Surface Water Supply of the United States 1954

Part 3-B. Cumberland and Tennessee River Basins

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

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Prepared in cooperation with the States of Alabama, Kentucky, North Carolina, Tennessee, and Virginia, and with other agencies

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PREFACE

This report was prepared by the Geological Survey in cooperation with the States of Alabama, Kentucky, North Carolina, Tennessee, and Virginia, and with other agencies, by personnel of 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, Annual Reports Section.

The data were computed under supervision of district engineers, Surface Water Branch, as follows:

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E. B. Rice---------- Raleigh, N. C.
F. F. Schrader---------- Louisville, Ky.
D. S. Wallace---------- Charlottesville, Va.
M. R. Williams---------- Montgomery, Ala.

CALENDAR FOR WATER YEAR 1954

OCTOBER 1953

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

NOVEMBER 1953

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

DECEMBER 1953

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

JANUARY 1954

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

FEBRUARY 1954

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

MARCH 1954

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

APRIL 1954

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

MAY 1954

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

JUNE 1954

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

JULY 1954

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

AUGUST 1954

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

SEPTEMBER 1954

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

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SURFACE WATER SUPPLY OF CUMBERLAND AND TENNESSEE RIVER BASINS, 1954

SCOPE OF WORK

This volume is one of a series of 18 reports presenting measurements of stage, discharge, and content of streams, lakes, and reservoirs in the United States during the water year ending September 30, 1954. Since 1888, when the United States Geological Survey first studied streamflow in relation to problems of irrigation, similar measurements have been made at more than 13,050 gaging stations in the 48 States and at many others in the Territories of Alaska and Hawaii. On September 30, 1954, the Geological Survey and cooperating organizations were maintaining 6,750 gaging stations, including those in Alaska and Hawaii. Discharge measurements only were made at many other points in the 1954 water year, most of which are published at the end of this report.

COOPERATION

Many State, municipal, and private organizations have cooperated with the Geological Survey in this work by either furnishing or helping to collect data. Organizations that supplied data are acknowledged in station descriptions, and organizations that assisted in the collection of data through cooperative agreements with the Survey are:

Alabama: State Geological Survey, W. B. Jones, State geologist.

Kentucky: Agricultural and Industrial Development Board of Kentucky, G. W. Hubley, Jr., director, succeeded by Joseph Taylor.

North Carolina: State Department of Conservation and Development, B. E. Douglas, director; city of Asheville, Weldon Weir, city manager; city of Waynesville, W. H. Way, mayor.

Tennessee: State Department of Conservation, J. N. McCord, commissioner; through Division of Geology, W. D. Hardeman, State geologist; State Department of Public Health, R. H. Hutcheson, commissioner, through Division of Sanitary Engineering, R. P. Farrell, director; city of Knoxville, Department of Public Service, B. C. Barker, director; city of Murfreesboro, Water Department, J. W. Lovell, superintendent.

Virginia: State Department of Conservation and Development, R. V. Long, director; State Department of Highways, J. A. Anderson, director.

Under a cooperative agreement covering the Tennessee River basin and the Caney Fork basin above Great Falls Dam, the Tennessee Valley Authority furnished financial assistance for the operation of 125 gaging stations, of which 8 were in Alabama, 6 in Georgia, 1 in Kentucky, 38 in North Carolina, 60 in Tennessee, and 12 in Virginia.

Assistance in the form of funds or services was given by the Corps of Engineers, Department of the Army, in collecting records published herein for 12 gaging stations in Kentucky and 19 in Tennessee.

Assistance was also furnished by the Arnold Engineering Development Center, Department of the Air Force and the Weather Bureau, United States Department of Commerce.

The following organizations aided in collecting records:

North Carolina: Town of Highlands, Carolina Power & Light Co., Champion Paper & Fibre Co., Ecusta Paper Corp., and the Mead Corp., Sylva Division.

Tennessee: Aluminum Co. of America and the Tennessee Copper Co.

Virginia: American Cyanamid Co.

DIVISION OF WORK

The stream-gaging work was done by the Water Resources Division of the Geological Survey, under the direction of personnel shown in the preface. The data for stations in the several States were collected and prepared for publication in the district offices listed below.

State	District office	Address
Alabama a/	Montgomery	507 New Post Office Building.
Kentucky b/	Louisville	830 West Broadway.
North Carolina c/	Raleigh	Federal Building.
Tennessee d/	Chattanooga	823 Einey Building.
Virginia	Charlottesville	Natural Resources Building, University of Virginia.

a/ Stations on Flint Creek near Falkville and West Flint Creek near Oakville only.
b/ Except for the Tennessee River near Paducah.
c/ Including stations in the Tennessee River basin in Georgia except those in the Toccoa River basin.
d/ Including stations in the Tennessee River basin in Alabama (except Flint Creek near Falkville and West Flint Creek near Oakville) and the Toccoa River basin in Georgia and for the Tennessee River near Paducah, Ky.

Information of a more detailed nature than that published for most of the gaging stations given in this report is on file in the district offices listed above. Provisional records of discharge prior to publication, and other unpublished data concerning the gaging-station records may usually be obtained from the district office.

DEFINITION OF TERMS AND ABBREVIATIONS

The terms of streamflow and other hydrologic data, as used in this report, are defined as follows:

Cubic foot per second (cfs) is the rate of discharge of a stream whose channel is 1 square foot in cross-sectional area and whose average velocity is 1 foot per second.

Cubic feet per second per square mile (cfsm) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Runoff in inches is the depth to which an area would be covered if all the water draining from it in a given period were uniformly distributed on its surface. The term is used for comparing runoff with rainfall, which is also usually expressed in inches.

Acre-foot is the quantity of water required to cover an acre to the depth of 1 foot and is equivalent to 43,560 cubic feet. The term is commonly used in relation to storage for irrigation.

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.983471 acre-feet, or 646,317 gallons, and represents a runoff of 0.0372 inch from 1 square mile.

Stage-discharge relation is the relation between gage height and the amount of water flowing in a channel, expressed as volume per unit of time.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, a long reach of the channel, or an artificial structure.

Contents is the volume of water in a reservoir. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

The drainage area of a stream at a specified location is that area, measured in a horizontal plane, which is so enclosed by a topographic divide that direct surface runoff from precipitation normally would drain by gravity into the river above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published reports.

DOWNSTREAM ORDER OF LISTING GAGING STATIONS

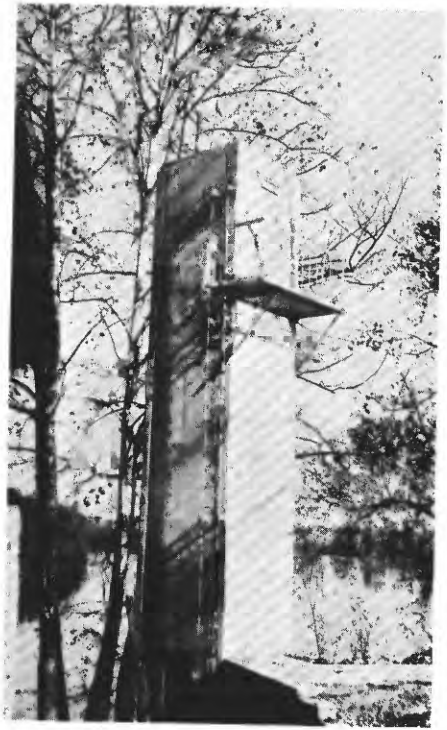
Beginning with the series of reports for the water year ending September 30, 1951, the order of listing gaging-station records was changed. In this report, in a downstream direction along the main stem all stations on a tributary entering above a main-stem station are listed before that station. If a 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 table of contents of this report 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 before the publication of the 1951 report listed first all stations on the main stem from headwaters toward mouth, then all stations on the uppermost tributary to the main stem from the tributary's source to mouth, and then all stations from source to mouth of the uppermost tributary to the tributary.

EXPLANATION OF DATA

The base data collected at gaging stations consist of records of stage and measurements of discharge. In addition, observations of factors affecting the stage-discharge relation, weather records, and other information are used to supplement base data in determining the daily flow. The records of stage are obtained either from direct readings on a nonrecording gage or from a water-stage recorder that gives a continuous record of fluctuations. Measurements of discharge are made with a current meter by the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in Water-Supply Paper 888 and are also outlined in standard textbooks on the measurement of stream discharge. Typical structures in use at gaging stations are shown in figure 1.

Rating tables giving the discharge for any stage are prepared from stage-discharge relation curves defined by discharge measurements. If extensions to the rating curves are necessary to define the extremes of discharge, they are made on the basis of indirect determinations of peak discharge (such as slope-area or contracted-opening determinations, computation of flow over dams or weirs, and by other methods), velocity-area studies, and logarithmic plotting. The application of the daily mean gage height to those rating tables



A. TENNESSEE RIVER AT KNOXVILLE, TENN.

B. NANTAHALA RIVER NEAR RAINBOW SPRINGS, N. C.

FIGURE 1.—GAGING STATION STRUCTURES.

gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is essentially the shifting-control method.

At some gaging stations the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in determining discharge. Information requisite for determining the slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage. If so, the rate of change in stage is used as a factor in the determination of discharge.

At most gaging stations in the northern part of the United States and at some in the mountainous regions of other parts the stage-discharge relation is affected by ice during the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and occasional winter discharge measurements, consideration being given to the available information on temperature and precipitation, notes by gage observers and engineers, and comparable records of discharge for other stations in the same or nearby basins. If the stage-discharge relation is affected by ice, this information is given in a note to the table. No mention is made of occasional days of ice effect if the degree of accuracy of daily records is not changed.

The data herein presented generally comprise a description of the station, a skeleton rating table, and a table showing the daily discharge and monthly and yearly discharge and runoff of the stream. Records are published for the water year which begins on October 1 and ends on September 30. A calendar for the water year 1954 is shown on page IV for the purpose of finding the day of the week for any date.

The description of the station gives the location, drainage area, records available, type and history of gages, average discharge, extremes of discharge, general remarks, and notations of revisions of the previously published record. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage, given under "Location" for some stations, is that determined and used by the Corps of Engineers unless otherwise noted. Under "Records available" are given the periods for which there are published records generally equivalent to those at the present site. Under "Gage" are given the type of gage currently in use and the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of records available. Under "Average discharge" is given the average discharge for the number of years indicated. It is not given for stations having fewer than five complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. Under "Extremes" are given the maximum discharge and gage height; the minimum discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation (also the minimum discharge if useful); and the minimum gage height (unless it is

of no importance). In the first paragraph, the data given are for the complete current water year unless otherwise specified. In the second paragraph, the data given are for the periods of record within the calendar year dates in the heading (not necessarily those for the complete years indicated by the heading dates). Reliable information concerning major floods that have occurred outside the period of record are given in the third or last paragraph under "Extremes." Unless otherwise qualified, the maximum discharge corresponds to the crest stage obtained by use of a water-stage recorder, a crest-stage indicator, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge, it is given separately. Information pertaining to the accuracy of the records and conditions which affect the natural flow at the gaging station is given under "Remarks."

Previously published records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual reports. In order to make it easier to find such revised records, a paragraph headed "Revisions (water years)" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1933 stands for the water year October 1, 1932, to September 30, 1933. If no daily, monthly, or annual figures of discharge are concerned in the revision, that fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

Skeleton rating tables are published for all stations except those at which the daily discharge for the greater part of the open-water period was determined by the shifting-control method, the slope method, or other special methods involving an equivalent adjustment to the gage height of more than one-tenth foot. Skeleton rating tables are generally not published for stations on canals.

For stations equipped with water-stage recorders, except those on streams subject to sudden or rapid fluctuation, the daily table gives the discharge corresponding to the daily mean gage height. For stations subject to such fluctuation the daily mean gage height may not indicate the true daily mean discharge, which must be obtained by averaging the discharge for parts of the day or by using the discharge integrator, an instrument for obtaining the daily mean discharge from a continuous gage-height graph and containing, as an essential element, a curve representing the stage-discharge relation at the station. For stations equipped with nonrecording gages, the table of daily discharge gives the discharge corresponding to once-daily readings of the gage, or to the mean of twice-daily readings, or to the mean gage height determined from gage-height graphs based on gage

readings. For periods of rapidly changing stage, the daily mean discharge is determined from gage-height graphs based on gage readings, the frequency of which is stated in the station description.

In the table of daily discharge, the figures for the maximum day and the minimum day for each month are underlined. If the figure is repeated, it is underlined only on the first day of its occurrence.

In the monthly summary below the daily table, the line headed "Total" gives the sum of the daily figures; it is the total cfs-days for the month. The line headed "Mean" gives the average flow in cubic feet per second during the month. Runoff for the month may be expressed in cubic feet per second per square mile (line headed "Cfsm"), or in inches (line headed "In."), or in acre-feet (line headed "Ac-ft"). Figures for cubic feet per second per square mile and runoff in inches are omitted if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches.

In the yearly summary below the monthly summary, the figures of maximum are the maximum daily discharges, not the momentary discharges when the water was at crest stage. Likewise, the minimums in this summary are the minimum daily discharges.

Peak discharges and the times of their occurrence and corresponding gage heights of most stations are listed below the table of daily and monthly discharge. All independent peaks above the selected base are given. The base discharge, which is given in parentheses, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man.

Footnotes to the table of daily discharge indicate periods when discharge was computed or estimated by unusual or special methods during periods of no gage-height record and ice effect, or by other effects that reduce the degree of accuracy of the records. Days on which discharge measurements were made are indicated by asterisk and footnote unless they were made at frequent regular intervals, in which instance the general frequency of discharge measurements is given under "Remarks" in the station description.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given. A skeleton table of capacity at given stages is usually given in the first report in which data for the reservoir are published, but it is omitted from succeeding reports.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretation of records.

The station description states the degree of accuracy of the records. "Excellent" indicates that, in general, the error in the daily records is believed to be less than 5 percent; "good," less than 10 percent; "fair," less than 15 percent; and "poor," probably more than 15 percent. The records of monthly and yearly mean discharge and runoff are, in general, more nearly accurate than the daily records.

Runoff at some stations, as indicated by the monthly mean, may vary widely from natural runoff, owing to diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, values of cubic feet per second per square mile and runoff in inches are not published unless storage or diversion records are included to indicate the extent of the regulation or diversion or unless satisfactory adjustments can be made for changes in contents of reservoirs or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur when relatively large negative adjustments are made or when evaporation is large in comparison with the observed discharge.

Many gaging stations on streams in the irrigated areas of the United States are situated above most of the diversions from those streams, and therefore the discharge recorded does not actually show the water supply available at the stations for further development, because water must first be supplied to existing irrigation systems.

PUBLICATIONS

To facilitate publication of the annual series of reports, the area of the United States is divided into 14 parts whose boundaries coincide with certain natural drainage lines. Formerly, the results of streamflow measurements were published in 14 volumes, one for each of the 14 parts. Beginning with the reports for 1951, the records are published in 18 volumes, there being 2 volumes each for Parts 1, 2, 3, and 6. The boundaries of the various parts are indicated by the following list and the map in figure 2.

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 basins.
9. Colorado River basin.
10. The Great Basin.
11. Pacific slope basins in California.
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.

Water-supply papers and other publications of the Geological Survey containing data on the water resources of the United States may be purchased or consulted as follows:

1. Copies may be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., who will, on application, furnish lists giving prices. A list of Geological Survey publications may also be obtained by applying to the Director, Geological Survey, Washington, D. C.

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

3. Sets are available for consultation in the offices of the Water Resources Division of the Geological Survey. Addresses of the offices in the area covered by this report are given on page 2.

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.

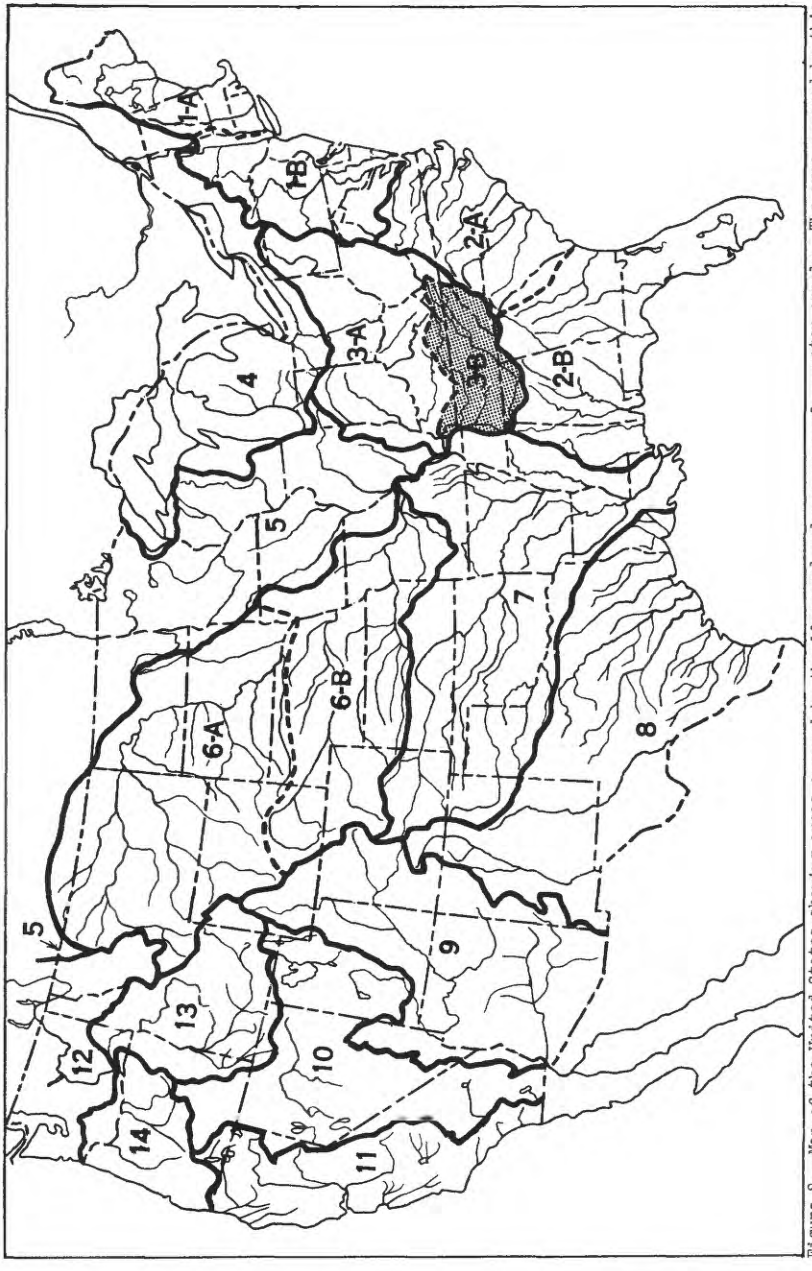


Figure 2.--Map of the United States showing areas covered by the 18 annual volumes on surface-water supply. The area covered by this report is shaded.

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Streamflow data for the years 1884-1901, in reports of the Geological Survey
(A = Annual Report; B = Bulletin)

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.
WSP 11	Gage heights	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge	1895-96.
WSP 15	Descriptions, measurements, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries above Kansas River.	1897.
WSP 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.
WSP 27	Measurements, ratings, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries.	1898.
WSP 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.
WSP 35 to 39.	Descriptions, measurements, gage heights, and ratings	1899.
21st A, pt. 4	Monthly discharge	1899.
WSP 47 to 52.	Descriptions, measurements, gage heights, and ratings	1900.
22d A, pt. 4	Monthly discharge	1900.
WSP 65, 66	Descriptions, measurements, gage heights, and ratings	1901.
WSP 75	Monthly discharge	1901.

Reports on surface-water supply containing records from 1899 to date for drainage basins in this report are listed below. The data for any particular gaging station will, in general, be found in the reports covering the years during which the station was maintained. Before 1951, records for the Cumberland and Tennessee River basins were included with those of the other rivers of the Ohio River basin.

Numbers of water-supply papers containing results of stream measurements in Cumberland and Tennessee River basins, 1899-1954

Year	WSP	Year	WSP	Year	WSP	Year	WSP	Year	WSP
1899	36	1911	303	1923	563	1934	758	1945	1033
1900	48	1912	323	1924	583	1935	783	1946	1053
1901	65, 75	1913	353	1925	603	1936	803	1947	1083
1902	83	1914	383	1926	623	1937	823	1948	1113
1903	98	1915	403	1927	643	1938	853	1949	1143
1904	128	1916	433	1928	663	1939	873	1950	1173
1905	169	1917	453	1929	683	1940	893	1951	1206
1906	205	1918	473	1930	698	1941	923	1952	1236
1907-8	243	1919-20	503	1931	713	1942	953	1953	1276
1909	263	1921	523	1932	728	1943	973	1954	1336
1910	283	1922	543	1933	743	1944	1003		

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. The streams and points of measurement are listed in the same order as the streams and gaging stations in the body of the report. An index of the records obtained before 1904 has been published in Water-Supply Paper 119.

Each of the reports on the surface water supply for the year 1939 (Water-Supply Paper 873 for the Cumberland and Tennessee River basins) contains, for the area included in that report, a summary of yearly discharge at gaging stations at which 10 or more complete years of record had been collected. These summaries were reprinted separately.

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

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	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).	Do.
Do.....	1942-50	Bull. 15, Surface water supply of Virginia (New, Big Sandy, and Tennessee River basins).	Do.

[1] Contains maximum and minimum daily, weekly, and monthly discharge and yearly mean discharge.
[2] Includes records of discharge for all stations in North Carolina in the Tennessee River basin.

The reports listed in the foregoing tables contain the customary records of discharge collected during the systematic operation of gaging stations. 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

WSP 334: The Ohio Valley flood of March-April 1913.
WSP 771: Floods in the United States, magnitude and frequency.
WSP 800: The floods of March 1936, Part 3, Potomac, James, and upper Ohio Rivers.
WSP 838: Floods of Ohio and Mississippi Rivers, January-February 1937.
WSP 847: Maximum discharges at stream-measurement stations through September 1938.
WSP 1066: Floods of August 1940 in the southeastern States.
WSP 1137-I: Summary of floods in the United States during 1950.
WSP 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.

RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE GEOLOGICAL SURVEY

The table below contains a list of gaging stations for the area covered by this report, at which records of discharge were collected during the water year October 1953 to September 1954 by agencies other than the Geological Survey. The records of these stations are not contained in publications of the Geological Survey, nor have they been published elsewhere.

Records of discharge collected by agencies other than the Geological Survey

Stream	Location	Period	Collected by
Beech River.....	Near Chesterfield, Tenn.....	1940-54a/	Tennessee Valley Authority.
Do.....	Near Darden, Tenn.....	1954	Do.
Do.....	Near Lexington, Tenn.....	1953-54	Do.
Big Creek.....	Near Darden, Tenn.....	1953-54	Do.
Birdsong Creek.....	Near Holliday, Tenn.....	1940-54	Do.
Browns Creek.....	Near Chesterfield, Tenn.....	1953-54	Do.
Cane Creek.....	Near Chesterfield, Tenn.....	1940-54a/	Do.
Do.....	Near Shady Hill, Tenn.....	1953-54	Do.
Chambers Creek.....	Kendrick, Miss.....	1939-54	Do.
Chattanooga Creek.....	At 38th St. in Chattanooga, Tenn.	1943-54	Do.
Chestuee Creek.....	Above Englewood, Tenn.....	1944-54	Do.
Do.....	Zion Hill, Tenn.....	1944-54	Do.
Do.....	Highway 30, near Athens, Tenn....	1944-54	Do.
Do.....	Dentville, Tenn.....	1944-54	Do.
Coweeta Creek basin b/.	Coweeta Experimental Forest near Franklin, N. C.	1934-54	U. S. Forest Service.

a/ Gage heights only after June 30, 1943.
b/ The Southeastern Forest Experiment Station of the U. S. Forest Service operates 31 stations in Coweeta Creek basin in order to obtain records of runoff from small areas.

Records of discharge collected by agencies other than the Geological Survey--Continued

Stream	Location	Period	Collected by
Cypress Creek (drainage ditch).	Near Gilbertsville, Ky.	1943-54	Tennessee Valley Authority.
Fall Creek	Near Fort Patrick Henry Dam, Tenn.	1953-54	Do.
Flat Creek	Near Middlesburg, Tenn.	1953-54	Do.
Haley Creek	Near Chesterfield, Tenn.	1953-54	Do.
Harmon Creek	Near Lexington, Tenn.	1953-54	Do.
Horse Creek	Near Savannah, Tenn.	1939-54	Do.
Indian Creek	Near Cerro Gordo, Tenn.	1939-54	Do.
Limestone Creek	U. S. Highway 72, near Athens, Ala.	1939-54	Do.
Little Chestuee Creek	Below Wilson Station, Tenn.	1947-54	Do.
Middle Creek	Below Highway 39 near Englewood, Tenn.	1944-54	Do.
Middleton Creek	Near Milledgeville, Tenn.	1939-54	Do.
Millican Creek	Near Douglas Dam, Tenn.	1942-54	Do.
Parker Branch	Near Leicester, N. C.	1952-54	Do.
Persimmon Creek	At Persimmon Creek Dam, near Letitia, N. C.	1942-54	Do.
Pigeon River basin c/	Near Waynesville, N. C.	1949-54	Do.
Pinetree Branch	Near Lexington, Tenn.	1941-54	Do.
Piney Creek	At Highway 104 near Lexington, Tenn.	1953-54	Do.
Pond Creek No. 1	Near Wilson Dam, Ala.	1948-54	Do.
Pond Creek No. 2	Do.	1948-54	Do.
Rushing Creek	Near Decaturville, Tenn.	1953-54	Do.
Snake Creek	Near Adamsville, Tenn.	1939-54	Do.
Turkey Creek (Beech River tributary).	Near Decaturville, Tenn.	1953-54	Do.
Turkey Creek (Tennessee River tributary).	Near Savannah, Tenn.	1939-54	Do.
White Creek	Near Sharps Chapel, Tenn.	1934-54	Do.
White Oak Creek	Near Milledgeville, Tenn.	1939-54	Do.
Wolf Creek	At Graper Springs, Tenn.	1953-54	Do.
Yellow Creek	At Moser Bridge near Doskie, Miss.	1937-54	Do.

c/ The Tennessee Valley Authority operates stations on 6 small watersheds ranging in area from 3.5 to 5.6 acres in the Pigeon River basin.

HYDROLOGIC CONDITIONS

The water year 1954 was characterized by deficient runoff over most of the area covered by this report. Drought conditions which existed over most of the area during October, November, and December were broken by moderate floods during January. Runoff again became deficient during June and drought conditions again prevailed over most of the area during the remainder of the water year. Record-low flows were experienced at many gaging station sites during October and during September. The gaging station on French Broad River at Asheville, N. C. experienced flows in September that were the second lowest since 1895, the lowest having occurred with the drought of 1925. For three key gaging stations in the area covered by this report, a comparison of the monthly and yearly mean discharge during the 1954 water year with the median for the 25-year period 1921-45 is shown in figure 3 on the opposite page.

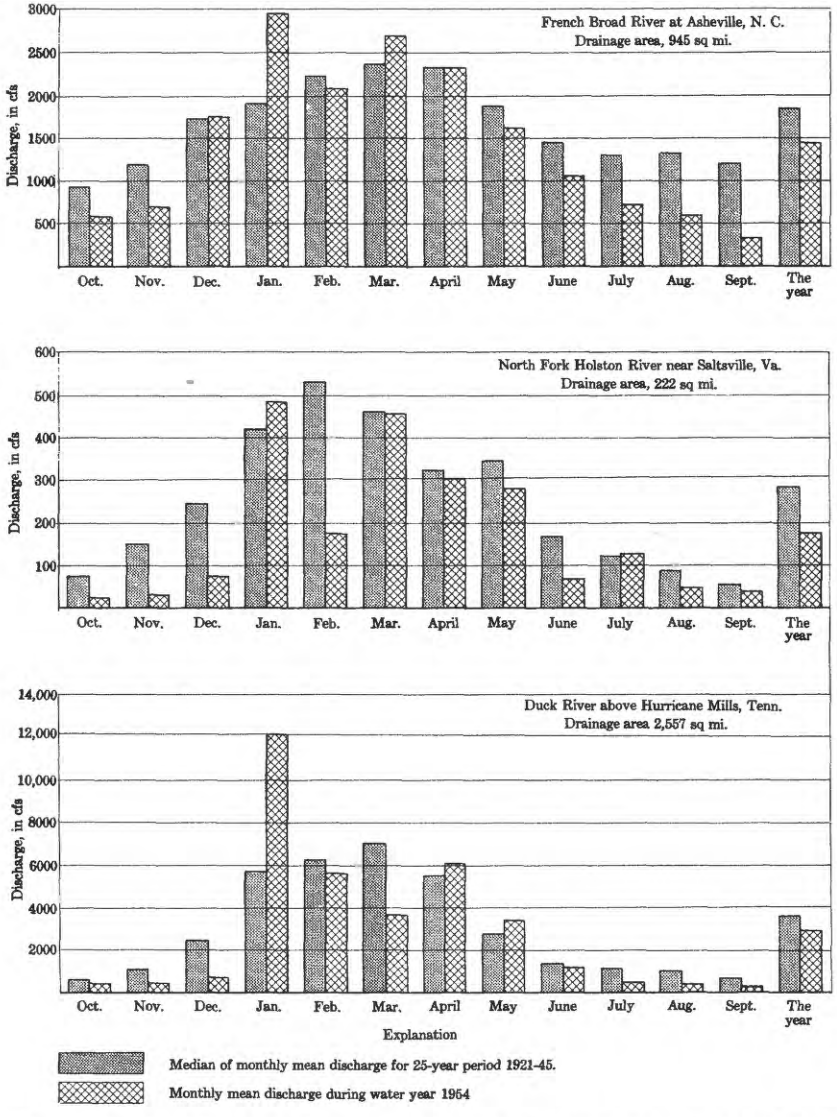

Figure 3. Comparison of discharge at three key gaging stations during 1954 water year with median discharge for 25-year period.

CUMBERLAND RIVER BASIN

Poor Fork at Cumberland, Ky.

Location.--Lat 36°58'25", long 82°59'35", at left end downstream side of 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.
Records available.--March 1940 to September 1954.
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.--14 years, 136 cfs.
Extremes.--Maximum discharge during year, 2,650 cfs Jan. 16 (gage height, 5.19 ft); minimum, 2.0 cfs Oct. 14, Nov. 5; minimum gage height, 0.03 ft Oct. 3, 4, 5.
1940-54: Maximum discharge, 7,500 cfs Jan. 7, 1946 (gage height, 9.65 ft), from rating curve extended above 2,900 cfs by logarithmic plotting; no flow for part of Oct. 28, 1952; minimum gage height, that of Oct. 3, 4, 5, 1953.
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.
Revisions.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
1143	1949	Mar. 18, 1949	3,640	5.94
1173	1950	Jan. 30, 1950	4,390	6.48
1206	1951	Dec. 7, 1950	4,220	6.26
1276	1953	May 19, 1953	3,200	5.63

Remarks.--Records good except those for periods of no gage-height record and those below 20 cfs, which are fair.
Revisions (water years).--WSP 923: 1940(M). Revised figures of discharge, in cubic feet per second, for the water years 1949-51, superseding those published in WSP 1143, 1173, and 1206, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge
1949		1950-Con.		1950-Con.	
July 16	1,020	Jan. 16	650	Jan. 31	3,170
17	1,430	17	620	Feb. 1	2,260
18	1,150	18	482	2	2,940
19	726	19	768	3	1,040
		20	585	4	570
1950		21	378	9	530
Jan. 11	327	22	270	10	655
12	342	27	392	Dec. 7	2,250
13	370	28	462		
14	1,010	29	334	1951	
15	685	30	2,480	Feb. 1	2,560

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
July 1949	6,483	1,430	14	209	2.55	2.94
Water year 1948-49	54,605.5	2,050	3.0	150	1.83	24.74
Calendar year 1949	61,207	2,050	14	168	2.05	27.72
January 1950	17,133	3,170	128	553	6.74	7.76
February	12,998	2,940	138	464	5.65	5.89
Water year 1949-50	74,560	3,170	14	204	2.48	33.77
December 1950	9,242	2,250	54	298	3.63	4.19
Calendar year 1950	69,892	3,170	12	191	2.33	31.67
February 1951	11,804	2,560	130	422	5.14	5.35
Water year 1950-51	64,186	2,560	11	176	2.14	29.09
Calendar year 1951	71,400	2,560	11	196	2.39	32.35

Revised peak discharge.--1948-49: Jan. 5 (5:30 p.m.) 1,950 cfs; Mar. 18 (11:30 a.m.) 3,640 cfs; July 16 (10:30 p.m.) 3,400 cfs; Aug. 16 (11 p.m.) 2,550 cfs.
1949-50: Dec. 13 (1 p.m.) 3,330 cfs; Jan. 30 (9 p.m.) 4,390 cfs; Feb. 2 (6 a.m.) 4,220 cfs.
1950-51: Dec. 7 (2 p.m.) 4,220 cfs (6.26 ft); Feb. 1 (3 p.m.) 4,030 cfs (6.22 ft).
1952-53: Feb. 21 (8 a.m.) 2,900 cfs (5.40 ft); May 19 (3 p.m.) 3,200 cfs (5.63 ft)

Poor Fork at Cumberland, Ky.--Continued

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 16				Jan. 17 to Sept. 30			
0.0	2	1.1	120	0.1	5.5	1.0	118
.1	5	1.5	220	.2	10	1.5	245
.3	14	2.0	420	.4	25	2.0	420
.5	30	3.0	930	.6	46	4.0	1,560
.8	65	5.0	2,440				

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.7	4.1	7.8	10	82	392	124	95	42	26	21	a 11
2	4.4	4.1	6.6	11	76	348	118	82	86	25	22	a 11
3	2.9	3.8	6.6	10	71	673	112	95	64	24	20	a10
4	2.9	3.2	6.6	9.5	64	*456	101	105	55	32	23	10
5	2.6	3.2	6.2	10	60	299	93	97	49	31	26	10
6	3.2	3.2	7.0	10	56	245	88	91	44	28	28	10
7	2.9	2.9	9.5	9.5	49	227	95	105	39	23	20	9.5
8	3.2	2.9	7.8	9.0	42	281	*99	137	36	172	19	9.0
9	3.2	3.2	40	9.0	44	344	114	137	39	133	18	8.5
10	3.2	2.9	74	28	41	416	122	122	40	83	19	8.5
11	3.2	2.9	45	124	39	420	120	101	35	55	17	8.0
12	3.5	2.6	22	a85	34	293	114	89	32	41	15	7.5
13	*3.2	2.6	20	a60	30	322	95	*78	213	33	a14	7.5
14	2.6	3.2	46	a65	31	348	91	110	367	30	a13	7.5
15	3.2	3.8	53	654	31	305	84	290	269	32	a13	7.5
16	3.2	3.5	34	1,960	32	230	89	245	219	30	a12	*7.0
17	2.9	3.5	a26	540	38	182	158	170	*198	26	a12	7.5
18	3.2	*3.8	a21	242	41	150	224	216	146	23	a 11	8.0
19	3.5	3.8	a20	155	41	133	184	254	110	28	11	6.5
20	3.2	2.9	a18	155	50	137	148	212	86	23	18	58
21	2.9	3.8	a17	340	68	122	122	172	70	31	19	39
22	3.2	8.8	17	1,110	75	110	105	139	56	174	16	25
23	3.2	15	18	706	75	103	116	114	73	*93	*15	15
24	3.5	10	18	388	76	95	118	97	55	56	18	13
25	3.8	14	16	260	61	95	116	86	45	40	17	10
26	4.1	12	13	184	64	146	108	73	39	32	14	10
27	5.0	10	12	174	60	167	110	64	33	28	13	9.5
28	3.8	9.0	*12	*160	101	153	148	58	30	26	a12	8.0
29	6.6	9.0	12	137	-	137	135	52	29	23	a12	7.5
30	5.4	8.6	12	114	-------	128	114	46	27	22	a 11	*8.0
31	4.7	-------	12	95	-------	126	-------	39	-------	22	a 11	-------
Total	111.1	166.3	636.1	7,824.0	1,532	7,583	3,565	3,771	2,626	1,424	510	365.5
Mean	3.58	5.54	20.5	252	54.7	245	119	122	87.5	45.9	16.5	12.2
Cfsm	0.044	0.067	0.250	3.07	0.666	2.98	1.45	1.49	1.07	0.559	0.201	0.149
In.	0.05	0.08	0.29	3.54	0.69	3.43	1.61	1.71	1.19	0.65	0.23	0.17

Calendar year 1953: Max 2,260 Min 2.6 Mean 105 Cfsm 1.28 In. 17.44
Water year 1953-54: Max 1,960 Min 2.6 Mean 82.5 Cfsm 1.00 In. 13.64

Peak discharge (base, 1,200 cfs).--Jan. 16 (8:30 a.m.) 2,650 cfs (5.19 ft); Jan. 22 (3:30 p.m.) 1,660 cfs (4.13 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for Cumberland River near Harlan.

Cumberland River near Harlan, Ky.

Location.--Lat 36°50'55", long 83°21'20", on left bank 10 ft downstream from bridge 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.

Records available.--March 1940 to September 1954.

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.--14 years, 632 cfs.

Extremes.--Maximum discharge during year, 9,810 cfs Jan. 16 (gage height, 9.29 ft); minimum, 3.0 cfs Oct. 9 (gage height, 0.27 ft).
1940-54: Maximum discharge, 37,900 cfs Jan. 8, 1946 (gage height, 22.81 ft); minimum, that of Oct. 9, 1953.
Floods of 1918 and 1929 reached stages of about 22 and 20.0 ft respectively, from information by local residents.

Remarks.--Records good except those for periods of no gage-height record, which are fair.

Revisions (water years).--WSP 953: 1940(M). WSP 1173: 1947(M).

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 17 to Nov. 22)

0.2	0	2.0	590
.3	10	3.0	1,350
.4	25	5.0	3,550
1.0	140	9.0	9,350
1.5	325		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	14	28	52	448	1,780	554	390	161	83	50	31
2	10	12	26	48	390	1,620	486	330	191	77	61	25
3	9.0	14	25	50	356	3,100	458	361	205	79	79	25
4	9.0	12	25	49	325	*2,300	420	560	188	174	75	24
5	9.0	12	25	48	293	1,420	400	530	158	128	77	24
6	9.0	13	26	46	257	1,050	370	458	138	101	122	22
7	7.0	12	31	44	225	890	436	480	125	85	97	19
8	6.0	12	32	42	194	944	*475	775	115	120	69	16
9	5.0	12	121	42	188	1,180	519	810	109	342	57	16
10	6.0	12	530	87	184	1,550	519	680	164	174	49	32
11	8.0	12	277	637	170	1,480	502	536	140	120	43	19
12	7.0	12	155	497	152	1,200	475	442	125	105	44	16
13	*8.0	12	120	a225	132	1,310	405	*375	120	89	43	13
14	7.0	13	225	a249	128	1,890	370	431	595	75	38	12
15	7.0	14	356	3,040	125	1,470	348	762	936	69	37	12
16	7.0	14	229	8,370	130	1,050	352	890	686	63	38	*12
17	7.0	14	130	2,700	161	796	626	698	*1,170	63	43	12
18	7.0	*14	85	1,150	164	662	960	849	896	47	38	12
19	7.0	14	91	716	155	584	824	1,280	560	79	40	10
20	8.0	14	85	584	161	626	656	984	380	111	73	64
21	9.0	19	81	3,040	198	608	536	762	277	85	118	143
22	9.0	37	87	4,810	233	548	464	596	221	788	73	93
23	8.0	69	91	3,720	241	530	448	486	205	*514	*55	65
24	8.0	71	69	1,740	257	486	448	395	198	261	46	46
25	8.0	79	a72	1,120	257	475	405	334	155	158	42	34
26	8.0	69	a74	810	229	838	380	289	132	113	49	30
27	12	59	a76	980	213	960	380	265	115	93	50	25
28	14	46	*77	*1,380	356	831	572	229	103	79	65	22
29	18	37	79	1,000	-	692	578	205	95	69	48	22
30	16	31	69	736	-------	632	475	188	87	63	37	22
31	16	-------	63	566	-------	590	-------	164	-------	55	32	-------
Total	279.0	775	3,460	38,578	6,322	34,092	14,841	16,534	8,750	4,472	1,788	918
Mean	9.00	25.8	112	1,244	226	1,100	495	533	292	144	57.7	30.6
Cfsm	0.024	0.069	0.299	3.33	0.604	2.94	1.32	1.43	0.781	0.385	0.154	0.082
In.	0.03	0.08	0.34	3.84	0.63	3.39	1.48	1.64	0.87	0.44	0.18	0.09

Calendar year 1953: Max 11,200 Min 5.0 Mean 542 Cfsm 1.45 In. 19.66
Water year 1953-54: Max 8,370 Min 5.0 Mean 358 Cfsm 0.957 In. 13.01

Peak discharge (base, 8,200 cfs).--Jan. 16 (9 to 10 a.m.) 9,810 cfs (9.29 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for Poor Fork at Cumberland.

Yellow Creek near Middlesboro, Ky.

Location.--Lat 36°39'05", long 83°42'05", on right bank on U. S. Highway 25E, 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.

Records available.--August 1940 to September 1954.

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

Average discharge.--14 years, 101 cfs.

Extremes.--Maximum discharge during year, 2,390 cfs Jan. 16 (gage height, 11.93 ft); minimum, 1.3 cfs Sept. 6 (gage height, 0.90 ft).
1940-54: Maximum discharge, 6,160 cfs Jan. 7, 1946 (gage height, 20.92 ft); no flow for part of Sept. 26, 1952 (caused by construction work above gage).
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.

Remarks.--Records good except those below 10 cfs or those for period of no gage-height record, which are fair.

Revisions (water years).--WSP 953: 1941(M). WSP 973: 1942(M).

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 9-14, Aug. 30 to Sept. 1)

0.9	1.3	2.0	100
1.0	3.0	2.5	185
1.1	5.8	3.0	260
1.2	11	6.0	680
1.4	30	9.0	1,370
1.7	68	10.0	1,670

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.2	3.7	4.6	6.6	71	741	78	97	37	5.8	4.0	2.3
2	3.0	3.7	4.3	5.8	64	405	65	82	34	5.5	6.8	*2.1
3	2.7	3.7	4.3	6.6	65	596	58	167	30	7.9	17	*1.9
4	2.5	4.0	4.6	6.2	62	426	55	239	25	16	29	1.9
5	3.0	4.0	4.3	5.8	52	*269	53	170	21	7.5	16	2.1
6	3.0	4.0	5.2	5.8	47	188	50	118	18	5.8	38	1.7
7	2.5	4.0	7.0	5.5	41	144	60	132	15	6.6	14	2.3
8	2.7	4.0	5.5	5.2	37	136	74	164	13	31	9.2	1.7
9	3.0	4.0	63	5.5	37	152	*76	158	13	13	9.2	1.7
10	3.0	3.7	52	13	36	158	74	118	12	8.0	7.5	1.9
11	2.7	3.7	20	44	34	138	72	97	11	7.0	6.2	1.6
12	3.0	3.4	23	30	29	107	71	83	9.8	6.6	5.5	1.6
13	2.7	3.2	20	17	26	254	64	*76	12	6.2	6.2	1.7
14	3.2	2.7	71	23	25	342	62	109	10	5.8	5.8	1.7
15	*2.7	2.7	43	563	25	206	61	104	14	5.5	5.2	1.9
16	3.0	3.0	26	1,590	30	136	106	97	14	5.8	5.2	1.9
17	2.3	3.0	16	362	68	104	507	85	71	5.5	4.9	1.7
18	2.3	3.0	11	140	65	89	382	79	*37	5.2	5.2	1.6
19	2.5	*3.2	9.8	89	61	89	198	67	a22	4.6	4.9	1.6
20	2.5	3.2	9.2	216	60	86	125	57	a15	5.5	9.8	6.4
21	2.5	3.7	9.8	*1,340	57	71	97	49	a12	14	7.0	16
22	2.5	16	11	*1,000	48	64	83	42	a10	29	4.9	6.2
23	2.5	29	9.8	520	42	69	76	37	a9.5	13	6.5	4.0
24	2.5	8.6	7.0	245	50	88	71	32	a9.0	8.6	5.2	3.2
25	2.3	14	7.5	140	49	136	64	30	8.0	7.0	4.6	2.7
26	2.7	8.0	7.0	100	48	484	110	28	7.0	*6.6	4.3	2.5
27	5.8	6.2	6.6	257	46	314	267	25	6.6	5.5	3.7	2.5
28	5.2	5.2	7.5	276	348	192	395	23	5.8	4.0	3.7	2.5
29	4.9	4.6	*9.2	*174	-	131	198	21	5.2	4.9	3.4	2.7
30	4.6	4.6	8.0	116	-------	107	143	22	5.5	4.9	2.7	7.0
31	3.7	-------	7.0	88	-------	92	-------	18	-------	4.6	2.3	-------
Total	94.7	169.8	494.2	7,395.0	1,623	6,514	3,795	2,626	512.4	266.9	257.9	90.6
Mean	3.05	5.66	15.9	239	58.0	210	126	84.7	17.1	8.61	8.32	3.02
Cfsm	0.051	0.094	0.265	3.99	0.968	3.51	2.10	1.41	0.285	0.144	0.139	0.050
In.	0.06	0.11	0.31	4.59	1.01	4.04	2.36	1.63	0.32	0.17	0.16	0.06

Calendar year 1953: Max 1,280 Min 2.3 Mean 85.7 Cfsm 1.43 In. 19.44
Water year 1953-54: Max 1,590 Min 1.6 Mean 65.3 Cfsm 1.09 In. 14.82

Peak discharge (base, 1,800 cfs).--Jan. 16 (5 a.m.) 2,390 cfs (11.93 ft); Jan. 21 (4:30 a.m.) 1,980 cfs (10.89 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for nearby stations.

Cumberland River near Pineville, Ky.

Location (revised).--Lat 36°48'49", long 83°45'56", on downstream side of center pier of 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.

Records available.--August 1938 to September 1954.

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 from base gage.

Average discharge.--16 years, 1,265 cfs.

Extremes.--Maximum discharge during year, 19,500 cfs Jan. 16; maximum gage height, 32.16 ft Jan. 16; minimum discharge, 6.0 cfs Oct. 18 (gage height, 4.65 ft).
1938-54: 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, 6.0 cfs Oct. 6, 1952, Oct. 18, 1953.
Flood of March 1929 reached a stage of 47.3 ft (discharge, 51,000 cfs).

Remarks.--Records good except those for period of shifting-control, which are fair. Low flow regulated by powerplant 1.9 miles upstream from station.

Revisions (water years).--WSP 953: Drainage area. WSP 1053: 1939.

Rating table, water year 1953-54, except period of shifting-control (gage height, in feet, and discharge, in cubic feet per second)
(Fall used as a factor Jan. 15-18, 21-25, 27, 28, Feb. 28 to Mar. 6, Mar. 10, 11, 14, 15, 26-29, Apr. 17-20, 28, 29, May 4-6, 8-10)

4.6	5.0	6.5	295
4.7	7.0	7.0	450
4.8	11	8.0	880
5.0	23	10.0	1,950
5.2	39	14.0	4,500
5.4	63	20.0	9,800
5.7	112	30.0	18,800
6.0	176		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	16	48	103	1,010	5,610	1,240	1,200	285	94	58	40
2	13	22	40	92	848	4,270	1,080	980	353	86	54	34
3	14	22	27	84	768	5,350	965	1,120	323	84	51	*35
4	12	22	33	86	727	6,220	855	2,000	362	84	66	30
5	11	22	29	78	637	*3,520	844	1,790	308	116	108	29
6	9.0	22	34	72	558	2,670	781	1,430	265	172	118	22
7	8.6	20	42	74	486	2,250	885	1,310	230	145	145	19
8	7.0	21	34	68	422	2,140	1,160	1,730	200	134	141	17
9	6.6	20	90	66	394	2,490	*1,530	1,870	183	163	103	16
10	6.2	17	413	91	377	2,740	1,400	1,640	165	286	80	16
11	6.2	17	704	468	362	2,820	1,280	1,370	178	292	63	11
12	6.2	16	398	1,080	335	2,470	1,200	1,110	198	202	48	11
13	6.2	17	295	538	298	2,330	1,040	925	158	150	46	10
14	6.4	17	416	371	278	3,080	930	*935	222	120	42	12
15	*6.4	17	673	3,600	265	3,050	858	1,060	596	98	45	13
16	6.6	18	574	17,400	272	2,480	945	1,350	736	54	66	11
17	6.4	19	377	9,940	454	1,820	2,120	1,280	975	56	24	10
18	6.2	19	210	3,020	558	1,470	2,300	1,140	*1,180	58	39	10
19	6.6	*19	130	1,700	554	1,270	2,130	1,540	750	70	38	10
20	7.8	20	141	1,350	514	1,260	1,700	1,610	530	72	89	28
21	7.4	22	152	8,110	530	1,200	1,410	1,280	415	63	76	49
22	7.0	28	147	9,530	518	1,080	1,170	1,020	320	101	94	103
23	7.8	86	130	9,350	502	1,040	1,120	822	268	582	118	172
24	7.8	120	120	4,110	542	1,050	1,470	678	222	422	89	120
25	7.4	118	100	2,520	578	1,100	1,180	574	232	326	74	81
26	7.8	118	110	1,770	558	2,320	1,080	490	189	238	51	59
27	9.0	120	108	1,610	514	2,270	1,120	432	161	183	42	50
28	12	84	124	*2,460	1,410	2,000	2,060	387	136	*122	25	38
29	15	75	*124	2,350	-	1,660	1,780	344	116	107	45	29
30	16	68	126	1,720	-------	1,570	1,530	320	101	88	65	*29
31	16	-------	114	1,300	-------	1,390	-------	290	-------	50	48	-------
Total	280.6	1,222	6,063	85,111	15,269	75,970	39,193	34,027	10,357	4,818	2,151	1,114
Mean	9.05	40.7	196	2,746	545	2,451	1,306	1,098	345	155	69.4	37.1
Cfsm	0.011	0.050	0.238	3.34	0.663	2.98	1.59	1.34	0.420	0.189	0.084	0.045
In.	0.01	0.06	0.27	3.85	0.69	3.44	1.77	1.54	0.47	0.22	0.10	0.05

Calendar year 1953: Max 17,900 Min 6.2 Mean 1,083 Cfsm 1.32 In. 17.90
Water year 1953-54: Max 17,400 Min 6.2 Mean 755 Cfsm 0.918 In. 12.47

Peak discharge (base, 16,000 cfs).--Jan. 16 (4 p.m.) 19,500 cfs (32.10 ft).
* Discharge measurement made on this day.
Note.--Shifting-control method used June 3 to Sept. 30.

Cumberland River at Barbourville, Ky.

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

Drainage area.--972 sq mi.

Records available.--October 1922 to September 1931, July 1948 to September 1954.

Gage.--Wire-weight gage and crest-stage indicator; gage read twice daily. 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 at datum 1.0 ft higher.

Average discharge.--15 years, 1,713 cfs.

Extremes.--Maximum discharge during year, 20,200 cfs Jan. 16; maximum gage height, 28.39 ft Jan. 17; minimum discharge observed, 5.2 cfs Oct. 16.

1922-31, 1948-54: Maximum discharge, 47,900 cfs May 31, 1927, from rating curve extended above 20,000 cfs on basis of runoff comparisons with nearby stations; maximum gage height, 40.25 ft Feb. 2, 1951; 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.

Revisions.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
563,603	1923	Feb. 4, 1923	28,200	30.6
603	1925	Dec. 9, 1924	27,400	30.2
643,1113	1927	May 31, 1927	47,900	37.1
683,1113	1929	Mar. 23, 1929	46,300	†39.2
1173	1950	Feb. 2, 1950	34,000	37.74

† Occurred Mar. 24, 1929.

Remarks.--Records good above 1,000 cfs and fair below.

Revisions (water years).--WSP 603: 1923-24. Revised figures of discharge, in cubic feet per second, for the water years 1927, 1929, and 1950-51, superseding those published in WSP 643, 683, 1113, 1173, and 1206, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1926		1927-Con.		1929-Con.		1950-Con.	
Dec. 10	13,600	June 2	4,940	Mar. 23	33,300	Feb. 11	7,570
11	8,510	3	6,560	24	40,200	12	4,910
21	16,700	4	6,860	25	20,700		
22	35,400			26	13,500	1951	
23	25,400	1928		27	6,380	Feb. 1	29,200
24	15,600	Nov. 19	23,500			2	37,200
25	25,000	20	37,000	1950		3	23,800
26	31,800	21	22,800	Feb. 1	33,800	4	11,900
27	21,100	22	8,960	2	33,900	5	6,100
28	13,900			3	27,300	8	6,500
29	19,600	1929		4	15,300	20	7,200
30	11,100	Mar. 1	8,740	5	8,030	21	18,000
		5	15,600	7	3,860	22	17,100
1927		6	15,600	9	7,430	23	11,900
June 1	18,600	7	9,680	10	12,500	24	5,710

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
December 1926.....	-	35,400	980	9,400	9.67	11.15
June 1927.....	-	18,600	255	2,450	2.52	2.81
Water year 1926-27....	-	42,000	35	2,850	2.93	39.82
November 1928.....	-	27,000	220	3,670	3.78	4.21
March 1929.....	-	40,200	1,290	7,670	7.89	9.10
Water year 1928-29....	-	40,200	47	2,510	2.58	34.99
February 1950.....	192,980	33,900	1,200	6,892	7.09	7.38
Water year 1949-50	815,257	33,900	72	2,234	2.30	31.19
Calendar year 1950....	-	33,900	52	2,181	2.24	30.45
February 1951.....	212,290	37,200	1,240	7,582	7.80	8.12
Water year 1950-51....	-	37,200	36	1,840	1.89	25.69
Calendar year 1951....	-	37,200	36	2,250	2.31	31.43

Cumberland River at Barbourville, Ky.--Continued

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 22 to Nov. 1, Nov. 22-24; rate of change in stage used as a factor for most days above 4,600 cfs; indefinite stage-discharge relation Nov. 3-21)

Oct. 1 to Apr. 18

1.25	7	4.0	1,530
1.3	10	6.0	3,360
1.4	28	10.0	5,400
1.7	95	20.0	10,700
2.0	190	27.0	17,300
3.0	780		

Apr. 19 to Sept. 30

1.3	10	2.0	222
1.4	28	3.0	790
1.6	80	4.0	1,530
1.8	144		

Note.--Same as preceding table above 4.0 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	17	66	108	1,010	6,760	1,300	1,290	338	110	50	38
2	17	a17	a50	a95	894	6,120	1,090	1,070	490	89	64	38
3	a16	e23	a40	a88	816	7,340	998	1,100	466	75	a60	*26
4	a14	e24	a35	a90	*792	8,380	914	2,270	502	80	a75	a28
5	a13	e23	a35	82	678	5,410	894	2,080	424	120	86	a25
6	a11	e23	40	75	630	3,350	894	1,840	388	181	110	a23
7	a10	322	57	78	558	2,440	928	2,280	332	144	155	a21
8	a9	e22	63	78	456	*2,290	1,120	2,370	282	155	134	a19
9	a8	e21	80	68	438	2,660	1,860	2,330	244	a160	117	a18
10	a7.5	e20	329	88	438	2,990	1,670	2,000	201	a300	a89	a17
11	8.2	e18	696	426	402	2,960	1,370	1,660	185	a315	a70	17
12	7.6	e18	468	1,130	*342	2,600	1,300	1,240	218	a240	a52	a14
13	a7.5	e18	312	678	282	2,250	1,130	1,050	170	a170	a48	a12
14	a7.5	e18	420	594	246	3,560	1,010	988	226	a135	a45	a11
15	a7.5	e18	732	2,610	252	3,410	963	1,080	520	a105	a46	a12
16	*7.6	e18	642	16,700	246	2,550	*998	1,290	796	a85	a55	a10
17	7.0	e19	420	15,000	468	1,860	3,520	*1,330	988	a81	53	a10
18	8.2	e20	264	6,190	630	1,480	4,440	1,370	1,460	a80	a43	10
19	7.0	e20	166	2,640	654	1,270	3,390	1,630	969	a80	43	a10
20	8.2	e21	129	1,480	618	1,310	1,750	1,860	598	a92	98	14
21	8.2	e24	154	8,060	618	1,170	1,510	1,400	472	a102	110	28
22	7.6	28	144	*11,400	594	1,080	1,270	1,130	359	120	a100	80
23	7.6	*44	141	11,600	582	1,130	1,110	962	*296	394	120	189
24	9.4	107	132	6,340	618	1,080	1,610	802	240	508	a130	151
25	7.6	129	102	3,140	684	1,070	1,210	622	258	a390	a110	120
26	7.6	150	112	1,910	648	2,980	1,130	a540	a220	a270	64	a90
27	8.2	a130	102	1,470	612	3,490	1,210	a470	a190	*151	46	a65
28	7.6	120	118	2,450	684	2,600	2,420	418	166	a141	28	a50
29	10	108	129	2,340	-	1,970	1,750	a380	130	a112	38	a40
30	14	90	*129	2,100	-------	1,590	1,650	359	117	89	43	*31
31	19	-------	112	1,400	-------	1,450	-------	327	-------	58	28	------
Total	305.6	1,330	6,419	100,508	15,890	90,600	46,409	39,538	12,245	5,132	2,310	1,217
Mean	9.86	44.3	207	3,242	568	2,923	1,547	1,275	408	166	74.5	40.6
Cfsm	0.010	0.046	0.213	3.34	0.584	3.01	1.59	1.31	0.420	0.171	0.077	0.042
In.	0.01	0.05	0.25	3.85	0.61	3.47	1.78	1.51	0.47	0.20	0.09	0.05

Calendar year 1953: Max 20,200 Min 7.0 Mean 1,293 Cfsm 1.33 In. 18.05
Water year 1953-54: Max 16,700 Min 7.0 Mean 882 Cfsm 0.907 In. 12.34

Peak discharge (base, 18,000 cfs).--Jan. 16 (10 p.m.) 20,200 cfs (28.39 ft at 4 a.m. Jan. 17).
* Discharge measurement made on this day.
a Doubtful or no gage-height record; discharge estimated on basis of records for stations near Pineville and at Williamsburg.
e Stage-discharge relation indefinite; discharge estimated on basis of weather records and records for station near Pineville.

Cumberland River at Williamsburg, Ky.

Location.--Lat 36°45', long 84°10', on left bank 10 ft downstream from bridge on U. S. Highway 25W and State Highway 92 at Williamsburg, Whitley County, and 2.1 miles downstream from Clear Fork.

Drainage area.--1,673 sq mi.

Records available.--October 1950 to September 1954. 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 891.52 ft above mean sea level, unadjusted. Prior to July 2, 1951, wire-weight gage at same site and datum.

Extremes.--Maximum discharge during year, 20,500 cfs Jan. 23 (gage height, 20.38 ft); minimum, 6.1 cfs Oct. 23, 25, 26, 27 (gage height, 1.64 ft).
1950-54: Maximum discharge, 37,200 cfs Feb. 2, 1951 (gage height, 29.85 ft); minimum, that of Oct. 23, 25, 26, 27, 1953.
Maximum stage since at least 1918, 34.2 ft Jan. 10, 1946, from graph based on U. S. Weather Bureau gage readings. Flood of Mar. 26, 1929, reached a stage of 32.7 ft from graph based on U. S. Weather Bureau gage readings.

Remarks.--Records good. Records of chemical analyses, suspended sediment loads, and water temperature for the water year 1954 are given in WSP 1350.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to June 18				June 19 to Sept. 30			
1.64	6.1	2.6	205	1.65	10	1.9	30
1.7	9.0	3.0	360	1.7	13	2.0	45
1.75	12	4.0	920	1.8	20		
1.8	17	6.0	2,420				
1.9	29	10.0	6,500				
2.0	45	21.0	21,500				
2.3	115						

Note.--Same as preceding table above 2.0 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	19	110	181	2,130	9,700	2,390	2,360	460	151	118	65
2	11	22	98	169	1,740	12,600	2,080	1,910	608	136	95	72
3	9.6	21	85	157	1,500	12,100	1,820	1,830	1,030	127	90	65
4	9.6	25	75	145	1,450	13,600	1,640	3,030	902	130	108	53
5	10	28	63	136	*1,360	11,600	1,530	3,940	824	226	98	44
6	11	25	61	133	1,210	7,440	1,470	3,180	674	184	105	33
7	11	24	57	124	1,070	4,870	1,490	2,620	542	208	145	28
8	11	26	55	121	*927	*3,800	1,720	3,230	440	222	178	26
9	11	28	70	118	842	3,620	2,410	3,940	380	320	187	24
10	11	29	171	163	788	4,100	2,760	3,630	332	292	178	21
11	11	29	380	316	746	4,390	2,460	2,870	304	296	148	17
12	14	28	794	878	698	4,000	2,320	2,310	276	340	121	14
13	17	26	608	1,400	626	3,460	2,110	1,900	288	244	105	14
14	15	25	512	934	548	4,760	1,880	1,750	292	193	90	13
15	*13	26	764	1,950	506	5,590	1,800	2,000	348	160	78	*13
16	12	26	934	12,700	524	4,540	*1,770	2,030	710	142	70	13
17	11	26	806	18,900	976	3,380	4,770	*21,40	1,170	118	63	11
18	9.6	25	566	16,500	1,470	2,650	9,280	2,030	2,200	90	59	*10
19	9.6	25	372	*10,300	1,490	2,260	7,100	2,130	2,000	70	80	10
20	9.6	25	280	3,330	1,370	2,110	4,590	2,590	1,260	75	68	17
21	9.0	28	222	10,100	1,300	2,030	3,170	2,450	824	88	61	26
22	7.5	37	212	18,900	1,240	1,840	2,500	1,970	596	115	108	40
23	*8.0	*34	216	*20,000	1,130	1,720	2,120	1,560	*460	166	133	105
24	7.0	32	208	15,700	1,200	1,780	2,220	1,300	372	566	136	132
25	6.5	115	202	9,640	1,610	2,490	2,310	1,100	312	674	160	190
26	6.1	175	190	4,600	1,720	4,800	1,950	934	288	420	133	151
27	6.5	157	169	2,980	1,530	7,030	1,920	818	264	296	115	118
28	7.0	151	160	3,200	2,450	5,580	2,410	722	222	219	115	92
29	8.5	151	166	3,980	-	3,700	3,470	638	193	178	100	75
30	9.6	130	*178	3,580	-------	3,150	2,900	560	172	*154	*80	64
31	10	-------	178	2,750	-------	2,690	-------	500	-------	142	68	-------
Total	315.7	1,518	8,962	164,085	34,151	157,380	82,360	63,972	18,743	6,742	3,393	1,556
Mean	10.2	50.6	289	5,293	1,220	5,077	2,745	2,064	625	217	109	51.9
Cfsm	0.0061	0.030	0.173	3.16	0.729	3.03	1.64	1.23	0.374	0.130	0.065	0.031
In.	0.007	0.03	0.20	3.65	0.76	3.50	1.83	1.42	0.42	0.15	0.08	0.03

Calendar year 1953: Max 18,300 Min 6.1 Mean 2,150 Cfsm 1.29 In. 17.43
Water year 1953-54: Max 20,000 Min 6.1 Mean 1,488 Cfsm 0.889 In. 12.08

Peak discharge (base, 20,000 cfs).--Jan. 23 (7 a.m.) 20,500 cfs (20.38 ft).
* Discharge measurement made on this day.

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 (revised), and 1,200 ft upstream from Cumberland Falls, Whitley County.

Drainage area.--1,997 sq mi.

Records available.--August 1907 to December 1911, April 1915 to September 1954.

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 (revised) downstream from present site at present datum.

Average discharge.--42 years (1907-11, 1915-31, 1932-54), 3,121 cfs.

Extremes.--Maximum discharge during year, 24,900 cfs Jan. 23 (gage height, 9.30 ft); minimum, 4.0 cfs Sept. 19 (gage height, 0.98 ft).
1907-11, 1915-54: Maximum discharge, 59,600 cfs Jan. 28, 1918 (gage height, 15.5 ft); minimum, that of Sept. 19, 1954.

Remarks.--Records good except those for periods of indefinite stage-discharge relation, which are fair, and those for periods of no gage-height record, which are poor.

Rating table, water year 1953-54, except periods of indefinite stage-discharge relation (gage height, in feet, and discharge, in cubic feet per second)

0.98	4.0	1.8	580
1.0	6.0	2.5	1,520
1.05	11	3.0	2,430
1.1	27	4.5	6,120
1.2	70	6.0	11,000
1.4	200	9.0	23,400

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a16	a 11	a130	a180	a3,000	*10,700	2,910	2,820	604	165	137	e81
2	a14	a13	a110	172	a2,000	14,300	2,530	2,300	640	151	118	e70
3	a12	a17	100	165	a1,700	14,900	2,180	2,110	1,000	130	112	e70
4	a10	a20	a90	a150	*a1,500	15,300	1,980	3,080	1,110	124	e101	e70
5	e11	a23	a80	a140	a1,400	13,200	1,850	4,500	979	118	e101	e65
6	a 11	a26	a70	a135	a1,300	9,090	1,730	3,950	856	193	e101	e53
7	a 11	a28	a65	137	a1,200	6,010	1,740	3,290	712	172	e95	e44
8	a 11	a30	a60	130	*a1,100	4,600	1,940	3,710	604	224	112	e39
9	a10	a32	a55	124	a980	4,100	2,530	4,480	514	232	165	e32
10	a9	a33	a150	224	a900	4,380	3,200	4,350	440	316	172	e28
11	7.0	a35	a350	460	a840	4,760	2,970	3,540	380	307	165	e17
12	*7.0	a32	a900	a750	a820	4,530	2,780	2,800	352	298	137	e14
13	7.0	a31	796	a1,450	796	3,950	2,570	2,300	316	343	118	e12
14	a15	a30	640	a1,100	724	4,450	2,320	2,030	316	289	e101	e11
15	a18	a30	a750	a1,800	664	5,730	*2,180	2,140	316	208	e85	e10
16	a17	a30	a950	11,400	652	5,160	2,160	2,200	370	172	e75	6.0
17	a15	a30	a780	18,600	1,060	4,000	5,440	2,220	904	158	e70	6.0
18	a13	a30	a650	16,200	1,800	3,130	10,400	*2,320	1,540	137	e65	5.0
19	a12	a30	a500	a15,000	1,980	2,610	8,860	2,300	2,260	124	e60	4.0
20	e10	a30	361	a5,000	1,830	2,370	5,950	2,630	1,590	e101	e70	*e24
21	a10	a30	240	a9,500	1,690	2,260	4,120	2,880	1,070	e85	e81	e56
22	a10	a35	208	a18,000	1,550	2,070	3,150	2,370	808	e85	e65	e53
23	a9	a45	216	a21,700	1,390	1,960	2,590	1,910	628	124	e75	e39
24	a8	*a60	a210	16,700	1,640	1,940	2,510	1,540	*481	208	124	e53
25	a7	75	a210	10,300	2,350	2,630	2,800	1,300	390	671	130	106
26	*a6.5	112	a200	a6,000	2,410	6,320	2,470	1,130	325	592	158	179
27	6.0	179	a180	a3,500	2,140	8,140	2,200	979	298	410	144	151
28	6.0	165	a170	a3,700	3,060	6,880	2,510	880	264	289	137	118
29	7.0	158	a170	a4,300	-	5,130	3,740	784	224	*216	130	e101
30	a9	a150	a180	a4,000	-------	4,020	3,450	700	193	179	*112	e90
31	a10	-------	a180	a3,500	-------	3,340	-------	628	-------	151	e95	------
Total	324.5	1,550	9,751	174,517	42,476	181,960	97,760	74,171	20,484	6,972	3,411	1,607.0
Mean	10.5	51.7	315	5,630	1,517	5,870	3,259	2,393	683	225	110	53.6
Cfsm	0.0053	0.026	0.158	2.82	0.760	2.94	1.63	1.20	0.342	0.113	0.055	0.027
In.	0.006	0.03	0.18	3.25	0.79	3.39	1.82	1.38	0.38	0.13	0.06	0.03

Calendar year 1953: Max 20,200 Min 6.0 Mean 2,541 Cfsm 1.27 In. 17.27
Water year 1953-54: Max 21,700 Min 4.0 Mean 1,685 Cfsm 0.844 In. 11.45

Peak discharge (base, 24,000 cfs).--Jan. 23 (about 4 p.m.) 24,900 cfs (9.30 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of 2 discharge measurements, recorder trace, weather records, and records for station at Williamsburg.
e Stage-discharge relation indefinite; discharge estimated on basis of 1 discharge measurement and records for station at Williamsburg.

Laurel River at Corbin, Ky.
(Formerly published as Laurel River near Otas)

Location.--Lat 36°58'09", long 84°07'38", on left bank 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.

Records available.--October 1922 to September 1924, July 1942 to September 1954. Prior to October 1953, published as Laurel River near Otas.

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.--14 years, 345 cfs.

Extremes.--Maximum discharge during year, 3,020 cfs Jan. 22 (gage height, 8.52 ft); minimum, 0.8 cfs July 27 (gage height, 1.05 ft).
1922-24, 1942-54: 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 in 1911, 1913, 1922, present datum, from information by Corps of Engineers.

