000	44,000	154,000	93,100	37,200	47,400	29,500	21,300	67,000
1913	16,300	13,300	32,400	124,000	98,400	152,000	81,500	44,400	41,800	16,700	15,400	11,500	53,900
1914	11,000	12,000	16,300	20,400	55,200	46,000	93,900	30,600	14,200	16,500	14,600	14,200	28,500
1915	17,500	11,400	77,900	113,000	101,000	50,100	36,600	28,600	30,700	39,300	20,900	23,600	45,700

* Revised.

† Corrected.

TENNESSEE RIVER BASIN

Monthly and yearly mean discharge, in cubic feet per second, of Tennessee River at Florence, Ala. --
Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1916	42,000	45,700	83,900	149,000	80,100	64,100	50,300	27,900	45,100	26,000	47,400	17,200	*65,100
1917	15,400	13,800	27,400	105,000	07,000	242,000	110,000	32,700	33,100	41,300	27,800	21,900	64,700
1918	17,900	15,400	13,800	50,500	32,000	42,800	84,900	55,800	28,600	23,000	16,500	13,900	40,600
1919	18,400	63,700	68,000	116,000	67,200	23,000	54,500	51,800	34,200	29,300	19,800	12,800	54,900
1920	24,000	28,200	80,100	68,000	82,300	32,000	166,000	59,500	52,800	38,000	89,300	46,300	72,200
1921	16,800	16,800	75,800	70,600	30,000	53,500	87,200	43,100	23,400	28,200	37,700	16,600	49,500
1922	14,000	27,700	51,100	105,000	94,200	181,000	100,000	89,500	55,400	34,900	20,700	13,700	65,500
1923	10,600	9,100	53,800	68,200	56,200	151,000	77,600	85,800	63,200	37,700	38,000	18,500	62,700
1924	11,100	14,400	57,400	116,000	70,600	100,000	88,000	75,200	61,000	30,500	19,400	12,900	54,800
1925	22,600	14,700	53,000	89,600	54,100	39,600	27,100	30,000	11,000	10,400	5,540	3,760	28,400
1926	20,700	51,200	35,000	63,000	61,700	60,300	55,100	27,600	24,200	14,200	36,100	19,000	38,800
1927	10,600	34,100	32,000	101,000	09,000	26,000	84,500	34,400	55,000	23,600	24,000	13,200	62,100
1928	10,800	21,200	58,300	58,800	50,200	72,300	113,000	70,500	94,600	67,200	41,800	59,100	59,700
1929	34,000	44,400	30,000	77,400	72,200	22,000	78,800	41,000	51,100	40,500	21,400	28,300	70,300
1930	35,300	30,000	53,600	50,700	71,200	97,500	43,600	44,700	19,900	12,500	10,600	10,800	48,200
1931	9,530	17,800	23,200	35,900	37,900	39,800	84,300	39,600	18,000	19,600	22,100	15,000	30,100
1932	7,990	8,690	77,300	78,300	85,000	62,800	80,900	61,400	27,000	40,700	20,600	11,900	54,800
1933	41,400	40,900	116,000	27,000	153,000	84,300	69,600	76,600	22,400	19,600	20,900	22,000	65,700
1934	10,690	10,540	15,380	43,870	17,600	54,400	63,980	26,710	32,410	22,930	29,720	17,990	37,400
1935	25,430	21,960	29,180	68,010	64,560	32,000	116,500	56,100	28,620	19,850	20,540	13,940	49,650
1936	8,940	31,570	27,000	130,900	11,100	84,460	174,300	26,110	14,650	28,760	18,160	17,050	55,740
1937	21,100	20,010	37,380	89,400	29,600	56,990	39,000	68,070	25,140	21,350	23,560	23,310	53,570
1938	30,910	25,110	40,390	56,740	49,360	79,300	91,170	41,840	53,190	53,610	53,330	19,960	49,600
1939	16,860	27,350	27,470	39,720	87,500	112,100	60,170	34,420	32,730	24,060	21,710	17,530	49,180
1940	13,660	13,440	12,840	13,730	42,860	55,960	57,520	26,840	17,620	33,220	33,740	30,350	29,240
1941	21,850	22,470	23,890	36,860	26,710	29,750	39,210	23,080	16,060	37,050	25,680	19,430	26,870
1942	16,890	15,340	17,000	25,140	37,500	65,180	31,590	18,600	20,700	24,070	42,130	32,720	28,880
1943	25,240	33,840	76,980	95,980	82,850	57,950	53,510	38,490	26,890	28,770	29,350	31,110	48,260
1944	28,040	31,100	24,500	32,420	81,140	119,100	94,760	44,080	29,860	26,490	25,720	26,650	46,810
1945	28,580	29,600	40,960	63,290	99,690	71,180	41,470	52,700	32,130	28,280	31,490	28,050	45,320
1946	26,790	33,790	84,020	161,200	49,440	66,790	40,260	52,700	34,580	35,900	32,430	35,850	62,390
1947	35,900	50,990	45,370	160,000	66,340	63,510	37,980	32,820	27,130	24,630	22,490	23,110	49,200
1948	20,840	30,950	36,620	36,630	48,300	89,460	56,180	31,040	28,540	27,090	26,370	25,890	46,060
1949	27,210	57,730	17,700	166,100	99,700	59,020	46,080	45,360	40,070	61,870	43,380	43,760	67,280
1950	46,100	60,670	79,700	132,400	172,800	99,400	37,000	38,760	37,540	39,830	42,620	64,550	70,340

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1895	0.41	0.41	1.00	3.86	1.68	4.17	2.41	1.91	0.93	1.14	0.96	0.63	19.51
1896	.41	.45	.78	1.20	3.51	2.28	3.57	.92	.86	2.12	.80	.48	17.38
1897	.48	.85	1.48	1.31	3.00	*8.94	4.16	2.39	.94	1.24	.82	.40	*25.99
1898	.38	.39	1.25	3.26	1.20	1.25	3.01	1.11	.70	.74	1.98	1.65	16.92
1899	1.61	1.11	1.27	2.80	5.06	*8.21	3.86	1.84	.94	.67	.62	.46	*28.45
1900	.43	.42	1.46	1.62	2.58	3.66	3.97	1.19	2.50	1.45	.77	.58	20.63
1901	.76	.99	1.59	3.02	2.06	2.45	4.99	3.05	2.09	1.05	3.69	1.94	27.68
1902	.91	.57	2.90	4.26	3.29	6.02	3.32	1.27	.75	.92	.51	.47	25.19
1903	.61	.53	2.05	1.74	5.32	6.10	4.96	1.52	*1.98	.96	.74	.58	*26.89
1904	.36	.54	.58	1.04	1.07	3.51	1.71	1.16	.79	.68	.72	.42	12.58
1905	.29	.31	.92	1.98	4.01	2.76	1.38	2.36	1.14	1.67	1.23	.69	18.74
1906	.64	.49	2.26	3.38	1.49	2.82	2.38	1.22	1.18	2.04	1.68	2.15	21.73
1907	3.25	2.39	1.84	2.56	2.13	3.52	1.91	2.61	2.01	1.10	.81	.95	25.08
1908	.72	1.44	1.63	3.46	3.77	3.37	2.40	2.08	1.14	.98	.88	.67	22.54
1909	.48	.64	2.03	2.59	4.35	5.18	2.68	3.58	3.79	2.36	1.42	.70	29.80
1910	.72	.48	.90	1.92	1.98	1.89	1.10	2.20	1.98	2.45	1.08	.95	17.65
1911	.59	.41	1.10	2.99	5.19	2.06	6.03	1.53	.64	.86	.72	.47	20.59
1912	.75	.86	2.79	2.82	2.94	5.38	5.58	3.48	1.35	1.77	1.11	.77	29.60
1913	.61	.50	1.21	4.65	3.33	5.68	2.95	1.68	1.51	.62	.57	.42	23.73
1914	.41	.44	.61	.76	1.87	1.72	3.40	1.14	.51	.62	.55	.52	12.55
1915	.66	.41	2.92	4.23	3.43	1.88	1.33	1.07	1.11	1.47	.78	.85	20.14
1916	1.57	1.65	3.14	5.58	2.80	2.40	1.82	1.04	1.63	*4.71	1.77	.62	*28.73
1917	.58	.50	1.02	3.92	3.61	9.07	3.99	1.22	1.20	1.54	1.04	.79	28.48
1918	.67	.56	.51	1.89	4.48	1.60	3.08	2.09	1.04	.86	.62	.50	17.90
1919	.69	2.31	2.54	4.32	2.27	4.62	1.97	1.94	1.24	1.10	.74	.46	24.20
1920	.90	1.02	3.00	2.54	2.68	4.94	6.02	2.23	1.91	1.42	3.34	1.68	31.68
1921	.63	.60	2.84	2.64	4.41	2.00	3.16	1.61	.85	1.06	1.41	.60	21.81
1922	.52	1.00	1.91	3.91	3.19	6.78	3.63	3.34	2.01	1.31	.77	.50	28.87
1923	.40	.33	2.38	2.55	5.26	4.90	2.81	3.21	2.29	1.41	1.42	.67	27.63
1924	.42	.52	2.15	4.33	2.47	3.76	a3.20	a2.85	a2.21	a1.20	a.72	a.57	a24.38
1925	a.77	a.44	a1.45	a3.37	a1.84	a1.46	a.96	a1.11	a.41	a.45	a.22	a.16	a12.64
1926	.77	1.86	1.31	2.36	2.09	2.26	2.00	1.03	.87	.55	1.35	.69	17.12
1927	.40	1.23	4.94	3.79	3.68	4.70	3.06	1.29	1.99	.88	.90	.48	27.34
1928	.41	.77	2.18	2.20	1.76	2.71	4.08	2.64	3.42	2.51	1.56	2.14	26.38
1929	1.27	1.61	1.12	2.90	2.44	8.32	2.85	5.28	1.85	1.51	.80	1.03	30.98
1930	1.32	4.72	2.01	1.90	2.40	3.65	1.58	1.67	.72	.47	.41	.39	21.24

* Revised.

a Corrected.

a Adjusted for change in contents in Wilson Lake; figures given herein supersede unadjusted or adjusted figures published in WSP 583 and 603 and are based on the revised figures of lake contents; originally published figures of discharge in cubic feet per second per square mile should not be used. The effect of storage in Wilson Lake on monthly figures is minor after 1925.

Monthly and yearly runoff, in inches, of Tennessee River at Florence, Ala.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	0.36	0.65	0.87	1.34	1.28	1.49	3.05	1.48	0.65	0.73	0.83	0.54	13.27
1932	.30	.51	2.89	2.93	6.47	2.35	2.93	2.30	.98	1.52	.77	.43	24.18
1933	1.55	1.48	4.34	4.75	5.17	3.15	2.52	2.87	.81	.73	.78	.80	28.95
1934	.40	.37	.58	1.64	.60	5.78	2.32	1.00	1.17	.86	1.11	.65	16.48
1935	.95	.80	1.09	2.54	2.18	4.94	4.22	2.10	1.04	.74	.77	.50	21.87
1936	.33	1.14	1.01	4.90	3.89	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year			
		Observed				Adjusted ¹ /		Observed		Adjusted ¹ /	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1895	353	213,000	Jan. 17, 1895	9,990	44,300	-	1.44	19.51	43,900	-	19.33
1896	353	254,000	Apr. 9, 1896	10,500	39,300	-	1.28	17.38	41,900	-	18.53
1897	353,1436	444,000	Mar. 19, 1897	9,500	*58,900	-	*1.91	*25.99	*57,200	-	*25.22
1898	353	157,000	Jan.27-29,1898	8,550	38,400	-	1.25	16.92	42,900	-	18.89
1899	353,1436	*325,000	Mar. 20, 1899	11,000	*64,600	-	*2.10	*28.45	*60,800	-	*26.77
1900	353	243,000	Apr. 20, 1900	10,500	46,800	-	1.52	20.63	49,200	-	21.66
1901	353	238,000	Aug. 22, 1901	12,600	62,800	-	2.04	27.68	65,200	-	28.72
1902	353	275,000	Mar. 8, 9, 1902	11,000	57,200	-	1.86	25.19	54,500	-	24.00
1903	353	236,000	Mar. 6, 1903	9,020	61,100	-	1.98	*26.89	57,200	-	*25.18
1904	353	210,000	Mar. 27, 1904	-	28,400	-	.922	12.58	28,500	-	12.62
1905	353	201,000	Feb.12,13,1905	-	42,500	-	1.38	18.74	46,800	-	20.61
1906	353	155,000	Jan. 28, 1906	11,000	49,300	-	1.60	21.73	58,600	-	25.82
1907	353	201,000	Nov. 25, 1906	14,900	57,000	-	1.85	25.08	48,600	-	21.39
1908	353	206,000	Feb.19,20,1908	11,500	51,000	-	1.66	22.54	49,500	-	21.90
1909	353	250,000	Mar. 15, 1909	10,500	67,600	-	2.19	29.80	65,200	-	28.75
1910	353	127,000	Feb. 22, 1910	12,600	40,000	-	1.30	17.65	40,000	-	17.65
1911	353	293,000	Apr. 10, 1911	9,500	46,700	-	1.52	20.59	51,900	-	22.89
1912	353	250,000	Apr. 3, 1912	9,990	67,000	-	2.17	29.60	62,300	-	27.52
1913	353	231,000	Mar. 21, 1913	9,500	53,900	-	1.75	23.73	51,900	-	22.87
1914	383	*127,000	Apr. 4, 1914	8,150	28,500	-	.925	12.55	34,200	-	15.08
1915	403	231,000	Dec. 31, 1914	8,950	45,700	-	1.48	20.14	51,100	-	22.51
1916	433,1436	*252,000	July 12, 1916	12,300	*65,100	-	*2.11	*28.73	*55,400	-	*24.47
1917	453	319,000	Mar. 12, 1917	12,100	54,700	-	2.10	28.48	63,800	-	26.42
1918	473	278,000	Feb. 6, 1918	10,900	40,600	-	1.32	17.90	49,200	-	21.70
1919	503	236,000	Mar. 9, 1919	9,600	54,900	-	1.78	24.20	53,500	-	23.58
1920	503	300,000	Apr. 10, 1920	8,400	72,200	-	2.34	31.88	70,200	-	31.03
1921	523	223,000	Feb. 13, 1921	13,200	49,500	-	1.61	21.81	48,100	-	21.17
1922	543	268,000	Mar. 11, 1922	9,400	65,500	-	2.13	28.87	64,800	-	28.55
1923	563	215,000	Feb. 11, 1923	8,150	62,700	-	2.04	27.63	62,700	-	27.59
1924	583	196,000	Jan. 6, 1924	8,550	54,800	a55,200	a1.79	a24.38	53,700	a54,200	a23.95
1925	603	145,000	Jan. 16, 1925	5,100	28,400	a28,700	a.932	a12.64	31,400	a31,700	a13.92
1926	623	149,000	Jan. 23, 1926	3,000	38,800	-	1.26	17.12	44,800	-	19.75
1927	643	344,000	Dec. 29, 1926	8,660	62,100	-	2.02	27.34	54,800	-	24.13
1928	663	217,000	Apr. 24, 1928	9,050	59,700	-	1.94	26.38	61,200	-	27.02
1929	683	293,000	Mar. 25, 1929	12,800	70,300	-	2.28	30.98	79,500	-	35.23
1930	698	248,000	Nov. 19, 1929	8,170	48,200	-	1.56	21.24	34,200	-	15.07
1931	713	146,000	Apr. 10, 1931	7,590	30,100	-	.977	13.27	33,800	-	14.89
1932	728	244,000	Feb. 4, 1932	7,040	54,800	-	1.78	24.18	63,500	-	28.05
1933	743	272,000	Feb.20,21,1933	11,500	65,700	-	2.13	28.95	52,070	-	22.93
1934	758	266,000	Mar. 5, 1934	8,540	37,400	-	1.21	16.48	40,780	-	17.97
1935	783	208,000	Mar. 16, 1935	9,150	49,650	-	1.61	21.87	48,860	-	21.51
1936	803	313,000	Apr. 6, 1936	6,750	55,740	-	1.81	24.63	56,700	-	25.05
1937	823	247,000	Jan. 4, 1937	6,420	53,570	-	1.74	23.60	55,080	-	24.27
1938	853	185,000	Apr. 12, 1937	13,900	49,600	-	1.61	21.85	47,490	-	*20.93
1939	873	286,000	Feb. 17, 1939	*10,400	49,180	-	*1.60	*21.67	46,520	-	20.50
1940	893	118,000	Apr. 19, 1940	6,530	29,240	-	.949	12.90	31,610	-	13.96
1941	923	108,000	Apr. 5, 1941	8,570	26,870	-	.872	11.84	25,270	-	11.14
1942	953	138,000	Mar. 22, 1942	6,100	28,800	-	.937	12.72	36,200	-	15.95
1943	973	274,000	Jan. 2, 1943	16,500	48,260	-	1.57	21.26	43,820	-	19.30
1944	1003	304,000	Mar. 30, 1944	13,100	46,810	-	1.52	20.68	48,130	-	21.26
1945	1033	262,000	Feb. 22, 1945	14,100	45,320	-	1.47	19.97	49,160	-	21.66
1946	1053	355,000	Jan. 11, 1946	19,000	62,390	-	2.02	27.49	61,300	-	27.01
1947	1083	341,000	Jan. 20, 1947	12,500	49,200	-	1.60	21.68	45,530	-	20.06
1948	1113	395,000	Feb. 13, 1948	7,770	46,060	-	1.49	20.35	55,660	-	24.59
1949	1143	344,000	Jan. 8, 1949	11,800	67,280	-	2.18	29.65	65,910	-	29.04
1950	1173	288,000	Feb. 14, 1950	11,100	70,340	-	2.28	30.99	-	-	-

¹Adjusted for change in contents in Wilson Lake; no regulation prior to April 1924, and since 1926 the effect on the annual figures of runoff is negligible.

* Revised.

† Corrected.

‡ Not previously published.

Revised on basis of revisions to contents in Wilson Lake.

Note.--Monthly figures of discharge, in cubic feet per second per square mile, and runoff, in inches, for the period March to September 1936 published in WSP 803 may be subject to appreciable error because of storage in Norris Lake. These figures are not published herein and should not be used.

298. Cypress Creek near Florence, Ala.

Location.--Lat 34°48'27", long. 87°42'02", in NE¹ sec. 9, T. 3 S., R. 11 W., 100 ft down-stream from bridge on State Highway 2, 2 miles west of Florence, 4 miles downstream from Cox Creek, and 4 miles upstream from mouth.

Drainage area.--209 sq mi.

Gage.--Water-stage recorder. Datum of gage is 423.78 ft above mean sea level, datum of 1929.

Average discharge.--17 years (1933-50), 358 cfs.

Extremes.--1933-50: Maximum discharge, 20,600 cfs May 4, 1937; maximum gage height, 17.40 ft Feb. 13, 1948, backwater from Tennessee River; minimum discharge, 42 cfs Aug. 27, 1936 (gage height, 0.35 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	*86.0	*121	*190	*306	*188	*940	*227	*240	295	124	*111	101	*245
1935	95.7	146	178	463	811	989	496	367	235	106	69.5	62.6	332
1936	125	265	133	317	432	581	775	163	91.4	126	85.4	86.1	264
1937	356	318	607	1,719	584	380	317	1,060	182	131	101	164	495
1938	278	145	247	556	383	575	695	316	235	237	291	105	339
1939	79.3	187	145	608	1,612	984	654	609	820	328	194	99.4	519
1940	78.5	83.3	91.4	119	371	472	683	216	116	269	123	80.6	224
1941	64.2	225	275	368	236	221	319	117	73.0	298	119	61.0	198
1942	77.2	127	127	247	478	502	345	126	117	77.5	168	91.4	205
1943	76.3	84.1	419	202	248	419	350	136	81.4	56.7	94.3	113	191
1944	58.0	85.0	93.8	243	1,040	1,221	645	427	136	99.2	152	179	363
1945	94.1	92.1	393	855	1,192	834	540	350	230	106	122	70.2	402
1946	76.3	697	522	1,284	1,507	730	437	278	134	136	145	82.2	496
1947	74.5	223	186	872	363	521	738	430	238	114	154	91.6	334
1948	73.0	127	164	216	1,773	785	428	186	102	111	72.6	70.3	336
1949	62.3	579	599	1,388	677	823	452	367	484	576	293	137	537
1950	179	239	317	1,830	1,638	1,009	364	338	283	234	388	554	609

* Revised.

† Not previously published; estimated on basis of records for Shoal Creek at Iron City, Tenn.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	*0.47	*0.65	*1.05	*1.69	*0.94	*5.19	*1.21	*1.32	*1.58	0.68	*0.61	0.54	*15.93
1935	.53	.78	.98	2.55	4.04	5.46	2.65	2.03	1.26	.59	.38	.33	21.58
1936	.69	1.41	.73	1.75	2.23	3.21	4.14	.90	.49	.69	.47	.46	17.17
1937	1.96	1.70	*3.35	9.48	*2.91	2.10	*1.69	5.85	.97	.72	.56	.88	*32.17
1938	1.53	.77	1.36	5.07	1.91	3.17	3.71	1.74	1.26	1.31	1.60	.56	21.99
1939	.44	1.00	.80	3.35	8.03	5.43	3.49	3.36	4.58	1.81	1.07	.53	33.69
1940	.43	.44	.50	.66	1.92	2.60	3.65	1.19	.62	1.48	.68	.43	14.80
1941	.35	1.20	1.52	2.03	1.18	1.22	1.70	.64	.39	1.64	.65	.33	12.85
1942	.43	.68	.70	1.36	2.38	2.77	1.84	.70	.62	.43	.93	.49	13.33
1943	.42	.45	2.31	1.12	1.24	2.31	1.87	.75	.43	.37	.52	.60	12.39
1944	.32	.45	.52	1.34	5.36	6.74	3.44	2.35	.74	.55	.84	.96	23.61
1945	.52	.49	2.17	4.72	5.94	4.60	2.88	1.93	1.23	.59	.67	.37	26.11
1946	.42	3.72	2.88	7.09	7.51	4.03	2.33	1.53	.71	.75	.80	.44	32.21
1947	.41	1.19	1.03	4.81	1.81	2.88	3.94	2.37	1.27	.63	.85	.49	21.68
1948	.40	.68	.90	1.19	9.15	4.33	3.28	1.03	.55	.61	.40	.38	21.90
1949	.34	3.09	3.31	7.66	3.37	4.54	2.41	2.03	2.58	3.18	1.62	.73	34.86
1950	.99	1.27	1.75	10.09	8.16	5.57	1.94	1.87	1.51	1.29	2.14	2.96	39.54

* Revised.

† Corrected.

‡ Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1934	758,1438	-	-	-	*245	*1.17	*15.93	*247	*18.05
1935	803	8,270	Mar. 12, 1935	54	332	1.59	21.58	341	22.12
1936	803	6,170	Apr. 6, 1936	53	264	1.26	17.17	328	21.35
1937	823	20,600	May 4, 1937	48	495	2.37	*32.17	444	28.82
1938	853	4,780	Aug. 29, 1938	62	339	1.62	21.99	317	20.57
1939	873	11,700	Feb. 15, 1939	70	519	2.48	33.69	505	32.82
1940	895	14,000	Apr. 19, 1940	60	224	1.07	14.60	250	16.30
1941	923	2,280	July 4, 1941	52	198	.947	12.85	178	11.59
1942	953	2,880	Mar. 17, 1942	50	205	.981	13.33	226	14.70
1943	973	6,630	Dec. 28, 1942	48	191	.914	12.39	162	10.50
1944	1003	10,800	Mar. 28, 1944	55	363	1.74	23.61	391	25.50
1945	1033	13,600	Feb. 22, 1945	61	402	1.92	26.11	461	29.95
1946	1053	14,500	Nov. 22, 1945	67	496	2.37	32.21	428	27.82
1947	1083	4,400	Apr. 16, 1947	67	334	1.60	21.68	324	21.03
1948	1113	18,800	Feb. 13, 1948	57	336	1.61	21.90	409	26.66
1949	1143	12,700	Mar. 27, 1949	57	537	2.57	34.86	4.95	32.13
1950	1173	13,600	Feb. 14, 1950	101	609	2.91	39.54	-	-

† Corrected.

‡ Not previously published.

299. Tuscumbia Spring at Tuscumbia, Ala.

Location.--Lat 34°43'45", long. 87°42'18", in NW¼ sec. 9, T. 4 S., R. 11 W., at outlet of small lake formed by Tuscumbia Spring, near city park in Tuscumbia, Colbert County.

Gage.--Water-stage recorder and rectangular weir. Altitude of gage is 414 ft (from TVA land map).

Extremes.--1928-30: Maximum daily discharge, 160 cfs Mar. 9, 1929; maximum gage height, 15.05 ft Mar. 23, 1929 (caused by backwater from creek); minimum daily discharge, 19 cfs Dec. 23, 1928 (gage height, 0.88 ft).

Remarks.--Discharge determined by weir formula June 11, 1929 (corrected), to Apr. 17, 1930.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1929	-	-	28.8	45.9	83.4	120	125	123	110	103	68.2	65.9	-
1930	46.9	82.2	88.6	75.4	75.7	112	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Maximum daily		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1929	683	160	Mar. 9, 1929	-	-	-	-	88.5	-
1930	698	147	Mar. 15, 1930	-	-	-	-	-	-

300. Bear Creek near Red Bay, Ala.

Location (revised).--Lat 34°26'21", long. 88°06'41", in SW¼ sec. 22, T. 7 S., R. 15 W., 25 ft upstream from Norman bridge on Bear Creek, 2 miles east of Red Bay, Franklin County, on highway to Russellville, 5.2 miles below mouth of Blue Creek, and at mile 62.

Drainage area.--262 sq mi (revised).

Gage.--Staff gage. Altitude of gage is 515 ft (from topographic map). Prior to Apr. 10, 1918, staff gage at same site at datum 0.66 ft higher.

Average discharge.--6 years (1913-19), 416 cfs.

Extremes.--1913-20: Maximum discharge (revised), 4,660 cfs Apr. 2, 1920 (gage height, 15.0 ft, from graph of gage readings); minimum daily, 10 cfs Aug. 15-17, Sept. 17, 1918 (gage height, 1.2 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1913	-	-	-	-	-	-	-	-	-	-	-	61.2	-
1914	70.5	52.1	102	99.2	564	479	822	195	171	140	114	84.0	238
1915	99.9	82.3	696	1,010	1,020	428	246	222	85.7	168	242	95.1	361
1916	527	500	837	1,160	621	575	581	282	220	1,610	280	77.7	610
1917	79.5	85.2	426	798	1,220	1,820	852	179	543	206	204	101	539
1918	54.0	60.9	103	387	500	187	853	559	190	115	48.5	59.1	257
1919	189	354	447	664	607	1,490	469	399	560	202	368	139	492
1920	360	825	1,310	1,060	1,080	410	1,380	1,640	997	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1913	-	-	-	-	-	-	-	-	-	-	-	0.28	-
1914	0.31	0.22	0.45	0.44	2.24	2.11	3.50	0.86	0.73	0.62	0.50	.36	12.34
1915	.44	.27	3.06	4.43	4.05	1.88	1.05	.98	.37	.74	1.07	.41	18.75
1916	2.32	2.13	3.68	5.09	2.56	2.53	2.47	1.24	.94	7.08	1.23	.33	31.60
1917	.35	.36	1.87	3.51	4.83	8.01	3.63	.79	2.31	.91	.90	.43	27.90
1918	.24	.26	.45	1.70	1.99	.82	3.63	2.46	.81	.51	.21	.25	13.33
1919	.83	1.51	1.97	2.92	2.41	6.55	2.00	1.76	2.38	.89	1.70	.59	25.51
1920	1.58	3.51	5.74	4.66	1.69	6.06	6.99	4.39	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1913	(a)	-	-	-	-	-	-	-	-
1914	(a)	*4,110	Mar. 31, 1914	15	238	0.908	12.34	292	15.13
1915	(a)	*4,360	Feb. 1, 1915	27	361	1.58	18.75	446	23.11
1916	(a)	*4,610	July 9, 1916	66	610	2.23	31.60	502	26.05
1917	(a)	*4,560	Apr. 5, 1917	20	539	2.06	27.90	507	26.27
1918	(a)	b3,810	Apr. 9, 1918	10	257	.981	13.33	322	16.69
1919	503	*4,260	Mar. 9, 1919	20	492	1.88	25.51	619	32.03
1920	503	*4,660	Apr. 2, 1920*	-	-	-	-	-	-

* Revised.

* Not previously published.

a Tennessee Division of Geology, Bull. 34.

b Maximum observed.

301. Bear Creek at Bishop, Ala.

Location.--Lat 34°39'21", long. 88°07'21", in SE $\frac{1}{4}$ sec. 5, T. 5 S., R. 15 W., on left bank 20 ft upstream from highway bridge, half a mile downstream from Little Bear Creek, three-quarters of a mile southwest of Bishop, and at mile 27.3.

Drainage area.--667 sq mi.

Gage.--Water-stage recorder. Datum of gage is 419.91 ft above mean sea level, datum of 1929. Aug. 3, 1926, to June 23, 1928, and Feb. 10, 1929, to Mar. 31, 1932, staff gage 35 ft downstream at datum 5.00 ft (corrected) lower. June 7, 1933, to May 28, 1934, chain gage at bridge 20 ft downstream at same datum as staff gage.

Average discharge.--20 years (1926-27, 1929-31, 1933-50), 1,066 cfs.

Extremes.--1926-50: Maximum discharge, 32,000 cfs Dec. 26, 1926 (gage height, 22.0 ft, present datum, from floodmarks; minimum, 13 cfs Sept. 1, 1943 (gage height, -0.15 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1926	-	-	-	-	-	-	-	-	-	-	-	101	-
1927	80.1	474	6,309	2,049	2,336	3,103	1,236	892	426	146	232	62.1	1,446
1928	174	693	1,060	1,360	829	2,520	3,870	1,160	-	-	-	-	-
1929	-	-	-	-	-	5,200	1,871	1,575	452	365	235	454	-
1930	182	2,390	933	837	1,000	1,900	444	1,560	238	93.6	337	123	837
1931	200	415	517	801	1,150	1,590	-	-	214	364	227	57.3	657
1932	44.8	100	3,150	3,050	4,530	889	1,540	845	-	-	-	-	-
1933	-	-	-	-	-	-	-	-	-	764	328	445	-
1934	159	325	676	729	578	3,002	695	287	2,059	450	402	178	797
1935	206	334	565	2,018	1,790	3,661	1,354	1,333	564	184	118	72.3	1,015
1936	243	939	443	1,613	2,159	2,275	3,454	456	106	306	180	188	1,023
1937	251	366	666	4,346	1,758	1,179	892	1,426	285	371	234	495	1,022
1938	565	257	935	1,693	983	2,334	2,504	717	1,190	832	1,064	175	1,105
1939	93.8	439	293	2,010	5,526	2,806	2,215	1,813	2,750	698	334	141	1,563
1940	116	117	191	294	1,703	2,183	1,953	648	282	1,438	258	98.5	770
1941	100	689	1,392	1,433	754	1,309	855	214	112	810	179	88.7	663
1942	104	287	517	619	1,753	2,141	962	220	104	202	373	147	612
1943	75.1	118	1,139	586	1,120	1,812	816	281	111	99.2	52.0	105	524
1944	34.3	94.7	147	407	2,718	4,748	2,822	1,121	183	70.8	202	161	1,053
1945	67.7	93.2	706	1,800	4,251	2,813	1,259	678	756	264	463	91.2	1,082
1946	93.6	467	1,414	4,569	5,092	2,516	627	811	468	1,332	315	272	1,480
1947	130	1,010	683	4,540	1,122	1,774	2,735	837	534	213	319	142	1,171
1948	93.1	537	662	773	5,893	4,257	1,816	549	157	197	81.0	155	1,245
1949	83.4	1,841	1,662	6,555	2,650	1,903	1,569	756	482	773	316	330	1,574
1950	217	217	565	4,755	4,194	3,593	946	1,751	864	736	741	1,638	1,673

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1926	-	-	-	-	-	-	-	-	-	-	-	0.17	-
1927	0.14	0.79	10.91	3.54	3.65	5.36	2.07	1.54	0.71	0.25	0.40	1.10	29.46
1928	0.30	1.16	1.83	2.39	1.34	4.01	6.48	2.00	-	-	-	-	-
1929	-	-	-	-	-	8.99	3.13	2.72	.76	.63	.41	.76	-
1930	.32	3.99	1.62	1.45	1.57	3.29	.74	2.70	.40	.16	.58	.21	17.03
1931	.35	.69	.89	1.38	1.79	2.75	2.58	1.46	.36	.63	.39	.10	13.37
1932	.08	.17	5.44	5.28	7.33	1.54	-	-	-	-	-	-	-
1933	-	-	-	-	-	-	-	-	-	1.29	.57	.74	-
1934	.27	.54	1.17	1.26	.90	5.19	1.16	.50	3.44	.78	.70	.30	16.21
1935	.36	.56	.98	3.49	2.80	6.33	2.27	.20	.94	.32	.20	.12	20.67
1936	.42	1.57	.77	2.79	3.49	3.93	5.78	.79	.18	.53	.31	.31	20.87
1937	.43	.61	1.15	†7.51	†2.74	2.04	†1.49	†2.46	.48	.64	.40	.83	†20.78
1938	.98	.43	1.58	2.91	1.54	4.03	4.19	1.24	1.99	1.44	1.87	.29	22.49
1939	.16	.73	.51	3.47	8.63	4.85	3.70	3.13	4.60	1.21	.58	.24	31.81
1940	.20	.20	.33	.51	2.75	3.77	3.27	1.12	.47	2.49	.45	.16	15.72
1941	.17	1.15	2.41	2.48	1.18	2.26	1.43	.37	.19	1.40	.31	.15	13.50
1942	.18	.48	.89	1.07	2.74	3.70	1.61	.38	.17	.35	.64	.25	12.46
1943	.13	.20	1.97	1.01	1.75	3.13	1.36	.49	.19	.17	.09	.18	10.67
1944	.06	.16	.25	.70	4.39	8.21	4.72	1.94	.31	.12	.35	.27	21.48
1945	.12	.16	1.22	3.11	6.64	4.86	2.07	1.17	1.27	.46	.80	.15	22.03
1946	.16	.78	2.44	7.90	7.95	4.35	1.05	1.40	.78	2.30	.54	.45	30.10
1947	.22	1.69	1.18	7.65	1.75	3.07	4.58	1.45	.89	.37	.55	.24	23.84
1948	.16	.90	1.14	1.34	9.53	7.36	3.04	.95	.26	.34	.14	.26	25.42
1949	.14	3.08	2.87	11.33	4.14	3.29	2.63	1.31	.81	1.34	.55	.55	32.04
1950	.37	.36	.98	8.22	6.55	6.21	1.58	3.03	1.45	1.27	1.28	2.74	34.04

† Corrected.

Yearly discharge, in cubic feet per second, of Bear Creek at Bishop, Ala.

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1926	623	-	-	-	-	-	-	-	-
1927	643, 853	32,000	Dec. 26, 1926	28	1,448	2.17	29.46	1,028	20.91
1928	663	15,800	Apr. 24, 1928	-	-	-	-	-	-
1929	698, 853	30,500	Mar. 24, 1929	-	-	-	-	-	-
1930	698	11,400	Mar. 7, 1930	34	837	1.25	17.03	640	13.03
1931	713	6,100	Apr. 1, 1931	31	657	.985	13.37	842	17.13
1932	728	16,400	Dec. 14, 1931	-	-	-	-	-	-
1933	743	-	-	-	-	-	-	-	-
1934	758	17,000	June 7, 1934	68	797	1.19	16.21	792	16.13
1935	783	11,400	Mar. 7, 1935	38	1,015	1.52	20.67	1,058	21.53
1936	803	16,100	Apr. 6, 1936	34	1,023	1.53	20.87	995	20.30
1937	823	12,400	Jan. 2, 1937	72	1,022	1.53	20.87	1,061	21.58
1938	853	9,480	Mar. 12, 1938	86	1,103	1.66	22.49	1,027	20.90
1939	873	17,700	Feb. 15, 1939	77	1,563	2.34	31.81	1,530	31.14
1940	893	9,280	Apr. 19, 1940	64	770	1.15	15.72	917	18.72
1941	923	7,070	July 5, 1941	55	663	.994	13.50	556	11.32
1942	953	13,300	Mar. 17, 1942	52	612	.918	12.46	649	13.21
1943	973	7,950	Dec. 29, 1942	14	524	.786	10.67	434	8.84
1944	1003	25,400	Mar. 29, 1944	26	1,053	1.58	21.48	1,103	22.51
1945	1033	19,000	Feb. 22, 1945	47	1,082	1.62	22.03	1,175	23.91
1946	1053	22,000	Jan. 8, 1946	50	1,480	2.22	30.10	1,466	29.81
1947	1083	15,200	Jan. 2, 1947	65	1,171	1.76	23.84	1,127	22.95
1948	1113	29,600	Feb. 14, 1948	41	1,245	1.87	25.42	1,436	29.31
1949	1143	26,700	Jan. 6, 1949	63	1,574	2.36	32.04	1,358	27.66
1950	1173	25,000	Jan. 8, 1950	105	1,673	2.51	34.04	-	-

† Corrected.

302. Pickwick Lake at Pickwick Landing Dam, Tenn.1/

Location.--Lat 35°04'16", long. 88°15'04", at Pickwick Landing Dam on Tennessee River, 1½ miles north of town of Pickwick Dam, Hardin County, 6.1 miles upstream from Lick Creek, 52.7 (revised) miles downstream from Wilson Dam, and at mile 206.7.

Drainage area.--32,820 sq mi, approximately.

Gage.--Water-stage recorder. Datum of gage is mean sea level, datum of 1929.

Extremes.--1937-50: Maximum elevation, 419.49 ft Mar. 30, 1944; minimum (after first filling), 407.12 ft Dec. 18, 1944.

Remarks.--Reservoir is formed by concrete dam with riprapped earth embankments. Spillway equipped with 22 two-section lift gates 40 ft high by 40 ft wide, one of which is used as a trash gate. Dam completed and storage began Feb. 8, 1938 (corrected); water in reservoir first reached minimum pool elevation Feb. 18, 1938. Total level pool capacity at elevation 418.0 ft (top of gates) is 550,200 cfs-days of which 210,900 cfs-days is controlled flood storage above elevation 408.0 ft (minimum navigation pool). Reservoir is used for navigation, flood control, and power.

Cooperation.--Records furnished by Tennessee Valley Authority.

Contents, in thousands of cfs-days, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1938	11	3	25	17	352	441	450	445	451	514	434	388
1939	361	372	361	387	501	390	426	458	469	420	394	361
1940	345	345	359	363	397	471	503	466	445	436	434	397
1941	412	429	398	390	416	476	457	444	395	454	455	444
1942	364	347	348	424	404	463	518	472	458	445	411	378
1943	372	528	457	370	347	464	457	462	433	441	416	408
1944	371	357	359	345	556	584	462	466	460	422	435	390
1945	353	361	361	367	348	453	507	455	447	431	418	416
1946	392	408	357	362	383	413	459	452	443	435	419	395
1947	a366	390	377	388	374	464	462	446	455	446	402	406
1948	382	361	346	343	359	453	458	450	439	445	422	418
1949	393	539	367	372	362	452	479	459	462	429	414	397
1950	411	362	353	404	357	470	490	478	446	483	459	378

a Contents by backwater profile capacity table used beginning Oct. 1, 1946; contents Oct. 31, 1946, by level storage capacity table used prior to Oct. 1, 1946, is 364,000 cfs-days.

1/ Published as Pickwick Landing Reservoir prior to 1954.

303. Tennessee River at Savannah, Tenn.

Location.--Lat 35°13'29" long. 88°15'36", on left bank pier of bridge on U. S. Highway 64, at Savannah, Hardin County, 16.8 miles downstream from Pickwick Landing Dam, and at mile 189.9

Drainage area.--33,140 sq mi, approximately.

Gage.--Water-stage recorder. Datum of gage is 300.00 ft above mean sea level, datum of 1929. Prior to Apr. 7, 1945, at datum 41.61 ft higher. Since Oct. 1, 1948, auxiliary water-stage recorder on downstream end of lockwall in lower pool at Pickwick Landing Dam, 16.8 miles upstream. Apr. 5, 1937, to Jan. 31, 1939, auxiliary staff gages 4.0 miles downstream and Feb. 1, 1939, to Sept. 30, 1948, water-stage recorder 4.3 miles downstream

Average discharge.--20 years (1930-50), 52,080 cfs.

Extremes.--1930-50: Maximum discharge 396,000 cfs Feb. 16, 1948; maximum gage height, 92.29 ft Feb. 17, 1948; minimum daily discharge, 1,100 cfs Sept. 3, 1945, caused by experimental closure of Pickwick Landing Dam; minimum gage height, 41.20 ft, present datum, Oct. 20, 1931 (corrected).

Maximum stage known, 101.2 ft (present datum) Mar. 21, 1897, from floodmarks (discharge, 450,000 cfs, from rating curve extended above 320,000 cfs). Flood of Jan. 2, 1927, reached a stage of 92.7 ft, present datum (discharge 349,000 cfs).

Minimum stage known, 38.8 ft, present datum, Sept. 8, 1925.

Remarks.--Slight regulation by Wilson Lake and increasing regulation since 1936 as other reservoirs have been built above station (see elsewhere in this report). Flow now almost completely regulated.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	10,800	19,100	24,600	39,000	40,700	43,800	85,700	43,500	20,000	20,200	24,500	16,400	32,200
1932	8,650	9,610	81,700	86,500	95,000	65,100	83,800	65,100	29,000	47,100	22,100	16,000	58,700
1933	49,800	43,200	14,000	35,000	157,000	97,300	82,200	85,200	26,000	22,400	22,900	23,800	71,200
1934	12,190	11,850	18,280	45,950	18,890	52,800	72,680	29,820	37,890	24,530	30,110	19,850	39,780
1935	25,950	22,780	30,330	77,430	72,770	44,500	27,400	63,280	51,680	21,060	21,320	15,290	54,040
1936	11,020	34,580	30,040	28,900	14,300	85,410	92,600	30,060	16,400	31,330	19,060	19,070	59,030
1937	24,180	23,740	42,540	98,700	34,800	63,860	39,660	73,420	27,400	23,590	24,250	25,230	58,140
1938	31,320	26,760	39,930	60,640	40,160	79,520	97,410	45,500	57,940	52,810	60,050	21,410	51,210
1939	18,570	28,800	29,170	46,380	201,500	51,000	66,700	39,620	41,730	28,560	24,460	19,750	55,350
1940	15,070	14,300	13,640	14,900	46,410	60,410	61,740	29,970	19,920	36,690	34,670	32,630	31,610
1941	22,080	24,660	29,630	41,780	29,390	30,510	42,520	24,750	18,720	35,670	26,550	20,660	28,930
1942	19,760	17,710	19,850	26,440	45,110	69,770	35,410	19,740	21,610	25,640	45,120	35,980	51,760
1943	27,910	30,070	79,970	40,400	91,280	61,700	55,050	39,320	28,410	29,740	31,700	32,370	50,870
1944	28,540	31,770	25,810	36,980	84,370	134,300	112,800	46,450	29,030	26,680	28,240	30,690	51,130
1945	31,760	31,200	46,330	76,200	117,400	83,750	42,790	60,910	34,940	30,340	35,800	30,990	51,520
1946	29,290	36,830	89,140	67,800	157,800	76,520	44,680	58,110	39,430	39,940	34,580	37,850	67,220
1947	37,470	53,970	47,880	61,000	72,670	68,330	46,310	37,070	30,110	27,380	26,660	24,280	52,750
1948	22,640	33,810	38,760	38,700	60,000	96,870	63,660	33,000	30,200	27,990	28,130	27,460	49,620
1949	29,710	60,390	25,800	80,300	102,800	62,810	50,240	47,170	41,670	63,560	45,240	45,750	71,270
1950	47,930	63,700	61,430	46,800	188,700	103,700	59,310	42,130	39,690	39,580	46,070	71,700	75,220

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	0.58	0.64	0.86	1.36	1.28	1.52	2.89	1.51	0.67	0.70	0.65	0.55	13.21
1932	.30	.32	2.84	3.01	6.56	2.26	2.82	2.26	.98	1.64	.77	.54	24.10
1933	1.73	1.45	3.97	4.70	4.92	3.39	2.77	2.96	.88	.78	.80	.80	29.15
1934	.42	.40	.64	1.60	.59	5.32	2.45	1.04	1.28	.85	1.05	.67	16.31
1935	.90	.77	1.06	2.69	2.29	4.89	4.29	2.20	1.07	.73	.74	.51	22.14
1936	.38	1.16	1.04	4.48	3.72	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1931	713	132,000	Apr. 10, 1931	8,670	32,200	0.972	13.21	36,100	14.79
1932	728	228,000	Feb. 8, 1932	8,010	58,700	1.77	24.10	67,700	27.79
1933	743	246,000	Feb. 23, 1933	13,800	71,200	2.15	29.15	57,300	23.46
1934	758	239,000	Mar. 8, 1934	10,400	39,780	1.20	16.31	42,870	17.58
1935	783	202,000	Mar. 17, 1935	10,300	54,040	1.63	22.14	53,720	21.99
1936	803	314,000	Apr. 10, 1936	7,440	59,030	1.78	24.22	60,310	24.77
1937	823	234,000	Jan. 27, 1937	8,720	58,140	.75	23.81	58,770	22.07
1938	853	168,000	Apr. 11, 1938	10,000	51,210	1.55	20.98	49,380	20.23
1939	873	299,000	Feb. 17, 1939	14,300	55,350	1.67	22.66	52,540	21.52
1940	893	111,000	Mar. 16, 1940	13,400	31,610	.954	12.98	34,410	14.13
1941	923	81,500	Apr. 7, 1941	16,000	28,930	.873	11.85	27,310	11.19
1942	953	117,000	Mar. 23, 1942	14,800	31,760	.958	13.01	38,600	15.81
1943	973	265,000	Jan. 3, 1943	25,200	50,870	1.54	20.84	46,460	19.03
1944	1003	302,000	Apr. 1, 1944	21,100	51,130	1.54	21.00	53,090	21.81
1945	1033	231,000	Feb. 23, 1945	1,100	51,520	1.55	21.10	55,400	22.69
1946	1053	370,000	Jan. 13, 1946	11,200	67,220	2.03	27.53	65,820	26.96
1947	1083	279,000	Jan. 20, 1947	8,500	52,750	1.59	21.61	49,060	20.09
1948	1113	398,000	Feb. 16, 1948	5,600	49,620	1.50	20.38	59,770	24.55
1949	1143	310,000	Jan. 8, 1949	10,800	71,270	2.15	29.19	69,320	28.39
1950	1173	280,000	Feb. 14, 1950	12,400	75,220	2.27	30.81	-	-

Note.--Monthly figures of discharge, in cubic feet per second per square mile, and runoff, in inches, for the period March to September 1936, previously published in WSP 805, may be subject to appreciable error because of storage in Norris Lake. These figures are not published herein and should not be used.