Remarks.--Records good. Some regulation at low flow by city water supply reservoir.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to June 17				June 18 to Sept. 30			
1.1	1.4	2.2	60	1.07	0.9	1.4	6.3
1.2	2.0	2.6	120	1.1	1.1	1.5	9.5
1.3	4.5	3.0	213	1.2	1.9	1.7	18
1.4	7.5	4.0	540	1.3	3.7		
1.5	10	5.0	1,000				
1.7	18	7.0	2,100	Note.--Same as preceding table above 1.7 ft.			
1.9	30	9.0	3,360				

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.6	2.1	1.7	2.1	*142	2,030	264	153	76	2.3	1.0	1.4
2	1.5	1.9	1.7	2.0	128	1,690	213	122	184	2.1	*1.1	1.5
3	1.6	1.8	1.9	1.9	122	2,120	176	214	120	2.5	1.2	1.5
4	1.6	1.8	1.9	2.0	116	1,880	151	476	113	1.7	1.9	1.4
5	1.6	2.0	1.9	*2.1	99	1,180	155	348	76	1.8	2.1	1.5
6	1.6	1.9	2.4	2.1	85	1,240	140	243	52	1.6	1.1	1.4
7	1.7	2.0	4.2	1.9	73	528	162	423	35	1.6	1.0	1.3
8	1.7	2.0	1.9	1.9	64	*454	158	1,110	24	7.7	1.0	1.6
9	1.6	1.8	2.4	2.1	59	412	160	670	17	31	1.0	1.6
10	1.7	1.7	7.8	14	58	370	136	388	15	19	1.0	1.7
11	2.0	1.9	2.6	18	55	309	126	264	12	9.5	1.0	1.7
12	1.7	1.9	3.3	18	48	246	136	191	9.6	5.1	1.1	1.8
13	1.6	1.9	4.8	14	40	364	*115	144	142	3.3	1.2	1.7
14	1.6	2.0	9.6	11	37	324	100	167	455	2.1	1.2	1.5
15	1.6	2.0	7.5	378	39	482	94	229	234	1.8	1.1	1.5
16	*1.7	1.9	4.2	1,840	46	336	113	162	398	1.5	1.1	1.6
17	1.7	2.0	2.6	1,220	118	258	594	116	1,660	1.2	1.4	1.6
18	1.7	1.9	2.2	472	132	221	732	*197	344	1.1	2.0	1.3
19	1.7	2.0	2.2	246	113	200	448	267	134	1.1	3.9	1.2
20	1.6	2.2	2.4	459	99	264	294	191	75	1.1	4.1	11
21	1.7	2.1	2.6	2,590	97	258	210	142	*49	1.1	3.1	19
22	1.7	2.8	2.8	2,810	88	186	164	104	34	1.3	1.5	7.5
23	1.7	6.3	2.6	2,090	78	186	162	80	23	1.5	1.2	3.3
24	1.8	*2.2	2.1	1,050	216	224	229	65	16	1.1	1.2	1.9
25	2.0	3.3	2.0	536	364	246	167	53	12	1.1	1.2	1.5
26	2.1	2.8	1.9	374	300	810	184	44	8.4	1.0	1.2	1.4
27	2.1	2.0	1.9	348	218	760	218	36	6.6	.9	1.2	1.2
28	2.8	1.7	2.4	357	982	512	285	30	4.3	.9	1.6	1.2
29	2.6	1.7	4.5	276	-	370	235	26	3.3	1.0	2.0	1.9
30	2.4	1.7	2.6	226	-------	327	174	20	2.5	1.0	1.5	1.8
31	2.0	-------	2.4	176	-------	309	-------	16	-------	1.0	*1.2	-------
Total	56.0	65.3	97.0	15,541.1	4,016	19,096	6,495	6,691	4,334.7	111.0	47.4	80.5
Mean	1.81	2.18	3.13	501	143	616	216	216	144	3.58	1.53	2.68
Cfsm	0.0091	0.011	0.016	2.53	0.722	3.11	1.09	1.09	0.727	0.018	0.0077	0.014
In.	0.01	0.01	0.02	2.92	0.75	3.59	1.22	1.26	0.81	0.02	0.009	0.02

Calendar year 1953: Max 3,240 Min 1.3 Mean 263 Cfsm 1.33 In. 18.03
Water year 1953-54: Max 2,810 Min 0.9 Mean 155 Cfsm 0.78 In. 10.64

Peak discharge (base, 4,800 cfs).--No peak above base.
* Discharge measurement made on this day.

Wood Creek near London, Ky.

Location.--Lat 37°09'40", long 84°06'45", on left bank 50 ft downstream from bridge on U. S. Highway 25, 0.2 mile upstream from Peacock Branch, 2.8 miles northwest of London, Laurel County, and about 12 miles upstream from mouth.

Drainage area.--3.84 sq mi.

Records available.--September 1953 to September 1954.

Gage.--Water-stage recorder and concrete control. Datum of gage is 1,123.50 ft above mean sea level, unadjusted.

Extremes.--Maximum discharge during year, 87 cfs Jan. 20 (gage height, 2.93 ft); minimum, 0.2 cfs for many days; minimum gage height, 1.09 ft Aug. 22.

Remarks.--Records good.

Rating table, Sept. 23, 1953, to Sept. 30, 1954 (gage height, in feet, and discharge, in cubic feet per second)

1.1	0.2	1.4	2.8
1.15	.3	1.5	4.8
1.2	.6	1.7	11
1.25	1.0	2.0	27
1.3	1.5		

Discharge, in cubic feet per second, 1953

Sept. 23.....	*0.3	Sept. 27.....	0.2
24.....	.3	28.....	.2
25.....	.3	29.....	.2
26.....	.3	30.....	.3

* Discharge measurement made on this day.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3	0.3	0.2	0.2	2.7	*14	4.2	2.7	6.9	0.5	0.4	0.3
2	.2	.3	*.2	.2	2.6	14	3.8	4.8	2.4	.6	.5	.3
3	.2	.3	.2	.2	2.6	26	3.2	8.7	2.7	.6	.6	.3
4	.2	.3	.2	.2	2.4	13	3.2	7.9	2.0	.6	1.1	.3
5	.3	.3	.2	.2	2.1	11	*3.0	6.2	1.7	.5	.6	.3
6	.3	.3	.3	.2	2.0	9.2	3.2	5.1	1.5	.5	.5	.3
7	*.3	.3	.2	.2	1.9	7.9	2.8	20	1.4	2.0	.4	.3
8	.3	.3	.2	.2	1.9	7.3	2.8	13	1.4	5.4	.4	.3
9	.3	.3	.3	.3	1.7	6.8	2.6	9.8	1.3	.9	.4	.3
10	.3	.3	.2	2.4	1.7	6.2	2.4	*7.6	1.1	.6	.4	.3
11	.3	.3	.2	1.0	1.6	5.6	2.6	6.8	1.1	.6	.4	.3
12	.3	.3	.4	.6	1.5	4.8	2.4	5.9	1.1	.5	.4	.3
13	.3	.3	.3	.3	1.4	7.0	2.1	5.4	1.2	.5	.4	.3
14	.3	.2	1.2	1.2	1.4	5.4	2.1	6.2	*1.2	.5	.4	.3
15	.3	.2	.4	13	1.4	4.8	2.1	4.6	1.0	.4	.4	.2
16	.3	.2	.3	*8.8	2.3	4.4	7.6	4.0	1.3	.4	.4	.3
17	.3	.2	.2	2.8	2.2	4.0	13	3.6	1.4	.4	.4	.3
18	.3	.2	.2	2.0	1.9	3.8	7.6	4.0	1.0	.4	.4	.2
19	.3	.2	.2	1.6	1.6	4.4	5.9	3.2	.9	.5	2.7	.2
20	.3	.2	.2	26	1.6	4.8	5.1	3.0	.8	.5	.7	1.0
21	.3	.2	.3	18	1.5	3.6	4.8	2.6	.7	.6	.5	1.9
22	.3	.4	.3	22	1.5	3.4	4.2	2.4	.6	.7	.4	.3
23	.3	.3	.3	8.2	1.8	4.0	5.5	2.1	.7	.5	.6	.3
24	.3	.3	.2	6.2	4.6	3.6	4.2	2.0	.6	.5	.5	.3
25	.3	.3	.2	5.1	3.2	6.8	3.8	1.9	.6	.4	.4	.3
26	.3	.2	.2	4.4	2.6	8.6	3.4	1.9	.5	.4	.4	.3
27	*.3	.2	.2	5.9	2.2	6.8	3.8	1.9	.5	*.4	.4	.3
28	.3	.2	.2	4.4	14	5.9	3.8	1.7	.5	.4	.4	.3
29	.3	.2	.3	4.0	-	5.1	3.2	1.5	.5	.4	.4	.3
30	.2	.2	.3	3.4	-------	4.8	3.2	1.5	.5	.4	.3	.7
31	.2	-------	.2	2.8	-------	4.6	-------	1.4	-------	.4	*.3	-------
Total	8.8	7.8	8.5	146.0	69.9	221.6	121.6	153.4	39.1	22.0	16.5	11.4
Mean	0.28	0.26	0.27	4.71	2.50	7.15	4.05	4.95	1.30	0.71	0.53	0.38
Cfsm	0.073	0.068	0.070	1.23	0.651	1.86	1.05	1.29	0.339	0.185	0.138	0.099
In.	0.09	0.08	0.08	1.41	0.68	2.15	1.18	1.49	0.38	0.21	0.16	0.11

Calendar year 1953: Max - Min - Mean - Cfsm - In. -
Water year 1953-54: Max 26 Min 0.2 Mean 2.26 Cfsm 0.589 In. 8.02

Peak discharge (base, 50 cfs).--Jan. 20 (7:30 p.m.) 87 cfs (2.93 ft).
* Discharge measurement made on this day.

Rockcastle River at Billows, Ky.

Location.--Lat 37°10'05", long 84°17'25", on left bank 200 ft upstream from 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.

Records available.--July 1936 to September 1954.

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.--18 years, 883 cfs.

Extremes.--Maximum discharge during year, 8,020 cfs Jan. 21 (gage height, 16.40 ft); minimum, 1.0 cfs Sept. 19, 20 (gage height, 0.45 ft).
1936-54: Maximum discharge, 46,800 cfs June 29, 1947 (gage height, 45.48 ft); minimum, that of Sept. 19, 20, 1954.
Flood of January 1913 reached a stage of about 40 ft, from information by Corps of Engineers.

Remarks.--Records good except those below 10 cfs, which are fair.

Revisions.--WSP 953: Drainage area.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 29 to Jan. 9)

Oct. 1 to May 8

0.6	1.2	2.5	220
.65	2.2	3.0	340
.7	3.7	4.0	680
.8	7.5	6.0	1,560
1.0	20	10.0	3,580
1.4	55	15.0	6,950
2.0	128		

May 9 to Sept. 30

0.45	1.0	1.0	18
.5	1.4	1.2	30
.6	3.4	1.6	62
.7	6.0	2.0	123
.8	9.5	2.5	220

Note.--Same as preceding table above 2.5 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	11	5.5	21	*376	4,830	780	457	110	16	12	26
2	1.3	12	4.7	20	328	3,220	664	460	246	15	14	21
3	1.3	11	4.7	17	305	3,560	588	484	270	14	30	17
4	1.3	10	4.0	16	285	3,560	508	936	346	14	102	14
5	1.7	11	3.7	*15	250	2,150	454	956	295	18	260	13
6	2.2	11	5.9	15	222	1,500	415	728	222	18	202	10
7	1.9	11	5.9	14	194	1,110	379	1,190	174	17	109	8.3
8	1.9	10	5.9	14	164	*920	364	4,680	139	110	61	11
9	1.9	10	8.5	15	150	848	346	2,570	113	278	50	15
10	1.9	10	12	43	145	812	325	1,530	94	164	176	12
11	1.9	9.5	9.5	134	138	704	305	1,030	78	81	99	8.3
12	1.9	9.5	9.5	127	130	576	325	784	65	50	56	6.3
13	2.5	9.5	11	96	115	518	*328	608	57	38	41	4.8
14	2.8	9.0	26	85	108	676	308	532	57	30	32	3.6
15	2.5	10	35	371	105	580	305	572	168	25	27	3.0
16	2.5	11	50	3,960	108	484	438	460	212	20	23	2.2
17	2.2	11	40	1,970	128	424	3,910	382	418	17	21	1.8
18	2.2	10	30	732	157	385	3,370	343	382	15	18	1.3
19	2.5	10	22	442	155	373	1,910	331	214	15	22	1.1
20	*2.5	10	18	616	146	454	1,250	*270	130	15	29	1.8
21	2.2	10	15	6,360	153	490	920	252	*91	17	30	15
22	2.5	11	15	4,120	160	427	736	218	63	75	29	55
23	2.8	15	16	2,840	157	421	451	188	53	204	27	46
24	3.7	17	22	1,510	228	454	636	164	45	132	25	47
25	4.3	*29	25	1,070	644	466	525	145	38	62	28	35
26	4.0	19	20	844	608	1,180	576	132	33	40	19	27
27	4.7	12	16	736	475	1,490	528	206	28	30	16	21
28	5.9	11	16	848	1,510	1,170	463	178	23	*24	15	*17
29	8.5	8.5	17	704	-	920	412	143	20	20	17	14
30	9.5	5.9	18	584	-------	840	430	125	18	17	45	17
31	9.5	-------	20	466	-------	908	-------	105	-------	14	*34	-------
Total	98.7	344.9	511.8	28,805	7,644	36,450	22,949	21,159	4,202	1,605	1,669	473.5
Mean	3.18	11.5	16.5	929	273	1,176	765	683	140	51.8	53.8	15.8
Cfsm	0.0052	0.018	0.027	1.53	0.450	1.94	1.26	1.13	0.231	0.085	0.089	0.026
In.	0.006	0.02	0.03	1.76	0.47	2.23	1.41	1.30	0.26	0.10	0.10	0.03

Calendar year 1953: Max 10,100 Min 1.3 Mean 670 Cfsm 1.10 In. 15.00
Water year 1953-54: Max 6,360 Min 1.1 Mean 345 Cfsm 0.568 In. 7.72

Peak discharge (base, 14,000 cfs).--No peak above base.
* Discharge measurement made on this day.

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Buck Creek near Shopville, Ky.

Location.--Lat 37°12'38", long 84°27'52", on right bank on downstream side of bridge on State Highway 461, 0.2 mile downstream from Brushy Creek, 3.7 miles north of Shopville, and 11.5 miles northeast of Somerset, Pulaski County.

Drainage area.--163 sq mi.

Records available.--December 1952 to September 1954.

Gage.--Water-stage recorder and concrete control. Datum of gage is 835.35 ft above mean sea level, unadjusted. Prior to Dec. 1, 1953, wire-weight gage and crest-stage indicator at same site and datum.

Extremes.--Maximum discharge during year, 3,710 cfs Jan. 21 (gage height, 8.41 ft); no flow at times.
1952-54: Maximum discharge, 4,850 cfs May 18, 1953 (gage height, 9.4 ft); no flow at times.

Remarks.--Records good.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic per second)

1.48	0	2.3	20
1.55	.1	2.5	41
1.6	.2	2.7	77
1.7	.7	3.0	150
1.8	1.7	4.0	480
1.9	3.4	5.0	980
2.0	5.5	7.0	2,520
2.1	8.0		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.4	135	400	122	105	133	1.7	0.6	*0
2			0	.4	*125	318	108	86	71	1.2	1.2	0
3			0	*.4	118	267	95	79	180	.9	29	0
4			.1	.4	110	210	84	108	105	.8	62	0
5			.1	.4	95	168	84	86	63	.6	84	0
6			.2	.4	84	145	77	73	44	.4	*35	0
7			.4	.4	73	125	79	614	33	2.9	20	0
8			.3	.3	65	110	86	632	27	198	12	.1
9			.3	.4	61	*100	105	291	24	73	12	.1
10			.4	13	59	91	88	204	22	31	22	0
11			.4	35	55	84	84	156	19	19	16	0
12			.3	25	47	75	93	128	15	12	11	0
13			.3	17	43	129	*79	105	19	8.0	7.5	0
14			.8	16	41	130	73	100	23	5.8	6.2	0
15			1.3	355	41	93	69	102	13	4.0	4.6	0
16			1.1	1,220	43	75	672	84	80	2.6	3.4	0
17			.6	372	65	67	1,570	69	381	1.7	2.6	0
18			.4	216	65	63	500	67	71	1.0	2.0	0
19			.3	165	55	67	300	*63	40	.7	3.4	0
20			.3	901	52	142	222	54	27	.4	9.6	.2
21			.3	*2,470	52	118	174	49	21	24	7.5	5.3
22			.4	918	49	93	145	41	*15	128	5.0	7.2
23			.4	456	44	93	204	36	12	46	3.4	7.5
24			.4	337	44	102	237	31	11	22	2.2	4.8
25			.4	273	43	110	186	27	8.5	12	1.3	2.6
26			.3	225	40	231	399	24	6.5	7.2	.8	1.4
27			.3	351	36	183	198	23	5.0	4.8	.4	.9
28			.3	327	370	153	189	21	3.6	3.4	.3	.6
29			.4	249	-	130	142	20	2.8	2.3	.2	.3
30			.5	201	-------	130	128	18	2.2	1.4	.1	11
31		-------	.5	159	-------	128	-------	16	-------	.8	.1	-------
Total	0	0	11.8	9,304.5	2,110	4,330	6,592	3,512	1,477.6	617.6	365.4	42.0
Mean	0	0	0.38	300	75.4	140	220	113	49.3	19.9	11.8	1.40
Cfsm	0	0	0.0023	1.84	0.463	0.859	1.35	0.693	0.302	0.122	0.072	0.0086
In.	0	0	0.003	2.12	0.48	0.99	1.50	0.80	0.34	0.14	0.08	0.01

Calendar year 1953: Max 3,160 Min 0 Mean 180 Cfsm 1.10 In. 14.98
Water year 1953-54: Max 2,470 Min 0 Mean 77.7 Cfsm 0.477 In. 6.46

Peak discharge (base, 2,600 cfs).--Jan. 21 (4 a.m.) 3,710 cfs (8.41 ft).
* Discharge measurement made on this day.

New River at New River, Tenn.

Location.--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.

Records available.--August 1934 to September 1954. Gage-height records collected in this vicinity 1908-52 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.--20 years, 692 cfs.

Extremes.--Maximum discharge during year, 22,600 cfs Jan. 21 (gage height, 22.55 ft); minimum, 0.3 cfs Nov. 6-18; minimum gage height, 1.00 ft Nov. 13-18.
1934-54: Maximum discharge, 44,300 cfs Feb. 3, 1939 (gage height, 33.58 ft); no flow for part of each day Aug. 12-15, 1944.
Maximum stage known, 41.2 ft Mar. 23, 1929, on old U. S. Weather Bureau gage 1,200 ft upstream and at datum 3.41 ft higher.

Remarks.--Records good except those below 10 cfs, which are fair.

Cooperation.--Eight discharge measurements furnished by Corps of Engineers.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 25		Nov. 26 to Sept. 30			
1.0	0.3	1.1	0.5	2.2	67
1.1	.5	1.2	1.0	2.5	119
1.2	.7	1.3	2.0	3.0	254
1.3	1.7	1.4	3.6	4.0	670
1.4	4.2	1.5	6.4	7.0	2,640
		1.6	12	13.0	8,200
		1.8	25	19.0	16,600
		2.0	42		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	0.4	11	52	476	5,960	1,230	472	696	7.8	11	7.3
2	.5	.4	8.3	47	404	2,960	1,130	396	955	6.8	9.3	5.6
3	.5	.4	7.3	44	362	4,350	882	628	512	6.4	10	4.3
4	.5	.4	6.8	43	339	3,140	698	2,190	476	11	7.3	3.6
5	.5	.4	6.0	*43	292	1,740	570	1,420	354	20	7.3	3.0
6	.7	.4	6.8	41	254	1,160	507	930	268	25	46	2.4
7	*1.1	.3	7.3	40	222	828	650	736	201	27	85	2.0
8	1.1	.3	*6.8	38	192	635	610	810	160	63	44	1.9
9	1.0	.3	61	36	175	534	570	742	*146	85	31	1.7
10	.9	.3	482	42	*168	476	512	600	132	66	23	1.2
11	.9	.3	278	194	165	440	484	498	103	42	18	1.0
12	.8	.3	163	452	148	400	507	416	82	28	15	.9
13	.8	.3	181	281	130	690	476	366	82	21	14	.8
14	.7	.3	384	251	119	986	464	385	111	*18	13	.7
15	.7	.3	525	3,090	111	780	468	456	113	13	13	*.7
16	.7	.3	288	14,700	153	605	480	432	130	10	12	.6
17	.7	.3	189	3,300	933	512	2,970	370	119	7.3	*9.3	.6
18	.7	*.4	130	1,280	769	*452	2,770	*332	109	6.4	7.3	.5
19	.6	.6	87	736	620	468	1,540	310	105	4.8	8.8	.5
20	.6	.8	78	1,500	530	464	999	278	82	3.8	12	1.5
21	.5	1.0	70	15,400	570	452	*720	248	63	3.6	17	14
22	.5	1.7	68	10,700	615	408	570	207	48	61	26	28
23	.5	3.2	67	4,240	512	396	520	176	40	503	26	27
24	.5	2.5	66	1,850	1,230	1,870	525	151	32	184	17	19
25	.5	3.0	64	1,100	1,740	4,410	452	132	26	90	40	20
26	.5	18	6	752	1,200	4,970	432	117	23	55	26	16
27	.5	19	58	1,210	840	2,550	420	103	19	38	19	12
28	.5	15	57	2,000	3,710	1,530	516	90	15	27	19	8.8
29	.5	13	57	1,230	-	1,040	548	80	12	21	15	6.0
30	.4	13	55	846	-------	792	502	84	10	17	12	50
31	.4	-------	55	610	-------	730	-------	89	-------	13	9.9	-------
Total	19.8	96.9	3,583.3	66,148	16,977	46,728	23,722	14,244	5,224	1,484.9	623.2	241.6
Mean	0.64	3.23	116	2,134	606	1,507	791	459	174	47.9	20.1	8.05
Cfsm	0.0017	0.0084	0.303	5.57	1.58	3.93	2.07	1.20	0.454	0.125	0.052	0.021
In.	0.002	0.009	0.35	6.42	1.65	4.54	2.30	1.38	0.51	0.14	0.06	0.02

Calendar year 1953: Max 12,200 Min 0.3 Mean 547 Cfsm 1.43 In. 19.38
Water year 1953-54: Max 15,400 Min 0.3 Mean 491 Cfsm 1.28 In. 17.38

Peak discharge (base, 16,000 cfs).--Jan. 16 (11 a.m.) 20,800 cfs (21.50 ft); Jan. 21 (9:30 a.m.) 22,600 cfs (22.55 ft).
* Discharge measurement made on this day.

Clear Fork River near Robbins, Tenn.

Location.--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.

Records available.--October 1930 to September 1954. Prior to October 1951, published as Clear Fork near Robbins.

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.--24 years, 445 cfs.

Extremes.--Maximum discharge during year, 13,900 cfs Jan. 21 (gage height, 12.45 ft, from recorded range in stage); minimum observed, 1.0 cfs Sept. 18, 19 (gage height, 0.80 ft). 1930-54: 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.

Remarks.--Records good except those below 10 cfs and those computed from staff-gage readings, which are fair.

Cooperation.--Eight discharge measurements furnished by Corps of Engineers.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 21				Jan. 22 to Sept. 30			
0.8	0.8	2.0	126	0.8	1.0	1.8	84
.9	1.7	2.5	275	.9	2.6	2.0	128
1.0	4.2	3.0	485	1.0	5.4	2.5	285
1.1	9.0	4.0	1,070	1.1	9.2	3.0	480
1.3	22	6.0	2,700	1.3	21	4.0	1,070
1.5	40	9.0	6,960	1.6	52		
1.8	84	12.0	12,700				

Note.--Same as preceding table above 4.0 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.5	3.2	6.0	27	415	2,490	840	302	352	12	8.0	5.7
2	3.5	3.5	5.0	24	348	1,680	744	271	780	12	7.2	5.1
3	2.9	4.2	4.6	23	320	1,490	602	375	520	11	7.2	4.5
4	2.7	4.2	4.6	23	313	1,330	480	674	453	23	6.8	3.9
5	2.5	3.8	4.6	*21	278	961	403	535	320	25	8.3	3.3
6	1.9	3.5	5.5	22	234	714	355	415	234	16	13	3.0
7	*1.6	3.5	7.0	21	218	545	355	367	177	19	12	2.6
8	1.5	3.5	*8.0	20	196	444	327	383	134	35	9.7	2.4
9	1.5	3.2	15	19	*156	383	320	330	*128	39	12	2.2
10	1.5	3.2	30	36	153	338	278	288	180	45	13	1.8
11	1.4	3.2	47	203	142	302	268	250	150	29	15	1.6
12	1.3	3.2	46	195	126	271	306	221	102	20	17	1.5
13	1.3	3.2	40	130	109	316	278	205	77	15	13	1.4
14	1.2	3.2	90	115	98	550	260	322	122	*13	11	1.3
15	1.1	3.5	183	743	96	458	271	591	156	11	9.2	*1.3
16	1.1	3.5	115	7,220	136	383	344	471	189	8.8	8.4	1.3
17	1.1	3.8	76	2,600	918	*327	1,900	379	183	7.6	*7.6	1.1
18	1.1	*3.8	47	980	804	299	1,720	*327	237	6.4	7.2	1.0
19	1.2	3.8	40	575	580	288	987	288	180	5.7	6.4	1.0
20	1.4	3.8	31	1,100	462	320	*674	260	121	4.8	6.4	1.3
21	1.5	4.2	28	11,800	427	278	510	285	94	4.5	6.0	3.9
22	1.5	5.0	29	8,240	363	240	415	228	74	24	5.7	26
23	1.5	7.0	33	3,840	316	240	452	189	60	266	5.7	27
24	1.6	7.5	30	1,780	938	1,700	834	162	47	96	5.4	16
25	1.6	9.6	28	1,140	1,270	3,110	726	136	38	46	5.1	12
26	1.7	11	24	840	846	3,420	555	121	31	29	6.0	9.2
27	1.9	10	21	968	586	1,840	530	106	26	20	7.2	7.2
28	2.3	9.0	21	1,280	1,550	1,170	462	96	21	15	7.2	6.0
29	2.7	8.0	22	870	-	816	415	86	18	12	7.2	5.7
30	2.7	7.0	26	662	-------	640	355	79	14	10	6.8	7.9
31	2.7	-------	28	520	-------	624	-------	77	-------	8.8	6.4	-------
Total	57.0	149.1	1095.3	46,037	12,398	27,967	16,966	8,819	5,218	889.6	267.1	168.2
Mean	1.84	4.97	35.3	1,485	443	902	566	284	174	28.7	8.62	5.61
Cfsm	0.0066	0.018	0.127	5.34	1.59	3.24	2.04	1.02	0.626	0.103	0.031	0.020
In.	0.008	0.02	0.15	6.16	1.66	3.74	2.27	1.18	0.70	0.12	0.04	0.02

Calendar year 1953: Max 6,080 Min 1.1 Mean 369 Cfsm 1.33 In. 18.03
Water year 1953-54: Max 11,800 Min 1.0 Mean 329 Cfsm 1.18 In. 16.07

Peak discharge (base, 6,500 cfs).--Jan. 16 (about 12 m.) 8,180 cfs (9.72 ft); Jan. 21 (about 3 p.m.) 13,900 cfs (12.45 ft).

* Discharge measurement made on this day.

Note.--Discharge Jan. 17 to Feb. 8 computed from daily staff-gage readings; discharge Sept. 13-20 computed from staff-gage readings made once every two days.

South Fork Cumberland River near Stearns, Ky.

Location.--Lat 36°37'37", long 84°32'00", on right bank at mouth of Bear Creek, 1,600 ft upstream from Salt Branch and 5.5 miles southwest of Stearns, McCreary County. Records include flow of Bear Creek.

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

Records available.--September 1942 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 764.81 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--12 years, 1,714 cfs.

Extremes.--Maximum discharge during year, 36,100 cfs Jan. 21 (gage height, 27.19 ft); minimum, 11 cfs Sept. 17, 18, 19, 20 (gage height, 1.53 ft).
1942-54: Maximum discharge, 69,600 cfs Feb. 13, 1948 (gage height, 38.50 ft); minimum, 11 cfs Oct. 4, 1948, Sept. 17, 18, 19, 20, 1954; minimum gage height, that of Sept. 17, 18, 19, 20, 1954.
Maximum stage known, 52.9 ft in March 1929, from information by local residents.

Remarks.--Records good except those below 50 cfs, which are fair, and those for periods of no gage-height record, which are poor.

Revisions (water years).--WSP 1113: 1946(M).

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

1.53	11	4.0	800
1.6	16	6.0	2,000
1.8	33	10.0	5,500
2.0	56	15.0	12,000
2.2	86	19.0	18,500
2.5	165	24.0	28,500

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	30	55	a115	1,310	11,600	2,220	1,330	396	56	54	43
2	22	30	52	a110	1,100	6,760	2,420	1,120	2,700	51	49	37
3	21	29	51	a110	1,000	6,120	1,990	1,280	1,600	49	*52	32
4	19	28	51	a105	960	6,400	1,610	3,080	1,490	56	57	29
5	19	26	51	a105	855	4,010	1,360	3,076	1,100	76	60	26
6	20	a24	57	*a103	735	2,860	1,170	2,120	805	69	68	24
7	21	a23	68	a100	630	2,120	1,180	1,720	605	66	90	*21
8	21	a22	64	a96	560	1,660	1,290	1,860	496	216	132	19
9	19	a21	68	a93	520	*1,390	1,210	1,780	448	256	141	18
10	18	a20	122	280	504	1,210	1,090	1,540	484	200	93	18
11	18	a19	592	750	492	1,090	1,020	1,270	444	168	76	16
12	18	a19	420	850	452	985	1,170	1,060	360	130	71	15
13	18	a19	328	2,080	408	960	1,160	915	304	97	79	14
14	19	a19	440	2,240	384	1,800	1,070	985	324	79	76	13
15	19	a19	790	5,150	368	1,730	1,100	1,420	392	66	65	13
16	19	a19	670	21,600	416	1,420	1,280	1,420	384	56	57	12
17	19	a20	440	14,300	1,690	1,190	5,790	1,190	440	49	59	12
18	19	a20	316	*3,600	2,420	1,050	6,770	1,060	428	44	55	11
19	*19	a21	220	2,100	1,830	990	*3,960	*950	444	38	50	11
20	19	a22	165	2,850	1,490	1,010	2,690	840	364	36	55	33
21	19	a24	135	28,000	1,300	1,010	1,940	785	292	35	51	124
22	19	a28	a120	23,700	1,360	890	1,550	695	232	317	45	116
23	19	a35	a120	15,000	1,160	840	1,490	580	186	636	46	72
24	19	a50	a125	5,730	2,060	1,730	2,130	512	156	630	46	• 69
25	19	66	a120	3,540	4,120	9,000	1,920	460	*132	340	57	79
26	19	59	a115	2,490	3,090	11,100	1,540	420	111	212	62	65
27	21	*51	a110	2,440	2,180	6,890	1,480	384	95	141	51	57
28	24	49	a110	4,160	4,060	4,100	1,470	348	81	104	78	54
29	30	49	a110	3,140	-	2,900	1,530	320	71	81	61	49
30	32	57	a110	2,300	-------	2,180	1,390	296	62	71	52	50
31	-------	-------	a112	1,680	-------	1,800	-------	268	-------	61	50	-------
Total	644	918	6,307	148,917	37,454	98,795	57,990	35,078	15,426	4,486	2,038	1,152
Mean	20.8	30.6	203	4,804	1,338	3,187	1,933	1,132	514	145	65.7	38.4
Cfsm	0.022	0.032	0.215	5.10	1.42	3.38	2.05	1.20	0.546	0.154	0.070	0.041
In.	0.03	0.04	0.25	5.88	1.48	3.90	2.29	1.38	0.61	0.18	0.08	0.05

Calendar year 1953: Max 18,000 Min 18 Mean 1,283 Cfsm 1.36 In. 18.51
Water year 1953-54: Max 28,000 Min 11 Mean 1,121 Cfsm 1.19 In. 16.17

Peak discharge (base, 29,000 cfs).--Jan. 21 (2:30 p.m.) 36,100 cfs (27.19 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of 1 discharge measurement and records for station at Clear Fork near Robbins, Tenn., and New River at New River, Tenn.

Pitman Creek at Somerset, Ky.

Location.--Lat 37°07'05", long 84°35'30", on right bank 0.1 mile downstream from Dry Branch, 0.5 mile upstream from Caney Fork, and 1.9 miles northeast of Somerset, Pulaski County.

Drainage area.--31.1 sq mi.

Records available.--October 1953 to September 1954.

Gage.--Water-stage recorder and concrete control. Datum of gage is 867.34 ft above mean sea level, unadjusted. Prior to Oct. 28, 1953, staff gage at same site and datum.

Extremes.--Maximum discharge during year, 1,240 cfs Jan. 20 (gage height, 5.04 ft); minimum recorded, 0.1 cfs Sept. 2-7, 11-19, 20; minimum gage height, 0.60 ft Sept. 12-19, 20.

Remarks.--Records good except those below 5 cfs, which are fair.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Backwater from debris Nov. 4, 9, Dec. 22-25, Dec. 30 to Jan. 3, Apr. 3, 11, June 30, July 1, 10, 11)

0.6	0.1	1.3	11
.7	.4	1.5	25
.8	1.1	1.8	56
.9	2.0	2.1	105
1.0	3.3	2.5	210
1.1	5.2	3.0	370

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0.3	0.4	0.9	28	89	23	19	104	0.8	0.2	*0.2
2		.3	.4	.9	*26	70	19	15	24	.7	3.8	.1
3	ao.2	.3	.4	.8	25	59	17	16	111	.7	11	.1
4		.4	.6	.7	22	42	21	16	39	.6	20	.1
5		.4	.4	.7	19	36	21	13	23	.7	4.6	.1
6	.2	.3	.7	*.7	16	31	20	11	16	.5	*2.1	.1
7	.3	.3	.7	.7	14	27	22	152	11	.7	1.2	.1
8	.3	.4	.5	.6	12	24	23	80	9.1	17	.8	.2
9	.3	.4	.6	1.1	*22	23	51	8.0	3.2	1.8	.2	
10	.3	.4	.7	17	12	20	19	37	7.0	1.9	1.6	.2
11	.3	.4	.5	11	11	19	16	30	6.0	1.4	.9	.1
12	.3	.5	.6	6.2	8.8	17	14	24	5.0	1.0	.6	.1
13	.3	.5	.7	a1.7	8.4	37	12	20	4.2	.8	.6	.1
14	.3	.4	1.7	a4.2	8.4	30	*11	23	5.4	.6	.5	.1
15	.3	.3	1.3	161	8.4	20	11	20	3.9	.5	.4	.1
16	.4	.3	.8	176	10	16	173	16	24	.4	.3	.1
17	.3	.3	.7	66	23	15	207	13	30	.3	.6	.1
18	.3	.3	.5	42	13	14	95	16	9.1	.4	.5	.1
19	.3	.3	.4	32	11	16	63	*12	6.2	.3	11	.1
20	*.3	.4	.4	366	12	31	45	13	4.4	.3	5.0	1.1
21	.3	.5	.6	344	12	21	37	9.8	3.7	13	18	13
22	.3	.9	.8	240	10	17	33	8.4	*3.0	10	3.9	2.1
23	.4	1.2	.8	125	9.4	19	58	7.4	2.6	2.8	2.0	.8
24	.4	.6	.7	91	11	20	50	6.4	2.3	1.4	1.4	.5
25	.3	.9	.7	69	10	28	35	6.2	1.9	.8	1.0	.3
26	.4	.5	.6	56	9.4	59	29	5.4	1.6	.5	.7	.3
27	.5	.4	.5	73	8.4	42	27	5.4	1.4	.4	.4	.3
28	.5	.4	.7	52	114	41	27	4.8	1.1	.4	.7	.3
29	.4	.3	1.0	45	-	30	21	5.2	1.1	.3	.7	.2
30	.4	*.3	1.0	39	-------	29	26	4.2	c.9	.3	.5	5.4
31	.4	-------	1.0	41	-------	26	-------	4.2	-------	.2	.3	-------
Total	9.8	13.2	21.4	2,065.2	484.2	967	1,198	664.4	469.9	62.9	97.1	26.6
Mean	0.32	0.44	0.69	66.6	17.3	31.2	39.9	21.4	15.7	2.03	3.13	0.89
Cfsm	0.010	0.014	0.022	2.14	0.556	1.00	1.28	0.688	0.505	0.065	0.101	0.029
In.	0.01	0.02	0.03	2.47	0.58	1.16	1.43	0.79	0.56	0.08	0.12	0.03

Calendar year 1953: Max - Min - Mean - Cfsm - In. -
Water year 1953-54: Max 366 Min 0.1 Mean 16.7 Cfsm 0.537 In. 7.28

Peak discharge (base, 850 cfs).--Jan. 20 (10 p.m.) 1,240 cfs (5.04 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and trend of flow.

Cumberland River near Rowena, Ky.

Location (revised).--Lat 36°53'02", long 85°08'22", on right bank 1.5 miles downstream from Wolf Creek Dam, 2.1 miles upstream from Blackfish Creek, 2.9 miles west of Rowena, Russell County, and at mile 459.4.

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

Records available.--November 1939 to September 1954.

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.

Average discharge.--14 years (1940-54), 8,536 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 22,000 cfs May 8 (gage height, 18.50 ft); minimum, 61 cfs June 6, 7 (gage height, 1.31 ft).
1939-54: Maximum discharge, 162,000 cfs Jan. 9, 1946; maximum gage height, 64.82 ft Jan. 9, 1946; no flow at times.
Maximum stage known, 69.5 ft in March 1826, from profile of Cumberland River.
Revisions.--The maximum discharge for the water year 1940 has been revised to 67,200 cfs Apr. 1, 1940 (gage height, 40.3 ft), superseding figure published in WSP 893.

Remarks.--Records good except those below 300 cfs and those for periods of no gage-height record, which are fair. Flow regulated by Wolf Creek Reservoir (see p. 63).

Cooperation.--Records for Wolf Creek Reservoir furnished by Corps of Engineers.

Revisions.--WSP 953: Drainage area. Revised figures of discharge, in cubic feet per second, for the water year 1940, superseding those published in WSP 893, are given herewith:

Apr. 1, 1940.....	63,100
Apr. 21, 1940.....	65,600

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,100	116	8,440	12,900	9,300	4,200	3,520	3,520	a11,000	2,280	580	2,240
2	1,320	4,190	8,280	14,400	4,500	8,540	1,580	3,430	*a8,200	4,100	1,510	5,300
3	990	2,180	6,460	4,020	*a7,900	11,200	84	10,600	6,300	335	3,220	2,160
4	220	2,320	1,560	11,000	8,240	10,900	68	11,800	3,500	67	5,860	3,150
5	*1,320	3,360	1,260	11,800	5,850	10,500	805	9,120	94	68	5,740	960
6	1,130	1,740	79	12,700	2,260	8,200	101	11,600	61	2,660	2,640	2,740
7	1,580	3,060	2,740	*11,800	4,140	11,900	193	*10,700	66	2,470	1,270	2,360
8	1,280	761	8,080	9,000	12,200	8,170	2,240	16,500	84	2,420	3,280	6,210
9	1,480	4,400	3,390	2,040	5,580	9,390	2,620	13,500	3,900	2,640	3,640	8,060
10	1,300	2,150	2,750	3,180	a700	2,640	1,360	14,700	4,790	164	3,800	7,790
11	2,440	2,160	2,570	8,240	a4,700	1,030	3,280	12,400	4,440	750	1,960	3,300
12	3,540	1,120	2,480	11,300	a12,100	129	*2,870	11,700	285	*1,730	440	153
13	2,780	2,240	604	12,700	a1,700	630	3,360	14,400	65	3,260	5,460	6,050
14	1,700	2,200	a8,600	10,800	a150	2,400	4,200	13,100	6,900	3,960	3,740	4,980
15	2,060	1,340	a2,700	3,130	565	9,100	8,380	5,730	7,920	3,330	1,910	7,000
16	841	2,060	a10,000	3,170	460	8,190	5,300	140	7,790	4,260	3,820	6,720
17	980	3,320	14,600	4,710	1,460	6,030	3,310	4,160	7,380	2,160	3,580	3,400
18	82	1,650	13,700	7,760	3,010	2,820	312	4,660	7,590	190	4,820	3,890
19	1,280	1,890	a9,200	8,110	2,660	3,180	2,000	7,440	830	1,960	3,950	136
20	1,240	111	a4,800	6,060	142	3,200	5,460	9,280	85	2,360	2,210	6,220
21	1,240	1,190	a5,500	11,200	835	2,630	3,300	6,550	9,190	3,440	2,850	2,020
22	1,380	217	a2,250	12,200	4,330	8,530	8,230	3,830	7,760	4,670	760	279
23	1,570	1,200	10,700	9,200	2,180	9,420	8,800	224	4,040	4,540	3,980	1,560
24	1,640	2,800	5,640	4,680	1,460	5,320	10,200	8,430	5,820	780	3,420	1,820
25	157	4,050	938	5,730	317	1,840	6,000	a8,200	4,630	142	5,030	570
26	3,840	3,320	866	5,370	263	790	9,660	a7,200	1,350	1,950	5,130	180
27	1,800	3,900	6,020	6,700	78	98	12,900	a10,000	175	2,060	2,340	3,800
28	3,950	6,090	9,260	8,700	*2,770	740	10,300	a9,200	6,900	1,040	5,190	2,120
29	3,520	2,860	10,200	10,700	-	103	4,280	a5,200	3,020	3,740	430	670
30	1,760	8,220	8,580	5,640	-------	270	3,260	a150	2,050	2,430	2,460	920
31	1,080	-------	7,980	4,990	-------	1,850	-------	a9,400	-------	3,960	3,420	-------
Total	50,600	76,215	180,227	253,930	99,850	153,940	127,973	256,864	126,215	69,916	98,440	96,758
Mean	1,632	2,540	5,814	8,191	3,566	4,966	4,266	8,286	4,207	2,255	3,175	3,225

	Observed				Adjusted†					
Calendar year 1953:	Max	22,100	Min	79	Mean	6,798	Mean	6,697	Cfsm	1.16	In.	15.70
Water year 1953-54:	Max	16,500	Min	61	Mean	4,359	Mean	4,399	Cfsm	0.76	In.	10.31

* Discharge measurement made on this day.
† Adjusted for change in contents in Wolf Creek Reservoir.
a No gage-height record; discharge estimated on basis of turbine capacity tables.

East Fork Obey River near Jamestown, Tenn.

Location.--Lat 36°24'58", long 85°01'24", on left bank 200 ft upstream from bridge on State Highway 52, half a mile upstream from Poplar Cove Creek, 5 miles west of Jamestown, Fentress County, and 12½ miles upstream from confluence with West Fork.

Drainage area.--204 sq mi.

Records available.--February 1943 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 680.30 ft above mean sea level, Sandy Hook datum.

Average discharge.--11 years, 380 cfs.

Extremes.--Maximum discharge during year, 13,400 cfs Jan. 21 (gage height, 16.66 ft); minimum, 4.0 cfs Sept. 12-17 (gage height, 0.55 ft).
1943-54: Maximum discharge, 28,300 cfs Feb. 13, 1948 (gage height, 27.20 ft); minimum, 3.6 cfs Sept. 26-28, 1948; minimum gage height, that of Sept. 12-17, 1954.

Remarks.--Records good.

Cooperation.--Eight discharge measurements furnished by Corps of Engineers.

Revisions (water years).--WSP 1003: 1943. WSP 1276: 1944, 1946(M).

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

0.55	4.0	2.5	315
.6	5.6	3.0	480
.7	9.2	4.0	1,000
.8	14	6.0	2,500
1.0	27	10.0	5,800
1.2	50	12.0	7,700
2.0	200		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.3	5.9	8.3	27	322	1,320	605	280	219	16	9.2	6.6
2	5.9	5.6	7.6	25	288	1,020	540	242	754	15	12	5.9
3	5.6	5.9	7.3	23	262	1,690	452	230	464	18	15	5.6
4	5.6	5.9	7.3	23	240	1,320	391	265	426	21	13	5.6
5	5.6	6.3	7.3	22	214	820	346	265	328	16	10	5.3
6	*5.3	6.3	8.3	*21	188	620	312	238	258	15	14	4.9
7	4.9	5.9	9.7	20	168	488	308	230	200	15	15	4.6
8	4.9	5.9	11	20	150	405	310	258	*154	30	14	4.6
9	4.9	5.6	13	21	142	380	302	255	138	21	13	4.6
10	4.6	5.6	18	308	*138	315	280	234	198	21	15	4.6
11	4.6	5.6	21	760	130	285	275	210	158	21	19	4.3
12	4.6	5.6	28	398	114	258	305	190	118	18	16	4.0
13	4.6	5.6	46	238	100	252	302	176	93	16	15	4.0
14	4.6	5.6	90	178	95	295	290	358	98	15	14	4.0
15	4.6	5.6	122	2,150	93	278	285	685	87	*14	13	*4.0
16	4.6	6.3	86	6,260	168	245	1,310	508	142	13	11	4.0
17	4.6	5.9	58	1,560	772	230	3,780	398	132	11	10	4.0
18	4.6	5.6	38	730	615	210	1,640	*335	188	10	*9.2	4.3
19	4.9	*5.6	28	476	452	*210	880	295	118	9.7	8.7	4.3
20	5.3	5.6	24	1,930	398	218	620	265	87	8.7	8.7	8.4
21	5.6	5.6	24	7,060	402	208	*480	268	69	9.7	8.3	22
22	5.6	7.9	27	6,480	340	182	408	234	56	26	7.6	30
23	5.6	14	40	2,520	310	176	352	200	46	35	7.3	27
24	5.6	16	46	1,180	530	2,320	330	170	38	20	7.9	20
25	5.6	16	34	765	625	2,500	322	148	32	17	7.9	17
26	5.3	16	32	565	504	3,060	312	128	27	17	7.3	14
27	5.6	15	26	772	398	1,330	338	114	24	16	7.6	12
28	5.6	13	25	880	1,110	820	340	102	21	15	8.3	10
29	5.6	12	26	630	-	605	318	91	19	14	7.9	9.7
30	5.6	10	27	480	-------	488	308	84	17	12	7.9	12
31	5.6	-------	27	380	-------	468	-------	74	-------	10	7.6	------
Total	161.9	241.4	972.8	36,902	9,268	23,016	17,041	7,530	4,709	516.1	340.4	271.3
Mean	5.22	8.05	31.4	1190	331	742	568	243	157	16.6	11.0	9.04
Cfsm	0.026	0.039	0.154	5.83	1.62	3.64	2.78	1.19	0.770	0.081	0.054	0.044
In.	0.03	0.04	0.18	6.73	1.69	4.20	3.11	1.37	0.86	0.09	0.06	0.05

Calendar year 1953: Max 6,460 Min 4.6 Mean 296 Cfsm 1.45 In. 19.67
Water year 1953-54: Max 7,060 Min 4.0 Mean 277 Cfsm 1.36 In. 18.41

Peak discharge (base, 8,000 cfs).--Jan. 16(3 a.m.) 10,300 cfs (14.35 ft); Jan. 21 (2:30 a.m.) 13,400 cfs (16.66 ft).
* Discharge measurement made on this day.

West Fork Obey River near Alpine, Tenn.

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

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

Records available.--December 1942 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 684.81 ft above mean sea level, Sandy Hook datum.

Average discharge.--11 years (1943-54), 164 cfs.

Extremes.--Maximum discharge during year, 4,400 cfs Jan. 20 (gage height, 8.45 ft); minimum, 2.6 cfs Sept. 13-19 (gage height, 0.41 ft).
1942-54: Maximum discharge, 10,400 cfs Jan. 7, 1946 (gage height, 15.56 ft); minimum, that of Sept. 13-19, 1954; minimum gage height, 0.41 ft Sept. 9, 10, 19-22, 1951, Sept. 13-19, 1954.

Remarks.--Records good except those below 10 cfs, which are fair.

Cooperation.--Eight discharge measurements furnished by Corps of Engineers.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 7-14)

Oct. 1 to Jan. 20				Jan. 21 to Sept. 30			
0.5	3.7	1.8	120	0.4	2.5	2.0	175
.6	6.9	2.2	220	.5	4.0	2.5	340
.8	15	3.0	550	.6	6.5	3.0	565
1.0	26	4.0	1,060	.8	14	4.0	1,070
1.4	64	6.0	2,350	1.0	26	6.0	2,350
				1.3	54	7.0	3,170
				1.6	93		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.1	4.4	3.9	8.1	112	511	190	87	70	7.2	4.4	3.5
2	3.7	4.1	3.9	7.7	102	466	170	77	106	6.8	9.1	3.2
3	3.7	4.1	3.9	7.7	91	547	150	82	76	6.8	12	3.2
4	3.7	4.1	5.4	7.3	81	421	136	124	76	6.5	9.2	3.2
5	3.7	3.9	5.0	6.9	72	293	124	105	51	6.2	6.8	3.2
6	*3.9	3.9	7.3	*6.5	64	224	112	91	38	6.2	9.3	3.0
7	3.9	3.9	*8.1	6.1	56	185	114	88	30	6.2	7.2	2.9
8	3.9	3.9	8.5	6.1	50	158	110	93	*25	11	8.2	2.7
9	3.9	3.9	8.1	7.7	50	138	108	84	27	10	8.2	2.7
10	3.9	3.9	13	443	*48	126	103	76	31	9.0	13	2.7
11	3.9	3.9	15	356	46	110	103	68	25	7.6	8.2	2.7
12	3.9	3.9	12	112	38	98	114	62	21	6.8	6.8	2.7
13	3.9	3.9	18	65	34	103	112	60	18	6.2	6.5	2.6
14	3.9	3.9	54	49	33	110	110	126	16	5.9	5.9	2.6
15	3.9	3.9	46	1,510	32	96	110	162	19	*5.3	5.3	*2.6
16	3.9	3.9	25	2,210	146	87	300	130	22	5.0	4.8	2.6
17	3.9	3.9	19	466	427	81	1,330	110	18	5.0	4.8	2.6
18	3.9	3.9	13	208	218	80	588	*93	19	5.0	*4.8	2.6
19	3.9	*3.9	11	136	168	*80	320	81	15	4.8	4.8	2.7
20	3.9	3.9	9.7	1,060	148	78	227	74	14	4.8	4.6	16
21	3.9	3.9	9.3	2,120	140	70	182	68	12	6.1	4.4	60
22	3.9	4.7	12	2,610	120	62	*152	58	12	18	4.2	28
23	3.9	6.1	16	910	107	62	134	50	11	17	8.2	13
24	4.1	6.5	12	444	152	1,270	136	43	10	13	7.6	7.9
25	4.1	8.5	10	276	175	1,120	132	38	9.3	8.6	5.9	5.9
26	4.1	7.7	8.9	200	152	1,240	152	35	9.0	6.8	4.6	5.0
27	4.4	6.9	8.1	282	134	552	132	32	9.0	5.6	4.2	4.6
28	4.7	5.7	8.5	276	534	324	124	31	8.6	5.3	4.8	4.2
29	5.7	4.7	8.5	209	-	230	114	30	8.2	5.0	5.0	4.6
30	5.4	4.4	8.5	162	-------	188	102	28	7.6	4.8	4.2	13
31	4.7	-------	8.5	132	-------	175	-------	25	-------	4.6	3.8	-------
Total	126.3	138.2	400.1	14,300.1	3,530	9,285	5,991	2,311	813.7	227.1	200.9	216.2
Mean	4.07	4.61	12.9	461	126	300	200	74.5	27.1	7.33	6.48	7.21
Cfsm	0.038	0.043	0.119	4.27	1.17	2.78	1.85	0.690	0.251	0.068	0.060	0.067
In.	0.04	0.05	00.14	4.92	1.22	3.20	2.06	0.80	0.28	0.08	0.07	0.07

Calendar year 1953: Max 2,950 Min 3.1 Mean 137 Cfsm 1.27 In. 17.27
Water year 1953-54: Max 2,610 Min 2.6 Mean 103 Cfsm 0.954 In. 12.93

Peak discharge (base, 3,400 cfs).--Jan. 16 (1 a.m.) 4,270 cfs (8.29 ft); Jan. 20 (11:30 p.m.) 4,400 cfs (8.45 ft).
* Discharge measurement made on this day.

Wolf River near Byrdstown, Tenn.

Location.--Lat 36°33'40", long 85°04'20", on right bank 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.

Records available.--June 1943 to September 1954.

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

Average discharge.--11 years, 171 cfs.

Extremes.--Maximum discharge during year, 4,530 cfs Jan. 21 (gage height, 6.44 ft); minimum, 2.0 cfs Sept. 17 (gage height, 0.50 ft).
1943-54: Maximum discharge, 13,300 cfs Jan. 7, 1946 (gage height, 8.94 ft); minimum, that of Sept. 17, 1954.

Remarks.--Records good except those below 10 cfs and those for periods of no gage-height record, which are fair. Some regulation at low flow caused by small mills above station.

Cooperation.--Eight discharge measurements furnished by Corps of Engineers.

Revisions (water years).--WSP 1276: 1943.

Rating tables, water year 1953-54 (gage height in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 20				Jan. 21 to Sept. 30			
0.6	3.0	2.0	112	0.5	2.0	2.0	105
.7	4.0	2.5	216	.7	4.2	2.5	240
.8	5.5	3.0	400	.9	7.4	3.0	420
1.0	11	3.5	690	1.1	14	3.5	690
1.2	19	4.0	1,080	1.3	25	4.0	1,080
1.4	32	5.0	2,080	1.6	52	5.1	2,200
1.7	65						

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.8	14	5.0	12	121	505	132	105	55	9.4	12	6.3
2	6.6	5.7	6.8	11	107	432	115	98	105	8.8	7.2	6.2
3	13	4.0	7.0	13	105	424	102	99	178	8.8	9.7	6.0
4	7.7	5.2	7.7	8.3	119	366	93	121	148	12	11	5.7
5	6.2	5.9	7.5	*11	100	296	86	105	94	8.3	11	8.1
6	5.4	5.7	13	10	92	234	80	98	71	10	13	5.4
7	*5.2	5.7	6.8	9.7	82	192	81	123	59	10	13	3.9
8	5.4	9.9	*8.9	9.4	75	159	76	213	*49	89	14	5.0
9	5.2	5.7	11	11	*74	132	74	195	47	44	9.7	5.4
10	5.2	4.4	12	246	70	117	71	168	42	22	9.7	5.1
11	11	6.2	13	268	65	104	114	138	38	17	8.6	4.8
12	5.2	6.4	16	126	55	93	234	115	34	13	8.8	13
13	3.9	6.4	17	79	50	88	186	99	27	13	10	10
14	4.4	6.6	a32	62	46	84	165	174	27	*12	8.8	*4.0
15	5.2	12	a26	1,110	47	75	168	225	25	13	11	2.6
16	5.2	5.7	a20	1,880	74	67	751	177	24	10	6.5	2.3
17	6.4	4.8	a18	466	244	*64	1,660	138	23	10	*7.8	2.1
18	6.2	*6.4	a14	232	177	63	684	121	22	14	8.0	3.9
19	5.4	6.4	13	165	140	65	412	*102	22	5.8	8.3	8.8
20	3.9	6.2	15	766	128	69	*306	96	18	6.3	11	20
21	4.9	6.4	9.4	2,150	121	64	237	88	18	7.6	11	31
22	5.0	16	13	2,050	104	59	192	75	17	52	13	18
23	5.2	6.8	15	823	93	60	159	67	16	46	6.5	12
24	5.2	12	14	a460	128	259	135	60	14	26	8.8	8.6
25	13	14	12	a345	165	498	125	54	14	18	8.0	8.0
26	5.4	11	12	a275	148	809	115	49	14	8.6	7.4	7.0
27	3.8	10	12	a330	121	432	107	46	14	10	7.6	5.4
28	3.6	8.9	10	a350	485	317	128	42	8.6	9.7	9.7	6.0
29	7.0	12	12	a280	-	250	123	41	9.7	8.3	11	6.2
30	7.0	5.4	13	195	-------	204	113	34	9.7	8.0	5.7	8.3
31	6.6	-------	12	150	-------	165	-------	33	-------	7.4	6.3	-------
Total	190.2	235.8	404.1	12,903.4	3,336	6,746	7,024	3,299	1,243.0	538.0	294.1	239.1
Mean	6.14	7.86	13.0	416	119	218	234	106	41.4	17.4	9.49	7.97
Cfsm	0.058	0.075	0.124	3.96	1.13	2.08	2.23	1.01	0.394	0.166	0.090	0.076
In.	0.07	0.08	0.14	4.57	1.18	2.39	2.49	1.17	0.44	0.19	0.10	0.08

Calendar year 1953: Max 2,460 Min 3.6 Mean 133 Cfsm 1.27 In. 17.15
Water year 1953-54: Max 2,150 Min 2.1 Mean 99.9 Cfsm 0.951 In. 12.90

Peak discharge (base, 3,600 cfs).--Jan. 21 (2 a.m.) 4,530 cfs (6.44 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records, recorded range in stage, and records for East Fork Obey River near Jamestown and West Fork Obey River near Alpine.

Obey River below Dale Hollow Dam, Tenn.

Location.--Lat 36°32'12", long 85°27'22", on right bank 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.

Records available.--January 1939 to September 1942 (published as "near Celina"), September 1943 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 500.00 ft above mean sea level, Sandy Hook datum. Jan. 25, 1939, to Sept. 30, 1942, wire-weight gage at site 5.2 miles upstream at datum 12.46 ft higher. Water-stage recorder for station on Cumberland River at Celina is used as an auxiliary gage for this station.

Average discharge.--14 years, 1,256 cfs (unadjusted).

Extremes.--Maximum discharge during year, 5,770 cfs June 10; maximum gage height, 15.60 ft Jan. 22 (backwater from Cumberland River); minimum discharge not determined; minimum gage height, 4.26 ft Aug. 17, 19, 20.
1939-42, 1943-54: 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 Jan. 12, 1946 (backwater from Cumberland River); minimum discharge not determined.

Remarks.--Records excellent except those for periods of backwater from Cumberland River and those where computed releases for Dale Hollow Dam were used, which are fair. Flow completely regulated by Dale Hollow Reservoir, beginning Aug. 30, 1943 (see p.63). Figures of daily discharge shown only when there is flow from Dale Hollow Reservoir; when not shown, discharge is negligible.

Cooperation.--Records of release from Dale Hollow Reservoir and 2 discharge measurements furnished by Corps of Engineers.

Rating table, water year 1953-54, except periods of backwater from Cumberland River (gage height, in feet, and discharge, in cubic feet per second)

4.9	96	9.0	1,470
5.5	200	12.0	3,090
6.0	300	14.0	4,520
7.0	600		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	e20	878	1,580	1,700	1,810	e17	e17	2,150	1,160	230	718
2	-	1,300	836	2,440	e40	748	-	e39	2,060	1,680	856	977
3	-	602	846	e80	1,220	2,580	-	2,340	-	-	924	752
4	-	882	-	2,340	2,840	3,290	-	2,080	-	-	916	198
5	-	1,810	-	2,260	1,280	2,540	-	3,270	-	-	2,020	183
6	*e90	-	-	2,580	-	1,270	-	2,230	-	806	998	-
7	493	1,200	717	1,820	e80	2,340	-	3,370	-	738	-	-
8	-	824	*160	1,060	3,340	2,680	-	2,980	(*)	750	1,090	1,060
9	-	1,660	594	e60	-	1,340	-	-	-	674	-	1,920
10	e10	1,090	392	1,420	-	108	-	845	2,270	-	355	2,140
11	-	1,040	-	621	*400	-	-	1,510	2,240	-	-	658
12	1,220	1,800	666	322	3,380	-	-	1,140	-	-	-	-
13	886	232	-	2,110	1,560	-	-	2,950	-	e4	992	1,360
14	e30	757	978	2,110	-	-	-	1,340	2,410	-	-	*1,080
15	e50	432	196	e20	211	3,200	e26	364	2,160	e16	492	1,140
16	-	1,570	2,050	226	-	1,760	-	-	2,100	-	1,080	778
17	e10	154	3,420	182	2,120	1,540	-	1,880	2,120	-	840	e90
18	-	1,190	3,960	1,140	1,550	2,640	-	767	2,150	-	1,150	517
19	-	197	1,980	655	-	892	-	1,610	-	-	847	-
20	-	-	184	1,760	-	244	-	1,130	-	e6	540	1,130
21	e10	e50	1,590	c1,930	-	135	-	511	1,330	-	280	-
22	-	110	1,570	c3,810	2,700	2,030	-	-	946	e14	-	-
23	131	152	2,600	c2,130	1,850	728	-	-	1,360	190	892	-
24	396	593	2,520	-	2,100	296	991	2,240	1,360	-	908	e58
25	-	1,160	-	1,460	-	-	e82	2,260	677	-	1,280	-
26	1,160	-	-	391	211	-	1,500	1,520	-	-	862	-
27	-	149	1,070	917	-	-	473	2,510	-	e4	755	-
28	894	398	1,000	2,920	818	-	1,480	2,140	802	-	1,600	-
29	1,380	183	1,180	1,900	-	-	-	e26	754	1,340	-	-
30	-	1,060	2,040	1,220	-------	-	-	-	767	e17	890	-
31	e80	-------	1,740	586	-------	-	-------	2,020	-------	1,300	626	-------
Total	6,840	20,615	33,167	42,050	27,400	32,171	4,569	43,089	27,656	8,699	21,423	14,759
Mean	221	687	1,070	1,356	979	1,038	152	1,390	922	281	691	492

	Observed				Adjusted†				
Calendar year 1953:	Max	3,960	Min	-	Mean	1,154	Mean	1,069	Cfsm 1.14 In. 15.53
Water year 1953-54:	Max	3,960	Min	-	Mean	774	Mean	827	Cfsm 0.884 In. 12.01

* Discharge measurement made on this day.
† Adjusted for change in contents in Dale Hollow Reservoir.
c Backwater from Cumberland River; discharge computed by using fall as determined by gage-height record for Cumberland River at Celina as a factor.
e Computed release from Dale Hollow Dam.

Cumberland River at Celina, Tenn.

Location.--Lat 36°33'20", long 85°30'47", on right pier of bridge on Stage Highway 52 at Celina, Clay County, 600 ft downstream from Obey River, and at mile 380.8.

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

Records available.--October 1922 to September 1954. Gage-height records collected at same site since 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.--32 years, 11,090 cfs (unadjusted).

Extremes.--Maximum discharge during year, 29,200 cfs Apr. 16; maximum gage height, 18.55 ft Apr. 17; minimum discharge, 190 cfs July 7 (gage height, 1.57 ft).
1922-54: 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, from Cumberland River profile.

Remarks.--Records good except those below 700 cfs, which are fair. Flow regulated by Wolf Creek and Dale Hollow Reservoirs (see p. 63).

Cooperation.--One discharge measurement furnished by Corps of Engineers.

Revisions (water years).--WSP 893: 1923-38. WSP 1276: 1924.

Rating table, water years 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Rate of change in stage used as a factor Nov. 29, Dec. 1, 4, 9, 17, 19, 21, 24, 25, 29, Jan. 2-6, 8, 9, 12, 13, 15-18, 20, 22-25, 31, Feb. 1, 3-6, 8, 10, Mar. 1-4, 9, 16, 23, 25, Apr. 15-18, 23, 24, 26, 27, 29, 30, May 4, 7-10, 12, 15, 16, 20, 22, 25, 28, 29, June 1-3, 10, 19, 22, 24, Aug. 5, 6, Sept. 9)

1.6	220
2.0	680
4.0	3,380
10.0	11,700
17.0	25,500

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,280	1,440	8,360	11,500	7,790	6,760	983	4,070	10,600	3,300	4,290	4,190
2	1,050	1,980	9,730	15,400	9,700	8,020	3,370	4,460	12,800	4,260	3,480	4,540
3	1,570	2,650	9,420	12,900	7,180	12,000	3,830	5,920	9,510	4,160	2,190	5,380
4	998	4,020	7,500	8,170	9,980	16,000	1,400	12,100	7,940	2,680	3,590	3,940
5	972	4,020	3,410	12,100	10,300	15,100	808	15,800	5,510	680	7,300	3,550
6	*692	3,380	1,990	14,900	7,170	13,500	464	12,500	1,620	884	7,650	2,510
7	1,450	3,930	1,760	15,300	4,010	11,500	1,090	16,000	548	1,400	4,490	1,850
8	1,660	3,840	1,290	13,100	7,130	14,700	972	18,200	*330	3,810	2,510	4,580
9	1,560	4,070	*7,510	9,740	11,500	11,200	1,260	18,300	264	3,560	2,880	7,240
10	1,380	4,820	5,380	5,810	*7,620	9,600	4,090	15,600	3,590	4,420	4,750	10,400
11	1,180	3,590	3,580	5,190	2,760	4,760	2,470	16,700	6,730	1,870	4,140	9,090
12	3,520	4,650	3,530	8,600	5,480	2,120	2,780	14,500	5,580	596	2,960	5,550
13	4,190	2,480	2,020	13,500	12,700	1,320	5,220	14,800	2,550	2,190	2,410	3,100
14	3,660	2,510	3,180	15,100	5,820	1,170	4,320	16,400	2,850	3,620	4,000	4,580
15	2,300	2,780	5,850	16,200	1,600	5,110	7,130	13,900	5,740	4,320	5,240	7,040
16	1,950	3,590	6,480	13,200	946	9,930	19,500	7,880	10,300	3,660	4,370	7,570
17	1,910	2,510	12,000	6,060	4,280	10,800	23,600	4,490	11,100	4,540	4,250	7,400
18	1,020	4,580	18,300	7,160	4,940	9,960	9,370	4,120	10,700	3,320	5,590	5,860
19	920	2,430	16,500	9,120	4,050	5,920	4,610	5,850	8,430	2,050	6,160	4,500
20	464	2,250	11,000	13,100	3,550	3,420	2,750	8,810	3,800	905	5,440	3,200
21	1,170	1,540	8,380	21,500	2,360	3,940	5,460	10,400	2,190	2,550	3,630	4,370
22	1,150	572	6,160	23,200	3,410	5,940	4,900	7,480	6,730	3,770	2,690	4,530
23	1,280	1,040	6,340	19,400	5,600	8,630	8,570	4,320	9,370	5,660	3,720	1,920
24	1,610	1,090	12,100	11,800	5,150	11,400	11,000	4,120	7,260	5,500	3,600	632
25	1,700	3,100	7,780	8,700	2,740	8,850	12,200	8,520	6,300	2,710	5,640	1,310
26	2,370	3,980	2,200	6,950	1,700	5,620	9,270	10,300	5,700	998	5,780	1,600
27	1,730	4,620	1,880	8,000	656	3,930	*10,500	10,300	2,900	788	6,250	632
28	2,950	3,910	5,080	10,900	2,570	1,970	14,500	12,200	2,250	2,220	5,410	1,190
29	4,980	6,660	9,890	11,400	-	1,210	11,200	10,100	5,200	3,070	4,800	2,720
30	4,590	5,360	11,800	12,500	-------	1,260	6,490	5,490	5,810	2,860	4,080	2,090
31	3,130	-------	11,000	8,080	-------	800	-------	5,010	-------	4,810	2,130	-------
Total	60,386	97,192	221,400	368,580	152,692	226,440	193,707	318,640	174,202	91,161	135,420	127,064
Mean	1,948	3,240	7,142	11,990	5,453	7,305	6,457	10,280	5,807	2,941	4,368	4,235

	Observed			Adjusted†				
Calendar year 1953:	Max 24,100	Min 464	Mean 8,917	Mean 8,730	Cfsm 1.19	In. 16.19
Water year 1953-54:	Max 23,600	Min 264	Mean 5,937	Mean 6,030	Cfsm 0.824	In. 11.18

* Discharge measurement made on this day.
† Adjusted for change in contents in Wolf Creek and Dale Hollow Reservoirs.

Roaring River near Hilham, Tenn.

Location.--Lat 36°20'24", long 85°25'46", on left bank 800 ft downstream from Crawford Mill, a quarter of a mile downstream from bridge on State Highway 136, 1¼ miles upstream from Flat Creek, 4 miles south of Hilham, Overton County, and 15 miles north of Cookeville.

Drainage area.--70.8 sq mi.

Records available.--June 1932 to September 1954.

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

Average discharge.--22 years, 105 cfs.

Extremes.--Maximum discharge during year, 1,960 cfs Jan. 21 (gage height, 5.61 ft); minimum, 2.4 cfs Sept. 12, 13, 15-20; minimum gage height, 0.63 ft Sept. 16-20.
1932-54: Maximum discharge, 5,460 cfs Jan. 7, 1946 (gage height, 9.28 ft); minimum, 1.9 cfs Oct. 19, 24, 26, 28, Nov. 9, 1940; minimum daily, 2.4 cfs Sept. 12, 13, 15-19, 1954.

Remarks.--Records good except those below 10 cfs, which are fair. Some diurnal fluctuation at low flows caused by mills above station prior to 1951.

Cooperation.--Eight discharge measurements furnished by Corps of Engineers.

Revisions (water years).--WSP 1033: 1939(M). WSP 1143: 1948. WSP 1276: 1942.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 21				Jan. 22 to Sept. 30			
0.7	3.1	2.0	134	0.6	2.2	2.0	133
.8	5.5	3.0	490	.7	3.2	3.0	490
1.0	16	4.0	890	.8	6.1	4.0	890
1.2	28	5.0	1,500	1.2	27	5.1	1,570
1.6	71			1.5	56		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.0	4.2	4.2	6.3	95	275	114	66	49	9.8	4.3	2.8
2	3.8	4.2	4.2	5.9	87	280	102	62	36	8.8	30	2.7
3	3.6	4.2	4.2	5.9	80	249	90	78	37	8.8	30	2.7
4	3.2	4.2	4.5	*5.9	75	187	82	97	32	8.8	11	2.6
5	*3.4	4.2	4.8	5.9	65	150	75	82	28	8.8	7.9	2.5
6	3.6	4.2	5.5	5.5	57	126	72	72	25	8.3	8.3	2.5
7	3.6	4.0	*8.8	5.5	52	108	72	74	23	7.9	7.9	2.5
8	3.4	4.2	5.9	5.1	*48	95	66	69	22	19	6.5	2.5
9	3.4	4.2	5.1	5.9	48	86	61	64	*27	12	8.3	2.5
10	3.6	4.5	6.3	110	46	80	56	57	24	9.8	8.3	2.5
11	3.6	4.8	5.9	159	43	70	57	54	22	7.9	6.1	2.5
12	3.6	4.8	7.3	63	38	66	56	50	21	7.9	5.3	2.4
13	3.4	4.8	10	40	35	75	53	50	19	7.4	5.7	2.4
14	3.4	4.8	22	32	35	75	54	68	19	6.5	5.3	2.5
15	3.4	4.8	24	465	34	62	54	76	18	*5.7	4.6	2.4
16	3.4	4.8	16	1,100	99	*56	130	66	19	5.7	*4.3	*2.4
17	3.4	*4.8	10	346	196	54	476	60	19	5.7	4.3	2.4
18	3.4	4.8	9.3	185	119	53	305	*56	20	5.7	5.7	2.4
19	3.2	4.8	8.3	121	95	55	*190	50	19	5.3	4.3	2.4
20	3.2	4.8	7.8	516	86	54	141	48	17	5.0	4.0	25
21	3.2	4.5	7.8	1,250	81	47	114	43	16	5.7	4.0	43
22	3.2	5.5	8.3	1,530	70	43	98	41	15	19	3.8	18
23	3.2	9.3	8.3	698	65	45	185	38	14	15	3.5	8.8
24	3.1	5.9	6.8	385	74	480	173	35	13	9.8	3.5	6.1
25	3.4	5.5	6.3	290	76	528	126	33	13	7.4	3.3	4.6
26	3.4	5.9	5.9	202	74	623	106	33	13	6.1	3.2	4.0
27	3.6	4.8	5.9	232	66	357	94	31	12	5.3	3.2	3.8
28	3.8	4.5	6.3	199	236	270	89	30	12	5.3	3.2	3.5
29	4.2	4.2	7.3	164		190	80	29	11	5.0	3.8	4.0
30	4.8	4.2	7.3	133		152	75	28	10	4.6	3.5	20
31	4.2		6.8	110		130		26		4.3	3.2	
Total	109.7	144.4	251.1	8,381.9	2,175	5,121	3,446	1,666	625	252.3	210.3	188.4
Mean	3.54	4.81	8.10	270	77.7	165	115	53.7	20.8	8.14	6.78	6.28
Cfsm	0.050	0.068	0.114	3.81	1.10	2.33	1.62	0.758	0.294	0.115	0.096	0.089
In.	0.06	0.08	0.13	4.40	1.14	2.69	1.81	0.88	0.33	0.13	0.11	0.10

Calendar year 1953: Max 1,280 Min 3.1 Mean 84.8 Cfsm 1.20 In. 16.28
Water year 1953-54: Max 1,530 Min 2.4 Mean 61.8 Cfsm 0.873 In. 11.86

Peak discharge (base, 1,200 cfs).--Jan. 16 (4 a.m.) 1,680 cfs (5.26 ft); Jan. 21 (2 a.m.) 1,960 cfs (5.61 ft).