304. Horse Creek near Savannah, Tenn.

Location--Lat 35°12'52", long. 88°12'59", 700 ft above old State Highway 15 bridge, 1.2 miles above present bridge on State Highway 15, 1.5 miles east of Savannah, Hardin County, and 9 miles (revised) above mouth.

Drainage area--114 sq mi (revised).

Gage--Staff gage. Altitude of gage is 385 ft (from topographic maps).

Extremes--1929-34: Maximum discharge observed, 4,670 cfs Jan. 30, 1932 (gage height, 13.5 ft), from rating curve extended above 31,100 cfs; minimum, 22 cfs Oct. 2, 4-8, 1931 (gage height, 0.57 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1929	-	-	-	-	-	-	-	-	-	-	-	-	-
1930	86.8	172	120	388	288	357	104	133	54.6	39.8	38.1	77.4	152
1931	43.8	72.4	74.2	88.2	162	206	168	77.6	35.2	37.2	99.1	27.7	90.5
1932	25.3	53.4	444	683	577	205	214	113	69.2	*469	50.5	137	*253
1933	342	122	351	281	681	429	420	462	82.6	94.7	73.1	69.2	282
1934	55.3	66.6	100	134	91.6	316	-	-	-	-	-	-	-

* Revised mean daily discharge for July 5, 1932, is 3,320 cfs.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1929	-	-	-	-	-	-	-	-	-	-	-	-	-
1930	0.88	1.68	1.22	3.92	2.63	3.61	1.02	1.35	0.53	0.40	0.38	0.73	18.12
1931	.44	.71	.75	.89	1.48	2.08	1.65	.78	.34	.38	1.00	.27	10.77
1932	.26	.52	4.49	6.90	5.46	2.07	2.10	1.14	.68	*4.74	.51	1.34	*30.21
1933	3.46	1.19	3.55	2.84	6.22	4.34	4.11	4.67	.81	.96	.74	.68	33.57
1934	.56	.65	1.01	1.36	.84	3.20	-	-	-	-	-	-	-

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1929	683	-	-	-	-	-	-	-	-
1930	696	3,050	Mar. 7, 1930	29	152	1.33	18.12	136	16.24
1931	713	a1,000	Aug. 8, 1931	23	90.5	.794	10.77	119	14.14
1932	728	a4,670	Jan. 30, 1932	22	*253	*2.22	*30.21	*278	*33.14
1933	743	a4,360	Mar. 19, 1933	46	282	2.47	33.57	232	27.59
1934	758	a2,210	Mar. 3, 1934	-	-	-	-	-	-

* Revised.

a Maximum observed.

305. Tennessee River at Perryville, Tenn.

Location (revised)--Lat 35°37'41", long. 88°02'04", at Alvin C. York Bridge on State Highways 20 and 100, three-quarters of a mile north of Perryville, Decatur County, three-quarters of a mile below Beech River, 5 miles east of Parsons, and at mile 134.9.

Drainage area--34,550 sq mi, approximately (revised).

Gage--Staff gage. Datum of gage is 327.74 ft (revised) above mean sea level, datum of 1929.

Extremes--1931-32: Maximum discharge, 233,000 cfs Feb. 8, 1932 (gage height, 37.4 ft); minimum, 7,880 cfs Nov. 17, 1931 (gage height, -1.00 ft).

Remarks--Slight regulation by Wilson Lake (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	-	-	-	-	-	-	-	-	-	20,800	26,400	17,600	-
1932	8,940	10,100	85,900	95,000	207,000	68,200	87,900	89,000	30,200	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	-	-	-	-	-	-	-	-	-	0.69	0.88	0.57	-
1932	0.30	0.33	2.87	3.17	6.45	2.28	2.84	2.30	0.98	-	-	-	-

306. Duck River near Manchester, Tenn.

Location.--Lat 35°29'43", long. 86°06'13", at bridge on U. S. Highway 41, 1.2 miles (revised) northwest of Manchester, Coffee County, and 1½ miles above Little Duck River.

Drainage area.--55.2 sq mi (revised).

Gage.--Chain gage. Altitude of gage is 978 ft (from topographic maps).

Extremes.--1932-34: Maximum discharge, 6,300 cfs Mar. 24, 1934 (gage height, 11.30 ft); minimum, 6.0 cfs Aug. 8-10, 1932 (gage height, 1.52 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	54.7	11.3	10.0	-
1933	55.4	56.1	252	184	316	204	208	121	20.2	16.9	20.8	26.9	122
1934	10.6	15.3	25.5	52.7	29.8	469	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	1.14	0.24	0.20	-
1933	1.16	1.13	5.26	3.85	5.96	4.26	4.21	2.52	0.41	.35	.43	.54	30.08
1934	.22	.31	.53	1.10	.56	.98	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1932	728	-	-	-	-	-	-	-	-
1933	743	2,740	Mar. 19, 1933	9.0	122	2.21	30.08	96.0	23.59
1934	758	6,300	Mar. 24, 1934	-	-	-	-	-	-

307. Little Duck River at Manchester, Tenn.

Location.--Lat 35°29'10", long. 86°05'27", at bridge on U. S. Highway 41, 2 blocks northwest of courthouse at Manchester, Coffee County, 2.1 miles (revised) above mouth of Duck River.

Drainage area.--36.4 sq mi (revised).

Gage.--Chain gage. Altitude of gage is 977 ft (from topographic map).

Extremes.--1932-34: Maximum discharge, 2,920 cfs Feb. 14, 1933 (gage height, 7.06 ft); minimum, 2.6 cfs Sept. 9, 1932 (gage height, 0.92 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	35.9	6.38	5.52	-
1933	31.6	26.3	129	76.4	196	98.8	97.3	144	14.2	13.7	23.2	12.0	71.3
1934	7.90	8.90	11.5	27.1	35.8	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	1.14	0.20	0.17	-
1933	1.00	0.81	4.10	2.42	5.60	3.13	2.98	4.57	0.44	.43	.73	.37	26.58
1934	.25	.27	.36	.86	1.02	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1932	728	-	-	-	-	-	-	-	-
1933	743	2,920	Feb. 14, 1933	3.2	71.3	1.96	26.58	57.8	21.55
1934	758	-	-	-	-	-	-	-	-

308. Duck River below Manchester, Tenn.

Location.--Lat 35°28'15", long. 86°07'18", 50 ft downstream from Powers Bridge, 2 miles southwest of Manchester, Coffee County 3½ miles (revised) downstream from Little Duck River, and 7 miles upstream from Crumpton Creek.

Drainage area.--107 sq mi.

Gage.--Water-stage recorder. Datum of gage is 878.23 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to May 15, 1934, staff gage at same site and datum.

Average discharge.--16 years (1934-50), 173 cfs.

Extremes.--1934-50: Maximum discharge, 30,000 cfs Feb. 13, 1948 (gage height, 18.93 ft), from rating curve extended above 12,000 cfs on basis of slope-area determination of peak flow; minimum, 8 cfs Aug. 12, 1934; minimum gage height, 0.57 ft Sept. 19, 20, 1947.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	89.4	45.4	75.8	29.6	20.4	25.7	-
1935	27.4	46.7	38.4	115	274	460	458	78.8	41.4	48.2	33.1	20.0	136
1936	20.4	58.7	50.9	253	207	429	389	44.6	23.8	99.0	25.1	24.5	135
1937	41.5	73.4	229	1,088	351	158	143	293	54.8	36.1	43.6	29.7	212
1938	49.2	31.4	88.0	330	187	234	324	134	122	79.7	68.7	34.5	140
1939	22.3	140	113	276	1,119	558	272	50.6	163	94.5	137	25.6	241
1940	15.1	20.6	31.6	28.6	286	522	246	87.7	33.8	59.2	30.7	22.7	115
1941	23.9	29.6	35.0	106	57.0	135	268	34.2	25.3	35.6	35.2	15.9	66.6
1942	15.6	20.8	34.1	62.7	293	310	79.4	48.1	26.1	34.4	192	32.2	94.5
1943	19.3	53.2	553	162	324	332	311	76.9	32.2	44.8	43.5	121	172
1944	26.8	29.6	53.6	199	729	713	324	91.9	34.7	25.7	27.3	115	195
1945	50.7	33.8	221	379	726	315	183	303	49.4	28.9	58.5	21.0	194
1946	21.8	145	415	*621	634	264	116	153	159	44.2	27.6	28.1	*217
1947	24.5	74.1	102	687	190	224	*146	113	49.9	48.4	30.8	15.1	*142
1948	18.3	27.8	84.3	90.7	125	475	234	45.3	29.2	30.6	30.8	19.4	173
1949	18.8	165	39	1,131	397	375	277	149	113	116	38.4	287	267
1950	31.5	50.7	139	1,314	748	523	103	116	58.8	58.6	46.0	92.8	272

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	-	-	-	-	-	-	0.93	0.49	0.79	0.32	0.22	0.27	-
1935	0.29	0.49	0.41	1.24	2.66	4.96	4.78	.85	.43	.52	.36	.21	17.20
1936	.22	.61	.55	2.73	2.08	4.62	4.05	.48	.25	1.07	.27	.26	17.19
1937	.45	.77	2.47	11.76	3.41	1.71	1.50	3.16	.57	.39	.47	.31	26.37
1938	.53	.35	.95	3.55	1.82	2.52	3.38	1.45	1.27	.86	.74	.36	17.76
1939	.24	1.46	1.22	2.97	10.89	6.01	2.84	.55	1.70	1.02	1.47	.27	30.64
1940	.16	.21	.34	.31	2.88	5.63	2.56	.95	.35	.64	.33	.24	14.60
1941	.26	.31	.38	1.14	.55	1.45	2.79	.37	.26	.38	.38	.17	8.44
1942	.17	.22	.37	.68	2.85	3.34	.83	.50	.27	.37	2.07	.34	12.01
1943	.21	.55	5.96	1.74	3.16	3.58	3.24	.83	.34	.48	.47	1.28	21.82
1944	.29	.31	.58	2.14	7.35	7.68	3.38	.99	.28	.28	.29	1.20	24.85
1945	.55	.35	2.38	4.08	7.07	3.39	1.91	3.27	.52	.31	.63	.22	24.68
1946	.23	1.51	4.47	*6.69	6.17	2.85	1.20	1.65	1.66	.48	.30	.29	*27.50
1947	.26	.77	1.10	7.40	1.85	2.41	*1.52	1.22	.52	.52	.33	.16	*18.06
1948	.20	.29	.37	.65	11.34	5.12	2.43	.49	.30	.33	.33	.20	22.05
1949	.20	1.74	4.24	12.18	3.86	4.04	2.89	1.59	1.17	1.25	.43	.36	33.95
1950	.34	.53	1.50	14.16	7.28	5.64	1.07	1.25	.61	.63	.50	.97	34.48

* Revised.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1934	758	-	-	-	-	-	-	-	-
1935	783	10,600	Apr. 6, 1935	17	136	1.27	17.20	137	17.39
1936	803	4,840	Apr. 6, 1936	15	135	1.26	17.19	153	19.50
1937	823	12,900	Jan. 2, 1937	21	212	1.98	26.97	197	25.09
1938	853	2,140	Apr. 8, 1938	24	140	1.31	17.76	149	18.87
1939	873	8,900	Feb. 3, 1939	20	241	2.25	30.64	224	28.43
1940	893	3,220	Mar. 12, 1940	11	115	1.07	14.60	117	14.84
1941	923	4,400	Apr. 4, 1941	14	66.6	.622	8.44	65.1	8.25
1942	953	3,080	Mar. 17, 1942	14	94.5	.883	12.01	142	17.97
1943	973	7,950	Dec. 28, 1942	15	172	1.61	21.82	128	16.28
1944	1003	6,350	Mar. 29, 1944	18	195	1.82	24.85	212	26.95
1945	1033	7,250	Feb. 17, 1945	15	194	1.81	24.68	218	27.61
1946	1053, 1436	7,600	Jan. 8, 1946	15	*217	*2.03	*27.50	*185	*23.42
1947	1083, 1456	3,090	Jan. 2, 1947	9.1	*142	*1.33	*18.06	*132	*16.79
1948	1113	30,000	Feb. 13, 1948	12	173	1.62	22.05	215	27.37
1949	1143	24,600	Jan. 5, 1949	15	268	2.50	33.95	238	30.14
1950	1173	8,200	Jan. 30, 1950	16	272	2.54	34.48	-	-

* Revised.

309. Duck River at Normandy, Tenn.

Location.--Lat 35°27'26", long. 86°15'25", at county highway bridge half a mile north of Normandy, Bedford County, 3.3 miles (revised) upstream from Nashville, Chattanooga & St. Louis Railway bridge, and 7.5 miles upstream from mouth of Garrison Fork.

Drainage area.--208 sq mi (revised).

Gage.--Staff gage. Datum of gage is 785.65 ft (revised) above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1920-31: Maximum discharge, 60,000 cfs (revised) Mar. 23, 1929 (gage height, 18.1 ft), from rating curve extended above 4,530 cfs; minimum, 40 cfs Sept. 30, 1931 (gage height, 0.72 ft); minimum gage height, 0.60 ft July 30 to Oct. 2 (revised), Oct. 5-7, 1925.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	*90.0	*99.2	*267	281	1,010	312	728	196	105	126	105	81.8	*278
1922	68.8	336	342	578	636	1,540	901	398	400	109	94.0	73.3	455
1923	61.8	63.5	812	565	1,170	924	581	665	306	322	275	221	*494
1924	84.9	87.9	505	994	617	553	419	689	201	94.2	77.0	71.9	568
1925	*61.8	*62.7	117	211	446	173	402	272	*71.5	*55.7	45.0	45.0	161
1926	165	297	201	321	317	253	192	109	372	*90.5	300	123	227
1927	72.9	164	2,005	668	967	726	*1,544	298	168	119	146	72.5	*577
1928	66.6	106	317	573	254	846	922	262	831	214	122	88.4	383
1929	365	566	281	901	727	*2,806	855	670	201	165	86.5	115	*647
1930	117	821	377	315	713	765	272	331	113	77.1	69.5	72.2	334
1931	66.5	68.7	84.5	96.4	166	277	227	133	55.8	59.6	52.1	45.4	111

* Revised.

† Corrected.

‡ Not previously published; estimated on the basis of records for station at Columbia.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1921	*0.50	*0.53	*1.48	1.56	5.06	1.73	3.90	1.09	0.56	0.70	0.58	0.44	*18.13
1922	.38	1.80	1.89	3.20	3.18	8.51	4.83	2.20	2.15	.61	.52	.59	29.66
1923	.34	.34	4.50	3.12	5.87	5.12	3.12	5.69	1.64	1.79	1.53	1.19	32.25
1924	.47	.53	2.80	5.51	3.20	3.07	2.25	3.82	1.08	.52	.43	.39	24.07
1925	.34	.34	.65	1.17	2.23	.96	2.16	1.51	.38	.31	.25	.24	10.54
1926	.92	1.59	1.11	1.78	1.59	1.40	1.03	.60	2.00	.50	1.66	.66	14.84
1927	.40	.88	*11.11	3.70	4.84	4.03	*8.28	1.65	.90	.66	.81	.39	*37.65
1928	.37	.57	1.76	3.18	1.32	4.69	4.95	1.45	4.46	1.19	.68	.47	25.09
1929	2.02	3.04	1.56	4.99	3.64	*15.55	4.59	3.71	1.08	.92	.48	.62	*42.20
1930	.65	4.40	2.09	1.75	3.57	4.24	1.46	1.83	.61	.43	.39	.39	21.81
1931	.37	.37	.47	.53	.83	1.53	1.22	.74	.30	.33	.29	.24	7.22

* Revised.

‡ Not previously published; estimated on the basis of records for station at Columbia.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1921	523	a6,000	Apr. 16, 1921	-	*278	*1.33	*18.13	302	19.69
1922	543	*19,500	Mar. 2, 1922	50	455	2.19	29.66	472	30.77
1923	563	a7,600	July 23, 1923	50	*494	2.37	32.25	473	30.87
1924	583	5,120	Jan. 3, 1924	65	368	1.77	24.07	330	21.60
1925	603	a5,010	Apr. 28, 1925	45	161	.774	10.54	197	12.83
1926	623	a2,070	June 22, 1926	45	227	1.09	14.84	*362	*23.61
1927	643,1436	*22,400	Dec. 25, 1926	60	*577	*2.77	*37.65	*428	*27.96
1928	663	*17,000	June 29 or 30	62	383	1.84	25.09	443	29.01
1929	683,1436	*60,000	Mar. 23, 1929	62	*647	*3.11	*42.20	*655	*42.72
1930	698	a4,020	Nov. 2, 1929	60	334	1.61	21.81	243	15.88
1931	713	a1,120	Mar. 28, 1931	40	111	.534	7.22	-	-

* Revised.

† Corrected.

‡ Not previously published.

a Maximum observed.

310. Duck River near Shelbyville, Tenn.

Location (revised).--Lat 35°28'49", long 86°29'57", 150 ft downstream from Sims Bridge, 2.1 miles upstream from Sugar Creek, 2.2 miles west of Shelbyville, Bedford County, 2.9 miles downstream from Flat Creek, and at mile 216.2.

Drainage area.--481 sq mi.

Gage.--Water-stage recorder. Datum of gage is 685.51 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--17 years (1933-50), 773 cfs.

Extremes.--1933-50: Maximum discharge, 62,900 cfs Feb. 13, 1948 (gage height, 36.40 ft, from floodmark), from rating curve extended above 27,000 cfs on basis of slope-area determination of peak flow; minimum, 5 cfs Aug. 23, 1936; minimum daily, 20 cfs (corrected) Sept. 2, 1945.

Remarks.--Prior to February 1948, diurnal fluctuation caused by powerplants above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	\$75.0	\$149	\$595	\$695	\$339	\$3,470	\$410	200	377	197	123	128	\$568
1935	115	268	171	674	1,243	1,772	1,708	281	196	150	139	83.5	561
1936	84.7	465	302	1,106	859	1,818	1,667	177	83.1	774	95.3	89.5	626
1937	277	653	1,447	5,023	1,536	631	493	1,394	261	139	363	143	1,033
1938	349	172	859	1,496	825	839	1,299	592	426	351	334	169	625
1939	86.0	650	501	1,416	4,734	2,581	1,376	282	1,081	627	407	99.4	1,111
1940	80.5	88.5	137	134	1,355	1,951	988	376	135	157	119	73.3	463
1941	69.4	151	221	478	250	557	948	113	77.9	305	179	62.9	284
1942	50.8	128	275	520	1,521	1,219	374	266	179	167	848	197	465
1943	94.4	252	2,100	612	1,364	1,333	1,363	463	160	181	247	612	728
1944	94.2	157	305	966	2,984	3,276	1,261	486	159	124	153	668	878
1945	230	123	1,080	1,674	3,443	1,330	682	1,410	284	111	213	84.3	874
1946	108	1,088	1,998	2,963	2,909	1,194	552	713	565	194	109	157	1,036
1947	123	731	646	3,348	808	1,062	665	516	429	359	169	84.3	755
1948	74.2	157	297	401	5,009	2,103	1,240	194	111	139	103	66.2	806
1949	101	1,271	1,775	4,335	1,452	1,362	871	602	738	574	174	118	1,116
1950	167	214	741	5,016	3,141	2,182	541	630	374	535	217	788	1,204

* Not previously published; estimated on the basis of records for station at Columbia.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1934	\$0.18	\$0.35	\$1.43	\$1.67	\$0.73	\$8.32	\$0.95	0.48	0.87	0.47	0.29	0.30	\$16.04
1935	.28	.62	.41	1.62	2.69	4.25	3.96	.67	.46	.36	.33	.19	15.84
1936	.20	1.08	.72	2.65	1.93	4.36	3.87	.42	.19	1.86	.23	.21	17.72
1937	.66	1.52	3.47	12.04	3.33	1.51	1.14	3.34	.61	.33	.87	.33	29.15
1938	.84	.40	1.58	3.58	1.79	2.01	3.01	1.42	.99	.84	.80	.39	17.65
1939	.21	1.51	1.20	3.39	10.25	5.71	3.19	.68	2.51	1.50	.98	.23	31.36
1940	.19	.21	.33	.32	3.04	4.68	2.29	.90	.31	.38	.29	.17	13.11
1941	.17	.35	.53	1.15	.54	1.34	2.20	.27	.18	.73	.43	.15	8.04
1942	.12	.30	.66	1.25	3.08	2.92	.87	.64	.42	.40	2.03	.46	13.15
1943	.23	.58	5.03	1.47	2.95	3.19	3.18	1.11	.37	.43	.59	1.42	20.53
1944	.23	.36	.73	2.31	6.69	7.86	2.95	1.17	.37	.30	.37	1.55	24.87
1945	.55	.28	2.59	4.10	7.45	3.19	1.58	3.38	.66	.27	.51	.20	24.67
1946	.26	2.52	4.79	7.10	6.30	2.86	1.28	1.71	1.31	.47	.26	.36	29.22
1947	.29	1.70	1.55	8.03	1.97	2.55	1.54	1.24	1.00	.86	.41	.20	21.34
1948	.18	.36	.71	.96	11.23	5.04	2.88	.46	.26	.33	.25	.15	22.81
1949	.24	2.95	4.26	10.39	3.14	3.26	2.02	1.44	1.71	1.37	.42	.27	31.47
1950	.40	.50	1.78	12.02	6.80	5.23	1.26	1.51	.87	1.28	.52	1.83	34.00

* Not previously published; estimated on the basis of records for station at Columbia.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1934	783	-	-	-	\$568	\$1.18	\$16.04	\$545	\$15.39
1935	783	17,900	Apr. 6, 1935	26	561	1.17	15.84	566	16.53
1936	803	15,000	Apr. 6, 1936	27	626	1.30	17.72	755	21.37
1937	823	24,200	Jan. 3, 1937	32	1,033	2.15	29.15	932	26.32
1938	853	7,910	Jan. 22, 1938	45	625	1.30	17.65	629	17.75
1939	873	22,400	Feb. 15, 1939	46	1,111	2.31	31.36	1,033	29.17
1940	893	7,500	Mar. 12, 1940	48	463	.963	13.11	474	13.43
1941	923	8,740	Apr. 4, 1941	42	284	.590	8.04	285	8.07
1942	953	7,680	Mar. 17, 1942	38	465	.967	13.15	634	17.91
1943	973	15,200	Dec. 29, 1942	56	728	1.51	20.53	568	16.01
1944	1003	20,000	Mar. 29, 1944	69	878	1.83	24.87	953	26.97
1945	1033	17,900	Feb. 22, 1945	20	674	1.82	24.67	1,021	28.82
1946	1053	20,000	Jan. 8, 1946	60	1,036	2.15	29.22	893	25.19
1947	1083	14,800	Jan. 2, 1947	61	755	1.57	21.34	674	19.05
1948	1113	62,900	Feb. 13, 1948	57	806	1.68	22.81	1,025	29.01
1949	1143	34,400	Jan. 6, 1949	68	1,116	2.32	31.47	1,033	26.70
1950	1173	17,700	Jan. 31, 1950	86	1,204	2.50	34.00	-	-

* Not previously published.

311. Duck River at Columbia, Tenn.

Location (revised).--Lat 35°37'05", long. 87°01'56", 4 ft downstream from bridge on former U. S. Highway 31, 2 blocks north of public square at Columbia, Maury County, 0.7 mile downstream from Columbia hydroelectric plant, 2.4 miles upstream from Rutherford Creek, and at mile 132.8.

Drainage area.--1,208 sq mi.

Supplemental records available.--Gage-height records collected in this vicinity, during periods of high water, since 1886, are contained in reports of the U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 535.52 ft above mean sea level, datum of 1929. Prior to Jan. 9, 1925, chain, tape, or staff gages near this site. All gages at datum 2.37 ft higher prior to Oct. 1, 1933.

Average discharge.--34 years (1904-8, 1920-50), 1,907 cfs.

Extremes.--1904-8, 1920-50: Maximum discharge, 61,100 cfs Feb. 14, 1948 (gage height, 51.75 ft); no flow Oct. 22, 1922.
Flood of Mar. 30, 1902, reached a stage of 48.0 ft, present datum (discharge, 50,700 cfs).

Remarks.--Diurnal fluctuations caused by powerplant above station.

Water year	Monthly and yearly mean discharge, in cubic feet per second												The year
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1905	#133	136	1,710	2,000	4,220	3,080	642	3,510	1,960	1,220	655	385	#1,630
1906	1,050	307	3,050	4,430	679	3,600	1,800	542	360	1,400	734	2,040	1,680
1907	5,150	1,790	2,640	2,790	2,730	4,960	660	2,550	1,350	1,150	295	669	2,070
1908	197	1,180	1,820	3,220	5,110	3,440	1,660	1,840	854	375	508	854	1,740
1909	189	282	1,590	-	-	-	-	-	-	-	-	-	-
1920	-	-	-	-	-	-	-	1,630	2,780	275	1,990	1,410	-
1921	261	351	1,560	1,520	5,800	2,170	4,200	683	459	346	1,030	338	1,530
1922	143	2,150	1,350	3,090	3,560	3,160	4,650	2,690	1,360	247	372	82.4	2,420
1923	165	225	4,300	5,270	5,860	5,460	2,320	3,260	1,570	653	1,590	857	2,450
1924	131	190	2,930	6,000	3,720	2,720	1,030	2,950	1,010	323	181	146	1,780
1925	#57.9	68.0	927	2,480	3,130	1,200	1,430	1,280	242	166	67.0	#58.7	912
1926	1,950	5,060	1,280	2,020	1,550	1,350	1,030	298	1,600	256	2,400	688	1,450
1927	465	2,420	11,000	2,840	4,530	5,370	7,370	321	366	236	361	92.6	3,000
1928	106	663	1,490	3,480	994	4,360	4,250	1,130	3,360	1,400	591	226	1,840
1929	759	1,280	832	3,570	3,520	3,710	3,430	5,050	979	626	148	356	2,520
1930	506	4,560	2,060	2,490	4,510	4,110	1,140	2,340	294	196	213	112	1,860
1931	138	368	536	937	1,590	2,500	1,430	620	113	307	72.5	43.3	717
1932	55.0	102	5,010	4,850	6,800	1,710	3,640	1,580	551	1,410	529	143	2,190
1933	2,170	1,500	4,520	3,410	7,360	3,740	2,710	5,150	320	889	653	741	2,740
1934	103	259	1,456	1,730	746	8,594	951	436	864	439	230	175	1,545
1935	137	614	337	1,760	3,902	5,031	4,146	671	687	282	291	146	1,482
1936	130	1,163	547	2,862	2,037	4,366	4,746	290	108	1,721	149	91.0	1,516
1937	560	2,272	3,460	13,690	3,546	1,294	1,127	5,047	628	285	1,158	360	2,800
1938	1,184	361	1,612	4,260	2,066	2,490	2,651	1,095	992	1,000	758	276	1,565
1939	132	1,251	915	4,209	10,620	4,674	3,411	585	2,957	1,044	507	98.9	2,489
1940	88.8	98.8	231	296	3,316	4,654	3,709	897	242	327	172	121	1,161
1941	88.8	410	607	1,063	506	1,194	1,925	174	110	1,660	536	116	701
1942	60.1	305	1,001	1,508	2,883	1,242	566	391	359	2,101	270	1,174	1,174
1943	132	430	3,904	1,274	2,995	3,654	2,702	1,093	201	432	457	1,281	1,539
1944	147	264	684	2,521	6,175	7,747	3,546	1,418	313	175	350	2,267	2,263
1945	1,231	319	3,096	5,324	8,623	3,596	1,798	3,650	639	197	316	66.8	2,374
1946	158	5,194	5,052	7,729	6,492	3,635	1,316	1,652	998	772	161	350	2,607
1947	127	2,284	1,281	7,084	1,927	2,428	1,636	1,776	1,032	1,057	218	91.4	1,749
1948	59.8	208	741	1,205	12,760	5,272	3,205	307	156	262	183	48.2	1,988
1949	140	5,546	5,290	8,658	3,719	3,709	1,991	1,140	1,592	1,453	262	125	2,635
1950	275	484	1,770	12,210	10,310	4,994	852	1,343	782	771	361	1,471	2,931

† Corrected.

* Not previously published; estimated or partly estimated on the basis of weather records.

Water year	Monthly and yearly runoff, in inches												The year
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1905	#0.13	0.13	1.63	1.91	3.64	2.94	0.59	3.35	1.81	1.16	0.63	0.36	#18.28
1906	1.00	.28	2.91	4.23	.59	3.43	1.68	.52	.33	1.34	.70	1.88	18.87
1907	3.01	1.65	2.52	2.66	2.35	4.74	.61	2.43	1.24	1.10	.28	.62	23.21
1908	.19	1.09	1.74	3.07	4.56	3.29	1.54	1.75	.79	.36	.48	.79	19.65
1909	.18	.26	1.51	-	-	-	-	-	-	-	-	-	-
1920	-	-	-	-	-	-	-	1.56	2.57	.26	1.90	1.30	-
1921	.25	.31	1.46	1.45	5.00	2.07	3.88	.65	.42	.33	.99	.31	17.14
1922	.14	2.03	1.48	2.95	3.07	8.75	4.30	2.57	1.26	.24	.35	.08	27.22
1923	.16	.21	4.11	3.12	5.05	5.21	2.14	3.11	1.45	.62	1.52	.79	27.49
1924	.13	.18	2.80	5.73	3.32	2.59	.95	2.82	.94	.31	.17	.13	20.07
1925	.06	.06	.88	2.57	2.69	1.15	1.32	1.22	.22	.16	.06	.04	10.23
1926	1.86	2.83	1.22	1.93	1.34	1.29	.96	.28	1.48	.24	2.29	.64	16.36
1927	.44	2.24	10.52	2.71	3.91	5.13	6.80	.88	.34	.22	.34	.09	33.62
1928	.10	.61	1.42	3.33	.89	4.16	3.93	1.08	3.10	1.34	.56	.21	20.73
1929	.72	1.18	.79	3.41	3.03	9.27	3.17	4.82	.90	.60	.14	.33	28.36
1930	.48	4.21	1.97	2.38	3.89	3.93	1.05	2.23	.27	.19	.20	.10	20.90

* Not previously published; see footnote to preceding table.

Monthly and yearly runoff, in inches, of Duck River at Columbia, Tenn.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1931	0.13	0.34	0.51	0.89	1.37	2.39	1.32	0.59	0.10	0.29	0.07	0.04	8.04
1932	.05	.09	4.78	4.83	6.07	1.64	3.36	1.51	.51	1.34	.50	.13	24.61
1933	2.07	1.39	4.32	3.25	6.34	3.57	2.50	4.92	.30	.85	.62	.68	30.81
1934	.10	.24	1.39	1.65	.84	8.20	.88	.42	.80	.42	.22	.16	15.12
1935	.13	.57	.32	1.68	3.36	4.80	3.83	.64	.63	.27	.28	.14	16.65
1936	.12	1.09	.52	2.73	1.82	4.17	4.38	.28	.10	1.64	.14	.08	17.07
1937	.53	2.10	3.30	13.07	3.06	1.23	1.04	4.82	.58	.27	1.10	.35	31.45
1938	1.13	.35	1.54	4.07	1.78	2.38	2.45	1.04	.92	.95	.72	.26	17.59
1939	.13	1.16	.87	4.02	9.33	4.46	3.15	.56	2.73	1.00	.48	.09	27.98
1940	.08	.09	.22	.28	2.96	4.35	3.43	.86	.22	.31	.16	.11	13.07
1941	.08	.38	.58	1.01	.44	1.14	1.78	.17	.10	1.58	.51	.11	7.88
1942	.06	.28	.95	1.44	3.06	2.75	1.15	.54	.36	.34	2.01	.25	13.20
1943	.13	.40	3.73	1.22	2.58	3.49	2.50	1.04	.19	.41	.44	1.18	17.31
1944	.14	.26	.65	2.41	7.30	7.39	3.09	1.35	.29	.17	.33	2.11	25.49
1945	1.18	.29	2.95	5.08	7.43	3.43	1.66	3.48	.59	.19	.30	.08	26.66
1946	.15	2.95	4.82	7.38	5.60	3.47	1.22	1.58	.92	.74	.15	.32	29.30
1947	.12	2.11	1.22	6.76	1.66	2.32	1.51	1.69	.95	1.01	.21	.08	19.64
1948	.06	.19	.71	1.15	11.40	5.03	2.96	.29	.14	.25	.17	.04	22.39
1949	.13	3.28	5.05	8.26	3.21	3.54	1.84	1.09	1.47	1.39	.25	.12	29.63
1950	.26	.45	1.69	11.65	8.89	4.77	.79	1.28	.72	.74	.34	1.36	32.94

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1905	(a)	\$26,400	May 24, 1905	-	\$1,630	\$1.35	\$18.28	\$1,630	\$20.58
1906	(a)	\$24,200	Jan. 23, 1906	80	1,680	1.39	18.87	1,950	21.86
1907	(a)	\$18,100	Mar. 2, 1907	145	2,070	1.71	23.21	1,700	19.05
1908	(a)	\$14,300	Feb. 11, 1908	100	1,740	1.44	19.65	1,650	18.58
1909	(a)	-	-	-	-	-	-	-	-
1920	(a)	-	-	-	-	-	-	-	-
1921	(a)	26,500	Apr. 18, 1921	-	1,530	1.27	17.14	1,670	18.75
1922	(a)	27,800	Mar. 3, 1922	12	2,420	2.00	27.22	2,490	28.05
1923	(a)	\$18,700	Dec. 17, 1922	-	2,450	2.03	27.49	2,320	26.12
1924	(a)	25,900	Jan. 4, 1924	37	1,780	1.47	20.07	1,590	17.96
1925	603	13,200	Feb. 16, 1925	13	912	.755	10.23	1,350	15.14
1926	623	18,000	Nov. 13, 1925	41	1,450	1.20	16.36	2,100	23.65
1927	643	35,900	Dec. 26, 1926	2.6	3,000	2.48	33.62	2,010	22.55
1928	653	19,800	Mar. 10, 1928	10	1,840	1.52	20.73	1,890	21.29
1929	683	43,800	Mar. 25, 1929	13	2,520	2.09	28.36	2,860	32.33
1930	698	18,100	Feb. 14, 1930	19	1,860	1.54	20.90	1,350	15.22
1931	713	16,200	Mar. 29, 1931	7	717	.594	8.04	1,070	11.98
1932	728	23,200	Jan. 30, 1932	6.4	2,190	1.81	24.61	2,440	27.47
1933	743	25,700	Feb. 16, 1933	34	2,740	2.27	30.81	2,200	24.76
1934	758	30,600	Mar. 26, 1934	31	1,345	1.11	15.12	1,282	14.41
1935	783	24,100	Apr. 7, 1935	16	1,482	1.23	16.65	1,546	17.36
1936	803	23,600	Apr. 7, 1936	8.4	1,516	1.25	17.07	1,888	21.27
1937	823	34,900	Jan. 2, 1937	37	2,800	2.32	31.45	2,540	\$28.54
1938	853	20,400	Jan. 22, 1938	98	1,565	1.30	17.59	1,488	16.73
1939	873	30,900	Feb. 5, 1939	34	2,489	2.06	27.98	2,333	26.21
1940	893	18,200	Apr. 19, 1940	23	1,161	.961	13.07	1,218	13.72
1941	923	13,700	Apr. 5, 1941	51	701	.580	7.88	724	8.14
1942	953	12,000	Mar. 18, 1942	19	1,174	.972	13.20	1,437	16.16
1943	973	18,700	Dec. 29, 1942	20	1,539	1.27	17.31	1,255	14.10
1944	1003	29,600	Mar. 30, 1944	64	2,263	1.87	25.49	2,562	28.66
1945	1033	31,400	Feb. 23, 1945	44	2,374	1.97	26.66	2,685	30.16
1946	1053	36,300	Jan. 9, 1946	81	2,607	2.16	29.30	2,209	24.83
1947	1083	25,200	Jan. 3, 1947	54	1,749	1.45	19.64	1,527	17.15
1948	1113	61,100	Feb. 14, 1948	20	1,988	1.65	22.39	2,654	29.89
1949	1143	29,800	Jan. 8, 1949	34	2,635	2.18	29.63	2,096	23.57
1950	1173	35,100	Feb. 2, 1950	78	2,931	2.43	32.94	-	-

* Revised.

† Corrected.

* Not previously published.

a Tennessee Division of Geology, Bull. 34.

312. Big Bigby Creek at Cross Bridges, Tenn.

Location.--Lat 35°37'04", long. 87°12'34", at bridge on State Highway 99 at Cross Bridges, Maury County, 400 ft upstream from Frierson Branch, 2.2 miles downstream from Dog Branch, and 5.8 miles north of Mt. Pleasant.

Drainage area.--112 sq mi.

Gage.--Staff gage. Altitude of gage is 548 ft (from topographic maps).

Extremes.--May 1938 to January 1939: Maximum discharge, 4,050 cfs Jan. 13 (gage height, 9.64 ft); minimum, 5.8 cfs Oct. 26, 28, Nov. 3, 16 (revised); minimum gage height, 0.20 ft Oct. 9.

Monthly and yearly mean discharge, in cubic feet per second, of Big Bigby Creek at Cross Bridges, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1938	-	-	-	-	-	-	-	113	99.7	36.7	58.8	22.6	-
1939	9.73	42.7	40.0	637	-	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1938	-	-	-	-	-	-	-	1.01	0.99	0.38	0.61	0.23	-
1939	0.10	0.43	0.41	3.17	-	-	-	-	-	-	-	-	-

313. Duck River at Centerville, Tenn.

Location.--Lat 35°47'16", long. 87°27'56", 0.4 mile downstream from bridge on State Highways 48 and 100, 0.4 mile downstream from Defeated Creek, 0.6 mile north of Centerville, Hickman County, 1.3 miles upstream from Nashville, Chattanooga & St. Louis Railway bridge, 4 miles downstream from Swan Creek, and at mile 72.1.

Drainage area.--2,048 sq mi.

Gage.--Water-stage recorder. Datum of gage is 450.74 ft above mean sea level, datum of 1929 (levels by Tennessee Valley Authority). Prior to Jan. 2, 1920 (corrected), chain gage at site three-quarters of a mile downstream at different datum. Mar. 2, 1920, to July 1, 1925, chain gage at site 75 ft upstream at datum 1.00 ft higher. July 2, 1925, to Aug. 10, 1927, tape gage and Aug. 11, 1927, to Sept. 30, 1929 (corrected), staff gage, at site 75 ft upstream at same datum.

Average discharge.--31 years (1919-50), 3,137 cfs.

Extremes.--1919-50: Maximum discharge, 97,700 cfs Feb. 14, 1948 (gage height, 37.58 ft); minimum, 68 cfs Aug. 30, 1925; minimum gage height, 0.35 ft Sept. 26, 27, 1948.

Remarks.--Diurnal fluctuation at low flow caused by powerplants above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1919	-	-	-	-	-	-	2,580	4,250	2,060	787	1,010	393	-
1920	3,430	6,520	8,530	5,900	7,200	8,200	11,300	3,150	4,070	763	2,760	1,850	\$5,290
1921	391	393	2,790	3,000	9,510	3,910	5,790	1,200	820	895	2,300	830	2,600
1922	640	3,390	2,720	4,730	5,120	13,900	7,250	4,750	1,810	699	772	396	3,840
1923	250	384	5,780	4,830	9,160	9,350	4,780	5,090	2,540	1,030	2,870	1,710	3,960
1924	390	479	5,280	8,770	5,620	4,210	1,720	4,210	1,840	570	404	342	2,820
1925	213	250	1,360	3,170	5,230	2,240	2,450	2,580	446	332	183	129	1,530
1926	2,280	4,010	1,790	3,190	2,150	2,140	1,670	523	2,080	449	3,290	1,160	2,060
1927	840	3,830	14,600	5,570	7,230	10,000	12,000	1,950	1,070	492	567	279	4,860
1928	394	1,100	1,760	5,440	1,990	5,740	6,070	2,130	5,190	2,260	891	641	2,800
1929	1,090	1,530	1,380	4,960	5,360	14,800	5,300	7,400	1,560	1,070	465	567	3,790
1930	703	5,800	2,760	4,930	7,300	6,710	2,080	3,150	616	394	523	317	2,910
1931	311	627	853	1,390	2,540	4,170	2,700	1,030	374	492	221	150	1,230
1932	146	296	7,680	7,610	11,400	2,950	5,670	2,930	931	2,260	1,010	500	3,590
1933	3,420	2,210	5,770	5,850	11,800	6,160	5,280	9,410	761	1,390	825	1,350	4,480
1934	327	570	2,593	3,074	1,243	12,610	1,898	755	1,520	870	538	571	2,234
1935	399	1,126	782	3,507	6,100	8,187	6,819	1,439	1,120	670	483	267	2,549
1936	289	1,383	851	3,470	2,619	6,118	7,151	696	251	2,306	397	228	2,143
1937	740	2,677	4,038	20,940	5,184	2,127	1,861	8,328	1,034	515	1,480	655	4,151
1938	1,600	646	2,356	7,483	3,536	4,216	4,287	1,811	1,934	1,643	1,283	567	2,614
1939	272	1,528	1,156	6,483	15,840	6,869	6,025	1,470	4,877	1,613	878	252	3,849
1940	237	286	465	572	4,976	7,370	7,132	1,753	524	575	307	224	2,019
1941	191	707	1,112	1,662	969	1,700	2,775	437	234	2,206	769	228	1,084
1942	173	487	1,291	1,971	5,050	4,514	2,727	809	526	510	2,722	538	1,758
1943	269	907	5,651	2,161	4,340	6,064	3,747	1,591	432	621	745	1,827	2,354
1944	358	556	1,060	3,613	12,020	10,800	6,686	2,443	562	306	501	2,839	3,441
1945	2,755	643	4,685	9,922	12,470	6,401	3,268	6,183	1,347	469	594	236	4,043
1946	347	4,370	7,477	15,380	9,351	6,338	2,507	2,203	1,323	1,504	534	546	4,118
1947	323	2,997	1,925	10,560	2,988	3,872	3,537	3,377	1,716	1,580	502	269	2,809
1948	210	474	1,061	2,035	20,370	8,173	5,059	701	348	426	292	168	3,203
1949	252	4,204	8,379	12,220	5,755	5,975	3,521	2,086	4,076	2,552	709	350	4,173
1950	637	1,041	3,171	19,250	18,570	7,633	1,819	2,292	1,731	1,028	818	2,258	4,946

* Not previously published; estimated on the basis of records for station Elk River near Prospect, Tenn. (at Elkmont, Ala.).

Monthly and yearly runoff, in inches, of Duck River at Centerville, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1919	-	-	-	-	-	-	1.41	2.40	1.12	0.44	0.57	0.21	-
1920	1.93	3.55	4.80	\$3.32	\$3.79	\$4.62	6.14	1.77	2.22	.43	1.55	1.00	\$35.12
1921	.22	.21	1.57	1.69	4.84	2.20	3.15	.68	.45	.50	1.29	.45	17.25
1922	.36	1.85	1.53	2.66	2.60	7.82	3.95	2.68	.99	.39	.43	.22	25.48
1923	.16	.21	3.26	2.72	4.66	5.26	2.61	2.66	1.38	.58	1.62	.93	26.25
1924	.22	.26	2.97	4.94	2.86	2.37	.94	2.37	1.00	.32	.23	.19	18.77
1925	.12	.14	.77	1.78	2.66	1.26	1.34	1.45	.24	.19	.10	.07	10.12
1926	1.29	2.18	1.01	1.79	1.09	1.21	.91	.29	1.13	.25	1.85	.63	13.63
1927	.47	2.09	8.24	3.13	3.68	5.63	6.53	1.10	.58	.28	.32	.15	32.20
1928	.22	.60	.99	3.06	1.05	3.23	3.31	1.20	2.83	1.27	.50	.35	18.61
1929	.61	.83	.78	2.79	2.73	8.33	2.89	4.17	.85	.60	.26	.31	25.15
1930	.40	3.16	1.56	2.78	3.71	3.78	1.13	1.78	.34	.22	.29	.17	19.32
1931	.17	.34	.48	.78	1.29	2.35	1.47	.58	.20	.28	.13	.08	8.15
1932	.08	.16	.43	4.23	5.98	1.66	3.09	1.65	.51	1.27	.57	.27	23.84
1933	1.92	1.21	3.25	3.29	5.99	3.47	2.88	5.30	.41	.78	.46	.74	29.70
1934	.18	.31	1.46	1.73	.63	7.10	1.03	.43	.83	.49	.30	.31	14.80
1935	.22	.61	.44	1.97	3.10	4.61	3.71	.81	.61	.38	.27	.15	16.88
1936	.16	.75	.48	1.95	1.38	3.44	3.90	.39	.14	1.30	.22	.12	14.23
1937	.42	1.46	2.27	11.79	12.64	1.20	1.01	4.69	.56	.29	.83	.36	127.52
1938	.90	.35	1.33	4.21	1.80	2.37	2.34	1.02	1.05	.92	.72	.31	17.32
1939	.15	.83	.65	3.65	8.06	3.87	3.28	.83	2.66	.91	.49	.14	25.52
1940	.13	.16	.26	.32	2.62	4.15	3.69	.99	.29	.32	.17	.12	13.42
1941	.11	.39	.63	.94	.49	.96	1.51	.25	.13	1.24	.43	.12	7.20
1942	.10	.27	.73	1.11	2.56	2.54	1.49	.46	.29	.29	1.53	.29	11.66
1943	.15	.49	3.18	1.22	2.21	3.41	2.04	.90	.24	.35	.42	1.00	15.61
1944	.20	.30	.60	2.03	6.33	6.08	3.64	1.38	.31	.17	.28	1.55	22.87
1945	1.55	.35	2.64	5.69	6.34	3.60	1.78	3.48	.73	.26	.33	.14	26.79
1946	.20	2.38	4.21	7.53	4.75	3.57	1.37	1.24	.72	.75	.30	.30	27.30
1947	.18	1.63	1.08	5.94	1.52	2.18	1.93	1.90	.94	.89	.28	.15	18.62
1948	.12	.26	.60	1.15	10.73	4.60	2.76	.39	.19	.24	.16	.09	21.29
1949	.14	2.29	4.72	6.88	2.93	3.36	1.92	1.17	2.22	1.44	.40	.19	27.66
1950	.36	.57	1.79	10.84	9.44	4.30	.99	1.29	.94	.58	.46	1.23	32.79

† Corrected.

* Not previously published; estimated on the basis of records for station Elk River near Prospect, Tenn. (at Elkmont, Ala.).