* Discharge measurement made on this day.

Calfkiller River below Sparta, Tenn.

Location.--Lat 35°54'25", long 85°28'25", on right bank three-quarters of a mile downstream from abandoned hydroelectric powerplant of Tennessee Valley Authority, 1½ miles downstream from Town Creek, 1½ miles southwest of Sparta, White County, and 9 miles upstream from mouth.

Drainage area.--178 sq mi.

Records available.--August 1940 to September 1954.

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

Average discharge.--14 years, 360 cfs.

Extremes.--Maximum discharge during year, 8,860 cfs Jan. 21 (gage height, 17.94 ft); minimum, 11 cfs Oct. 18.
1940-54: Maximum discharge, 14,600 cfs Jan. 5, 1949 (gage height, 25.80 ft); minimum, that of Oct. 18, 1953.

Remarks.--Records good.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 6-28)

1.0	10	2.0	285
1.1	17	4.0	1,150
1.2	32	8.0	3,120
1.4	79	16.3	7,740

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	15	15	40	421	1,200	988	241	110	56	32	23
2	20	15	15	38	373	1,020	786	219	263	53	32	22
3	20	15	16	36	345	1,050	614	226	263	51	30	22
4	18	16	18	36	321	1,020	505	325	278	49	30	22
5	18	15	20	36	289	750	425	305	216	47	29	20
6	17	14	23	34	263	570	373	263	170	51	30	20
7	17	14	29	32	237	457	385	248	143	45	29	18
8	16	14	29	30	219	385	365	263	126	40	34	17
9	16	14	51	30	212	337	341	244	113	40	85	17
10	16	14	69	71	202	305	313	219	174	40	56	17
11	16	14	61	583	188	278	297	202	167	42	47	17
12	16	14	51	329	170	252	369	184	130	42	40	23
13	15	14	53	194	157	237	393	180	194	42	36	20
14	15	14	130	150	153	248	369	437	205	40	34	*18
15	15	14	150	1,860	146	234	*357	588	133	40	32	17
16	15	14	107	*5,980	241	208	726	429	136	38	30	17
17	14	14	79	2,240	1,080	194	2,520	333	107	38	30	17
18	12	14	58	1,000	*736	191	1,580	281	258	36	29	17
19	14	14	49	624	513	194	961	255	353	36	29	17
20	14	14	45	1,400	421	208	655	*237	174	36	28	22
21	14	14	*40	7,690	397	198	505	234	*130	38	26	53
22	15	16	40	5,530	337	*180	413	212	110	47	28	61
23	15	*23	56	3,480	301	184	365	188	98	47	28	56
24	15	23	61	1,630	425	1,440	365	167	91	53	26	47
25	16	22	53	1,100	545	2,100	385	153	82	47	26	36
26	15	20	49	826	461	2,740	353	143	76	40	*28	30
27	15	17	45	1,060	377	1,550	409	133	71	38	26	26
28	*15	16	40	1,160	866	997	353	126	66	34	28	23
29	15	16	38	848	-	722	309	120	61	*34	29	*24
30	15	15	38	642	-------	561	270	110	58	34	26	56
31	15	-------	40	505	-------	646	-------	104	-------	32	24	-------
Total	489	468	1,568	39,214	10,396	20,656	17,049	7,369	4,556	1,306	1,017	795
Mean	15.8	15.6	50.6	1,265	371	666	568	238	152	42.1	32.8	26.5
Cfsm	0.089	0.088	0.284	7.11	2.08	3.74	3.19	1.34	0.854	0.237	0.184	0.149
In.	0.10	0.10	0.33	8.19	2.17	4.32	3.56	1.54	0.95	0.27	0.21	0.17

Calendar year 1953: Max 4,080 Min 12 Mean 291 Cfsm 1.63 In. 22.18
Water year 1953-54: Max 7,690 Min 12 Mean 287 Cfsm 1.61 In. 21.91

Peak discharge (base, 4,400 cfs).--Jan. 16 (12 m.) 6,800 cfs (14.74 ft); Jan. 21 (11:30 a.m.) 8,860 cfs (17.94 ft).
* Discharge measurement made on this day.

Barren Fork near Trousdale, Tenn.

Location.--Lat 35°39'55", long 85°53'00", on left bank 15 ft downstream from highway bridge on Trousdale-McKinnville pike, 3½ miles east of Trousdale, Warren County, 4.5 miles downstream from Bullpen Creek, 6 miles west of McMinnville, and 6.2 miles upstream from Hickory Creek.

Drainage area.--132 sq mi.

Records available.--June 1932 to September 1954.

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.--22 years, 217 cfs.

Extremes.--Maximum discharge during year, 9,020 cfs Jan. 21 (gage height, 11.16 ft); minimum, 35 cfs Sept. 6, 7; minimum gage height, 1.14 ft Oct. 14.
1932-54: Maximum discharge, 32,000 cfs Feb. 13, 1948 (gage height, 16.99 ft), from rating curve extended above 9,300 cfs on basis of slope-area and contracted-opening determination of peak flow; minimum, 32 cfs Oct. 13, 1941; minimum gage height, 0.98 ft Sept. 22, 23, 1941.

Remarks.--Records good.

Revisions (water years).--WSP 1083: 1937(M), 1944(M).

Rating tables, water year 1953-54 (gage height, in feet and discharge, in cubic feet per second)
(Shifting-control method used June 19 to July 23, July 30 to Aug. 1, Aug. 4, 5, 14-46)

Oct. 1 to June 16

1.1	34	5.0	1,340
1.5	92	7.0	2,620
2.0	200	8.0	3,550
2.6	375	9.3	5,300
3.0	510		

June 17 to Sept. 30

1.2	36	2.0	204
1.5	89	2.6	375

Note.--Same as preceding table above 2.6 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	40	39	46	178	639	716	154	144	60	51	37
2	42	40	39	46	168	372	372	148	131	58	62	37
3	41	40	41	45	157	312	285	368	170	58	55	37
4	42	40	44	44	152	255	237	348	150	58	49	37
5	41	40	47	44	139	212	208	220	133	58	48	37
6	44	41	47	42	131	190	192	180	125	57	60	36
7	42	41	49	41	121	173	202	188	119	55	72	37
8	41	41	45	41	115	161	190	234	115	55	209	39
9	41	40	88	42	111	150	178	175	113	53	223	39
10	42	41	84	50	107	144	161	152	152	55	76	39
11	42	40	63	66	103	137	205	142	157	53	60	40
12	41	39	62	62	96	133	255	135	129	53	55	40
13	40	39	63	57	92	133	190	449	119	51	55	39
14	40	38	78	56	89	146	230	*847	113	51	51	*39
15	40	39	75	973	87	131	*422	506	109	48	48	39
16	40	38	68	3,720	359	121	1,610	330	390	46	46	39
17	40	38	62	*755	*705	115	1,940	255	866	48	46	40
18	41	39	*57	363	288	113	604	215	304	49	46	40
19	40	38	54	258	208	119	390	205	172	51	44	40
20	40	39	52	1,360	243	127	300	264	130	48	44	41
21	40	40	50	4,800	255	117	249	222	110	46	44	72
22	40	42	52	5,230	190	*113	220	182	*96	49	41	53
23	39	44	49	1,510	164	121	215	168	87	136	40	44
24	40	*44	47	587	222	1,750	363	154	81	134	39	44
25	40	45	46	396	198	972	231	146	74	68	*41	41
26	39	44	46	309	166	1,160	294	139	70	64	41	41
27	*41	42	45	500	148	496	208	135	66	58	40	39
28	42	41	46	360	1,130	351	188	131	66	57	40	*39
29	45	40	50	273		282	192	127	62	*55	40	41
30	42	39	49	231		243	173	125	60	51	39	49
31	41		47	200		680		121		49	39	
Total	1,271	1,212	1,684	22,507	6,122	10,168	11,220	7,165	4,613	1,832	1,844	1,235
Mean	41.0	40.4	54.3	726	219	328	374	231	154	59.1	59.5	41.2
Cfsm	0.311	0.306	0.411	5.50	1.66	2.48	2.83	1.75	1.17	0.448	0.451	0.312
In.	0.36	0.34	0.47	6.34	1.72	2.86	3.16	2.02	1.30	0.52	0.52	0.35

Calendar year 1953: Max 3,370 Min 38 Mean 183 Cfsm 1.39 In. 18.82
Water year 1953-54: Max 5,230 Min 36 Mean 194 Cfsm 1.47 In. 19.96

Peak discharge (base, 3,200 cfs).--Jan. 16 (6 a.m.) 5,760 cfs (9.59 ft); Jan. 21 (3 a.m.) 9,020 cfs (11.16 ft); Apr. 16 (9 p.m.) 3,580 cfs (8.03 ft).
* Discharge measurement made on this day.

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.

Records available.--October 1924 to September 1954.

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

Average discharge.--30 years, 1,112 cfs.

Extremes.--Maximum discharge during year, 27,300 cfs Jan. 22 (gage height, 24.68 ft); minimum, 60 cfs Oct. 25 (gage height, 1.05 ft).
1924-54: 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.

Remarks.--Records excellent.

Revisions (water years).--WSP 873: 1929, 1932(M), 1934-35, 1936(M), 1937. WSP 1276: 1925-26, 1928(M), 1933, 1936, 1940.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

1.0	52	8.0	4,060
1.5	149	12.0	8,510
2.0	274	18.0	16,500
3.0	650	23.2	24,600
5.0	1,750		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82	69	73	288	1,100	3,870	3,690	714	378	158	121	90
2	80	69	73	266	975	2,970	2,890	650	490	154	116	86
3	78	69	76	247	880	2,500	2,180	800	510	151	114	84
4	76	69	80	234	806	2,280	1,680	1,320	594	149	112	82
5	76	67	78	250	748	1,850	1,350	1,240	566	145	110	78
6	73	66	86	247	682	1,500	1,150	1,000	482	147	110	75
7	71	66	84	239	622	1,230	1,070	845	406	145	108	73
8	71	66	84	224	570	1,050	953	1,020	348	140	137	73
9	71	66	131	206	538	905	875	1,080	312	138	810	71
10	69	66	291	206	510	806	798	900	299	136	1,010	71
11	67	66	458	218	482	734	775	752	352	134	482	69
12	69	66	398	263	438	682	958	662	318	131	302	69
13	67	66	470	282	398	642	850	922	285	127	229	69
14	67	66	690	271	374	614	770	3,580	255	127	191	*69
15	67	66	811	2,090	359	570	*1,450	4,530	237	123	172	69
16	67	66	638	13,700	556	514	2,380	2,940	477	119	158	71
17	67	67	494	10,800	*2,360	466	7,280	2,000	1,610	116	147	71
18	66	67	390	4,270	1,480	442	4,240	1,450	816	112	138	71
19	66	67	312	*2,370	1,150	442	2,720	1,240	570	112	129	71
20	62	67	263	3,400	1,080	470	1,960	*1,190	430	110	127	75
21	62	67	239	19,800	1,330	510	1,490	1,130	348	110	125	96
22	62	76	*231	24,600	1,180	482	1,220	926	*291	114	119	92
23	64	76	250	18,400	1,010	*466	1,050	793	258	151	114	92
24	64	*80	255	6,510	1,390	4,170	1,740	694	234	204	110	86
25	61	84	242	3,470	1,810	4,340	1,560	622	218	167	110	82
26	62	80	221	2,510	1,510	5,490	1,350	562	201	142	*108	80
27	66	78	204	2,420	1,210	3,710	1,120	510	191	160	102	78
28	*67	78	198	2,310	2,600	2,600	931	470	182	140	106	76
29	67	76	194	1,900	-	1,960	875	434	172	*129	104	*99
30	69	75	226	1,560	-------	1,550	816	410	160	125	96	223
31	69	-------	285	1,290	-------	1,860	-------	386	-------	121	94	-------
Total	2,125	2,107	8,525	124,841	28,148	51,675	52,171	35,772	11,988	4,237	6,009	2,491
Mean	68.5	70.2	275	4,027	1,005	1,667	1,739	1,154	400	137	194	83.0
Cfsm	0.110	0.112	0.441	6.45	1.61	2.67	2.79	1.85	0.641	0.220	0.311	0.133
In.	0.13	0.13	0.51	7.44	1.68	3.08	3.11	2.13	0.71	0.25	0.36	0.15

Calendar year 1953: Max 15,400 Min 61 Mean 901 Cfsm 1.44 In. 19.63
Water year 1953-54: Max 24,600 Min 61 Mean 904 Cfsm 1.45 In. 19.68

Peak discharge (base, 11,000 cfs).--Jan. 16 (6 p.m.) 16,600 cfs (18.07 ft); Jan. 22 (9:30 p.m.) 27,300 cfs (24.68 ft).
* Discharge measurement made on this day.

Caney Fork near Rock Island, Tenn.

Location.--Lat 35°48'26", long 85°37'44", on right bank 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.

Records available.--November 1911 to March 1924, April 1925 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 650.09 ft above mean sea level, datum of 1929. Nov. 14, 1911, to Mar. 30, 1924, at sites from half a mile upstream to 100 ft downstream from powerplant at various datums. Apr. 12, 1925, to Sept. 9, 1930, at present site at datum 2.00 ft higher.

Average discharge.--35 years (1914-20, 1925-54), 3,194 cfs (unadjusted).

Extremes.--Maximum discharge during year, 65,600 cfs Jan. 22 (gage height, 22.45 ft); minimum daily, 32 cfs Dec. 2.
1911-54: Maximum discharge, 210,000 cfs Mar. 23, 1929 (gage height, 40.6 ft, present datum, from floodmark), from rating curve extended above 110,000 cfs; minimum daily, 25 cfs Aug. 25, 26, Sept. 1-3, 8, 9, 15, 23, 29, 30, Oct. 6, 7, 13, 14, 1951.
Maximum stage known, that of Mar. 23, 1929.

Remarks.--Records good. Flow regulated by Great Falls Lake beginning Dec. 8, 1916 (see p. 63).

Revisions (water years).--WSP 1276: 1934, 1937.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

-0.8	31	5.0	2,550
-.5	56	7.0	4,500
0.0	133	10.0	9,190
.5	225	13.0	17,200
1.0	338	18.0	37,000
2.0	654	21.3	57,100
3.0	1,120		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	40	60	57	3,650	11,100	9,890	3,460	1,180	530	47	259
2	38	41	32	61	3,520	8,950	7,800	3,440	819	634	332	160
3	38	42	43	61	3,500	8,290	6,430	3,440	1,230	46	360	199
4	37	42	45	722	3,490	7,900	4,500	3,450	1,510	45	342	47
5	37	45	47	918	3,470	5,890	3,960	3,450	1,560	45	326	46
6	37	43	47	988	3,440	4,610	3,710	3,440	66	578	251	46
7	36	43	221	1,470	3,420	4,000	3,500	3,430	1,080	560	47	254
8	36	43	194	433	3,390	3,650	3,500	3,430	1,190	564	47	216
9	36	44	198	59	3,350	3,500	3,500	3,420	1,260	596	294	254
10	36	43	671	62	3,310	3,490	3,480	3,420	1,290	45	1,460	318
11	36	44	998	552	3,280	3,450	3,470	3,400	1,080	45	1,270	46
12	36	43	53	663	3,240	3,430	3,450	3,370	46	420	791	46
13	36	44	56	1,700	3,200	3,400	3,440	3,350	46	472	556	198
14	36	43	1,030	1,540	1,930	3,410	3,430	3,360	1,060	424	47	148
15	36	43	1,480	2,580	1,160	3,380	3,410	11,400	1,090	424	47	146
16	36	45	1,860	*43,300	1,640	3,350	3,420	7,860	1,040	396	489	52
17	36	39	2,200	24,000	3,220	3,310	14,400	5,180	1,040	45	320	332
18	36	38	2,050	11,500	3,300	3,280	12,700	3,980	1,510	45	270	46
19	36	38	57	5,700	3,340	2,890	7,260	3,490	2,300	342	327	45
20	36	38	57	13,100	3,340	2,860	5,620	3,470	1,850	366	466	37
21	36	38	999	55,600	3,360	1,510	4,310	*3,470	955	349	47	381
22	37	39	*905	57,100	3,370	912	3,950	3,470	1,100	289	47	262
23	37	38	987	37,400	3,360	*1,810	3,570	3,450	1,080	454	340	252
24	37	38	997	16,500	3,360	3,650	4,510	3,430	866	47	346	384
25	37	38	56	9,710	3,400	18,600	4,190	3,390	606	47	332	47
26	39	38	56	6,680	3,410	19,500	3,700	3,360	45	408	251	47
27	39	38	56	6,870	3,420	12,100	4,890	3,330	45	532	259	403
28	*39	37	1,040	7,470	3,430	8,060	3,990	3,300	683	532	47	39
29	41	37	1,120	5,530	-	5,960	3,500	3,240	540	490	47	*312
30	41	37	1,030	4,460	-------	5,100	3,480	2,810	547	*478	262	56
31	40	-	970	3,970	-------	6,230	-------	2,720	-------	47	312	-------
Total	1,153	1,219	19,615	320,756	89,300	177,572	150,960	119,210	28,714	10,295	10,379	5,078
Mean	37.2	40.6	633	10,350	3,189	5,728	5,032	3,845	957	332	335	169

	Observed				Adjusted †				
Calendar year 1953:	Max	35,400	Min	32	Mean	2,423	Mean	2,422	Cfsm 1.48 In. 20.05
Water year 1953-54:	Max	57,100	Min	32	Mean	2,560	Mean	2,580	Cfsm 1.57 In. 21.36

* Discharge measurement made on this day.
† Adjusted for change in contents in Great Falls Lake.

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Falling Water River near Cookeville, Tenn.

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

Drainage area.--73.3 sq mi.

Records available.--June 1932 to September 1954.

Gage.--Staff gage read twice daily. 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.--22 years, 110 cfs.

Extremes.--Maximum discharge during year, 3,560 cfs Jan. 22 (gage height, 19.9 ft, from graph based on gage readings); minimum observed, 2.6 cfs Sept. 3-7; minimum gage height observed, 1.35 ft Oct. 2-7.

1932-54: 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 (discharge, 5,330 cfs), from floodmarks, respectively.

Remarks.--Records fair except those for periods of doubtful or no gage-height record, which are poor.

Cooperation.--Seven discharge measurements furnished by Corps of Engineers.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 8, Sept. 24-29)

Oct. 1-7

1.3	4.0
1.4	6.0

Oct. 8-28, Jan. 22 to Feb. 16, June 2 to Sept. 30

2.2	2.6	4.0	172
2.3	3.6	5.0	288
2.4	5.9	7.0	464
2.5	9.1	11.0	940
2.6	14	14.0	1,360
2.8	29	16.0	1,860
3.0	48	19.0	3,150
3.5	98		

Oct. 29 to Jan. 21, Feb. 17 to June 1

2.4	3.0	3.0	43
2.5	6.5	3.5	94
2.6	11	4.0	172
2.8	26		

Note.--Same as preceding table above 4.0 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0	5.3	6.5	11	128	343	216	46	187	10	5	3.2
2	5.6	5.3	6.5	10	110	306	186	45	205	9.1	*5.1	2.9
3	5.0	5.3	6.5	10	102	276	134	74	84	9.1	4.0	2.6
4	5.0	5.0	12	10	92	230	110	100	70	8.0	3.6	2.6
5	5.0	5.0	8.8	10	87	163	98	79	54	9.1	3.5	2.6
6	5.0	5.0	17	10	72	125	90	64	38	9.1	3.8	2.6
7	5.6	5.0	*6.5	*7.4	66	104	87	54	34	7.3	4.2	2.7
8	*5.4	4.6	4.6	6.5	60	90	86	53	29	40	3.5	2.8
9	4.9	4.6	10	10	60	80	70	48	*199	25	5.4	2.9
10	4.2	4.6	11	133	56	74	66	43	143	11	5.9	3.1
11	4.2	4.2	6.1	327	*50	68	70	40	77	9.1	5.9	3.2
12	4.2	4.2	10	116	46	62	70	36	52	9.1	5.1	3.1
13	4.0	4.2	11	58	44	62	71	38	42	9.1	5.4	2.9
14	4.2	4.2	52	51	38	58	69	61	38	8.7	5.9	2.9
15	4.9	3.9	42	462	38	53	64	65	60	8.7	6.4	3.0
16	4.6	3.9	28	1,980	110	46	208	59	96	*8.3	5.9	*3.0
17	4.4	3.9	19	647	327	43	795	48	53	8.3	24	3.0
18	4.2	3.6	12	320	192	43	465	*48	40	8	8.3	3.1
19	4.4	3.6	11	224	114	47	277	47	38	7	*5.9	3.2
20	4.4	*3.6	11	409	105	45	180	43	33	6	5.5	38
21	4.4	3.6	11	2,860	96	42	126	39	24	6	6	56
22	4.2	8.8	13	3,130	85	37	*107	35	20	20	9.5	9.1
23	4.4	7.4	12	1,240	74	*36	96	26	17	15	20	8.3
24	4.9	7.4	11	606	93	533	95	26	16	10	13	6.4
25	4.6	6.5	11	396	105	877	86	26	14	8	8.3	6.7
26	4.6	6.1	11	306	92	859	75	26	14	7	6.1	6.4
27	4.9	5.7	11	413	79	440	67	22	14	6	5.1	6.4
28	5.1	5.7	11	398	267	305	66	20	14	6	4.0	6.4
29	6.5	4.6	11	301	-	231	58	18	14	6	3.6	6.4
30	5.7	5.7	11	242	-------	178	51	18	14	5	3.3	28
31	5.7	-------	11	172	-------	188	-------	18	-------	5	3.2	-------
Total	150.2	150.5	415.5	14,875.9	2,788	6,044	4,239	1,365	1,733	314.0	204.4	233.5
Mean	4.85	5.02	13.4	480	99.6	195	141	44.0	57.8	10.1	6.59	7.78
Cfsm	0.066	0.068	0.183	6.55	1.36	2.66	1.92	0.600	0.789	0.138	0.090	0.106
In.	0.08	0.08	0.21	7.55	1.41	3.07	2.15	0.69	0.88	0.16	0.10	0.12

Calendar year 1953: Max 1,600 Min 3.6 Mean 97.6 Cfsm 1.33 In. 18.08
Water year 1953-54: Max 3,130 Min 2.6 Mean 89.1 Cfsm 1.22 In. 16.50

* Discharge measurement made on this day.

Note.--Doubtful or no gage-height record Oct. 30 to Nov. 19, Nov. 21, July 14, 15, July 17 to Aug. 1, Aug. 20, 21; discharge estimated on basis of weather records, records for Roaring River near Hilham, and 4 discharge measurements.

Caney Fork below Center Hill Dam, near Lancaster, Tenn.

Location.--Lat 36°06'10", long 85°50'40", on left bank 1.1 miles downstream from Center Hill Dam, 2 miles south of Lancaster, Smith County, 4.7 miles upstream from Indian Creek, 10 miles north of Smithville, and at mile 25.5.

Drainage area.--2,200 sq mi, approximately.

Records available.--May 1944 to September 1954. Prior to October 1950, published as "near Lancaster."

Gage.--Water-stage recorder. Datum of gage is 469.00 ft above mean sea level, Sandy Hook datum (levels by Corps of Engineers). Prior to Oct. 1, 1950, at site 7.7 miles downstream at datum 6.62 ft lower.

Average discharge.--10 years, 4,067 cfs (unadjusted).

Extremes.--Maximum discharge during year, 31,600 cfs Jan. 25; maximum gage height, 29.66 ft Jan. 26; minimum discharge, 38 cfs Nov. 20.
1944-54: Maximum discharge, 119,000 cfs Feb. 14, 1948; maximum gage height, 53.44 ft Feb. 14, 1948, site and datum then in use; minimum daily discharge, 12 cfs Oct. 1-18, 20-22, 1950.

Remarks.--Records good except those for periods of no gage-height record or those between 100 and 1,000 cfs, which are fair. Flow regulated by Great Falls Lake and Center Hill Reservoir (see p. 63).

Cooperation.--One discharge measurement and record of releases from Center Hill Reservoir furnished by Corps of Engineers.

Revisions (water years).--WSP 1276: 1951.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Rate of change in stage used as a factor Jan. 21, 23, 25-27, 31, Feb. 1, Mar. 15, 22, Apr. 21, 23, 26, 27, May 4)

Oct. 1 to Jan. 25				Jan. 26 to Sept. 30			
5.4	44	7.0	395	5.3	44	8.0	1,230
5.5	50	8.0	850	5.5	60	10.0	2,820
5.8	85	10.0	2,250	5.8	107	15.0	8,000
6.0	120	15.0	7,350	6.0	150	20.0	14,400
6.5	235	23.0	18,400	6.5	320	28.0	25,500
				7.0	590		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49	44	1,550	2,170	9,790	5,900	3,350	4,080	2,040	2,160	231	1,240
2	45	2,700	2,130	5,770	7,540	4,780	1,690	5,990	2,880	4,080	53	2,020
3	44	449	981	140	7,660	5,660	4,500	8,380	1,830	115	871	1,400
4	44	388	51	6,430	8,860	5,020	6,540	8,840	1,230	48	2,960	312
5	926	1,060	48	6,650	8,240	5,860	7,080	*3,180	53	47	2,280	52
6	756	300	48	7,490	8,510	7,540	6,310	3,280	51	676	1,870	1,290
7	1,000	2,260	1,220	5,760	6,050	8,020	7,120	6,110	52	562	55	1,120
8	*150	976	740	3,470	8,170	8,060	7,740	1,980	53	49	48	2,030
9	364	3,720	243	118	6,220	*6,040	7,290	1,090	*54	166	66	2,670
10	149	1,060	978	1,820	7,280	6,140	4,820	7,800	3,130	47	530	1,970
11	493	1,780	391	3,220	7,560	7,600	5,660	6,090	3,160	47	164	54
12	4,120	3,080	48	2,960	7,810	3,530	7,600	3,930	76	734	64	49
13	1,770	546	46	5,780	7,190	2,440	8,080	5,460	49	1,210	2,090	1,520
14	54	716	1,310	232	366	8,980	8,280	3,340	2,460	554	264	1,410
15	252	412	554	306	5,580	9,370	6,920	2,560	2,350	227	830	1,840
16	46	1,080	2,040	644	5,210	8,430	2,590	2,180	2,200	273	1,620	*976
17	46	384	7,140	1,480	7,620	8,100	2,370	3,380	2,220	56	1,390	49
18	45	132	7,900	4,140	8,000	7,870	1,240	4,200	2,240	54	1,800	48
19	874	502	5,020	2,420	7,770	7,870	7,050	6,360	66	780	918	48
20	48	113	782	841	7,140	7,420	7,940	6,880	48	1,920	163	2,080
21	47	46	1,820	11,800	7,110	5,440	9,300	6,690	4,080	2,990	60	67
22	47	45	1,490	15,000	7,390	8,890	9,740	5,310	2,180	2,820	46	52
23	47	479	6,660	12,600	5,580	7,940	8,650	88	2,410	1,680	1,060	49
24	47	626	2,500	11,500	5,390	6,970	10,300	6,580	1,500	68	892	57
25	46	1,160	49	18,300	4,590	4,040	11,000	6,160	1,310	52	2,260	48
26	1,140	295	182	*25,300	5,320	2,040	10,600	6,440	50	53	1,380	48
27	312	607	543	20,400	4,920	1,200	7,920	6,540	48	1,030	1,080	48
28	1,130	1,200	5,630	17,300	4,720	2,340	7,320	4,140	3,360	55	2,860	47
29	1,540	626	5,500	14,400	-	1,540	8,160	83	2,140	1,170	111	59
30	49	1,350	1,100	13,300	-------	5,460	5,180	55	1,340	591	1,570	56
31	79	-------	2,040	11,400	-------	1,860	-------	1,770	-------	926	1,040	-------
Total	15,759	28,136	60,734	233,141	187,586	182,350	202,340	138,966	44,660	25,240	30,626	22,709
Mean	508	938	1,959	7,521	6,700	5,882	6,745	4,483	1,489	814	988	757

	Observed				Adjusted†			
Calendar year 1953:	Max 12,700	Min 40	Mean 2,878		Mean 2,930	Cfsm 1.33	In. 18.08	
Water year 1953-54:	Max 25,300	Min 44	Mean 3,212		Mean 3,233	Cfsm 1.47	In. 19.95	

* Discharge measurement made on this day.
† Adjusted for change in contents in Great Falls Lake and Center Hill Reservoir.
Note.--No gage-height record Dec. 31 to Jan. 7, Apr. 5-19; discharge is the computed release from Center Hill Reservoir.

Cumberland River at Carthage, Tenn.

Location.--Lat 36°14'42", long 85°57'15", on left pier of Cordell Hull Bridge on State Highway 25, half a mile south of 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.

Records available.--October 1922 to September 1954. Gage-height records collected in this vicinity since 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 gages at site 1,000 ft downstream at same datum. May 12 to July 17, 1936, wire-weight gage at present site and datum.

Average discharge.--32 years, 16,900 cfs (unadjusted).

Extremes.--Maximum discharge during year, 61,400 cfs Jan. 22; maximum gage height, 25.06 ft Jan. 22; minimum discharge, 618 cfs Oct. 22 (gage height, 8.33 ft).
1922-54: Maximum discharge, 210,000 cfs Dec. 30, 1926; maximum gage height, 59.8 ft Dec. 30, 1926; minimum discharge, 304 cfs Oct. 29, 1940.

Remarks.--Records good except those for periods computed from staff- and wire-weight gage readings and those below 3,000 cfs, which are fair. Flow regulated by Wolf Creek, Dale Hollow, Great Falls, and Center Hill Reservoirs (see p. 63).

Cooperation.--Lock 7 staff-gage readings furnished by Corps of Engineers. Wire-weight gage readings furnished by U. S. Weather Bureau.

Revisions (water years).--WSP 893: 1923-39. WSP 1276: 1927, 1929(M), 1937(M).

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Rate of change in stage used as a factor Jan. 21-23)

8.4	730
9.0	1,800
12.0	9,780
18.0	31,200
25.0	60,000

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,630	g3,060	6,970	13,600	18,300	16,900	5,480	11,400	7,600	6,380	4,920	3,310
2	1,520	*2,560	10,500	15,900	17,100	17,300	4,600	9,650	14,500	6,180	4,180	4,810
3	1,340	3,640	11,000	17,700	16,800	16,400	7,330	11,700	15,700	6,500	3,400	5,960
4	1,340	3,020	g10,100	15,000	16,200	20,000	9,780	16,800	11,900	4,180	3,690	6,070
5	1,610	4,480	6,970	15,100	19,000	22,300	8,690	*19,700	8,880	3,040	5,670	4,120
6	1,960	4,500	g3,520	*19,100	18,600	22,900	8,220	18,900	5,610	1,610	9,840	3,950
7	1,900	4,480	2,600	22,200	14,300	21,700	8,250	17,700	2,730	1,360	8,130	3,400
8	1,860	5,240	3,270	19,100	11,200	20,900	9,140	21,000	1,390	1,800	4,400	3,450
9	1,800	6,520	2,200	14,800	15,500	*21,200	10,000	20,200	951	3,450	2,880	6,100
10	1,860	5,560	7,420	11,300	17,600	17,100	8,720	22,200	1,100	3,660	3,180	9,560
11	1,800	5,610	5,610	12,000	14,300	15,900	9,170	22,000	5,590	3,270	4,550	11,000
12	2,960	6,580	4,020	9,970	10,900	10,100	10,500	21,900	9,240	2,620	4,000	8,720
13	6,350	5,830	3,450	14,700	14,200	5,420	12,600	19,200	5,450	1,860	3,380	5,830
14	4,710	3,310	2,840	17,100	15,900	8,530	14,100	20,500	3,950	2,540	4,080	3,710
15	3,640	3,290	4,630	23,000	8,130	9,970	12,800	19,800	4,320	3,660	4,220	5,700
16	2,640	3,570	6,790	40,300	10,300	14,400	23,200	16,300	8,850	4,150	5,700	8,280
17	2,040	4,120	11,100	21,600	16,500	19,000	41,800	10,400	12,600	3,830	5,400	8,000
18	2,000	3,040	20,400	12,900	16,100	18,400	29,100	8,660	13,400	4,200	5,780	7,030
19	1,740	4,200	24,000	13,000	14,300	16,800	16,800	9,970	12,100	3,310	6,380	5,210
20	1,650	3,110	18,100	17,700	13,000	12,900	14,400	13,800	8,130	3,180	6,610	5,560
21	815	2,410	12,000	54,500	13,100	11,300	12,400	16,500	5,130	3,500	5,370	5,260
22	798	2,040	9,240	59,000	9,840	9,720	16,200	16,900	5,700	5,400	3,830	5,020
23	1,270	1,200	10,400	48,500	11,400	14,100	14,300	10,000	9,750	5,210	3,290	4,180
24	1,340	1,430	12,400	35,700	11,600	28,000	20,800	7,600	11,000	6,470	4,220	2,370
25	1,570	1,880	12,700	26,600	11,100	28,500	23,500	10,500	8,130	5,180	4,860	1,290
26	2,240	3,640	6,970	34,000	8,250	23,200	22,900	15,400	6,940	3,040	7,030	1,250
27	2,800	4,500	2,950	32,600	7,210	13,200	18,800	17,000	5,510	1,630	6,500	1,720
28	2,430	5,530	4,650	29,700	12,500	9,720	20,000	16,300	4,530	*1,690	7,360	1,140
29	*4,660	5,290	12,000	28,000	-	5,960	21,500	14,700	4,940	1,840	7,030	1,390
30	g5,580	4,350	12,900	26,900	-------	6,610	17,400	10,100	6,760	3,830	5,260	4,300
31	g4,250	-------	13,900	24,800	-------	6,820	-------	6,180	-------	3,380	5,070	-------
Total	74,083	117,990	275,600	746,370	383,230	485,250	452,480	472,960	222,381	111,950	160,210	147,690
Mean	2,390	3,933	8,890	24,080	13,690	15,650	15,080	15,260	7,413	3,611	5,168	4,923

	Observed			Adjusted†			
Calendar year 1953:	Max 47,200	Min 798	Mean 13,220	Mean 13,090	Cfsm 1.22	In. 16.61	
Water year 1953-54:	Max 59,000	Min 798	Mean 10,000	Mean 10,120	Cfsm 0.946	In. 12.83	

* Discharge measurement made on this day.
† Adjusted for change in contents in Wolf Creek, Dale Hollow, Great Falls, and Center Hill Reservoirs.
g Computed from once-daily wire-weight-gage readings, twice-daily (5 days per week) upper lock 7 staff-gage readings, and adjacent record.

East Fork Stones River near Lascassas, Tenn.

Location.--Lat 35°55'10", long 86°20'00", at downstream end of right pier of county road bridge, 2½ miles southwest of Lascassas, Rutherford County, 3¼ miles downstream from Bradleys Creek, 6 miles northeast of Murfreesboro, and 15 miles upstream from confluence with West Fork.

Drainage area.--264 sq mi.

Records available.--February 1951 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 507.88 ft above mean sea level (levels by Corps of Engineers).

Extremes.--Maximum discharge during year, 17,600 cfs Jan. 21 (gage height, 29.80 ft); minimum, 0.2 cfs Oct. 23 (gage height, 2.22 ft); minimum daily, 1.0 cfs Oct. 22.
1951-54: Maximum discharge, 19,200 cfs Dec. 8, 1951 (gage height, 31.70 ft); minimum, that of Oct. 23, 1953; minimum daily, 0.4 cfs Aug. 31, 1953.

Remarks.--Records good except those below 10 cfs, which are fair, and those for periods of no gage-height record, which are poor. Diurnal fluctuations at low flow caused by small mill above station.

Cooperation.--Two discharge measurements furnished by Corps of Engineers.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 26-29)

Oct. 1 to Jan. 20				Jan. 21 to Sept. 30			
2.2	0.1	2.8	25	2.2	2.0	5.0	447
2.3	1.3	3.0	46	2.3	4.0	6.0	742
2.4	5.2	3.5	117	2.4	7.0	8.0	1,480
2.6	13	4.0	212	2.7	28	12.0	3,500
				3.0	57	18.0	7,900
Note.--Same as following table above 4.0 ft.				3.5	123	23.0	11,900
				4.0	212		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.7	6.8	12	14	262	1,470	1,260	129	a60	18	8.5	14
2	12	3.7	17	16	222	764	713	114	a56	21	16	4.9
3	13	9.2	13	13	196	529	500	159	115	18	16	4.9
4	7.5	3.3	5.7	14	*175	378	381	308	106	27	15	4.9
5	2.5	9.5	13	8.7	152	304	*306	214	74	50	7.8	4.9
6	8.7	14	9.4	16	133	260	256	164	a58	24	13	4.6
7	8.6	14	18	10	117	222	232	144	a48	26	7.6	*4.6
8	5.2	10	33	9.3	106	194	206	179	a42	26	5.5	5.2
9	11	4.2	26	6.3	98	169	184	137	a38	22	8.8	5.5
10	9.7	10	28	586	93	153	162	116	a50	19	15	5.2
11	2.5	4.0	46	808	88	141	232	96	129	8.3	22	4.6
12	3.1	8.1	35	304	79	128	299	86	74	29	*14	4.6
13	8.3	14	45	160	72	128	232	610	55	26	22	4.6
14	2.5	6.6	173	112	65	126	206	2,560	*49	11	17	4.3
15	*5.9	11	240	6,380	61	111	340	936	43	4.0	8.1	4.3
16	10	6.2	*112	9,540	1,740	94	6,150	549	42	19	5.5	4.3
17	10	13	69	1,520	2,560	86	4,880	358	232	13	15	3.6
18	8.1	14	49	*716	857	83	1,490	271	111	4.9	19	3.2
19	2.4	6.0	36	461	518	86	819	218	72	15	14	3.0
20	8.6	9.4	22	5,310	439	94	538	288	51	10	5.5	3.2
21	2.1	8.3	18	11,500	387	85	395	242	47	5.1	6.4	5.5
22	1.0	11	19	9,920	299	*79	313	177	38	17	6.4	3.8
23	4.2	*4.9	17	3,080	244	81	267	147	32	16	6.4	2.8
24	12	14	13	1,220	216	7,920	324	*125	31	9.2	11	2.6
25	8.1	18	a12	774	190	2,800	242	108	22	19	73	2.6
26	4.5	14	12	555	164	2,760	293	94	21	31	26	2.6
27	10	3.7	11	1,020	147	1,120	222	86	24	*27	23	2.8
28	4.0	13	12	739	2,070	716	190	84	28	22	40	3.2
29	6.8	12	13	523	-	503	184	93	23	9.6	10	212
30	11	11	15	406	-------	392	157	79	25	12	9.6	1,300
31	11	-------	19	317	-------	859	-------	a70	-------	18	20	-------
Total	221.0	286.9	1,163.1	56,058.3	11,750	22,835	21,973	8,941	1,796	577.1	487.1	1,636.3
Mean	7.13	9.56	37.5	1,808	420	737	732	288	59.9	18.6	15.7	54.5
Cfsm	0.027	0.036	0.142	6.85	1.59	2.79	2.77	1.09	0.227	0.070	0.059	0.206
In.	0.03	0.04	0.16	7.90	1.66	3.22	3.10	1.26	0.25	0.08	0.07	0.23

Calendar year 1953: Max 7,630 Min 0.4 Mean 362 Cfsm 1.37 In. 18.61
Water year 1953-54: Max 11,500 Min 1.0 Mean 350 Cfsm 1.33 In. 18.00

Peak discharge (base, 7,000 cfs).--Jan. 16 (2:30 a.m.) 14,000 cfs (25.62 ft); Jan. 21 (1 a.m.) 17,600 cfs (29.80 ft); Mar. 24 (10 a.m.) 11,700 cfs (22.72 ft); Apr. 16 (6 p.m.) 10,000 cfs (20.65 ft).

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records, normal recession, and records for nearby stations.

West Fork Stones River near Murfreesboro, Tenn.

Location.--Lat 35°49'20", long 86°25'03", on downstream end of second pier from right abutment of bridge on State Highway 99, 0.8 mile downstream from Middle Fork and 2.2 miles southwest of Murfreesboro, Rutherford County.

Drainage area.--119 sq mi.

Records available.--June 1932 to September 1954.

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.--22 years, 213 cfs.

Extremes.--Maximum discharge during year, 13,800 cfs Jan. 21 (gage height, 16.25 ft); no flow Sept. 18-20; minimum gage height, 0.62 ft Sept. 20.
1932-54: Maximum discharge, 38,000 cfs Feb. 13, 1948 (gage height, 22.73 ft, from floodmarks), from rating curve extended above 13,000 cfs on basis of contracted-opening determinations at gage heights 21.23 and 22.73 ft; no flow Sept. 18-20, 1954; minimum gage height, 0.56 ft Oct. 9, 1935, Oct. 6, 7, 1940.
Maximum stage known, 25.0 ft in March 1902.

Remarks.--Records fair except those below 5 cfs, which are poor. Some diversion for irrigation at and above station for short periods in October, June, July, and August.

Cooperation.--Two discharge measurements furnished by Corps of Engineers.

Revisions (water years).--WSP 783: 1932-34.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 23-29, June 12)

0.6	0	1.7	32
.7	.1	2.0	63
.8	.3	2.3	113
.9	.6	3.0	285
1.0	1.5	3.5	470
1.1	3.3	4.0	720
1.3	9.6	8.0	3,000
1.5	19	12.0	6,200

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.5	0.7	0.5	4.5	182	443	734	71	31	4.5	2.9	0.7
2	1.3	.7	.5	5.1	158	262	356	64	28	4.8	4.2	.4
3	1.2	.7	.9	5.1	135	208	260	95	36	5.4	3.3	.3
4	1.4	.7	1.2	4.8	*120	162	205	162	30	22	2.5	.2
5	1.6	.6	.9	4.5	103	135	*168	107	25	17	2.2	.2
6	1.5	.6	1.7	4.2	91	115	138	83	23	14	2.3	.2
7	1.1	.6	1.2	3.9	79	99	124	73	21	11	2.5	*.2
8	.6	.6	1.1	3.6	72	86	111	88	18	9.6	2.5	.2
9	1.0	.6	1.5	4.5	63	79	97	66	17	7.9	3.1	.2
10	1.0	.6	1.4	10	57	72	86	50	196	6.0	2.3	.2
11	.8	.6	1.5	68	50	67	124	43	133	3.9	2.2	.2
12	.7	.6	2.0	64	44	62	135	36	68	3.3	2.0	.2
13	.8	1.2	1.8	38	39	63	107	984	46	2.7	1.8	.2
14	.8	1.3	3.3	31	36	62	136	2,220	*37	2.3	1.8	.2
15	*.8	1.3	42	2,840	33	52	145	690	29	2.3	2.0	.2
16	.6	1.2	*32	3,550	1,410	47	4,490	368	25	2.2	1.8	.1
17	.8	1.1	23	753	1,050	44	2,080	262	23	2.0	1.6	.1
18	.8	1.0	18	*376	402	43	775	212	53	2.0	1.5	0
19	1.0	.8	16	270	270	48	430	182	28	1.8	5.3	0
20	.9	.6	13	3,870	319	62	292	230	21	1.8	4.5	0
21	.8	.6	11	4,550	250	52	235	158	17	2.0	2.2	.5
22	.5	.7	9.6	5,340	198	*47	*190	117	14	2.2	1.4	1.0
23	.6	*.8	7.8	1,280	160	51	162	99	12	1.8	1.8	1.0
24	.2	.7	6.4	720	142	2,200	148	*83	10	16	*1.6	.9
25	.6	.7	6.0	452	122	1,250	135	71	6.7	14	1.5	.7
26	.7	.6	5.4	334	101	1,210	172	62	8.8	11	1.3	.7
27	.9	.6	4.8	982	91	545	113	52	7.9	*8.8	1.2	.6
28	.9	.5	5.1	456	436	337	99	51	7.0	6.7	1.1	.6
29	1.0	.5	4.5	319	-	262	111	53	5.7	5.1	1.0	44
30	.8	.5	4.2	260	-------	210	88	44	4.8	4.2	.9	94
31	.8	-------	4.2	210	-------	1,100	-------	36	-------	3.3	.8	-------
Total	28.0	22.3	232.3	26,813.2	6,213	9,475	12,446	6,912	981.9	201.6	67.1	148.0
Mean	0.90	0.74	7.49	865	222	306	415	223	32.7	6.50	2.16	4.93
Cfsm	0.0076	0.0062	0.063	7.27	1.87	2.57	3.49	1.87	0.275	0.055	0.018	0.041
In.	0.009	0.007	0.07	8.38	1.94	2.96	3.89	2.16	0.31	0.06	0.02	0.05

Calendar year 1953: Max 4,210 Min 0.2 Mean 198 Cfsm 1.66 In. 22.55
Water year 1953-54: Max 5,340 Min 0 Mean 174 Cfsm 1.46 In. 19.86

Peak discharge (base, 7,000 cfs).--Jan. 16 (3 a.m.) 7,880 cfs (13.30 ft); Jan. 21 (12:30 a.m.) 13,800 cfs (16.25 ft); Apr. 16 (4 p.m.) 10,200 cfs (14.72 ft).
* Discharge measurement made on this day.

Stones River near Smyrna, Tenn.

Location.--Lat 35°59'59", long 86°27'35", on right bank 30 ft downstream from highway bridge at Jefferson Springs, 1½ miles downstream from confluence of East and West Forks, 3½ miles upstream from Falls Creek, and 3½ miles northeast of Smyrna, Rutherford County.

Drainage area.--552 sq mi.

Records available.--July 1925 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 459.76 ft above mean sea level, Sandy Hook datum. Prior to Sept. 22, 1926, tape gage at same site and datum.

Average discharge.--29 years, 943 cfs.

Extremes.--Maximum discharge during year, 35,600 cfs Jan. 21 (gage height, 31.22 ft); minimum, 6.5 cfs Sept. 27-29 (gage height, 0.82 ft).
1925-54: 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.

Remarks.--Records good except those below 25 cfs or those for periods of shifting control, which are fair.

Cooperation.--Three discharge measurements furnished by Corps of Engineers.

Revisions (water years).--WSP 853: 1929(M). WSP 953: 1928(M), 1929, 1934-37. WSP 1276: 1942.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	12	13	29	964	3,190	3,360	429	210	60	21	16
2	15	13	14	29	837	1,810	1,790	388	193	58	24	15
3	15	*12	19	29	*731	1,310	1,310	429	326	64	22	12
4	19	12	26	27	647	1,000	1,030	737	353	60	22	12
5	20	11	22	26	572	811	*844	594	267	56	21	12
6	19	12	38	25	510	689	707	468	217	66	21	12
7	15	12	30	25	455	600	635	416	187	62	19	*12
8	15	12	27	23	416	520	561	434	169	60	16	12
9	14	11	36	25	384	464	515	400	172	54	18	12
10	13	12	46	523	357	421	464	342	246	50	18	11
11	13	12	59	1,400	326	388	653	285	404	48	16	10
12	12	12	64	594	289	361	902	256	311	44	15	9.5
13	12	11	64	329	267	372	695	522	231	40	16	9.5
14	12	11	105	236	238	357	578	6,670	*184	37	15	10
15	*13	11	322	7,560	224	323	737	2,570	175	37	15	11
16	13	11	*199	20,500	2,010	285	12,500	1,490	289	34	15	11
17	13	11	150	4,480	6,890	264	13,300	1,030	358	30	15	12
18	12	12	108	*2,050	2,310	242	4,330	792	330	30	15	11
19	12	14	78	1,360	1,480	242	2,530	677	235	28	14	10
20	13	11	61	7,000	1,790	249	1,790	737	184	27	21	12
21	13	13	53	29,100	1,510	260	1,400	629	152	25	20	18
22	13	13	46	21,200	1,100	*238	*1,120	478	135	28	19	12
23	13	17	42	9,590	882	242	967	412	117	27	*19	10
24	17	15	38	3,910	749	12,200	928	*368	107	25	18	9.5
25	13	17	32	2,590	647	6,260	830	338	98	24	18	8.0
26	13	17	26	1,940	556	6,630	954	307	89	22	19	7.2
27	13	15	25	3,020	505	3,060	737	274	80	*25	22	7.2
28	14	14	25	2,370	3,200	1,990	611	319	75	27	21	6.5
29	13	13	23	1,720	-	1,520	588	357	66	27	21	23
30	13	12	25	1,380	-------	1,180	530	307	62	25	20	1,430
31	12	-------	26	1,120	-------	1,610	-------	264	-------	22	18	-------
Total	432	381	1,842	124,210	30,846	49,088	57,896	23,719	6,022	1,222	574	1,763.4
Mean	13.9	12.7	59.4	4,007	1,102	1,583	1,930	765	201	39.4	18.5	58.8
Cfsm	0.025	0.023	0.108	7.26	2.00	2.87	3.50	1.39	0.364	0.071	0.034	0.107
In.	0.03	0.03	0.12	8.37	2.08	3.31	3.90	1.60	0.41	0.08	0.04	0.12

Calendar year 1953: Max 18,300 Min 11 Mean 861 Cfsm 1.56 In. 21.17
Water year 1953-54: Max 29,100 Min 6.5 Mean 816 Cfsm 1.48 In. 20.09

Peak discharge (base, 17,000 cfs).--Jan. 16 (10 a.m.) 25,700 cfs (25.25 ft); Jan. 21 (10:30 a.m.) 35,600 cfs (31.22 ft); Mar. 24 (4 p.m.) 19,300 cfs (20.93 ft); Apr. 16 (12 p.m.) 24,700 cfs (24.58 ft).

* Discharge measurement made on this day.

Note.--Shifting-control method used Oct. 27 to Dec. 14, May 1 to Aug. 3, Aug 5 to Sept. 8, Sept. 21, 22, 29, 30.

Stewart Creek near Smyrna, Tenn.

Location.--Lat 35°59'54", long 86°30'18", on upstream end of right abutment of bridge on Fifteenth Avenue, 0.4 mile downstream from Rock Springs Creek, 0.6 mile south of headquarters at Sewart Air Force Base, 1.3 miles northeast of Smyrna, Rutherford County, and 5¼ miles upstream from mouth.

Drainage area.--71 sq mi, approximately.

Records available.--June 1952 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 490.00 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Extremes.--1952: Maximum discharge during period June to September, 52 cfs Aug. 2 (gage height, 2.42 ft); minimum, 0.1 cfs July 3, 4 (gage height, 1.33 ft).
1952-53: Maximum discharge during water year, 2,790 cfs Apr. 30 (gage height, 9.47 ft); no flow Sept. 23-30.
1953-54: Maximum discharge during water year, 5,340 cfs Jan. 21 (gage height, 12.79 ft), from rating curve extended above 3,000 cfs; no flow Oct. 1 to Dec. 11, Sept. 15-28.

Remarks.--Records fair except those below 10 cfs, which are poor.

Cooperation.--All basic data prior to July 1954 and two discharge measurements since that date furnished by Corps of Engineers.

Rating tables, June 19, 1952, to Sept. 30 1954 (gage height, in feet, and discharge, in cubic feet per second)

June 19, 1952, to Mar. 3, 1953, Apr. 30, 1953, to Jan. 15, 1954				Mar. 4 to Apr. 29, 1953		Jan. 16 to Sept. 30, 1954			
1.3	0	2.2	28	2.1	29	1.2	0	2.6	104
1.4	.2	2.5	57	2.2	39	1.3	.04	3.0	175
1.5	1.4	2.8	102	2.4	63	1.4	1.3	4.0	420
1.6	3.4	3.0	143	3.0	151	1.6	6.3	6.0	950
1.8	8.6	4.0	375	4.0	375	1.8	13	8.0	1,700
1.9	12	5.0	640	5.0	640	2.0	26	10.0	2,880
2.0	17	8.0	1,700	6.2	1,000	2.2	47		

Discharge, in cubic feet per second, June to September 1952

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									-	0.4	1.2	6.7
2									-	.3	28	10
3									-	.2	14	20
4									-	.4	6.1	11
5									-	3.0	4.3	7.0
6									-	1.6	5.4	4.3
7									-	.7	4.3	3.0
8									-	.7	3.6	2.0
9									-	.9	3.4	1.6
10									-	1.4	3.6	1.2
11									-	.9	2.4	1.1
12									-	.7	1.8	.7
13									-	.7	1.4	.6
14									-	.7	1.4	1.1
15									-	.7	1.2	*3.9
16									-	.6	1.1	3.0
17									-	.6	.7	1.8
18									-	.7	.6	1.2
19									2.2	.9	.6	.7
20									2.0	.6	.5	.7
21									1.6	*.7	.6	.7
22									1.4	.7	*.5	.7
23									*1.2	.7	.4	.7
24									1.2	.7	.4	.6
25									1.2	.6	.4	.5
26									.9	.6	.4	.7
27									.7	.7	.4	.6
28									.6	.7	.4	.7
29									.4	.6	.5	.7
30									1.2	.6	.7	.6
31										1.2	5.7	
Total									-	24.5	96.0	88.1
Mean									-	0.79	3.10	2.94
Cfsm									-	0.011	0.044	0.041
In.									-	0.01	0.05	0.05

Calendar year	: Max	Min	Mean	Cfsm	In.
Water year	: Max	Min	Mean	Cfsm	In.

Peak discharge (base, 1,800 cfs).--No peak above base.
* Discharge meausrement made on this day.

Stewart Creek near Smyrna, Tenn.--Continued

Discharge, in cubic feet per second, water year October 1952 to September 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.7	0.1	3.9	7.5	82	79	110	328	36	4.1	5.6	*0.5
2	.9	.1	4.6	12	67	143	73	208	31	3.6	6.1	.5
3	.9	.1	8.0	25	56	*1,080	63	156	29	3.2	4.9	.4
4	.9	.1	*8.6	22	47	972	53	195	26	3.6	3.2	.2
5	.9	.1	88	18	39	390	47	343	23	4.6	*2.6	.2
6	.9	.1	47	16	186	264	58	197	24	3.9	2.6	.2
7	.7	.1	26	13	168	205	108	160	20	4.1	2.0	.2
8	.7	.2	18	93	104	168	77	175	18	8.0	2.8	.4
9	1.2	.5	16	*228	78	141	66	122	16	7.0	2.4	.5
10	1.4	1.2	166	658	60	124	109	95	*14	5.6	2.0	.5
11	2.6	1.6	58	217	738	110	90	76	14	4.1	1.8	.5
12	2.0	2.4	30	126	*972	94	733	64	11	3.4	2.4	.2
13	1.6	2.8	23	80	372	*90	285	55	12	3.2	1.6	.08
14	1.4	2.2	18	56	261	84	182	174	9.8	*2.6	1.6	.04
15	1.2	1.4	16	43	231	128	141	*299	9.8	2.4	1.6	*.03
16	.7	1.2	12	34	184	100	*119	302	10	2.4	1.4	.03
17	.6	1.2	10	160	145	87	103	580	9.5	2.4	1.4	.04
18	.6	1.1	*9.2	327	118	175	115	480	8.6	2.6	1.2	.02
19	.6	2.0	8.3	149	92	134	113	1,120	8.3	2.8	1.1	.04
20	.5	6.7	7.5	127	291	107	90	488	7.8	3.2	1.1	.2
21	.4	3.4	7.2	448	1,430	90	77	319	7.2	3.2	1.1	.1
22	.4	2.8	6.7	222	398	83	67	245	7.2	3.2	1.1	.01
23	.4	2.6	6.1	399	278	320	59	199	6.7	14	1.1	0
24	.3	2.6	5.4	380	*217	182	50	166	5.9	13	1.1	0
25	.3	2.4	4.9	254	182	136	46	137	5.1	8.3	1.1	0
26	.3	2.8	4.6	175	151	113	40	104	6.1	6.4	1.1	0
27	*.2	3.9	4.3	122	126	97	36	82	6.4	5.1	.9	0
28	.2	5.1	3.9	312	97	84	*32	67	5.4	4.1	.9	0
29	.1	5.1	3.9	195	-	71	45	56	4.6	3.4	.7	0
30	.1	4.6	3.6	130	-------	63	*1,600	49	4.6	3.2	.6	0
31	.1	-------	4.3	100	-------	168	-------	42	-------	3.0	.5	-------
Total	23.8	60.5	633.0	5,148.5	7,170	6,082	4,787	7,083	397.0	143.7	59.6	4.89
Mean	0.77	2.02	20.4	166	256	196	160	228	13.2	4.64	1.92	0.163
Cfsm	0.011	0.028	0.287	2.34	3.61	2.76	2.25	3.21	0.186	0.065	0.027	0.0023
In.	0.01	0.03	0.33	2.70	3.76	3.19	2.51	3.71	0.21	0.08	0.03	0.003

Calendar year 1952: Max - Min - Mean - Cfsm - In. -
Water year 1952-53: Max 1,600 Min 0 Mean 86.6 Cfsm 1.22 In. 16.56

Peak discharge (base, 1,800 cfs).--Feb. 12 (2 a.m.) 1,800 cfs (8.20 ft); Feb. 21 (7 a.m.) 2,370 cfs (9.20 ft); Mar. 3 (9:30 a.m.) 1,840 cfs (8.27 ft); Apr. 30 (5 a.m.) 2,790 cfs (9.47 ft).
* Discharge measurement made on this day.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	(*)		0	0.6	155	278	*150	36	23	6.0	1.3	0.4
2			0	.5	139	188	123	35	21	*5.3	1.3	.4
3		(*)	0	.5	125	150	109	48	60	5.3	1.3	.4
4			*0	.5	112	120	93	66	52	5.8	1.3	.4
5			0	.4	104	104	79	47	36	5.5	1.3	.3
6			0	.5	96	88	72	*35	29	4.7	1.3	.3
7			0	.5	86	76	68	31	24	4.2	1.3	*.1
8			0	a1	70	68	60	27	20	3.7	1.3	.2
9			0	a120	56	60	52	25	53	3.7	1.3	.2
10			0	a220	48	*52	47	22	113	2.9	1.3	.1
11			0	a60	43	47	82	19	70	2.6	1.3	.04
12			.01	28	a40	41	93	17	46	2.4	1.3	.07
13			.1	18	a36	42	72	46	34	1.9	1.3	.2
14			a6	14	a32	41	63	410	27	1.7	1.3	.03
15			a8	712	29	34	54	179	*31	1.5	1.0	0
16			a6	977	a650	29	1,130	120	104	1.5	1.0	0
17			4.1	298	a370	26	657	88	51	1.3	1.0	0
18			3.2	188	a200	25	365	69	35	1.3	.8	0
19			2.2	148	a150	25	252	83	27	1.3	.6	0
20			1.8	1,550	a1,200	24	197	148	23	1.3	.6	0
21		(*)	1.6	2,460	a400	22	163	88	20	1.3	.4	0
22			1.4	1,640	a280	20	139	64	17	1.3	.4	0
23		(*)	1.1	571	a190	22	125	51	15	1.9	*.6	0
24			1.1	405	a210	1,680	109	40	13	1.9	.4	0
25			.9	312	*128	545	101	33	11	1.3	.4	0
26			.9	262	106	475	85	29	9.8	1.3	.4	0
27			.7	445	91	315	65	*24	8.9	1.3	.4	0
28			.7	300	345	243	60	38	7.8	1.3	.3	0
29			*.9	*245	-	190	54	55	7 2	*.8	.3	8.1
30			.9	202	-------	161	46	33	6.7	.8	.3	166
31		-------	.7	175	-------	169	-------	27	-------	.8	.2	-------
Total	0	0	42.31	11,354.5	5,491	5,360	4,765	2,033	995.4	77.9	27.3	177.24
Mean	0	0	1.36	366	196	173	159	65.6	33.2	2.51	0.88	5.91
Cfsm	0	0	0.019	5.15	2.76	2.44	2.24	0.924	0.468	0.035	0.012	0.083
In.	0	0	0.02	5.95	2.88	2.81	2.50	1.06	0.52	0.04	0.01	0.09

Calendar year 1953: Max 1,600 Min 0 Mean 84.7 Cfsm 1.19 In. 16.21
Water year 1953-54: Max 2,460 Min 0 Mean 83.1 Cfsm 1.17 In. 15.88

Peak discharge (base, 1,800 cfs).--Jan. 21 (2:30 a.m.) 5,340 cfs (12.79 ft); Feb. 20 (time and discharge unknown); Mar. 24 (5 a.m.) 2,840 cfs (9.94 ft); Apr. 16 (11:30 a.m.) 1,910 cfs (8.42 ft).
* Discharge measurement or observation of no flow made on this day.
a No gage-height record; discharge estimated on basis of weather records, recorded range in stage, and records for West Fork Stones River near Murfreesboro.

Stones River above Donelson, Tenn.

Location.--Lat 36°04'23" (revised), long 86°33'30", on left bank half a mile downstream from Hurricane Creek, 3.3 miles upstream from county highway bridge at Couchville, 8¾ miles southeast of Donelson, Davidson County, and 17.7 miles upstream from mouth.

Drainage area.--834 sq mi.

Records available.--January 1939 to September 1954. Published as "near Donelson" 1939-40. Records published for both sites April to September 1940.

Gage.--Water-stage recorder. Datum of gage is 400.00 ft above mean sea level, Sandy Hook datum. January 1939 to September 1940 wire-weight gage at site 10.5 miles downstream at datum 18 ft lower.

Average discharge.--15 years, 1,348 cfs.

Extremes.--Maximum discharge during year, 35,500 cfs Jan. 21 (gage height, 47.65 ft); minimum, 11 cfs Sept. 16-20; minimum gage height, 10.60 ft Sept. 19, 20.
1939-54: 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, that of Sept. 19, 20, 1954.
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.

Remarks.--Records good.

Cooperation.--Two discharge measurements furnished by Corps of Engineers.

Revisions (water years).--WSP 1143: 1948.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Rate of change in stage used as a factor Jan. 15-17, 20-24, Feb. 16, 17, 28, Mar. 1, 24-27, Apr. 16-18)

Oct. 1 to Jan. 21				Jan. 22 to Sept. 30			
10.6	10	14.0	910	10.6	11	11.5	106
10.8	19	18.0	3,320	10.8	18	12.0	203
11.0	38	25.0	8,800	10.9	24	13.0	478
11.5	106	30.0	13,300	11.0	33	14.0	910
12.0	200	40.0	23,100	Note.--Same as preceding table above 14.0 ft.			
13.0	455	47.0	34,000				

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	15	14	54	1,380	5,290	3,910	516	308	72	24	20
2	15	15	14	58	*1,180	2,930	2,440	453	272	66	24	18
3	14	*14	17	58	1,030	1,970	1,740	481	383	64	27	16
4	14	16	28	58	899	1,490	1,360	780	662	74	28	16
5	14	15	30	53	785	1,180	1,100	800	440	68	23	15
6	16	14	49	49	691	1,030	960	588	337	62	22	14
7	16	14	77	48	614	822	904	498	275	72	22	14
8	16	13	50	44	552	700	760	459	233	71	22	14
9	15	13	44	49	498	614	670	475	236	68	21	*14
10	14	13	49	1,200	462	555	595	396	375	62	18	14
11	14	13	58	2,660	424	509	830	351	537	54	18	13
12	14	13	63	1,210	381	462	1,490	313	475	51	18	12
13	14	14	86	624	346	465	1,080	393	343	46	17	12
14	14	14	184	405	321	481	822	6,420	*272	41	17	12
15	*14	14	372	5,820	300	433	800	3,990	231	37	17	12
16	14	14	*360	24,300	1,610	381	10,800	2,120	371	34	16	11
17	14	14	250	9,600	10,400	343	21,400	1,420	332	32	16	11
18	13	14	200	3,160	3,830	321	7,260	1,050	588	29	16	11
19	13	13	148	2,020	2,260	313	3,630	822	334	28	16	11
20	13	13	117	5,570	4,350	321	2,460	899	275	27	16	56
21	13	13	101	32,400	3,220	332	1,860	965	214	25	20	355
22	13	14	90	27,500	1,980	*316	*1,500	679	183	25	24	127
23	12	14	80	18,100	1,500	310	1,250	552	162	28	22	46
24	13	16	89	6,240	1,300	13,900	1,110	*472	144	28	*21	25
25	14	16	65	3,770	1,080	11,800	1,000	408	127	27	21	20
26	14	16	59	2,820	888	9,340	1,030	372	116	28	19	17
27	16	16	50	4,610	741	4,700	894	334	104	*29	17	15
28	15	16	50	*4,030	3,640	2,960	722	318	92	26	32	14
29	15	15	49	2,650	-	2,140	638	548	82	29	30	96
30	15	14	49	2,050	------	1,670	599	495	76	29	26	2,800
31	16	-----	50	1,640	-----	1,610	-----	369	------	28	25	------
Total	443	428	2,942	162,850	46,662	69,688	75,614	28,736	8,579	1,360	655	3,831
Mean	14.3	14.3	94.9	5,253	1,666	2,248	2,520	927	286	43.9	21.1	128
Cfsm	0.017	0.017	0.114	6.30	2.00	2.70	3.02	1.11	0.343	0.053	0.025	0.153
In.	0.02	0.02	0.13	7.26	2.08	3.11	3.37	1.28	0.38	0.06	0.03	0.17

Calendar year 1953: Max 21,200 Min 12 Mean 1,192 Cfsm 1.43 In. 19.40 Ac-ft
Water year 1953-54: Max 32,400 Min 11 Mean 1,101 Cfsm 1.32 In. 17.91 Ac-ft

Peak discharge (base, 16,000 cfs).--Jan. 16 (3:30 p.m.) 26,200 cfs (42.40 ft); Jan. 21 (7 p.m.) 35,500 cfs (47.65 ft); Mar. 24 (8:30 p.m.) 21,400 cfs (38.35 ft); Apr. 17 (6:30 a.m.) 26,100 cfs (42.37 ft).
* Discharge measurement made on this day.

Mill Creek near Antioch, Tenn.

Location.--Lat 36°04'54", long 86°40'50", at downstream end of center bridge pier on Franklin-Limestone Road, 900 ft upstream from Nashville, Chattanooga & St. Louis Railway spur track bridge, 1.6 miles north of Antioch, Davidson County, 2.1 miles downstream from Whittemore Branch, and 4.0 miles southeast of Radnor.

Drainage area.--64 sq mi, approximately.

Records available.--October 1953 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 472.93 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 6,850 cfs Mar. 24 (gage height, 14.54 ft), from rating curve extended above 3,700 cfs; no flow at times.

Remarks.--Records poor prior to Feb. 7 and good thereafter except those below 10 cfs, which are fair, and those for period of no gage-height record, which are poor.

Cooperation.--One discharge measurement furnished by Corps of Engineers.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 3, 4, 6-16, Dec. 20 to Jan. 14)

Oct. 1 to Dec. 6		Dec. 6 to Jan. 21, Feb. 7 to Sept. 30				Jan. 22 to Feb. 7			
0.4	0	2.5	0	3.2	29	2.7	25	4.0	225
.5	.2	2.6	.01	3.4	62	3.0	50	5.0	530
.6	.5	2.7	.05	4.0	180	3.3	85	6.0	950
		2.8	.8	5.0	455	3.6	136	7.0	1,480
		2.9	3.3	7.0	1,310				
		3.0	7.5	10.0	3,050				
		3.1	16						

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.8	66	235	108	22	14	0.2	0	0
2			0	.8	*59	152	88	24	13	*.06	0	0
3			.03	1.0	52	126	73	55	*32	.03	0	0
4			*.09	.8	45	94	64	46	15	.03	0	0
5		(*)	.06	.5	39	80	53	29	11	.04	0	0
6			.5	.5	33	67	91	22	9	.04	*0	0
7			.5	.6	26	57	67	24	8	.02	0	*0
8			.4	*.6	26	49	53	22	7.5	.01	0	0
9			.3	.6	25	44	46	18	20	.02	0	0
10			.2	301	22	40	41	16	60	.03	0	0
11			.1	100	20	36	90	14	20	.03	0	0
12			.3	32	16	34	62	12	10	.02	0	0
13			.2	12	15	67	53	252	8	.01	0	0
14			24	7.5	15	41	48	*734	6	0	0	0
15			32	1,380	14	32	44	190	5.2	0	0	0
16			*8.3	618	497	28	2,010	120	*4.8	0	0	0
17			5.6	185	223	26	660	82	15	0	0	0
18			2.8	112	120	25	292	62	6.0	0	0	0
19			2.0	76	102	29	185	77	3.6	0	0	0
20			1.5	2,670	*1,610	28	136	138	3.3	0	0	6.0
21			1.5	*1,120	211	22	104	64	3.0	0	0	4.5
22			1.2	*1,300	84	*21	82	44	2.5	0	0	.3
23		(*)	1.2	360	92	34	*75	36	2.0	0	0	.05
24		(*)	1.0	225	172	2,540	62	29	1.8	0	31	.03
25		(*)	.8	*156	124	624	48	25	1.5	0	14	.04
26			.6	127	96	389	40	*22	1.5	0	2.0	.04
27		(*)	.5	510	80	238	34	21	1.2	0	.8	.02
28			.6	183	412	170	38	35	.8	0	.3	.01
29			.8	131	-	130	32	49	.5	*0	.1	32
30		(*)	.6	98	------	104	26	22	.3	0	.04	132
31		-----	.8	78	------	146	-----	16	------	0	.01	------
Total	0	0	88.48	9,787.7	4,296	5,708	4,805	2,322	286.5	0.54	48.25	174.99
Mean	0	0	2.85	316	153	184	160	74.9	9.55	0.017	1.56	5.83
Cfsm	0	0	0.045	4.94	2.39	2.88	2.50	1.17	0.149	0.00027	0.024	0.091
In.	0	0	0.05	5.69	2.50	3.32	2.79	1.35	0.17	0.0003	0.03	0.10

Calendar year 1953 : Max - Min - Mean - Cfsm - In. -
Water year 1953-54 : Max 2,670 Min 0 Mean 75.4 Cfsm 1.18 In. 16.00

Peak discharge (base, 2,000 cfs).--Jan. 15 (8:30 p.m.) 4,020 cfs (11.45 ft); Jan. 20 (10 p.m.) 6,820 cfs (14.52 ft); Feb. 20 (9 a.m.) 4,180 cfs (11.68 ft); Mar. 24 (7:30 a.m.) 6,850 cfs (14.54 ft); Apr. 16 (12 m.) 3,910 cfs (11.30 ft); May 14 (12:30 a.m.) 2,100 cfs (8.42 ft).