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1919	503	-	-	-	-	-	-	-	-
1920	(a)	51,700	Apr. 2, 1920	-	\$5,290	\$2.58	\$35.12	\$4,040	\$26.84
1921	523	b32,000	Apr.18,19,1921	235	2,600	1.27	17.25	2,860	18.99
1922	543	36,000	Mar. 11, 1922	295	3,840	1.87	25.48	3,830	25.37
1923	563	25,900	Feb. 5, 1923	235	3,960	1.93	26.25	3,930	26.07
1924	583	34,300	Jan. 4, 1924	203	2,820	1.38	18.77	2,460	16.35
1925	603	14,300	Feb. 17, 1925	68	1,530	.747	10.12	2,050	13.57
1926	623	20,000	Nov. 14, 1925	158	2,060	1.01	13.63	3,010	19.95
1927	643	41,800	Dec. 27, 1926	154	4,860	2.37	32.20	3,500	23.21
1928	663	23,800	Apr. 23, 1928	134	2,800	1.37	18.61	2,860	19.02
1929	683	45,400	Mar. 27, 1929	138	3,790	1.85	25.15	4,230	28.05
1930	698	23,800	Feb. 15, 1930	202	2,910	1.42	19.32	2,290	15.19
1931	713	20,000	Mar. 29, 1931	109	1,230	.601	8.15	1,770	11.71
1932	728	35,100	Jan. 30, 1932	103	3,590	1.75	23.84	3,860	25.67
1933	743	34,900	Feb. 20, 1933	310	4,480	2.19	29.70	3,810	25.27
1934	758	36,000	Mar. 25, 1934	225	2,234	1.08	14.80	2,130	14.12
1935	803	33,800	Mar. 13, 1935	153	2,549	1.24	16.88	2,570	17.00
1936	803	27,500	Apr. 7, 1936	140	2,143	1.05	14.23	2,560	16.99
1937	823	43,900	Jan. 3, 1937	189	4,151	2.03	\$27.52	3,914	\$25.95
1938	853	32,900	Jan. 23, 1938	251	2,614	1.28	17.32	2,472	16.37
1939	875	33,900	Feb. 6, 1939	191	3,849	1.88	25.52	3,686	24.44
1940	895	32,600	Apr. 19, 1940	160	2,019	.986	13.42	2,104	14.00
1941	923	15,600	Apr. 6, 1941	120	1,084	.529	7.20	1,080	7.17
1942	953	14,500	Mar. 18, 1942	117	1,756	.857	11.66	2,169	14.38
1943	973	24,200	Mar. 14, 1943	169	2,354	1.15	15.61	1,942	12.89
1944	1003	37,100	Mar. 30, 1944	193	3,441	1.68	22.87	3,958	26.31
1945	1033	46,400	Jan. 1, 1945	185	4,043	1.97	26.79	4,382	29.04
1946	1053	50,600	Jan. 8, 1946	237	4,118	2.01	27.30	3,532	23.40
1947	1083	32,900	Jan. 4, 1947	202	2,809	1.37	18.62	2,515	16.71
1948	1113	97,700	Feb. 14, 1948	139	3,203	1.56	21.29	4,132	27.46
1949	1143	33,500	Jan. 5, 1949	188	4,173	2.04	27.66	3,503	23.23
1950	1173	48,400	Feb. 2, 1950	246	4,946	2.42	32.79	-	-

† Corrected.

* Not previously published.

a Tennessee Division of Geology, Bull. 34.

b Maximum daily discharge.

314. Piney River at Vernon, Tenn.

Location.--Lat 35°52'17", long. 87°30'00", 30 ft downstream from highway bridge, 600 ft upstream from Pretty Creek, 0.2 mile northwest of Vernon, Hickman County, 8.2 miles downstream from Mill Creek, 6.5 miles north of Centerville, and 8.4 miles upstream from mouth.

Drainage area.--193 sq mi. At site used Feb. 9, 1931, to May 10, 1934, 202 sq mi.

Gage.--Water-stage recorder. Datum of gage is 464.89 ft above mean sea level, datum of 1929. Prior to Aug. 30, 1927, tape gage and Aug. 30, 1927, to Feb. 8, 1931, chain gage 30 ft upstream at same datum. Feb. 9, 1931, to May 10, 1934, staff gage half a mile downstream at datum 2.77 ft lower.

Average discharge.--25 years (1925-50), 303 cfs.

Extremes.--1925-50: Maximum discharge, 32,500 cfs Dec. 21, 1926 (gage height, 16.5 ft): minimum, 35 cfs Sept. 19, 20, 1936; minimum gage height, 0.02 ft Sept. 26, 27, 28, 1948, Aug. 27, 28, Sept. 30, Oct. 1, 1949.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	-	-	-	-	-	-	-	-	-	-	56.5	57.8	-
1926	94.4	206	115	313	151	263	270	112	170	73.2	213	101	174
1927	150	309	*2,520	621	565	*1,330	1,390	510	351	160	163	87.8	*584
1928	141	118	106	330	323	289	327	325	817	206	136	95.8	266
1929	121	116	182	409	*626	918	578	743	210	176	104	*82.6	*355
1930	77.8	103	106	660	553	720	272	593	153	101	93.7	78.3	292
1931	61.7	77.3	81.3	87.4	246	383	295	139	72.8	94.1	60.8	52.1	137
1932	52.5	70.1	74.1	1,000	*1,700	434	*657	308	126	192	87.4	88.2	*420
1933	151	118	273	715	1,030	626	764	975	159	154	106	112	428
1934	74.9	81.9	315	278	149	863	219	114	150	84.2	87.1	98.4	211
1935	73.4	133	112	1,266	498	663	854	298	122	99.6	92.5	72.1	357
1936	70.2	80.1	66.2	118	129	842	539	109	66.2	117	49.3	47.0	186
1937	80.6	92.7	148	1,930	389	171	351	820	118	112	65.5	69.9	364
1938	112	74.0	169	635	301	508	350	265	323	297	258	130	286
1939	74.2	82.1	84.1	447	1,203	449	499	218	306	125	95.1	62.2	297
1940	73.7	69.3	74.7	84.4	297	762	666	253	114	129	74.1	52.9	220
1941	56.0	106	158	159	115	109	146	84.9	59.8	96.0	83.9	51.8	102
1942	53.9	75.2	83.1	185	237	359	418	102	85.3	61.4	74.5	76.9	148
1943	63.6	101	415	165	229	905	317	226	112	76.6	78.2	85.9	232
1944	62.5	72.3	83.8	177	591	718	756	274	104	75.7	200	95.3	266
1945	102	89.9	437	801	739	510	392	702	238	113	108	76.5	358
1946	74.6	272	322	1,043	835	667	317	168	114	119	88.0	73.2	339
1947	73.5	95.8	138	960	195	221	549	404	172	105	90.7	73.9	257
1948	77.3	88.3	95.8	232	1,301	963	420	128	92.6	81.8	69.1	66.2	297
1949	70.3	364	494	1,084	543	576	408	207	544	163	115	89.5	387
1950	108	102	469	1,913	1,544	567	285	366	204	182	207	316	506

* Revised.

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	-	-	-	-	-	-	-	-	-	-	0.34	0.33	-
1926	0.56	1.19	0.69	1.87	0.81	1.57	1.56	0.67	0.98	0.44	1.27	.58	12.19
1927	.89	1.79	*15.14	3.71	3.05	*7.95	8.05	3.04	2.03	.95	.98	.51	*48.09
1928	.84	.68	.63	1.97	1.80	1.72	1.89	1.94	4.72	1.23	.81	.55	18.78
1929	.72	.67	1.09	2.44	*3.38	5.48	3.34	4.44	1.22	1.05	.62	.48	*24.93
1930	.46	.60	.63	3.95	2.98	4.30	1.57	3.54	.89	.60	.56	.45	20.53
1931	.37	.45	.49	.52	*1.29	2.18	1.63	.79	.40	.54	.35	.29	*9.30
1932	.30	.39	.23	*5.71	*9.10	2.48	*3.63	1.76	.70	1.09	.50	.49	*28.28
1933	.86	.65	1.56	4.08	5.30	3.58	4.22	5.57	.88	.88	.61	.62	28.81
1934	.43	.45	1.80	1.58	.77	4.92	1.21	.67	.87	.50	.52	.57	14.29
1935	.44	.77	.67	7.56	2.69	3.96	4.94	1.78	.71	.60	.55	.42	25.09
1936	.42	.46	.40	.70	.72	5.03	3.11	.65	.38	.70	.29	.27	13.13
1937	.48	.54	.88	11.53	2.10	1.02	2.03	4.90	.68	.67	.39	.40	25.62
1938	.67	.43	1.01	3.79	1.62	3.03	2.02	1.59	1.87	1.77	1.54	.75	20.09
1939	.44	.47	.50	2.67	6.49	2.68	2.88	1.30	1.77	.75	.57	.36	20.88
1940	.44	.40	.45	5.60	1.66	4.55	3.85	1.51	.66	.77	.44	.31	15.54
1941	.33	.61	.94	.95	.62	.65	.84	.51	.35	.57	.50	.30	7.17
1942	.32	.43	.50	.98	1.28	2.14	2.41	.61	.50	.37	.44	.44	10.42
1943	.38	.59	2.48	.99	1.24	5.40	1.83	1.35	.65	.46	.47	.50	16.34
1944	.37	.42	.50	1.06	3.30	4.29	4.37	1.64	.60	.45	1.19	.55	18.74
1945	.61	.52	2.61	4.79	3.99	3.05	2.26	4.23	1.37	.67	.65	.44	25.19
1946	.45	1.57	1.93	6.23	4.51	3.98	1.83	1.00	.66	.71	.53	.42	23.82
1947	.44	.55	.85	5.74	1.05	1.32	3.18	2.42	.99	.63	.54	.43	18.12
1948	.46	.51	.57	1.58	7.27	5.75	2.43	.77	.54	.49	.41	.38	20.96
1949	.42	2.10	2.95	6.48	2.93	3.44	2.36	1.24	3.14	.97	.68	.52	27.23
1950	.65	.59	2.92	10.83	8.33	3.39	1.48	2.19	1.18	.97	1.24	1.83	35.60

* Revised.

† Corrected.

Yearly discharge, in cubic feet per second, of Piney River at Vernon, Tenn.

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1925	603	-	-	-	-	-	-	-	-
1926	623	*6,320	Jan. 21-22, 1926	57	174	0.902	12.19	*392	*27.57
1927	643, 1436	32,500	Dec. 21, 1926	66	*684	*3.54	*48.09	*461	*32.42
1928	663	3,480	June 5, 1928	45	266	1.38	18.78	271	19.11
1929	683, 1436	*9,040	Feb. 26, 1929	42	*355	*1.84	*24.93	*343	*24.14
1930	698	*15,400	May 18, 1930	56	292	1.51	20.53	386	20.15
1931	713	*1,390	Mar. 1, 1931	49	137	.688	*9.30	160	10.81
1932	728, 1436	*29,600	Feb. 3, 1932	48	*420	*2.08	*28.28	*423	*28.53
1933	743	9,280	May 5, 1933	67	428	2.12	28.81	423	28.42
1934	758	*16,400	Mar. 2, 1934*	58	211	1.07	14.29	198	13.49
1935	783	28,400	Jan. 20, 1935	58	357	1.85	25.09	348	24.49
1936	803	10,100	Mar. 26, 1936	38	186	.964	13.13	195	13.75
1937	823	15,000	Jan. 20, 1937	46	364	1.89	25.62	367	25.83
1938	853	11,500	July 31, 1938	58	286	1.48	20.09	276	19.39
1939	873	7,550	Feb. 3, 1939	53	297	1.54	20.88	295	20.76
1940	893	6,580	Mar. 30, 1940	44	220	1.14	15.54	229	16.13
1941	926	1,160	July 4, 1941	46	102	.528	7.17	93.1	6.54
1942	953	6,960	Apr. 9, 1942	46	148	.767	10.42	180	12.62
1943	973	14,800	Mar. 19, 1943	49	232	1.20	16.34	202	14.18
1944	1003	6,810	Feb. 17, 1944	59	266	1.38	18.74	300	21.19
1945	1033	16,000	Dec. 31, 1944	72	358	1.85	25.19	361	25.40
1946	1053	18,200	Jan. 8, 1946	62	339	1.76	23.82	308	21.69
1947	1083	13,700	Jan. 15, 1947	68	257	1.33	18.12	254	17.84
1948	1113	21,600	Feb. 13, 1948	53	297	1.54	20.96	353	24.89
1949	1143	8,960	Jan. 5, 1949	62	387	2.01	27.23	368	25.92
1950	1173	12,600	Jan. 5, 1950	78	506	2.62	35.60	-	-

* Revised.

† Corrected.

315. Duck River near Hurricane Mills, Tenn.

Location.--Lat 35°56'39", long. 87°49'07", 20 ft downstream from Tanksley Bridge on county road (formerly State Highway 13), 3 miles southwest of Hurricane Mills, Humphreys County, 3.5 miles upstream from Hurricane Creek, 4 miles downstream from bridge on State Highway 13 (relocated), 5 miles upstream from Buffalo River, and at mile 20.4.

Drainage area.--2,571 sq mi.

Gage.--Water-stage recorder. Datum of gage is 361.73 ft above mean sea level, datum of 1929. Prior to June 2, 1927, tape gage on bridge; June 2, to Aug. 19, 1927, staff gage on left bank, 200 ft upstream from bridge; Aug. 19, 1927, to Feb. 20, 1934, staff gage on left bank under bridge; all gages at same datum.

Average discharge.--25 years (1925-50), 3,882 cfs.

Extremes.--1925-50: Maximum discharge, 122,000 cfs Feb. 14, 1948 (gage height, 30.22 ft); minimum, 185 cfs Sept. 11, 12, 1925; minimum gage height, 0.15 ft Oct. 2, 1941.

Remarks.--Diurnal fluctuation at low flow caused by powerplants above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	-	-	-	-	-	-	-	-	-	-	404	240	-
1926	2,430	4,510	2,360	*4,190	2,720	2,940	2,490	843	2,630	642	3,580	1,430	*2,580
1927	1,210	4,220	*21,000	7,950	8,640	14,400	15,400	2,780	1,800	852	1,070	1,489	*6,540
1928	666	1,470	1,860	6,890	2,880	*6,340	*7,240	3,140	7,200	2,970	1,280	1,010	*3,580
1929	1,520	1,930	2,050	5,730	6,480	16,600	6,830	9,110	2,160	1,610	812	723	4,640
1930	901	5,860	3,150	6,600	8,480	8,380	2,860	4,720	1,040	623	741	548	3,640
1931	499	872	1,120	1,760	3,040	4,920	3,570	1,530	608	805	438	310	1,610
1932	289	507	8,830	9,510	15,300	3,760	6,910	4,030	1,580	2,700	1,340	857	4,590
1933	4,230	2,730	6,640	7,780	14,900	7,790	7,620	12,600	1,250	1,920	1,140	1,710	5,820
1934	588	832	3,298	3,682	1,550	15,760	2,699	1,180	1,915	1,211	905	893	*2,901
1935	760	1,726	1,275	7,035	7,239	10,440	9,235	2,341	1,613	1,163	993	705	3,686
1936	654	1,693	1,303	3,965	3,083	8,125	8,992	1,147	559	2,702	693	453	2,778
1937	1,048	3,072	4,274	26,940	6,129	2,609	2,528	10,990	1,466	855	1,643	886	5,231
1938	1,924	899	2,802	9,191	4,753	5,590	5,606	2,453	2,927	2,165	2,101	855	3,438
1939	466	1,785	1,537	7,516	19,068	7,968	7,686	2,104	5,612	2,029	1,270	456	4,688
1940	428	501	696	881	5,543	8,612	9,407	2,432	931	881	537	402	2,586
1941	347	1,050	1,604	2,314	1,453	2,139	3,263	753	392	2,542	1,036	410	1,443
1942	302	676	1,432	2,450	5,554	5,483	3,580	1,090	753	649	2,934	776	2,119
1943	396	1,254	6,442	3,240	5,300	8,313	4,539	2,178	771	764	1,005	1,976	3,006
1944	522	729	1,172	4,268	13,030	12,570	9,811	3,401	847	491	585	2,554	4,124
1945	3,351	852	4,517	12,240	12,870	7,913	3,884	7,645	1,846	739	864	448	4,730
1946	536	4,556	7,722	16,400	10,570	7,752	3,468	2,464	1,622	1,576	761	729	4,824
1947	532	3,021	2,074	11,830	3,630	4,537	4,963	4,480	2,152	2,111	754	475	3,386
1948	393	702	1,251	2,672	22,680	10,110	6,516	1,134	650	668	546	334	3,910
1949	457	4,340	9,904	14,841	7,158	7,098	4,818	2,945	5,180	3,098	1,073	589	5,122
1950	855	1,418	4,236	21,310	22,380	8,884	2,560	3,175	2,251	1,471	1,284	3,087	5,983

* Revised.

† Corrected.

Monthly and yearly runoff, in inches, of Duck River near Hurricane Mills, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1925	-	-	-	-	-	-	-	-	-	-	0.18	0.10	-
1926	1.09	1.96	1.06	*1.88	1.10	1.32	1.06	0.38	1.23	0.29	1.61	.62	*13.62
1927	.54	1.83	*9.42	3.52	3.50	6.46	6.68	1.25	.78	.38	.48	.21	*35.05
1928	.30	.64	.83	3.09	1.21	*2.84	*3.14	1.41	3.12	1.33	.58	.44	*18.93
1929	.68	.84	.92	*2.57	2.63	7.45	2.97	4.08	.94	.72	.36	.31	*24.47
1930	.40	2.54	1.41	3.00	3.44	3.76	1.24	2.12	.45	.28	.33	.24	19.21
1931	.22	.38	.50	.79	1.23	2.20	1.55	.68	.26	.36	.20	.13	8.50
1932	.13	.22	3.96	4.26	6.43	1.69	3.00	1.81	.60	1.21	.60	.37	24.28
1933	1.90	1.18	2.98	3.49	6.05	3.49	3.30	5.67	.54	.86	.51	.74	30.71
1934	.26	.36	1.48	1.65	.63	7.07	1.17	.53	.83	.54	.40	.39	15.31
1935	.34	.75	.57	3.15	2.93	4.68	4.01	1.05	.70	.52	.45	.31	19.46
1936	.29	.73	.58	1.78	1.29	3.64	3.90	.51	.24	1.21	.31	.20	14.68
1937	.47	1.33	1.92	12.08	2.48	1.17	1.10	4.95	.64	.38	.74	.38	27.62
1938	.86	.39	1.26	4.12	1.93	2.51	2.43	1.10	1.27	.97	.94	.37	18.15
1939	.22	.77	.69	3.37	7.73	3.58	3.34	.94	2.44	.91	.57	.20	24.76
1940	.19	.22	.31	.40	2.33	3.86	4.08	1.09	.40	.40	.24	.17	13.69
1941	.16	.46	.72	1.04	.59	.96	1.42	.34	.17	1.14	.46	.18	7.64
1942	.14	.29	.64	1.10	2.25	2.46	1.55	.49	.33	.29	1.32	.34	11.20
1943	.18	.54	2.89	1.45	2.15	3.73	1.97	.98	.53	.34	.45	.86	15.87
1944	.23	.32	.53	1.91	5.47	5.64	4.26	1.53	.57	.22	.26	1.11	21.85
1945	1.50	.37	2.03	5.49	5.21	3.55	1.69	3.43	.80	.33	.39	.19	24.98
1946	.24	1.98	3.46	7.35	4.28	3.48	1.50	1.10	.70	.71	.34	.32	25.46
1947	.24	1.31	.93	5.30	1.47	2.03	2.15	2.01	.93	.95	.34	.21	17.87
1948	.18	.30	.58	1.20	9.60	4.54	2.83	.51	.28	.30	.24	.14	20.70
1949	.21	1.88	4.44	6.66	2.89	3.18	2.09	1.32	2.25	1.39	.48	.26	27.05
1950	.38	.62	1.90	9.56	9.06	3.98	1.11	1.42	.98	.66	.58	1.34	31.59

* Revised.

† Corrected.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1925	603	-	-	-	-	-	-	-	-
1926	623, 1436	*20,400	Jan. 22, 1926	276	*2,580	*1.00	*13.62	*4,030	*21.30
1927	643, 1436	65,000	Mar. 14, 1927	338	*6,640	*2.58	*35.05	4,740	25.03
1928	663, 1436	*23,200	Apr. 24, 1928	260	*3,580	*1.39	*18.93	*3,700	*19.60
1929	683	45,200	Mar. 25, 1929	281	4,640	1.80	*24.47	5,000	26.38
1930	698	23,700	Feb. 15, 1930	350	3,640	1.42	19.21	3,020	15.96
1931	713	18,600	Mar. 30, 1931	240	1,610	.626	8.50	2,220	11.71
1932	728	39,600	Feb. 1, 1932	236	4,590	1.79	24.28	4,920	26.03
1933	743	43,600	Feb. 21, May 13	570	5,820	2.26	30.71	5,070	26.75
1934	758	45,800	Mar. 26, 1934	450	*2,901	1.13	15.31	2,817	14.87
1935	803	48,600	Jan. 20, 1935	500	3,686	1.43	19.46	3,677	19.40
1936	803	34,600	Apr. 10, 1936	318	2,778	1.08	14.68	3,176	16.80
1937	823	48,500	Jan. 4, 1937	446	5,231	2.03	27.62	5,002	26.41
1938	853	37,600	Jan. 25, 1938*	516	3,438	1.34	18.15	3,281	17.32
1939	873	35,400	Feb. 7, 1939	305	4,688	1.82	24.76	4,506	23.80
1940	893	35,400	Apr. 21, 1940	281	2,586	1.01	13.69	2,701	14.31
1941	923	14,800	Apr. 7, 1941	254	1,443	.561	7.64	1,393	7.37
1942	953	14,600	Mar. 19, Apr. 11	245	2,119	.824	11.20	2,600	13.74
1943	973	28,100	Dec. 29, 1942	285	3,006	1.17	15.87	2,526	13.34
1944	1003	37,600	Apr. 1, 1944	342	4,124	1.60	21.85	4,657	24.67
1945	1033	51,000	Jan. 2, 1945	365	4,730	1.84	24.98	5,068	26.76
1946	1053	80,000*	Jan. 9, 1946	418	4,824	1.88	25.46	4,218	22.26
1947	1083	29,600	Jan. 5, 1947	378	3,386	1.32	17.87	3,117	16.45
1948	1113	122,000	Feb. 14, 1948	288	3,910	1.52	20.70	4,943	26.17
1949	1143	37,100	Jan. 7, 1949	380	5,122	1.99	27.05	4,435	23.42
1950	1173	57,000	Feb. 2, 1950	478	5,983	2.33	31.59	-	-

* Revised.

† Corrected.

316. Hurricane Creek at Hurricane Mills, Tenn.

Location (revised).--Lat 35°58'15", long. 87°46'54", at bridge on county highway (formerly State Highway 13) at Hurricane Mills, Humphreys County, 8 miles south of Waverly and 4.5 miles upstream from mouth.

Drainage area.--75.1 sq mi (revised).

Gage.--Staff gage. Altitude of gage is 392 ft (from topographic map).

Extremes.--1932-33: Maximum discharge observed, 3,790 cfs Feb. 20, 1933 (gage height, 7.8 ft); minimum observed, 24 cfs Sept. 2, 1932 (gage height, 1.06 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	-	-	-	-
1933	85.6	48.4	149	*209	366	92.2	329	236	36.9	33.9	34.5	48.6	136

† Corrected.