* Discharge measurement or observation of no flow made on this day.

Note.--No gage-height record Oct. 1 to Nov. 24, Dec. 17-19, June 4-14; discharge estimated on basis of weather records, recorded range in stage, and records for nearby streams.

Cumberland River at Nashville, Tenn.

Location.--Lat 36°09'45", long 85°46'17", on right bank pier of 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.

Records available.--January 1902 to December 1904 (gage heights only) and October 1918 to September 1954 in reports of Geological Survey (discontinued). October 1887 to September 1924 in Tennessee Division of Geology Bulletin 34 (records prior to October 1892 subject to error due to uncertainty of gage datum). 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. 9, 1940, staff gage at site 400 ft downstream at same datum. Since Nov. 1, 1931, upper staff gage at lock 1 has been used as auxiliary gage.

Average discharge.--67 years (1887-1954), 20,270 cfs (unadjusted).

Extremes.--Maximum discharge during year, 91,700 cfs Jan. 22; maximum gage height, 36.87 ft Jan. 23; minimum daily discharge, 916 cfs Oct. 23; minimum gage height, 8.83 ft Sept. 16.
1887-1954: Maximum discharge, 203,000 cfs Jan. 1, 1927 (gage height, 56.2 ft); minimum daily, 60 cfs Oct. 19, 1935; minimum gage height observed after first filling of pool at dam 1, 6.1 ft Oct. 19, 1935.

Remarks.--Records fair. Some regulation by Wolf Creek, Dale Hollow, Great Falls, Center Hill, and Old Hickory Reservoirs (see p. 63) and by navigation pools.

Cooperation.--Water-stage-recorder graph, auxiliary gage readings, record of wicket manipulation, and 3 discharge measurements furnished by Corps of Engineers.

Revisions (water years).--WSP 1276: 1909.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,670	4,480	7,080	13,800	27,900	23,700	11,500	18,500	7,420	6,490		
2	1,480	3,310	7,100	13,700	21,800	24,300	10,300	13,100	6,720	5,850		
3	1,620	2,850	10,500	16,400	19,300	22,300	8,300	12,000	14,700	6,580		
4	1,550	3,820	11,200	17,400	18,600	20,500	9,960	14,000	15,800	5,940		
5	1,460	3,270	9,970	15,400	17,900	22,600	11,800	18,700	12,500	3,520		
6	1,530	4,540	7,510	15,500	20,000	24,300	11,300	20,800	9,380	2,610		
7	1,560	4,870	4,290	19,200	19,600	24,700	11,600	20,000	6,090	1,670		
8	1,840	4,540	3,220	21,700	15,200	23,300	10,800	20,000	3,070	2,150		
9	1,940	5,410	3,540	19,200	12,900	22,700	11,100	21,800	1,470	1,830		
10	1,820	6,770	3,120	15,800	16,300	22,300	11,600	21,400	1,530	3,610		
11	1,950	6,010	7,030	15,600	18,400	18,700	11,200	23,200	1,160	3,550		
12	1,890	5,730	6,230	14,400	15,000	16,700	12,500	23,200	1,350	3,260		
13	3,230	6,810	4,400	11,900	12,000	11,900	13,300	22,800	5,810	2,130		
14	5,770	6,000	4,140	15,700	15,300	7,700	14,800	26,200	5,300	1,850		
15	5,080	3,770	3,920	22,800	15,500	9,480	15,700	28,800	4,740	3,160	4,800	4,900
16	3,810	3,440	5,190	63,600	10,900	11,400	34,400	24,400	5,880	3,860		
17	2,900	3,720	7,520	61,100	24,800	15,200	75,500	19,100	12,600	4,230		
18	2,240	4,240	11,700	32,500	*26,800	19,100	66,200	12,900	14,700	3,800		
19	2,200	3,570	19,900	19,000	21,400	19,100	42,700	10,600	14,700	4,430		
20	1,890	4,100	23,100	21,800	27,900	17,400	27,400	11,700	12,700	2,980		
21	1,860	3,600	18,200	75,400	28,300	13,800	*19,500	15,100	7,920	3,120		
22	1,000	2,780	12,500	91,200	20,800	11,800	16,000	17,300	6,410	4,260		
23	916	2,250	9,940	89,700	14,700	11,600	18,800	17,100	6,530	5,620		
24	1,220	1,760	10,800	75,500	14,900	43,600	18,100	11,000	10,800	5,000		
25	1,370	1,560	12,500	53,800	14,600	61,700	22,700	9,100	10,800	5,480		
26	1,620	1,910	12,500	38,800	13,400	52,200	25,300	11,300	7,910	4,090		
27	2,240	3,410	7,710	43,600	11,000	36,500	24,800	15,500	7,090	2,250		
28	2,780	4,290	3,820	43,000	13,800	23,200	21,500	17,200	5,200	*1,760		
29	*2,710	5,190	5,360	37,500	-	15,000	21,800	16,900	4,850	1,670		
30	4,580	5,640	11,600	33,500	-------	10,600	22,800	15,000	5,330	1,700		
31	5,300	-------	13,200	31,400	-------	10,300	-------	10,600	-------	2,920		-----
Total	73,026	123,640	278,790	‡1,059.9	509,000	667,680	633,260	539,300	232,460	111,370	148,800	147,000
Mean	2,356	4,121	8.993	34,190	18,180	21,540	21,110	17,400	7,749	3,593	4,800	4,900

	Observed						Adjusted†					
Calendar year 1953:	Max	70,500	Min	916	Mean	16,150	Mean	16,020	Cfsm	1.25	In.	16.91
Water year 1953-54:	Max	91,200	Min	916	Mean	12,400	Mean	12,550	Cfsm	0.976	In.	13.25

* Discharge measurement made on this day.
† Adjusted for change in contents in Wolf Creek, Dale Hollow, Great Falls, and Center Hill Reservoirs.
‡ Expressed in thousands.
Note.--Crest-wicket manipulation at dam 1 Oct. 1 to Dec. 3, Dec. 5-17, 27-30, Mar. 14, 15, Apr. 3, 4, May 24, 25, May 31 to June 2, June 6 to July 31; discharge computed from auxiliary gage record by weir formula plus leakage. Backwater from Cheatham Dam reached crest of dam 1 on Aug. 4; discharge for August and September estimated on basis of records for Cumberland River at Dover, Red River near Adams, and Harpeth River near Kingston Springs.

Harpeth River at Belleview, Tenn.

Location.--Lat 36°03'00", long 86°56'08", on right bank 45 ft upstream from bridge on State Highway 100, 0.1 mile downstream from Little Harpeth River, and 1 mile southeast of Belleview, Davidson County.

Drainage area.--404 sq mi.

Records available.--April 1920 to October 1929, January 1932 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 541.04 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1933, staff or chain gage at site 2½ miles downstream at datum 7.85 ft lower.

Average discharge.--31 years, 566 cfs.

Extremes.--Maximum discharge during year, 14,700 cfs Jan. 21 (gage height, 18.21 ft); minimum, 0.2 cfs Sept. 12-20; minimum gage height 0.75 ft Sept. 16-20.
1920-29, 1932-54: Maximum discharge, 65,000 cfs Feb. 13, 1948 (gage height, 24.34 ft, from floodmarks), from rating curve extended above 16,000 cfs on basis of contracted-opening determination of peak flow; no flow Oct. 5-10, 1922.

Remarks.--Records good except those below 10 cfs, which are fair.

Cooperation.--Two discharge measurements furnished by Corps of Engineers.

Revisions (water years).--WSP 953: 1920-30, 1932-35.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 31 to Nov. 24)

0.75	0.2	2.0	245
.8	.6	2.5	460
.9	3.6	3.0	765
1.0	11	10.0	5,100
1.1	22	16.0	9,800
1.3	53	18.0	14,100
1.6	119		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.6	5.3	11	20	726	1,470	1,000	262	127	26	3.0	1.4
2	3.6	4.7	11	18	623	1,090	726	279	109	23	3.0	1.2
3	3.6	4.2	11	17	545	905	599	533	*134	22	5.3	.8
4	3.6	4.2	*21	17	482	700	504	539	214	41	6.7	.7
5	3.6	3.6	36	17	*425	593	435	385	130	65	6.7	.6
6	3.6	3.6	26	17	375	510	430	296	104	44	6.0	.4
7	3.0	3.0	142	17	340	435	460	256	92	30	6.0	.4
8	2.0	3.6	70	*17	308	380	360	231	83	23	6.7	.3
9	1.4	4.2	43	18	292	340	328	203	106	20	*6.0	*.3
10	1.2	4.2	33	160	273	312	308	174	1,160	16	5.3	.3
11	1.2	4.7	38	629	256	292	515	156	592	15	4.2	.3
12	*1.4	6.0	32	288	231	273	700	144	224	14	3.6	.2
13	1.2	6.7	28	168	210	324	493	215	165	12	3.6	.2
14	1.7	8.2	30	125	203	336	430	2,500	133	11	3.0	.2
15	2.0	10	41	1,920	194	256	385	1,500	112	9.0	4.5	.2
16	2.0	12	79	7,010	991	224	4,700	884	339	8.2	2.0	.2
17	1.7	12	61	2,800	3,250	207	7,500	611	443	6.7	2.0	.2
18	1.7	13	41	1,230	1,360	197	2,780	488	162	6.0	*2.0	.2
19	1.7	15	32	877	925	200	1,700	430	119	6.0	2.0	.2
20	1.7	18	26	2,990	5,610	228	1,240	*476	96	*6.0	2.5	.5
21	2.0	20	25	12,600	4,200	210	976	340	83	5.3	3.0	1.2
22	2.0	29	25	11,900	1,800	187	800	270	72	6.0	3.0	1.0
23	2.0	25	25	6,220	1,310	203	*668	234	64	8.2	2.5	.7
24	2.0	*22	22	2,410	1,230	5,660	642	207	57	10	2.5	.6
25	2.0	18	18	1,700	957	*2,980	498	184	50	6.7	16	.6
26	2.0	16	16	1,330	765	2,730	425	165	44	5.3	26	.4
27	3.0	15	15	2,500	635	1,710	365	150	41	4.2	18	.6
28	3.6	14	16	1,840	1,800	1,280	348	139	36	3.6	11	1.0
29	5.3	14	17	1,340	-	1,010	332	281	32	3.6	6.7	3.2
30	5.3	12	21	1,090	------	835	304	197	29	3.6	4.7	963
31	5.3	-----	22	870	-----	856	-----	144	------	3.0	3.0	------
Total	80.0	331.2	1,034	62,155	30,316	26,933	30,951	12,873	5,152	483.4	178.5	981.1
Mean	2.58	11.0	33.4	2,005	1,083	869	1,032	415	172	15.6	5.76	32.7
Cfsm	0.0064	0.027	0.083	4.96	2.68	2.15	2.55	1.03	0.426	0.039	0.014	0.081
In.	0.007	0.03	0.10	5.72	2.79	2.48	2.85	1.19	0.47	0.04	0.02	0.09

Calendar year 1953: Max 7,000 Min 1.2 Mean 528 Cfsm 1.31 In. 17.75
Water year 1953-54: Max 12,600 Min 0.2 Mean 470 Cfsm 1.16 In. 15.79

Peak discharge (base, 7,500 cfs).--Jan. 16 (12:30 p.m.) 7,290 cfs (13.70 ft); Jan. 21 (4 p.m.) 14,700 cfs (18.21 ft); Feb. 20 (11 p.m.) 8,220 cfs (14.44 ft); Apr. 17 (5 a.m.) 8,840 cfs (15.14 ft).
* Discharge measurement made on this day.

Harpeth River near Kingston Springs, Tenn.

Location.--Lat 36°07'18", long 87°05'56", on right bank 400 ft upstream from bridge on U. S. Highway 70, 2 miles northeast of Kingston Springs, Cheatham County, 3 miles downstream from Turnbull Creek, and at mile 32.4.

Drainage area.--687 sq mi.

Records available.--July 1925 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 448.04 ft above mean sea level, datum of 1929. Prior to Jan. 23, 1939, staff gage at site 150 ft downstream at same datum.

Average discharge.--29 years, 949 cfs.

Extremes.--Maximum discharge during year, 19,300 cfs Jan. 22 (gage height, 19.46 ft); minimum, 20 cfs Sept. 10-18, 20 (gage height, 0.50 ft).
1925-54: 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.

Remarks.--Records good.

Cooperation.--One discharge measurement furnished by Corps of Engineers.

Revisions (water years).--WSP 953: 1927, 1933, 1935-36. WSP 1033: 1927(M), 1932-33(M), 1935(M), 1937(M).

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 22		Nov. 23 to Sept. 30			
0.8	36	0.5	20	3.0	670
1.0	54	1.0	54	6.0	2,900
1.2	78	1.4	101	12.0	8,250
1.4	105	1.7	152	16.0	12,800
		2.0	220	19.0	18,400
		2.5	410		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	54	62	80	1,050	2,600	1,320	570	238	70	30	30
2	39	55	61	78	916	1,740	1,150	595	226	68	36	27
3	38	56	73	77	818	1,470	958	1,200	*264	109	54	26
4	38	56	*141	75	712	1,200	832	1,190	313	145	56	24
5	38	58	103	73	640	1,010	742	972	292	103	43	22
6	38	58	226	72	575	881	742	730	215	136	38	21
7	38	56	162	70	525	760	860	652	184	95	42	21
8	37	56	198	*71	475	682	718	570	164	104	42	22
9	39	56	148	78	*450	605	622	490	195	79	*46	*22
10	39	59	129	315	425	555	590	425	668	78	41	22
11	39	59	106	730	395	520	1,080	356	1,380	66	39	20
12	*39	59	104	622	356	485	1,290	324	455	58	35	20
13	39	60	97	336	316	485	1,050	365	296	55	36	20
14	39	59	106	257	299	580	923	2,400	238	52	38	20
15	41	59	120	1,590	288	470	832	2,480	202	50	36	20
16	41	60	111	8,130	542	390	3,180	1,390	218	51	32	20
17	41	59	132	5,180	3,670	352	9,640	1,020	570	47	28	20
18	41	60	111	1,810	2,160	328	5,250	811	336	44	27	21
19	39	62	93	1,270	1,320	340	2,670	682	210	41	26	21
20	40	65	91	3,450	5,280	360	1,880	*712	172	*40	44	48
21	40	67	97	14,100	7,500	352	1,460	616	152	a38	42	100
22	42	95	95	17,600	2,910	320	1,220	490	138	a40	36	60
23	42	144	87	11,100	1,980	365	*1,080	415	124	a53	34	45
24	42	*86	74	3,760	1,680	10,000	1,010	356	112	a58	32	38
25	42	79	71	2,480	1,400	6,090	860	320	103	a49	41	35
26	45	83	70	1,860	1,160	*3,820	754	292	94	a43	39	33
27	54	74	71	2,760	986	2,790	664	271	88	a39	33	32
28	61	66	84	2,880	2,470	1,990	730	264	87	36	49	31
29	60	63	98	1,890	-	1,560	730	316	78	34	42	46
30	58	63	90	1,510	-------	1,300	646	420	74	32	40	348
31	54	-------	80	1,240	-------	1,200	-------	285	-------	31	35	-------
Total	1,325	1,956	3,291	85,544	41,298	45,600	45,483	21,979	7,886	1,944	1,192	1,235
Mean	42.7	65.2	106	2,759	1,475	1,471	1,516	709	263	62.7	38.5	41.2
Cfsm	0.062	0.095	0.154	4.02	2.15	2.14	2.21	1.03	0.383	0.091	0.056	0.060
In.	0.07	0.11	0.18	4.63	2.24	2.47	2.46	1.19	0.43	0.11	0.06	0.07

Calendar year 1953: Max 11,300 Min 30 Mean 888 Cfsm 1.29 In. 17.55
Water year 1953-54: Max 17,600 Min 20 Mean 709 Cfsm 1.03 In. 14.02

Peak discharge (base, 10,000 cfs).--Jan. 22 (2 p.m.) 19,300 cfs (19.46 ft); Mar. 24 (11 a.m.) 13,700 cfs (16.56 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records, recorded range in stage, and records for station at Belleview.

Red River near Adams, Tenn.

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

Drainage area.--678 sq mi.

Records available.--June 1920 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 398.34 ft above mean sea level, Sandy Hook datum (Corps of Engineers benchmark). 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.--34 years, 986 cfs.

Extremes.--Maximum discharge during year, 6,310 cfs Jan. 21 (gage height, 13.02 ft); minimum, 38 cfs Oct. 21; minimum gage height, 1.63 ft Sept. 16.
1920-54: Maximum discharge, 42,000 cfs Jan. 23, 1937 (gage height, 37.5 ft, from floodmarks, converted to present site by curve of relation), from rating curve extended above 25,000 cfs; minimum, 30 cfs Spet. 10, 1925 (gage height, 1.30 ft, site then in use).

Remarks.--Records good.

Cooperation.--Three discharge measurements furnished by Corps of Engineers.

Revisions (water years).--WSP 953: 1920-27. WSP 1276: 1928, 1932(M), 1935(M).

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Dec. 6, Dec. 11 to Jan. 11, Sept. 30)

Oct. 1 to Jan. 21				Jan. 22 to Sept. 30			
1.6	38	3.5	475	1.6	48	3.0	327
2.0	79	4.0	700	1.8	64	4.0	720
2.4	150	10.0	4,250	2.0	88	9.0	3,600
3.0	311	11.5	5,250	2.5	192		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*42	44	50	51	*1,040	*2,300	*720	576	*342	205	73	62
2	40	43	49	52	930	1,570	634	520	688	228	82	61
3	39	46	52	52	860	1,330	576	594	3,570	202	84	60
4	39	45	58	50	785	1,170	528	612	3,420	194	83	59
5	39	43	55	49	716	990	500	540	1,440	175	80	58
6	40	42	110	47	634	895	735	489	1,030	163	78	57
7	41	41	177	47	572	815	1,200	855	830	156	79	55
8	40	42	177	47	512	750	920	1,990	680	288	80	56
9	40	46	133	48	485	693	720	1,100	1,060	462	76	55
10	40	45	100	69	458	648	630	860	1,010	252	75	54
11	40	44	82	87	429	608	711	706	608	187	72	54
12	41	44	75	95	390	567	920	616	496	163	70	53
13	41	45	68	110	364	528	840	554	490	145	73	52
14	41	47	68	100	346	585	745	590	603	134	73	52
15	41	47	68	238	330	489	765	745	520	124	71	52
16	41	46	64	1,680	495	425	940	612	432	120	67	52
17	40	47	60	1,350	1,630	394	2,560	536	*387	114	68	52
18	39	49	55	780	1,240	374	1,980	532	400	107	70	52
19	39	48	56	551	945	377	1,510	500	361	105	93	52
20	39	48	54	897	1,120	377	1,180	455	319	102	218	101
21	*40	48	54	4,970	2,390	364	1,030	422	293	103	134	843
22	39	116	54	3,260	1,570	333	990	387	274	118	105	605
23	39	200	53	2,350	1,230	333	1,210	358	252	154	85	228
24	42	*146	53	1,730	1,080	850	1,200	333	239	156	79	143
25	42	114	52	1,410	970	2,030	925	324	225	124	90	107
26	42	80	51	1,200	865	1,710	810	305	217	105	84	90
27	42	67	48	1,780	770	1,440	725	296	204	93	76	83
28	44	60	52	2,170	1,830	1,220	770	279	192	87	73	76
29	45	54	54	1,680	-	1,060	706	374	185	85	67	164
30	*45	*52	53	1,420	-------	955	*634	358	*180	*84	65	638
31	45	-------	*53	1,190	-------	835	-------	302	-------	80	*63	-------
Total	1,267	1,839	2,188	29,560	24,986	27,015	28,314	17,720	21,047	4,815	2,583	4,126
Mean	40.9	61.3	70.6	954	892	871	944	572	702	155	83.3	138
Cfsm	0.060	0.090	0.104	1.41	1.32	1.28	1.39	0.844	1.04	0.229	0.123	0.204
In.	0.07	0.10	0.12	1.62	1.37	1.48	1.55	0.97	1.15	0.26	0.14	0.23

Calendar year 1953: Max 9,720 Min 39 Mean 731 Cfsm 1.08 In. 14.64
Water year 1953-54: Max 4,970 Min 39 Mean 453 Cfsm 0.668 In. 9.06

Peak discharge (base, 8,000 cfs).--No peak above base.
* Discharge measurement made on this day.

Sulphur Fork Red River near Adams, Tenn.

Location.--Lat 36°31'00", long 87°03'40", on left bank 1,000 ft downstream from highway bridge, 2¾ miles downstream from Millers Creek, 4½ miles south of Adams, Robertson County, and 8¾ miles upstream from mouth.

Drainage area.--185 sq mi.

Records available.--January 1939 to September 1954.

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.--15 years, 232 cfs.

Extremes.--Maximum discharge during year, 3,660 cfs Jan. 21 (gage height, 10.96 ft); minimum, 3.5 cfs Sept. 17, 18 (gage height, 3.20 ft).
1939-54: Maximum discharge, 13,200 cfs Mar. 22, 1952 (gage height, 22.75 ft); minimum, 1.8 cfs Sept. 27, 1948; minimum gage height, that of Sept. 17, 18, 1954.
Maximum stage known, 25.1 ft in June 1934, from floodmarks.

Remarks.--Records fair.

Cooperation.--Two discharge measurements furnished by Corps of Engineers.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Nov. 22, Nov. 28 to Dec. 5, Mar. 31 to Apr. 5, Apr. 10, 27, Apr. 29 to May 2, May 4-6, 9-13, 16-28, May 30 to June 2)

Oct. 1 to Jan. 20				Jan. 21 to Sept. 30			
3.6	3.5	4.2	86	3.2	3.5	3.8	80
3.7	7.5	5.0	351	3.3	4.8	4.0	136
3.8	13	6.0	715	3.4	7.8	5.0	454
3.9	21	7.0	1,180	3.5	15	7.0	1,240
4.0	33			3.6	31	8.0	1,760

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*5.5	16	11	19	*160	*580	*184	163	*133	22	6.6	7.8
2	5.1	16	11	18	151	386	169	177	127	22	7.8	6.6
3	5.1	16	12	17	142	333	160	232	580	25	15	6.0
4	5.1	16	13	16	136	232	154	214	176	29	19	5.5
5	5.1	16	14	16	124	193	148	187	102	27	15	5.2
6	5.5	16	31	16	113	172	553	169	78	23	12	4.8
7	5.5	16	37	16	102	157	437	378	65	20	10	4.6
8	5.5	16	26	16	94	142	275	294	57	19	10	4.4
9	5.9	17	25	16	91	127	214	214	54	19	8.6	4.2
10	6.3	17	25	23	86	121	199	181	60	18	7.8	4.2
11	6.3	18	23	33	80	116	320	163	60	16	7.4	4.1
12	6.3	20	22	24	78	107	326	154	49	15	6.6	4.1
13	6.3	20	22	29	72	129	250	148	45	15	7.0	4.0
14	6.3	20	22	20	70	121	235	386	45	14	7.4	3.9
15	6.7	20	22	277	70	96	235	288	43	13	7.0	3.7
16	6.7	20	22	750	304	86	504	211	43	14	6.3	3.6
17	6.3	20	22	222	522	80	864	181	*43	13	5.5	3.5
18	6.3	20	23	89	262	80	562	169	43	12	5.5	3.5
19	6.3	20	19	54	196	80	386	154	43	11	5.5	3.6
20	6.3	20	18	995	762	80	278	151	38	10	119	9.8
21	*6.3	20	18	1,740	692	78	223	142	25	8.6	31	38
22	6.7	32	19	912	410	72	661	130	25	10	19	27
23	6.7	39	19	609	288	75	483	127	29	10	57	18
24	11	*32	18	420	235	1,210	291	121	29	12	22	11
25	9.0	22	18	307	190	880	233	118	31	13	16	9.1
26	9.0	18	18	241	172	670	235	116	29	11	12	7.8
27	11	15	18	355	155	472	193	113	27	7.8	11	6.6
28	13	14	18	294	891	362	226	172	27	7.4	9.6	6.3
29	18	13	20	235	-	288	199	285	25	7.4	8.6	141
30	*17	*12	20	199	-------	241	*181	156	*22	*7.4	15	50
31	17	-------	*20	175	-------	208	-------	127	-------	7.0	*12	-------
Total	243.1	577	626	8,153	6,648	7,974	9,378	5,821	2,153	458.6	502.2	411.9
Mean	7.84	19.2	20.2	263	237	257	313	188	71.8	14.8	16.2	13.7
Cfsm	0.042	0.104	0.109	1.42	1.28	1.39	1.69	1.02	0.388	0.080	0.088	0.074
In.	0.05	0.12	0.13	1.64	1.34	1.60	1.89	1.17	0.43	0.09	0.10	0.08

Calendar year 1953: Max 3,350 Min 5.1 Mean 191 Cfsm 1.03 In. 14.05
Water year 1953-54: Max 1,740 Min 3.5 Mean 118 Cfsm 0.638 In. 8.64

Peak discharge (base, 3,400 cfs).--Jan. 21 (12:30 a.m.) 3,600 cfs (10.96 ft).
* Discharge measurement made on this day.

Cumberland River at Dover, Tenn.

Location.--Lat 36°29'26", long 87°50'20", on center pier of 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, and at mile 88.8.

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

Records available.--October 1937 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 324.25 ft above mean sea level, Sandy Hook datum (levels by Corps of Engineers). Prior to Feb. 8, 1939, and during periods of crest-wicket manipulation at dam D during period Feb. 8, 1939, to Sept. 30, 1951, staff gage at upper lock D, 0.8 mile downstream at same datum. Auxiliary staff gage, 19.7 miles upstream, below spillway at lock and dam C, read four times daily.

Average discharge.--17 years, 24,010 cfs (unadjusted).

Extremes.--Maximum discharge during year, 102,000 cfs Jan. 24; maximum gage height, 32.29 ft Jan. 25; minimum daily discharge, 654 cfs Oct. 24; minimum gage height, 9.81 ft Dec. 29

1937-54: 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 upper lock D; minimum observed, 6.8 ft in September 1925, at upper lock D. Both extremes from unpublished records of Corps of Engineers.

Remarks.--Records good except those for periods computed using fall as a factor and periods of crest-wicket manipulation, which are fair, or those when raised wickets were excessively overtopped, which are poor. Some regulation by Wolf Creek, Dale Hollow, Great Falls, Center Hill, and Old Hickory Reservoirs (see p. 63), and by Cheatham and other navigation dams on Cumberland River.

Cooperation.--Lock gage readings, record of wicket manipulation, nine discharge measurements, and level notes furnished by Corps of Engineers.

Revisions (water years).--WSP 1276: 1942.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,170	5,960	6,830	14,000	36,200	27,100	15,000	27,000	10,800	6,390	5,790	5,550
2	1,720	4,420	7,850	14,400	30,900	33,900	16,300	21,700	9,200	7,320	5,040	4,280
3	1,470	2,910	9,560	14,600	25,300	31,800	13,700	17,900	15,900	6,510	3,460	4,170
4	1,450	3,810	11,600	17,700	23,200	28,500	11,200	17,600	23,400	7,590	1,860	6,040
5	2,230	4,340	11,500	18,500	22,100	26,500	14,300	19,600	21,300	6,290	1,320	6,450
6	1,890	3,720	9,890	16,300	21,700	28,000	15,900	23,500	14,700	4,090	4,640	5,820
7	1,290	4,790	7,210	17,100	22,900	29,200	19,400	25,300	9,420	3,070	10,900	4,320
8	1,830	5,110	4,390	20,800	21,800	28,800	17,800	25,400	6,670	3,910	10,800	4,140
9	2,920	5,140	4,160	22,000	17,800	27,000	15,700	25,800	2,090	3,280	4,520	4,140
10	2,460	6,190	4,200	20,400	15,800	26,500	15,300	25,600	2,540	2,680	1,100	4,530
11	1,510	7,640	5,170	17,600	19,200	25,200	15,900	24,900	4,480	4,850	3,670	7,860
12	1,750	6,200	7,260	17,400	20,300	22,100	17,100	26,400	5,470	4,800	6,370	10,300
13	2,800	6,100	6,170	15,200	16,900	19,600	*18,400	26,300	6,870	3,580	2,530	9,810
14	5,980	7,230	5,030	13,800	13,900	13,600	18,700	26,800	8,240	1,510	5,250	7,830
15	6,500	5,510	4,250	*19,900	18,100	10,200	20,200	33,500	6,680	3,070	4,550	5,810
16	4,530	3,930	4,660	40,400	17,900	12,200	22,400	33,700	*6,360	4,870	4,230	5,050
17	3,550	3,580	6,850	57,300	20,600	14,700	47,900	27,800	8,330	4,340	5,500	6,000
18	3,100	4,200	9,720	61,300	36,000	18,900	69,100	21,900	14,600	4,330	7,060	8,670
19	2,730	4,740	15,100	38,800	32,000	21,800	72,300	16,100	15,500	4,680	6,550	8,050
20	*2,540	4,620	21,800	25,300	32,300	21,500	50,100	13,300	15,000	4,510	8,290	8,100
21	2,150	4,320	23,100	52,200	44,000	19,200	32,800	15,100	12,100	*2,900	7,890	9,280
22	1,770	4,230	*18,000	76,200	41,600	16,200	23,700	18,100	7,940	4,260	6,930	9,190
23	994	3,690	12,700	92,300	*28,800	13,900	23,300	20,000	7,350	6,140	4,690	5,840
24	654	2,520	10,500	101,000	22,600	35,300	25,000	19,000	8,070	6,880	2,750	3,760
25	1,240	2,150	11,100	95,000	21,100	60,400	24,300	*11,900	11,900	6,460	5,910	2,080
26	1,970	2,100	12,900	71,600	20,000	70,700	28,000	10,700	11,000	6,310	*4,310	1,960
27	2,350	3,050	12,200	53,400	17,700	61,900	30,600	14,000	8,660	3,630	5,600	1,350
28	3,180	4,470	6,930	51,900	19,000	45,900	32,700	18,200	6,960	1,830	5,310	2,530
29	3,520	5,410	2,920	48,700	-	*29,400	28,300	19,600	5,830	1,370	8,190	3,470
30	3,780	6,320	8,410	43,400	-------	20,300	27,600	19,300	6,010	1,170	8,960	5,280
31	5,010	-------	13,800	39,400	-------	15,800	-------	16,800	-------	1,970	7,240	-------
Total	81,038	138,400	295,740	$1,207.9	679,700	856,100	783,000	662,800	293,370	134,590	171,210	171,660
Mean	2,614	4,613	9,540	38,960	24,280	27,620	26,100	21,380	9,779	4,342	5,523	5,722

	Observed			Adjusted†		
Calendar year 1953:	Max 95,900	Min 654	Mean 20,340	Mean 20,210	Cfsm 1.22	In. 16.59
Water year 1953-54:	Max 101,000	Min 654	Mean 15,000	Mean 15,160	Cfsm 0.917	In. 12.45

* Discharge measurement made on this day.

† Adjusted for change in contents in Wolf Creek, Dale Hollow, Great Falls, Center Hill, and Old Hickory Reservoirs.

$ Expressed in thousands.

Note.--Crest-wicket manipulation at dam D Oct. 1 to Dec. 18, Dec. 23 to Jan. 3, Jan. 13, 14, Feb. 14, Mar. 14-17, 23, 31, Apr. 1, 3-5, May 20, 25-27, May 31 to June 3, June 6-18, June 21 to Sept. 30; discharge computed from tables based on weir formula plus leakage. Wickets excessively overtopped June 9-12, Sept. 11-15, 18-21. Discharge computed by using fall, as determined from staff-gage readings made 4 times a day at lower lock C, as a factor Jan. 19, 20, 25-27, Mar. 27-30, Apr. 19-26.

South Fork Little River at Hopkinsville, Ky.

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

Drainage area.--46.2 sq mi.

Records available.--October 1949 to September 1954.

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.

Average discharge.--5 years, 81.3 cfs.

Extremes.--Maximum discharge during year, 1,250 cfs Apr. 16 (gage height, 8.21 ft); minimum, 0.3 cfs Oct. 7, 8, 15, 16-18, 19, 22-26, Nov. 1, 2, 6, 7; minimum gage height, 1.12 ft Oct. 19.
1949-54: Maximum discharge, 5,670 cfs Jan. 14, 1951 (gage height, 19.17 ft); minimum observed, 0.1 cfs Oct. 22, 1949.
Maximum stage known, 20.4 ft in January 1937, from floodmark.

Remarks.--Records good above 10 cfs and fair below. Some regulation at low flow by Western State Hospital 2 miles above station.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

1.12	0.3	1.8	28
1.2	.9	2.2	74
1.25	1.6	3.0	200
1.3	2.6	4.0	368
1.4	5.2	6.0	748
1.6	12		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	0.3	0.5	0.8	34	92	*26	27	83	3.8	2.8	2.0
2	.5	.3	.6	.7	31	70	23	24	26	3.8	2.6	1.6
3	.4	.4	.9	.7	27	78	21	23	400	6.5	2.4	1.3
4	.4	.4	.9	.6	25	59	19	21	70	7.8	2.2	1.2
5	*.4	.4	.9	.6	22	50	18	19	45	4.6	1.8	1.2
6	.5	*.3	4.4	.6	18	44	249	*18	34	4.4	2.0	1.5
7	.5	.4	1.5	.6	16	39	126	420	28	4.6	2.0	1.6
8	.3	.5	.9	.6	15	36	66	112	35	125	2.2	1.8
9	.4	.5	*1.0	.8	14	33	51	69	263	12	2.2	1.8
10	.4	.6	1.0	2.8	14	30	42	53	*49	7.1	1.8	1.8
11	.4	.6	1.0	1.6	12	28	61	45	33	6.8	1.6	1.8
12	.5	.6	1.2	1.2	11	25	59	38	25	2.8	1.6	1.6
13	.4	.6	1.2	1.0	10	23	42	33	21	3.6	1.6	1.8
14	.4	.6	1.5	1.8	10	19	50	32	17	3.1	1.6	1.8
15	.5	.6	1.3	31	10	17	53	28	15	*201	1.5	1.8
16	.3	.6	1.0	90	178	16	728	25	12	28	1.2	1.6
17	.3	.5	.9	24	133	14	229	24	12	11	305	1.6
18	.3	.5	.8	13	68	14	139	41	10	7.8	26	1.6
19	.4	.5	.8	10	53	15	104	24	9.6	7.5	10	1.3
20	.4	.5	.8	*352	189	16	81	23	8.9	4.9	*7.8	109
21	.4	.5	.8	354	98	14	69	19	7.8	52	48	339
22	.3	3.6	.8	142	69	12	76	17	7.5	81	48	18
23	.3	1.5	.7	78	59	14	66	16	6.8	13	39	9.6
24	.3	.8	.7	61	53	56	54	14	6.2	9.3	7.5	7.1
25	.3	.8	.7	53	46	66	45	14	5.8	7.1	6.2	5.5
26	.3	.6	.6	46	*39	81	39	12	5.2	5.8	5.2	4.6
27	.8	.6	.6	110	40	54	37	12	5.2	4.9	4.4	3.8
28	.6	.5	1.3	70	307	45	37	11	4.9	4.1	3.6	*3.1
29	.5	.5	1.5	57	-	39	33	11	4.1	3.6	3.3	255
30	.5	.5	.9	47	-------	34	30	11	4.1	2.6	2.6	98
31	.5	-------	.9	38	-------	29	-------	9.6	-------	2.6	2.2	-------
Total	12.9	19.6	32.6	1,590.4	1,601	1,162	2,673	1,245.6	1,254.1	642.1	549.9	883.4
Mean	0.42	0.65	1.05	51.3	57.2	37.5	89.1	40.2	41.8	20.7	17.7	29.4
Cfsm	0.0091	0.014	0.023	1.11	1.24	0.812	1.93	0.870	0.905	0.448	0.383	0.636
In.	0.01	0.02	0.03	1.28	1.29	0.94	2.15	1.00	1.01	0.52	0.44	0.71

Calendar year 1953: Max 1,880 Min 0.3 Mean 58.1 Cfsm 1.26 In. 17.09
Water year 1953-54: Max 728 Min 0.3 Mean 32.0 Cfsm 0.693 In. 9.40

Peak discharge (base, 1,600 cfs).--No peak above base.
* Discharge measurement made on this day.

Little River near Cadiz, Ky.

Location (revised).--Lat 36°46'40", long 87°43'18", on upstream side of right abutment of highway bridge, 50 ft downstream from Casey Creek and 8¾ miles southeast of Cadiz, Trigg County.

Drainage area.--249 sq mi.

Records available.--February 1940 to September 1954.

Gage.--Water-stage recorder. Prior to July 31, 1945, wire-weight gage at same site and datum.

Average discharge.--14 years, 340 cfs.

Extremes.--Maximum discharge during year, 3,020 cfs Apr. 17 (gage height, 11.11 ft); minimum, 9.0 cfs Nov. 19, 20 (gage height, 2.38 ft).
1940-54: Maximum discharge, 14,200 cfs Jan. 14, 1951 (gage height, 21.00 ft); minimum observed, 1.0 cfs Oct. 3, 1941.

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

Revisions (water years).--WSP 1173: 1942-43, 1946(M), 1949.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 12-24)

2.3	5.0	3.7	250
2.4	10	4.0	400
2.6	28	4.3	545
2.8	50	4.6	670
3.0	79	5.0	830
3.3	138	6.0	1,190
3.5	185	9.0	2,170

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	16	12	14	180	737	*165	162	86	37	26	30
2	13	16	11	15	160	*362	151	149	206	36	29	26
3	12	15	13	14	147	282	138	142	742	35	27	24
4	13	14	14	14	136	286	130	132	868	33	26	23
5	*13	13	15	13	128	215	123	128	250	36	24	22
6	14	*12	46	13	115	180	364	*121	168	39	25	20
7	14	11	44	13	105	165	952	620	138	39	25	20
8	14	10	50	12	99	151	480	1,200	202	42	24	20
9	14	11	39	11	93	140	295	435	434	218	23	19
10	14	12	*32	17	90	132	218	277	*315	79	23	18
11	14	12	25	19	83	125	191	209	185	50	22	17
12	13	10	22	17	77	113	236	175	145	39	20	16
13	13	10	20	18	73	105	222	156	119	34	20	15
14	13	10	22	21	68	97	178	145	117	32	20	14
15	14	11	20	54	66	88	191	136	119	*35	19	14
16	14	11	17	117	286	81	1,810	128	105	199	18	14
17	13	10	16	226	944	76	1,990	139	92	111	33	14
18	13	9.5	15	119	514	73	902	168	81	59	535	14
19	13	9.0	15	81	300	73	646	147	76	43	115	14
20	12	9.0	15	696	362	71	504	123	68	35	*55	64
21	12	9.5	15	*1,840	774	69	405	113	63	44	40	1,140
22	12	24	15	878	440	66	400	105	59	109	43	436
23	9.5	34	14	610	315	66	340	97	55	147	55	115
24	10	28	14	405	259	334	295	90	51	77	96	73
25	10	32	13	295	226	420	240	84	49	54	68	56
26	11	23	13	250	200	500	215	79	48	44	60	45
27	14	16	13	367	182	460	200	76	45	36	45	39
28	14	14	14	504	619	315	197	71	43	33	38	*33
29	13	12	15	325	-	250	188	74	40	31	34	62
30	13	12	15	250	-------	215	175	68	39	28	55	545
31	13	-------	14	206	-------	191	-------	66	-------	26	37	-------
Total	398.5	436.0	618	7,434	7,041	6,438	12,541	5,815	5,008	1,860	1,680	2,962
Mean	12.9	14.5	19.9	240	251	208	418	188	167	60.0	54.2	98.7
Cfsm	0.052	0.058	0.080	0.964	1.01	0.835	1.68	0.755	0.671	0.241	0.218	0.396
In.	0.06	0.07	0.09	1.11	1.05	0.96	1.87	0.87	0.75	0.28	0.25	0.44

Calendar year 1953: Max 5,910 Min 9.0 Mean 316 Cfsm 1.27 In. 17.25
Water year 1953-54: Max 1,990 Min 9.0 Mean 143 Cfsm 0.574 In. 7.80

Peak discharge (base, 3,500 cfs).--No peak above base.
* Discharge measurement made on this day.

Cumberland River at Smithland, Ky.

Location.--Lat 37°08'45", long 88°24'25", on downstream side of left center pier of 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.

Records available.--February 1939 to September 1954 (fragmentary prior to March 1940).

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 water-stage recorder at Dycusburg, 16.8 miles upstream, since Nov. 20, 1944. Prior to Oct. 1, 1944, auxiliary wire-weight gage at Eureka, 28.7 miles upstream and Oct. 1 to Nov. 19, 1944, auxiliary staff gage at present site. During periods of crest-wicket operation staff gage above spillway at lock and dam F, 40.8 miles upstream read four times daily.

Average discharge.--14 years (1940-54), 26,840 cfs (unadjusted).

Extremes.--Maximum and minimum discharges for the water years 1940-43, 1954 are contained in the following table:

Water year	Maximum				Minimum daily	
	Date	Discharge (cfs)	Date	Gage height (feet)	Date	Discharge (cfs)
1940	Apr. 7, 1940	107,000	May 2, 1940	32.80	-	-
1941	Apr. 10, 1941	69,500	June 14, 1941	12.45	Sept.26, 1941	520
1942	Apr. 11, 1942	92,200	Mar. 24, 1942	28.48	Oct. 8, 1941	540
1943	Mar. 22, 1943	134,000	Mar. 29, 1943	37.02	Sept. 8, 1943	500
1954	Jan. 26, 1954	94,900	Jan. 26, 1954	18.08	Aug. 10, 1954	714

1939-54: Maximum discharge, 201,000 cfs Feb. 18, 1950; maximum gage height, 43.10 ft Feb. 13, 1950; minimum daily discharge 1941-54, 453 cfs June 23, 1944. Maximum stage known, 51.1 ft January to February 1937.

Remarks.--Records good above 15,000 cfs and fair below. Discharge above 15,000 cfs computed using fall as determined by auxiliary gage as a factor; discharge below 15,000 cfs computed using upper gage at lock and dam F with wicket operation at dam as a factor. Some regulation by navigation dams on Cumberland River, and by Great Falls Lake, Wolf Creek, Dale Hollow, Center Hill, and Old Hickory Reservoirs. Records of water temperatures for the 1954 water year are given in WSP 1350.

Cooperation.--Gage-height record for lock and dam F and records of wicket manipulations furnished by Corps of Engineers.

Revisions (water years).--WSP 1173: 1947(M). Revised figures of discharge for the water years 1940-43, superseding those published in WSP 973, are given herein.

Discharge, in cubic feet per second, February to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					-	38,700	80,600	*58,600	21,000	9,150	3,890	4,360
2					-	42,200	89,200	*57,000	19,100	8,610	7,190	7,880
3					-	55,600	94,600	59,200	16,200	6,810	6,280	10,600
4					-	58,900	101,000	*56,300	13,100	5,690	5,030	11,400
5					-	57,900	104,000	51,800	12,000	5,700	6,590	9,360
6					-	53,900	106,000	*49,700	11,700	8,080	8,170	7,240
7					-	53,300	106,000	44,800	12,700	5,540	6,550	5,330
8					-	53,700	102,000	*40,800	11,800	5,830	3,930	3,930
9					-	52,900	88,200	*33,500	10,800	7,330	3,640	3,690
10					-	46,400	65,600	*27,300	12,300	8,640	4,520	3,660
11					20,800	41,500	49,500	*23,300	12,700	7,940	3,990	2,120
12					32,300	39,900	40,700	20,200	13,600	8,820	3,290	750
13					35,900	54,800	34,500	18,600	11,200	9,210	2,960	2,380
14					36,500	69,000	30,100	16,500	20,200	12,100	2,500	4,940
15					36,500	75,300	26,700	13,000	16,800	13,400	3,440	1,740
16					37,200	78,400	23,800	10,900	15,600	11,200	3,880	1,460
17					37,200	78,800	24,200	13,200	12,800	9,580	3,260	1,850
18					44,200	75,900	35,600	13,500	9,500	14,100	4,390	1,850
19					52,700	71,300	52,300	13,700	8,310	16,800	7,510	2,360
20					62,400	70,400	76,000	13,000	7,500	16,300	3,810	1,660
21					59,400	68,800	87,200	11,900	7,500	16,400	3,490	3,810
22					54,300	63,600	89,300	9,400	10,500	15,500	3,650	3,400
23					49,800	55,500	86,900	8,550	19,200	13,400	2,600	1,160
24					48,600	49,700	86,200	11,800	24,800	9,560	920	790
25					45,400	44,200	88,400	13,600	25,700	8,040	1,290	790
26					41,000	37,800	90,600	16,100	21,800	6,320	3,050	970
27					35,600	32,700	91,400	17,200	16,400	7,190	3,350	1,800
28					32,300	29,400	90,400	17,300	14,100	7,480	3,220	4,160
29					34,300	28,900	*83,900	17,400	13,600	6,900	3,060	4,680
30					-------	37,800	67,600	18,700	11,600	3,450	4,930	2,520
31		-------			-------	62,400	-------	21,100	-------	3,530	3,300	-------
Total					-	‡1,679.6	‡2,192.5	797,750	434,110	288,600	127,680	112,640
Mean					-	54,180	73,080	25,730	14,470	9,310	4,119	3,755
Cfsm					-	3.00	4.04	1.42	0.800	0.515	0.228	0.208
In.					-	3.45	4.51	1.64	0.89	0.59	0.26	0.23

Calendar year	: Max	Min	Mean	Cfsm	In.
Water year	: Max	Min	Mean	Cfsm	In.

* Discharge measurement made on this day.
‡ Expressed in thousands.

Cumberland River at Smithland, Ky.--Continued

Discharge, in cubic feet per second, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,000	1,430	4,220	12,900	24,700	4,690	9,010	*21,800	1,430	3,310	6,320	7,480
2	1,480	1,860	3,880	13,400	21,800	4,690	7,680	19,300	1,550	3,250	6,070	7,770
3	4,820	2,440	3,160	17,100	19,600	4,340	5,400	17,900	3,040	6,160	6,580	5,630
4	1,310	2,710	2,660	19,400	18,100	7,170	8,770	16,000	4,640	13,400	6,320	3,220
5	545	2,710	2,290	19,300	15,800	5,700	15,200	11,400	5,700	21,900	5,810	2,860
6	1,160	2,500	1,530	16,800	11,100	8,510	32,300	8,890	5,830	43,700	3,290	3,930
7	1,520	1,690	2,510	12,700	10,600	4,500	45,300	7,180	9,130	52,900	2,320	4,450
8	1,050	*733	4,130	9,880	10,100	10,900	*54,600	7,180	7,120	53,300	3,770	4,450
9	1,680	1,160	4,130	8,620	9,670	12,900	63,200	7,500	5,360	54,700	5,360	3,740
10	1,070	2,250	3,650	8,930	8,880	15,600	68,400	6,670	7,990	58,600	3,850	2,210
11	1,110	4,770	3,810	8,500	7,550	18,600	*67,200	5,890	16,400	64,500	2,730	1,960
12	868	7,420	3,970	7,640	6,600	21,500	57,100	5,890	17,400	65,700	2,180	2,630
13	720	5,560	3,210	7,640	6,320	27,300	42,600	5,440	17,400	55,400	3,570	3,500
14	720	3,910	3,080	7,490	6,320	31,900	35,700	3,660	17,900	42,500	4,180	2,880
15	720	1,970	5,080	6,020	6,610	34,400	31,100	2,380	14,800	36,000	8,750	2,180
16	720	1,710	8,740	4,480	6,610	35,300	27,100	3,270	11,400	30,300	11,200	2,290
17	1,010	1,360	10,700	5,950	6,320	34,200	23,900	4,790	7,940	25,300	8,840	2,390
18	1,330	2,110	11,100	6,740	6,320	30,600	21,100	4,180	7,300	25,500	6,540	2,600
19	1,580	2,720	9,130	9,520	6,100	27,500	19,000	3,880	6,110	29,300	2,890	3,210
20	1,640	2,710	6,380	8,720	4,880	24,000	18,100	4,050	6,640	27,000	2,340	3,210
21	1,420	2,390	6,610	9,920	5,720	22,000	16,800	3,070	7,480	24,000	4,750	2,510
22	747	1,560	6,320	10,300	6,820	20,100	13,400	1,870	7,640	25,300	5,470	1,940
23	545	1,630	6,610	9,920	6,540	18,600	12,900	2,050	6,210	28,900	5,090	1,810
24	570	3,080	6,610	14,700	6,080	17,300	14,400	2,050	3,420	32,200	4,710	1,340
25	595	3,610	5,130	21,800	4,710	16,300	17,800	2,230	2,500	32,400	5,070	8,420
26	620	3,330	4,370	26,300	3,200	13,400	20,500	2,320	3,290	25,400	3,990	520
27	645	2,800	6,260	27,600	2,870	12,900	22,100	2,320	4,450	19,200	3,010	545
28	670	2,390	12,700	28,600	3,500	11,900	22,800	1,770	3,330	13,500	7,310	595
29	976	2,390	14,100	29,300	-	10,200	23,200	1,310	2,590	8,470	13,400	620
30	1,360	3,070	14,400	29,800	-------	10,400	*23,100	1,370	3,220	6,170	10,500	620
31	1,250	-------	12,900	27,800	-------	10,400	-------	1,370	-------	6,070	5,510	-------
Total	36,451	79,973	193,370	447,750	253,420	527,800	839,760	188,980	219,210	934,330	171,720	91,510
Mean	1,176	2,666	6,238	14,440	9,051	17,030	27,990	6,096	7,307	30,140	5,539	3,050
Cfsm	0.065	0.147	0.345	0.799	0.501	0.942	1.55	0.337	0.404	1.67	0.306	0.169
In.	0.07	0.16	0.40	0.92	0.52	1.09	1.73	0.39	0.45	1.92	0.35	0.19

Calendar year 1940: Max - Min - Mean - Cfsm - In. -
Water year 1940-41: Max 68,400 Min 520 Mean 10,920 Cfsm 0.604 In. 8.19

* Discharge measurement made on this day.

Discharge, in cubic feet per second, water year October 1941 to September 1942

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	595	1,640	5,160	16,300	20,400	32,200	*36,300	8,430	6,690	4,220	4,730	9,380
2	1,090	1,190	3,550	32,200	20,900	28,100	31,400	8,430	6,830	3,620	5,110	7,540
3	1,310	870	3,060	48,300	21,100	24,900	28,100	8,340	6,320	4,030	7,090	6,730
4	1,360	1,440	2,860	45,100	20,100	25,900	25,700	12,500	6,580	5,770	10,500	5,660
5	1,970	2,010	4,900	38,400	19,200	27,400	22,700	13,400	6,640	5,580	17,600	5,830
6	1,490	2,190	8,560	37,400	22,700	27,600	22,000	8,950	5,050	3,030	20,100	6,300
7	600	2,020	8,570	36,300	29,600	27,400	20,700	5,630	4,590	1,730	24,400	5,590
8	540	1,850	5,870	31,800	39,700	29,700	20,600	7,000	3,080	5,040	25,700	6,360
9	800	1,140	3,810	25,700	41,000	34,800	48,100	8,130	5,080	10,700	22,500	6,300
10	1,250	940	4,180	21,500	37,500	33,500	81,700	6,140	5,290	15,400	29,300	5,580
11	1,380	1,140	5,530	18,400	39,800	32,000	91,100	4,140	5,290	12,100	31,600	5,500
12	1,250	1,730	6,730	15,600	42,500	32,500	*83,600	4,710	5,190	14,400	29,500	7,310
13	890	2,050	8,730	11,800	41,400	37,900	*68,100	5,090	6,850	13,900	29,900	4,890
14	1,070	1,960	13,900	9,590	36,100	54,300	*50,900	5,590	6,430	15,000	32,600	4,670
15	1,530	1,960	20,800	10,500	30,900	67,800	*40,300	5,060	6,430	18,500	31,900	4,580
16	1,630	2,140	21,100	10,500	31,900	72,200	32,700	4,850	6,430	19,400	28,400	2,390
17	1,800	2,380	18,200	9,670	43,600	76,200	*27,300	5,560	6,700	18,300	24,300	2,390
18	1,290	2,090	18,700	9,920	57,800	78,900	23,100	5,370	5,130	17,200	20,900	3,930
19	1,250	1,850	19,600	9,920	63,500	79,500	20,400	5,420	4,880	18,100	20,500	4,340
20	1,150	1,780	19,300	11,900	61,700	80,700	e19,000	7,670	5,290	19,000	22,300	4,340
21	790	1,350	17,700	14,900	60,800	80,800	e19,000	4,690	5,700	12,200	23,200	5,460
22	790	1,960	12,400	13,900	57,800	82,300	e18,000	5,000	5,940	8,600	23,000	4,210
23	680	5,450	9,780	13,400	51,300	83,100	e18,000	5,240	5,510	6,480	24,800	2,960
24	590	8,790	9,780	12,900	44,500	82,800	17,500	4,590	5,190	6,880	25,700	3,130
25	620	9,920	12,200	12,400	40,900	78,400	16,100	4,090	6,420	6,820	25,500	5,480
26	890	6,590	13,400	15,500	40,900	67,800	15,000	4,200	7,210	5,460	25,900	5,580
27	1,710	4,580	10,300	16,100	38,900	*54,100	9,850	7,210	7,640	5,130	26,600	5,130
28	1,330	3,660	7,030	16,500	35,400	*47,300	8,530	9,640	8,840	5,800	24,900	4,770
29	1,200	6,090	7,480	17,500	-	42,200	7,210	12,600	8,980	5,770	22,100	4,280
30	1,250	6,870	9,380	19,300	-------	*40,800	7,750	11,100	6,530	4,020	18,800	3,050
31	1,560	-------	10,400	20,700	-------	38,400	-------	7,420	-------	3,610	12,900	-------
Total	35,655	89,630	322,960	623,900	‡1,091.9	‡1,601.5	930,940	216,190	184,710	295,790	692,330	153,660
Mean	1,150	2,988	10,420	20,130	39,000	51,660	31,030	6,974	6,157	9,542	22,330	5,122
Cfsm	0.064	0.165	0.576	1.11	2.16	2.86	1.72	0.386	0.341	0.528	1.24	0.283
In.	0.07	0.18	0.66	1.28	2.25	3.29	1.91	0.44	0.38	0.61	1.42	0.32

Calendar year 1941: Max 68,400 Min 520 Mean 11,300 Cfsm 0.625 In. 8.47
Water year 1941-42: Max 91,100 Min 540 Mean 17,090 Cfsm 0.945 In. 12.81

* Discharge measurement made on this day.
‡ Expressed in thousands.
e Indefinite stage-fall-discharge relation; discharge estimated on basis of records for station at Dover, Tenn.

Cumberland River at Smithland, Ky.--Continued

Discharge, in cubic feet per second, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,540	12,900	23,200	101,000	28,100	22,300	*92,600	69,900	21,000	4,640	6,170	2,380
2	1,940	12,900	19,800	*111,000	39,700	21,200	*76,900	52,400	19,000	4,640	6,020	900
3	2,160	9,890	22,200	*107,000	48,400	19,300	62,000	41,800	17,000	3,460	8,060	2,650
4	2,770	6,080	27,300	110,000	51,000	17,800	49,900	35,300	16,000	3,690	4,490	5,580
5	4,950	7,500	27,900	*112,000	52,800	17,100	41,300	29,700	16,000	4,970	3,570	13,000
6	4,430	11,700	30,300	*115,000	54,900	17,200	*36,300	26,600	16,000	5,000	4,590	12,900
7	3,700	12,900	39,200	*117,000	56,000	20,300	*30,800	23,700	16,000	4,790	9,150	4,100
8	2,680	11,400	48,400	*121,000	59,500	27,200	26,400	21,500	15,000	3,880	9,700	500
9	2,230	10,000	47,600	*124,000	62,300	29,600	22,800	19,300	14,000	3,920	6,760	1,660
10	3,970	8,840	48,100	*127,000	60,700	31,000	22,300	18,500	12,000	3,920	4,520	3,590
11	3,190	8,530	46,300	*128,000	57,400	42,200	20,900	22,900	11,000	4,330	4,120	1,960
12	1,960	9,290	43,200	*120,000	54,600	59,200	20,300	23,300	11,000	5,080	3,020	2,570
13	2,070	10,700	38,000	*94,800	53,000	78,100	25,400	29,300	11,000	4,880	5,000	3,060
14	2,660	9,560	33,700	*86,300	50,800	89,300	28,100	30,600	11,000	4,350	5,320	2,740
15	2,400	9,180	28,900	*30,100	49,600	101,000	25,400	36,900	10,000	3,810	3,980	1,710
16	2,410	9,870	26,100	*27,900	48,900	107,000	24,200	45,600	9,880	5,240	5,270	2,050
17	2,100	10,500	29,200	*26,500	49,300	104,000	25,100	42,500	9,800	6,340	6,770	5,470
18	1,320	9,140	35,200	*31,400	46,800	104,000	26,300	33,100	8,980	4,210	5,830	4,930
19	1,540	6,860	34,600	28,400	41,200	116,000	27,200	21,100	5,870	4,220	3,960	2,650
20	1,490	5,000	35,100	20,600	35,800	124,000	29,700	20,700	6,430	4,050	3,450	3,220
21	1,490	5,530	a40,000	17,900	31,600	129,000	39,700	20,000	7,020	4,390	3,740	9,540
22	1,580	10,100	a40,000	10,900	28,700	132,000	47,900	19,000	5,720	2,730	4,030	8,710
23	1,900	10,900	a40,000	11,400	25,000	129,000	55,100	18,000	5,340	2,140	3,100	3,630
24	1,870	15,800	a40,000	10,900	23,200	130,000	64,000	18,000	5,190	2,090	3,140	2,820
25	1,870	26,300	a45,000	17,600	22,200	*130,000	72,800	19,000	6,240	2,520	3,480	1,980
26	2,090	35,300	a45,000	18,800	21,900	*129,000	80,400	20,000	5,720	3,100	2,980	2,570
27	2,400	40,700	50,000	14,400	21,900	129,000	84,800	20,000	5,800	4,030	2,170	1,780
28	2,930	43,400	64,200	12,400	22,500	*125,000	88,200	22,000	5,360	5,660	3,860	1,710
29	2,770	39,500	81,600	11,400	-	122,000	88,300	24,000	4,480	5,280	4,130	1,560
30	4,040	31,500	93,700	11,900	-------	*116,000	84,100	26,000	4,640	4,240	3,120	1,420
31	11,100	-------	98,800	19,200	-------	106,000	-------	23,000	-------	2,990	2,080	-------
Total	86,550	451,770	‡1,322.6	‡1,865.8	‡1,197.8	‡2,524.8	‡1,419.2	873,700	312,470	128,590	145,580	113,340
Mean	2,792	15,060	42,660	60,190	42,780	81,450	47,310	28,180	10,420	4,148	4,696	3,778
Cfsm	0.154	0.833	2.36	3.33	2.37	4.50	2.62	1.56	0.576	0.229	0.260	0.209
In.	0.18	0.93	2.72	3.84	2.46	5.19	2.92	1.80	0.64	0.26	0.30	0.23

Calendar year 1942: Max 98,800 Min 1,320 Mean 20,960 Cfsm 1.16 In. 15.73
Water year 1942-43: Max 132,000 Min 500 Mean 28,610 Cfsm 1.58 In. 21.47
Calendar year 1943: Max 132,000 Min 500 Mean 24,300 Cfsm 1.34 In. 18.23

* Discharge measurement made on this day. ‡ Expressed in thousands. a No auxiliary gage-height record; discharge estimated on basis of base gage-height record and records for station at Dover.
Note.--Indefinite stage-fall-discharge relation May 21 to June 15; discharge estimated on basis of records for station at Dover, Tenn.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,090	6,200	7,010	14,800	42,200	26,100	18,300	30,800	13,800	6,430	6,390	6,380
2	1,530	5,380	7,800	14,800	38,300	32,400	18,600	28,500	10,100	6,990	5,570	4,860
3	1,370	2,820	9,610	14,800	31,500	34,400	17,400	24,000	17,100	7,410	3,550	4,320
4	1,370	3,660	11,300	16,500	26,500	32,100	12,600	21,100	23,400	7,060	2,070	5,780
5	2,300	4,740	12,300	19,400	25,400	*29,400	14,100	20,700	25,500	8,030	1,660	6,700
6	1,960	4,000	11,100	17,800	23,500	28,600	18,600	23,600	20,700	4,920	4,030	6,180
7	1,100	4,600	8,550	17,100	24,800	29,700	21,300	31,700	12,100	3,600	10,300	4,960
8	1,560	5,330	4,960	19,200	24,900	29,900	22,800	33,400	7,100	3,960	12,200	4,070
9	2,700	5,290	4,030	21,700	22,200	29,400	20,300	31,200	3,350	4,920	5,520	4,260
10	2,790	6,120	4,040	21,500	18,700	28,500	18,900	29,900	2,750	3,600	714	4,090
11	1,890	7,760	5,100	20,300	18,600	28,500	18,800	*29,200	5,590	4,260	3,370	5,920
12	1,520	7,070	7,100	18,100	21,400	26,800	19,200	28,400	6,360	5,170	6,210	7,450
13	2,670	5,620	6,750	17,800	20,700	24,800	20,100	29,100	7,870	4,740	2,780	8,130
14	*5,970	7,480	5,520	15,900	17,700	20,600	20,700	28,800	8,990	2,370	4,680	7,450
15	6,670	6,480	4,940	17,400	16,900	11,700	*21,200	30,800	*8,270	2,540	5,420	6,600
16	5,200	4,110	5,430	28,900	21,800	11,600	25,200	35,000	7,200	5,000	4,270	5,840
17	3,740	3,510	7,970	49,100	23,700	14,800	36,500	32,000	7,870	4,400	5,300	5,850
18	3,160	3,880	9,340	61,800	30,200	18,400	57,800	27,300	12,800	3,990	6,640	6,760
19	2,930	5,000	13,800	56,100	37,000	22,100	67,800	21,800	15,800	4,340	8,510	7,760
20	2,980	4,270	18,600	35,500	32,600	23,400	69,600	17,800	16,500	*4,420	9,440	10,400
21	2,480	4,120	22,500	43,800	40,100	22,400	50,300	16,100	*13,600	2,830	9,300	13,000
22	1,420	3,950	21,600	66,900	46,400	20,100	38,700	18,200	9,870	3,800	7,370	12,400
23	1,110	4,030	*15,000	77,200	37,500	18,000	26,100	20,400	7,950	5,570	5,620	7,580
24	721	2,830	11,300	78,800	27,900	23,300	27,500	21,700	8,110	7,210	*2,900	3,790
25	1,050	1,910	10,100	89,600	24,200	52,800	27,200	18,200	10,800	6,480	4,220	2,700
26	2,070	1,850	12,900	94,300	23,200	66,200	28,900	10,700	12,100	6,660	3,880	2,300
27	2,340	*2,820	13,000	*83,200	20,900	69,400	32,500	13,500	10,000	3,630	4,920	1,270
28	3,320	4,560	8,150	62,700	21,900	63,000	35,700	17,500	7,950	1,580	6,600	2,960
29	3,190	5,370	3,030	55,100	-	44,600	34,200	20,200	6,710	1,230	7,190	*3,080
30	3,710	6,310	6,940	50,400	-------	29,100	31,500	20,600	6,500	1,430	10,400	6,930
31	4,820	-------	13,000	44,900	-------	22,100	-------	19,800	-------	1,430	7,880	-------
Total	81,731	141,070	302,770	1,245,400	760,700	934,200	872,400	752,000	326,740	140,000	178,904	179,770
Mean	2,636	4,702	9,767	40,170	27,170	30,140	29,080	24,260	10,890	4,516	5,771	5,992

	Observed						Adjusted†					
Calendar year 1953:	Max	98,900	Min	721	Mean	22,360	Mean	22,220	Cfsm	1.23	In.	16.68
Water year 1953-54:	Max	94,300	Min	714	Mean	16,210	Mean	16,360	Cfsm	0.905	In.	12.29

* Discharge measurement made on this day.
† Adjusted for change in contents in Great Falls Lake, Wolf Creek, Dale Hollow, Center Hill, and Old Hickory Reservoirs, furnished by Corps of Engineers and Tennessee Valley Authority.

Reservoirs in Cumberland River basin

Wolf Creek Reservoir.--Lat 36°52'09", long 85°08'45", in pylon of Wolf Creek Dam on Cumberland River, 10 miles southwest of Jamestown, Russell County, Ky. Drainage area, 5,790 sq mi. Records available, July 1950 to September 1954 in reports of Geological Survey; April to July 1950 in files of Corps of Engineers. Water-stage recorder. Datum of gage is at mean sea level, Sandy Hook datum. Prior to Dec. 6, 1950, staff gage at same site at datum 545.0 ft higher. Gage readings have been adjusted to elevations above mean sea level, Sandy Hook datum. Maximum contents during year, 1,828,400 cfs-days May 3 (elevation, 715.50 ft); minimum contents, 953,800 cfs-days Jan. 14 (elevation, 674.08 ft). Maximum contents during period 1950-54, 2,505,800 cfs Dec. 23, 1951 (elevation, 741.32 ft); minimum (after first filling), that of Jan. 14, 1954.

Reservoir is formed by earth embankment and concrete gravity dam surmounted by 10 taintor gates 37 ft high by 50 ft wide. Final closure of dam made Aug. 7, 1950. Total capacity at elevation 760.00 ft (top of gates) is 3,070,000 cfs-days, of which 1,056,000 cfs-days above elevation 723.00 ft (crest of spillway) are reserved for flood control and 1,080,000 cfs-days between elevations 673.00 ft (minimum power pool) and 723.00 ft will be used for power production. Figures given herein represent total contents, of which 934,000 cfs-days below elevation 673.00 ft are dead storage. Reservoir is used for flood control, power, and navigation. Records furnished by Corps of Engineers.

Dale Hollow Reservoir.--Lat 36°32'19", long 85°27'05", at Dale Hollow Dam on Obey River, 3 miles east of Celina, Clay County, Tenn., and 7.3 miles upstream from mouth. Drainage area, 935 sq mi. Records available, August 1943 to September 1954. Water-stage recorder. Datum of gage is at mean sea level, Sandy Hook datum. Prior to June 25, 1946, staff gage at same site and datum. Maximum contents during year, 621,500 cfs-days May 3 (elevation, 646.54 ft); minimum, 433,100 cfs-days Jan. 8 (elevation, 631.09 ft). Maximum contents observed during period 1943-54, 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).

Reservoir is formed by concrete gravity dam. Spillway is equipped with six taintor 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 and 631.0 ft (ordinary minimum pool) is used for power production. Reservoir is used for flood control, navigation, and power. Records furnished by Corps of Engineers.

Great Falls Lake.--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, Tenn., 2.3 miles upstream from mouth, and 2.4 miles upstream from Great Falls Dam on Caney Fork. Drainage area, 1,640 sq mi. Records available, January 1917 to September 1954. Remote indicator gage. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 28,600 cfs-days Apr. 21 (elevation, 805.89 ft); minimum, 4,100 cfs-days Oct. 1 (elevation, 768.58 ft). Maximum 12 p.m. elevation during period 1916-54, 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).

Reservoir is formed by concrete gravity dam. Spillway is equipped with 18 taintor gates each 14 ft high by 25 ft wide. Dam completed and storage began in 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 in controlled storage above elevation 762.0 ft (minimum pool). Reservoir is used primarily for power. Records furnished by Tennessee Valley Authority.

Center Hill Reservoir.--Lat 36°05'48", long 85°49'38", at Center Hill Dam on Caney Fork, 14 miles southeast of Carthage, DeKalb County, Tenn., and 26.6 miles upstream from mouth. Drainage area, 2,195 sq mi. Records available, November 1948 to September 1954. Water-stage recorder. Datum of gage is at mean sea level, Sandy Hook datum. Prior to Mar. 14, 1949, staff gage a quarter of a mile upstream at same datum. Maximum contents during year, 729,200 cfs-days Jan. 25 (elevation, 654.27 ft); minimum, 423,000 cfs-days Jan. 13 (elevation, 618.09 ft). Maximum contents during period 1948-54, 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).

Reservoir is formed by concrete dam with earth embankment. Spillway equipped with eight taintor gates, 37 ft high by 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 elevations 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. Records furnished by Corps of Engineers.

Old Hickory Reservoir.--Lat 36°17'50", long 86°39'20", at Old Hickory Dam on Cumberland River, 10 miles northeast of Nashville, Davidson County, Tenn., and at mile 216.2. Drainage area, 11,700 sq mi. Records available, June to September 1954. Staff gage. Datum of gage is 408.5 ft above mean sea level, datum of 1929. Maximum contents during period, 52,700 cfs-days July 31 (elevation, 416.7 ft).