Monthly and yearly runoff, in inches, of Hurricane Creek at Hurricane Mills, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	-	-	0.72	-
1933	1.31	0.72	2.29	3.21	5.07	1.42	4.89	3.63	0.55	0.52	0.53	.44	24.58

317. Buffalo River near Flat Woods, Tenn.

Location.--Lat 35°29'45", long. 87°49'58", 0.5 mile downstream from Little Opossum Creek and bridge on State Highway 13, 1.3 miles north of Flat Woods, Perry County, 3.9 miles upstream from Sinking Creek, and at mile 58.7.

Drainage area.--447 sq mi.

Gage.--Water-stage recorder. Datum of gage is 513.58 ft above mean sea level, datum of 1929. Prior to May 28, 1934, staff gage at same site and datum.

Average discharge.--30 years (1920-50), 719 cfs.

Extremes.--1920-50: Maximum discharge, 90,000 cfs Feb. 13, 1948 (gage height, 32.0 ft, from high-water mark in gage house), from rating curve extended above 51,000 cfs on basis of slope-area and contracted-opening determination of peak flow and rainfall-runoff study; minimum observed, 65 cfs Sept. 9, 1925; minimum gage height observed, 1.12 ft Sept. 26, 1931.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1920	-	-	-	-	-	-	-	-	1,010	305	378	300	-
1921	225	266	722	641	1,850	1,300	1,430	382	232	225	591	201	664
1922	173	536	491	771	1,050	2,790	1,700	1,020	274	211	165	170	*779
1923	171	240	980	1,090	1,720	2,040	1,490	1,330	445	268	*1,010	532	*923
1924	213	230	*1,610	*1,850	966	682	531	864	516	209	207	157	*669
1925	142	174	295	378	1,180	682	382	692	174	160	117	*94.2	368
1926	204	496	286	481	316	578	398	259	641	132	483	268	378
1927	249	939	3,570	971	1,080	3,090	2,580	535	558	238	222	174	1,190
1928	194	290	484	873	630	1,060	1,040	552	883	324	191	214	561
1929	207	212	277	695	1,060	3,120	1,540	1,940	611	287	259	239	871
1930	234	748	519	1,570	2,040	1,630	471	653	234	166	188	172	710
1931	138	239	251	355	915	943	719	277	168	238	364	116	390
1932	112	195	1,850	2,410	2,360	744	1,220	736	258	1,820	242	438	1,030
1933	1,418	542	1,361	1,218	2,915	1,805	1,686	2,678	294	325	277	214	1,220
1934	184	225	505	714	517	2,129	430	257	286	291	159	272	484
1935	199	257	283	937	1,502	1,835	1,334	662	387	214	159	148	654
1936	196	277	227	547	575	1,329	1,674	248	222	456	156	161	504
1937	256	442	936	3,854	786	550	523	1,489	296	227	219	204	820
1938	340	266	544	1,819	787	1,022	1,113	493	607	315	391	210	658
1939	169	292	242	1,350	2,311	1,227	1,402	876	1,172	316	222	160	800
1940	185	215	237	234	888	1,251	1,613	468	275	344	203	144	502
1941	163	429	564	623	326	467	539	235	146	409	157	109	348
1942	146	204	237	292	652	703	723	210	169	137	259	175	323
1943	137	257	1,288	385	833	1,178	813	280	160	121	141	286	488
1944	150	238	259	730	2,782	2,273	1,479	888	252	170	249	927	857
1945	595	233	1,171	2,218	2,229	1,627	1,197	1,125	585	265	260	211	967
1946	240	1,162	1,398	2,558	1,843	1,481	763	452	286	283	256	233	909
1947	211	582	475	1,731	596	983	1,361	1,053	384	232	219	172	668
1948	155	229	265	395	4,901	1,361	1,604	319	208	191	149	144	808
1949	166	1,284	1,703	2,232	984	1,428	763	576	806	790	316	227	941
1950	286	317	622	3,828	3,381	1,495	609	728	660	331	330	474	1,076

* Revised.

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1920	-	-	-	-	-	-	-	-	2.52	0.79	0.98	0.75	-
1921	0.58	0.66	1.86	1.65	4.32	3.35	3.57	0.98	.58	.58	1.53	.50	20.16
1922	.45	1.34	1.26	1.99	2.44	*7.20	4.24	2.64	.68	.54	.43	.42	*23.63
1923	.44	.60	2.53	2.82	4.00	5.27	3.72	3.42	1.11	.69	*2.60	.83	*28.03
1924	.55	.57	*4.15	*4.72	2.32	1.76	1.53	2.23	1.29	.54	.53	.39	*20.38
1925	.37	.43	.76	.97	2.76	1.76	.95	1.78	.43	.41	.30	.24	11.16
1926	.53	1.24	.74	1.24	.74	1.49	.99	.67	1.60	.34	1.25	.67	11.50
1927	.64	2.34	9.20	2.50	2.51	7.97	6.44	1.38	1.39	.61	.57	.44	35.99
1928	.50	.72	1.25	2.25	1.52	2.73	2.60	1.42	2.20	.84	.49	.54	17.06
1929	.53	.53	.71	1.79	2.48	8.04	3.85	5.01	1.53	.74	.67	.60	26.48
1930	.60	1.87	1.34	4.04	4.74	4.19	1.17	1.68	.58	.43	.49	.43	21.56
1931	.36	.60	.65	.92	2.13	2.43	1.79	.72	.42	.61	.94	.29	11.86
1932	.29	.49	4.77	6.20	5.69	1.92	3.08	1.90	.64	4.70	.62	1.09	31.37
1933	3.66	1.35	5.51	3.14	6.79	4.66	4.21	6.91	.73	.84	.72	.53	37.05
1934	.48	.56	1.30	1.84	.74	5.49	1.07	.66	.71	.75	.41	.68	14.69
1935	.51	.64	.73	2.42	3.50	4.73	3.33	1.71	.97	.55	.41	.37	19.87
1936	.51	.69	.59	1.41	1.39	3.43	4.18	.64	.56	1.18	.40	.40	15.38
1937	.66	1.10	2.41	9.94	1.83	1.42	*1.30	3.84	.74	.59	*.57	.51	24.91
1938	.88	.66	1.40	4.69	1.83	2.64	2.78	1.27	1.52	.81	1.01	.52	20.01
1939	.44	.73	.62	3.48	5.38	5.16	3.50	2.26	2.92	.82	.57	.40	24.28
1940	.48	.54	.61	.60	2.14	3.23	4.03	1.21	.69	.89	.52	.36	15.30

* Revised.

† Corrected.

Monthly and yearly runoff, in inches, of Buffalo River near Flat Woods, Tenn.--Continued

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1941	0.42	1.07	1.46	1.61	0.76	1.20	1.35	0.61	0.37	1.05	0.40	0.27	10.57
1942	.58	.51	.61	.75	1.52	1.81	1.81	.54	.42	.35	.67	.44	9.81
1943	.35	.64	3.32	.99	1.94	3.04	2.03	.72	.40	.31	.36	.71	14.81
1944	.39	.60	.67	1.68	6.71	5.86	3.69	2.29	.63	.44	.64	2.31	26.11
1945	1.43	.58	3.02	5.72	5.19	4.20	2.99	2.90	1.46	.68	.67	.53	29.37
1946	.62	2.90	3.61	6.60	4.29	3.82	1.91	1.16	.71	.75	.66	.58	27.59
1947	.54	1.45	1.23	4.46	1.39	2.55	3.40	2.72	.96	.60	.57	.43	20.26
1948	.40	.57	.68	1.02	11.83	3.51	4.00	.82	.56	.49	.36	.36	24.58
1949	.43	3.21	4.39	5.76	2.29	3.68	1.90	1.49	2.01	2.04	.82	.57	28.59
1950	.74	.79	1.60	9.87	7.88	3.86	1.52	1.87	1.65	.65	.65	1.18	32.66

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1920	503	-	-	-	-	-	-	-	-
1921	523	*14,300	Apr. 16, 1921*	152	664	1.49	20.16	662	20.11
1922	543,1436	*22,400	Mar. 10, 1922*	135	*779	*1.74	*23.63	*796	*24.15
1923	563,1436	*15,500	Aug. 15, 1923	138	*923	*2.06	*28.03	*979	*29.73
1924	563,1436	*17,800	Jan. 3, 1924	114	*669	*1.50	*20.38	*547	*16.67
1925	603	*7,590	May 11, 1925	65	368	.823	11.16	399	12.11
1926	623	4,550	June 4, 1926	90	378	.846	11.55	697	21.17
1927	643	*52,200	Mar. 13, 1927	120	1,190	2.66	35.99	866	26.28
1928	663	8,920	Apr. 22, 1928	130	561	1.26	17.06	536	16.36
1929	683	21,200	Mar. 23, 1929	130	871	1.95	26.48	939	28.52
1930	698	9,200	Mar. 8, 1930	120	710	1.59	21.56	638	19.36
1931	713	4,430	Aug. 7, 1931	93	390	.872	11.86	520	15.60
1932	728	20,200	Jan. 30, 1932	97	1,030	2.30	31.37	1,128	34.34
1933	758	22,300	Oct. 17, 1932	150	1,220	2.73	37.05	1,016	30.87
1934	758	*17,000	Mar. 25, 1934	119	484	1.08	14.69	469	14.23
1935	803	15,700	Mar. 13, 1935	117	654	1.46	19.87	651	19.78
1936	803	12,100	Apr. 6, 1936	109	504	1.13	15.36	583	17.76
1937	823	24,000	Jan. 2, 1937	122	820	1.83	24.91	780	23.68
1938	853	15,000	Jan. 22, 1938	156	659	1.47	20.01	621	18.66
1939	873	7,590	Feb. 16, 1939	147	800	1.79	24.28	795	24.12
1940	893	17,600	Apr. 19, 1940	124	502	1.12	15.30	545	16.62
1941	923	2,000	Dec. 29, 1940	90	348	.779	10.57	300	9.12
1942	953	4,100	Apr. 10, 1942	93	323	.723	9.81	416	12.62
1943	973	16,000	Dec. 28, 1942	93	488	1.09	14.81	400	12.16
1944	1003	12,900	Mar. 29, 1944	126	857	1.92	26.11	969	29.48
1945	1033	22,900	Jan. 1, 1945	166	967	2.16	29.37	1,036	31.47
1946	1053	22,000	Jan. 8, 1946	170	909	2.03	27.59	780	23.68
1947	1083	8,160	Jan. 3, 1947	147	668	1.49	20.28	618	18.71
1948	1113	90,000	Feb. 13, 1948	117	808	1.81	24.58	1,017	30.96
1949	1143	12,900	Jan. 5 or 6, 1949	146	941	2.11	28.59	780	23.69
1950	1173	19,000	Feb. 15, 1950	194	1,076	2.41	32.66	-	-

* Revised.

318. Buffalo River near Lobelville, Tenn.

Location.--Lat 35°48'46", long. 87°47'51", 30 ft upstream from Standing Rock Bridge on Old State Highway 13, 1.4 miles downstream from State Highway 13, 3 miles north of Lobelville, Perry County, 13 miles downstream from Cane Creek, and at mile 17.7.

Drainage area.--707 sq mi.

Gage.--Water-stage recorder. Datum of gage is 403.15 ft above mean sea level, datum of 1929. Prior to June 1, 1934, staff gage 40 ft downstream on opposite bank at same datum.

Average discharge.--23 years (1927-50), 1,139 cfs.

Extremes.--1927-50: Maximum discharge, 100,000 cfs Feb. 14, 1948 (gage height, 23.76 ft, from high-water mark in gage house), from rating curve extended above 40,000 cfs on basis of slope-area determination of peak flow; minimum, 142 cfs Oct. 1-8, 1931; minimum gage height, 0.36 ft Oct. 3, 4, 7, 8, 1931.

Monthly and yearly mean discharge, in cubic feet per second, of Buffalo River near Lobelville, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1928	*305	418	546	1,370	1,115	1,664	1,604	926	1,568	594	336	381	*900
1929	391	369	545	1,173	1,662	4,518	2,677	2,791	1,298	429	429	298	1,382
1930	352	1,042	738	2,511	2,875	2,705	963	1,141	407	258	274	286	1,120
1931	251	396	416	590	1,324	1,490	1,228	491	264	377	415	181	614
1932	189	301	2,863	3,278	4,018	1,294	1,827	1,838	419	2,201	359	623	1,594
1933	2,107	860	1,871	2,323	4,166	2,599	3,436	3,972	527	570	450	356	1,925
1934	314	382	899	1,121	530	3,426	857	428	495	512	337	503	822
1935	358	530	552	2,241	2,180	2,776	2,198	1,098	649	375	249	231	1,113
1936	294	431	331	815	885	2,136	2,486	400	334	698	233	240	772
1937	398	625	1,315	7,029	1,301	811	752	2,516	492	384	331	318	1,365
1938	482	366	755	2,873	1,322	1,600	1,823	815	1,092	461	580	342	1,042
1939	239	403	360	1,914	3,832	1,879	2,076	1,313	1,807	522	343	230	1,223
1940	255	299	350	359	1,381	2,051	2,684	618	426	476	287	220	796
1941	221	608	874	956	539	666	780	388	233	559	260	180	523
1942	205	301	345	469	1,052	1,233	1,266	320	245	210	476	306	532
1943	224	419	2,111	699	1,330	2,139	1,273	504	272	198	241	399	816
1944	225	357	377	1,164	3,920	3,415	2,634	1,358	378	254	346	928	1,267
1945	881	349	1,607	3,969	2,950	2,510	1,800	1,963	951	385	403	331	1,504
1946	407	1,586	2,126	5,144	2,766	2,250	1,228	685	442	461	366	348	1,480
1947	320	791	714	1,911	586	1,424	2,099	1,778	671	362	310	260	1,029
1948	246	369	411	865	7,231	2,427	2,376	520	324	307	246	210	1,267
1949	243	1,602	2,609	3,297	1,778	2,115	1,440	937	1,030	1,094	468	319	1,411
1950	399	503	1,116	5,752	5,309	2,585	1,004	1,209	997	527	493	825	1,705

* Not previously published; estimated on the basis of records for station near Flat Woods.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1928	*0.50	0.66	0.89	2.23	1.70	2.71	2.53	1.51	2.47	0.97	0.55	0.60	*17.32
1929	.64	.58	.89	1.91	2.45	7.37	4.22	4.55	2.05	.70	.70	.47	26.53
1930	.57	1.64	1.20	4.09	4.23	4.41	1.52	1.86	.64	.42	.45	.45	21.48
1931	.41	.62	.68	.96	1.95	2.43	1.94	.80	.42	.61	.68	.29	11.79
1932	.26	.47	4.67	5.35	6.13	2.11	2.88	3.00	.66	3.59	.59	.98	30.69
1933	3.44	1.36	3.05	3.79	6.14	4.24	5.42	6.48	.83	.93	.73	.56	36.97
1934	.51	.60	1.47	1.83	.78	5.59	1.35	.70	.78	.85	.55	.79	15.78
1935	.58	.84	.90	3.65	3.21	4.53	3.47	1.79	1.02	.61	.41	.37	21.38
1936	.48	.68	.54	1.33	1.35	3.48	3.92	.65	.53	1.41	.38	.38	14.86
1937	.65	.99	2.14	11.46	1.92	1.32	1.19	4.10	1.78	.63	.54	.50	26.22
1938	.79	.58	1.23	4.09	1.95	2.61	2.68	1.33	1.72	.75	.95	.54	20.02
1939	.39	.64	.59	3.12	5.64	3.06	3.28	2.14	2.85	.65	.56	.36	23.48
1940	.42	.47	.57	.58	2.11	3.34	4.24	1.33	.67	.78	.47	.35	15.33
1941	.56	.96	1.43	1.56	.79	1.09	1.23	.63	.37	.91	.42	.28	10.03
1942	.33	.48	.56	.76	1.55	2.01	2.00	.52	.39	.34	.78	.48	10.20
1943	.57	.66	3.44	1.14	1.96	3.49	2.01	.82	.43	.32	.39	.63	15.66
1944	.57	.56	.61	1.90	5.98	5.57	4.16	2.21	.60	.41	.56	1.46	24.39
1945	1.44	.55	2.62	6.47	4.35	4.09	2.84	3.20	1.50	.63	.66	.52	28.87
1946	.66	2.50	3.47	8.39	4.07	3.67	1.94	1.12	.70	.75	.60	.55	28.42
1947	.52	1.25	1.16	4.42	1.30	2.32	3.31	2.90	1.06	.59	.51	.41	19.75
1948	.40	.58	.67	1.41	11.03	3.96	3.75	.85	.51	.50	.40	.33	24.39
1949	.40	2.53	4.25	5.38	2.62	3.45	2.27	1.53	1.62	1.78	.76	.50	27.09
1950	.65	.79	1.82	9.38	7.82	4.18	1.59	1.97	1.57	.86	.81	1.30	32.74

* Not previously published; estimated on the basis of records for station near Flat Woods.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1928	663	12,400	Apr. 23, 1928	-	*900	*11.27	*17.32	903	17.38
1929	683, 853	28,100	Mar. 24, 1929	168	1,382	1.95	26.53	1,450	27.83
1930	698, 853	12,800	Jan. 9, 1930	180	1,120	1.58	21.48	1,031	19.78
1931	713	4,860	Feb. 26, 1931	150	614	.868	11.79	806	15.48
1932	728, 853	22,400	July 8, 1932	142	1,594	2.25	30.69	1,721	33.14
1933	743, 853	27,400	Apr. 2, 1933	260	1,925	2.72	36.97	1,651	31.70
1934	758, 853	20,600	Mar. 26, 1934	227	822	1.16	15.78	809	15.52
1935	803, 853	14,500	Jan. 21, 1935	181	1,113	1.57	21.38	1,081	20.76
1936	803	12,000	Apr. 8, 1936	170	772	1.09	14.86	880	16.94
1937	823, 853	31,600	Jan. 3, 1937	196	1,325	1.85	26.22	1,304	25.04
1938	853	18,200	Jan. 24, 1938	230	1,447	2.02	20.02	991	19.04
1939	873	8,650	Feb. 17, 1939	214	1,223	1.73	23.48	1,215	23.32
1940	893	19,400	Apr. 20, 1940	186	796	1.13	15.33	863	16.62
1941	923	2,440	Dec. 30, 1940	154	523	.740	10.03	451	8.65
1942	953	5,220	Apr. 11, 1942	162	532	.752	10.20	693	13.30
1943	973	19,400	Dec. 29, 1942	143	816	1.15	15.66	663	12.73
1944	1003	15,000	Mar. 31, 1944	204	1,267	1.79	24.39	1,426	27.46
1945	1033	30,200	Jan. 2, 1945	275	1,504	2.13	28.87	1,609	30.89
1946	1053	42,000	Jan. 8, 1946	265	1,480	2.09	28.42	1,287	24.72
1947	1083	8,540	Jan. 4, 1947	231	1,029	1.46	19.75	962	18.47
1948	1113	100,000	Feb. 14, 1948	181	1,267	1.79	24.39	1,554	29.92
1949	1143	12,400	Jan. 7, 1949	220	1,411	2.00	27.09	1,208	23.17
1950	1173	19,800	Feb. 16, 1950	277	1,705	2.41	32.74	-	-

* Not previously published.

319. Tennessee River near Johnsonville, Tenn. 1/

Location.--Lat 36°01'02", long. 87°59'59", at Hickman-Lockhart Memorial bridge on U. S. Highway 70, 4 miles upstream from Johnsonville, Humphreys County, 6 miles southeast of Camden, 10 miles downstream from Duck River, and at mile 100.5.

Drainage area.--38,520 sq mi, approximately. At site used prior to 1932, 38,530 sq mi (revised), approximately.

Supplemental records available.--Gage-height records collected in this vicinity since 1875 are contained in reports of the U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 319.61 ft above mean sea level, datum of 1929. October 1889 to Oct. 21, 1926, staff gage at site 4 miles downstream at datum 1.14 ft higher and Oct. 21, 1926, to Sept. 30, 1931, water stage recorder on Nashville, Chattanooga & St. Louis Railway bridge, 4 miles downstream at datum 0.88 ft higher.

Average discharge.--54 years (1889-1943), 61,980 cfs.

Extremes.--1889-1944: Maximum discharge, 460,000 cfs Mar. 24, 1897 (gage height, 48.0 ft, site and datum then in use); minimum, 3,500 cfs Sept. 11, 1925 (gage height, -2.0 ft, site and datum then in use), caused by filling of Wilson Lake.