Reservoir is formed by concrete gravity dam with earth embankment. Spillway is equipped with six taintor gates, 41 ft high by 45 ft wide. Closure of dam was made in June 1954 and water in reservoir was raised sufficiently to maintain navigation through the lock. Total capacity at elevation 450.0 ft (maximum allowable pool) is 275,000 cfs-days of which 63,000 cfs-days between elevation 450.0 and 445.0 ft (normal pool) is induced surcharge storage provided to compensate for loss of natural valley storage incurred by construction of the project, and 32,000 cfs-days between elevation 445.0 and 442.0 ft (ordinary minimum pool) will be used for power drawdown. Reservoir is used for navigation and power. Records furnished by Corps of Engineers.

Reservoirs in Cumberland River basin--Continued

Other reservoirs.--The following reservoir in the Cumberland River basin is described below, but records of contents are not published herein:

Cheatham Reservoir on Cumberland River, 20 miles southeast of Clarksville, Montgomery County, Tenn., with total capacity of 52,000 cfs-days of which 10,000 cfs-days is controlled storage.

Monthly elevation and contents, water year October 1953 to September 1954

Date	Wolf Creek Reservoir			Dale Hollow Reservoir		
	Elevation (feet)†	Contents (cfs-days)	Change in contents during month (cfs-days)	Elevation (feet)†	Contents (cfs-days)	Change in contents during month (cfs-days)
Sept.30	696.05	1,386,700	-	637.81	510,800	-
Oct. 31	693.20	1,326,700	-60,000	636.94	500,300	-10,500
Nov. 30	689.10	1,242,500	-84,200	635.03	477,800	-22,500
Dec. 31	680.56	1,074,600	-167,900	632.42	448,000	-29,800
Calendar year 1953	-	-	-36,900	-	-	-31,000
Jan. 31	694.72	1,358,500	+283,900	638.96	524,700	+76,700
Feb. 28	696.02	1,386,100	+27,600	639.38	529,800	+5,100
Mar. 31	708.33	1,659,000	+272,900	642.00	562,500	+32,700
Apr. 30	715.26	1,822,600	+163,600	646.42	619,900	+57,400
May 31	712.19	1,749,200	-73,400	644.72	597,500	-22,400
June 30	709.02	1,674,900	-74,300	643.12	576,800	-20,700
July 31	706.03	1,606,400	-68,500	642.52	569,100	-7,700
Aug. 31	701.38	1,502,200	-104,200	640.67	545,800	-23,300
Sept.30	696.74	1,401,400	-100,800	639.41	530,200	-15,600
Water year 1953-54	-	-	+14,700	-	-	+19,400

Date	Great Falls Lake			Center Hill Reservoir		
Sept.30	768.58	4,100	-	634.77	554,200	-
Oct. 31	777.72	7,100	+3,000	632.66	536,600	-17,600
Nov. 30	783.87	10,100	+3,000	628.88	505,900	-30,700
Dec. 31	784.80	10,700	+600	623.75	465,600	-40,300
Calendar year 1953	-	-	-300	-	-	+19,300
Jan. 31	805.48	28,100	+17,400	647.86	669,001	+203,400
Feb. 28	805.16	27,700	-400	640.30	601,400	-67,600
Mar. 31	805.32	27,900	+200	644.70	640,300	+38,900
Apr. 30	804.65	27,200	-700	642.03	616,500	-23,800
May 31	784.95	10,800	-16,400	641.27	609,900	-6,600
June 30	785.53	11,200	+400	640.26	601,100	-8,800
July 31	785.35	11,000	-200	638.61	586,700	-14,400
Aug. 31	785.15	10,900	-100	636.49	568,600	-18,100
Sept.30	786.36	11,700	+800	634.79	554,300	-14,300
Water year 1953-54	-	-	+7,600	-	-	+100

Date	Old Hickory Reservoir		
May 31	391.8	34,800	-
June 30	413.8	48,200	+13,400
July 31	416.5	52,400	+4,200
Aug. 31	414.0	48,500	-3,900
Sept.30	414.9	49,900	+1,400

† Elevation at 12 p.m.

French Broad River at Rosman, N. C.

Location.--Lat 35°08'32", long 82°49'28", on left bank at upstream side of 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.

Records available.--May 1907 to June 1909, January 1936 to September 1954.

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 at site 500 ft downstream at different datum. Jan. 1, 1936, to July 6, 1937, wire-weight gage at present site and datum.

Average discharge.--19 years (1907-8, 1936-54), 234 cfs.

Extremes.--Maximum discharge during year, 3,060 cfs Jan. 22 (gage height, 8.40 ft); minimum, 34 cfs Sept. 28 (gage height, 1.55 ft).
1907-9, 1936-54: 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 freeze-up; minimum daily, 37 cfs Sept. 25-28, 1954.
Maximum stage known, 13.9 ft in July 1916, from floodmarks.

Remarks.--Records excellent except those for periods of ice effect, which are good.

Revisions (water years).--WSP 823: Drainage area. WSP 893: 1936(M), 1938(M), 1939.

Rating table, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.5	25	2.8	365
1.7	60	3.0	432
1.9	100	4.0	792
2.1	150	5.0	1,250
2.4	238	6.0	1,780

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*83	58	*81	132	*254	463	*382	241	147	*90	75	*51
2	81	*58	79	127	247	*339	326	223	*147	92	66	51
3	79	56	79	134	238	329	306	241	145	105	60	49
4	77	56	407	*127	229	294	291	229	140	131	*58	49
5	73	56	214	124	220	275	275	*217	129	123	56	47
6	73	56	405	122	211	260	322	208	127	92	93	46
7	71	56	322	117	199	250	303	211	122	85	73	44
8	71	56	217	117	196	241	303	217	119	85	64	44
9	71	56	413	117	190	238	300	199	117	96	87	44
10	71	55	446	117	184	229	275	193	114	92	70	58
11	70	55	284	137	184	223	275	190	137	90	62	53
12	68	55	417	b115	175	217	260	187	122	85	58	47
13	68	55	339	b110	170	316	247	205	127	79	60	46
14	75	55	463	b125	170	504	260	288	132	77	58	44
15	77	55	332	160	167	332	247	238	149	79	66	*44
16	73	55	272	791	186	291	494	217	137	75	56	42
17	68	55	232	339	232	272	429	205	200	71	53	42
18	66	53	b200	257	175	260	329	199	161	81	53	40
19	66	53	b190	223	167	335	297	190	137	81	56	39
20	64	58	181	214	590	313	278	187	124	75	62	39
21	64	188	205	712	811	278	266	175	117	73	68	42
22	64	312	190	1,750	398	260	272	167	110	71	70	42
23	64	288	178	963	322	254	260	164	112	71	58	39
24	62	132	161	589	300	345	250	158	107	70	75	39
25	60	117	156	466	272	316	279	156	105	70	68	37
26	60	100	150	401	254	375	266	153	100	71	68	37
27	75	94	142	365	238	358	250	147	98	85	62	37
28	83	87	140	329	359	345	238	156	96	71	86	37
29	66	83	156	303	-	313	232	150	92	68	73	*39
30	60	83	145	281	-------	297	223	145	90	66	56	40
31	58	-------	137	266	-------	368	-------	140	-------	73	53	-------
Total	2,161	2,596	7,333	10,130	7,338	9,490	8,735	5,996	3,760	2,573	2,023	1,308
Mean	69.7	86.5	237	327	262	306	291	193	125	83.0	65.3	43.6
Cfsm	1.03	1.27	3.49	4.82	3.86	4.51	4.29	2.84	1.84	1.22	0.962	0.642
In.	1.18	1.42	4.02	5.55	4.02	5.20	4.78	3.28	2.06	1.41	1.11	0.72

Calendar year 1953: Max 2,550 Min 53 Mean 209 Cfsm 3.08 In. 41.77
Water year 1953-54: Max 1,750 Min 37 Mean 174 Cfsm 2.56 In. 34.75

Peak discharge (base, 2,000 cfs).--Jan. 22 (11 a.m.) 3,060 cfs (8.40 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

French Broad River at Calvert, N. C.

Location.--Lat 35°08'55", long 82°47'59", on right bank at downstream side of highway bridge, 0.8 mile southeast of railroad station at Calvert, Transylvania County, 1.4 miles downstream from East Fork, and at mile 214.0 (corrected).

Drainage area.--103 sq mi.

Records available.--October 1924 to September 1954.

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 17, 1934, chain gage, at same site and datum.

Average discharge.--30 years, 345 cfs.

Extremes.--Maximum discharge during year, 5,010 cfs Jan. 22 (gage height, 8.60 ft), from rating curve extended above 3,600 cfs on basis of slope-area determination at gage height 11.66 ft; minimum, 58 cfs Sept. 30 (gage height, 0.20 ft).
1924-54: Maximum discharge, 16,100 cfs Aug. 15, 1928 (gage height, 13.0 ft), from rating curve extended above 3,600 cfs on basis of slope-area determination at gage height 11.66 ft; minimum, 54 cfs Sept. 17-23, 1925; minimum gage height, that of Sept. 30, 1954.
Maximum stage known, about 13½ ft July 1916, from French Broad River profile by Tennessee Valley Authority.

Remarks.--Records excellent except those for periods of ice effect, which are good.

Revisions (water years).--WSP 643: 1925(m). WSP 803: 1924-26, 1928-29, 1930(M), 1931-35. WSP 823: Drainage area.

Rating table, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.2	58	1.6	495
.3	71	2.0	710
.4	85	3.0	1,280
.5	100	4.0	1,820
.7	144	5.0	2,380
1.0	232	6.0	2,940
1.3	353		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*154	110	*134	222	*412	694	*584	366	232	*142	130	85
2	149	*108	132	216	407	*515	505	344	*236	142	108	*82
3	142	106	132	219	389	505	475	398	236	160	97	81
4	137	106	682	*209	371	450	440	362	229	229	*94	79
5	137	104	344	209	358	422	426	*336	212	196	91	75
6	132	104	648	206	344	403	500	323	206	152	163	74
7	127	102	562	196	332	384	480	319	202	139	120	72
8	127	102	362	196	323	371	480	327	196	139	104	71
9	127	100	622	196	319	362	465	306	193	246	144	71
10	125	100	740	202	306	353	436	298	190	167	116	86
11	122	100	460	225	298	344	431	285	209	154	97	82
12	120	100	716	b200	285	336	407	285	199	144	96	74
13	118	100	567	b185	273	490	389	314	202	137	97	71
14	132	100	752	b205	273	746	407	480	216	137	94	71
15	137	98	540	259	273	500	384	380	247	137	98	*70
16	127	97	445	1,330	300	436	673	344	258	127	88	71
17	120	97	376	572	353	407	622	323	306	125	86	70
18	118	96	b330	417	281	398	490	310	265	132	82	67
19	116	97	b310	366	273	525	445	302	225	132	85	64
20	116	107	294	349	921	500	422	294	206	125	100	64
21	114	318	332	1,250	1,220	445	403	281	190	125	107	67
22	114	482	319	2,800	616	407	407	265	182	120	140	67
23	112	422	298	*1,660	495	403	394	258	176	118	104	64
24	110	212	269	994	465	540	384	254	179	114	132	63
25	108	187	258	770	426	485	431	247	167	114	124	62
26	108	165	243	655	398	578	407	239	162	125	108	62
27	134	152	236	594	376	562	384	236	162	137	102	62
28	147	142	232	525	531	540	371	247	157	114	139	61
29	120	139	254	490	-	495	358	239	149	106	122	*81
30	114	139	236	460	-------	470	349	232	147	110	100	63
31	112	-------	229	431	-------	567	-------	225	-------	134	91	-------
Total	3,876	4,392	12,054	16,808	11,618	14,633	13,349	9,419	6,136	4,379	3,359	2,112
Mean	125	146	389	542	415	472	445	304	205	141	108	70.4
Cfsm	1.21	1.42	3.78	5.26	4.03	4.58	4.32	2.95	1.99	1.37	1.05	0.683
In.	1.40	1.59	4.35	6.07	4.19	5.28	4.82	3.40	2.22	1.58	1.21	0.76

Calendar year 1953: Max 3,840 Min 96 Mean 337 Cfsm 3.27 In. 44.39
Water year 1953-54: Max 2,800 Min 61 Mean 280 Cfsm 2.72 In. 36.87

Peak discharge (base, 2,500 cfs).--Jan. 22 (2 p.m.) 5,010 cfs (8.60 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Catheys Creek near Brevard, N. C.

Location.--Lat 35°12'40", long 82°47'00", on right bank 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.

Records available.--October 1944 to September 1954.

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 at datum 55.11 ft lower. Jan. 10, 1947, to Oct. 3, 1951, at site 40 ft upstream at present datum.

Average discharge.--10 years, 37.0 cfs.

Extremes.--Maximum discharge during year, 391 cfs Jan. 22 (gage height, 2.24 ft); minimum, 6.3 cfs Sept. 28-30 (gage height, 0.17 ft).
1944-54: Maximum discharge, 1,260 cfs Mar. 11, 1952, from rating curve extended above 500 cfs by logarithmic plotting; maximum gage height, 4.35 ft July 12, 1949; minimum discharge, that of Sept. 28-30, 1954.

Remarks.--Records good except those for periods of ice effect, which are fair.

Rating tables, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 22				Jan. 23 to Sept. 30			
0.2	6.0	1.0	78	0.1	3.6	0.8	54
.3	11	1.2	110	.2	7.4	1.0	83
.4	17	1.5	172	.3	12	1.2	116
.6	32	1.8	247	.4	18	1.4	153
.8	52			.6	32		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*15	12	*14	22	*39	72	*65	41	26	*16	12	8.8
2	14	*12	14	21	39	54	*58	45	*28	16	12	*8.8
3	14	11	14	21	39	53	54	47	28	17	11	8.8
4	13	11	59	*21	37	47	50	42	26	19	*11	8.8
5	13	11	30	20	36	*44	49	*40	24	18	11	8.8
6	13	11	59	20	35	43	55	39	23	16	16	8.3
7	12	11	46	19	34	40	53	40	23	16	13	8.3
8	12	10	32	19	33	39	54	39	22	16	12	8.3
9	12	10	57	19	32	38	52	37	21	26	15	8.3
10	12	10	60	20	31	37	49	35	21	18	12	10
11	12	10	40	22	30	36	49	35	21	17	11	10
12	12	10	55	20	30	35	47	33	20	16	11	9.2
13	11	10	48	b21	30	59	44	38	40	15	11	8.8
14	13	10	64	19	30	83	46	58	26	21	11	8.8
15	13	10	48	24	29	57	48	44	23	17	10	8.8
16	12	10	39	79	33	50	85	40	34	15	9.7	8.8
17	12	10	35	39	33	48	80	38	32	15	9.7	8.8
18	12	10	b35	33	30	46	60	36	28	15	9.7	8.3
19	12	10	b30	30	28	58	53	34	26	15	11	7.9
20	12	13	28	31	90	53	49	34	23	16	11	7.9
21	12	27	31	103	129	48	47	32	22	16	11	8.3
22	12	48	30	242	62	46	47	31	21	15	11	7.4
23	12	35	27	*143	52	44	52	30	22	14	10	7.4
24	12	20	26	88	48	60	47	30	21	14	12	7.0
25	12	18	26	68	44	55	44	29	19	14	11	7.0
26	12	16	25	58	41	62	47	28	19	14	12	7.0
27	16	15	23	53	38	60	43	27	19	14	11	7.0
28	16	15	23	48	58	57	42	28	18	13	16	6.6
29	13	14	25	44	-	52	41	28	18	13	12	*6.6
30	12	14	23	43	-------	49	40	27	17	13	10	7.4
31	12	-------	23	40	-------	65	-------	26	-------	13	9.2	-------
Total	392	434	1,089	1,450	1,190	1,590	1,550	1,111	709	493	355.3	246.2
Mean	12.6	14.5	35.1	46.8	42.5	51.3	51.7	35.8	23.6	15.9	11.5	8.21
Cfsm	1.08	1.24	3.00	4.00	3.63	4.38	4.42	3.06	2.02	1.36	0.983	0.702
In.	1.25	1.38	3.46	4.61	3.78	5.05	4.93	3.53	2.25	1.57	1.13	0.78

Calendar year 1953: Max 387 Min 10 Mean 31.6 Cfsm 2.70 In. 36.67
Water year 1953-54: Max 242 Min 6.6 Mean 29.1 Cfsm 2.49 In. 33.72

Peak discharge (base, 250 cfs).--Jan. 22 (11:30 a.m.) 391 cfs (2.24 ft); Feb. 21 (12:30 a.m.) 301 cfs (1.98 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Davidson River near Brevard, N. C.

Location.--Lat 35°16'23", long 82°42'21", on right bank 150 ft upstream from State Highway 280, 2.0 miles upstream from mouth, 2.1 miles downstream from Avery Creek, and 3.3 miles northeast of Brevard, Transylvania County.

Drainage area.--40.4 sq mi.

Records available.--December 1920 to September 1954.

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, and Apr. 4, 1929, to May 17, 1934, chain gage, at site 50 ft downstream at same datum.

Average discharge.--33 years (1921-54), 127 cfs.

Extremes.--Maximum discharge during year, 1,900 cfs Jan. 22 (gage height, 4.61 ft); minimum, 14 cfs Sept. 28-30 (gage height, 0.32 ft).

1920-54: Maximum discharge, 8,400 cfs Aug. 15, 1928 (gage height, 11.8 ft), from rating curve extended above 1,300 cfs; minimum, that of Sept. 28-30, 1954.

Revisions.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
-	1921	Dec. 14, 1920	†3,780	7.7
543	1922	Dec. 17, 1921	1,690	5.0
563	1923	May 29, 1923	2,590	6.3
583	1924	Jan. 11, 1924	2,950	6.75
603	1925	Dec. 8, 1924	1,390	4.5
623	1926	Jan. 18, 1926	2,360	6.0
643	1927	Nov. 15, 1926	2,150	5.7
683	1929	Mar. 14, 1929*	3,160	7.0
698	1930	Oct. 21, 1929	1,630	4.9
713	1931	Apr. 22, 1931	1,880	5.3
728	1932	Jan. 13, 1932	1,280	4.3

* Date revised
† Not previously published.

Remarks.--Records excellent except those for periods of ice effect, which are good.

Revisions.--WSP 823: Drainage area. Revised figures of discharge, in cubic feet per second, for high-water and ice-affected periods in the water years 1921, 1923, and 1926, superseding those published in WSP 523, 563, and 623, are given herewith:

1920
Dec. 14..... 1,630

1923
Sept.21..... 681

1925
Dec. 26..... 42

1925-Con.
Dec. 27..... 40
28..... 40
29..... 36
30..... 36
31..... 35

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
December 1920.....	1,630	-	†225	5.57	6.41
September 1923.....	681	53	92.8	2.30	2.56
Water year 1922-23....	1,300	37	133	3.29	44.80
December 1925.....	117	35	48.6	1.20	1.39
Water year 1925-26....	717	18	88.9	2.20	29.88

† Partly estimated.

Davidson River near Brevard, N. C.--Continued

Rating tables, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 22				Jan. 23 to Sept. 30			
0.3	14	1.5	249	0.3	12	0.8	79
.4	22	2.0	405	.4	21	1.0	120
.5	33	2.5	595	.6	45		
.6	46	3.0	825				
.8	80	3.5	1,100				
1.0	120						

Note.--Same as preceding table above 1.0 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	26	32	52	112	255	194	125	75	*38	38	22
2	*33	25	31	51	107	*184	*166	116	74	37	33	21
3	32	25	*31	51	103	178	153	118	*75	47	31	*21
4	31	25	182	49	*99	156	146	*112	74	53	29	20
5	30	25	88	*49	97	146	141	103	66	41	*28	19
6	29	25	146	48	93	136	158	99	65	38	38	19
7	28	25	125	*48	89	129	148	99	63	36	35	18
8	28	25	84	46	87	125	150	99	61	41	30	18
9	28	*24	194	46	81	120	143	93	61	96	37	18
10	28	24	203	48	81	116	136	89	59	63	30	20
11	26	24	118	54	79	112	136	87	58	48	26	20
12	26	24	166	48	75	107	127	85	59	42	25	18
13	26	23	143	b45	72	169	122	103	58	38	28	*18
14	28	23	232	b52	72	306	127	199	65	41	26	18
15	29	23	150	70	72	186	129	143	63	40	25	18
16	28	22	114	465	80	156	219	120	76	36	23	17
17	26	22	91	178	105	146	216	110	75	37	25	17
18	26	21	b82	127	79	136	166	103	75	36	24	17
19	25	22	b76	110	75	168	148	97	70	35	31	16
20	25	25	b72	103	358	160	136	103	63	61	32	16
21	25	86	86	390	512	143	132	95	56	45	31	18
22	25	134	80	*1,000	227	132	129	89	53	38	36	17
23	25	115	73	483	176	129	158	85	51	37	31	16
24	25	52	67	299	158	200	146	81	50	35	36	16
25	24	48	64	232	143	176	136	79	47	35	31	15
26	24	40	b55	194	129	218	143	77	45	52	30	15
27	32	36	b54	176	120	186	132	75	42	44	32	15
28	45	33	59	150	186	176	122	81	41	36	32	*14
29	29	32	66	141	-	160	116	99	40	33	32	14
30	28	31	60	129	-------	150	114	87	40	32	26	14
31	26	-------	56	118	-------	184	-------	75	-------	38	23	----- --
Total	874	1,085	3,080	5,052	3,667	5,045	4,389	3,126	1,800	1,329	934	525
Mean	28.2	36.2	99.4	163	131	163	146	101	60.0	42.9	30.1	17.5
Cfsm	0.698	0.896	2.46	4.03	3.24	4.03	3.61	2.50	1.49	1.06	0.745	0.433
In.	0.80	1.00	2.84	4.65	3.38	4.64	4.04	2.88	1.66	1.22	0.86	0.48

Calendar year 1953: Max 1,380 Min 21 Mean 100 Cfsm 2.48 In. 33.61
Water year 1953-54: Max 1,000 Min 14 Mean 84.7 Cfsm 2.10 In. 28.45

Peak discharge (base, 1,000 cfs).--Jan. 22 (10 a.m.) 1,900 cfs (4.61 ft); Feb. 21 (1 a.m.) 1,080 cfs (3.47 ft).

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Little River near Penrose, N. C.

Location.--Lat 35°13'23", long 82°38'07", on left bank 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.

Records available.--October 1942 to September 1954.

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.--12 years, 149 cfs.

Extremes.--Maximum discharge during year, 2,320 cfs Jan. 22 (gage height, 8.37 ft); minimum, 0.7 cfs Nov. 15, 16 (gage height, 0.28 ft); minimum daily, 0.7 cfs Nov. 15.
1942-54: Maximum discharge, 3,280 cfs Mar. 11, 1952 (gage height, 10.72 ft); minimum, 0.3 cfs Oct. 24, 1943, Oct. 5, 1947; minimum gage height, 0.16 ft Oct. 5, 1947; minimum daily discharge, 0.3 cfs Oct. 24, 1943.
Floods of July 1916 and August 1928 reached stages of 14 and 13½ ft, respectively, from flood profiles by Tennessee Valley Authority.

Remarks.--Records excellent. Considerable diurnal fluctuation and regulation at low flow by Cascade Lake (capacity, about 500 cfs-days). Records of chemical analyses and water temperature for the water year 1954 are given in WSP 1350.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

0.2	0.3	1.0	35
.3	.9	1.5	102
.4	2.3	2.0	210
.5	4.6	3.0	509
.6	7.9	5.0	1,130
.8	18	6.0	1,460

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	62	1.1	64	66	161	343	264	152	100	58	5.9	67
2	*64	39	*64	66	*159	254	*220	139	90	56	40	60
3	36	62	64	66	152	231	200	145	*90	29	5.6	42
4	7.2	38	74	66	148	203	184	161	88	6.9	5.6	24
5	75	*35	184	66	141	*186	172	139	93	51	*37	5.3
6	58	35	277	66	137	177	191	*133	67	*69	36	29
7	46	32	322	66	135	165	236	129	86	64	20	*41
8	46	.9	186	66	135	159	203	127	87	53	6.2	42
9	44	30	220	66	135	152	196	127	66	53	38	42
10	49	42	328	66	133	145	181	127	66	55	51	28
11	49	42	210	66	131	141	174	127	66	5.9	40	3.7
12	42	41	343	66	129	139	165	127	66	50	39	3.7
13	42	41	308	66	105	144	154	127	28	66	37	26
14	42	21	352	66	102	278	154	193	49	63	19	33
15	45	.7	256	66	98	191	148	242	92	54	4.6	30
16	42	35	200	394	104	168	161	188	90	49	29	28
17	34	43	168	242	106	159	191	163	84	39	40	28
18	57	43	148	172	125	152	161	163	117	13	37	3.7
19	96	42	137	150	125	184	150	148	105	42	36	3.7
20	122	42	124	137	291	218	141	137	14	40	43	27
21	83	25	129	552	959	179	137	131	79	56	30	35
22	5.3	35	129	1,440	398	165	133	127	82	62	5.9	34
23	23	179	129	1,160	276	156	132	127	69	47	88	32
24	79	135	129	519	233	215	158	127	69	44	40	28
25	56	127	129	*368	203	218	159	117	54	6.9	3.0	1.8
26	50	127	127	296	181	253	192	97	30	48	34	1.8
27	38	126	123	256	165	242	177	87	7.6	59	70	24
28	42	69	125	223	204	244	156	94	52	47	66	34
29	42	63	125	200	-	215	137	89	67	44	70	34
30	40	64	99	186	-------	198	135	95	62	37	70	33
31	21	-------	66	172	-------	218	-------	101	-------	19	69	-------
Total	1,537.5	1,615.7	5,339	7,457	5,371	6,092	5,162	4,186	2,115.6	1,386.7	1,115.8	824.7
Mean	49.6	53.9	172	241	192	197	172	135	70.5	44.7	36.0	27.5
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 1,840 Min 0.7 Mean 137 Cfsm 3.31 In. 44.80
Water year 1953-54: Max 1,440 Min 0.7 Mean 116 Cfsm 2.80 In. 37.91

Peak discharge (base, 800 cfs).--Jan. 22 (9:30 p.m.) 2,320 cfs (8.37 ft); Feb. [illegible] (3:30 a.m.) 1,310 cfs (5.56 ft).
* Discharge measurement made on this day.

Crab Creek near Penrose, N. C.

Location.--Lat 35°14'02", long 82°36'39", on left bank 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.

Records available.--October 1942 to September 1954.

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.--12 years, 29.4 cfs.

Extremes.--Maximum discharge during year, 504 cfs Jan. 22 (gage height, 5.45 ft); minimum not recorded; minimum daily, 4.8 cfs Sept. 29.
1942-54: Maximum discharge, 1,500 cfs Mar. 11, 1952 (gage height, 7.57 ft), from rating curve extended above 450 cfs on basis of channel conveyance study of peak flow; minimum not recorded; minimum daily, that of Sept. 29, 1954.
Flood of July 1916 reached a stage of about 10½ ft, from flood profile by Tennessee Valley Authority.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Small diversion for irrigation above station. Slight regulation by two small recreation ponds after September 1951 (combined capacity, 7½ cfs-days).

Rating tables, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 22				Jan. 23 to Sept. 30			
0.4	7.0	1.5	89	0.3	4.0	1.0	41
.6	14	2.0	153	.4	7.0	1.5	95
.8	26	2.5	213	.6	14	1.9	145
1.0	40	3.0	265	.8	26		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	9.1	9.4	14	27	72	42	28	21	11	10	7.6
2	*11	9.1	*9.4	13	*27	49	*38	27	20	12	9.1	7.6
3	11	8.8	9.4	13	26	44	37	32	*20	13	8.5	7.3
4	10	8.8	39	13	25	39	35	29	19	13	7.9	7.0
5	10	*8.8	20	*13	24	*35	34	27	18	11	*7.6	6.7
6	9.7	8.8	30	12	24	32	43	*25	18	*11	10	6.7
7	9.7	8.5	26	12	22	31	39	26	17	10	8.5	*6.4
8	9.7	8.5	20	12	22	30	48	25	17	11	7.9	6.4
9	9.7	8.5	32	12	22	29	44	24	17	13	9.1	6.4
10	9.4	8.5	34	13	22	27	39	24	16	12	7.6	6.7
11	9.4	8.5	24	13	22	27	38	23	16	11	7.3	6.7
12	9.4	8.5	41	b11	21	25	35	22	16	10	7.6	6.4
13	9.1	8.5	35	b10	20	43	34	28	15	10	7.6	6.4
14	10	8.5	44	12	20	58	33	67	15	9.7	7.3	6.4
15	10	8.5	31	15	20	39	32	44	15	13	7.0	*6.1
16	9.7	8.5	26	66	23	34	38	36	20	12	6.7	6.1
17	9.4	8.5	b21	31	24	32	35	32	23	10	6.7	6.1
18	9.4	8.5	b20	24	21	30	32	30	19	13	6.7	a6.0
19	9.1	8.5	b18	22	20	35	31	29	17	12	9.9	a5.8
20	9.1	12	18	22	107	33	29	29	16	14	11	a5.8
21	9.1	19	19	83	125	30	28	26	15	12	12	a6.2
22	9.1	27	18	256	58	29	28	25	14	11	10	a6.0
23	9.1	18	17	135	46	28	33	24	14	10	12	a5.8
24	8.8	13	16	76	40	41	30	23	14	9.4	13	a5.6
25	8.8	12	16	*55	35	37	28	22	13	9.1	9.7	a5.6
26	9.1	11	15	46	33	45	46	21	13	9.1	8.8	a5.6
27	10	10	14	40	31	41	35	21	13	8.8	7.9	a5.3
28	10	9.7	15	35	52	39	32	21	12	8.5	17	*4.9
29	9.4	9.7	15	32	-	36	30	29	12	8.2	11	a4.8
30	9.1	9.4	14	31	-------	35	28	22	11	11	9.1	a4.9
31	9.1	-------	14	29	-------	44	-------	21	-------	11	7.9	-------
Total	298.4	314.7	680.2	1,171	959	1,149	1,054	862	486	339.8	282.4	185.3
Mean	9.63	10.5	21.9	37.8	34.2	37.1	35.1	27.8	16.2	11.0	9.11	6.18
Cfsm	0.883	0.963	2.01	3.47	3.14	3.40	3.22	2.55	1.49	1.01	0.836	0.567
In.	1.02	1.07	2.32	4.00	3.27	3.92	3.60	2.94	1.66	1.16	0.96	0.63

Calendar year 1953: Max 218 Min 7.9 Mean 23.3 Cfsm 2.14 In. 29.06
Water year 1953-54: Max 256 Min 4.8 Mean 21.3 Cfsm 1.95 In. 26.55

Peak discharge (base, 300 cfs).--Jan. 22 (12 m.) 504 cfs (5.45 ft).
* Discharge measurement made on this day.
a Doubtful or no gage-height record; discharge estimated on basis of 1 discharge measurement, weather records, and records for Boylston Creek near Horseshoe and French Broad River at Calvert.
b Stage-discharge relation affected by ice.

French Broad River at Blantyre, N. C.

Location.--Lat 35°17'56", long 82°37'27", on left bank at upstream side of 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.

Records available.--December 1920 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 2,060.32 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--33 years (1921-54), 937 cfs.

Extremes.--Maximum discharge during year, 7,290 cfs Jan. 23; maximum gage height, 18.32 ft Jan. 23; minimum discharge, 130 cfs Sept. 27 (gage height, 2.46 ft).
1920-54: Maximum discharge, 26,500 cfs Aug. 16, 1928 (gage height, 22.9 ft), from rating curve extended above 11,500 cfs; minimum, that of Sept. 27, 1954.
Maximum stage known, 27.1 ft in July 1916, from floodmarks.

Remarks.--Records excellent except those for period of no gage-height record, which are good. Considerable diurnal fluctuation at low flow caused by powerplant above station.

Revisions (water years).--WSP 923: 1921-23, 1929, 1933, 1935-36(M), 1938, 1940.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Rate of change in stage used as a factor Dec. 4-15, Jan. 16-18, 21-26, Feb. 20-23, Feb. 28 to Mar. 2, Mar. 13-15, 19, 20, 24-27, Mar. 31 to Apr. 1, Apr. 6, 7, 16, 17, May 14)

2.4	123	10.0	2,020
2.6	148	12.0	2,700
3.0	203	14.0	3,460
4.0	374	16.0	4,360
5.0	575	17.0	4,980
6.0	797	18.1	6,540
8.0	1,350		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	412	234	a330	527	1,000	2,040	1,720	879	596	348	294	248
2	393	248	*342	512	968	1,520	1,420	864	621	346	286	239
3	376	287	337	510	927	1,390	1,280	895	586	344	264	*209
4	306	270	1,160	508	*898	1,260	1,170	1,020	*613	393	245	197
5	*348	257	1,200	494	859	1,140	*1,100	852	564	458	239	167
6	364	255	1,190	*488	823	1,070	1,160	*811	518	*397	*267	172
7	315	253	1,850	474	799	994	1,410	797	525	359	346	189
8	321	228	1,050	466	779	*961	1,250	816	516	341	236	186
9	303	*239	1,220	464	769	927	1,290	774	486	483	267	182
10	312	a245	2,160	462	751	898	1,140	756	478	631	324	190
11	305	a250	1,350	508	740	871	1,110	742	468	372	257	185
12	294	a250	1,620	510	721	847	1,060	733	504	351	239	157
13	289	a250	1,700	438	676	1,080	992	753	440	368	237	156
14	296	a240	2,060	440	668	2,360	1,000	1,260	500	368	229	175
15	333	a220	1,570	516	663	1,500	976	1,270	539	387	202	168
16	312	a220	1,200	2,400	674	1,210	1,090	1,000	598	337	209	*161
17	291	a240	989	1,990	869	1,090	1,780	898	650	319	229	168
18	298	a240	838	1,150	740	1,020	1,270	864	744	306	221	147
19	332	a245	776	950	698	1,110	1,120	835	594	314	253	142
20	372	a330	744	862	1,300	1,470	1,040	807	484	369	287	145
21	361	a620	760	2,840	3,870	1,160	992	788	486	434	260	161
22	248	a1,260	797	4,390	2,510	1,060	974	744	476	351	240	161
23	244	a1,230	758	6,520	1,510	1,000	993	726	446	326	323	156
24	296	a640	705	4,810	1,510	1,340	1,030	712	460	308	315	151
25	287	a510	670	2,590	1,180	1,440	974	696	418	264	265	142
26	282	a455	643	1,810	1,080	1,560	1,100	646	385	282	244	134
27	279	a420	619	1,570	984	1,470	1,030	621	335	361	299	136
28	359	a375	611	1,390	1,140	1,520	942	626	359	314	287	*148
29	314	a345	637	1,250	-	1,350	893	659	376	284	344	145
30	284	a335	630	1,150	-------	1,260	859	643	364	272	299	144
31	265	-------	554	1,070	-------	1,340	-------	617	-------	287	265	-------
Total	9,791	11,191	31,070	44,059	29,906	39,258	34,165	25,104	15,129	11,074	8,272	5,061
Mean	316	373	1,002	1,421	1,068	1,266	1,139	810	504	357	267	169
Cfsm	1.07	1.26	3.39	4.80	3.61	4.28	3.85	2.74	1.70	1.21	0.902	0.571
In.	1.23	1.41	3.90	5.54	3.76	4.93	4.29	3.15	1.90	1.39	1.04	0.64

Calendar year 1953: Max 8,130 Min 220 Mean 873 Cfsm 2.95 In. 40.02
Water year 1953-54: Max 6,520 Min 134 Mean 724 Cfsm 2.45 In. 33.18

Peak discharge (base, 4,300 cfs).--Jan. 23 (3 p.m.) 7,290 cfs (18.31 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for stations at Calvert and Bent Creek.

Boylston Creek near Horseshoe, N. C.

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

Drainage area.--14.8 sq mi.

Records available.--December 1942 to September 1954.

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.--11 years (1943-54), 33.2 cfs.

Extremes.--Maximum discharge during year, 608 cfs Aug. 23 (gage height, 5.15 ft); minimum, 5.4 cfs Sept. 29, 30 (gage height, 0.45 ft).
1942-54: Maximum discharge, 805 cfs Dec. 7, 1950 (gage height, 5.67 ft); minimum, that of Sept. 29, 30, 1954.

Remarks.--Records excellent.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 22

0.5	7.3	1.6	102
.6	10	2.0	151
.8	22	2.5	218
1.0	37	3.0	288
1.3	68	3.7	390

Jan. 23 to Sept. 30

0.4	4.1	0.8	22
.5	6.8	1.0	38
.6	11	1.3	68

Note.--Same as preceding table above 1.3 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	8.8	9.3	13	23	59	46	25	19	12	13	11
2	10	8.5	9.6	13	23	38	38	23	18	12	13	9.9
3	10	8.8	*9.6	13	23	36	36	26	*19	31	11	*9.5
4	9.9	8.8	53	12	*22	31	34	*24	20	20	10	9.1
5	*9.6	8.8	25	12	21	28	*32	24	18	15	9.9	8.8
6	9.6	8.8	39	*12	21	27	32	23	18	*13	*11	8.4
7	9.3	8.5	33	12	21	26	32	23	17	13	10	8.4
8	9.3	8.5	22	12	20	*25	55	23	16	16	9.5	8.0
9	9.0	*8.5	45	12	20	25	37	23	16	20	12	8.0
10	9.0	8.5	51	12	20	24	32	22	16	22	9.9	8.0
11	8.8	8.5	26	13	20	23	32	21	16	16	9.1	8.0
12	8.8	8.5	48	12	19	23	30	21	16	14	9.1	7.6
13	8.8	8.2	40	11	18	55	28	26	21	13	9.5	*7.6
14	8.8	8.2	75	11	18	109	28	55	18	13	8.8	7.2
15	9.0	8.5	36	14	18	47	39	34	37	13	8.4	6.8
16	9.0	8.5	27	79	20	38	39	28	23	12	7.6	6.8
17	9.0	8.5	22	33	24	33	42	26	61	12	8.0	6.8
18	9.0	8.5	18	24	20	32	34	28	31	22	9.5	6.8
19	9.0	8.8	17	22	18	38	31	26	23	20	10	6.5
20	9.0	10	17	21	68	38	29	26	20	25	11	6.5
21	9.0	26	19	155	77	32	28	23	18	21	26	7.2
22	9.0	29	18	*384	38	30	28	22	17	18	15	6.8
23	8.8	26	17	195	31	29	28	21	16	16	79	6.5
24	8.5	15	16	72	28	54	28	21	15	14	27	6.3
25	8.5	13	16	51	26	44	27	21	15	14	16	6.3
26	8.5	12	14	42	25	66	26	20	14	13	13	6.3
27	9.6	11	14	36	23	51	25	20	14	13	12	6.0
28	13	9.9	14	31	35	47	24	20	13	12	42	6.0
29	9.3	9.6	14	28	-	41	24	20	13	12	20	*5.7
30	9.0	9.6	14	27	-------	38	24	20	13	12	14	5.7
31	8.8	-------	13	26	-------	46	-------	19	-------	11	12	-------
Total	287.9	333.8	791.5	1,410	740	1,233	968	754	591	490	476.3	222.5
Mean	9.29	11.1	25.5	45.5	26.4	39.8	32.3	24.3	19.7	15.8	15.4	7.42
Cfsm	0.628	0.750	1.72	3.07	1.78	2.69	2.18	1.64	1.33	1.07	1.04	0.501
In.	0.72	0.84	1.99	3.54	1.86	3.10	2.43	1.89	1.49	1.23	1.20	0.56

Calendar year 1953: Max 358 Min 7.9 Mean 22.4 Cfsm 1.51 In. 20.55
Water year 1953-54: Max 384 Min 5.7 Mean 22.7 Cfsm 1.53 In. 20.85

Peak discharge (base, 250 cfs).--Jan. 22 (2 p.m.) 586 cfs (5.05 ft); Aug. 23 (5:30 p.m.) 608 cfs (5.15 ft).
* Discharge measurement made on this day.

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Mills River near Mills River, N. C.

Location.--Lat 35°23'45", long 82°35'25", on right bank 1.4 miles downstream from confluence of North and South Forks, 2.2 miles upstream from village of Mills River, Henderson County, and 4.2 miles northwest of Horseshoe.

Drainage area.--66.7 sq mi.

Records available.--September 1924 to September 1926, May 1934 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 2,088.47 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Sept. 9, 1924, to Sept. 30, 1926, staff gage at site 500 ft upstream at datum 2.97 ft higher.

Average discharge.--22 years, 158 cfs.

Extremes.--Maximum discharge during year, 2,450 cfs Jan. 22 (gage height, 6.35 ft); minimum, 18 cfs Sept. 30 (gage height, 1.35 ft).
1924-26, 1934-54: Maximum discharge, 13,400 cfs Aug. 30, 1940 (gage height, 13.62 ft), from rating curve extended above 5,500 cfs on basis of slope-area determination of peak flow; minimum, 16 cfs Dec. 24, 1943 (gage height, 1.33 ft), result of freezeup.

Remarks.--Records excellent except those for periods of ice effect, which are good. City of Hendersonville diverted from North Fork and Bradley Creek (tributary of South Fork) about 4 cfs for water supply.

Revisions (water years).--WSP 823: Drainage area. WSP 923: 1935, 1937, 1939. WSP 1003: 1938, 1940-42. WSP 1143: 1940(P). WSP 1276: 1926.

Rating table, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.3	15	2.5	254
1.4	21	3.0	465
1.6	39	3.5	750
1.8	67	4.0	1,090
2.0	106	4.6	1,470
2.2	157		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	33	40	64	146	332	226	146	93	58	50	33
2	38	32	38	61	*144	254	200	144	91	56	80	*31
3	37	31	*38	b61	141	254	187	149	91	80	49	30
4	35	31	188	61	135	226	178	*144	*93	83	43	28
5	*33	31	128	*60	128	206	*172	130	85	66	40	27
6	32	30	152	60	123	193	178	125	81	60	*44	27
7	31	30	175	56	113	181	187	123	80	*54	47	26
8	31	30	111	b56	111	*175	196	120	76	55	40	25
9	31	*29	192	b56	106	166	181	116	76	79	47	25
10	31	29	288	58	104	160	166	113	74	91	44	26
11	31	29	175	62	102	154	166	111	76	69	39	27
12	30	29	201	58	100	149	160	108	85	61	36	25
13	29	29	184	44	96	184	152	128	177	55	38	23
14	30	28	304	b60	93	366	152	288	104	54	37	23
15	31	28	216	74	93	258	152	209	109	52	35	*24
16	31	28	166	340	100	222	211	172	108	51	34	23
17	30	28	130	193	133	203	262	154	144	49	33	23
18	30	28	106	135	100	190	200	157	157	55	31	23
19	29	28	b95	118	93	213	178	146	120	55	36	23
20	29	35	b90	111	338	230	166	141	104	73	47	21
21	29	121	113	397	662	200	157	135	91	80	52	23
22	29	102	100	1,420	332	184	154	125	87	61	52	22
23	29	179	91	756	254	178	157	120	81	60	53	21
24	29	74	83	424	222	285	154	116	78	52	47	20
25	28	62	b77	320	197	244	152	111	72	48	42	19
26	28	54	b70	265	181	269	166	106	71	58	37	19
27	33	48	b66	236	166	240	157	104	67	51	54	19
28	60	44	b68	206	208	230	146	102	62	46	105	19
29	39	40	71	184	-	213	141	106	61	46	58	19
30	34	42	71	172	-------	203	138	106	60	49	43	18
31	33	-------	67	154	-------	209	-------	96	-------	43	37	------
Total	1,009	1,362	3,894	6,322	4,721	6,751	5,192	4,151	2,754	1,850	1,430	712
Mean	32.5	45.4	126	204	169	218	173	134	91.8	59.7	46.1	23.7
Cfsm	0.487	0.681	1.89	3.06	2.53	3.27	2.59	2.01	1.38	0.895	0.691	0.355
In.	0.56	0.76	2.17	3.52	2.63	3.76	2.89	2.31	1.54	1.03	0.80	0.40

Calendar year 1953: Max 1,680 Min 26 Mean 124 Cfsm 1.86 In. 25.20
Water year 1953-54: Max 1,420 Min 18 Mean 110 Cfsm 1.65 In. 22.37

Peak discharge (base, 1,000 cfs).--Jan. 22 (2 p.m.) 2,450 cfs (6.35 ft); Feb. 21 (5 a.m.) 1,060 cfs (3.95 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Clear Creek near Hendersonville, N. C.

Location.--Lat 35°21'14", long 82°26'40", on right bank at upstream side of county highway bridge, 0.6 mile 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.

Records available.--June 1945 to September 1954.

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.--9 years, 73.4 cfs.

Extremes.--Maximum discharge during year, 1,600 cfs Jan. 22 (gage height, 8.05 ft); minimum, 8.8 cfs Sept. 19 (gage height, 0.80 ft).

1945-54: 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, that of Sept. 19, 1954.

Floods of July 1916 and Aug. 13, 1940, reached stages of 16 and 12 ft, respectively, from flood profiles by Tennessee Valley Authority.

Remarks.--Records excellent except those for periods of ice effect, which are good. Occasional slight diurnal fluctuation at low flow caused by gristmill and three small stock ponds on tributaries above gage.

Rating table, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.8	8.8	3.0	262
.9	13	4.0	386
1.0	18	5.0	490
1.2	32	6.0	603
1.6	71	6.5	682
2.0	118	7.0	855
2.5	187		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	20	20	26	48	218	99	53	35	22	24	14
2	24	20	19	26	47	112	81	49	35	22	22	13
3	24	19	19	25	46	93	74	87	35	23	20	13
4	22	19	84	24	44	79	69	73	34	26	18	12
5	22	19	48	24	42	70	64	56	32	23	18	12
6	21	18	67	24	40	64	67	52	32	22	18	11
7	*20	18	59	23	39	58	78	50	31	20	17	11
8	21	18	42	23	38	56	177	49	30	21	17	11
9	21	18	61	23	38	54	144	46	30	30	26	*11
10	21	18	82	23	36	51	100	45	30	104	19	12
11	20	18	48	24	36	49	88	44	32	34	16	12
12	20	18	77	22	34	48	80	43	31	27	15	11
13	20	18	67	b20	33	171	73	52	30	*24	17	11
14	20	18	138	b24	33	341	73	112	30	23	15	11
15	22	18	*72	26	*33	132	97	75	37	22	15	11
16	21	18	54	170	38	95	87	63	34	22	*14	11
17	20	18	b43	79	66	83	81	*56	*65	20	13	11
18	20	*17	b40	55	43	*73	71	53	49	20	13	10
19	20	17	b36	46	40	80	*67	52	38	20	13	9.6
20	20	19	34	43	196	80	62	50	34	67	29	10
21	20	47	36	*413	446	69	60	47	32	38	22	12
22	20	32	35	827	143	62	59	44	30	32	17	11
23	20	37	33	531	101	60	57	42	30	26	17	10
24	19	25	30	155	84	135	55	40	28	23	17	10
25	19	23	30	107	75	114	80	39	26	22	16	10
26	19	21	30	87	67	139	60	38	26	29	14	10
27	21	20	27	76	59	107	54	38	24	25	14	10
28	22	20	27	66	94	96	52	38	23	22	30	10
29	20	20	28	60	-	84	50	38	23	22	22	9.6
30	20	20	27	55	-------	78	49	37	23	30	17	9.6
31	20	-------	26	51	-------	95	-------	35	-------	24	15	------
Total	644	631	1,439	3,178	2,039	3,046	2,308	1,596	969	885	560	329.8
Mean	20.8	21.0	46.4	103	72.8	98.3	76.9	51.5	32.3	28.5	18.1	11.0
Cfsm	0.493	0.498	1.10	2.44	1.73	2.33	1.82	1.22	0.765	0.675	0.429	0.261
In.	0.57	0.56	1.27	2.80	1.80	2.68	2.03	1.41	0.85	0.78	0.49	0.29

Calendar year 1953: Max 885 Min 12 Mean 46.7 Cfsm 1.11 In. 15.04
Water year 1953-54: Max 827 Min 9.6 Mean 48.3 Cfsm 1.14 In. 15.53

Peak discharge (base, 700 cfs).--Jan. 22 (7:30 p.m.) 1,600 cfs (8.05 ft); Feb. 21 (3:30 a.m.) 746 cfs (6.73 ft).

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Mud Creek at Naples, N. C.

Location.--Lat 35°22'52", long 82°29'54", on left bank at downstream side of 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.

Records available.--May to December 1907, September 1938 to September 1954.

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 datum. Since Jan. 20, 1954, auxiliary water-stage recorder at U. S. Highway 25, 0.5 mile downstream at same datum.

Average discharge.--16 years (1938-54), 201 cfs.

Extremes.--Maximum discharge during year, 4,930 cfs Jan. 23 (gage height, 11.07 ft); minimum, 22 cfs Sept. 30 (gage height, -0.24 ft).
1907, 1938-54: Maximum discharge, 10,800 cfs Aug. 13, 1940 (gage height, 13.07 ft); minimum, that of Sept. 30, 1954.
Floods in July 1916 and August 1928 reached stages of 21 and 15 ft, respectively, from information by Tennessee Valley Authority.

Remarks.--Records good except those for periods of backwater or no gage-height record, which are fair. 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. See records for Mills River near Mills River.

Revisions (water years).--WSP 923: 1940.

Rating table, water year 1953-54, except period of backwater from return of overbank flow (gage height, in feet, and discharge, in cubic feet per second)

-0.3	18	5.0	720
-.2	26	7.0	1,060
-.1	34	8.0	1,280
.0	42	8.5	1,470
.5	93	9.0	1,800
1.0	150	9.5	2,300
2.0	274	10.2	3,280
3.0	410		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	86	71	66	92	164	600	304	164	107	61	82	44
2	73	65	65	90	164	346	243	144	108	61	67	40
3	a70	59	a65	90	154	286	223	218	106	64	58	39
4	a70	57	a240	86	149	236	209	228	105	83	53	37
5	a68	57	a140	85	142	212	198	162	101	67	51	35
6	a68	56	a190	84	136	202	206	149	98	62	53	34
7	*67	55	a175	82	130	191	266	144	96	59	51	34
8	60	55	a120	82	126	182	456	144	95	60	48	31
9	59	55	a180	82	125	176	328	134	96	100	65	*31
10	58	55	a240	82	125	180	248	125	123	168	60	31
11	57	55	a140	85	130	164	225	118	104	86	48	33
12	57	56	a220	81	118	160	206	116	103	74	46	29
13	54	54	a190	76	115	330	192	145	95	*70	50	30
14	59	54	a400	80	115	893	193	350	97	66	46	30
15	59	54	*254	90	*114	360	208	235	136	65	45	29
16	58	54	187	524	123	266	218	192	164	71	*43	*29
17	57	54	152	313	188	230	230	*179	*225	61	39	30
18	56	*54	130	187	132	*208	186	162	295	59	39	29
19	57	54	120	160	122	230	*173	162	140	61	44	27
20	58	56	115	143	444	253	164	154	114	121	56	29
21	54	149	123	980	1,680	208	160	140	102	117	58	34
22	55	113	123	1,900	654	191	157	131	94	86	50	31
23	57	150	117	*c3,200	*329	185	168	128	89	75	48	27
24	54	93	107	c810	268	368	162	124	85	66	49	27
25	53	81	104	*c429	228	325	178	118	80	62	48	26
26	54	75	100	314	206	392	164	116	77	63	44	26
27	60	72	96	253	191	305	158	114	74	65	41	28
28	69	69	96	221	236	291	146	113	70	56	66	25
29	60	66	100	204	-	254	140	117	66	55	75	*25
30	59	66	97	184	-------	236	138	114	64	87	61	25
31	59	-------	94	170	-------	274	-------	107	-------	154	80	----- --
Total	1,885	2,064	4,546	11,259	6,808	8,734	6,301	4,747	3,309	2,405	1,664	925
Mean	60.8	68.8	147	363	243	282	210	153	110	77.6	53.7	30.8
Cfsm	0.558	0.631	1.35	3.33	2.23	2.59	1.93	1.40	1.01	0.712	0.493	0.283
In.	0.64	0.70	1.55	3.84	2.32	2.98	2.15	1.62	1.13	0.82	0.57	0.32

Calendar year 1953: Max 2,410 Min 42 Mean 153 Cfsm 1.40 In. 19.00
Water year 1953-54: Max 3,200 Min 25 Mean 150 Cfsm 1.38 In. 18.64

Peak discharge (base, 1,500 cfs).--Jan. 23 (2 a.m.) 4,930 cfs (11.07 ft); Feb. 21 (12 m.) 2,170 cfs (9.38 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for Clear Creek near Hendersonville.
c Backwater from return of overbank flow.

Cane Creek at Fletcher, N. C.

Location.--Lat 35°26'08", long 82°29'23", on right bank at downstream side of 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.

Records available.--October 1942 to September 1954.

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.--12 years, 77.6 cfs.

Extremes.--Maximum discharge during year, 2,900 cfs Jan. 22 (gage height, 8.52 ft); minimum, 9.6 cfs Sept. 30.

1942-54: Maximum discharge, that of Jan. 22, 1954; minimum, that of Sept. 30, 1954.

Floods of July 1916 and Aug. 30, 1940, reached stages of 14.8 and 9.4 ft, respectively, from high-water marks and flood profiles by Tennessee Valley Authority.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Records of chemical analyses for the water year 1954 are given in WSP 1350.

Revisions (water years).--WSP 1276: 1943(M), 1946(M), 1949(P), 1951-52(M).

Rating tables, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 22				Jan. 23 to Sept. 30			
0.3	10	2.0	360	0.2	6.5	1.0	124
.4	16	3.0	610	.3	11	1.5	240
.6	41	4.0	870	.4	18	2.0	360
1.0	120	5.0	1,130	.6	44	2.8	560
1.5	236	6.8	1,630				

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a18	18	18	24	60	265	136	66	42	25	47	14
2	a18	18	18	24	60	145	113	62	42	27	29	14
3	a18	18	18	24	60	129	102	86	48	29	20	13
4	a18	a18	68	23	58	106	94	78	46	35	17	12
5	a17	a18	34	23	57	94	88	64	41	28	17	12
6	a17	a18	60	23	53	84	92	60	40	26	18	12
7	*17	a18	53	22	51	76	106	60	38	24	17	12
8	16	a18	33	b22	49	72	342	60	35	25	17	11
9	16	a18	70	b22	48	68	136	57	40	26	20	12
10	16	a18	79	b23	48	64	102	53	41	30	18	*14
11	16	a18	44	b26	46	62	98	53	36	27	17	15
12	16	a18	63	b23	44	58	90	51	35	26	16	12
13	15	a18	57	b22	44	134	84	64	35	*22	17	12
14	18	a18	113	b25	42	424	84	140	56	21	15	12
15	18	a18	*62	31	*41	168	80	102	46	21	16	11
16	16	a18	a50	212	58	122	90	86	172	21	*14	11
17	16	a18	a40	77	86	104	92	*74	*93	20	14	11
18	16	*18	a38	51	55	*92	78	70	66	20	14	11
19	16	17	a35	44	51	100	*74	66	51	20	14	11
20	16	18	a32	45	480	94	72	62	42	18	15	13
21	16	49	a34	*463	547	82	70	58	41	19	30	14
22	16	56	a33	*1,610	177	76	70	55	38	22	18	13
23	16	46	a30	*524	124	74	68	53	35	22	17	12
24	16	26	a28	198	104	294	79	49	32	18	24	12
25	16	24	a28	138	90	204	98	49	30	18	27	12
26	16	22	a27	109	80	233	78	49	30	17	17	12
27	19	19	25	98	72	156	72	48	28	17	15	11
28	22	19	25	82	111	136	68	48	27	17	39	11
29	19	18	26	74	-	117	66	49	26	17	26	11
30	19	18	25	68	-------	104	64	51	26	19	17	10
31	18	-------	24	66	-------	147	-------	44	-------	19	15	-------
Total	527	656	1,290	4,216	2,796	4,084	2,886	1,967	1,358	696	617	363
Mean	17.0	21.9	41.6	136	99.9	132	96.2	63.5	45.3	22.5	19.9	12.1
Cfsm	0.269	0.347	0.659	2.16	1.58	2.09	1.52	1.01	0.718	0.357	0.315	0.192
In.	0.31	0.39	0.76	2.48	1.65	2.41	1.70	1.16	0.80	0.41	0.36	0.21

Calendar year 1953: Max 1,010 Min 10 Mean 53.2 Cfsm 0.843 In. 11.44
Water year 1953-54: Max 1,610 Min 10 Mean 58.8 Cfsm 0.932 In. 12.64

Peak discharge (base, 800 cfs).--Jan. 22 (2 p.m.) 2,900 cfs (8.52 ft); Feb. 20 (10 p.m.) 1,540 cfs (6.50 ft); Apr. 8 (4 p.m.) 2,030 cfs (7.74 ft); June 16 (5:30 p.m.) 1,010 cfs (4.54 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for Clear Creek near Hendersonville and Mud Creek at Naples.

b Stage-discharge relation affected by ice.

French Broad River at Bent Creek, N. C.

Location.--Lat 35°30'07", long 82°35'35", on left bank 50 ft downstream from Bent Creek, 6.2 miles upstream from Hominy Creek, 6.7 miles south of Asheville, Buncombe County, and at mile 157.7.

Drainage area.--676 sq mi.

Records available.--May 1934 to September 1954.

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.--20 years, 1,632 cfs.

Extremes.--Maximum discharge during year, 12,400 cfs Jan. 23 (gage height, 9.16 ft); minimum, 234 cfs Sept. 26, 27 (gage height, 2.06 ft).
1934-54: Maximum discharge, 23,600 cfs Aug. 14, 1940 (gage height, 12.6 ft); minimum, that of Sept. 26, 27, 1954.
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.--Records good. Some diurnal fluctuation at low flow caused by powerplant above station.

Revisions.--WSP 823: Drainage area.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 1 to Aug. 8)

2.0	210	4.0	2,370
2.1	250	5.0	3,970
2.3	350	6.0	5,760
2.5	495	7.0	7,710
3.0	990	8.0	9,900
3.5	1,650	9.0	12,100

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	661	455	567	790	1,620	3,750	2,760	1,410	979	623	576	402
2	614	431	558	760	1,550	3,030	2,360	1,430	1,000	604	632	376
3	594	447	540	760	1,480	2,500	2,080	1,450	990	661	513	370
4	549	471	1,340	760	1,430	2,260	1,920	1,850	1,010	790	447	339
5	487	447	2,130	740	1,340	1,970	1,790	1,470	979	680	431	317
6	558	439	1,570	720	1,270	1,820	1,750	1,330	913	750	431	295
7	522	439	2,730	710	1,210	1,690	2,180	1,290	860	623	513	295
8	495	431	1,870	690	1,160	1,590	3,210	1,290	860	576	504	*306
9	487	396	1,610	690	1,140	1,510	2,900	1,250	860	670	439	300
10	479	408	3,160	690	1,120	1,450	2,080	1,190	880	1,180	531	306
11	479	431	2,360	710	1,100	1,380	1,930	1,150	830	800	495	328
12	479	431	2,100	750	1,070	1,330	1,830	1,140	850	604	423	300
13	463	431	2,780	661	1,010	1,630	1,680	1,160	913	594	423	277
14	471	423	3,330	652	979	5,120	1,650	2,120	891	585	423	277
15	495	402	2,820	720	968	3,270	1,660	2,340	1,030	604	402	286
16	513	389	2,000	2,800	979	2,320	1,720	1,820	1,180	594	382	282
17	487	402	*1,610	3,610	1,400	1,990	2,550	1,580	1,330	549	389	277
18	471	*423	1,300	2,030	*1,230	1,820	2,160	1,470	1,690	522	415	286
19	*479	415	1,190	1,550	1,070	1,790	1,830	1,440	1,200	576	*408	259
20	513	439	1,140	1,340	2,070	2,360	1,690	1,340	1,010	567	495	*250
21	540	840	1,140	*4,380	6,730	2,000	1,610	1,330	840	902	513	272
22	495	1,000	1,200	8,810	5,680	1,760	1,570	1,230	840	670	513	282
23	415	1,830	1,140	11,500	3,080	1,660	1,570	1,180	820	614	463	272
24	431	1,380	1,060	9,200	2,340	2,440	1,650	1,140	*800	549	750	268
25	463	891	979	6,690	2,060	*2,800	1,610	*1,110	800	513	487	259
26	455	800	946	3,490	1,820	2,950	*1,640	1,060	740	*447	415	242
27	471	730	913	2,670	1,650	2,640	1,660	1,030	680	*531	402	238
28	558	670	891	2,310	1,690	2,550	1,520	1,000	623	549	576	246
29	576	604	891	2,040	-	2,310	1,430	1,040	661	495	700	259
30	504	585	924	1,870	-------	2,120	1,370	1,110	642	479	567	254
31	479	-------	860	1,750	-------	2,140	-------	1,010	-------	558	471	-------
Total	15,683	17,880	47,649	76,843	50,246	69,950	57,360	41,760	27,701	19,459	15,129	8,720
Mean	506	596	1,537	2,479	1,794	2,256	1,912	1,347	923	628	488	291
Cfsm	0.749	0.882	2.27	3.67	2.65	3.34	2.83	1.99	1.37	0.929	0.722	0.430
In.	0.86	0.98	2.62	4.23	2.76	3.85	3.16	2.30	1.52	1.07	0.83	0.48

Calendar year 1953: Max 11,000 Min 389 Mean 1,380 Cfsm 2.04 In. 27.72
Water year 1953-54: Max 11,500 Min 238 Mean 1,228 Cfsm 1.82 In. 24.66

Peak discharge (base 6,000 cfs).--Jan. 23 (4 a.m.) 12,400 cfs (9.16 ft); Feb. 21 (5:30 a.m.) 6,970 cfs (6.83 ft); Apr. 8 (9 p.m.) 6,290 cfs (6.28 ft).
* Discharge measurement made on this day.

Hominy Creek at Candler, N. C.

Location.--Lat 35°32'28", long 82°40'35", on left bank 0.1 mile downstream from Pole Creek and 1.0 mile east of Candler, Buncombe County.

Drainage area.--79.8 sq mi.

Records available.--October 1942 to September 1954.

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.--12 years, 89.3 cfs.

Extremes.--Maximum discharge during year, 1,480 cfs Jan. 22 (gage height, 4.47 ft); minimum, 14 cfs Sept. 7, 8, 19, 20, 30; minimum gage height, 0.82 ft Sept. 20.
1942-54: Maximum discharge, 6,800 cfs June 16, 1949 (gage height, 13.25 ft); minimum, 13 cfs Sept. 2, 1953 (gage height, 0.80 ft).
Flood of Aug. 30, 1940, reached a stage of 18.0 ft, from floodmarks (discharge, 13,100 cfs by conveyance method).

Remarks.--Records excellent except those for periods of ice effect, which are good. Numerous small diversions for irrigation above station.

Revisions.--WSP 1113: Drainage area.

Rating table, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.8	13	2.0	234
1.0	27	2.3	336
1.2	51	2.6	463
1.4	86	3.0	660
1.6	129	3.3	825
1.8	178		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	22	23	b27	61	225	160	62	47	30	36	20
2	22	22	22	b27	57	160	136	61	48	29	35	19
3	21	21	23	27	56	170	122	69	54	35	25	18
4	21	21	54	26	54	141	111	65	51	66	21	17
5	21	21	36	26	53	120	103	61	46	38	21	17
6	*21	21	34	25	50	105	99	59	44	36	26	16
7	20	21	36	25	48	92	103	57	43	34	24	15
8	20	22	*30	b25	*47	86	103	61	42	38	22	*15
9	21	22	64	25	46	80	92	56	41	188	30	15
10	21	22	73	25	46	76	86	53	41	51	25	21
11	21	22	46	29	46	75	82	53	41	38	21	23
12	20	22	47	b26	43	71	78	51	43	34	21	18
13	19	*21	46	b24	42	99	76	66	43	30	25	17
14	23	21	82	b32	43	189	*76	148	47	28	22	17
15	23	21	53	43	43	*131	78	99	133	27	21	16
16	21	21	43	226	50	109	82	82	*70	30	26	15
17	21	21	b37	84	67	99	84	73	117	26	23	15
18	21	21	b35	59	47	90	75	71	76	26	*23	15
19	21	21	b33	50	44	94	71	71	57	26	24	14
20	21	25	b30	48	139	88	67	69	50	25	32	16
21	21	42	36	*332	200	80	65	65	47	32	24	23
22	21	43	35	786	122	75	65	61	44	35	26	19
23	21	44	31	353	96	76	83	57	43	34	23	17
24	21	28	29	181	86	181	84	*54	41	26	47	16
25	21	26	b27	131	75	147	80	53	39	25	27	15
26	21	25	b25	111	67	211	71	51	38	27	23	15
27	23	24	b24	103	64	151	69	51	36	*24	26	15
28	26	24	28	86	129	134	65	50	34	21	98	15
29	23	22	29	76	-	118	64	54	32	20	34	15
30	22	24	28	71	-------	107	65	50	31	21	25	15
31	22	-------	27	65	-------	188	-------	47	-------	120	21	-------
Total	664	733	1,166	3,174	1,921	3,768	2,595	1,980	1,519	1,220	877	504
Mean	21.4	24.4	37.6	102	68.6	122	86.5	63.9	50.6	39.4	28.3	16.8
Cfsm	0.268	0.306	0.471	1.28	0.860	1.53	1.08	0.801	0.634	0.494	0.355	0.211
In.	0.31	0.34	0.54	1.48	0.90	1.76	1.21	0.92	0.71	0.57	0.41	0.23

Calendar year 1953: Max 753 Min 14 Mean 59.7 Cfsm 0.748 In. 10.13
Water year 1953-54: Max 786 Min 14 Mean 55.1 Cfsm 0.690 In. 9.38

Peak discharge (base, 900 cfs).--Jan. 22 (12 m.) 1,480 cfs (4.47 ft); July 9 (2:30 p.m.) 1,060 cfs (3.72 ft); July 31 (4 p.m.) 1,170 cfs (3.92 ft).

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

North Fork Swannanoa River near Black Mountain, N. C.

Location.--Lat 35°39'11", long 82°21'04", on left bank 0.1 mile downstream from Walker Branch, 0.8 mile downstream from Burnett Dam, 1.9 miles downstream from Sugar Fork, 3.0 miles northwest of town of Black Mountain, Buncombe County, and 3.4 miles downstream from Right Fork.

Drainage area.--23.8 sq mi.

Records available.--January 1926 to September 1954.

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.

Average discharge.--28 years, 48.5 cfs (unadjusted).

Extremes.--Maximum discharge during year, 249 cfs Nov. 23 (gage height, 2.64 ft); minimum, 0.7 cfs Oct. 28 (gage height, 0.84 ft).

1926-54: 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 and 9.10 ft; minimum, 0.6 cfs Sept. 17, 1953 (gage height, 0.83 ft).

Revisions.--The minimum discharge for the water year 1927 has been revised to 2.6 cfs Sept. 30 (gage height, 1.09 ft), superseding figure published in WSP 643.

Remarks.--Records good except those for period of no gage-height record, which are poor. City of Asheville diverted part of its water supply by gravity from four main tributaries with a combined drainage area of 16.4 sq mi at points 1.9 to 4.0 miles upstream, and after Aug. 24 by pumping from Burnett Lake (see p. 250). Occasional regulation by Burnett Lake due to construction operations at Burnett Dam prior to Jan. 28, 1954, when systematic storage began. No regulation after Mar. 26, 1954, when water in lake first reached spillway elevation.

Revisions (water years).--WSP 823: Drainage area. WSP 893: 1926. WSP 1143: 1927-28, 1929(M), 1930, 1931-32(M), 1933-34, 1935(M), 1940(P), 1941-45(M), 1946-47(P). Revised figures of discharge, in cubic feet per second, for the water year 1927, superseding those published in WSP 643 and 1143, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1927		1927-Con.		1927-Con.		1927-Con.	
Apr. 22	96	May 5	29	May 18	14	May 31	57
23	67	6	28	19	13	June 1	56
24	57	7	27	20	12	2	39
25	51	8	25	21	13	3	37
26	48	9	24	22	12	4	33
27	45	10	23	23	12	5	27
28	41	11	21	24	11	6	23
29	41	12	20	25	11	7	39
30	44	13	18	26	11	8	31
May 1	41	14	18	27	9.8	9	36
2	37	15	17	28	11		
3	36	16	16	29	36		
4	31	17	15	30	39		

Month	Observed				Diversion by city of Asheville (cfs-days)	Adjusted for diversion		
	Cfs-days	Maximum	Minimum	Mean		Mean	Per square mile	Runoff in inches
April 1927	1,465	107	32	48.8	166	54.4	2.29	2.55
May	687.8	57	9.8	22.2	160.9	27.4	1.15	1.33
June	1,422.9	109	15.4	47.4	125	51.6	2.17	2.42
Water year 1926-27	15,576.55	691	2.65	42.7	2,014.8	48.2	2.03	27.49
Calendar year 1927	14,192.28	441	2.18	38.9	1,985.1	44.3	1.86	25.27

North Fork Swannanoa River near Black Mountain, N. C.--Continued

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

0.8	0.5	1.5	14
.9	1.1	1.7	22
1.0	2.0	1.9	37
1.1	3.3	2.1	67
1.2	5.1	2.3	118
1.3	7.3	2.6	231
1.4	10		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.0	1.0	10	15	3.0	6.6	185	62	26	5.8	2.1	1.7
2	7.3	5.2	25	14	3.1	4.6	141	58	27	5.8	1.8	1.7
3	6.9	3.3	9.3	13	2.6	4.2	110	58	27	5.8	1.9	1.6
4	6.0	1.8	16	12	2.5	3.7	93	63	28	7.1	1.8	1.6
5	4.6	1.7	56	12	2.1	3.5	81	58	24	6.6	1.6	1.6
6	2.9	1.5	67	12	2.0	3.2	78	51	22	5.8	1.6	1.6
7	2.3	1.2	121	11	1.9	3.0	96	48	21	5.1	1.6	1.5
8	*2.0	1.0	115	9.8	1.8	2.9	88	48	19	6.2	1.6	1.5
9	1.9	1.0	122	9.5	1.7	2.8	78	43	20	6.6	2.1	1.4
10	1.8	2.7	213	a9.0	1.7	2.8	72	39	20	7.3	2.1	1.6
11	1.7	1.6	185	a8.5	1.7	2.6	65	37	18	7.1	1.8	1.5
12	1.6	1.2	110	a3.5	1.6	2.5	65	35	16	6.4	1.7	1.5
13	1.6	1.1	104	a6.0	1.6	3.2	60	39	15	6.0	1.6	*1.4
14	2.0	1.0	134	a13	1.6	5.3	56	131	14	*5.1	1.6	1.4
15	1.8	1.0	110	a20	1.6	3.7	53	159	14	4.9	1.5	1.3
16	1.7	1.0	*67	a70	*2.0	3.5	53	115	15	4.4	1.4	*1.3
17	1.6	*.9	53	a95	2.3	3.2	78	88	29	3.7	*1.4	1.3
18	1.6	.9	42	a60	1.9	3.0	78	*76	33	3.2	1.5	1.3
19	1.6	.9	38	a35	1.8	*3.7	69	65	27	3.2	1.5	1.3
20	1.6	1.0	34	a15	12	3.3	*63	62	23	2.8	2.3	1.6
21	1.6	1.7	34	*a30	12	3.0	58	54	19	3.9	2.0	1.6
22	1.6	12	34	119	6.0	2.9	53	49	*16	12	1.9	1.4
23	1.5	112	33	98	4.6	2.9	53	45	14	11	2.0	1.4
24	1.5	40	27	93	4.0	8.5	54	42	12	11	1.9	1.4
25	1.5	7.2	24	56	3.5	7.3	63	39	11	7.9	2.3	1.3
26	1.5	17	22	77	3.2	76	72	37	10	6.0	1.9	1.3
27	1.6	15	20	41	2.9	141	90	35	9.3	4.6	1.9	1.2
28	1.4	12	19	4.6	4.6	125	83	34	8.4	3.7	2.1	1.2
29	1.2	12	17	6.4	-	101	74	32	7.1	3.0	2.0	1.2
30	1.1	11	18	3.3	-------	81	67	32	6.2	2.5	1.9	1.2
31	1.1	-------	16	3.0	-------	103	-------	28	-------	2.3	1.8	-------
Total	77.1	270.9	1,895.3	974.6	91.3	722.9	2,329	1,762	551.0	176.8	56.2	42.9
Mean	2.49	9.03	61.1	31.4	3.26	23.3	77.6	56.8	18.4	5.70	1.81	1.43
(†)	224	263	229	2,523	1,862	2,346	160	156	165	188	203	82

Adjusted for diversion, evaporation, and change in reservoir contents

Mean	9.71	17.8	68.5	113	69.8	99.0	83.0	61.9	23.9	11.8	8.35	4.17
Cfsm	0.408	0.748	2.88	4.75	2.93	4.16	3.49	2.60	1.00	0.496	0.351	0.175
In.	0.47	0.83	3.32	5.46	3.05	4.80	3.89	3.00	1.12	0.57	0.40	0.20

	Observed			Adjusted			
Calendar year 1953:	Max 999	Min 0.8	Mean 38.2	Mean 46.5	Cfsm 1.95	In. 26.52	
Water year 1953-54:	Max 213	Min 0.9	Mean 24.5	Mean 47.5	Cfsm 2.00	In. 27.11	

* Discharge measurement made on this day.

† Diversion by city of Asheville and evaporation and change in contents in Burnett Lake, equivalent in cfs-days. Records of diversion and change in contents in Burnett Lake furnished by city of Asheville, Division of Watersheds. Records of evaporation furnished by Tennessee Valley Authority.

a No gage-height record; discharge estimated on basis of recorded range in stage, records of regulation at Burnett Dam, and records for Swannanoa River at Biltmore.

Beetree Creek near Swannanoa, N. C.

Location.--Lat 35°39'11", long 82°24'20", on left bank 1,000 ft upstream from Beetree Reservoir and 3.8 miles north of Swannanoa, Buncombe County.

Drainage area.--5.46 sq mi.

Records available.--February 1926 to September 1954.

Gage.--Water-stage recorder and modified 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.--28 years, 10.5 cfs.

Extremes.--Maximum discharge during year, 273 cfs Jan. 22 (gage height, 3.92 ft); minimum, 0.3 cfs Sept. 29, 30 (gage height, 0.26 ft).
1926-54: Maximum discharge, 1,370 cfs Aug. 13, 1940 (gage height, 6.20 ft), from rating curve extended above 240 cfs on basis of computation of peak flow over weir; minimum, that of Sept. 29, 30, 1954.

Remarks.--Records good except those for periods of ice effect, which are fair.

Revisions (water years).--WSP 823: Drainage area. WSP 893: 1928, 1936-37(M). WSP 953: 1929(M). WSP 1276: 1932.

Rating table, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.2	0.1	1.3	12
.3	.5	1.6	17
.4	1.0	2.0	26
.5	1.6	2.5	43
.6	2.4	3.0	84
.8	4.3	3.5	172
1.0	6.8		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	1.4	2.9	3.9	11	27	36	14	6.5	2.2	1.3	0.7
2	2.0	1.3	2.8	3.8	10	22	29	13	6.4	2.1	1.2	.6
3	1.8	1.3	2.7	3.8	9.8	21	24	15	7.5	2.5	1.1	.6
4	1.7	1.2	6.8	3.6	9.0	18	21	15	7.1	3.6	1.0	.5
5	1.5	1.2	6.0	3.6	8.4	16	18	13	6.4	2.3	1.0	.5
6	1.5	1.2	11	3.4	7.8	15	20	12	5.8	2.2	1.9	.4
7	1.3	1.2	13	3.1	7.4	14	22	12	5.3	1.9	1.2	.4
8	*1.3	1.1	9.2	3.1	6.9	14	19	11	4.9	2.7	1.1	.4
9	1.3	1.1	25	3.2	6.7	14	18	10	5.0	2.2	3.1	.4
10	1.3	1.1	30	3.2	6.5	14	16	9.6	4.8	2.2	1.9	.6
11	1.2	1.1	16	3.6	6.8	13	15	9.2	4.7	2.1	1.3	.8
12	1.2	1.1	15	b2.5	6.2	12	14	8.7	4.3	1.9	1.2	.6
13	1.1	1.1	14	b2.7	5.6	14	13	11	4.2	1.7	1.2	*.5
14	1.5	1.1	18	2.9	5.6	26	13	23	4.3	*1.6	1.1	.5
15	1.5	1.1	15	7.4	5.6	20	12	20	4.8	1.7	1.0	.5
16	1.3	1.1	*12	48	*8.4	17	14	18	5.6	1.9	.9	*.5
17	1.2	*1.0	b9.0	23	12	16	17	16	6.3	1.5	*.8	.5
18	1.2	1.0	b7.5	16	8.8	15	15	*14	6.7	1.5	.8	.4
19	1.2	1.0	b7.0	13	8.4	*16	14	13	6.0	1.5	.8	.4
20	1.2	1.2	6.9	12	33	15	*13	13	5.5	1.4	.8	.8
21	1.1	5.3	7.4	*63	56	13	13	12	4.8	2.6	1.2	.8
22	1.1	6.5	7.1	156	31	12	12	11	*4.3	6.4	1.2	.6
23	1.1	3.0	6.4	76	22	12	12	10	4.0	2.5	.8	.5
24	1.1	5.9	b5.4	44	19	32	15	9.5	3.7	1.9	.9	.5
25	1.1	5.3	5.3	32	16	34	23	8.8	3.5	1.6	1.7	.4
26	1.1	4.4	4.9	*24	14	46	26	8.4	3.2	1.5	1.3	.4
27	1.2	3.9	4.7	20	13	35	24	7.8	2.9	1.5	1.0	.4
28	1.5	3.6	4.7	17	17	28	20	7.6	2.7	1.4	1.6	.4
29	1.8	3.3	4.8	15	-	22	17	8.1	2.5	1.4	1.4	.4
30	1.5	3.2	4.5	14	-------	20	16	7.4	2.3	1.3	1.0	.3
31	1.5	-------	4.1	12	-------	32	-------	6.7	-------	1.3	.8	-------
Total	42.6	73.3	289.1	638.8	371.9	625	541	367.8	146.0	64.1	37.6	15.3
Mean	1.37	2.44	9.33	20.6	13.3	20.2	18.0	11.9	4.87	2.07	1.21	0.51
Cfsm	0.251	0.447	1.71	3.77	2.44	3.70	3.30	2.18	0.892	0.379	0.222	0.093
In.	0.29	0.50	1.97	4.35	2.53	4.26	3.68	2.51	0.99	0.44	0.26	0.10

Calendar year 1953: Max 193 Min 0.6 Mean 8.06 Cfsm 1.48 In. 20.02
Water year 1953-54: Max 156 Min 0.3 Mean 8.80 Cfsm 1.61 In. 21.88

Peak discharge (base, 150 cfs).--Jan. 22 (1 p.m.) 273 cfs (3.92 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Swannanoa River at Biltmore, N. C.

Location.--Lat 35°34'06", long 82°32'42", on left bank 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.

Records available.--December 1920 to September 1926, May 1934 to September 1954.

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.--25 years (1921-26, 1934-54), 155 cfs (unadjusted).

Extremes.--Maximum discharge during year, 3,270 cfs Jan. 22 (gage height, 7.64 ft); minimum, 6.8 cfs Sept. 9 (gage height, 1.12 ft).
1920-26, 1934-54: Maximum discharge, 18,400 cfs Aug. 13, 1940 (gage height, 19.00 ft), from rating curve extended above 8,400 cfs on basis of computation of peak flow over dam 3.6 miles above station; minimum, 1.1 cfs Oct. 9, 14, 15, 1941; minimum daily, 1.2 cfs Oct. 14, 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.--Records excellent except those for periods of ice effect, which are good. No regulation from Lake Craig 3.6 miles above station after 1950 (reservoir silted). City of Asheville diverts its water supply above station from Beetree Reservoir (capacity, 843 cfs-days), North Fork Swannanoa River, and from Burnett Lake on North Fork (see p. 250) after Aug. 24, 1954. Textile mills 2.0 miles above gage divert for industrial use about 5.0 mgd, of which about 3 mgd, equivalent to a mean discharge of 4½ cfs, is discharged into French Broad River.

Revisions (water years).--WSP 803: 1921(M), 1923-26(M). WSP 823: Drainage area.

Rating tables, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 22				Jan. 23 to Sept. 30			
1.2	9.5	2.6	345	1.1	4.0	2.2	212
1.3	18	3.0	515	1.2	9.7	2.6	352
1.5	41	3.5	755	1.3	18	3.0	520
1.7	76	4.0	1,010	1.5	45	3.5	755
1.9	119	5.0	1,580	1.7	82	4.2	1,120
2.2	202	6.0	2,200	1.9	128		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	25	31	46	102	344	458	191	95	44	43	18
2	25	22	27	46	97	228	384	179	97	42	26	16
3	25	25	45	46	93	218	318	194	109	44	22	16
4	26	20	73	40	86	191	278	197	106	59	18	18
5	21	18	89	40	80	165	258	171	95	50	17	18
6	21	18	112	40	74	151	254	154	93	44	22	12
7	17	22	155	38	72	138	296	149	84	39	24	12
8	*16	24	184	37	64	128	264	151	74	52	22	9.7
9	16	23	168	38	60	121	241	136	72	62	29	8.6
10	20	21	322	38	57	116	222	128	89	50	36	26
11	21	19	273	37	55	116	215	121	72	48	19	23
12	19	20	205	b25	55	111	194	116	76	39	17	18
13	15	19	193	b15	54	130	179	131	74	34	19	*14
14	18	23	269	27	55	318	185	371	85	*32	18	11
15	28	25	212	43	54	206	174	388	82	29	20	11
16	20	24	*158	356	*68	168	182	292	208	29	16	*11
17	20	*19	b115	310	126	149	234	244	121	29	*15	11
18	21	18	b95	212	78	138	212	*212	133	32	15	14
19	20	19	b85	122	66	*141	191	191	109	28	14	16
20	17	22	b75	74	314	154	*176	179	100	24	16	14
21	17	66	82	*535	614	133	165	165	82	22	18	19
22	17	58	78	1,970	292	118	157	151	*70	39	30	15
23	16	134	72	1,080	209	111	162	144	66	45	18	11
24	19	138	65	488	174	365	219	133	60	33	43	9.7
25	22	41	63	329	151	344	377	121	57	34	42	9.1
26	20	38	b60	278	131	454	296	116	55	34	25	12
27	20	40	57	251	121	429	268	111	54	29	24	12
28	29	40	52	154	146	384	251	106	47	24	32	11
29	23	37	51	138	-	314	222	111	40	20	38	9.1
30	21	32	49	126	-------	275	203	126	45	22	25	8.0
31	21	-------	47	116	-------	368	-------	102	-------	26	18	-------
Total	640	1,050	3,562	7,095	3,548	6,726	7,235	5,281	2,550	1,138	741	413.2
Mean	20.6	35.0	115	229	127	217	241	170	85.0	36.7	23.9	13.8
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 2,550 Min 4.8 Mean 111 Cfsm - In. -
Water year 1953-54: Max 1,970 Min 8.0 Mean 110 Cfsm - In. -

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

French Broad River at Asheville, N. C.

Location.--Lat 35°36'32", long. 82°34'41", on right bank at downstream side of 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.

Records available.--September 1895 to December 1901 and January 1905 to September 1954 in reports of Geological Survey. September 1895 to December 1901 and March 1903 to December 1923 in North Carolina Department of Conservation and Development Bulletin 34 and Tennessee Division of Geology Bulletin 34. Records prior to January 1909 have been revised in these two bulletins.

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.--57 years (1895-1901, 1903-54), 2,100 cfs.

Extremes.--Maximum discharge during year, 16,500 cfs Jan. 23 (gage height, 8.07 ft); minimum, 245 cfs Sept. 27, 28 (gage height, 0.34 ft).
1895-1901, 1903-54: 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).

Remarks.--Records excellent. Small diversions from tributaries for water supply. Slight diurnal fluctuation and occasional slight regulation at low flow caused by powerplants and small reservoirs above station.

Revisions.--WSP 823: Drainage area. See also Records available.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 22				Jan. 23 to Sept. 30			
0.5	400	3.0	3,730	0.3	230	2.5	2,970
.7	565	4.0	5,630	.5	385	3.0	3,790
1.0	855	5.0	7,880	.7	560	4.0	5,640
1.5	1,460	6.0	10,400	1.0	880	5.0	7,880
2.0	2,150	6.5	11,800	1.5	1,500	6.0	10,400
2.5	2,910			2.0	2,200	7.3	14,100

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	771	540	674	932	1,870	4,100	3,480	1,700	1,130	682	715	542
2	731	514	655	910	1,800	3,600	3,070	1,730	1,140	660	748	488
3	684	522	674	910	1,710	3,020	2,700	1,740	1,160	671	610	470
4	664	556	1,210	888	1,660	2,730	2,470	2,170	1,170	952	533	419
5	601	548	2,360	877	1,590	2,400	2,300	1,800	1,130	770	497	402
6	610	506	1,740	855	1,500	2,220	2,230	1,620	1,080	825	506	345
7	610	506	2,800	844	1,450	2,060	2,640	1,550	988	726	542	329
8	556	506	2,300	813	1,410	1,950	3,260	1,560	988	693	590	*353
9	556	497	1,790	824	1,370	1,880	3,600	1,500	964	976	524	345
10	548	488	3,420	824	1,330	1,830	2,520	1,440	1,010	1,230	600	385
11	565	514	2,960	834	1,320	1,770	2,340	1,380	940	1,040	580	394
12	565	506	2,330	888	1,280	1,710	2,230	1,360	952	748	497	369
13	548	506	3,100	782	1,230	1,770	2,050	1,400	940	693	488	321
14	540	514	3,530	771	1,180	5,390	2,010	2,500	1,130	693	488	305
15	555	514	3,310	855	1,160	3,840	2,010	2,910	1,100	682	462	337
16	590	488	2,420	3,100	1,200	2,730	2,050	2,280	1,500	704	436	337
17	565	480	1,970	4,300	1,660	2,350	2,750	1,950	1,600	630	428	337
18	540	*506	1,590	2,630	*1,500	2,170	2,620	1,780	1,940	620	470	337
19	548	497	1,430	1,910	1,290	2,080	2,200	1,770	1,450	660	*488	313
20	*574	522	1,360	1,620	2,020	2,640	2,040	1,630	1,200	610	607	290
21	601	877	1,370	*5,000	7,760	2,380	1,940	1,600	1,000	952	650	321
22	592	1,150	*1,400	11,800	6,340	2,100	1,880	1,470	988	836	682	353
23	488	1,840	1,340	14,100	3,650	1,980	1,880	1,410	940	759	551	321
24	472	1,790	1,260	10,500	2,710	2,990	2,020	1,360	*904	671	966	305
25	531	1,060	1,160	7,640	2,380	*3,480	2,170	*1,320	892	610	792	290
26	531	932	1,100	4,170	2,120	3,700	*2,080	1,280	825	*560	590	268
27	540	855	1,070	3,130	1,950	3,390	2,100	1,230	759	610	542	252
28	592	802	1,050	2,650	1,990	3,160	1,940	1,170	682	650	764	*260
29	646	712	1,030	2,360	--	2,890	1,810	1,220	704	580	1,040	298
30	574	684	1,070	2,140	-------	2,640	1,730	1,290	704	551	726	290
31	540	-------	1,030	1,990	-------	2,790	-------	1,190	-------	710	620	-------
Total	18,028	20,932	54,503	91,847	58,430	83,740	70,120	50,310	31,890	22,754	18,732	10,376
Mean	582	698	1,758	2,963	2,087	2,701	2,337	1,623	1,063	734	604	346
Cfsm	0.616	0.739	1.86	3.14	2.21	2.86	2.47	1.72	1.12	0.777	0.639	0.366
In.	0.71	0.82	2.14	3.61	2.30	3.30	2.76	1.98	1.26	0.90	0.74	0.41

Calendar year 1953: Max 12,700 Min 440 Mean 1,589 Cfsm 1.68 In. 22.84
Water year 1953-54: Max 14,100 Min 252 Mean 1,457 Cfsm 1.54 In. 20.93

Peak discharge (base, 9,000 cfs) --Jan. 23 (12:30 a.m.) 16,500 cfs (8.07 ft).
* Discharge measurement made on this day.

Sandymush Creek near Alexander, N. C.

Location.--Lat 35°43'49", long 82°40'11", on left bank 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.

Records available.--December 1942 to September 1954.

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.--11 years (1943-54), 58.6 cfs.

Extremes.--Maximum discharge during year, 3,270 cfs Jan. 22 (gage height, 7.70 ft); minimum, 5.1 cfs Sept. 8 (gage height, 2.01 ft).
1942-54: 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 daily, 4.7 cfs Sept. 2, 1953.
Flood of Aug. 30, 1940, reached a stage of 16.7 ft, from floodmarks.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair.

Rating table, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.0	5.1	3.5	247
2.1	8.8	4.0	435
2.2	14	4.5	660
2.4	27	5.0	940
2.6	49	5.5	1,270
2.8	78	6.0	1,650
3.0	113		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	12	12	b14	35	322	206	42	27	15	29	9.3
2	9.7	12	12	b13	35	177	146	55	30	15	20	8.8
3	9.7	11	13	b16	34	203	113	59	31	16	a16	8.4
4	9.3	11	20	15	34	156	92	50	33	42	a14	8.1
5	9.3	11	18	14	31	109	80	44	27	21	a13	7.3
6	8.8	11	16	13	30	85	74	41	26	23	a15	6.6
7	8.4	11	16	12	28	69	88	39	24	19	a14	*5.8
8	*8.4	11	15	b12	27	62	80	42	22	43	a13	5.5
9	8.4	12	37	13	26	59	66	36	23	46	38	5.5
10	8.8	12	47	13	26	55	59	34	29	36	a18	12
11	8.8	12	20	20	27	50	57	33	22	26	a15	9.3
12	8.8	12	24	b16	26	48	53	32	22	21	a13	7.3
13	8.4	12	23	b13	26	57	49	38	39	18	a16	7.0
14	10	12	52	b15	25	200	50	74	50	17	a14	7.0
15	13	12	*27	b25	*25	124	56	60	63	a16	a12	6.6
16	11	12	21	225	24	88	55	52	94	a17	a 11	6.2
17	10	12	b19	74	51	74	59	45	145	a16	a12	5.8
18	9.7	12	b18	41	33	64	48	45	93	a16	*13	5.8
19	9.7	*12	b17	32	29	62	44	45	60	a15	11	5.8
20	9.7	12	b16	29	58	59	41	50	45	a14	16	11
21	9.7	20	b21	496	100	50	38	48	36	*25	14	22
22	9.7	18	20	1,610	68	45	*39	42	31	75	11	11
23	9.7	23	18	422	53	*44	41	38	27	30	16	8.4
24	9.7	14	b17	156	47	397	50	35	*25	a17	20	7.7
25	9.7	14	b15	*99	43	287	63	*33	22	a15	13	7.7
26	9.7	13	b14	76	37	384	59	33	22	a17	11	7.7
27	13	13	b13	66	34	194	56	31	20	a15	14	7.7
28	16	12	b15	53	110	144	53	29	18	a13	30	7.3
29	14	12	16	48	-	109	45	33	16	a12	22	7.3
30	13	13	15	44	-------	93	49	36	16	a13	13	7.0
31	12	-------	14	39	-------	192	-------	27	-------	a17	11	------
Total	316.1	386	621	3,734	1,122	4,062	2,009	1,301	1,138	701	498	242.9
Mean	10.2	12.9	20.0	120	40.1	131	67.0	42.0	37.9	22.6	16.1	8.10
Cfsm	0.128	0.162	0.252	1.51	0.504	1.65	0.843	0.528	0.477	0.284	0.203	0.102
In.	0.15	0.18	0.29	1.75	0.52	1.90	0.94	0.61	0.53	0.33	0.23	0.11

Calendar year 1953: Max 868 Min 4.7 Mean 36.0 Cfsm 0.453 In. 6.15
Water year 1953-54: Max 1,610 Min 5.5 Mean 44.2 Cfsm 0.556 In. 7.54

Peak discharge (base, 1,200 cfs).--Jan. 22 (12:30 p.m.) 3,270 cfs (7.70 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for Ivy River near Marshall and Hominy Creek at Candler.
b Stage-discharge relation affected by ice.

Ivy River near Marshall, N. C.

Location.--Lat 35°46'10", long 82°37'16", on right bank 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.

Records available.--May 1934 to September 1954.

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.--20 years, 149 cfs.

Extremes.--Maximum discharge during year, 5,860 cfs Jan. 22 (gage height, 10.30 ft); minimum, 14 cfs Sept. 8, 9; minimum gage height, 1.61 ft Oct. 10.
1934-54: Maximum discharge, 8,880 cfs Aug. 30, 1940 (gage height, 12.67 ft), from rating curve extended above 5,400 cfs on basis of slope-area determination of peak flow; minimum, 3 cfs Jan. 20, 1940, result of freezeup; minimum gage height, 1.51 ft Aug. 30, Sept. 2, 1953; minimum daily discharge, 8.5 cfs Sept. 2, 18, 1953.

Remarks.--Records excellent except those for periods of ice effect, which are fair.

Revisions (water years).--WSP 803: 1934(M), 1935.

Rating table, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.6	12	4.0	505
1.8	27	4.5	720
2.0	47	5.0	990
2.3	87	6.0	1,630
2.6	135	7.0	2,430
3.0	216	8.2	3,570
3.5	345		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	25	32	37	118	920	662	105	60	21	48	25
2	42	25	32	b37	113	612	477	104	65	42	38	22
3	24	25	31	b36	108	662	375	105	69	68	33	21
4	22	23	58	40	104	474	302	144	80	58	28	18
5	21	22	73	37	96	348	253	112	66	37	25	18
6	21	22	56	35	88	281	234	104	59	31	64	16
7	19	22	124	33	83	234	287	99	57	29	33	16
8	*19	20	74	33	76	214	221	110	52	176	25	14
9	20	21	139	34	76	207	201	96	60	108	27	*16
10	19	21	236	34	73	203	179	93	63	115	28	66
11	20	22	116	46	72	198	167	86	55	57	24	38
12	19	22	113	b40	73	194	159	81	57	46	21	22
13	18	23	118	b30	63	201	144	87	47	36	24	18
14	23	23	216	b60	65	514	142	201	48	32	22	18
15	32	22	*148	b140	*63	411	135	196	67	31	21	17
16	25	22	107	990	66	316	144	159	70	42	19	16
17	22	22	77	354	150	258	256	135	99	29	*20	16
18	21	22	49	192	102	223	203	126	33	26	25	16
19	21	*22	b44	140	92	205	179	125	63	25	21	16
20	20	22	b40	118	222	232	159	116	57	25	21	25
21	20	46	b75	1,480	724	190	146	123	49	*130	21	46
22	20	49	70	*3,500	396	167	*135	104	43	668	25	32
23	20	128	62	*1,640	284	*157	126	96	*40	120	38	21
24	19	60	48	612	232	618	130	92	36	69	58	18
25	20	53	b45	384	194	801	169	*83	32	52	32	18
26	20	48	b43	281	165	1,690	146	77	31	42	29	17
27	23	40	b41	251	142	765	139	77	28	35	46	17
28	29	38	49	203	310	513	142	73	27	33	289	16
29	30	34	48	173	-	381	123	72	24	31	67	16
30	33	34	46	151	-------	313	113	81	23	29	39	15
31	26	-------	43	132	-------	489	-------	65	-------	37	29	-------
Total	712	978	2,453	11,273	4,350	12,991	6,248	3,327	1,620	2,280	1,240	650
Mean	23.0	32.6	79.1	364	155	419	208	107	54.0	73.5	40.0	21.7
Cfsm	0.146	0.206	0.501	2.30	0.981	2.65	1.32	0.677	0.342	0.465	0.253	0.137
In.	0.17	0.23	0.58	2.65	1.02	3.06	1.47	0.78	0.38	0.54	0.29	0.15

Calendar year 1953: Max 2,880 Min 8.5 Mean 103 Cfsm 0.652 In. 8.83
Water year 1953-54: Max 3,500 Min 14 Mean 132 Cfsm 0.835 In. 11.32

Peak discharge (base, 2,700 cfs).--Jan. 22 (2:30 p.m.) 5,860 cfs (10.30 ft); Mar. 26 (2 a.m.) 2,810 cfs (7.42 ft); July 22 (1 a.m.) 3,050 cfs (7.68 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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 mile southeast of Marshall, Madison County, 1.2 miles downstream from Ivy River, and at mile 126.5.

Drainage area.--1,332 sq mi.

Records available.--October 1942 to September 1954.

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.--12 years, 2,307 cfs.

Extremes.--Maximum discharge during year, 25,500 cfs Jan. 22 (gage height, 8.48 ft); minimum, 193 cfs Sept. 13, 14 (gage height, 0.36 ft); minimum daily, 292 cfs Sept. 27, 28. 1942-54: Maximum discharge, 29,600 cfs Jan. 7, 1946 (gage height, 9.18 ft); minimum, that of Sept. 13, 14, 1954; minimum daily, that of Sept. 27, 28, 1954.
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.--Records excellent except those for periods of ice effect, which are good. Diurnal fluctuation at low flow caused by powerplants above station.

Rating table, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.5	268	3.0	3,710
.7	393	4.0	6,200
1.0	635	5.0	9,380
1.5	1,190	6.0	13,200
2.0	1,880	7.1	18,300

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	856	590	757	1,070	2,160	5,780	4,800	1,960	1,320	790	1,020	617
2	823	581	725	1,050	2,060	5,120	4,130	2,000	1,350	779	889	529
3	746	537	735	1,050	2,000	4,400	3,500	2,020	1,370	834	779	497
4	705	581	973	1,040	1,940	3,780	3,090	2,410	1,400	1,120	645	465
5	645	590	2,440	1,010	1,850	3,130	2,820	2,130	1,350	978	572	443
6	617	554	1,910	990	1,760	2,790	2,690	1,900	1,240	911	626	393
7	665	537	2,620	978	1,670	2,550	3,130	1,840	1,170	900	590	354
8	608	537	2,580	933	1,630	2,380	3,150	1,840	1,150	1,140	645	348
9	581	545	1,980	933	1,590	2,290	4,710	1,790	1,170	959	735	374
10	572	505	3,480	944	1,520	2,210	3,000	1,690	1,190	1,450	675	481
11	599	537	3,270	978	1,520	2,130	2,730	1,620	1,130	1,410	675	465
12	590	545	2,430	1,010	1,490	*2,060	2,600	1,590	1,090	966	590	415
13	590	537	3,230	b930	1,420	2,060	2,410	1,650	1,120	823	529	360
14	599	537	3,710	b900	1,400	5,940	2,340	2,660	1,290	823	537	*341
15	608	537	3,710	1,070	1,370	5,040	2,340	3,400	1,360	779	529	328
16	617	529	*2,660	3,760	*1,360	3,440	2,360	2,690	1,730	856	481	354
17	617	497	2,110	5,120	1,910	2,900	3,030	2,290	2,220	768	489	348
18	599	537	1,720	3,210	1,790	2,620	3,110	2,090	2,140	715	505	341
19	*572	529	b1,530	2,260	1,530	2,480	2,580	2,050	1,740	757	*505	341
20	608	*545	1,520	1,920	1,970	2,980	2,380	1,940	1,410	*715	545	348
21	635	801	1,530	7,080	8,830	2,820	2,260	1,910	1,220	941	812	407
22	655	1,290	1,550	*18,200	7,420	2,440	2,190	1,740	1,120	2,020	715	400
23	572	1,760	1,510	18,000	4,520	2,310	*2,190	1,650	1,090	1,040	608	367
24	513	2,160	1,410	12,100	3,210	4,470	2,360	*1,600	*1,050	856	872	341
25	529	1,280	1,330	9,170	2,790	5,330	2,530	1,560	1,010	746	944	328
26	581	1,050	1,260	5,460	2,480	6,780	2,430	1,520	933	695	635	310
27	590	990	1,230	3,780	2,240	4,940	2,390	1,460	900	655	572	292
28	635	878	1,220	3,170	2,620	4,220	2,280	1,400	823	746	953	*292
29	705	812	1,190	2,790	-	3,730	2,090	1,440	801	705	1,240	304
30	685	757	1,220	2,530	-------	3,310	2,000	1,550	790	617	823	322
31	599	-------	1,200	2,330	-------	3,850	-------	1,400	-------	695	705	-------
Total	19,516	22,665	58,740	115,766	68,050	110,280	83,620	58,790	37,677	28,189	21,440	11,505
Mean	630	756	1,895	3,734	2,430	3,557	2,787	1,896	1,256	909	692	384
Cfsm	0.473	0.568	1.42	2.80	1.82	2.67	2.09	1.42	0.943	0.682	0.520	0.288
In.	0.54	0.63	1.64	3.23	1.90	3.08	2.33	1.64	1.05	0.79	0.60	0.32

Calendar year 1953: Max 17,600 Min 460 Mean 1,834 Cfsm 1.38 In. 18.69
Water year 1953-54: Max 18,200 Min 292 Mean 1,743 Cfsm 1.31 In. 17.75

Peak discharge (base, 10,000 cfs).--Jan. 22 (4:30 p.m.) 25,500 cfs (8.48 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Big Laurel Creek near Stackhouse, N. C.

Location.--Lat 35°55'11", long 82°45'42", on left bank 50 ft west of State Highway 208, 0.2 mile downstream from Big Hurricane Creek, 0.6 mile upstream from Little Hurricane Creek, 2.8 miles north of Stackhouse, Madison County, and 4.2 miles upstream from mouth.

Drainage area.--126 sq mi.

Records available.--May 1934 to September 1954.

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.--20 years, 179 cfs.

Extremes.--Maximum discharge during year, 4,800 cfs Jan. 22 (gage height, 6.61 ft); minimum, 19 cfs Jan. 1 (gage height, 1.07 ft), result of freezeup; minimum daily, 22 cfs Oct. 13.
1934-54: 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; minimum daily, 19 cfs Sept. 2, 16-18, 1953.

Remarks.--Records good except those for periods of ice effect, which are fair.

Revisions.--WSP 823: Drainage area.

Rating tables, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 2				May 3 to Sept. 30			
1.1	21	2.5	326	1.2	28	2.0	156
1.2	28	3.0	575	1.4	47	2.2	215
1.4	48	3.5	900	1.6	73	2.5	326
1.6	.76	4.0	1,310	1.8	109	2.8	465
1.8	113	5.0	2,390				
2.0	162	5.7	3,350				
2.2	220						

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	30	28	b32	*136	708	1,070	168	103	35	62	44
2	26	27	28	b30	129	455	581	240	103	44	65	41
3	25	27	28	b40	127	536	401	360	105	66	70	39
4	24	26	38	b38	122	406	310	275	107	112	48	38
5	23	26	44	36	111	299	259	229	98	65	43	37
6	24	25	37	35	101	249	249	196	90	63	122	36
7	24	24	81	b31	93	230	306	190	83	54	62	36
8	24	24	46	b33	86	256	276	196	80	146	45	36
9	24	24	91	35	88	322	284	178	78	88	53	35
10	24	24	111	34	88	360	256	167	90	100	*49	75
11	24	25	57	48	86	348	230	154	78	92	41	60
12	23	25	101	b33	79	*291	246	148	73	69	39	37
13	22	26	105	b28	73	270	236	159	82	59	42	*30
14	26	26	237	b40	76	425	223	454	97	54	38	29
15	32	25	*149	503	*76	369	217	430	130	49	36	29
16	27	25	90	1,840	80	248	243	314	161	53	39	28
17	24	25	b55	572	151	233	773	249	169	47	38	28
18	24	25	b45	262	124	205	617	222	151	44	45	32
19	*23	*25	b40	173	111	193	401	200	111	59	36	30
20	24	26	b38	141	126	214	299	246	92	*67	36	62
21	24	39	b100	1,600	226	182	249	298	82	93	36	106
22	24	36	79	*3,310	190	165	*217	239	73	262	33	59
23	24	74	57	*1,690	165	162	199	200	*69	114	90	42
24	24	37	b40	587	152	586	205	*170	63	70	128	38
25	24	44	b36	360	139	815	214	154	60	55	55	38
26	24	45	b33	266	124	1,540	193	141	58	51	49	37
27	32	35	b32	266	113	708	182	131	55	45	45	38
28	41	36	b45	230	253	450	223	122	52	46	141	36
29	52	32	47	205	-	339	193	118	48	42	104	34
30	41	32	42	182	-------	299	184	111	46	40	62	33
31	32	-------	39	157	-------	786	-------	103	-------	43	49	------ --
Total	834	920	1,999	12,837	3,425	12,685	9,536	6,562	2,687	2,237	1,801	1,243
Mean	26.9	30.7	64.5	414	122	409	318	212	89.6	72.2	58.1	41.4
Cfsm	0.213	0.244	0.512	3.29	0.968	3.25	2.52	1.68	0.711	0.573	0.461	0.329
In.	0.25	0.27	0.59	3.79	1.01	3.74	2.81	1.94	0.79	0.66	0.53	0.37

Calendar year 1953: Max 1,960 Min 19 Mean 132 Cfsm 1.05 In. 14.26
Water year 1953-54: Max 3,310 Min 22 Mean 156 Cfsm 1.24 In. 16.75

Peak discharge (base, 1,500 cfs).--Jan. 16 (5:30 a.m.) 2,490 cfs (5.08 ft); Jan. 22 (4:30 p.m.) 4,800 cfs (6.61 ft); Mar. 26 (4:30 a.m.) 2,090 cfs (4.75 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

French Broad River near Newport, Tenn.

Location.--Lat 35°58'54", long 83°09'40" on left bank 15 ft downstream from bridge on State Highway 35 at Oldtown, 1 mile northeast of Newport city limits, Cocke County, 3.7 miles upstream from Pigeon River, and at mile 77.5.

Drainage area.--1,858 sq mi.

Records available.--September 1900 to November 1901, November 1902 to December 1905, August to December 1907, and November 1920 to September 1954 in reports of Geological Survey. Records prior to October 1924 (records prior to 1908, revised) in Tennessee Division of Geology Bulletin 34.

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 bridge at datum 1.3 ft higher. November 1902 to December 1905, wire-weight gage, and August to December 1907 chain gage, at datum approximately 0.9 ft higher. November 1920 to Sept. 13, 1926, chain gage, and Sept. 14, 1926, to Mar. 30, 1934, water-stage recorder, at left pier at present datum.

Average discharge.--35 years (1903-5, 1921-54), 2,800 cfs.

Extremes.--Maximum discharge during year, 47,600 cfs Jan. 22 (gage height, 14.53 ft); minimum, 345 cfs Sept. 16 (gage height, 0.95 ft).

1900-1901, 1902-5, 1907, 1920-54: Maximum discharge, 76,300 cfs Aug. 30, 1940 (gage height, 19.25 ft); minimum, 208 cfs Oct. 23, 1952 (gage height, 0.97 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.

Revisions.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
†98	1903	Mar. 23, 1903	64,800	12.4
523	1921	Feb. 10, 1921	26,600	9.4
543	1922	Jan. 21, 1922	17,000	6.91
-	-	Feb. 15, 1922	17,000	6.91
563	1923	Mar. 17, 1923	18,200	7.21
603	1925	Dec. 9, 1924	15,200	6.4
643	1927	Feb. 23, 1927	19,300	7.5

(†) Also supersedes that published in Tennessee Division of Geology Bulletin 34.

Remarks.--Records good except those for period of no gage-height record, which are fair. Diurnal fluctuation during low flow caused by powerplant above station.

Revisions (water years).--WSP 783: 1933-34. WSP 823: Drainage area. WSP 893: 1928(M). See also Records available. Revised figures of discharge, in cubic feet per second, for high-water periods in the water years 1923, 1928, and 1932, superseding those published in WSP 563, 663, and 728, are given herewith:

Mar. 17, 1923	17,000
May 6, 1923	9,730
Aug. 18, 1928	24,000
July 7, 1932	4,580
July 8, 1932	4,730

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
March 1923	17,000	2,050	5,210	2.80	3.23
May	14,600	2,270	5,200	2.80	3.23
Water year 1922-23	17,000	885	3,010	1.62	21.96
Calendar year 1923	17,000	776	3,020	1.63	22.05
August 1928	35,300	2,830	7,330	3.95	4.55
Water year 1927-28	35,300	1,540	3,970	2.14	29.08
Calendar year 1928	35,300	682	3,980	2.14	29.16
July 1932	3,010	1,010	1,750	.941	1.09
Water year 1931-32	19,400	640	3,369	1.81	24.69
Calendar year 1932	11,800	551	2,550	1.37	18.67

French Broad River near Newport, Tenn.--Continued

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 22				Jan. 23 to Sept. 30			
1.2	540	5.0	8,600	1.0	370	4.0	6,000
1.5	820	7.0	14,100	1.2	500	5.0	8,600
2.0	1,480	9.0	20,700	1.5	770	7.0	14,100
3.0	3,440	10.7	27,700	2.0	1,420	9.0	20,700
4.0	6,000			3.0	3,430	11.3	30,400

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	978	684	820	1,220	2,830	a5,000	9,790	2,610	1,600	814	788	730
2	864	666	810	1,060	2,640	a7,500	7,140	3,120	1,550	781	1,060	643
3	842	666	*800	1,120	2,490	a7,000	5,560	3,210	1,550	847	940	*580
4	780	630	800	1,110	*2,380	a6,000	4,670	3,330	1,630	1,050	781	556
5	750	666	1,550	1,060	2,260	*5,090	4,060	3,260	1,550	1,240	*690	508
6	*702	*657	2,380	1,040	2,140	4,230	3,680	2,700	1,470	964	661	479
7	684	630	2,100	*1,040	2,020	3,730	3,860	2,470	1,380	928	803	458
8	730	612	3,110	1,030	1,880	3,430	*4,100	2,470	1,270	1,210	652	418
9	684	612	2,280	978	1,880	3,460	5,400	2,360	1,240	1,200	700	418
10	666	621	2,900	1,000	1,800	3,500	4,210	*2,220	*1,450	1,300	803	451
11	666	603	3,990	1,060	1,730	3,380	3,580	2,060	1,300	1,480	700	598
12	666	603	2,900	1,090	1,720	3,140	3,430	1,970	1,210	1,230	690	532
13	657	612	3,060	1,010	1,630	2,920	3,210	1,990	1,210	952	670	479
14	684	621	3,920	930	1,610	5,380	3,030	3,460	1,240	836	580	458
15	684	621	4,540	1,670	1,560	7,510	2,960	5,220	1,500	*836	580	406
16	711	621	3,370	8,430	1,530	5,090	3,030	4,340	1,700	836	572	376
17	693	612	2,520	7,690	1,990	4,060	4,780	3,410	2,280	836	564	418
18	693	585	2,010	5,040	2,360	3,560	5,580	2,980	2,810	740	580	382
19	666	603	1,640	3,150	2,010	3,210	4,230	2,810	2,320	740	556	418
20	639	612	1,660	2,500	1,840	3,360	3,500	3,030	1,750	803	572	444
21	666	648	1,640	*10,400	a8,000	3,680	3,120	3,380	1,470	770	634	532
22	702	954	1,660	27,300	a12,000	3,120	2,920	2,830	1,230	3,110	814	572
23	702	1,500	1,660	*30,300	a10,000	2,870	2,780	2,450	1,190	2,120	720	493
24	666	2,170	1,530	a17,000	a7,000	4,620	2,920	2,220	1,100	1,130	869	458
25	576	1,830	1,400	a12,000	a5,000	9,440	3,380	2,040	1,050	916	964	418
26	603	1,290	1,340	7,920	a4,000	*12,800	3,240	1,970	1,050	803	952	418
27	675	1,080	1,290	5,350	a3,000	8,570	3,030	1,880	952	740	670	406
28	702	1,000	1,290	4,490	a2,700	6,470	3,100	1,790	916	690	800	400
29	760	942	1,270	3,830	-	5,530	2,830	1,660	825	770	1,280	376
30	853	853	1,250	3,410	-------	4,830	2,660	1,770	803	720	1,230	422
31	760	--------	1,260	3,080	--------	6,160	--------	1,730	--------	643	847	----- --
Total	22,104	24,804	62,750	168,308	92,000	158,640	119,780	82,740	42,576	32,035	23,722	14,247
Mean	713	827	2,024	5,429	3,286	5,117	3,993	2,669	1,419	1,033	765	475
Cfsm	0.384	0.445	1.09	2.92	1.77	2.75	2.15	1.44	0.764	0.556	0.412	0.256
In.	0.44	0.50	1.26	3.37	1.84	3.18	2.40	1.66	0.85	0.64	0.47	0.29

Calendar year 1953: Max 20,300 Min 532 Mean 2,297 Cfsm 1.24 In. 16.78
Water year 1953-54: Max 30,300 Min 376 Mean 2,312 Cfsm 1.24 In. 16.90

Peak discharge (base, 16,000 cfs).--Jan. 22 (11 p.m.) 47,600 cfs (14.53 ft); Mar. 26 (10 a.m.) 16,400 cfs (7.78 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records, recorded range in stage when available, and records for station at Marshall, N. C.

West Fork Pigeon River above Lake Logan, near Hazelwood, N. C.

Location.--Lat 35°23'45", long 82°56'17", on right bank at upstream side of county bridge, 600 ft upstream from Big Creek, 1.1 miles upstream from Lake Logan, and 6.7 miles southeast of Hazelwood, Haywood County.

Drainage area.--27.6 sq mi.

Records available.--February to September 1954.

Gage.--Water-stage recorder. Datum of gage is 2,976.00 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge during period, 890 cfs Mar. 13 (gage height, 3.30 ft); minimum, 9.4 cfs Sept. 29, 30 (gage height, 1.06 ft).

Remarks.--Records good.

Rating table, Feb. 26 to Sept. 30, 1954 (gage height, in feet, and discharge, in cubic feet per second)

1.0	8.0	1.6	100
1.1	15	1.8	154
1.2	25	2.0	217
1.4	55	2.3	334

Discharge, in cubic feet per second, February to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					-	230	160	68	46	25	19	14
2					-	143	126	63	46	37	19	14
3					-	134	116	74	52	55	18	13
4					-	115	108	74	48	50	17	13
5					-	108	103	61	43	37	*16	12
6					-	103	134	59	40	30	46	12
7					-	95	116	66	38	28	23	*12
8					-	93	113	68	37	*29	19	14
9					-	93	105	57	37	50	34	15
10					-	90	98	55	35	41	21	17
11					-	90	98	53	35	38	18	14
12					-	88	*90	53	35	30	17	13
13					-	239	86	*68	118	25	18	13
14					-	325	98	178	*59	28	18	13
15					-	148	86	93	46	26	18	12
16					-	126	143	76	52	23	16	12
17					-	116	140	70	72	23	15	12
18					-	110	108	68	59	22	16	12
19					-	158	98	63	50	22	26	12
20					-	132	90	74	43	21	24	15
21					-	113	88	68	41	22	20	21
22					-	103	90	61	38	23	18	14
23					-	108	88	57	37	23	16	13
24					-	204	90	55	35	21	22	12
25					-	151	88	53	34	24	22	12
26					*88	210	81	52	32	22	19	12
27					81	146	76	50	30	22	23	11
28					250	137	72	53	28	19	36	10
29					-	121	70	57	*28	19	22	10
30					-------	113	68	50	26	20	17	11
31		-------			-------	179	-------	46	-------	21	14	------ --
Total					-	4,321	3,027	2,047	1,320	876	647	390
Mean					-	139	101	66.0	44.0	28.3	20.9	13.0
Cfsm					-	5.04	3.66	2.39	1.59	1.03	0.757	0.471
In.					-	5.82	4.08	2.76	1.78	1.18	0.87	0.53

Calendar year	: Max	Min	Mean	Cfsm	In.
Water year	: Max	Min	Mean	Cfsm	In.

Peak discharge (base, 800 cfs).--Mar. 13 (5:30 p.m.) 890 cfs (3.30 ft).
* Discharge measurement made on this day.

West Fork Pigeon River below Lake Logan, near Waynesville, N. C.

Location.--Lat 35°26'38", long 82°54'46", on right bank at downstream side of county bridge at Riverside Church, 2.6 miles downstream from Little East Fork Pigeon River, 3.4 miles downstream from Lake Logan, 3.8 miles upstream from confluence with East Fork Pigeon River, and 5.3 miles southeast of Waynesville, Haywood County.

Drainage area.--55.3 sq mi.

Records available.--March to September 1954.

Gage.--Water-stage recorder. Datum of gage is 2,725.08 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge during period, 539 cfs Mar. 14 (gage height, 3.24 ft); minimum, 7.6 cfs Sept. 7 (gage height, 0.16 ft).

Remarks.--Records good except those for period of no gage-height record, which are fair. Considerable regulation and diurnal fluctuation at low flow caused by Lake Logan (capacity, about 1,000 cfs-days).

Rating tables, Mar. 1 to Sept. 30, 1954 (gage height, in feet, and discharge, in cubic feet per second)

Mar. 1 to June 17				June 18 to Sept. 30			
0.9	53	2.0	210	0.1	6.0	1.0	38
1.0	62	2.5	320	.2	8.7	1.5	115
1.2	83	3.1	490	.4	16		
1.5	122			.7	34		

Discharge, in cubic feet per second, March to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						a480	280	118	85	44	42	34
2						a350	289	114	87	55	38	36
3						a300	273	124	94	86	34	34
4						a260	210	131	89	92	31	34
5		†27				a230	184	109	80	63	*30	30
6						a210	224	107	78	51	74	8.7
7						a200	247	109	74	47	46	*7.9
8						a190	214	119	70	50	34	30
9						a180	204	103	69	71	58	31
10						a150	198	99	68	68	38	36
11						*132	184	96	66	75	31	33
12						176	*177	94	67	54	30	34
13						230	155	114	159	47	33	36
14						462	145	287	*112	51	31	35
15						436	111	169	81	49	31	34
16						293	*75	140	87	*43	28	35
17						196	78	130	122	42	30	36
18						177	74	124	101	41	31	36
19						216	132	118	81	40	31	36
20						251	145	134	75	41	43	33
21						240	59	126	70	41	34	34
22						232	58	111	67	44	33	30
23						194	60	107	65	43	30	32
24						324	98	*100	61	38	47	35
25						310	147	96	58	42	47	36
26						291	143	95	56	44	34	36
27						303	139	91	53	40	32	36
28						289	130	98	51	34	54	34
29						264	125	100	*47	34	45	34
30					-------	226	119	99	45	40	30	34
31		-------			-------	249	-------	88	-------	40	29	-------
Total						8,041	4,677	3,650	2,318	1,550	1,159	970.6
Mean						259	156	118	77.3	50.0	37.4	32.4
Cfsm						-	-	-	-	-	-	-
In.						-	-	-	-	-	-	-

Calendar year	: Max	Min	Mean	Cfsm	In.
Water year	: Max	Min	Mean	Cfsm	In.

* Discharge measurement made on this day.
† Result of discharge measurement.
a No gage-height record; discharge estimated on basis of weather records and records for Pigeon River at Canton.

East Fork Pigeon River near Canton, N. C.

Location.--Lat 35°27'42", long 82°52'12", on right bank 800 ft upstream from U. S. Highway 276, 0.4 mile downstream from Dix Creek, 1.7 miles upstream from confluence with West Fork Pigeon River, and 5.2 miles southwest of Canton, Haywood County.

Drainage area.--51.5 sq mi.

Records available.--March to September 1954.

Gage.--Water-stage recorder. Datum of gage is 2,674.34 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge during period, 514 cfs Mar. 14 (gage height, 2.82 ft); minimum, 13 cfs Sept. 30 (gage height, 0.86 ft).

Remarks.--Records good except those for period of no gage-height record, which are fair.

Rating table, Mar. 1 to Sept. 30, 1954 (gage height, in feet, and discharge, in cubic feet per second)

0.8	10	1.5	85
.9	16	2.0	199
1.0	22	2.5	375
1.2	42		

Discharge, in cubic feet per second, March to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						350	234	92	66	39	33	20
2						270	191	87	65	40	33	19
3						230	175	90	66	45	28	18
4						200	162	94	65	68	25	18
5		†17				180	152	83	61	43	*23	17
6						165	160	82	58	40	36	16
7						155	154	80	56	36	33	16
8						150	150	82	54	38	26	*16
9						145	138	75	52	43	35	17
10						140	129	74	51	48	28	19
11						*138	126	72	58	41	24	18
12						133	*118	71	55	38	23	16
13						182	114	*82	55	35	26	15
14						368	111	223	*70	*34	24	15
15						234	107	150	66	34	22	15
16						202	149	120	75	33	21	14
17						180	168	109	111	32	22	14
18						167	131	103	105	31	22	15
19						188	120	98	77	31	21	14
20						191	114	103	68	35	28	15
21						162	111	99	63	39	24	17
22						152	111	90	58	38	25	18
23						145	111	83	56	36	26	16
24						228	111	80	54	31	35	16
25						199	105	77	51	31	28	15
26						254	105	75	47	34	28	14
27						211	101	72	45	33	25	14
28						199	96	79	43	29	25	14
29						177	92	74	*41	28	26	14
30					-------	167	89	80	40	28	26	14
31		-------			-------	214	-------	68	-------	30	20	-------
Total						6,076	3,935	2,847	1,832	1,141	821	479
Mean						196	131	91.8	61.1	36.8	26.5	16.0
Cfsm						3.81	2.54	1.78	1.19	0.715	0.515	0.311
In.						4.39	2.84	2.06	1.32	0.82	0.59	0.35

Calendar year	: Max	Min	Mean	Cfsm	In.	
Water year	: Max	Min	Mean	Cfsm	In.	

Peak discharge (base, 1,000 cfs).--No peak above base.
* Discharge measurement made on this day.
† Result of discharge measurement.
Note.--No gage-height record Mar. 1-9; discharge estimated on basis of weather records and records for West Fork Pigeon River above Lake Logan, near Hazelwood and Mills River near Mills River.

Pigeon River at Canton, N. C.

Location.--Lat 35°31'30", long 82°50'28", on left bank 100 ft upstream from small tributary, 0.5 mile upstream from U. S. Highways 19 and 23 at Canton, Haywood County, and at mile 63.9. Records include flow of small tributary.

Drainage area.--133 sq mi, includes that of small tributary below gage.

Records available.--May 1907 to June 1909 (fragmentary) and December 1928 to September 1954 in reports of Geological Survey. May 1907 to June 1909 (complete) in North Carolina Department of Conservation and Development Bulletin 34 and Tennessee Division of Geology Bulletin 34.

Gage.--Water-stage recorder. Datum of gage is 2,572.22 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to June 1909, staff gage at bridge 0.4 mile (corrected) downstream at different datum.

Average discharge.--26 years (1907-8, 1929-54), 307 cfs.

Extremes.--Maximum discharge during year, 5,300 cfs Jan. 22 (gage height, 7.16 ft); minimum, 26 cfs Sept. 8 (gage height, 0.26 ft); minimum daily, 27 cfs Sept. 7.
1907-9, 1928-54: 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, that of Sept. 7, 1954.

Remarks.--Records excellent except those for periods of ice effect, which are good. Occasional diurnal fluctuation and considerable regulation at low flow caused by gristmill and Lake Logan on West Fork (capacity, about 1,000 cfs-days). City of Canton diverted a total of about 81,000,000 gal just above station for supplementary water supply, equivalent to a mean discharge of 0.3 cfs at station.

Revisions (water years).--WSP 823: Drainage area. WSP 853: 1929-37(M).

Rating tables, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to June 13				June 14 to Sept. 30			
0.4	39	2.0	485	0.2	22	1.0	127
.5	49	3.0	1,070	.4	35	1.2	184
.7	75	4.0	1,820	.6	55	1.5	285
1.0	133	5.0	2,740	.8	84		
1.5	285	6.0	3,820				

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	54	49	113	354	954	575	230	158	74	78	52
2	60	50	47	109	310	674	522	224	164	84	81	56
3	59	50	48	113	260	580	485	227	166	115	67	53
4	59	53	210	107	227	508	416	257	169	208	59	53
5	60	53	195	105	227	437	363	214	148	113	56	52
6	*61	50	212	103	264	407	399	205	143	96	*96	34
7	60	51	278	96	264	379	433	205	136	86	94	*27
8	61	51	146	90	257	367	407	220	129	90	65	44
9	61	48	*616	89	*224	351	363	195	126	124	90	52
10	61	45	623	89	202	292	348	183	122	135	76	58
11	60	43	268	115	228	138	336	180	126	127	59	53
12	59	43	333	b105	203	158	325	175	129	98	55	51
13	59	*45	285	b100	140	401	*299	202	190	86	59	52
14	60	45	579	b125	129	922	289	531	203	81	56	53
15	62	45	340	188	161	745	264	363	*166	*86	56	51
16	60	45	260	1,600	180	*546	220	296	160	76	52	51
17	59	45	b190	727	257	424	296	264	243	74	52	52
18	57	43	b180	652	247	379	227	254	247	73	56	53
19	59	41	b170	570	220	412	264	243	178	70	53	53
20	59	44	b180	348	490	481	296	260	154	79	67	54
21	60	113	192	*1,300	1,160	428	198	257	138	92	62	56
22	60	105	208	2,810	909	403	189	227	130	90	58	48
23	59	251	292	1,660	560	371	192	211	122	88	60	47
24	59	74	317	1,120	395	599	217	*198	116	71	67	51
25	59	65	303	916	344	580	278	189	109	70	88	51
26	59	56	243	787	321	615	282	186	104	82	65	52
27	62	50	164	715	314	565	271	178	100	73	60	51
28	74	48	158	552	405	541	247	186	94	67	68	50
29	50	47	156	375	-	485	243	178	86	63	81	48
30	59	50	103	383	-------	428	234	205	84	67	56	48
31	59	-------	111	363	-------	522	-------	169	-------	82	50	------
Total	1,857	1,803	7,456	16,525	9,252	15,092	9,478	7,112	4,340	2,820	2,042	1,560
Mean	59.9	60.1	241	533	330	487	316	229	145	91.0	65.9	50.2
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 4,340 Min 37 Mean 253 Cfsm 1.90 In. 25.80
Water year 1953-54: Max 2,810 Min 27 Mean 217 Cfsm 1.63 In. 22.17

Peak discharge (base, 4,000 cfs).--Jan. 22 (2:30 p.m.) 5,300 cfs (7.16 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Allen Creek near Hazelwood, N. C.

Location.--Lat 35°25'49", long 83°00'33", on left bank 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.

Records available.--August 1949 to September 1954.

Gage.--Water-stage recorder and concrete control. Datum of gage is 3,047.83 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--5 years, 33.5 cfs (unadjusted).

Extremes.--Maximum discharge during year, 576 cfs Jan. 22 (gage height, 2.86 ft); minimum, 1.0 cfs Sept. 9 (gage height, 0.75 ft); minimum daily, 5.4 cfs Oct. 29-31, Nov. 7-19, Sept. 27-30.

1949-54: Maximum discharge, 951 cfs Feb. 21, 1953 (gage height, 3.43 ft); minimum, that of Sept. 9, 1954; minimum daily, that of Oct. 29-31, Nov. 7-19, 1953, Sept. 27-30, 1954.

Maximum stage known, 7.0 ft Aug. 30, 1940, from information by local residents.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Town of Waynesville diverted from tributaries above station about 3 cfs for water supply.

Rating table, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.9	5.4	1.8	129
1.0	11	2.0	179
1.2	29	2.2	245
1.4	55	2.5	380
1.6	89		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.4	5.9	a6.0	17	49	65	75	37	25	16	15	8.5
2	6.4	5.9	a5.6	16	47	49	63	36	25	16	14	7.3
3	6.4	5.9	a6.0	17	44	55	58	42	31	24	13	7.3
4	6.4	5.9	a22	17	41	47	54	40	26	26	*9.7	7.3
5	*6.4	5.9	a 11	16	39	44	52	36	24	17	9.7	6.8
6	*6.4	5.9	a15	15	36	40	57	35	23	16	25	6.8
7	6.8	5.4	a13	15	34	39	54	39	a21	16	13	6.8
8	7.3	5.4	a9.0	15	33	39	52	37	a20	15	11	6.8
9	6.8	5.4	*140	15	*33	37	49	33	a20	20	19	7.3
10	6.8	5.4	*70	17	31	37	47	31	a19	19	13	*7.9
11	6.8	5.4	30	25	30	39	45	30	a19	18	10	6.8
12	6.8	*5.4	46	b17	28	40	42	30	a19	17	11	6.8
13	6.8	*5.4	41	b16	27	83	41	39	a50	15	11	6.8
14	7.3	5.4	73	b19	27	111	*42	57	a30	17	10	6.4
15	7.9	a5.4	39	102	26	*65	40	42	*26	15	9.7	6.4
16	7.3	a5.4	29	320	37	54	65	39	42	*13	9.7	6.4
17	7.3	a5.4	b26	91	35	49	63	*38	39	15	10	5.9
18	7.3	a5.4	b24	61	28	47	51	37	31	14	10	6.4
19	6.8	a5.4	b23	49	27	65	47	35	28	13	15	5.9
20	6.8	a6.0	b24	58	64	55	44	39	26	13	18	7.3
21	6.8	a9.0	26	*232	73	49	42	35	23	13	14	11
22	6.4	a14	26	*340	47	47	42	33	22	17	17	6.8
23	6.4	a17	22	188	40	48	57	30	22	14	14	6.4
24	6.8	a8.0	19	134	40	89	52	29	21	13	18	5.9
25	6.8	a11	18	106	36	72	48	28	20	18	16	5.9
26	6.8	a8.5	b17	91	34	97	48	28	19	15	12	5.9
27	8.5	a7.0	b17	91	33	75	45	27	18	12	11	5.4
28	5.9	a6.5	17	73	64	68	42	27	17	11	15	5.4
29	5.4	a6.0	23	65	-	61	42	28	17	11	13	5.4
30	5.4	a6.5	19	58	-------	57	39	27	16	12	9.7	5.4
31	5.4	-------	17	52	-------	80	-------	25	-------	14	9.7	-------
Total	207.8	205.1	873.6	2,348	1,083	1,803	1,498	1,067	739	485	406.2	201.4
Mean	6.70	6.84	28.2	75.7	38.7	58.2	49.9	34.4	24.6	15.6	13.1	6.71
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 389 Min 5.4 Mean 28.8 Cfsm - In. -
Water year 1953-54: Max 340 Min 5.4 Mean 29.9 Cfsm - In. -

Peak discharge (base, 400 cfs).--Jan. 16 (3:30 a.m.) 558 cfs (2.83 ft); Jan. 22 (9 a.m.) 576 cfs (2.86 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for Scott Creek above Sylva, West Fork Pigeon River near Hazelwood, and Jonathan Creek near Cove Creek.

b Stage-discharge relation affected by ice.

Jonathan Creek near Cove Creek, N. C.

Location.--Lat 35°37'22", long 83°00'26", on left bank 1,500 ft downstream from ford, 0.7 mile upstream from mouth, and 2 miles downstream from Cove Creek and village of Cove Creek, Haywood County.

Drainage area.--65.3 sq mi.

Records available.--May 1930 to September 1954.

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.--24 years, 124 cfs.

Extremes.--Maximum discharge during year, 2,140 cfs Jan. 22 (gage height, 6.03 ft); minimum, 23 cfs Nov. 18 (gage height, 0.65 ft).
1930-54: 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; minimum daily, 23 cfs Sept. 17, 18, 23, 1953.

Remarks.--Records excellent except those for periods of ice effect, which are good. Slight diurnal fluctuation at low flow cuased by small gristmill above station.

Revisions.--WSP 823: Drainage area.

Rating tables, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 16				Jan. 17 to Sept. 30			
0.6	21	2.1	222	0.7	25	2.5	304
.8	30	2.5	320	.9	36	3.0	452
1.0	45	3.0	475	1.1	51	3.5	640
1.2	65	3.5	660	1.4	81	4.0	880
1.5	109	4.1	930	1.7	124	4.5	1,160
1.8	162			2.0	184	5.1	1,520

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	26	26	44	160	214	387	114	93	50	49	37
2	26	26	26	44	152	175	307	110	94	55	50	36
3	26	25	26	50	148	232	272	145	101	73	46	34
4	25	25	88	44	138	184	247	126	94	94	41	33
5	*25	25	48	43	128	162	225	114	85	65	39	32
6	24	25	55	41	121	150	221	107	79	56	*84	31
7	24	25	62	39	113	144	214	114	76	53	52	30
8	25	25	*41	36	*108	138	228	114	73	69	45	31
9	25	24	218	39	107	135	198	105	72	137	77	30
10	25	24	178	43	102	133	182	100	71	81	62	*34
11	24	24	75	86	102	133	171	97	70	64	47	33
12	24	*24	137	b50	95	138	162	95	68	51	45	30
13	24	24	106	b45	91	203	*154	122	70	54	47	29
14	28	24	228	b65	90	340	156	254	72	53	43	28
15	27	24	124	252	89	221	154	180	131	*52	41	28
16	26	24	90	916	117	*189	201	152	*157	50	39	28
17	25	24	70	302	139	171	198	*135	144	50	45	27
18	25	24	64	*202	100	160	160	131	118	51	58	29
19	24	*24	b62	156	95	193	150	128	97	47	66	27
20	24	25	b64	150	231	186	140	146	85	48	58	35
21	24	39	68	850	274	162	137	129	78	58	59	45
22	24	56	74	*1,510	184	148	135	116	72	104	61	33
23	24	75	66	852	154	156	137	108	69	67	61	30
24	24	36	54	508	150	344	138	104	66	54	52	28
25	24	49	50	366	135	274	133	100	62	55	45	28
26	24	34	49	299	126	434	138	98	60	67	47	28
27	39	30	47	302	118	304	129	93	58	54	54	28
28	32	28	47	247	182	272	124	91	56	48	70	27
29	29	27	61	218	-	242	129	98	53	45	54	27
30	27	27	52	193	-------	221	124	95	51	45	43	27
31	26	-------	47	175	-------	445	-------	85	-------	49	40	-------
Total	799	892	2,403	8,167	3,749	6,603	5,451	3,706	2,475	1,909	1,620	923
Mean	25.8	29.7	77.5	263	134	213	182	120	82.5	61.6	52.3	30.8
Cfsm	0.395	0.455	1.19	4.03	2.05	3.26	2.79	1.84	1.26	0.943	0.801	0.472
In.	0.46	0.51	1.37	4.65	2.14	3.76	3.10	2.11	1.41	1.09	0.92	0.53

Calendar year 1953: Max 1,650 Min 23 Mean 103 Cfsm 1.58 In. 21.51
Water year 1953-54: Max 1,510 Min 24 Mean 106 Cfsm 1.62 In. 22.05

Peak discharge (base, 1,100 cfs).--Jan. 16 (4 a.m.) 1,340 cfs (4.80 ft); Jan. 22 (11 a.m.) 2,140 cfs (6.03 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Pigeon River near Hepco, N. C.

Location.--Lat 35°38'07", long 82°59'22", on left bank 0.8 mile downstream from Jonathan Creek, 2.4 miles upstream from Fines Creek and from Hepco, Haywood County, and at mile 45.0.

Drainage area.--350 sq mi.

Records available.--July 1927 to September 1954.

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.--27 years, 552 cfs.

Extremes.--Maximum discharge during year, 9,440 cfs Jan. 22 (gage height, 8.55 ft); minimum, 96 cfs Sept. 8 (gage height, 0.81 ft).

1927-54: 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 determinations at gage heights 14.94 and 15.82 ft; minimum, 81 cfs Sept. 30, 1941; minimum gage height, that of Sept. 8, 1954.

Maximum stage known, about 18 ft June 1876 and February 1902, from flood profiles by Tennessee Valley Authority.

Remarks.--Records excellent except those for periods of ice effect, which are good. Considerable regulation by Lake Junaluska on Richland Creek and Lake Logan on West Fork Pigeon River for periods of low flow (combined capacity of reservoirs, about 2,200 cfs-days).

Revisions (water years).--WSP 823: Drainage area. WSP 893: 1928-31, 1932(M), 1933-36, 1937-39(M).

Rating table, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.8	94	3.0	1,020
1.0	128	4.0	1,890
1.4	230	5.0	3,000
1.8	370	6.0	4,440
2.0	455	7.1	6,380
2.5	715		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	124	110	119	192	704	1,300	1,580	520	310	212	200	149
2	128	107	119	192	654	1,190	1,290	465	324	209	234	149
3	126	105	119	200	595	1,390	1,080	525	328	269	184	151
4	124	119	242	206	632	1,170	950	627	338	512	163	149
5	*124	124	356	282	812	806	842	505	296	310	154	145
6	124	124	234	276	654	693	854	442	282	265	*237	138
7	123	123	437	265	638	649	908	460	268	234	272	115
8	123	123	*268	254	*500	622	878	505	258	279	184	*102
9	124	121	799	254	480	627	818	428	265	370	254	124
10	126	119	1,220	168	525	671	754	419	251	363	240	130
11	124	108	560	240	505	698	732	410	240	314	178	132
12	123	*105	595	b230	455	788	688	406	254	268	161	124
13	123	105	616	b190	360	884	*605	455	254	230	173	121
14	136	107	1,000	b220	321	1,720	605	957	460	215	168	121
15	136	114	682	454	346	1,370	666	800	453	*224	159	121
16	132	114	540	3,660	505	*1,100	585	654	*563	203	163	119
17	145	112	450	1,620	540	878	794	*585	600	192	173	117
18	115	112	b360	*1,160	595	764	654	555	585	195	254	121
19	121	*114	b340	957	505	748	600	540	442	186	208	117
20	124	114	b370	742	585	860	600	525	382	186	209	134
21	124	157	402	3,510	1,630	764	535	565	349	276	224	161
22	124	201	432	*6,300	1,440	726	495	495	328	342	192	147
23	124	371	352	3,630	1,240	782	540	465	307	272	224	126
24	123	181	410	2,280	693	1,460	565	450	296	209	206	123
25	121	159	398	1,800	616	1,390	644	432	282	192	215	121
26	158	143	356	1,490	575	1,760	693	419	268	240	186	121
27	314	128	258	1,380	555	1,490	585	402	258	200	192	123
28	442	123	248	1,150	644	1,110	550	398	244	181	246	121
29	389	119	265	824	-	1,090	575	419	224	171	248	119
30	110	119	221	794	-------	1,030	632	424	212	166	181	117
31	108	-------	206	737	-------	1,500	-------	363	-------	195	159	-------
Total	4,662	3,981	12,974	35,657	18,304	32,030	22,297	15,615	9,921	7,680	6,241	3,858
Mean	150	133	419	1,150	654	1,033	743	504	331	248	201	129
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 7,580 Min 105 Mean 489 Cfsm 1.40 In. 18.97
Water year 1953-54: Max 6,300 Min 102 Mean 475 Cfsm 1.36 In. 18.41

Peak discharge (base, 6,000 cfs).--Jan. 22 (6:30 p.m.) 9,440 cfs (8.55 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Pigeon River at Newport, Tenn.

Location.--Lat 35°57'36", long 83°10'26", on left bank 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.

Records available.--January 1903 to December 1905, December 1906 to December 1909, November 1918 to September 1929, May 1945 to July 1946, and August 1948 to September 1954 in reports of Geological Survey. Published as "near Newport" 1945-46. September 1900 to October 1901, December 1902 to December 1905, and December 1906 to September 1924 (prior to October 1910 and October 1920 to September 1921, revised) in Tennessee Division of Geology Bulletin 34.

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.--27 years (1903-5, 1908-12, 1914-29, 1948-54), 1,203 cfs.

Extremes.--Maximum discharge during year, 22,900 cfs Jan. 22 (gage height, 11.62 ft); minimum daily, 52 cfs Sept. 13.

1900-1901, 1902-5, 1906-29, 1945-46, 1948-54: Maximum discharge, 34,900 cfs (revised) Apr. 2, 1920 (gage height, 17.0 ft); minimum daily, 48 cfs Sept. 21, 28, 1953.

Flood of Feb. 28, 1902, reached a stage of 21.4 ft.

Revisions.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
453	1917	Mar. 4, 1917	26,100	14.4
503	1919	Dec. 22, 1918	15,000	10.0
503	1920	Apr. 2, 1920	34,900	17.0
523	1921	Dec. 14, 1920	12,800	9.0
583	1924	Jan. 11, 1924	7,990	6.5
643	1927	Feb. 23, 1927	11,600	8.4
663	1928	Aug. 16, 1928	20,700	12.4
683	1929	Mar. 5, 1929	14,600	9.8

Remarks.--Records good. Considerable regulation by Lake Junaluska, Lake Logan, and Lake Walters for periods of low flow (combined usable capacity of reservoirs, about 12,500 cfs-days).