Remarks.--Slight regulation since 1924 by Wilson Lake and increasing regulation since 1936 as other reservoirs have been built above station (see elsewhere in this report). Flow now almost completely regulated.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1890	22,700	74,300	43,000	78,200	140,000	30,000	123,000	76,000	37,900	24,600	32,900	33,500	75,900
1891	39,500	30,900	33,900	107,000	260,000	230,000	119,000	37,300	39,500	26,300	47,900	26,000	82,000
1892	13,800	20,400	55,400	143,000	91,000	76,400	221,000	69,900	56,200	79,400	28,700	26,000	73,300
1893	15,800	26,600	73,800	40,700	154,000	107,000	18,000	127,000	10,000	24,300	19,700	31,100	70,800
1894	20,000	18,300	25,500	60,600	164,000	90,400	70,700	32,100	19,500	21,200	19,700	15,700	45,600
1895	10,800	10,700	24,400	112,000	55,100	133,000	75,700	51,300	28,600	31,500	26,800	17,800	48,300
1896	9,820	11,600	20,700	34,100	132,000	81,600	119,000	29,500	25,900	57,500	24,800	12,900	46,200
1897	12,200	22,200	46,400	40,400	91,000	289,000	168,000	72,500	26,400	32,200	24,100	11,500	69,700
1898	9,290	10,300	38,300	109,000	50,800	40,800	105,000	33,800	20,200	19,900	55,600	43,300	44,600
1899	41,500	30,100	35,200	100,000	167,000	248,000	150,000	54,600	25,400	17,400	16,700	11,700	74,300
1900	10,000	10,300	41,200	54,400	89,100	112,000	136,000	39,600	91,000	63,900	22,900	16,800	57,000
1901	21,500	35,300	49,500	94,800	78,000	65,100	152,000	84,600	67,400	29,500	102,000	61,000	69,700
1902	24,600	15,500	74,200	123,000	122,000	184,000	136,000	37,500	21,400	24,500	13,700	12,300	65,900
1903	17,600	14,700	78,900	59,800	189,000	130,000	162,000	47,900	66,800	27,200	20,700	11,200	72,900
1904	10,000	15,600	17,300	31,200	30,700	101,000	69,400	32,800	24,300	19,300	18,700	11,800	71,900
1905	7,940	8,270	26,100	66,100	128,000	101,000	39,300	78,000	35,500	48,200	32,300	21,400	48,900
1906	18,200	15,900	68,900	104,000	53,600	87,700	87,200	36,300	32,100	60,400	48,300	59,000	56,000
1907	103,000	32,800	66,000	85,800	79,900	123,000	58,000	112,000	62,100	34,200	23,800	26,400	72,300
1908	24,100	36,100	50,100	111,000	135,000	10,000	84,300	74,600	41,100	30,800	25,400	24,000	62,100
1909	13,400	21,200	56,800	79,100	143,000	192,000	85,000	111,000	120,000	74,500	40,900	21,000	80,300
1910	22,400	15,600	27,100	66,500	78,900	65,700	45,300	62,900	63,400	81,200	32,300	27,800	48,800
1911	17,800	12,600	31,000	89,300	118,000	60,400	211,000	49,500	20,900	26,800	24,900	16,300	56,000
1912	21,700	26,700	104,000	117,000	103,000	70,000	190,000	120,000	42,400	57,400	32,500	22,500	84,000
1913	19,800	16,000	39,400	61,000	31,000	84,000	119,000	44,000	49,400	19,500	17,300	12,700	67,500
1914	14,000	14,000	18,500	22,500	60,000	51,800	121,000	42,300	16,400	18,300	16,100	15,300	33,900
1915	17,600	12,400	69,700	147,000	100,260,000	57,400	41,500	31,200	31,500	38,500	25,100	26,700	51,700
1916	45,800	61,100	99,300	188,000	89,300	77,900	62,400	33,800	56,400	145,000	53,500	20,100	77,900
1917	18,200	14,800	28,300	124,000	123,000	288,000	131,000	37,100	43,100	46,800	31,800	23,400	75,500
1918	20,900	17,800	15,800	72,100	169,000	48,300	98,900	66,500	30,600	26,500	19,400	16,100	49,300
1919	17,200	72,100	72,300	151,000	79,000	188,000	76,900	68,200	47,000	34,100	24,100	17,000	70,800
1920	33,900	53,100	125,000	94,000	106,000	70,000	232,000	89,500	67,600	43,700	94,400	55,300	96,900
1921	20,400	19,400	82,800	85,500	164,000	81,500	118,000	50,800	27,400	31,600	43,400	21,600	61,500
1922	17,800	33,700	58,800	112,000	121,000	234,000	128,000	113,000	62,500	36,900	21,600	17,400	79,600
1923	11,600	11,000	72,300	78,000	204,000	188,000	37,900	107,000	79,200	39,100	46,500	22,900	77,400
1924	15,200	15,600	86,100	164,000	77,700	28,000	98,500	88,600	76,900	31,600	21,100	14,300	67,700
1925	23,600	15,300	36,400	93,300	73,900	50,100	34,000	36,500	14,600	15,600	8,130	4,780	33,500
1926	22,000	64,400	40,900	72,500	68,400	70,700	65,000	31,600	30,500	18,000	40,900	26,200	45,700
1927	14,100	40,800	48,000	173,000	139,000	194,000	154,000	50,200	68,900	28,100	28,500	15,600	87,700
1928	13,700	25,800	62,900	77,300	63,200	91,000	132,000	90,600	121,000	81,900	57,400	63,300	72,300
1929	37,400	46,700	39,800	60,300	92,200	244,000	137,000	174,000	58,900	46,700	25,100	28,400	84,000
1930	38,900	36,000	63,400	85,500	93,300	120,000	53,700	56,800	24,100	14,300	12,900	12,900	59,100
1931	11,700	20,100	26,000	42,800	46,900	54,100	38,400	48,300	22,200	21,300	26,900	18,000	36,200
1932	9,530	10,700	102,000	119,000	240,000	77,600	104,000	78,600	31,600	56,800	24,600	18,900	72,100
1933	57,900	47,200	124,000	160,000	180,000	122,000	108,000	111,000	29,300	24,800	24,600	26,800	84,200
1934	13,600	13,420	26,770	53,860	21,200	175,200	86,730	33,490	43,420	27,430	32,020	23,640	46,100
1935	27,600	25,550	32,180	95,110	84,120	164,100	154,200	71,170	35,500	22,900	22,650	16,930	62,540
1936	12,160	35,650	31,290	130,000	115,100	93,420	205,100	31,810	18,000	34,700	20,310	19,810	61,740
1937	25,290	28,260	46,620	240,900	152,000	69,770	44,300	98,250	29,790	26,460	27,170	28,180	67,700
1938	33,870	30,590	44,250	63,100	53,190	92,350	107,400	47,990	47,900	54,160	63,890	24,580	58,330
1939	19,860	31,220	30,760	59,940	328,700	152,100	83,520	46,610	53,820	32,310	26,880	21,260	65,210
1940	16,440	15,730	15,490	16,940	56,530	78,990	80,660	37,450	22,430	39,770	35,880	35,160	37,510
1941	23,460	27,570	33,670	48,080	33,580	34,560	48,790	27,460	20,330	39,650	29,580	22,530	32,460
1942	20,740	19,300	22,420	30,770	55,380	84,310	49,210	22,350	23,870	27,880	50,380	38,480	36,990
1943	29,100	32,720	87,560	120,000	105,900	76,850	64,630	45,080	29,630	51,210	34,640	37,160	57,650
1944	31,330	34,940	28,690	46,520	108,500	155,300	141,400	55,050	31,410	26,410	-	-	-

† Corrected.

1/ Published as "at Johnsonville," prior to 1932.

Monthly and yearly runoff, in inches, of Tennessee River near Johnsonville, Tenn.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1890	0.68	2.15	1.29	2.34	3.78	6.88	3.57	2.27	1.10	0.74	0.98	0.97	26.75
1891	1.18	.89	1.01	3.19	7.03	6.88	3.44	1.12	1.14	.79	1.43	.75	28.85
1892	.41	.59	1.66	4.28	2.55	2.29	6.40	2.09	1.63	2.37	.86	.75	25.88
1893	.47	.77	2.21	1.22	4.17	3.21	3.41	3.81	3.41	.73	.59	.90	24.90
1894	.60	.53	.76	1.81	4.42	2.70	2.05	.96	.56	.63	.59	.45	16.06
1895	.32	.31	.73	3.56	1.49	3.98	2.19	1.54	.83	.94	.80	.52	17.01
1896	.29	.34	.62	1.02	3.70	2.44	3.46	.88	.75	1.72	.74	.37	16.33
1897	.36	.64	1.39	1.21	2.48	8.85	4.85	2.17	.77	.96	.72	.33	24.55
1898	.28	.30	1.15	3.27	1.37	1.22	3.03	1.01	.58	.60	1.66	1.25	15.72
1899	1.24	.87	1.05	3.01	4.51	7.42	4.35	1.63	.73	.52	.50	.34	26.17
1900	.30	.30	1.23	1.63	2.41	3.36	3.94	1.19	2.64	1.91	.68	.49	20.08
1901	.64	1.02	1.48	2.83	2.05	1.95	4.41	2.53	1.95	.88	3.05	1.77	24.56
1902	.74	.45	2.22	3.85	3.29	5.49	3.93	1.12	.62	.73	.41	.36	23.21
1903	.53	.43	2.36	1.79	5.10	5.69	4.68	1.43	1.93	.82	.62	.32	25.70
1904	.30	.45	.52	.93	.86	3.03	2.01	.99	.70	.58	.56	.34	11.26
1905	.24	.24	.78	1.98	3.46	3.01	1.14	2.33	1.03	1.45	.97	.62	17.25
1906	.54	.46	2.06	3.10	1.45	2.63	2.53	1.09	.93	1.81	1.45	1.71	19.76
1907	3.07	2.69	1.98	2.57	2.16	3.67	1.68	3.37	1.80	1.02	.71	.76	25.48
1908	.72	1.10	1.50	3.32	3.78	3.29	2.44	2.23	1.19	.92	.76	.70	21.95
1909	.40	.61	1.67	2.37	3.87	5.76	2.75	3.32	3.48	2.23	1.22	.61	28.29
1910	.67	.45	.81	1.99	2.08	1.97	1.31	1.88	1.84	2.43	.97	.80	17.20
1911	.53	.36	.93	2.67	3.18	1.81	6.12	1.48	.61	.80	.75	.47	19.71
1912	.65	.77	3.11	5.49	2.87	5.09	3.50	3.60	1.23	1.72	.97	.65	29.65
1913	.59	.46	1.18	4.81	3.53	5.52	3.46	1.32	1.43	.58	.52	.37	23.77
1914	.42	.41	.55	.67	1.62	1.55	3.51	1.27	.47	.55	.48	.44	11.94
1915	.53	.36	2.09	4.40	3.40	1.72	1.20	.93	.91	1.15	.75	.77	18.21
1916	1.37	1.77	2.97	5.61	2.50	2.33	1.81	1.01	1.63	4.35	1.60	.58	27.53
1917	.48	.43	.85	3.72	3.33	8.60	3.79	1.11	1.25	1.40	.95	.68	26.59
1918	.63	.52	.47	2.16	4.56	1.44	2.88	1.99	.89	.79	.58	.46	17.35
1919	.52	2.09	2.16	4.53	2.14	5.63	2.23	2.04	1.36	1.02	.72	.49	24.93
1920	1.01	1.54	3.74	2.81	2.96	5.08	6.72	2.68	1.96	1.31	2.82	1.60	34.23
1921	.61	.56	2.48	2.56	4.42	2.44	3.42	1.52	.79	.95	1.30	.62	21.67
1922	.53	.98	1.76	3.34	3.28	7.00	3.72	3.37	1.81	1.10	.65	.50	28.04
1923	.35	.32	2.16	2.33	5.52	5.03	2.83	3.20	2.29	1.17	1.39	.66	27.25
1924	.45	.45	2.40	4.91	2.18	3.82	a2.86	a2.66	a2.23	a.99	a.63	a.50	a24.08
1925	a.64	a.37	a1.26	a2.81	a2.00	a1.48	a.97	a1.08	a.43	a.45	a.25	a.16	a11.90
1926	.66	1.86	1.22	2.17	1.85	2.12	1.88	.95	.88	.54	1.22	.76	16.11
1927	.42	1.18	4.42	5.19	3.77	5.81	4.47	1.50	2.00	.84	.85	.45	30.90
1928	.41	.75	1.88	2.31	1.77	7.22	3.82	2.71	3.50	2.45	1.37	1.83	25.52
1929	1.12	1.35	1.07	2.40	2.49	7.29	3.96	5.21	1.71	1.40	.75	.82	29.57
1930	1.16	3.93	1.90	2.56	2.54	3.60	1.56	1.70	.70	.43	.38	.37	20.83
1931	.35	.58	.78	1.28	1.27	1.62	2.85	1.44	.64	.64	.80	.52	12.77
1932	.29	.31	3.05	3.55	6.71	2.32	3.01	2.35	.91	1.70	.74	.55	25.49
1933	1.73	1.37	3.70	4.79	4.86	3.66	3.12	3.33	.85	.74	.74	.78	29.67
1934	.41	.39	.80	1.61	.57	5.24	2.51	1.00	1.26	.82	.36	.68	16.25
1935	.83	.74	.96	2.85	2.27	4.91	4.47	2.13	1.03	.69	.68	.49	22.05
1936	.36	1.03	.94	3.89	3.22	-	-	-	-	-	-	-	21.81

a Adjusted for change in contents in Wilson Lake; figures given herein supersede unadjusted figures published in WSP 583 and 603 and are based on revised figures of lake contents; originally published figures of discharge in cubic feet per second per square mile should not be used. The effect of storage in Wilson Lake on monthly figures is minor after 1925.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted/			Observed	Adjusted/	Runoff in inches
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches			
		Discharge	Date								
1890	353	-	-	15,700	75,900	-	1.97	26.75	73,000	-	25.71
1891	353	-	-	15,700	82,000	-	2.13	28.85	80,700	-	28.43
1892	353	a239,000	Jan. 26, 1892	12,600	73,300	-	1.95	25.88	75,500	-	26.67
1893	353	a280,000	Feb. 25, 26, 1893	12,900	70,600	-	1.83	24.90	66,200	-	23.34
1894	353	a258,000	Feb. 13, 14, 1894	12,600	45,600	-	1.18	16.06	44,100	-	15.53
1895	353	a207,000	Jan. 19, 1895	9,650	48,300	-	1.25	17.01	47,900	-	16.90
1896	353	a232,000	Apr. 12, 1896	9,370	46,200	-	1.20	16.33	49,500	-	17.47
1897	353	a460,000	Mar. 24, 1897	9,090	69,700	-	1.81	24.55	67,800	-	23.87
1898	353	-	-	8,560	44,600	-	1.16	15.72	48,700	-	17.15
1899	353	-	-	9,650	74,300	-	1.93	26.17	70,500	-	24.84
1900	353	a243,000	June 30, 1900	9,370	57,000	-	1.48	20.08	60,700	-	21.39
1901	353	a226,000	Aug. 26, 1901	13,700	69,700	-	1.81	24.56	70,500	-	24.83
1902	353	a298,000	Apr. 2, 1902	10,550	65,900	-	1.71	23.21	65,600	-	23.12
1903	353	-	-	10,200	72,900	-	1.89	25.70	67,100	-	23.65
1904	353	-	-	9,370	31,900	-	1.828	11.26	31,900	-	11.25
1905	353	a194,000	Feb. 14, 15, 1905	7,150	48,900	-	1.27	17.25	54,000	-	19.05
1906	353	a177,000	Jan. 26, 1906	11,500	56,000	-	1.45	19.76	69,300	-	24.44
1907	353	a206,000	Mar. 5, 1907	18,700	72,300	-	1.88	25.48	59,800	-	21.06
1908	353	-	-	14,100	62,100	-	1.61	21.95	60,300	-	21.31
1909	353	275,000	Feb. 28, 1909	11,500	80,300	-	2.08	28.29	78,200	-	27.54
1910	353	169,000	Feb. 23, 1910	14,900	48,800	-	1.27	17.20	48,500	-	17.09

1/Adjusted for change in contents in Wilson Lake April 1924 to September 1925. No regulations prior to April 1924, and since September 1925 the effect of regulation on annual figures is minor.
a Maximum daily discharge.

Yearly discharge, in cubic feet per second, of Tennessee River near Johnsonville, Tenn.--Continued

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year		
		Observed				Adjusted ¹			Observed	Adjusted ¹
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean
		Discharge	Date							Runoff in inches
1911	353	a302,000	Apr. 17, 1911	11,500	56,000	-	1.45	19.71	63,600	-
1912	353	-	-	11,800	84,000	-	2.18	29.65	77,500	-
1913	353	-	-	11,200	87,500	-	1.75	23.77	65,000	-
1914	383	a158,000	Apr. 5, 6, 1914	10,500	53,300	-	.880	11.94	38,400	-
1915	403	a248,000	Feb. 6, 1915	9,990	51,700	-	1.34	18.21	60,600	-
1916	(b)	a263,000	Jan. 5, 1916	15,200	77,900	-	2.02	27.53	65,600	-
1917	453	-	-	13,400	75,500	-	1.96	26.59	75,100	-
1918	523	a253,000	Feb. 10, 1918	13,300	49,300	-	1.28	17.35	58,200	-
1919	523	a295,000	Mar. 19, 1919	11,500	70,800	-	1.84	24.93	75,100	-
1920	523	a301,000	Apr. 14, 1920	11,200	96,900	-	2.51	34.23	89,400	-
1921	523	243,000	Feb. 14, 1921	16,100	61,500	-	1.60	21.67	60,500	-
1922	543	a305,000	Mar. 15, 1922	13,300	79,600	-	2.07	28.04	78,400	-
1923	583	a258,000	Mar. 26, 1923	10,300	77,400	-	2.01	27.25	78,700	-
1924	583	a245,000	Jan. 7, 1924	11,500	67,700	68,100	1.77	24.08	64,700	65,300
1925	603	a180,000	Feb. 24, 1925	3,500	33,500	33,800	.877	11.90	37,800	38,100
1926	623	a168,000	Jan. 25, 1926	3,890	45,700	-	1.19	16.11	52,200	-
1927	643	342,000	Jan. 2-4, 1927	11,000	87,700	-	2.28	30.90	79,200	-
1928	663	223,000	Apr. 27, 1928	11,000	72,300	-	1.88	25.52	73,700	-
1929	683	302,000	Mar. 29, 1929	15,100	84,000	-	2.18	29.57	93,700	-
1930	698	222,000	Nov. 23, 24, 1929	11,000	59,100	-	1.53	20.83	44,100	-
1931	713	145,000	Apr. 3, 1931	9,170	36,200	-	.940	12.77	41,700	-
1932	728	264,000	Feb. 7, 1932	9,140	72,100	-	1.87	25.49	81,000	-
1933	743	278,000	Feb. 24, 1933	15,800	84,200	-	2.19	29.67	69,400	-
1934	758	253,000	Mar. 10, 1934	11,900	46,140	-	1.20	16.25	48,790	-
1935	783	230,000	Apr. 10, 1935	12,000	62,540	-	1.82	22.05	61,980	-
1936	803	339,000	Apr. 10, 1936	8,540	61,740	-	1.60	21.81	63,550	-
1937	823	318,000	Jan. 23, 1937	11,700	87,700	-	1.76	23.86	68,410	-
1938	853	172,000	Apr. 13, 1938	18,600	58,330	-	1.51	20.58	56,050	-
1939	873	293,000	Feb. 20, 1939	15,700	65,210	-	1.89	22.97	62,350	-
1940	893	162,000	Apr. 21, 1940	14,900	37,510	-	.974	13.25	40,620	-
1941	923	94,800	Apr. 8, 1941	17,400	32,460	-	.843	11.44	30,590	-
1942	953	137,000	Mar. 23, 1942	15,700	36,990	-	.980	13.03	44,320	-
1943	973	256,000	Jan. 5, 1943	26,800	57,650	-	1.50	20.31	53,040	-
1944	1003	285,000	Apr. 3, 1944	-	-	-	-	-	-	-

¹Adjusted for change in contents in Wilson Lake April 1924 to September 1925. No regulations prior to April 1924, and since September 1925 the effect of regulation on annual figures is minor.

a Maximum daily discharge.

b Tennessee Division of Geology, Bull. 34.

Note.--Monthly figures of discharge in cubic feet per second per square mile and runoff, in inches, for period March to September 1936 previously published in WSP 803 may be subject to error because of storage in Norris Lake. These figures are not published herein and should not be used.

320. Trace Creek at Waverly, Tenn.

Location--Lat 36°05'10", long. 87°48'04", at bridge half a mile downstream from bridge on State Highway 13, at Waverly, Humphreys County, 12 miles (revised) above mouth.

Drainage area--20.1 sq mi (revised).

Gage--Staff gage. Altitude of gage is 497 ft (from topographic map).

Extremes--1932-33: Maximum discharge observed (revised), 2,070 cfs July 6, 1932 (gage height, 5.30 ft); minimum observed, 2.0 cfs June 22-28 (revised), 1933 (gage height, 0.28 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	46.9	11.5	37.1	-
1933	39.9	21.5	56.7	102	155	93.2	93.7	40.7	3.33	3.49	4.65	4.51	50.9

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1932	-	-	-	-	-	-	-	-	-	2.57	0.86	2.08	-
1933	2.29	1.19	3.25	5.86	8.01	5.35	5.20	2.33	0.19	.20	.27	.25	34.39

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Maximum observed		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1932	728	*2,070	July 6, 1932	-	-	-	-	-	-
1933	743	1,890	Feb. 19, 1933	2.0	50.9	2.53	34.39	-	-

* Revised.

321. Big Sandy River at Bruceton, Tenn.

Location--Lat 36°02'19", long. 88°13'42", at county highway bridge, 700 ft downstream from bridge on U. S. Highway 70, 0.6 mile upstream from Cherry Creek, and 0.9 mile east of Bruceton, Carroll County.

Drainage area--205 sq mi.

Gage--Water-stage recorder. Datum of gage is 380.76 ft above mean sea level, datum of 1929. Prior to Mar. 1, 1940, chain gage at same site and datum.

Average discharge--21 years (1929-50), 294 cfs.

Extremes--1929-50: Maximum discharge, 17,000 cfs Jan. 21, 1935 (gage height, 16.16 ft, from graph based on gage readings), from rating curve extended above 9,000 cfs; minimum, 28 cfs Aug. 17-19, 22, Sept. 1, 1943.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1929	-	-	-	-	-	-	-	-	-	-	-	-	-
1930	158	241	193	974	565	392	224	336	73.1	53.5	51.9	70.8	277
1931	92.5	123	155	141	323	380	234	94.8	57.6	125	189	59.9	164
1932	56.5	124	595	1,567	765	373	484	296	106	231	133	258	416
1933	178	184	351	567	735	519	686	541	71.8	216	139	247	367
1934	84.1	157	729	182	225	771	186	105	295	79.2	64.0	196	257
1935	103	297	172	1,299	255	712	487	312	367	69.4	68.0	76.7	354
1936	90.5	117	104	231	183	425	111	69.6	43.6	401	42.0	56.1	157
1937	95.9	153	217	2,712	190	167	323	545	163	102	57.7	104	407
1938	172	106	260	590	354	463	195	163	409	182	166	63.3	260
1939	52.6	80.4	108	376	1,189	436	493	159	238	60.7	69.9	48.0	271
1940	52.0	76.3	104	106	313	604	264	169	77.1	116	83.6	41.4	167
1941	44.1	83.5	120	112	96.4	84.6	90.1	51.6	41.8	77.5	96.8	35.9	77.8
1942	45.2	92.9	96.6	192	263	497	719	72.3	76.1	45.4	55.0	35.7	183
1943	59.5	94.3	231	100	106	644	230	231	72.2	32.9	47.9	104	169
1944	42.0	105	113	146	739	537	737	194	87.5	51.5	161	175	254
1945	109	184	426	770	533	569	307	486	608	65.5	159	122	361
1946	201	949	317	1,090	639	918	220	184	98.8	165	117	81.8	414
1947	91.7	264	381	851	164	222	432	375	154	108	131	88.5	273
1948	178	270	192	262	931	852	319	104	85.4	301	81.6	113	305
1949	105	972	520	953	368	530	303	514	426	178	189	87.1	412
1950	165	144	1,011	2,073	1,235	613	249	418	216	368	340	750	632

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1929	-	-	-	-	-	-	-	-	-	-	-	-	-
1930	0.89	1.31	1.08	5.48	2.87	2.20	1.22	1.89	0.40	0.30	1.33	0.60	18.32
1931	.52	.67	.87	.79	1.64	2.14	1.27	.53	.31	.70	1.06	.33	10.83
1932	.32	.68	3.34	8.81	4.02	2.10	2.63	1.66	.58	1.30	.75	1.40	27.59
1933	.99	1.00	1.97	3.19	3.74	2.92	3.73	3.04	.39	1.21	.78	1.34	24.30
1934	.47	.85	4.10	1.02	1.14	4.34	1.01	.59	1.60	.45	.38	1.06	16.99
1935	.58	1.62	.97	7.30	1.30	4.01	2.65	1.75	2.00	.50	.38	.42	23.48
1936	.51	.64	.58	1.30	.96	2.39	.61	.39	.24	2.26	.24	.31	10.43
1937	.54	.83	1.22	15.25	.96	.94	1.76	3.07	.89	.58	.32	.57	26.93
1938	.96	.58	1.46	3.32	1.80	2.60	1.06	.92	2.22	1.03	.93	.34	17.22
1939	.30	.44	.61	2.11	6.04	2.45	2.68	.89	1.30	.45	.39	.26	17.92
1940	.29	.42	.59	.59	1.64	3.40	1.44	.95	.42	.65	.47	.23	11.09
1941	.25	.45	.67	.63	.49	.48	.49	.29	.23	.44	.54	.20	5.16
1942	.25	.51	.54	1.08	1.44	2.79	3.92	.41	.41	.26	.31	.19	12.11
1943	.33	.51	1.64	.56	.54	3.62	1.25	1.30	.39	.18	.27	.57	11.16
1944	.24	.57	.64	.82	3.89	3.02	4.01	1.09	.48	.29	.90	.95	16.90
1945	.61	1.00	2.40	4.33	2.71	3.20	1.67	2.73	3.31	.37	.90	.66	23.89
1946	1.13	5.16	1.78	6.13	3.24	5.18	1.19	1.03	.54	.93	.66	.45	27.40
1947	.52	1.44	2.14	4.78	.83	1.25	2.35	2.11	.84	.61	.74	.48	18.09
1948	1.00	1.47	1.08	1.59	4.90	4.79	1.73	.58	.36	1.69	.46	.62	20.27
1949	.59	5.29	2.92	5.36	1.87	2.98	1.65	1.77	2.32	1.00	1.07	.47	27.29
1950	.93	.78	5.68	11.66	6.27	3.45	1.36	2.34	1.18	2.18	1.31	4.08	41.82

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1929	923	-	-	-	-	-	-	-	-
1930	923	9,100	Jan. 9, 1930	42	277	1.35	18.32	258	17.10
1931	923	2,060	Mar. 27, 1931	43	164	.800	10.83	198	13.11
1932	923	7,820	Jan. 13, 1932	44	416	2.03	27.59	410	27.21
1933	923	3,220	Mar. 21, 1933	55	367	1.79	24.30	369	25.76
1934	923	5,580	Dec. 18, 1933	50	257	1.25	16.99	223	14.74
1935	923	17,000	Jan. 21, 1935	50	354	1.73	23.48	301	22.04
1936	803	6,740	July 4, 1936	36	157	.766	10.43	170	11.29
1937	823	13,800	Jan. 21, 1937	41	407	1.99	26.93	413	27.34
1938	853	4,270	Jan. 23, 1938	38	260	1.27	17.22	235	15.57
1939	873	5,940	Feb. 4, 1939	42	271	1.32	17.92	270	17.87
1940	893	1,680	Mar. 19, 1940	38	167	.815	11.09	168	11.16

Yearly discharge, in cubic feet per second, of Big Sandy River at Bruceton, Tenn.--Continued

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1941	923	1,200	Aug. 2, 1941	32	77.8	0.380	5.16	76.7	5.09
1942	953	10,100	Apr. 10, 1942	29	183	.893	12.11	201	13.29
1943	973	3,780	Mar. 20, 1943	28	169	.824	11.16	153	10.13
1944	1003	5,340	Feb. 18, 1944	30	254	1.24	16.90	293	19.46
1945	1033	5,630	Jan. 2, 1945	51	361	1.76	23.89	422	27.95
1946	1053	12,000	Jan. 9, 1946	57	414	2.02	27.40	354	23.43
1947	1083	3,980	Jan. 4, 1947	51	273	1.33	18.09	285	17.54
1948	1113	6,130	Mar. 17, 1948	55	305	1.49	20.27	384	25.52
1949	1143	4,740	Nov. 20, 1948	71	412	2.01	27.29	391	25.88
1950	1173	9,880	Dec. 13, 1949	73	632	3.08	41.82	-	-

322. Big Sandy River at Big Sandy, Tenn.

Location.--Lat 36°13'50", long. 86°06'16", on left bank of drainage canal 700 ft upstream from bridges on relocated State Highway 69 and Louisville & Nashville Railroad, and 1 mile west of Big Sandy, Benton County.