Revisions.--WSP 1143: Drainage area; average discharge. See also Records available. Monthly figures of discharge in cubic feet per second per square mile and runoff in inches for August 1948 to September 1952 may be considerably in error owing to regulation by Lake Walters and should not be used. Figures of daily discharge for Dec. 9, 1902, Dec. 14, 1902, to Jan. 31, 1903, published in Tennessee Division of Geology Bulletin 34, are considered in error owing to erroneous gage heights and should not be used. The daily figures have not been revised, but revised monthly figures are given herewith. Also revised figures of discharge, in cubic feet per second, for a high-water period in the water year 1921, superseding those published in WSP 523, are given herewith:

Dec. 14, 1920..... 12,800

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October 1902.....	-	-	†430	0.646	0.74
November.....	-	-	†660	.991	1.11
December.....	-	-	1,330	2.00	2.30
January 1903.....	-	-	990	1.49	1.71
February.....	-	-	3,390	5.09	5.29
Water year 1902-3.....	17,400	-	1,600	2.40	32.52
December 1920.....	12,800	555	1,780	2.67	3.08
Calendar year 1920.....	31,000	348	1,410	2.12	28.86
Water year 1920-21.....	12,800	348	1,370	2.06	27.96

† Not previously published; partly estimated.

Pigeon River at Newport, Tenn.--Continued

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

-0.2	52	2.0	1,330
-.1	65	2.5	1,910
.1	102	3.0	2,580
.4	180	4.0	4,130
.7	304	6.0	7,900
1.0	480	8.8	14,800
1.5	860		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	73	206	512	446	1,990	1,550	4,320	1,220	747	466	266	370
2	74	168	430	334	1,350	2,210	3,060	966	778	440	280	421
3	93	362	*353	272	1,260	3,020	2,510	923	676	318	390	*246
4	201	207	274	408	*1,000	2,710	2,170	1,190	709	711	352	194
5	143	229	273	572	1,220	*1,900	1,990	1,190	466	655	*344	119
6	*218	*221	268	576	1,050	1,500	1,910	874	330	444	643	144
7	207	186	408	*527	568	1,350	1,860	682	446	454	478	187
8	191	226	255	400	848	1,350	*1,910	710	675	572	309	334
9	*176	168	752	222	924	1,230	2,090	690	530	508	311	280
10	154	170	1,510	75	858	1,210	1,910	*791	*522	468	484	326
11	213	150	1,670	365	972	1,370	1,480	793	508	478	414	169
12	140	138	1,250	466	1,170	1,510	1,700	750	378	560	395	54
13	100	158	724	454	544	1,630	1,760	962	318	623	416	52
14	150	161	1,480	484	344	2,950	1,580	1,890	500	543	338	166
15	246	305	1,830	1,200	606	2,680	1,280	1,960	678	*498	282	232
16	233	154	1,700	5,190	798	2,120	1,290	917	844	481	253	222
17	214	177	1,080	3,040	973	1,710	2,140	1,180	1,020	324	360	182
18	222	200	575	2,170	812	1,480	1,650	1,250	1,090	232	314	84
19	152	224	423	1,780	824	1,320	1,520	1,200	763	350	338	129
20	248	214	314	1,970	920	1,510	1,380	1,720	448	511	367	58
21	226	231	450	5,970	1,360	1,360	1,190	2,100	650	498	308	151
22	241	257	587	*14,800	1,210	1,210	848	1,460	532	576	289	124
23	250	232	680	10,700	1,090	1,180	779	1,050	559	*662	370	104
24	210	372	582	4,960	1,070	3,360	741	1,000	506	389	440	96
25	214	429	461	3,500	1,010	3,790	688	1,020	472	262	344	96
26	154	322	216	2,910	986	5,930	1,120	948	470	336	410	108
27	264	232	312	2,690	968	3,770	1,060	850	276	494	370	53
28	264	307	530	2,690	869	2,730	1,130	915	282	510	304	83
29	570	268	708	2,550	-	2,150	1,150	686	440	476	262	93
30	428	361	842	2,460	-------	2,150	1,070	578	406	495	240	169
31	210	-------	784	1,990	-------	2,940	-------	710	-------	384	308	-------
Total	6,479	7,035	22,233	76,171	27,594	66,880	49,286	33,175	17,019	14,698	10,979	5,046
Mean	209	234	717	2,457	986	2,157	1,643	1,070	567	474	354	168
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 8,780 Min 48 Mean 875 Cfsm 1.31 In. 17.84
Water year 1953-54: Max 14,800 Min 52 Mean 922 Cfsm 1.38 In. 18.80

Peak discharge (base, 7,500 cfs).--Jan. 22 (12 p.m.) 22,900 cfs (11.62 ft); Mar. 26 (6 a.m.) 8,160 cfs (6.12 ft).
* Discharge measurement made on this day.

North Toe River at Altapass, N. C.

Location.--Lat 35°53'59", long 82°01'50", on left bank 0.1 mile upstream from Rose Creek, 1.0 mile northwest of Altapass, Mitchell County, and at mile 36.0.

Drainage area.--104 sq mi.

Records available.--May 1934 to September 1954. Prior to October 1938, published as "above Spruce Pine" (flow of Rose Creek included).

Gage.--Water-stage recorder. Datum of gage is 2,542.91 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Oct. 1, 1938, at site 1.2 miles downstream at datum 13.90 ft lower.

Average discharge.--20 years, 199 cfs.

Extremes.--Maximum discharge during year, 3,520 cfs Jan. 22 (gage height, 8.91 ft); minimum, 23 cfs Sept. 9 (gage height, 0.99 ft); minimum daily, 32 cfs Sept. 8, 9.
1934-54: 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, that of Sept. 9, 1954; minimum daily, that of Sept. 8, 9, 1954.
Maximum stage known, about 24 ft in July 1916.

Remarks.--Records excellent except those for periods of ice effect, which are fair. Slight diurnal fluctuation at low flow caused by gristmills and primary mineral processing mills.

Revisions.--WSP 973: Drainage area.

Rating table, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.0	24	2.5	395
1.1	34	3.0	570
1.2	47	4.0	960
1.4	84	5.0	1,380
1.6	129	6.0	1,870
2.0	234	6.6	2,190

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	47	49	57	76	183	632	651	170	141	66	82	44
2	52	49	54	b72	181	384	434	194	143	*62	91	42
3	49	47	52	b74	173	360	353	423	141	92	80	38
4	43	47	105	76	170	b290	305	374	146	78	70	34
5	43	47	118	76	160	b250	276	273	131	74	61	34
6	43	46	93	72	156	b230	270	240	124	66	61	33
7	43	44	*143	62	b140	225	327	222	120	61	54	34
8	43	43	120	b60	b125	225	264	243	*111	93	52	32
9	*44	44	164	b60	b130	231	252	205	128	86	54	32
10	44	*44	314	68	*139	*228	222	192	124	104	54	97
11	43	46	160	91	131	220	220	181	113	84	49	57
12	43	46	214	b70	122	214	211	*170	120	72	46	42
13	43	44	240	b60	111	217	194	181	111	64	47	39
14	44	44	404	b70	b110	350	194	588	122	59	46	38
15	47	44	267	b120	120	255	189	468	134	57	44	37
16	47	44	186	804	126	222	*194	344	146	96	49	*37
17	44	43	b150	364	222	214	243	286	163	70	44	38
18	44	43	b130	225	143	202	200	261	178	66	46	34
19	43	43	b120	*189	131	211	183	255	134	78	44	34
20	43	46	b120	173	260	261	176	283	120	93	44	59
21	*43	82	b140	844	977	202	168	270	106	122	72	91
22	43	143	b130	2,160	420	189	166	222	102	115	68	64
23	43	264	b120	1,350	298	189	166	205	93	160	*54	44
24	43	99	b110	696	264	255	202	194	88	88	67	40
25	42	86	b100	486	234	243	186	186	82	78	83	37
26	42	78	b95	370	208	581	178	176	80	80	72	37
27	46	68	b90	330	192	367	220	170	76	72	120	38
28	61	62	b92	273	216	340	229	168	76	68	103	37
29	64	57	b96	240	-	286	186	168	70	64	106	35
30	68	61	93	220	-------	261	181	163	66	64	57	35
31	54	-------	84	197	-------	522	-------	148	-------	82	49	-------
Total	1,441	1,903	4,361	10,028	5,842	8,856	7,240	7,623	3,489	2,514	1,969	1,293
Mean	46.5	63.4	141	323	209	286	241	246	116	81.1	63.5	43.1
Cfsm	0.447	0.610	1.36	3.11	2.01	2.75	2.32	2.37	1.12	0.780	0.611	0.414
In.	0.52	0.68	1.56	3.59	2.09	3.17	2.59	2.73	1.25	0.90	0.70	0.46

Calendar year 1953: Max 1,920 Min 34 Mean 157 Cfsm 1.51 In. 20.46
Water year 1953-54: Max 2,160 Min 32 Mean 155 Cfsm 1.49 In. 20.24

Peak discharge (base, 1,500 cfs).--Jan. 22 (5:30 p.m.) 3,520 cfs (8.91 ft); Feb. 21 (1 a.m.) 1,540 cfs (5.33 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Cane River near Sioux, N. C.

Location.--Lat 36°00'52", long 82°19'40", on right bank on State Highway 26, 1.3 miles upstream from confluence with North Toe River, 1.5 miles east of Sioux, Yancey County, and at mile 1.3.

Drainage area.--157 sq mi.

Records available.--May 1934 to September 1954.

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.--20 years, 242 cfs.

Extremes.--Maximum discharge during year, 6,660 cfs Jan. 22 (gage height, 9.74 ft); minimum, 29 cfs Oct. 26 (gage height, 1.69 ft); minimum daily, 31 cfs Nov. 9, Sept. 13.
1934-54: 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; minimum daily, 27 cfs Sept. 14, 1953.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Considerable diurnal fluctuation and slight regulation at low flow caused by small mills and Burnsville powerplant.

Revisions (water years).--WSP 893: 1934(M). WSP 1143: 1940(M).

Rating table, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.7	30	3.5	485
1.8	39	4.0	720
2.0	62	5.0	1,320
2.2	93	6.0	2,080
2.5	155	7.0	3,020
3.0	298	8.0	4,150

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	54	51	56	73	241	1,040	1,080	215	170	70	80	60
2	55	38	53	b70	217	595	676	275	167	*72	72	49
3	53	47	53	69	214	629	538	460	163	93	90	47
4	57	42	80	73	204	502	449	480	178	120	75	46
5	39	44	155	73	175	409	401	350	155	91	67	50
6	49	43	101	66	172	352	376	290	138	75	99	33
7	46	43	261	63	155	312	447	267	*136	74	71	41
8	42	40	151	63	b150	302	365	282	121	155	71	41
9	*48	*31	230	61	b150	*298	337	238	123	156	58	40
10	44	42	518	64	*146	295	305	230	132	145	63	43
11	44	44	228	79	141	291	283	*210	122	110	59	43
12	38	43	221	b70	135	281	290	188	119	87	56	40
13	38	43	231	b60	134	316	266	220	132	77	53	31
14	45	41	410	b70	117	725	256	1,260	144	77	52	39
15	57	40	290	355	126	510	240	980	150	73	52	39
16	42	32	202	1,840	134	406	*256	610	169	78	46	38
17	44	45	158	665	230	350	389	485	183	77	50	41
18	47	42	111	*369	171	316	330	405	215	76	52	39
19	35	42	b100	276	147	341	291	370	152	66	48	38
20	42	44	b100	236	218	409	265	385	123	108	51	54
21	40	56	134	2,010	1,160	338	242	405	121	101	50	88
22	39	102	116	4,040	519	305	446	330	110	272	58	66
23	*40	205	119	1,980	379	291	232	315	104	163	*89	48
24	41	110	98	924	327	544	237	267	101	117	107	45
25	41	99	b95	625	288	757	240	240	94	100	60	43
26	34	84	b92	489	258	1,660	253	223	90	73	78	41
27	49	66	b90	446	230	872	295	212	85	78	63	32
28	57	61	86	375	281	646	298	200	76	72	314	37
29	62	64	92	320	-	513	275	200	82	74	165	39
30	57	56	84	287	-------	446	227	230	70	70	87	41
31	51	-------	77	244	-------	772	-------	188	-------	73	65	----- --
Total	1,430	1,740	4,792	16,435	6,819	15,823	10,385	10,990	3,925	3,073	2,401	1,332
Mean	46.1	58.0	155	530	244	510	346	355	131	99.1	77.5	44.4
Cfsm	0.294	0.369	0.987	3.38	1.55	3.25	2.20	2.26	0.834	0.631	0.494	0.283
In.	0.34	0.41	1.14	3.89	1.62	3.75	2.46	2.60	0.93	0.73	0.57	0.32

Calendar year 1953: Max 3,530 Min 27 Mean 174 Cfsm 1.11 In. 15.08
Water year 1953-54: Max 4,040 Min 31 Mean 217 Cfsm 1.38 In. 18.76

Peak discharge (base, 2,600 cfs).--Jan. 22 (4:30 p.m.) 6,660 cfs (9.74 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Apr. 24 to June 6; discharge estimated on basis of weather records, Burnsville powerplant log, and records for Nolichucky River at Poplar.

Nolichucky River at Poplar, N. C.

Location.--Lat 36°04'29", long 82°20'41", on right bank at Poplar, Mitchell County, 3.9 miles downstream from Cane River, 6.1 miles upstream from North Carolina-Tennessee State line, and at mile 106.8.

Drainage area.--608 sq mi.

Records available.--July 1925 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 1,971.96 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Feb. 15, 1926, staff gages at site a quarter of a mile upstream at different datum. 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 present site and datum.

Average discharge.--29 years, 1,201 cfs.

Extremes.--Maximum discharge during year, 23,300 cfs Jan. 22 (gage height, 11.07 ft); minimum, 133 cfs Sept. 6, 7, 27, 28 (gage height, 1.03 ft).
1925-54: 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.--Records good except those for periods of ice effect or doubtful or no gage-height record, which are fair. Considerable diurnal fluctuation caused by many small mills and powerplants above station. Records of chemical analyses and water temperature for the water year 1954 are given in WSP 1350.

Revisions (water years).--WSP 823: Drainage area. WSP 923: 1928(M), 1937(M).

Rating table, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.0	125	2.5	1,390
1.1	165	3.0	2,030
1.2	210	4.0	3,460
1.3	260	5.0	5,120
1.5	385	6.0	7,110
1.7	540	7.0	9,490
2.0	820	8.1	12,600

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	250	220	a240	b320	883	4,440	4,110	830	675	296	302	220
2	a270	192	a230	b305	830	2,610	2,520	899	675	*296	340	188
3	240	210	a220	314	820	2,430	1,980	1,640	648	352	359	183
4	a220	196	a380	326	800	2,000	1,650	1,720	702	452	296	174
5	a195	201	a600	320	720	1,590	1,450	1,280	630	359	272	170
6	a205	196	a450	a300	684	1,390	1,350	1,080	576	326	266	137
7	a190	201	877	a270	630	1,230	1,600	991	*540	296	255	157
8	a190	196	*558	a260	a560	1,190	1,380	1,060	532	481	230	149
9	*196	*170	650	a280	a570	*1,210	1,290	936	524	540	192	149
10	196	192	1,770	a290	*a560	1,200	1,150	894	639	468	196	220
11	196	192	1,010	a330	558	1,160	1,090	*820	540	445	a190	284
12	174	192	780	a290	532	1,120	1,080	750	508	359	a185	220
13	188	192	991	a230	508	1,150	991	810	532	320	a180	170
14	196	188	1,510	a220	484	2,260	969	3,640	629	296	a180	174
15	225	183	1,400	a900	492	1,890	936	3,370	693	290	a175	170
16	210	170	894	3,070	508	1,430	*958	2,120	693	378	a180	*170
17	201	188	b630	2,780	880	1,250	1,410	1,670	978	326	a175	161
18	201	188	b480	*1,330	770	1,130	1,250	1,450	969	296	a180	157
19	178	188	b450	980	603	1,130	1,060	1,340	810	296	a175	161
20	201	192	b430	830	696	1,410	958	1,380	630	372	a200	232
21	188	266	549	5,050	4,370	1,200	904	1,470	540	438	a240	378
22	188	524	524	12,500	2,200	1,050	872	1,230	492	659	272	326
23	*188	970	476	*8,240	1,550	991	862	1,070	445	841	*290	240
24	183	585	b450	3,440	1,280	1,520	894	1,000	415	516	326	192
25	178	400	b410	2,370	1,140	2,160	914	925	392	378	334	170
26	161	359	b390	1,860	1,000	4,600	947	862	378	296	352	165
27	196	a300	b370	1,650	894	2,730	1,080	841	366	302	290	137
28	230	a270	b360	1,430	970	2,120	1,120	790	320	290	809	153
29	250	a250	372	1,220	-	1,730	958	780	326	255	639	153
30	255	a260	366	1,090	-------	1,510	872	894	308	245	372	149
31	240	-------	340	969	-------	2,540	-------	750	-------	250	266	-------
Total	6,379	8,031	19,157	53,764	26,492	55,371	38,605	39,292	17,105	11,914	8,718	5,709
Mean	206	268	618	1,734	946	1,786	1,287	1,267	570	384	281	190
Cfsm	0.339	0.441	1.02	2.85	1.56	2.94	2.12	2.08	0.938	0.632	0.462	0.312
In.	0.39	0.49	1.17	3.29	1.62	3.39	2.36	2.40	1.05	0.73	0.53	0.35

Calendar year 1953: Max 11,500 Min 141 Mean 749 Cfsm 1.23 In. 16.73
Water year 1953-54: Max 12,500 Min 137 Mean 796 Cfsm 1.31 In. 17.77

Peak discharge (base, 9,000).--Jan. 22 (4 p.m.) 23,300 cfs (11.07 ft).
* Discharge measurement made on this day.
a Doubtful or no gage-height record; discharge estimated on basis of records for Cane River near Sioux and Nolichucky River at Embreeville, Tenn.
b Stage-discharge relation affected by ice.

North Indian Creek near Unicoi, Tenn.

Location.--Lat 36°10'35", long 82°17'36", on right bank 900 ft upstream from Rocky Branch and 3.4 miles southeast of Unicoi, Unicoi County.

Drainage area.--15.9 sq mi.

Records available.--May 1944 to September 1954.

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.--10 years, 21.1 cfs.

Extremes.--Maximum discharge during year, 486 cfs July 22 (gage height, 4.08 ft), from rating curve extended above 280 cfs; minimum, 1.9 cfs Nov. 29; minimum gage height, 1.00 ft Sept. 15-18.
1944-54: Maximum discharge, that of July 22, 1954; minimum, that of Nov. 29, 1953; minimum gage height, 0.79 ft Sept. 22-28, 1944.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Some diversion from Davis Spring 1 mile upstream for part of water supply of Johnson City.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 21				Jan. 22 to Sept. 30			
1.1	1.5	1.8	41	1.0	2.5	1.6	28
1.2	3.3	2.1	79	1.1	3.8	2.0	68
1.3	6.0	2.3	109	1.2	5.8	2.5	143
1.4	10	2.5	143	1.3	9.0	3.0	239
1.6	23			1.4	14	3.3	303

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a2.9	2.4	*2.2	3.3	14	97	114	39	15	4.8	11	3.5
2	a2.8	*2.4	2.4	3.1	*13	*61	72	42	*14	7.9	10	3.4
3	a2.7	2.4	2.4	3.8	14	62	54	37	14	5.6	11	3.3
4	a2.6	2.4	2.6	*3.3	13	49	44	41	14	5.6	*6.1	3.2
5	*2.6	2.2	2.4	3.3	12	39	35	*33	13	5.2	5.2	3.2
6	2.8	2.2	3.1	3.3	11	32	*36	31	12	4.8	5.2	3.0
7	2.6	2.2	3.1	3.1	11	32	39	32	11	*5.0	4.6	*2.9
8	2.6	2.4	2.6	3.1	9.9	34	48	34	10	17	4.4	2.9
9	2.6	2.4	9.1	3.1	9.4	41	52	32	12	7.7	4.2	3.0
10	2.6	2.4	7.2	3.1	9.4	45	44	28	14	5.8	4.2	3.0
11	2.4	2.4	4.1	4.1	9.9	46	40	27	13	5.4	4.0	3.0
12	2.4	2.4	13	3.3	9.0	44	40	26	11	5.2	3.8	2.9
13	2.4	2.4	8.0	3.1	8.7	44	32	27	9.4	5.0	3.8	2.8
14	2.4	2.4	22	3.6	8.4	58	31	51	9.4	4.8	3.7	2.8
15	2.6	2.4	9.7	39	8.4	48	37	45	8.7	4.8	5.2	2.6
16	2.6	2.4	6.4	143	11	39	49	39	8.7	7.2	4.2	2.6
17	2.4	2.4	4.9	45	24	32	117	33	16	4.8	3.8	2.6
18	2.6	2.4	4.4	23	15	29	90	35	13	4.6	3.8	2.6
19	2.6	2.4	4.1	16	14	30	65	40	11	7.6	3.8	2.9
20	2.6	2.6	3.8	15	26	34	51	49	10	5.4	3.7	6.0
21	2.6	2.6	5.5	114	52	28	43	52	9.4	6.6	3.5	4.1
22	2.8	2.8	5.5	290	37	26	36	44	8.7	92	3.5	3.3
23	2.8	2.8	4.9	*136	29	25	33	37	8.0	30	5.3	3.2
24	2.8	2.6	3.8	69	25	32	30	32	7.4	9.9	4.8	3.2
25	2.8	2.9	3.6	47	20	35	27	28	6.8	6.8	3.5	3.0
26	2.8	2.4	3.6	34	17	98	24	26	6.1	5.4	3.4	3.0
27	2.8	2.4	3.6	32	15	62	25	22	5.6	5.0	3.4	3.0
28	2.8	2.4	3.8	26	41	50	31	21	5.2	4.6	4.7	3.0
29	3.1	2.2	4.1	22		40	23	20	5.0	4.4	5.6	2.9
30	2.6	2.2	3.6	18	-------	34	21	22	4.8	4.2	3.7	4.5
31	2.6	-------	3.3	16	-------	90	-------	17	-------	5.2	3.7	-------
Total	82.3	72.9	162.8	1,131.6	487.1	1,416	1,383	1,042	306.2	298.3	150.8	95.4
Mean	2.65	2.43	5.25	36.5	17.4	45.7	46.1	33.6	10.2	9.62	4.86	3.18
Cfsm	0.167	0.153	0.330	2.30	1.09	2.87	2.90	2.11	0.642	0.605	0.306	0.200
In.	0.19	0.17	0.38	2.65	1.14	3.31	3.23	2.44	0.72	0.70	0.35	0.22

Calendar year 1953: Max 199 Min 2.2 Mean 14.8 Cfsm 0.931 In. 12.66
Water year 1953-54: Max 290 Min 2.2 Mean 18.2 Cfsm 1.14 In. 15.50

Peak discharge (base, 220 cfs).--Jan. 22 (10 a.m.) 334 cfs (3.87 ft); July 22 (6 p.m.) 486 cfs (4.08 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for nearby streams.

Nolichucky River at Embreeville, Tenn.

Location.--Lat 36°10'35", long 82°27'27", on left bank 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.

Records available.--September 1900 to May 1901 (published as "near Chucky Valley"), July 1920 to September 1954.

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. July 1920 to October 1931 chain gage at bridge 2,000 ft downstream at datum 6.33 ft lower.

Average discharge.--35 years (1919-54), 1,305 cfs.

Extremes.--Maximum discharge during year, 28,800 cfs Jan. 22 (gage height, 9.20 ft); minimum, 178 cfs Sept. 28 (gage height, 0.69 ft).

1900-1901, 1919-54: 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).

Revisions.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
523	1921	Aug. 3, 1921	25,900	11.5
543	1922	Jan. 21, 1922	16,200	8.98
563	1923	Mar. 16, 1923	15,800	8.90
583	1924	Sept.29, 1924	11,900	7.82
713	1931	Apr. 4, 1931	11,500	7.70

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Slight diurnal fluctuation at low flow caused by small mill above station.

Revisions (water years).--WSP 803: 1935(M). WSP 823: Drainage area. Revised figures of discharge, in cubic feet per second, for the water years 1921-24, superseding those published in WSP 523, 543, 563, and 583, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge
1921		1922		1923-Con.	
Feb. 9	4,540	Jan. 20	7,360	Mar. 18	4,770
10	12,200	21	11,500	19	4,110
11	8,250	22	7,650	20	3,170
12	4,320				
Aug. 3	6,530	1923		1924	
4	6,530	Mar. 7	8,250	Sept.29	11,500
15	7,080	8	3,910	30	5,490
16	5,240	16	7,950		
18	6,530	17	8,560		

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
February 1921	12,200	1,240	2,770	3.44	3.59
August	7,080	840	2,500	3.11	3.58
Water year 1920-21	12,200	432	1,510	1.88	25.42
Calendar year 1921	12,200	463	1,510	1.88	25.42
January 1922	11,500	585	1,970	2.45	2.82
Water year 1921-22	11,500	362	1,510	1.88	25.36
Calendar year 1922	11,500	330	1,450	1.80	24.40
March 1923	8,560	1,060	2,890	3.59	4.14
Water year 1922-23	8,560	330	1,510	1.88	25.53
Calendar year 1923	8,560	315	1,470	1.83	24.79
September 1924	11,500	405	1,180	1.47	1.64
Water year 1923-24	11,500	315	1,350	1.68	22.81
Calendar year 1924	11,500	350	1,410	1.75	23.88

Nolichucky River at Embreeville, Tenn.--Continued

Rating table, water year 1953-54, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.7	180	2.5	2,160
.8	210	3.0	3,200
1.3	520	4.0	5,580
1.6	810	5.0	8,850
2.0	1,310	7.1	18,100

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	285	265	*300	393	1,090	5,510	6,540	1,040	*843	352	339	300
2	306	*250	280	372	*1,030	*3,570	3,860	1,100	810	352	444	260
3	265	246	270	386	1,000	3,330	2,850	1,950	768	444	*452	242
4	255	242	295	*386	1,000	2,730	2,280	2,050	810	601	393	230
5	*242	242	574	393	944	2,120	*1,970	*1,650	778	452	332	222
6	238	238	601	372	876	1,790	1,790	1,370	696	*400	332	206
7	242	234	830	346	810	1,560	2,120	1,280	638	358	332	*192
8	234	234	778	306	726	1,490	2,120	1,340	629	503	290	195
9	238	222	658	332	736	1,560	2,280	1,230	601	667	270	186
10	230	222	1,880	339	726	1,600	1,880	1,130	726	610	275	212
11	238	238	1,210	372	705	1,590	1,670	1,030	648	529	265	280
12	230	234	992	435	696	1,490	1,620	980	601	452	242	285
13	218	234	1,360	272	638	1,440	1,460	944	658	386	230	234
14	230	234	1,740	206	620	2,460	1,400	3,580	648	358	230	192
15	255	234	1,770	903	610	2,480	1,360	4,630	778	332	222	198
16	255	230	1,140	*7,560	648	1,830	1,370	2,810	810	407	226	192
17	242	214	887	3,910	920	1,540	2,440	2,120	944	372	214	189
18	238	230	a700	1,970	1,030	1,400	2,440	1,790	1,100	358	222	186
19	238	226	a550	1,380	832	1,320	1,830	1,670	980	332	210	198
20	218	230	a525	1,140	821	1,670	1,510	1,650	726	460	218	242
21	234	265	b600	7,350	4,540	1,510	1,320	1,990	620	478	242	428
22	222	560	b650	18,000	2,980	1,320	1,200	1,690	583	718	265	428
23	222	829	b600	12,000	1,990	1,250	1,160	1,440	547	1,120	352	295
24	218	832	a550	4,820	1,600	1,650	1,160	1,310	520	858	400	242
25	218	512	a500	3,180	1,420	2,640	1,160	1,170	478	469	300	210
26	218	452	a475	2,380	1,210	6,430	1,160	1,100	452	365	386	204
27	222	379	a450	2,080	1,100	4,100	1,230	1,040	428	352	320	195
28	285	326	a425	1,810	1,170	2,960	1,420	980	379	332	676	183
29	295	300	a500	1,510	-	2,380	1,230	944	386	300	1,020	198
30	320	275	469	1,370	-------	2,030	1,100	1,040	365	300	538	198
31	285	-------	452	1,210	-------	3,570	-------	887	-------	290	386	-------
Total	7,636	9,429	23,011	77,483	32,468	72,320	56,930	48,935	19,950	14,107	10,623	7,022
Mean	246	314	742	2,499	1,160	2,333	1,898	1,579	665	455	343	234
Cfsm	0.306	0.390	0.922	3.10	1.44	2.90	2.36	1.96	0.826	0.565	0.426	0.291
In.	0.35	0.44	1.06	3.58	1.50	3.34	2.63	2.26	0.92	0.65	0.49	0.32

Calendar year 1953: Max 14,000 Min 168 Mean 986 Cfsm 1.22 In. 16.61
Water year 1953-54: Max 18,000 Min 183 Mean 1,041 Cfsm 1.29 In. 17.54

Peak discharge (base, 9,500 cfs).--Jan. 16 (2:30 p.m.) 10,200 cfs (5.34 ft); Jan. 22 (7 p.m.) 28,800 cfs (9.20 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records, recorded range in stage when available, and records for nearby stations.

b Stage-discharge relation affected by ice.

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Nolichucky River below Nolichucky Dam, Tenn.

Location.--Lat 36°03'59", long 82°52'18", on right bank 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 (revised).

Drainage area.--1,184 sq mi.

Records available.--May 1903 to December 1908, April 1919 to October 1925 and October 1945 to September 1954 in reports of Geological Survey. Published as "near Greeneville" 1903-8, 1919-25. May 1903 to December 1908 (revised) and April 1919 to September 1924 in Tennessee Division of Geology Bulletin 34.

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, April 1919 to October 1925 at bridge 8.4 miles upstream at different datums.

Average discharge.--20 years (1903-8, 1919-25, 1945-54), 1,774 cfs.

Extremes.--Maximum discharge during year, 32,000 cfs Jan. 23 (gage height, 16.05 ft); minimum daily, 27 cfs Sept. 11.

1903-8, 1919-25, 1945-54: 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, 24 cfs July 14, 1953.

Flood of Aug. 14, 1940, reached a discharge of 73,500 cfs, by computation of flow over dam.

Remarks.--Records good. Low flow regulated by Nolichucky Dam since 1913 (usable storage, 8,000 acre-ft).

Revisions.--See Records available.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

0.9	23	3.1	460
1.0	28	3.5	880
1.2	40	4.0	1,580
1.4	54	5.0	3,290
1.6	70	6.0	5,150
1.9	98	7.0	7,200
2.2	134	10.0	14,400
2.5	188	13.1	22,900
2.8	280		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	538	119	*424	540	1,630	3,000	9,300	1,380	*1,090	526	313	897
2	651	*349	436	519	*1,640	*5,390	6,310	1,550	1,240	542	433	902
3	334	530	452	541	1,430	4,640	4,300	1,380	1,260	438	*605	718
4	222	535	536	*503	1,270	4,390	3,430	2,200	1,150	428	598	250
5	328	640	336	422	1,250	3,400	*2,970	2,590	918	412	684	230
6	382	538	329	420	1,540	2,820	2,680	*2,530	964	*369	700	340
7	424	333	334	322	1,300	2,590	2,700	2,800	987	778	1,030	*330
8	*403	333	621	312	1,380	2,530	2,840	1,480	1,050	786	503	334
9	434	326	1,170	323	1,310	2,530	3,330	1,340	824	849	536	281
10	441	232	1,150	310	1,240	2,030	2,970	1,340	852	1,260	320	314
11	326	244	1,680	466	1,260	2,430	2,610	1,530	616	1,310	327	27
12	434	232	1,990	370	a1,200	2,530	2,550	1,520	804	1,310	218	28
13	286	224	889	574	a1,050	2,520	2,530	1,630	685	563	222	235
14	236	378	668	601	a850	2,260	2,520	2,170	700	232	405	551
15	228	332	2,590	1,220	a950	2,520	2,440	4,940	788	434	326	454
16	314	330	1,320	5,020	a750	2,620	2,170	4,070	890	435	309	320
17	330	333	1,940	*7,130	a700	2,460	1,910	3,020	1,710	462	476	324
18	332	336	1,370	3,330	990	2,480	3,410	2,640	1,860	432	419	336
19	336	336	578	2,590	1,760	2,520	3,090	2,550	1,690	454	334	357
20	322	329	719	1,970	1,250	2,460	2,620	2,550	1,180	602	316	242
21	320	334	543	4,950	1,820	1,950	2,550	2,550	1,030	627	380	228
22	334	325	426	16,300	4,280	1,890	2,500	2,550	733	606	319	531
23	540	314	615	*22,800	2,950	1,510	1,990	2,030	831	856	312	534
24	331	538	914	8,340	2,640	1,760	2,500	1,990	734	958	314	540
25	326	902	907	5,190	2,530	2,520	1,780	1,930	628	1,020	480	317
26	341	877	624	3,900	2,480	5,160	34	1,540	640	904	513	231
27	234	830	627	3,250	942	6,180	1,270	1,540	614	550	704	228
28	215	544	618	2,930	1,370	4,160	1,980	1,470	632	444	428	334
29	219	474	434	2,730	-	3,470	2,160	1,290	529	422	421	327
30	222	328	528	2,610	-------	2,890	2,430	1,210	534	423	394	338
31	221	-------	716	2,530	-------	3,580	-------	1,200	-------	410	760	-------
Total	10,604	12,475	26,484	103,013	43,762	93,190	85,874	64,510	28,163	19,842	14,099	11,078
Mean	342	416	854	3,323	1,563	3,006	2,862	2,081	939	640	455	369
Cfsm	0.289	0.351	0.721	2.81	1.32	2.54	2.42	1.76	0.793	0.541	0.384	0.312
In.	0.33	0.39	0.83	3.24	1.37	2.93	2.70	2.03	0.88	0.62	0.44	0.35

Calendar year 1953: Max 14,000 Min 24 Mean 1,325 Cfsm 1.12 In. 15.18
Water year 1953-54: Max 22,800 Min 27 Mean 1,406 Cfsm 1.19 In. 16.11

Peak discharge (base, 11,500 cfs).--Jan. 23 (4 a.m.) 32,000 cfs (16.05 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records, recorded range in stage when available, records for station near Morristown, and Nolichucky Dam releases.

Lick Creek at Mohawk, Tenn.

Location.--Lat 36°12'09", long 83°02'53", on right bank 0.25 mile east of Mohawk, Greene County, 0.6 mile upstream from Riley Creek, and 17.5 miles upstream from mouth.

Drainage area.--220 sq mi.

Records available.--July 1946 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 1,060.59 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years, 236 cfs.

Extremes.--Maximum discharge during year, 4,890 cfs Jan. 23 (gage height, 14.33 ft); minimum, 8.4 cfs Sept. 12 (gage height, 1.56 ft).
1946-54: Maximum discharge, 10,700 cfs Jan. 31, 1950 (gage height, 16.24 ft), from rating curve extended above 5,000 cfs; minimum, that of Sept. 12, 1954.

Remarks.--Records good.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 28 to Dec. 14)

Oct. 1 to Jan. 15		Jan. 15 to Sept. 30			
1.8	15	1.5	6.0	10.0	815
2.0	26	1.6	10	11.0	1,000
2.5	63	1.8	20	12.0	1,420
3.0	107	2.2	43	12.8	2,180
		3.0	97	14.0	4,200
		6.0	395		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	16	16	22	139	676	1,400	90	49	23	16	14
2	17	16	16	19	131	772	*1,050	78	47	*24	21	12
3	16	16	*15	18	130	1,070	321	*74	*53	55	34	12
4	17	18	17	21	*123	1,530	234	76	58	58	27	12
5	18	*18	18	18	118	*740	195	72	53	87	26	12
6	15	18	16	*18	107	287	183	67	45	42	48	12
7	16	19	20	18	100	221	187	66	40	34	29	10
8	*17	18	17	18	94	190	172	74	39	150	20	10
9	18	18	18	16	91	176	162	75	39	174	20	9.6
10	18	18	21	16	89	167	139	67	38	50	18	9.2
11	18	18	29	19	86	153	124	66	39	37	18	10
12	17	18	33	25	82	139	121	61	37	34	16	9.2
13	18	18	39	25	78	127	109	59	35	40	16	8.8
14	18	21	73	22	76	160	103	480	38	31	16	9.2
15	16	21	103	450	76	165	103	519	41	24	16	10
16	18	20	65	2,950	75	120	145	176	55	22	16	11
17	18	20	37	*2,980	77	109	522	105	66	22	19	10
18	17	20	26	855	80	103	652	87	141	22	20	9.6
19	18	19	17	206	73	99	252	94	88	34	18	11
20	18	18	19	222	72	110	171	227	47	42	17	12
21	18	18	20	1,860	105	115	143	165	40	36	17	24
22	18	19	24	4,120	99	97	123	86	36	27	16	27
23	18	24	24	*4,160	80	93	112	73	33	24	16	23
24	18	20	21	1,750	72	361	102	66	30	24	19	18
25	18	26	18	585	72	517	95	62	28	22	16	15
26	20	21	17	307	66	933	92	58	28	20	22	14
27	18	21	16	267	63	939	92	58	27	18	18	12
28	20	21	18	245	103	324	92	60	25	78	18	12
29	18	20	22	202	-	216	91	58	24	17	17	12
30	17	16	23	176	-------	182	86	51	24	17	15	12
31	17	-------	25	157	-------	682	-------	50	-------	17	16	-------
Total	544	574	843	21,767	2,557	11,573	7,373	3,400	1,343	1,246	621	382.6
Mean	17.5	19.1	27.2	702	91.3	373	246	110	44.8	40.2	20.8	12.8
Cfsm	0.080	0.087	0.124	3.19	0.415	1.70	1.12	0.500	0.204	0.183	0.091	0.058
In.	0.09	0.10	0.14	3.68	0.43	1.96	1.25	0.57	0.23	0.21	0.10	0.06

Calendar year 1953: Max 3,190 Min 15 Mean 227 Cfsm 1.03 In. 13.99
Water year 1953-54: Max 4,160 Min 8.8 Mean 143 Cfsm 0.650 In. 8.82

Peak discharge (base, 3,000 cfs).--Jan. 23 (1:30 a.m.) 4,890 cfs (14.33 ft); Jan. 17 (1 a.m.) 4,400 cfs (14.10 ft).
* Discharge measurement made on this day.

Nolichucky River near Morristown, Tenn.

Location.--Lat 36°10'49", long 83°10'32", on right bank 0.25 mile downstream from Bent Creek, 0.6 mile upstream from Susong Bridge, 1.1 miles upstream from Forgey Island, 7 miles southeast of Morristown, Hamblen County, and at mile 14.5.

Drainage area.--1,679 sq mi.

Records available.--November 1920 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 1,015.78 ft above sea level, datum of 1929, supplementary adjustment of 1936. Prior to Nov. 6, 1925, chain gage at bridge 3½ miles downstream at datum 10.34 ft lower. Nov. 6, 1925, to Sept. 30, 1942, water-stage recorder at site 150 ft upstream from chain gage at same datum as chain gage.

Average discharge.--33 years (1921-54), 2,183 cfs.

Extremes.--Maximum discharge during year, 37,000 cfs Jan. 23 (gage height, 19.38 ft); minimum daily, 70 cfs Sept. 13.
1920-54: 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 and peak flow over Nolichucky Dam; minimum daily, 60 cfs Sept. 7, 28, 1925.

Remarks.--Records good. Diurnal fluctuation at low flow caused by powerplant 18 miles above station.

Revisions (water years).--WSP 563: 1921(M). WSP 823: Drainage area. WSP 873: 1935(M). WSP 893: 1927(M), 1928, 1925, 1936-37(M).

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 16				Jan. 17 to Sept. 30			
1.7	140	4.0	2,250	1.5	60	6.0	4,920
1.9	250	5.0	3,600	1.8	173	8.0	8,120
2.5	690	6.0	5,050	2.2	390	10.0	11,700
3.0	1,150	8.5	9,250	3.0	1,070	12.0	15,700
				4.0	2,170	16.0	25,500
				5.0	3,470	18.2	32,500

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	668	256	395	732	2,500	3,010	10,800	1,970	1,670	574	437	862
2	575	172	518	512	1,700	7,460	9,110	1,700	1,230	*625	414	899
3	632	392	*490	628	1,890	7,320	5,880	1,690	*1,680	1,010	486	837
4	387	604	492	511	*1,560	6,580	4,340	2,010	1,350	534	649	714
5	274	*574	556	669	1,510	5,520	*3,620	2,790	914	560	*653	272
6	392	668	344	*443	1,520	3,710	3,250	*2,750	1,120	512	929	240
7	464	534	366	413	1,590	3,150	3,120	2,350	1,130	521	946	332
8	*488	368	373	358	1,580	*3,010	3,290	1,950	1,460	1,160	961	332
9	483	375	674	362	1,560	2,960	3,620	1,610	1,070	1,170	600	320
10	396	371	1,630	348	1,490	2,450	3,540	1,520	1,060	1,200	654	*286
11	472	268	1,430	451	1,440	2,810	3,050	1,600	532	1,400	364	245
12	421	268	2,010	472	1,430	2,840	2,900	1,690	767	1,520	348	112
13	442	262	2,160	467	1,330	2,850	2,860	1,760	875	1,160	260	70
14	304	262	1,190	679	982	2,840	2,840	4,680	821	588	270	208
15	268	406	1,890	2,520	1,030	2,620	2,790	5,360	801	414	434	530
16	268	383	2,110	9,090	1,170	2,900	2,580	5,310	937	484	362	437
17	366	367	1,530	*12,300	864	2,770	3,140	3,690	1,950	486	371	340
18	375	371	2,000	6,490	827	2,740	3,830	3,090	1,460	390	507	338
19	370	375	1,160	3,300	1,480	2,790	4,060	2,930	2,270	631	440	346
20	366	375	448	2,740	1,680	2,760	3,140	3,430	1,470	564	355	357
21	366	374	847	7,410	1,590	2,280	2,890	3,160	1,360	597	351	314
22	375	390	478	19,400	4,290	1,980	2,830	2,940	1,050	772	391	292
23	378	408	469	*32,200	3,440	1,990	2,270	2,410	919	739	351	584
24	578	391	808	14,200	2,850	2,900	2,850	2,270	914	1,010	347	562
25	392	645	896	7,780	2,720	3,890	2,480	2,180	763	1,080	346	504
26	381	1,080	888	5,080	2,660	6,050	1,030	1,980	834	1,070	537	354
27	384	863	669	4,060	1,950	8,360	846	1,860	658	836	546	260
28	286	858	676	3,610	1,180	5,540	1,970	1,780	629	588	750	240
29	280	622	686	3,270	-	4,200	2,230	1,540	687	477	460	346
30	268	516	521	3,070	-------	3,540	2,770	1,300	578	459	426	346
31	268	-------	573	2,930	-------	6,530	-------	1,390	-------	452	407	-------
Total	12,367	13,816	29,277	146,495	49,813	120,350	103,926	76,690	32,959	23,583	15,262	11,879
Mean	399	461	944	4,726	1,779	3,882	3,464	2,474	1,099	761	492	396
Cfsm	0.238	0.275	0.562	2.81	1.06	2.31	2.06	1.47	0.655	0.453	0.293	0.236
In.	0.27	0.31	0.65	3.24	1.10	2.67	2.30	1.70	0.73	0.52	0.34	0.26

Calendar year 1953: Max 20,500 Min 172 Mean 1,830 Cfsm 1.09 In. 14.79
Water year 1953-54: Max 32,200 Min 70 Mean 1,744 Cfsm 1.04 In. 14.09

Peak discharge (base, 13,000 cfs).--Jan. 17 (7 a.m.) 14,300 cfs (11.33 ft); Jan. 23 (11 a.m.) 37,000 cfs (19.38 ft).
* Discharge measurement made on this day.

French Broad River below Douglas Dam, Tenn.

Location.--Lat 35°57'06", long 83°33'05", on right bank 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.

Records available.--October 1918 to September 1954. Published as "at Dandridge" 1918-42. Gage-height records collected at Dandridge 1904-42 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.--36 years, 6,522 cfs (unadjusted).

Extremes.--Maximum discharge during year, 31,400 cfs Jan. 26 (gage height, 11.94 ft); minimum daily, 7.9 cfs Oct. 23.

1918-54: 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 said to have occurred.

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow completed regulated by Douglas Lake (see p. 245).

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

1.3	7.9	2.0	132	4.5	2,990
1.4	13	2.2	230	5.0	4,130
1.5	21	2.4	365	6.0	6,920
1.6	31	2.7	605	7.0	10,200
1.7	46	3.0	890	9.0	18,000
1.8	68	3.5	1,420	11.1	27,500
1.9	96	4.0	2,090		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,210	9.0	6,250	2,600	15,900	3,520	42	2,600	6,430	6,340	6,340	1,070
2	1,140	9.0	6,480	5,800	14,000	1,320	25	5,510	4,650	7,280	7,950	*2,260
3	994	10	*6,150	2,300	12,300	4,410	23	3,710	2,520	5,310	7,710	1,120
4	1,090	*10	6,190	2,500	12,400	5,750	910	2,210	4,030	1,580	7,500	1,290
5	1,620	8.4	2,300	2,800	*12,400	1,170	*2,780	5,980	5,380	1,280	8,270	1,130
6	1,820	11	2,480	4,000	12,000	5,090	4,600	8,350	4,010	6,500	8,160	1,220
7	2,130	422	2,800	5,800	11,700	3,760	4,650	6,570	6,390	6,760	6,720	2,560
8	1,780	2,770	5,550	5,600	11,600	8,050	6,870	4,220	6,060	7,140	5,680	2,170
9	140	4,340	4,330	5,000	11,500	8,480	6,600	4,360	4,660	7,160	6,600	2,480
10	14	5,250	3,930	5,300	11,000	10,600	2,780	*8,320	*6,370	4,090	*4,020	2,840
11	12	5,710	1,900	6,000	11,300	*12,500	2,510	8,380	6,560	3,840	3,680	2,580
12	1,060	5,800	1,590	4,500	11,000	12,200	6,700	8,700	6,760	6,000	1,860	974
13	2,360	5,890	1,760	7,860	10,700	12,300	8,430	8,610	7,000	*7,600	5,560	2,880
14	2,600	2,700	6,420	4,780	10,500	12,500	6,820	4,880	8,440	7,400	7,530	2,970
15	98	3,810	6,530	64	7,060	12,000	6,680	2,170	8,500	8,520	5,710	2,920
16	15	5,380	6,730	55	6,280	11,900	6,510	2,000	8,620	8,780	7,520	2,800
17	16	5,540	6,940	23	6,560	12,200	3,340	4,530	6,140	6,030	8,100	2,770
18	12	5,240	6,550	4,950	6,840	10,600	3,540	4,370	5,380	3,740	7,800	1,640
19	9.6	3,280	8,070	2,680	6,710	10,700	3,100	2,580	5,540	6,850	7,810	1,560
20	*8.4	3,200	6,680	2,250	4,120	12,200	3,180	6,180	7,040	6,110	8,390	2,300
21	8.4	1,450	7,000	4,640	3,880	12,300	3,320	5,620	6,860	5,520	6,920	2,660
22	8.4	2,250	7,000	8,060	3,640	12,100	3,280	6,810	7,030	7,910	3,900	2,420
23	7.9	3,220	7,000	11,300	6,780	9,570	3,290	5,190	6,930	7,240	8,520	2,450
24	11	2,460	7,000	14,400	6,140	7,500	5,340	7,030	6,590	5,840	8,630	2,400
25	12	3,070	7,000	*22,700	6,080	5,400	4,390	5,810	6,700	3,500	5,640	1,450
26	11	2,330	4,500	27,400	6,260	1,350	8,460	7,350	6,600	7,610	6,310	1,280
27	11	2,250	2,300	26,600	5,550	31	7,780	7,480	5,810	7,940	6,460	2,360
28	11	2,210	2,500	*26,100	2,260	22	8,190	7,670	7,480	7,200	3,800	2,440
29	11	2,200	2,600	25,200	-	4,220	4,420	6,590	6,790	7,760	2,680	2,630
30	10	5,710	2,800	20,600	------	1,260	1,440	4,860	6,510	7,740	3,970	2,500
31	9.6	--------	2,800	18,000	------	1,110	------	8,950	--------	8,210	2,390	-------
Total	18,240.3	86,539.4	152,130	279,842	246,460	226,113	130,000	177,590	187,780	194,580	193,130	64,124
Mean	588	2,885	4,907	9,027	8,802	7,294	4,333	5,729	6,259	6,277	6,230	2,137

	Observed			Adjusted†			
Calendar year 1953:	Max 24,200	Min 7.9	Mean 5,294	Mean 5,325	Cfsm 1.17	In. 15.91
Water year 1953-54:	Max 27,400	Min 7.9	Mean 5,360	Mean 5,339	Cfsm 1.18	In. 15.95

* Discharge measurement made on this day.

† Adjusted for change in contents in Douglas Lake.

Note.--No gage-height record Dec. 21 to Jan. 12; discharge estimated on basis of records for station near Knoxville, Little Pigeon River at Sevierville and Douglas Dam releases.

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.
Records available.--November 1920 to September 1954.
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.
Average discharge.--33 years (1921-54), 540 cfs.
Extremes.--Maximum discharge during year, 14,600 cfs Jan. 21 (gage height, 11.80 ft); minimum, 31 cfs Sept. 10; minimum gage height, 0.46 ft Sept. 18; minimum daily discharge, 34 cfs Sept. 9.
1920-54: 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.
Revisions.--Figures of maximum discharge for the water years 1921 and 1923 have been revised to 15,700 cfs Feb. 10, 1921 (gage height, 12.0 ft, from graph based on gage readings) and 18,000 cfs Dec. 15, 1922 (gage height, 12.5 ft, from graph based on gage readings), superseding those published in WSP 523 and 563, respectively.
Remarks.--Records good. Some regulation at low flow caused by powerplants on forks. Discharge measurements generally made twice a month.
Revisions (water years).--WSP 783: 1921-34. Revised figures of discharge, in cubic feet per second, in the water year 1922, superseding those published in WSP 543, are given herewith:

Apr. 18, 1922..... 3,200

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
April 1922.....	3,560	370	1,064	3.01	3.36
Water year 1921-22.....	7,770	55	717	2.03	27.56
Calendar year 1922.....	13,400	36	757	2.14	29.11

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 19-29, May 2 to June 16)

Oct. 1 to Jan. 15				Jan. 16 to Sept. 30			
0.4	30	1.5	340	0.4	30	2.0	660
.6	45	2.0	620	.6	53	4.0	2,340
.8	75	3.0	1,400	.8	88	6.0	4,380
1.0	125	4.6	2,850	1.0	141	8.0	6,680
				1.5	360	10.5	10,700

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	47	77	77	93	393	2,680	3,780	530	207	86	138	66
2	46	84	73	84	360	1,670	1,820	470	371	82	126	64
3	45	82	71	90	340	2,820	1,200	569	275	90	148	62
4	44	79	281	95	371	1,850	875	751	260	221	93	56
5	45	73	360	86	320	1,120	716	602	211	183	80	53
6	43	70	214	82	295	822	634	470	191	195	787	45
7	44	64	584	77	265	654	674	426	168	126	417	40
8	45	59	300	75	246	582	634	459	151	175	191	38
9	44	55	508	75	238	556	772	404	138	148	313	34
10	49	53	1,200	77	220	576	640	360	132	118	310	32
11	42	52	446	202	211	614	562	325	141	105	179	62
12	40	51	380	201	199	845	667	300	195	95	141	53
13	38	50	415	103	179	1,090	614	300	256	88	155	48
14	40	50	740	122	175	1,490	556	556	242	78	144	45
15	39	50	531	2,800	172	1,020	524	569	260	72	118	43
16	42	51	360	10,100	179	737	500	476	251	70	115	41
17	40	50	272	2,400	415	582	2,210	404	335	65	98	40
18	35	50	180	998	345	506	1,760	382	448	76	93	38
19	36	47	122	647	285	470	1,220	464	300	70	84	39
20	35	50	164	654	270	530	875	464	275	64	82	48
21	36	72	148	8,410	921	437	695	628	215	60	90	200
22	36	129	168	10,700	562	371	595	464	183	437	82	132
23	36	425	189	5,340	437	360	640	388	161	805	135	72
24	35	241	148	2,100	398	2,460	709	335	148	246	126	50
25	35	223	122	1,330	366	2,670	602	300	129	158	88	48
26	38	197	105	982	330	4,480	614	280	121	124	80	43
27	40	133	103	942	305	2,100	588	256	115	102	76	41
28	41	111	103	758	697	1,320	556	233	112	90	66	44
29	116	95	114	634	-	935	716	220	98	84	134	40
30	114	84	114	530	-------	751	758	220	93	80	93	40
31	71	-------	103	464	-------	1,880	-------	191	-------	80	76	------ --
Total	1,437	2,907	8,695	51,251	9,494	38,978	27,706	12,796	6,182	4,473	4,858	1,677
Mean	46.4	96.9	280	1,653	339	1,257	924	413	206	144	157	55.9
Cfsm	0.131	0.275	0.793	4.68	0.960	3.56	2.62	1.17	0.584	0.408	0.445	0.158
In.	0.14	0.31	0.92	5.40	1.00	4.11	2.92	1.35	0.65	0.47	0.51	0.18

Calendar year 1953: Max 8,470 Min 35 Mean 465 Cfsm 1.32 In. 17.85
Water year 1953-54: Max 10,700 Min 34 Mean 467 Cfsm 1.32 In. 17.96

Peak discharge (base, 7,000 cfs).--Jan. 16 (7:30 a.m.) 14,500 cfs (11.75 ft); Jan. 21 (11 a.m.) 14,600 cfs (11.80 ft).

French Broad River near Knoxville, Tenn.

Location.--Lat 35°57'33", long 83°46'28", on right bank 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.
Records available.--December 1945 to September 1954.
Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936.
Average discharge.--8 years, 7,310 cfs (unadjusted).
Extremes.--Maximum discharge during year, 32,100 cfs Jan. 26 (elevation, 825.61 ft); minimum, 67 cfs Oct. 25 (elevation, 813.38 ft).
1945-54: Maximum discharge, 38,600 cfs Feb. 7, 1950 (elevation, 826.42 ft), from rating curve extended above 25,000 cfs; minimum, that of Oct. 25, 1953.
Remarks.--Records good except those for period of no gage-height record, which are fair. Flow regulated by Douglas Lake (see p. 245), 24.6 miles upstream.

Rating table, water year 1953-54 (elevation, in feet, and discharge, in cubic feet per second)

813.3	55	816.5	2,280
813.5	85	817.0	3,240
813.7	125	818.0	5,500
813.9	175	819.0	8,060
814.2	275	820.0	11,000
814.6	455	822.0	17,400
815.0	695	824.0	25,100
815.5	1,070	824.8	28,500
816.0	1,600		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,270	121	5,880	2,910	*15,600	6,040	5,760	2,760	7,360	6,060	6,240	1,230
2	1,190	107	6,030	5,470	14,600	5,390	2,860	4,950	5,000	7,770	8,000	1,620
3	1,060	109	6,480	3,970	12,300	6,030	1,830	6,230	4,710	5,500	7,980	1,770
4	1,030	113	6,160	2,530	12,400	9,650	2,060	2,530	3,330	3,100	7,680	1,200
5	1,110	111	4,510	2,880	12,400	4,040	3,040	5,610	4,580	1,630	8,010	1,160
6	1,820	105	1,750	3,190	12,100	4,700	5,070	8,300	5,020	4,040	8,880	1,260
7	1,920	103	3,100	5,690	11,800	5,140	5,760	7,070	4,680	6,860	8,080	1,560
8	2,060	1,390	4,790	6,010	11,600	7,490	6,770	6,270	6,450	7,130	5,560	2,360
9	1,300	4,160	5,640	5,500	11,500	*8,680	*7,570	4,600	*4,120	7,150	*7,150	2,430
10	238	*5,240	5,180	5,790	11,000	10,300	4,740	*7,550	6,240	5,040	5,280	2,780
11	111	5,330	2,910	6,450	*11,200	12,500	3,020	7,910	6,390	4,150	4,690	3,010
12	*347	5,790	1,910	5,020	11,000	12,600	6,000	8,790	6,970	4,840	1,980	1,760
13	1,450	5,760	2,020	7,850	10,700	12,900	8,910	8,710	6,710	*7,400	4,700	1,410
14	2,250	3,950	5,210	6,790	10,400	13,300	7,980	7,070	8,400	7,200	7,440	*2,800
15	2,080	3,360	6,980	3,300	7,640	12,800	6,380	3,620	8,590	8,480	5,920	3,090
16	230	4,530	*6,890	15,800	6,660	12,200	7,120	2,550	8,590	8,540	7,080	2,910
17	111	6,270	6,980	5,380	6,460	12,200	5,260	4,780	6,750	6,470	8,400	2,830
18	91	5,450	6,610	4,860	7,070	10,800	5,740	4,850	5,860	4,540	7,800	2,620
19	85	3,910	8,090	*3,980	6,700	a10,800	4,540	3,930	5,850	5,430	7,620	1,180
20	*79	3,130	7,020	3,670	4,920	a12,300	4,230	4,960	6,390	6,770	8,230	1,490
21	74	2,080	6,800	16,000	5,220	a12,400	4,150	5,930	7,040	5,760	7,130	2,900
22	72	2,200	7,100	20,800	4,450	a12,300	3,970	7,180	6,950	7,210	4,640	2,710
23	68	2,720	7,000	21,500	6,080	a10,500	3,990	5,620	6,920	8,340	7,300	2,610
24	68	3,530	7,310	15,300	6,980	a9,500	5,970	6,840	6,580	6,740	9,010	2,550
25	68	3,010	7,360	22,400	6,300	a9,800	5,080	6,450	6,580	3,630	5,590	2,490
26	68	2,570	5,400	*28,200	6,370	a8,100	7,070	7,440	6,840	6,780	6,210	1,230
27	74	2,410	3,920	27,700	5,890	3,320	8,690	7,670	6,110	8,070	6,210	1,420
28	79	2,470	2,610	26,800	4,700	1,950	8,340	7,720	6,680	7,380	5,190	2,590
29	79	2,080	2,720	25,900	-	4,090	7,410	7,670	6,740	7,570	2,430	2,790
30	91	4,990	2,900	21,300	-------	3,540	2,620	4,710	6,430	7,780	4,790	2,440
31	155	-------	3,040	18,500	-------	3,750	-------	8,010	-------	8,510	3,100	-------
Total	20,728	87,099	160,300	351,440	254,040	269,110	161,930	188,280	188,860	195,910	198,320	64,200
Mean	669	2,903	5,171	11,340	9,073	8,681	5,398	6,074	6,295	6,320	6,397	2,140

	Observed				Adjusted†				
Calendar year 1953:	Max 24,900	Min 68	Mean 5,801		Mean 5,832	Cfsm 1.14	In. 15.52		
Water year 1953-54:	Max 28,200	Min 68	Mean 5,864		Mean 5,842	Cfsm 1.15	In. 15.55		

* Discharge measurement made on this day.
† Adjusted for change in contents in Douglas Lake.
a No gage-height record; discharge estimated on basis of recorded range in stage and records for station below Douglas Dam and Little Pigeon River at Sevierville.

Steve Keesling Spring at Sugar Grove, Va.

Location.--Lat 36°46'27", long 81°25'05", at Sugar Grove, Smyth County.
Records available.--July 1928, November 1947 to September 1954 (discharge measurements only).
Extremes.--Maximum discharge measured during year, 3.34 cfs Apr. 6; minimum measured, 1.75 cfs Oct. 7, Aug. 17.
1928, 1947-54: Maximum discharge measured, 3.79 cfs July 30, 1928; minimum measured, 1.74 cfs Sept. 2, 1952.
Remarks.--Discharge measurements generally made once a month 200 ft below spring.

Discharge measurements, in cubic feet per second, water year October 1953 to September 1954

Oct. 7.... 1.75	Apr. 6.... 3.34	July 26.... 2.74
Nov. 3.... 1.82	May 5.... 2.26	Aug. 17.... 1.75
Mar. 10.... 2.55	June 2.... 2.58	Sept.10.... 1.90

South Fork Holston River at Riverside, near Chilhowie, Va.

Location.--Lat 36°45'37", long 81°37'53", on right bank 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.--76.0 sq mi.

Records available.--November 1920 to November 1931, July 1942 to September 1954. Prior to October 1924, published as "near Chilhowie." June 1907 to December 1909 at site 4½ miles downstream also published as "near Chilhowie," records not equivalent.

Gage.--Water-stage recorder. Datum of gage is 2,106.77 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Nov. 1, 1920, to Nov. 14, 1931, chain gage at site 400 ft downstream at same datum.

Average discharge.--22 years (1921-31, 1942-54), 106 cfs.

Extremes.--Maximum discharge during year, 2,280 cfs Jan. 22 (gage height, 6.53 ft); minimum, 16 cfs Oct. 21; minimum gage height, 1.12 ft Sept. 16, 17.
1920-31, 1942-54: Maximum discharge, 6,000 cfs June 12, 1923 (gage height, 9.0 ft, from graph based on gage readings, site and datum then in use); from rating curve extended above 1,100 cfs by logarithmic plotting; minimum recorded, 2 cfs Aug. 26, Oct. 15, 1943, Aug. 9, 11, 1944, Oct. 19, 1945: minimum daily, 8 cfs July 19, 1926.

Remarks.--Records good. Diurnal fluctuation at low flow caused by mill 500 ft above station prior to August 1951.

Revisions (water years).--WSP 953: Drainage area. WSP 1033: 1943-44(m). WSP 1276: 1923(M).

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 13		Jan. 14 to Sept. 30			
1.1	13	1.1	16	2.0	176
1.2	22	1.2	26	3.0	476
1.4	47	1.4	50	4.0	810
1.6	80	1.7	102	5.0	1,300
2.0	168				

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	22	19	24	79	506	431	63	*69	30	33	23
2	20	*21	19	23	76	371	*350	61	69	31	40	23
3	20	21	*18	24	72	311	257	*64	66	38	*39	22
4	19	20	22	23	71	254	200	69	63	40	35	21
5	19	20	28	22	68	206	163	66	61	34	32	21
6	20	20	24	22	63	171	140	63	58	32	37	*21
7	20	19	35	22	58	150	145	64	56	30	33	21
8	20	18	29	22	53	142	137	84	53	36	31	22
9	*19	19	29	22	55	158	124	92	50	35	36	22
10	18	19	38	23	*53	185	113	92	50	31	34	25
11	19	19	34	24	52	200	106	88	49	30	31	24
12	19	19	42	24	49	185	102	84	47	29	29	22
13	18	19	56	23	46	163	92	79	46	28	29	22
14	18	19	116	*28	46	155	88	96	52	28	26	21
15	18	19	96	37	44	140	82	163	71	28	26	21
16	18	19	66	476	44	124	90	171	61	28	26	20
17	18	19	52	317	61	113	137	142	52	26	27	20
18	18	19	43	171	66	*104	150	210	50	28	27	20
19	18	19	37	117	66	109	134	356	47	*36	27	21
20	18	19	37	92	66	160	115	461	43	33	27	34
21	18	20	34	111	350	166	104	476	42	167	37	36
22	18	21	34	1,220	278	145	96	320	39	132	30	31
23	18	23	34	875	176	129	90	224	36	86	28	26
24	18	22	28	386	137	115	84	168	34	63	27	25
25	18	22	28	257	113	109	79	137	33	49	26	24
26	18	22	27	188	98	242	76	109	33	43	26	23
27	20	21	27	155	86	248	74	106	33	37	24	23
28	22	20	27	127	86	200	72	92	32	35	24	22
29	38	19	28	111	-	163	69	84	31	34	25	22
30	28	19	28	98	-------	147	66	84	31	33	25	23
31	23	-------	26	90	-------	166	-------	74	--------	31	24	------ --
Total	618	598	1,161	5,154	2,512	5,737	3,966	4,442	1,457	1,341	921	701
Mean	19.9	19.9	37.5	166	89.7	185	132	143	48.6	43.3	29.7	23.4
Cfsm	0.262	0.262	0.493	2.18	1.18	2.43	1.74	1.88	0.639	0.570	0.391	0.308
In.	0.30	0.29	0.57	2.51	1.23	2.80	1.94	2.17	0.71	0.66	0.45	0.34

Calendar year 1953: Max 1,050 Min 18 Mean 88.9 Cfsm 1.17 In. 15.87
Water year 1953-54: Max 1,220 Min 18 Mean 78.4 Cfsm 1.03 In. 13.97

Peak discharge (base, 500 cfs).--Jan. 16 (12 m.) 581 cfs (3.37 ft); Jan. 22 (5 p.m.) 2,280 cfs (6.53 ft); Mar. 1 (8:30 a.m.) 678 cfs (3.63 ft); May 20 (8 p.m.) 596 cfs (3.40 ft); July 21 (7:30 a.m.) 581 cfs (3.37 ft).
* Discharge measurement made on this day.

Beaverdam Creek at Damascus, Va.

Location.--Lat 36°37'40", long 81°47'28", on right bank in pumphouse of American Cyanamid Co., at Damascus, Washington County, 0.65 mile upstream from mouth.

Drainage area.--56.0 sq mi.

Records available.--August 1947 to September 1954.

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.

Average discharge.--7 years, 93.5 cfs.

Extremes.--Maximum discharge during year, 2,880 cfs Jan. 22 (gage height, 4.60 ft); minimum, 2.0 cfs Sept. 8 (gage height, 0.15 ft).
1947-54: Maximum discharge, that of Jan. 22, 1954; minimum, that of Sept. 8, 1954.

Remarks.--Records good. Plant diverts about 0.5 cfs 800 ft above station.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 1				Apr. 2 to Sept. 30			
0.2	3.0	1.5	229	0.1	1.0	0.8	72
.3	7.0	2.0	405	.2	3.0	1.0	112
.4	14	2.5	620	.3	9.0	1.5	240
.5	26	3.0	895	.4	18	2.0	415
.7	54	3.5	1,280	.6	42		
1.0	109	4.0	1,870				

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.1	9.8	12	26	75	195	642	97	58	14	25	6.4
2	6.5	*11	11	24	68	184	*407	89	55	15	50	5.8
3	7.0	11	*11	27	68	214	255	*95	53	31	40	5.8
4	7.0	9.8	45	27	69	190	185	126	52	35	25	5.8
5	7.0	9.8	34	25	64	158	145	117	48	28	19	5.8
6	*7.0	9.8	22	25	59	133	128	104	43	22	22	*5.8
7	7.0	11	68	22	54	119	172	102	38	18	18	4.0
8	7.0	11	31	24	46	125	165	228	*37	56	15	2.6
9	7.0	12	42	22	46	165	185	261	35	41	16	3.0
10	7.5	9.8	97	22	*50	214	160	280	35	25	34	7.0
11	8.0	9.8	54	35	52	223	140	213	37	20	18	7.6
12	8.0	9.8	110	29	50	192	126	168	36	19	14	5.8
13	7.0	9.8	133	24	46	156	104	135	55	16	13	4.6
14	6.5	9.8	200	*30	45	147	97	160	62	15	13	3.5
15	7.0	11	147	132	45	121	91	165	41	15	11	2.8
16	7.5	11	85	1,590	45	105	95	155	36	22	*11	3.0
17	8.0	11	59	620	109	93	267	130	60	14	12	2.6
18	8.0	9.8	42	248	107	*87	291	124	80	14	14	2.8
19	8.0	9.8	36	149	97	103	205	119	48	*15	14	3.0
20	8.0	9.8	39	113	93	151	155	150	40	14	12	30
21	7.0	12	42	261	184	142	128	168	32	20	14	35
22	7.5	13	44	1,770	182	123	110	150	30	53	11	20
23	8.0	18	42	995	144	117	97	124	28	32	9.8	12
24	8.5	14	35	413	121	111	91	104	25	18	9.0	8.3
25	8.0	20	30	245	103	107	97	91	23	16	9.8	7.6
26	8.5	22	31	174	89	333	95	114	22	14	9.0	8.3
27	11	15	32	149	75	287	155	133	22	13	9.0	7.0
28	18	15	30	121	80	197	138	97	18	12	8.3	6.4
29	48	14	30	105	-	151	119	83	16	12	15	5.8
30	21	14	31	93	-------	133	104	74	15	14	12	5.8
31	12	-------	29	82	-------	233	-------	62	-------	11	7.6	-------
Total	302.6	363.6	1,654	7,624	2,266	5,009	5,149	4,218	1,180	664	510.5	233.9
Mean	9.76	12.1	53.4	246	80.9	162	172	136	39.3	21.4	16.5	7.80
Cfsm	0.174	0.216	0.954	4.39	1.44	2.89	3.07	2.43	0.702	0.382	0.295	0.139
In.	0.20	0.24	1.10	5.06	1.50	3.33	3.42	2.80	0.78	0.44	0.34	0.16

Calendar year 1953: Max 1,200 Min 4.8 Mean 78.5 Cfsm 1.40 In. 19.03
Water year 1953-54: Max 1,770 Min 2.6 Mean 79.9 Cfsm 1.43 In. 19.37

Peak discharge (base, 600 cfs).--Jan. 16 (6 a.m.) 1,870 cfs (4.05 ft); Jan. 22 (4 p.m.) 2,880 cfs (4.60 ft); Apr. 1 (10 a.m.) 742 cfs (2.77 ft).
* Discharge measurement made on this day.

South Fork Holston River at Vestal, Va.

Location.--Lat 36°39'06", long 81°50'39", on right bank 500 ft upstream from bridge on U. S. Highway 58 at Vestal, Washington County, 0.7 mile downstream from Laurel Creek, 3.2 miles northwest of Damascus, and 4.9 miles upstream from Middle Fork Holston River.

Drainage area.--301 sq mi.

Records available.--November 1931 to September 1954.

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.--22 years (1932-54), 448 cfs.

Extremes.--Maximum discharge during year, 9,350 cfs Jan. 22 (gage height, 12.40 ft); minimum, 50 cfs Sept. 17 (gage height, 2.35 ft); minimum daily, 60 cfs Sept. 18.
1931-54: Maximum discharge, 10,700 cfs Mar. 26, 1935 (gage height, 13.26 ft); minimum, 30 cfs Oct. 14, 1941, Dec. 24, 1943 (gage height, 2.16 ft); minimum daily, that of Sept. 18, 1954.

Remarks.--Records good. Some diurnal fluctuation caused by powerplant above station.