Drainage area.--379 sq mi.

Gage.--Water-stage recorder. Datum of gage is 342.85 ft above mean sea level, datum of 1929. Prior to Feb. 14, 1938, staff gage at same site and datum.

Average discharge.--10 years (1934-44), 399 cfs.

Extremes.--1934-44: Maximum discharge, 18,400 cfs Jan. 24, 1937 (gage height, 19.90 ft); minimum, 34 cfs July 24, 1943; minimum gage height, 0.97 ft July 2, 1941.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1935	*170	*550	*305	*2,370	*470	1,201	968	482	507	134	87.5	133	*617
1936	115	171	164	348	275	968	215	110	79.9	361	57.9	78.7	248
1937	118	211	315	4,441	363	326	532	859	252	143	92.5	232	663
1938	294	217	459	1,037	783	772	388	263	568	241	344	109	453
1939	71.4	125	158	678	2,364	966	1,058	348	488	196	122	64.2	539
1940	73.9	109	167	179	560	934	603	272	121	138	119	63.0	277
1941	64.8	131	188	184	154	127	139	74.0	57.1	131	174	50.9	123
1942	66.7	148	177	456	753	921	1,468	134	116	68.4	89.5	50.0	367
1943	74.6	147	512	222	200	1,314	331	398	131	44.1	64.6	142	300
1944	54.3	155	174	229	1,130	1,017	1,290	327	106	64.3	202	126	402

* Not previously published; estimated on basis of records for station at Bruceton.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1935	*0.52	*1.62	*0.93	*7.21	*1.29	3.65	2.85	1.47	1.49	0.41	0.27	0.39	*22.10
1936	.35	.50	.50	1.06	.78	2.95	.63	.33	.24	1.10	.18	.23	8.85
1937	.36	.62	.96	13.51	1.00	.99	1.56	2.61	.74	.44	.28	.68	23.75
1938	.89	.64	1.40	3.15	2.10	2.35	1.14	.80	1.67	.73	1.05	.32	16.24
1939	.22	.37	.48	2.06	6.49	2.94	3.11	1.06	1.44	.59	.37	.19	19.32
1940	.22	.32	.51	.54	1.59	2.84	1.78	.83	.56	.42	.36	.19	9.96
1941	.20	.39	.57	.56	.42	.58	.41	.23	.17	.40	.53	.15	4.41
1942	.20	.44	.54	1.39	2.07	2.80	4.32	.41	.34	.21	.27	.15	13.14
1943	.23	.43	1.56	.68	.55	4.00	.98	1.21	.58	.13	.20	.42	10.77
1944	.17	.46	.53	.70	3.22	3.09	3.80	.99	.31	.20	.61	.37	14.45

* Not previously published; estimated on basis of records for station at Bruceton.

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1935	853	-	-	-	*617	*1.63	*22.10	*569	*20.38
1936	853	4,760	Mar. 28, 1936	37	246	.649	8.85	263	9.44
1937	853, 923	18,400	Jan. 24, 1937	49	663	1.75	23.75	691	24.74
1938	853	4,940	Jan. 25, 1938	63	453	1.20	16.24	401	14.38
1939	853	6,610	Feb. 5, 1939	60	539	1.42	19.32	539	19.30
1940	893	2,370	Apr. 19, 1940	58	277	.731	9.96	280	10.07
1941	923	1,430	Aug. 27, 1941	44	123	.325	4.41	124	4.43
1942	953	12,400	Apr. 10, 1942	42	367	.968	13.14	396	14.18
1943	973	6,360	Mar. 19, 1943	36	300	.792	10.77	271	9.71
1944	1003	4,000	Feb. 21, 1944	40	402	1.06	14.45	-	-

* Not previously published.

323. Tennessee River near Buchanan, Tenn. 1/

Location.--Lat 36°26'38", long. 88°03'43", at bridge on State Highway 76, three-quarters of a mile downstream from Big Sandy River, 8 miles east of Buchanan, Henry County, and at mile 66.3.

Drainage area.--39,730 sq mi, approximately; at site used July 1930 to September 1931, 40,010 sq mi (revised), approximately; at site used October 1931 to September 1935, 39,780 sq mi (revised), approximately.

Gage.--Water-stage recorder. Datum of gage is 303.00 ft above mean sea level, datum of 1929. July 15, 1930, to Dec. 12, 1942, staff and wire-weight gages and water-stage recorders used as base and auxiliary gages at five different locations, ranging from Paducah (Mile 5.3) to river mile 66.3, all at different datums.

Average discharge.--12 years (1930-42), 56,950 cfs.

Extremes.--1930-42: Maximum discharge, 335,000 cfs Apr. 13, 1936; maximum gage height, 51.49 ft Jan. 25, 1937; minimum daily discharge, 8,850 cfs Oct. 24-27, 1931.

Remarks.--Since 1936 flow regulated by an increasing number of reservoirs above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1930	-	-	-	-	-	-	-	-	-	-	13,400	13,200	-
1931	11,900	20,800	25,500	43,700	44,900	52,600	102,000	50,100	22,000	20,800	27,000	18,200	36,500
1932	9,740	11,100	101,000	23,000	24,500	80,700	106,000	82,800	32,300	58,600	25,500	19,200	73,800
1933	58,000	47,500	24,000	66,000	85,000	127,000	112,000	115,000	32,100	25,500	25,500	28,200	86,700
1934	14,390	14,010	28,140	55,630	21,720	176,400	90,790	35,960	46,380	28,930	33,130	24,940	47,790
1935	28,680	26,950	34,310	101,200	89,990	168,000	158,900	74,310	39,560	24,270	23,310	17,930	65,470
1936	12,450	37,540	32,540	32,200	121,500	95,140	211,700	34,090	18,740	35,630	20,930	20,440	64,010
1937	26,070	30,360	46,830	246,500	165,800	72,100	48,130	107,100	31,960	28,110	27,700	29,320	71,290
1938	34,330	31,870	45,370	86,990	59,120	97,290	114,400	51,750	68,030	56,000	67,730	25,800	61,600
1939	20,310	30,950	50,520	60,830	239,500	156,500	87,850	49,510	54,610	33,660	27,830	21,680	66,620
1940	16,640	16,000	16,020	17,330	56,600	81,910	83,850	40,140	22,780	40,600	35,940	35,890	58,530
1941	23,680	27,900	33,980	48,560	34,780	35,570	49,910	28,060	20,680	39,440	29,930	22,320	32,920
1942	21,010	20,010	23,030	31,970	56,370	85,740	56,480	22,850	24,170	27,940	50,210	39,780	38,180
1943	29,690	33,750	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1930	-	-	-	-	-	-	-	-	-	-	0.39	0.37	-
1931	0.34	0.58	0.74	1.26	1.17	1.52	2.83	1.44	0.61	0.60	.78	.51	12.38
1932	.28	.31	2.92	3.55	6.59	2.34	2.97	2.40	.91	1.70	.74	.54	25.25
1933	1.68	1.33	3.61	4.81	4.84	3.68	3.13	3.34	.90	.74	.74	.79	29.59
1934	.42	.39	.82	1.61	.57	5.11	2.55	1.04	1.30	.84	.96	.70	16.31
1935	.83	.76	.99	2.39	2.36	4.87	4.46	2.15	1.11	.70	.68	.50	22.34
1936	.36	1.05	.94	3.83	3.30	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1930	698	-	-	-	-	-	-	-	-
1931	713	142,000	Apr. 11, 12, 1931	10,000	36,500	0.912	12.38	41,800	14.23
1932	728	a284,000	Feb. 5, 7, 10*	8,850	73,800	1.86	25.25	82,900	28.35
1933	743	293,000	Feb. 23, 24, 1933	17,700	86,700	2.18	29.59	72,100	24.60
1934	758	262,000	Mar. 10, 1934	12,500	47,790	1.20	16.31	50,590	17.26
1935	783	234,000	Mar. 19, 1935	13,000	65,470	1.65	22.34	64,810	22.12
1936	803	335,000	Apr. 13, 1936	9,000	64,010	1.61	21.93	65,780	22.54
1937	823	334,000	Jan. 24, 1937	11,900	71,290	1.79	24.36	71,990	24.60
1938	853	166,000	Apr. 13, 1938	18,800	61,600	1.55	21.05	59,070	20.18
1939	873	298,000	Feb. 20, 1939	16,100	66,620	1.68	22.76	63,840	21.81
1940	893	a160,000	Apr. 22, 1940	15,200	38,530	.970	13.20	41,630	14.26
1941	923	100,000	Apr. 8, 1941	17,800	32,920	.829	11.25	31,110	10.63
1942	953	128,000	Mar. 23, 1942	16,600	38,180	.961	13.05	-	-
1943	953	-	-	-	-	-	-	-	-

* Revised.

a Mean daily discharge.

Note.--Monthly figures of discharge in cubic feet per square mile and runoff in inches for the period March to September 1936, previously published in WSP 803 may be subject to appreciable error due to storage in Norris Lake. These figures are not published herein and should not be used.

1/ Published as "at Aurora Landing, Ky.", 1930-31, and as "at Shannon Dam site, near Murray, Ky.", 1932-35.

324. Kentucky Lake at Gilbertsville, Ky.^{1/}

Location.--Lat 37°00'45", long. 88°16'12", at Kentucky Dam on Tennessee River at Gilbertsville, Marshall County, and at mile 22.4.

Drainage area.--40,200 sq mi, approximately.

Gage.--Water-stage recorder. Datum of gage is mean sea level, datum of 1929.

Extremes.--1944-50: Maximum elevation, 368.81 ft Jan. 24, 1950; minimum (after first filling), 349.20 ft Jan. 22, 1947. Contents based on backwater profile.

Remarks.--Reservoir is formed by concrete dam with 24 lift gates 50 ft high by 40 ft wide. Storage began Aug. 16, 1944, and final closure was made Aug. 30, 1944. Water in reservoir reached minimum pool elevation Apr. 7, 1945. Total level pool capacity at elevation 375.0 ft (top of gates) is 3,026,300 cfs-days, of which 2,022,100 cfs-days is controlled storage above 354.0 ft (ordinary minimum pool). Reservoir is used for navigation, flood control, and power.

Cooperation.--Records furnished by Tennessee Valley Authority.

Contents, in thousands of cfs-days, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1944	-	-	-	-	-	-	-	-	-	23	186	543
1945	543	526	727	761	599	777	1,176	1,372	1,355	1,268	1,194	1,108
1946	1,111	1,043	992	947	998	1,105	1,423	1,369	1,301	1,208	1,082	1,127
1947	1,087	1,098	1,123	1,198	1,026	1,032	1,333	1,407	1,365	1,188	1,110	1,027
1948	1,040	1,008	1,056	1,028	1,100	1,042	1,304	1,345	1,234	1,216	1,154	1,084
1949	1,050	1,566	1,122	1,056	1,048	1,208	1,331	1,345	1,358	1,221	1,194	1,067
1950	1,094	1,022	1,041	1,669	1,041	1,137	1,348	1,340	1,301	1,266	1,252	1,108

^a Contents by backwater profile capacity table used beginning Oct. 1, 1946; contents Oct. 31, 1946, by level-storage capacity table used prior to Oct. 1, 1946, was 1,094,000 cfs-days.

325. Tennessee River near Paducah, Ky.

Location.--Lat 37°01'11", long. 88°15'50", at Gilbertsville, Marshall County, 4,000 ft (revised) downstream from Kentucky Dam, 2.3 miles upstream from Shadie Creek, 16 miles east of Paducah, McCracken County, and at mile 21.6.

Drainage area.--40,200 sq mi, approximately. At site used prior to Oct. 1, 1942, 40,320 sq mi, approximately.

Gage.--Water-stage recorder. Datum of gage is 286.35 ft above mean sea level, datum of 1929. Feb. 8, 1939, to Sept. 30, 1942, water-stage recorder 16.3 miles downstream at same datum (prior to July 30, 1940, at datum 3.65 ft higher); Oct. 1, 1942, to Jan. 1, 1946, water-stage recorder 500 ft upstream from described location at same datum. Auxiliary water-stage recorder 16.3 miles downstream at same datum; and Feb. 15, 1939, to Sept. 30, 1942, water-stage recorder 500 ft upstream from present base gage at same datum (prior to July 30, 1940, at datum 3.65 ft higher).

Average discharge.--11 years (1939-50), 62,870 cfs.

Extremes.--1939-50: Maximum discharge, 500,000 cfs Feb. 17, 1948; maximum gage height, 55.89 ft Feb. 13, 1950; minimum daily discharge, 500 cfs Sept. 7, 1944.

Remarks.--Since 1936 flow regulated by an increasing number of reservoirs above station (see elsewhere in this report). Flow now almost completely regulated.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1939	-	-	-	-	-	167,200	93,050	54,260	55,690	33,000	27,380	22,030	-
1940	16,140	16,480	15,660	18,580	56,620	84,840	81,100	44,470	23,880	39,510	35,050	35,380	38,880
1941	23,920	27,930	33,630	47,930	35,560	35,350	49,160	28,910	22,260	38,280	30,480	23,470	33,080
1942	21,200	19,770	22,510	32,120	53,300	84,080	56,950	25,330	26,050	30,240	51,080	42,670	38,680
1943	30,670	35,190	84,440	30,700	15,100	81,700	73,930	48,720	35,870	32,530	35,200	37,140	61,510
1944	32,970	35,770	28,890	49,160	99,710	155,800	59,200	61,350	31,770	27,910	25,000	21,620	80,530
1945	37,460	35,510	44,570	118,200	40,700	108,600	48,480	77,900	43,810	34,650	39,560	36,050	63,410
1946	31,500	56,430	108,400	226,200	92,700	103,400	43,210	66,340	45,150	46,740	42,140	39,670	83,000
1947	42,610	63,970	57,410	205,900	90,220	80,580	60,850	53,980	39,590	37,030	31,240	29,530	66,070
1948	25,310	39,250	41,400	50,030	226,100	29,500	75,930	36,220	36,170	31,960	31,420	32,610	62,280
1949	31,870	69,600	175,800	230,700	26,000	84,380	62,140	56,800	55,530	78,490	52,330	52,770	89,730
1950	50,850	71,370	99,790	191,300	270,300	132,900	40,230	53,550	46,830	45,430	54,600	88,380	94,400

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1939	873	294,000	Feb. 22, 1939	-	-	-	-	-	-
1940	893	155,000	Mar. 16, 1940	11,900	38,880	0.984	13.12	42,000	14.18
1941	923	95,200	Apr. 9, 1941	15,500	33,080	.820	11.14	31,230	10.51
1942	953	127,000	Mar. 21, 1942	13,800	38,680	.959	13.02	46,010	15.54
1943	973	230,000	Jan. 6-7, 1943	26,400	61,510	1.53	20.77	57,040	19.26
1944	1003	303,000	Apr. 6, 1944	500	60,530	1.51	20.50	62,220	21.07
1945	1033	279,000	Feb. 22, 1945	16,100	65,410	1.58	21.42	70,040	23.65

^{1/} Published as Kentucky Reservoir prior to 1954.

Yearly discharge, in cubic feet per second, of Tennessee River near Paducah, Ky.--Continued

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1946	1053	419,000	Jan. 12, 1946	9,170	83,000	2.06	28.03	80,240	27.09
1947	1083	318,000	Jan. 21, 1947	12,900	66,070	1.64	22.31	61,210	20.67
1948	1113	500,000	Feb. 17, 1948	10,800	62,280	1.55	21.09	76,710	25.97
1949	1143	353,000	Jan. 7, 1949	22,200	89,730	2.23	30.30	85,030	28.71
1950	1173	408,000	Feb. 3, 1950	16,700	94,400	2.35	31.87	-	-

326. East Fork Clarks River near Benton, Ky.

Location.--Lat 36°52'24", long. 88°20'48", at bridge on U. S. Highway 68 and State Highway 95, 1 mile north of Benton, Marshall County, and 6.8 miles upstream from Middle Fork Creek.

Drainage area.--227 sq mi.

Supplemental records available.--Records of daily water temperature for the period October 1949 to September 1950 are published in reports of the Geological Survey.

Gage.--Wire-weight gage. Datum of gage is 344.53 ft above mean sea level, datum of 1929 (Tennessee Valley Authority benchmark).

Average discharge.--12 years (1938-50), 271 cfs.

Extremes.--1938-50: Maximum discharge, 12,600 cfs (revised) Feb. 15, 1949 (gage height, 14.9 ft, from graph based on gage readings); minimum observed, 1.8 cfs Aug. 9, 1948. Maximum stage known, 17.8 ft in January or February 1937, from floodmarks.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1938	-	-	-	-	-	-	-	-	87.0	180	311	264	-
1939	12.3	9.97	10.7	594	1,433	560	927	41.6	96.8	18.2	5.48	2.83	301
1940	8.97	4.65	8.91	119	779	573	645	199	59.8	15.0	16.1	3.84	200
1941	3.39	14.2	48.7	81.3	31.7	24.4	36.7	11.2	6.53	52.9	13.0	3.37	27.4
1942	8.82	20.7	26.7	240	686	782	495	65.2	40.2	10.0	136	18.9	208
1943	4.96	48.5	338	66.8	136	806	81.7	65.5	83.0	12.2	19.0	4.40	140
1944	3.85	6.00	6.43	11.8	310	562	440	528	10.0	6.25	4.57	17.3	159
1945	3.16	7.28	72.8	593	768	1,017	683	427	444	33.5	41.2	9.06	339
1946	17.2	106	147	800	1,132	545	72.2	278	32.1	32.4	27.9	8.63	282
1947	9.50	166	295	813	76.6	93.8	554	307	135	25.8	10.2	27.8	211
1948	12.8	71.5	112	135	793	1,049	327	59.3	17.5	30.0	6.0	18.3	217
1949	6.20	658	1,269	1,207	1,325	723	408	25.6	328	186	148	14.7	520
1950	226	69.4	903	2,329	1,395	602	313	378	160	192	510	933	665

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1938	-	-	-	-	-	-	-	-	0.43	0.91	1.58	0.13	-
1939	0.06	0.05	0.05	3.02	6.57	2.85	4.55	0.21	.48	.09	.03	.01	17.97
1940	.05	.02	.05	.60	3.70	2.91	3.17	1.01	.29	.08	.08	.02	11.98
1941	.02	.07	.25	.41	.15	.12	.18	.06	.03	.27	.07	.02	1.65
1942	.04	.10	.14	1.22	3.15	3.97	2.43	.33	.20	.05	.69	.09	12.41
1943	.02	.24	1.72	.34	.62	4.09	.40	.33	.41	.06	.10	.02	8.35
1944	.02	.03	.03	.06	1.47	2.86	2.16	2.68	.05	.03	.02	.08	9.49
1945	.02	.04	.37	3.01	3.52	5.16	3.36	2.17	2.18	.17	.21	.04	20.25
1946	.09	.52	.75	4.06	5.19	2.77	.35	1.40	.16	.16	.14	.04	15.63
1947	.05	.82	1.50	4.13	7.35	.48	2.72	1.56	.66	.13	.05	.14	12.59
1948	.06	.35	.57	.69	3.77	5.33	1.61	.30	.09	.15	.03	.09	15.04
1949	.03	3.24	6.45	6.13	6.08	3.67	2.01	.13	1.61	.94	.75	.07	31.11
1950	1.15	.34	4.59	11.83	6.40	3.06	1.54	1.92	.78	.98	2.59	4.59	39.77

Yearly discharge, in cubic feet per second

Year	W.S.P. no.	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1938	1143	85,320	-	-	-	-	-	-	-
1939	1143	8,060	Apr. 17, 1939	2.6	301	1.33	17.97	300	17.93
1940	1143	4,760	Feb. 19, 1940	2.6	200	.881	11.98	203	12.20
1941	1143	892	Jan. 24, 1941	2.4	27.4	.121	1.65	26.5	1.59
1942	1143	7,730	Apr. 10, 1942	2.5	208	.916	12.41	236	14.11
1943	1143	6,410	Mar. 20, 1943	2.7	140	.617	8.35	108	6.45
1944	1143	9,420	May 5, 1944	2.5	159	.700	9.49	164	9.84
1945	1143	6,410	Apr. 3, 1945	1.9	339	1.49	20.25	354	21.18
1946	1143	7,400	Jan. 10, 1946	4.3	262	1.15	15.63	278	16.64
1947	1143	7,750	Jan. 4, 1947	1.9	211	.930	12.59	187	11.20
1948	1113	6,180	Mar. 17, 1948	1.9	217	.956	13.04	363	21.78
1949	1143	*12,600	Feb. 15, 1949	2.6	520	2.29	31.11	459	27.47
1950	1173	8,740	Jan. 4, 1950	5.0	665	2.93	39.77	-	-

* Revised.

a Maximum for the period May to September.

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