Revisions.--WSP 823: Drainage area.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

2.4	56	4.0	530
2.5	68	5.0	1,080
2.7	103	6.0	1,790
3.0	177	8.0	3,630
3.5	330	10.0	5,980

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	73	90	82	122	372	1,280	2,220	348	*351	108	112	71
2	73	*87	83	113	354	1,210	1,590	330	320	122	205	71
3	71	82	*78	127	344	1,240	1,110	*337	302	154	170	67
4	71	82	157	125	334	1,080	872	390	295	170	140	67
5	73	80	152	120	316	845	708	362	274	152	115	63
6	*71	76	122	115	289	708	615	340	253	130	130	*63
7	75	76	268	108	271	630	708	334	235	115	117	62
8	73	78	172	99	244	620	630	630	220	199	99	62
9	73	82	177	115	259	708	630	708	214	188	103	64
10	75	78	323	110	*253	872	570	735	208	132	152	73
11	73	80	217	144	256	930	521	630	205	117	115	83
12	76	78	383	127	244	872	503	526	202	113	96	73
13	73	80	424	98	226	735	*467	454	220	105	90	68
14	73	78	845	*137	232	735	416	526	235	99	89	66
15	73	78	585	346	232	630	400	615	235	98	89	63
16	76	82	365	4,060	229	555	408	620	238	103	*96	63
17	75	78	259	2,000	386	498	900	545	229	96	124	61
18	73	80	205	960	408	*462	990	735	262	90	152	60
19	75	76	190	630	390	490	818	1,240	205	*132	115	62
20	71	78	195	476	379	708	630	1,530	183	144	103	161
21	76	89	197	900	845	708	540	1,830	170	234	137	202
22	71	96	202	5,850	900	625	485	1,210	157	440	105	137
23	73	132	191	4,060	680	585	440	872	152	262	96	103
24	75	108	157	1,830	560	530	400	680	144	177	90	76
25	76	108	152	1,180	476	480	396	555	137	147	92	75
26	78	113	145	872	416	1,280	386	565	132	132	80	73
27	89	99	148	735	365	1,210	503	575	125	117	85	75
28	113	92	150	605	365	930	444	462	120	108	73	71
29	214	83	152	512	-	762	404	416	113	103	85	70
30	147	89	147	458	-------	680	368	412	110	103	83	66
31	103	-------	130	408	-------	900	-------	368	-------	99	75	-------
Total	2,581	2,610	7,053	27,542	10,625	24,498	20,072	19,880	6,246	4,489	3,413	2,371
Mean	83.3	87.0	228	888	379	790	669	641	208	145	110	79.0
Cfsm	0.277	0.289	0.757	2.95	1.26	2.62	2.22	2.13	0.691	0.482	0.365	0.262
In.	0.32	0.32	0.87	3.40	1.31	3.02	2.48	2.46	0.77	0.56	0.42	0.29

Calendar year 1953: Max 4,310 Min 71 Mean 396 Cfsm 1.32 In. 17.81
Water year 1953-54: Max 5,850 Min 60 Mean 360 Cfsm 1.20 In. 16.22

Peak discharge (base, 3,000 cfs).--Jan. 16 (5:30 a.m.) 4,870 cfs (9.07 ft); Jan. 22 (5 p.m.) 9,350 cfs (12.40 ft).

* Discharge measurement made on this day.

Middle Fork Holston River at Groseclose, Va.

Location.--Lat 36°53'19", long 81°20'51", on left bank at downstream side of highway bridge in village of Groseclose, Smyth County, 0.2 miles upstream from Rocky Spring Branch and 10 miles northeast of Marion.

Drainage area.--7.39 sq mi.

Records available.--November 1947 to September 1954.

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.

Average discharge.--6 years (1948-54), 8.90 cfs.

Extremes.--Maximum discharge during year, 178 cfs July 21 (gage height, 4.06 ft); minimum, 2.1 cfs June 27 (gage height, 1.60 ft).
1947-54: Maximum discharge, 813 cfs July 6, 1953 (gage height, 7.42 ft); minimum, 1.8 cfs Jan. 24, 1948, result of freezeup; minimum gage height, 1.48 ft Nov. 25, 1950, result of freezeup; minimum daily discharge, 2.9 cfs Oct. 30, 1952.

Remarks.--Records good except those for periods of no gage-height record, which are fair.

Revisions (water years).--WSP 1236: 1948(M), 1949-51.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 14 to Apr. 6)

Oct. 1 to Jan. 16

1.6	2.6	2.1	15
1.7	3.6	2.5	33
1.8	4.9	3.0	67
1.9	7.2	4.0	171

Jan. 17 to Sept. 30

1.6	2.1	2.0	12
1.7	3.5	2.4	28
1.8	5.7		

Note.--Same as preceding table above 2.4 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.6	3.4	3.1	a3.0	7.1	20	21	6.9	7.7	3.9	4.7	3.9
2	3.6	3.3	3.1	3.1	7.1	17	14	6.5	*6.9	3.9	7.5	3.9
3	3.5	3.3	3.1	3.3	7.1	17	11	6.9	6.5	4.1	4.7	3.7
4	3.6	3.3	3.6	3.2	6.9	13	9.1	6.5	6.5	4.1	4.3	3.7
5	3.6	3.3	3.3	3.2	6.5	10	7.7	6.0	6.0	4.1	4.1	3.7
6	3.6	3.3	3.6	3.2	6.2	9.1	*9.1	5.7	5.5	3.9	4.1	3.9
7	3.6	3.3	3.6	3.2	5.7	8.4	12	6.2	5.5	4.3	3.7	*3.7
8	*3.6	3.3	3.3	3.1	5.5	8.1	12	6.2	5.2	5.2	3.7	3.7
9	3.6	3.3	3.9	3.1	5.5	7.7	11	6.0	5.2	4.3	3.9	3.9
10	3.6	3.3	3.7	3.3	*5.2	7.5	9.8	5.5	5.2	4.1	3.7	4.1
11	3.5	3.3	3.3	3.7	5.0	7.1	9.1	5.2	5.0	3.9	3.5	4.1
12	3.5	3.2	*6.2	3.3	4.5	6.9	8.1	*5.2	4.7	3.7	3.5	3.7
13	3.5	3.2	4.5	3.1	4.3	7.1	7.7	5.2	4.7	3.7	3.4	3.7
14	3.5	a3.2	*9.5	3.1	3.7	7.5	7.5	11	8.9	3.7	3.5	3.5
15	3.5	a3.1	4.4	7.0	3.7	6.2	7.7	16	5.7	3.7	3.5	3.5
16	3.5	a3.1	3.9	32	3.7	6.0	8.7	12	13	3.5	3.4	3.5
17	3.4	a3.1	3.6	12	4.3	5.7	9.5	10	6.5	3.5	3.4	3.5
18	3.4	a3.1	3.4	7.5	3.7	5.5	8.1	18	5.7	4.3	*4.6	3.7
19	3.4	*3.1	a3.3	*6.5	3.4	6.0	7.1	18	5.5	4.5	3.4	4.5
20	3.4	3.2	a3.3	6.9	5.2	6.5	6.9	29	5.0	4.1	3.5	17
21	3.4	3.3	a3.4	12	16	5.5	6.2	22	4.5	43	3.7	6.0
22	3.4	3.3	a3.5	102	10	*5.2	6.2	16	4.5	10	3.7	4.5
23	3.4	3.3	a3.3	38	7.5	5.7	6.2	13	4.5	6.2	3.7	4.1
24	3.4	3.2	a3.1	21	6.5	5.5	6.2	12	4.3	5.0	3.9	3.9
25	3.4	3.3	a3.0	16	6.2	5.7	6.5	10	4.3	4.3	3.9	3.7
26	3.4	3.3	a3.2	13	5.7	9.5	11	10	4.1	*4.3	5.0	3.7
27	3.6	3.2	a3.4	13	5.5	7.7	10	9.5	3.7	4.1	4.1	3.7
28	3.9	3.2	a3.5	10	7.5	7.5	9.1	8.7	3.9	4.1	4.1	3.5
29	4.0	3.1	a3.1	9.5	-	6.5	8.1	8.7	3.9	3.9	3.9	3.4
30	3.5	3.2	a3.3	8.7	-------	6.9	7.5	7.7	3.9	3.7	4.1	3.5
31	3.4	-------	a3.0	7.7	-------	12	-------	7.1	-------	3.9	3.7	-------
Total	109.3	97.1	115.5	367.7	169.2	260.0	274.1	316.7	166.5	173.0	123.9	128.9
Mean	3.53	3.24	3.73	11.9	6.04	8.39	9.14	10.2	5.55	5.58	4.00	4.30
Cfsm	0.478	0.438	0.505	1.61	0.817	1.14	1.24	1.38	0.751	0.755	0.541	0.582
In.	0.55	0.49	0.58	1.86	0.85	1.31	1.38	1.59	0.84	0.87	0.62	0.65

Calendar year 1953: Max 119 Min 3.0 Mean 8.86 Cfsm 1.20 In. 16.28
Water year 1953-54: Max 102 Min 3.0 Mean 6.31 Cfsm 0.854 In. 11.59

Peak discharge (base, 90 cfs).--Jan. 22 (1 p.m.) 171 cfs (4.00 ft); June 16 (3 p.m.) 95 cfs (3.30 ft); July 21 (2 a.m.) 178 cfs (4.06 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for South Fork Holston River at Riverside and Middle Fork Holston River at Sevenmile Ford.

Middle Fork Holston River at Sevenmile Ford, Va.

Location.--Lat 36°48'26", long 81°37'20", on right bank at downstream side of bridge on U. S. Highway 11 at Sevenmile Ford, Smyth County, 0.3 mile upstream from Meade Creek and 3.3 miles downstream from Walker Creek.

Drainage area.--132 sq mi.

Records available.--July 1942 to September 1954.

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.--12 years, 156 cfs.

Extremes.--Maximum discharge during year, 3,910 cfs Jan. 22 (gage height, 8.08 ft); minimum, 17 cfs Aug. 26 (gage height, 2.08 ft); minimum daily, 24 cfs Nov. 15.
1942-54: Maximum discharge, 5,880 cfs Aug. 4, 1947 (gage height, 9.86 ft), from rating curve extended above 2,800 cfs on basis of slope-area determinations at gage heights 8.98 and 9.86 ft; minimum, 9 cfs Sept. 26, 1944 (gage height, 1.32 ft); minimum daily, 20 cfs Sept. 26, 1944.

Remarks.--Records good. Some diurnal fluctuation at low flow caused by mill 9 miles upstream.

Revisions (water years).--WSP 973: 1942(m).

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 13		Dec. 14 to Sept. 30			
2.1	19	2.1	19	3.2	375
2.2	30	2.2	31	4.0	850
2.5	88	2.5	90	6.0	2,140
		2.8	180	7.0	2,940

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	66	32	33	27	95	640	568	92	*70	35	42	33
2	68	*32	29	31	90	454	380	98	74	35	64	31
3	66	29	28	30	84	502	266	*98	66	35	120	31
4	66	29	33	37	84	392	198	98	64	37	68	31
5	66	28	38	31	80	281	162	86	62	37	50	29
6	64	29	30	29	76	202	156	82	58	37	68	29
7	64	30	56	30	70	173	348	78	64	33	50	29
8	62	27	44	30	64	170	300	86	50	68	46	30
9	*62	37	49	27	68	173	243	82	46	48	50	30
10	60	28	66	30	68	194	198	82	52	42	50	31
11	33	29	51	48	*70	180	170	78	48	35	44	31
12	32	28	58	48	64	159	152	74	48	37	39	30
13	27	28	75	37	58	139	*130	74	46	35	39	*31
14	27	28	*166	*39	60	170	115	90	46	37	37	30
15	29	24	92	124	62	180	112	331	54	31	37	29
16	29	35	60	1,060	60	148	121	238	48	37	*33	29
17	28	28	48	280	72	127	166	162	68	35	37	29
18	27	28	42	133	74	*115	159	332	50	33	40	29
19	29	28	39	108	72	118	139	676	46	*54	40	30
20	29	27	33	90	74	212	121	508	44	46	39	95
21	28	30	40	180	145	173	108	460	42	555	40	74
22	27	27	42	2,150	180	139	102	290	40	280	37	50
23	32	42	40	1,300	136	133	98	194	39	156	37	37
24	30	29	31	472	118	124	88	145	39	86	37	35
25	29	32	29	280	105	115	95	121	37	68	44	31
26	32	28	33	198	95	718	86	108	39	58	25	31
27	30	37	31	173	86	402	234	98	37	54	46	33
28	38	28	37	152	84	256	162	88	37	48	46	30
29	47	27	31	136	-	189	124	84	35	46	42	31
30	37	30	33	121	-------	170	105	88	35	44	37	30
31	30	-------	31	105	-------	187	-------	76	-------	40	33	------
Total	1,294	894	1,448	7,536	2,394	7,315	5,406	5,197	1,484	2,222	1,417	1,049
Mean	41.7	29.8	46.7	243	85.5	236	180	168	49.5	71.7	45.7	35.0
Cfsm	0.316	0.226	0.354	1.84	0.648	1.79	1.36	1.27	0.375	0.543	0.346	0.265
In.	0.36	0.25	0.41	2.12	0.67	2.06	1.52	1.46	0.42	0.63	0.40	0.30

Calendar year 1953: Max 1,760 Min 24 Mean 144 Cfsm 1.09 In. 14.74
Water year 1953-54: Max 2,150 Min 24 Mean 103 Cfsm 0.780 In. 10.60

Peak discharge (base, 2,000 cfs).--Jan. 22 (5 p.m.) 3,910 cfs (8.08 ft).
* Discharge measurement made on this day.

South Fork Holston River below South Holston Dam, Tenn.

Location.--Lat 36°31'25", long 82°05'50", on right bank 1,900 ft downstream from South Holston Dam powerhouse, 1.0 mile upstream from bridge at Bristol, Tenn. waterworks, 1.0 mile upstream from Thomas Creek, 6.7 miles southeast of Bristol, Sullivan County, and at river mile 49.4.

Drainage area.--703 sq mi.

Records available.--July 1951 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 1,450.00 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge during year, 3,000 cfs Oct. 7 (gage height, 37.44 ft); minimum daily, 4.6 cfs Nov. 7, 8.
1951-54: Maximum discharge, 3,360 cfs Sept. 13, 1953; minimum daily, 1.3 cfs Feb. 5, 6, 1952.

Remarks.--Records good except those below 50 cfs, which are fair. Flow completely regulated by South Holston Lake (see p. 245).

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

32.5	3.8	34.0	243
32.6	6.6	34.5	425
32.8	16	35.0	660
33.0	33	35.5	960
33.3	75	36.0	1,370
33.6	135	37.1	2,550

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,960	6.3	*80	2,220	7.0	11	911	6.6	1,170	1,100	281	*1,880
2	2,020	6.3	76	2,540	606	9.3	9.3	6.6	1,140	1,160	1,710	1,980
3	51	*6.0	7.0	2,100	592	*1,400	8.5	6.6	*1,100	8.3	*1,700	2,030
4	7.7	6.0	7.0	2,320	*599	607	8.1	855	1,540	7.0	1,720	1,590
5	1,100	6.0	6.0	*2,150	535	424	79	703	17	648	1,710	7.4
6	*1,000	6.0	6.0	2,170	6.6	100	*8.5	13	7.0	1,100	1,710	6.3
7	1,340	4.6	6.0	2,300	6.6	8.5	9.6	1,480	978	1,030	76	666
8	1,070	4.6	5.8	2,200	101	8.1	10	8.8	939	1,070	340	950
9	1,200	5.8	6.3	2,100	6.6	8.1	9.3	7.4	848	*1,040	1,740	938
10	1,040	360	6.3	12	6.6	8.5	8.1	7.0	870	7.0	1,730	892
11	1,190	416	5.8	2,120	6.6	8.1	8.1	7.0	929	6.6	1,730	197
12	12	6.6	323	2,120	333	8.1	8.7	7.0	7.4	1,710	1,720	6.0
13	8.5	6.0	6.0	2,110	7.2	7.7	7.7	708	7.0	1,110	1,710	1,550
14	7.7	5.8	930	2,070	6.3	8.5	8.1	28	1,730	1,100	7.2	1,540
15	5.8	5.8	967	1,750	6.3	8.1	8.9	7.4	961	1,120	6.0	1,580
16	6.0	5.8	974	1,860	6.6	7.7	495	7.0	889	1,650	1,630	1,450
17	6.0	5.8	1,090	16	7.0	7.7	11	7.0	913	7.8	1,560	1,490
18	9.9	6.0	1,040	1,870	6.6	7.7	9.3	953	911	6.0	1,620	7.2
19	7.0	6.6	405	1,940	6.3	8.5	1,300	504	7.0	1,670	1,620	6.0
20	6.3	6.6	5.2	1,770	6.6	8.5	825	7.4	6.6	1,660	1,680	1,510
21	6.3	6.6	2,090	1,860	7.4	8.5	888	7.0	1,480	1,640	7.6	1,500
22	7.0	6.6	2,120	1,770	7.4	464	931	7.0	1,500	1,670	6.3	1,530
23	7.0	7.0	2,200	517	7.0	802	947	6.6	1,460	1,760	1,640	1,570
24	7.4	6.6	2,190	8.5	6.6	345	7.4	997	1,460	7.5	1,660	1,530
25	6.0	7.7	1,720	7.4	328	1,620	8.3	1,160	1,440	6.6	1,570	9.5
26	6.7	7.0	1,410	519	62	1,640	7.8	1,160	7.7	1,660	1,620	6.0
27	7.0	7.0	16	7.7	6.6	15	7.0	1,180	6.6	1,710	1,730	1,620
28	7.0	6.6	2,120	782	7.6	8.5	7.0	1,140	1,210	1,680	8.3	1,690
29	7.0	6.3	2,240	270	-	645	6.3	8.1	1,120	1,730	6.3	1,580
30	11	139	2,170	7.4	-------	1,130	6.3	7.0	1,120	1,700	2,100	1,660
31	15	------	2,390	6.6	------	1,150	-------	1,140	-------	453	1,890	-------
Total	12,135.3	1,083	26,618.4	43,493.6	3,291.5	10,493.1	6,559.3	12,142.5	25,774.3	31,227.8	38,238.7	32,771.4
Mean	391	36.1	859	1,403	118	338	219	392	859	1,007	1,234	1,092

		Observed				Adjusted†				
Calendar year 1953:	Max	2,600	Min	2.8	Mean	965	Mean	818	Cfsm	1.16 In. 15.79
Water year 1953-54:	Max	2,540	Min	4.6	Mean	668	Mean	639	Cfsm	0.909 In. 12.34

* Discharge measurement made on this day.
† Adjusted for change in contents in South Holston Lakes.

Beaver Creek near Wallace, Va.

Location.--Lat 36°38'25", long 82°06'42", on left bank 0.4 mile upstream from Clear Creek, 1.3 miles southeast of Wallace, Washington County, and 3.8 miles northeast of Bristol.
Drainage area.--13.7 sq mi.
Records available.--October 1945 to September 1954.
Gage.--Water-stage recorder and concrete control. Datum of gage is 1,808.93 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.
Average discharge.--9 years, 14.2 cfs.
Extremes.--Maximum discharge during year, 103 cfs Jan. 22 (gage height, 3.16 ft); minimum, 3.0 cfs Oct. 7 (gage height, 1.38 ft).
1945-54: Maximum discharge, 383 cfs July 15, 1948 (gage height, 5.94 ft), from rating curve extended above 230 cfs on basis of velocity-area studies; minimum, that of Oct. 7, 1953; minimum gage height, 1.05 ft Dec. 1-12, 1946.
Remarks.--Records good.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 22				Jan. 23 to Sept. 30			
1.4	3.4	1.7	14	1.4	3.0	1.7	13
1.5	6.0	2.0	33	1.5	5.8	2.0	32
1.6	9.4	3.0	94	1.6	9.2	3.0	94

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.7	4.2	4.4	4.2	14	17	19	10	8.9	5.5	5.0	4.7
2	4.7	*4.2	4.4	4.2	14	18	*19	10	8.5	5.8	7.2	*4.7
3	4.7	4.2	*4.4	4.2	14	26	18	10	9.6	5.8	*7.2	4.1
4	4.7	4.4	4.7	4.2	13	23	18	*11	9.6	7.2	5.2	4.1
5	4.4	4.4	4.4	4.2	13	20	16	11	8.5	5.8	5.0	4.1
6	*4.4	4.2	4.7	4.2	12	20	16	10	8.2	5.8	5.0	4.1
7	4.2	4.4	4.7	3.9	11	18	16	10	7.8	6.1	4.7	4.1
8	4.4	4.4	4.4	3.9	11	18	16	10	7.5	6.8	4.7	4.4
9	4.4	4.4	5.2	3.9	11	17	14	10	7.2	5.8	5.0	4.4
10	4.2	4.4	5.5	4.2	*11	16	14	9.6	*7.2	5.5	5.2	4.7
11	4.2	4.4	4.7	4.4	11	16	14	9.6	8.9	5.2	4.7	4.4
12	4.2	4.4	5.7	4.4	10	15	14	9.2	7.5	5.2	4.7	4.4
13	4.2	4.4	5.7	4.4	10	16	13	9.2	6.8	5.0	4.4	4.1
14	4.2	4.7	7.0	*3.9	10	16	13	10	6.8	5.2	4.4	4.1
15	4.4	4.7	5.7	13	9.6	15	12	10	8.2	5.5	4.4	4.4
16	4.2	4.7	5.2	40	9.2	14	18	9.6	8.5	5.8	4.4	4.1
17	4.2	4.7	5.0	18	9.2	14	23	9.2	11	5.2	4.4	3.8
18	4.4	4.7	4.8	13	8.9	*13	18	10	8.2	5.2	4.4	3.8
19	4.4	4.4	4.5	12	8.5	14	16	10	7.2	*5.2	4.4	3.8
20	4.2	4.4	4.4	12	9.2	15	16	10	6.8	5.5	4.4	7.2
21	4.2	5.0	4.4	23	12	14	14	9.2	6.5	6.1	4.1	6.5
22	4.2	5.0	4.7	71	11	14	14	8.9	6.5	8.5	5.2	5.2
23	4.2	5.0	4.4	47	11	14	14	8.5	6.1	5.8	4.4	5.0
24	4.2	5.0	4.4	36	10	13	13	8.5	6.1	5.2	15	4.7
25	4.4	5.0	4.2	32	10	13	12	8.2	5.5	5.0	7.5	4.4
26	4.2	5.0	4.4	23	9.6	22	13	7.8	5.8	5.0	6.5	4.4
27	5.0	4.7	4.4	22	9.6	19	13	7.8	5.8	5.0	6.1	4.1
28	5.0	4.4	4.4	19	10	17	12	7.5	5.5	4.7	5.5	4.1
29	5.0	4.4	4.4	18	~	16	11	7.5	5.5	5.2	5.0	4.1
30	4.7	4.4	4.4	16	-------	17	11	12	5.2	4.7	4.4	5.2
31	4.2	-------	4.4	16	-------	20	-------	9.6	-------	4.4	4.7	-------
Total	136.7	136.6	148.0	489.2	302.8	518	450	293.9	221.4	172.7	167.2	135.2
Mean	4.41	4.55	4.77	15.8	10.8	16.7	15.0	9.48	7.38	5.57	5.39	4.51
Cfsm	0.322	0.332	0.348	1.15	0.788	1.22	1.09	0.692	0.539	0.407	0.393	0.329
In.	0.37	0.37	0.40	1.33	0.82	1.41	1.22	0.80	0.60	0.47	0.45	0.37

Calendar year 1953: Max 76 Min 4.2 Mean 13.3 Cfsm 0.971 In. 13.21
Water year 1953-54: Max 71 Min 3.8 Mean 8.69 Cfsm 0.634 In. 8.61

Peak discharge (base, 100 cfs).--Jan. 22 (12 m.) 103 cfs (3.16 ft).
* Discharge measurement made on this day.

Percy Preston Spring near Wallace, Va.

Location.--Lat 36°38'25", long 82°06'06", 1¼ miles south of Wallace, Washington County, and 3¾ miles northeast of Bristol.
Records available.--August 1928, November 1947 to September 1954 (discharge measurements only).
Extremes.--Maximum discharge measured during year, 2.65 cfs Apr. 2; minimum measured, 0.299 cfs Dec. 3.
1928, 1947-54: Maximum discharge measured, 6.21 cfs Feb. 16, 1950; minimum measured, that of Dec. 3, 1953.
Remarks.--Discharge measurements made once a month 100 ft below spring.

Discharge measurements, in cubic feet per second, water year October 1953 to September 1954

Oct. 6....	0.507	Feb. 10....	1.40	June 10....	1.21
Nov. 2....	.339	Mar. 18....	2.19	July 19....	.726
Dec. 3....	.299	Apr. 2....	2.65	Aug. 3....	.857
Jan. 14....	.355	May 4....	1.98	Sept. 2....	.550

Watauga River near Sugar Grove, N. C.

Location.--Lat 36°14'18", long 81°49'22", on right bank 300 ft downstream from Cove Creek and 2.3 miles southwest of Sugar Grove, Watauga County.

Drainage area.--90.8 sq mi.

Records available.--May 1940 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 2,607.84 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--14 years, 157 cfs.

Extremes.--Maximum discharge during year, 4,740 cfs Feb. 21 (gage height, 9.11 ft), from rating curve extended above 2,100 cfs as explained below; minimum, 6.5 cfs Jan. 1 (gage height, 1.13 ft), result of freezeup; minimum daily, 13 cfs Sept. 19, 30.
1940-54: 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, that of Jan. 1, 1954; minimum daily, that of Sept. 19, 30, 1954.
Flood in July 1916 reached a stage of 22.1 ft, from floodmarks on barn a quarter of a mile above station as witnessed by local resident (discharge, 28,000 cfs, from rating curve extended above 2,100 cfs as explained above).

Remarks.--Records good except those for periods of ice effect, which are fair. Slight diurnal fluctuation at low flow caused by small mills and powerplants above station.

Rating tables, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 22				Jan. 23 to Sept. 30	
1.3	16	3.5	550	1.2	12
1.4	24	4.0	755	1.3	18
1.6	44	4.5	990	1.4	24
1.9	89	5.0	1,260	1.6	44
2.2	154	5.5	1,550	Note.--Same as preceding table above 1.6 ft.	
2.5	240	6.5	2,240		
3.0	390				

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	25	32	b40	108	1,270	550	121	100	*30	24	23
2	22	24	30	b39	102	540	378	123	95	31	32	22
3	22	24	30	48	98	474	297	308	93	36	30	20
4	21	23	54	44	93	372	243	297	95	40	24	18
5	21	22	74	42	89	303	210	213	86	35	22	16
6	21	22	62	42	84	252	198	176	79	32	28	16
7	21	22	*112	40	77	228	222	162	74	30	24	16
8	*21	22	63	b40	70	225	213	162	*70	64	21	15
9	21	*22	112	42	*73	*231	187	147	79	43	20	15
10	20	22	213	40	75	228	168	130	91	38	20	22
11	20	22	102	53	70	219	159	121	72	37	18	23
12	20	22	139	b45	64	201	152	*115	68	35	16	18
13	20	23	147	b43	61	201	137	126	64	31	16	16
14	20	22	363	b55	63	291	132	499	74	29	16	16
15	20	22	204	94	62	237	*132	435	79	30	15	*15
16	20	22	132	399	64	198	152	321	84	53	17	14
17	20	22	b105	225	141	176	261	261	72	33	15	14
18	19	21	b90	137	89	162	176	219	70	29	14	14
19	20	22	b80	*108	80	178	154	207	66	38	14	13
20	20	22	b75	102	271	210	137	237	58	35	18	35
21	*20	83	79	380	1,800	165	128	225	52	41	28	34
22	20	138	75	2,150	468	142	123	190	48	90	43	23
23	20	256	68	956	321	140	126	170	45	53	*37	19
24	20	72	60	450	255	149	137	154	43	35	51	17
25	18	62	b55	327	210	144	126	142	40	31	66	16
26	19	50	b53	252	178	330	123	135	40	29	35	15
27	20	41	b51	219	149	258	140	126	36	27	30	15
28	28	37	50	173	254	240	157	121	34	26	64	15
29	80	35	52	149	-	204	130	123	32	25	58	14
30	38	34	49	130	-------	210	123	130	31	24	32	13
31	29	-------	48	117	-------	378	-------	106	-------	22	27	----- --
Total	724	1,256	2,859	6,981	5,469	8,556	5,571	6,002	1,970	1,132	875	542
Mean	23.4	41.9	92.2	225	195	276	186	194	65.7	36.5	28.2	18.1
Cfsm	0.258	0.461	1.02	2.48	2.15	3.04	2.05	2.14	0.724	0.402	0.311	0.199
In.	0.30	0.51	1.17	2.86	2.24	3.50	2.28	2.46	0.81	0.46	0.36	0.22

Calendar year 1953: Max 2,090 Min 16 Mean 135 Cfsm 1.49 In. 20.22
Water year 1953-54: Max 2,150 Min 13 Mean 115 Cfsm 1.27 In. 17.17

Peak discharge (base, 2,000 cfs).--Jan. 22 (3:30 p.m.) 4,460 cfs (8.85 ft); Feb. 21 (4:30 a.m.) 4,740 cfs (9.11 ft); Mar. 1 (3:30 a.m.) 2,380 cfs (6.67 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Watauga River at North Carolina-Tennessee State line

Location.--Lat 36°17'25", long 81°55'33", on left bank in Tennessee, 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.

Records available.--October 1942 to September 1954.

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.--12 years, 256 cfs.

Extremes.--Maximum discharge during year, 5,990 cfs Jan. 22 (gage height, 4.94 ft); minimum, 6.4 cfs Aug. 14 (gage height, 1.05 ft); minimum daily, 12 cfs Aug. 14.
1942-54: Maximum discharge, 14,700 cfs Dec. 7, 1950 (gage height, 7.15 ft), from rating curve extended above 3,500 cfs; minimum, that of Aug. 14, 1954; minimum daily, that of Aug. 14, 1954.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Some regulation at low flow caused by a small powerplant near Sugar Grove, N. C.

Rating table, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Aug. 29 to Sept. 20)

1.1	8.0	2.0	310
1.2	14	2.2	460
1.3	27	2.8	1,110
1.5	73	3.5	2,300
1.7	140	4.0	3,410

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	35	43	61	154	1,810	1,150	239	154	37	41	47
2	29	33	*39	60	154	920	730	252	*149	37	57	52
3	24	31	37	68	*145	*816	532	630	140	45	57	38
4	27	*29	55	63	140	610	412	630	164	63	*41	37
5	26	31	103	*60	133	460	338	420	140	52	29	35
6	29	24	70	60	122	380	*304	*331	125	45	35	27
7	*31	27	144	49	118	338	352	284	118	*39	35	31
8	26	26	91	63	103	352	352	297	110	99	27	*28
9	a25	24	94	65	101	388	331	258	107	70	20	29
10	a25	26	299	60	110	404	284	228	133	52	26	36
11	a25	22	149	76	107	396	271	204	100	50	23	50
12	a25	29	172	b70	94	373	258	187	94	45	20	43
13	a25	26	222	b60	82	359	222	187	94	41	19	37
14	a25	29	483	b80	94	560	216	736	118	37	12	22
15	26	27	302	184	94	460	266	827	110	39	23	29
16	26	22	193	S75	94	359	284	580	118	91	22	30
17	27	24	b150	*487	214	304	478	444	114	50	17	24
18	22	26	b130	271	154	264	366	388	114	39	16	30
19	21	28	b120	204	133	264	297	352	97	43	16	16
20	26	24	b120	173	181	345	258	417	88	55	30	77
21	21	73	164	690	2,160	258	228	428	79	58	45	79
22	24	88	125	3,340	750	228	216	352	68	204	40	47
23	20	370	107	1,850	487	222	210	304	65	110	57	24
24	26	103	84	827	373	239	239	271	60	65	57	26
25	22	82	b80	550	310	233	233	239	55	50	88	24
26	18	73	b75	404	258	630	228	228	52	45	45	16
27	25	57	b70	338	216	496	252	182	50	41	35	23
28	30	52	82	264	278	428	284	187	45	37	45	17
29	113	41	76	228	-	359	239	182	43	32	144	16
30	70	45	76	204	-------	345	216	216	39	32	78	18
31	43	-------	70	178	-------	603	-------	164	-------	26	60	-------
Total	931	1,527	4,025	11,962	7,359	14,203	10,046	10,644	2,943	1,729	1,258	1,008
Mean	30.0	50.9	130	386	263	458	335	343	98.1	55.8	40.6	33.6
Cfsm	0.197	0.335	0.855	2.54	1.73	3.01	2.20	2.26	0.645	0.367	0.267	0.221
In.	0.23	0.37	0.98	2.93	1.80	3.48	2.46	2.60	0.72	0.42	0.31	0.25

Calendar year 1953: Max 2,940 Min 15 Mean 212 Cfsm 1.39 In. 18.90
Water year 1953-54: Max 3,340 Min 12 Mean 185 Cfsm 1.22 In. 16.55

Peak discharge (base, 2,800 cfs).--Jan. 22 (3 p.m.) 5,900 cfs (4.94 ft); Feb. 21 (6 a.m.) 4,560 cfs (4.45 ft); Mar. 1 (5:30 a.m.) 2,880 cfs (3.77 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records, recorded range in stage, and records for stations on nearby streams.

b Stage-discharge relation affected by ice.

Elk River near Elk Park, N. C.

Location.--Lat 36°11'01", long 81°57'45", on right bank 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.

Records available.--October 1934 to September 1954. Prior to October 1949, published as Elk Creek near Elk Park.

Gage.--Water-stage recorder. Altitude of gage is 2,810 ft (from topographic map). Prior to Aug. 18, 1940, water-stage recorder and Aug. 18, 1940, to Feb. 25, 1941, staff gage, at same site and datum.

Average discharge.--20 years, 81.9 cfs.

Extremes.--Maximum discharge during year, 2,560 cfs Jan. 22 (gage height, 6.28 ft), from rating curve extended above 900 cfs on basis of slope-area determination at gage height 17.8 ft; minimum, 5.7 cfs Sept. 7, 8 (gage height, 1.35 ft); minimum daily, 6.1 cfs Sept. 8, 9.

1934-54: 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, that of Sept. 8, 9, 1954.

Remarks.--Records good except those for periods of ice effect, which are fair. Slight diurnal fluctuation caused by small powerplant above station.

Revisions.--WSP 823: Drainage area.

Rating table, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.3	3.9	2.7	199
1.4	7.5	3.0	271
1.5	13	3.5	415
1.6	21	4.0	600
1.8	40	4.5	840
2.1	82	5.0	1,180
2.4	136	5.3	1,440

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	13	14	b27	70	330	302	83	56	*18	19	9.2
2	10	12	13	b26	66	204	210	135	52	47	26	8.6
3	10	11	12	29	64	190	186	248	53	32	22	7.5
4	9.8	11	47	27	61	146	136	201	53	29	17	7.1
5	9.2	11	32	25	57	b125	116	162	49	24	16	6.8
6	9.8	11	40	24	54	b110	114	134	44	21	17	6.8
7	9.8	11	*48	24	b47	107	120	128	43	19	15	6.4
8	*9.2	11	*29	b25	b45	116	118	116	*40	40	13	6.1
9	9.2	11	84	25	*48	132	107	103	44	26	13	6.1
10	9.2	*11	103	26	*49	*138	93	93	48	24	13	32
11	9.2	11	50	39	49	136	88	85	44	22	11	13
12	9.8	11	87	24	b42	130	84	*79	40	19	11	9.8
13	9.8	11	82	b23	b40	132	76	94	37	19	11	8.6
14	9.8	11	177	b30	40	226	76	414	38	18	11	8.1
15	9.8	11	92	90	43	164	*73	284	35	24	11	*7.5
16	9.8	11	66	349	45	134	80	210	40	43	13	7.1
17	9.8	11	50	164	79	114	111	169	48	22	11	7.1
18	9.2	11	b47	100	53	102	84	156	44	19	11	7.1
19	8.6	11	b43	*80	47	135	76	142	36	32	10	7.1
20	8.6	11	b43	75	136	142	70	158	33	40	11	25
21	8.6	18	49	321	345	112	67	140	29	37	15	21
22	*8.6	40	46	1,360	175	96	66	118	28	46	12	13
23	8.6	54	39	572	126	93	70	105	27	37	*11	11
24	8.6	22	34	297	111	103	70	96	24	24	13	9.8
25	8.6	26	b32	210	95	101	64	88	24	23	11	9.2
26	8.6	21	b31	160	84	240	78	84	24	19	10	9.2
27	11	17	b30	140	73	164	82	78	22	19	9.2	9.2
28	14	16	31	109	130	146	96	72	21	17	14	8.6
29	40	15	32	95	-	120	79	68	19	15	19	8.6
30	19	14	31	85	-------	111	72	64	19	15	11	8.1
31	15	-------	28	74	-------	259	-------	57	-------	14	9.2	-------
Total	341.2	466	1,542	4,655	2,274	4,558	3,044	4,164	1,114	804	416.4	304.7
Mean	11.0	15.5	49.7	150	81.2	147	101	134	37.1	25.9	13.4	10.2
Cfsm	0.262	0.369	1.18	3.57	1.93	3.50	2.40	3.19	0.883	0.617	0.319	0.243
In.	0.30	0.41	1.37	4.12	2.01	4.04	2.70	3.69	0.99	0.71	0.37	0.27

Calendar year 1953: Max 1,030 Min 7.6 Mean 63.9 Cfsm 1.52 In. 20.64
Water year 1953-54: Max 1,360 Min 6.1 Mean 64.9 Cfsm 1.55 In. 20.98

Peak discharge (base, 1,100 cfs).--Jan. 22 (1:30 p.m.) 2,560 cfs (6.28 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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Roan Creek near Neva, Tenn.

Location.--Lat 36°22'37", 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.
Records available.--June 1942 to September 1954.
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.--12 years, 102 cfs.
Extremes.--Maximum discharge during year, 3,340 cfs Jan. 22 (gage height, 6.35 ft); minimum, 5.0 cfs Sept. 17; minimum gage height, 0.88 ft Sept. 7, 8, 17.
1942-54: Maximum discharge, that of Jan. 22, 1954; minimum, that of Sept. 17, 1954; minimum gage height, that of Sept. 7, 8, 17, 1954.
Revisions.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
973	1942†	Aug. 9, 1942	1,140	4.11
1003				
973	1943	Dec. 30, 1942	††2,690	5.26
1003				
1003	1944	Feb. 18, 1944	††2,720	5.28
1033	1945	May 18, 1945	1,830	4.67
1053	1946	Jan. 8, 1946	††2,990	5.46
1083	1947	Jan. 20, 1947	††3,230	5.62
1113	1948	Apr. 8, 1948	††2,020	4.81
1206	1951	Dec. 7, 1950	††2,870	5.44
1236	1952	Dec. 21, 1951	1,830	4.67
1276	1953	June 10, 1953	1,670	4.91

† Period June to September.
†† From rating curve extended above 1,800 cfs.

Remarks.--Records good.
Revisions.--WSP 1206: Drainage area. Revised figures of discharge, in cubic feet per second, for the water years 1942-47, 1951, 1953, superseding those published in WSP 973, 1003, 1033, 1053, 1083, 1206, and 1276, are given herein:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1942		1944-Con.		1945-Con.		1947	
Aug. 9	710	Feb. 18	1,740	Jan. 2	705	Jan. 20	2,410
Dec. 29	402	26	721	Feb. 17	800		
30	1,710	27	702	18	1,020	1950	
		Mar. 19	358	May 18	1,240	Dec. 7	1,270
1943		20	1,020				
Feb. 5	756	Oct. 20	528	1946		1953	
6	944	21	520	Jan. 7	767	Feb. 21	1,000
				8	1,780	June 10	351
1944		1945		Feb. 10	1,390		
Feb. 17	978	Jan. 1	871	11	1,140		

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
August 1942	4,376	710	31	141	1.38	1.60
December 1942	7,347	1,710	58	237	2.32	2.68
February 1943	6,325	944	94	226	2.22	2.31
Water year 1942-43	39,874	1,710	11	109	1.07	14.55
Calendar year 1943	32,110	944	11	88.0	.863	11.71
February 1944	9,613	1,740	34	331	3.25	3.50
March	8,663	1,020	116	279	2.74	3.16
Water year 1943-44	34,725	1,740	10	94.9	.930	12.65
October 1944	3,199	528	37	103	1.01	1.17
Calendar year 1944	43,391	1,740	10	119	1.17	15.81
January 1945	6,180	871	75	199	1.95	2.25
February	7,338	1,020	65	262	2.52	2.68
May	6,866	1,240	94	221	2.17	2.50
Water year 1944-45	48,269	1,240	18	132	1.29	17.59
Calendar year 1945	42,926	1,240	18	118	1.16	15.65
January 1946	8,214	1,780	62	265	2.60	2.99
February	7,387	1,390	96	264	2.59	2.69
Water year 1945-46	42,558	1,780	18	117	1.15	15.52
Calendar year 1946	39,597	1,780	18	108	1.06	14.44
January 1947	10,266	2,410	66	331	3.25	3.74
Water year 1946-47	33,569	2,410	18	92.0	.902	12.23
Calendar year 1947	37,343	2,410	18	102	1.00	13.60
December 1950	4,985	1,270	38	161	1.58	1.82
Calendar year 1950	43,371	1,270	25	119	1.17	15.83
Water year 1950-51	35,072	1,270	20	96.1	.942	12.78

Roan Creek near Neva, Tenn.--Continued

Revised figures of monthly discharge, in cubic feet per second, 1942-47, 1951, 1953--Continued

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
February 1953	5,314	1,000	59	190	1.86	1.94
June	1,704	351	25	56.8	.557	.62
Water year 1952-53	28,436.5	1,000	9.3	77.9	.764	10.37

Revised peak discharge.--1942: June 23 (10 p.m.) 952 cfs; Aug. 9 (2 p.m.) 1,140 cfs; Sept. 27 (3 p.m.) 984 cfs.
1942-43: Dec. 30 (5 a.m.) 2,690 cfs; Jan. 28 (4 p.m.) 810 cfs; Feb. 6 (5:30 a.m.) 1,050 cfs.
1943-44: Feb. 18 (1 a.m.) 2,720 cfs; Feb. 26 (6 p.m.) 984 cfs; Mar. 20 (7:30 a.m.) 1,160 cfs; Mar. 29 (2 p.m.) 798 cfs; Sept. 30 (8 a.m.) 705 cfs.
1944-45: Oct. 20 (6 p.m.) 1,060 cfs; Jan. 1 (5:30 p.m.) 1,260 cfs; Feb. 14 (5 a.m.) 668 cfs; Feb. 17 (9 p.m.) 1,760 cfs; May 18 (4 a.m.) 1,830 cfs.
1945-46: Jan. 8 (2 a.m.) 2,990 cfs; Feb. 10 (8:30 p.m.) 2,870 cfs.
1952-53: Feb. 21 (3 a.m.) 1,530 cfs (4.77 ft); June 10 (3 a.m.) 1,670 cfs (4.91 ft).

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

0.9	5.0	2.5	295
1.0	9.0	3.0	470
1.1	15	3.5	680
1.3	33	4.0	920
1.5	59	4.5	1,280
1.7	94	5.1	1,870
2.0	157		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	13	13	21	76	348	980	90	71	16	23	10
2	9.6	11	*11	20	73	295	466	85	*55	33	32	9.6
3	9.6	11	12	24	*68	*310	289	161	53	38	21	8.6
4	9.0	*11	26	21	64	241	211	160	58	40	*17	8.2
5	9.0	11	25	*21	59	190	164	138	48	32	14	7.8
6	9.0	10	21	20	55	155	*140	*119	43	27	19	7.0
7	*9.0	10	53	19	51	135	138	113	38	*24	14	6.6
8	8.6	9.6	26	18	44	135	125	150	37	69	12	6.6
9	8.6	9.6	45	21	46	152	119	162	35	33	12	*11
10	8.6	10	76	20	46	170	105	162	35	25	19	21
11	9.0	10	40	27	46	170	104	143	37	21	13	15
12	8.6	10	101	22	40	147	98	121	35	19	11	10
13	8.2	10	102	14	36	133	92	109	35	17	10	8.6
14	8.2	10	230	21	40	150	92	164	46	16	9.0	8.2
15	9.0	10	127	68	39	127	92	190	53	14	10	7.4
16	10	10	76	*1,090	40	115	96	174	67	17	10	7.0
17	9.6	10	56	438	90	102	152	145	90	14	9.0	6.6
18	9.6	10	46	216	74	92	150	133	80	14	9.6	6.6
19	9.0	10	46	143	71	98	129	125	52	21	9.0	6.2
20	9.0	11	50	111	77	104	107	150	43	21	13	33
21	9.0	13	48	*259	187	89	96	162	35	31	23	35
22	9.0	14	46	*1,820	170	80	85	140	31	80	13	20
23	9.0	30	40	*1,040	129	80	80	117	30	40	11	13
24	9.0	17	32	416	111	83	81	100	26	24	11	11
25	9.6	21	29	265	94	80	96	87	24	19	9.6	9.6
26	10	21	34	190	81	301	147	80	21	17	8.6	9.6
27	11	17	30	162	69	256	182	73	21	16	7.8	9.6
28	15	16	28	129	90	192	150	66	19	14	18	9.0
29	44	13	29	111	-	150	119	62	17	14	25	8.6
30	20	14	28	96	-------	192	100	71	17	16	13	8.6
31	14	-------	25	85	-------	550	-------	58	-------	13	11	-------
Total	341.8	383.2	1,551	6,928	2,066	5,422	4,985	3,810	1,252	795	437.6	339.0
Mean	11.0	12.8	50.0	223	73.8	175	166	123	41.7	25.6	14.1	11.3
Cfsm	0.108	0.125	0.490	2.19	0.724	1.72	1.63	1.21	0.409	0.251	0.138	0.111
In.	0.12	0.14	0.57	2.53	0.75	1.98	1.82	1.39	0.46	0.29	0.16	0.12

Calendar year 1953: Max 1,000 Min 8.2 Mean 77.0 Cfsm 0.755 In. 10.25
Water year 1953-54: Max 1,820 Min 6.2 Mean 77.6 Cfsm 0.761 In. 10.33

Peak discharge (base, 1,400 cfs).--Jan. 16 (10:30 a.m.) 1,510 cfs (4.75 ft); Jan. 22 (5 p.m.) 3,340 cfs (6.35 ft).
* Discharge measurement made on this day.

Watauga River below Wilbur Dam, Tenn.

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, and 5 miles east of Elizabethton, Carter County.

Drainage area.--471 sq mi.

Records available.--May 1903 to December 1908 and January 1948 to September 1954 in reports of Geological Survey. Published as "near Elizabethton" 1903-8. May 1903 to December 1908 (revised) in Tennessee Division of Geology Bulletin 34.

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.--11 years, 713 cfs (unadjusted).

Extremes.--Maximum discharge during year, 2,960 cfs Sept. 22 (gage height, 35.43 ft); minimum daily, 26 cfs Dec. 2.
1903-8, 1948-54: Maximum discharge observed, 21,500 cfs Jan. 22, 1906 (gage height, 13.6 ft, site and datum then in use), from rating curve extended above 2,500 cfs; minimum daily, 2.4 cfs Aug. 14, 1949.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Flow completely regulated by Watauga Lake (see p. 245).

Revisions (water years).--WSP 1276: 1906(M). See also Records available.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

31.2	20	32.5	270
31.3	27	33.0	475
31.4	37	33.5	820
31.7	79	34.0	1,260
32.0	136	35.1	2,530

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	964	190	*109	1,290	50	50	100	44	388	766	157	1,750
2	1,070	76	26	1,470	1,100	49	50	43	409	803	1,210	1,850
3	955	*59	28	944	*1,200	*648	52	43	619	55	*1,320	1,780
4	1,190	51	28	1,180	1,260	624	50	90	*678	53	1,280	66
5	1,350	47	28	*1,360	1,100	364	*49	*461	63	748	1,320	63
6	*1,530	47	28	1,250	65	52	49	63	62	764	1,320	115
7	1,400	45	1,730	2,280	63	52	49	964	562	666	127	2,030
8	1,430	45	1,870	2,380	210	50	49	68	715	*854	348	2,260
9	1,480	47	1,800	2,320	124	49	49	66	728	762	1,210	*2,300
10	143	67	1,840	173	63	49	49	65	642	52	1,310	2,290
11	77	184	1,770	2,130	59	49	48	65	608	50	1,330	236
12	916	60	1,020	2,490	260	49	48	62	68	911	1,260	107
13	974	59	77	2,350	60	48	47	152	66	774	1,250	1,550
14	1,000	57	1,720	2,330	59	48	47	65	1,620	1,080	132	1,700
15	1,010	56	1,900	2,210	57	47	47	65	667	790	63	1,700
16	913	56	1,970	2,020	56	47	47	63	616	1,090	1,020	1,770
17	93	55	1,840	68	56	47	47	62	664	68	1,060	1,590
18	68	52	1,960	2,180	56	45	47	62	696	66	1,050	122
19	1,250	50	1,070	2,270	55	45	47	60	62	1,260	1,020	69
20	1,330	49	1,050	1,800	53	44	47	59	60	1,660	1,050	1,660
21	1,380	48	1,260	2,000	52	44	47	59	924	1,290	62	1,050
22	1,350	47	1,650	2,150	50	43	47	59	1,060	1,460	60	1,800
23	1,150	45	1,470	600	50	43	47	59	1,070	1,260	1,010	1,790
24	188	44	1,310	50	49	44	45	268	1,090	84	1,030	1,720
25	180	43	909	50	50	44	45	357	1,040	69	1,010	74
26	510	41	672	850	52	45	45	426	59	1,130	1,030	123
27	514	37	1,190	50	50	45	45	434	56	1,310	1,060	1,680
28	473	31	1,360	650	50	45	45	414	722	1,220	63	1,750
29	607	27	1,030	300	-	44	44	63	806	1,300	62	1,780
30	449	27	1,290	50	-------	42	44	63	792	1,220	1,800	1,780
31	198	-------	1,160	50	-------	42	-------	396	-------	148	1,620	-------
Total	26,142	1,742	35,165	41,295	6,409	3,137	1,472	5,220	17,632	23,963	27,844	38,555
Mean	843	58.1	1,134	1,332	229	101	49.1	168	588	773	898	1,285

	Observed				Adjusted†				
Calendar year 1953:	Max 2,080	Min 26	Mean 510		Mean 523	Cfsm 1.11	In. 15.06		
Water year 1953-54:	Max 2,490	Min 26	Mean 626		Mean 511	Cfsm 1.08	In. 14.74		

* Discharge measurement made on this day.
† Adjusted for change in contents in Watauga Lake.
Note.--No gage-height record Jan. 20 to Feb. 3; discharge estimated on basis of releases at Wilbur Dam, and records for station at Elizabethton.

Doe River at Elizabethton, Tenn.

Location.--Lat 36°20'40", long 82°12'37", on left bank 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.
Records available.--June 1907 to June 1908 and September to December 1912 (gage heights only), December 1911 to September 1916 and November 1920 to September 1931 (published as "at Valley Forge"), June 1932 to September 1954.
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. December 1911 to September 1916 and November 1920 to September 1931, chain gage 3 miles upstream at altitude 1,610 ft (from topographic map). June to September 1932 staff gage at present site at datum 0.50 ft higher. September 1932 to January 1934 staff gage at present site and datum.
Average discharge.--35 years (1912-16, 1921-31, 1933-54), 212 cfs.
Extremes.--Maximum discharge during year, 5,150 cfs Jan. 22 (gage height, 5.73 ft); minimum, 28 cfs Jan. 13 (gage height, 0.33 ft result of freezeup).
1911-16, 1920-31, 1932-54: 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).
Revisions.--The maximum discharge for the water year 1933 has been revised to 3,000 cfs Feb. 14, 1933 (gage height, 4.40 ft), superseding figure published in WSP 743.
Remarks.--Records good.
Revisions.--WSP 823: Drainage area. Revised figures of discharge, in cubic feet per second, for the water year 1938, superseding those published in WSP 853, are given herewith:

Aug. 10, 1938..... 339

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
August 1938.....	7,132	670	97	230	1.68	1.94
Water year 1937-38.....	87,964	1,240	54	241	1.76	23.88
Calendar year 1938.....	84,415	1,180	64	231	1.69	22.92

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

0.4	32	1.7	355
.5	41	2.0	485
.7	71	2.5	740
.9	113	3.0	1,050
1.1	162	3.5	1,490
1.3	219	4.0	2,050
1.5	280	4.6	2,930

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	46	46	54	159	*756	1,000	237	149	56	117	50
2	37	42	*45	51	154	535	670	268	*146	86	154	48
3	36	41	45	66	*149	565	495	654	144	*129	129	44
4	36	*42	60	61	154	462	391	*485	162	120	87	40
5	*36	41	93	*61	144	367	331	375	144	93	69	39
6	37	41	68	59	131	312	*294	312	131	77	68	37
7	40	42	98	56	122	284	339	284	122	71	59	36
8	39	42	77	53	106	294	351	315	115	164	53	36
9	39	42	84	64	118	343	418	280	113	113	51	*36
10	40	44	190	59	115	383	347	255	136	93	51	41
11	40	44	109	71	115	400	308	237	131	77	48	40
12	40	44	160	66	111	379	301	222	131	71	44	38
13	38	44	190	36	95	367	261	222	113	66	44	36
14	37	42	243	61	106	565	252	426	120	62	42	35
15	38	42	182	260	104	480	264	413	106	59	44	34
16	39	42	129	*999	106	379	294	351	104	122	75	34
17	39	41	91	474	228	312	739	294	133	79	49	33
18	38	42	51	264	179	277	640	280	162	66	45	32
19	38	41	66	204	159	271	449	304	115	81	42	32
20	38	42	79	173	182	339	355	352	102	160	41	91
21	38	46	95	*753	595	280	298	422	91	170	48	124
22	38	51	106	*2,900	391	252	268	355	87	358	42	85
23	38	64	91	1,460	290	246	252	301	81	342	40	57
24	39	57	66	665	243	274	268	264	75	146	46	50
25	39	57	56	440	213	268	234	237	71	104	45	46
26	38	66	58	331	187	840	240	219	68	85	40	45
27	40	54	66	290	168	595	261	207	64	71	40	45
28	48	51	71	246	187	462	304	190	62	66	91	42
29	54	45	71	213	-	363	258	179	59	59	162	42
30	62	49	69	196	-------	319	234	182	57	57	77	40
31	51	-------	66	176	-------	561	-------	159	-------	57	57	----- --
Total	1,249	1,387	2,921	10,862	5,011	12,530	11,116	9,281	3,294	3,360	2,000	1,388
Mean	40.3	46.2	94.2	350	179	404	371	299	110	108	64.5	46.3
Cfsm	0.294	0.337	0.688	2.55	1.31	2.95	2.71	2.18	0.803	0.788	0.471	0.338
In.	0.34	0.38	0.79	2.95	1.36	3.40	3.02	2.52	0.89	0.91	0.54	0.38

Calendar year 1953: Max 2,320 Min 35 Mean 160 Cfsm 1.17 In. 15.83
Water year 1953-54: Max 2,900 Min 32 Mean 176 Cfsm 1.28 In. 17.48

Peak discharge (base, 1,700 cfs).--Jan. 22 (5 p.m.) 5,150 cfs (5.73 ft).
* Discharge measurement made on this day.

Watauga River at Elizabethton, Tenn.

Location.--Lat 36°21'21", long 82°13'26", on left bank 25 ft upstream from bridge on U. S. Highway 19E at Elizabethton, Carter County, 0.6 mile downstream from Doe River, and at mile 25.9.

Drainage area.--692 sq mi.

Records available.--February 1926 to July 1949, July 1953 to September 1954. Gage-height records collected in this vicinity December 1909 to July 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 tape gage, and Feb. 21 to Oct. 4, 1926, staff gage on Southern Railway Bridge 10 ft upstream at same datum.

Average discharge.--23 years (1926-48, 1953-54), 1,061 cfs (unadjusted).

Extremes.--1953: Maximum discharge during period July to September, 2,950 cfs Aug. 28 (gage height, 5.69 ft); minimum, 103 cfs Aug. 17 (gage height, 1.87 ft).
1953-54: Maximum discharge during water year, 10,600 cfs Jan. 22 (gage height, 9.54 ft); minimum, 81 cfs Nov. 29 (gage height, 1.72 ft).
1926-49, 1953-54: 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, 85 cfs Dec. 3, 1953; minimum gage height, 1.54 ft Sept. 20, 1932 (corrected).
Maximum stage known (revised), about 21 ft in May 1901 (discharge, 75,900 cfs), from high-water profile by Tennessee Valley Authority.
Revisions.--The figures of maximum and minimum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
643	1927	Feb. 23, 1927	16,100	11.1
663	1928	Nov. 17, 1927	13,600	10.39
713	1931	Nov. 29, 1930	55	1.61
728	1932	Sept.20, 1932	42	1.54

Remarks.--Records good. Flow partly regulated by Watauga Lake, 10 miles upstream (see p. 245).

Revisions (water years).--WSP 758: 1932(M). WSP 823: Drainage area. WSP 923: 1928(M). Revised figures of discharge, in cubic feet per second, for the water year 1930, superseding those published in WSP 698, are given herewith:

Aug. 15, 1930..... 919

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
August 1930.....	2,460	175	501	0.724	0.83
Water year 1929-30.....	6,110	175	933	1.35	18.31
Calendar year 1930.....	4,840	175	737	1.07	14.46

Rating table, July 1, 1953, to Sept. 30, 1954 (gage height, in feet, and discharge, in cubic feet per second)

1.7	78	3.0	520	6.0	3,310
1.9	108	3.5	835	7.0	4,700
2.1	150	4.0	1,260	8.0	6,600
2.3	203	4.5	1,720	9.0	9,000
2.6	310	5.0	2,220		

Discharge, in cubic feet per second, 1953

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1	900	807	1,110	11	370	850	1,160	21	974	1,020	841
2	950	415	908	12	350	858	1,200	22	1,110	1,100	1,220
3	1,000	573	998	13	750	793	463	23	1,640	479	1,220
4	270	821	1,010	14	750	918	984	24	956	768	1,210
5	250	814	1,110	15	800	862	1,200	25	235	1,880	1,220
6	450	842	360	16	850	162	1,180	26	175	1,990	1,200
7	600	850	122	17	850	716	1,170	27	718	1,940	368
8	950	1,010	812	18	150	950	1,190	28	713	2,100	821
9	900	252	*1,100	19	150	974	1,190	29	746	1,330	1,210
10	900	575	1,070	20	900	1,040	475	30	858	424	1,200
								31	790	1,760	-
Total									22,005	29,873	29,322
Mean									710	964	977

* Discharge measurement made on this day.
Note.--No gage-height record July 1-20; discharge estimated on basis of weather records and records for station below Wilbur Dam and Doe River at Elizabethton.

Watauga River at Elizabethton, Tenn.--Continued

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,050	222	*140	1,460	278	1,050	2,450	324	548	871	304	1,900
2	1,170	152	102	1,700	1,270	758	1,340	370	584	949	1,280	1,900
3	1,080	*106	85	1,120	*1,390	1,660	902	805	*773	213	*1,550	1,930
4	1,260	103	107	1,260	1,450	*1,370	700	*720	889	183	1,430	312
5	1,520	95	132	*1,520	1,330	914	580	908	222	868	1,460	110
6	*1,690	97	110	1,380	382	508	*520	515	203	848	1,480	149
7	1,490	97	1,710	2,340	225	449	562	1,340	730	777	384	1,810
8	1,560	95	2,000	2,540	577	460	556	546	868	*1,090	414	2,430
9	1,620	94	1,980	2,500	273	574	622	490	876	926	1,140	2,420
10	333	103	2,220	496	212	670	538	508	806	166	1,430	2,330
11	122	225	1,930	2,020	209	676	478	449	796	141	1,480	498
12	882	112	1,390	2,610	380	616	466	395	212	998	1,350	145
13	1,070	105	520	2,600	201	574	405	475	181	766	1,370	1,450
14	1,100	105	1,960	2,440	195	772	390	646	1,610	1,170	412	1,720
15	1,100	103	2,250	2,840	186	664	390	622	955	1,050	126	1,730
16	1,030	103	2,240	4,460	189	544	432	538	851	1,160	1,090	1,780
17	278	103	2,110	1,190	332	454	1,270	460	964	266	1,160	1,740
18	110	102	2,170	2,540	278	400	1,150	432	1,040	135	1,130	218
19	1,220	100	1,400	2,630	256	400	772	449	245	1,210	1,120	108
20	1,430	100	1,110	2,310	264	520	598	496	206	2,040	1,120	1,680
21	1,480	102	1,610	3,170	765	449	496	574	1,070	1,570	184	1,200
22	1,460	103	1,780	6,920	568	395	438	490	1,050	1,920	120	1,780
23	1,390	112	1,660	3,410	438	380	400	422	1,230	1,750	1,080	1,950
24	259	106	1,460	1,260	370	410	405	578	1,270	518	1,120	1,790
25	195	110	1,050	814	324	405	365	638	1,250	186	1,120	188
26	551	116	769	1,440	290	1,450	355	680	304	1,120	1,130	160
27	539	103	1,400	550	259	998	370	658	158	1,480	1,160	1,640
28	498	97	1,450	1,040	298	739	427	632	812	1,360	198	1,760
29	671	86	1,290	634	-	592	365	263	921	1,450	*212	1,820
30	529	89	1,450	342	-------	628	324	270	898	1,350	1,780	1,800
31	231	-------	1,340	324	-------	1,320	-------	569	-------	402	1,820	------
Total	28,918	3,346	40,325	61,860	13,189	21,799	19,066	17,262	22,522	28,924	31,154	40,448
Mean	933	112	1,320	1,995	471	703	636	557	751	933	1,005	1,348

	Observed			Adjusted†			
Calendar year 1953:	Max -	Min -	Mean -	Mean -	Cfsm -	In. -
Water year 1953-54:	Max 6,920	Min 85	Mean 903	Mean 788	Cfsm 1.14	In. 15.45

* Discharge measurement made on this day.
† Adjusted for change in contents in Watauga Lake.

South Fork Holston River at Kingsport, Tenn.

Location.--Lat 36°31'51", long 82°33'29", on left bank 1,000 ft downstream from new bridge on State Highway 81, 1¼ miles upstream from Reedy Creek, and 3¾ miles upstream from confluence with North Fork Holston River. Prior to Dec. 2, 1953, at site 2 miles upstream.

Drainage area.--1,935 sq mi.

Records available.--September 1925 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 1,175.84 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Dec. 2, 1953, at sites 2 miles upstream at datum 8.47 ft higher. Since May 1, 1954, supplementary water-stage recorder on overflow channel on downstream side of new bridge on State Highway 81.

Average discharge.--29 years, 2,502 cfs (unadjusted).

Extremes.--Maximum discharge during year, 8,590 cfs Aug. 9 (gage height, 4.82 ft); minimum daily, 301 cfs June 13.
1925-54: Maximum discharge, 68,800 cfs Aug. 14, 1940 (gage height, 18.80 ft, site and datum then in use); minimum daily, that of June 13, 1954.

Remarks.--Records good. Since May 1, 1954, discharge computed by adding discharges of main channel and overflow channel as determined from separate stage-discharge relations. Flow regulated by South Holston, Watauga, Boone, and Fort Patrick Henry Reservoirs (see p. 245). Some diversion upstream by the city of Kingsport, Eastman Corporation, and Holston Ordnance Works.

Revisions (water years).--WSP 823: Drainage area. WSP 1033: 1930(M).

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,510	472	520	3,770	4,340	560	2,840	446	2,730	*2,320	382	3,900
2	*1,680	*498	*620	3,790	2,780	*510	*3,970	356	2,300	2,530	3,570	*4,030
3	1,670	502	630	3,900	2,470	2,570	2,690	2,430	2,270	375	3,370	4,020
4	1,680	552	690	4,040	*2,490	*1,840	1,730	*2,230	*3,640	399	*3,430	431
5	2,000	548	1,040	3,930	1,420	530	1,960	*759	1,600	458	3,450	391
6	2,540	541	2,010	*3,860	776	500	1,440	329	327	1,950	3,440	400
7	2,210	555	1,170	3,880	891	510	*1,440	337	2,160	1,970	429	3,280
8	1,340	570	1,660	4,040	670	520	1,380	356	2,230	2,000	401	3,770
9	1,420	555	1,340	4,500	462	480	1,460	356	1,600	1,980	*3,430	3,560
10	1,580	555	3,260	4,100	*471	638	462	1,080	2,100	365	3,510	3,710
11	1,480	541	3,200	3,680	1,130	*381	435	1,320	2,190	372	3,310	419
12	1,460	534	3,210	4,100	570	532	444	1,370	380	2,350	3,450	400
13	1,490	520	1,980	4,100	462	1,370	435	1,300	301	3,570	3,510	3,560
14	1,630	513	3,070	4,300	462	417	426	1,340	2,130	3,120	542	3,570
15	1,780	513	3,220	4,340	462	1,900	480	349	2,200	2,040	419	3,500
16	1,720	506	3,190	4,740	480	2,700	1,150	319	2,500	4,320	3,470	3,560
17	1,730	513	3,170	4,610	587	435	500	2,020	2,100	466	3,660	3,500
18	1,740	600	3,120	4,590	770	*1,220	2,570	2,030	2,260	400	3,640	633
19	1,830	929	3,090	4,270	710	*1,900	3,110	2,070	2,270	3,230	3,490	401
20	1,480	764	3,250	4,140	640	426	4,380	*2,720	324	5,040	3,610	3,730
21	1,330	686	3,360	4,480	560	417	*4,190	*936	3,370	3,030	475	3,080
22	1,250	654	3,700	4,080	591	354	4,190	*352	3,010	4,460	419	3,420
23	1,250	630	3,450	4,380	663	1,200	4,210	328	2,610	2,860	3,670	3,530
24	1,230	630	3,590	4,590	1,880	1,040	420	2,600	3,650	584	3,650	3,510
25	1,250	654	3,750	4,330	788	1,950	390	1,540	3,580	382	3,500	464
26	1,470	662	3,730	4,070	2,340	2,000	776	2,030	878	3,260	3,520	406
27	875	600	3,820	4,340	520	444	399	2,380	346	2,760	3,460	3,000
28	506	499	3,710	4,230	580	426	1,040	2,350	1,760	3,150	436	3,090
29	446	527	3,470	3,820	-	838	2,860	368	2,110	3,900	428	3,060
30	459	520	3,620	4,300	-------	2,930	2,830	346	2,170	3,630	3,920	3,060
31	466	-------	3,680	4,340	-------	2,850	-------	2,930	-------	374	3,640	-------
Total	44,502	17,343	83,320	129,640	30,965	34,388	54,607	39,677	61,096	67,645	81,771	77,385
Mean	1,436	578	2,688	4,182	1,106	1,109	1,820	1,280	2,037	2,182	2,638	2,580

	Observed					Adjusted†				
Calendar year 1953:	Max	4,930	Min	430	Mean	2,110	Mean	2,088	Cfsm	1.08 In. 14.68
Water year 1953-54:	Max	5,040	Min	301	Mean	1,979	Mean	1,854	Cfsm	0.958 In. 13.00

* Discharge measurement made on this day.
† Adjusted for change in contents in South Holston, Watauga, Boone, and Fort Patrick Henry Reservoirs.

North Fork Holston River near Saltville, Va.

Location.--Lat 36°53'48", long 81°44'47", on right bank 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.

Records available.--June 1907 to November 1908, November 1920 to September 1954.

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.--33 years (1921-54), 284 cfs.

Extremes.--Maximum discharge during year, 6,500 cfs Jan. 22 (gage height, 7.19 ft); minimum, 22 cfs Oct. 21; minimum gage height, 0.56 ft Sept. 18, 19.
1907-8, 1920-54: Maximum discharge recorded, 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.

Remarks.--Records good. Prior to September 1947, small diurnal fluctuation at low flow caused by mills above station.

Revisions (water years).--WSP 758: Drainage area. WSP 1113: 1944-47.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 20				Dec. 21 to Sept. 30			
0.5	16	1.0	101	0.5	20	2.0	457
.6	24	1.4	222	.6	27	2.6	840
.7	36	2.0	490	.7	39	3.4	1,540
				1.0	96	5.0	3,340
				1.4	210		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	32	26	38	177	402	340	165	*115	33	49	35
2	24	30	25	33	165	551	328	187	113	34	61	33
3	23	29	25	39	156	718	308	180	106	35	134	31
4	23	28	28	38	147	690	272	203	103	37	108	29
5	23	26	30	38	142	492	244	200	101	38	72	28
6	23	25	34	39	128	398	225	184	92	38	70	27
7	23	26	49	38	115	340	372	171	83	35	61	26
8	23	26	72	33	96	328	425	197	76	53	50	26
9	23	26	59	35	106	352	385	194	72	61	45	26
10	23	26	79	39	106	398	332	194	74	50	44	28
11	24	26	89	63	103	407	300	180	74	41	39	32
12	24	26	82	48	103	364	276	168	70	35	37	29
13	24	26	154	42	89	324	237	159	66	34	35	31
14	23	26	280	*86	92	390	218	194	78	34	34	27
15	23	26	304	146	94	448	207	425	70	34	34	26
16	23	26	151	2,610	94	377	260	482	64	33	34	25
17	23	26	101	992	108	312	612	368	74	31	34	25
18	23	26	80	448	128	268	600	394	72	35	44	24
19	23	26	70	300	120	256	443	808	68	47	70	24
20	23	28	65	221	123	439	348	644	61	52	66	72
21	23	31	59	316	673	477	284	562	57	1,170	49	159
22	24	32	55	2,980	518	390	248	472	52	690	42	92
23	24	49	55	3,080	356	360	221	372	49	416	38	61
24	23	43	44	984	*280	336	200	300	45	218	38	44
25	23	41	43	575	229	320	197	268	44	139	44	37
26	24	36	44	411	190	1,270	187	*210	41	103	38	34
27	26	*32	45	*344	174	1,010	260	197	38	81	35	32
28	30	30	45	312	144	632	*240	174	37	68	38	32
29	*32	28	44	268	-	*462	210	162	34	*59	52	31
30	38	28	*42	237	-------	398	184	166	33	55	*49	*32
31	40	-------	42	203	-------	348	-------	134	-------	50	41	-------
Total	773	886	2,321	15,036	4,956	14,257	8,963	8,716	2,062	3,839	1,585	1,158
Mean	24.9	29.5	74.9	485	177	460	299	281	68.7	124	51.1	38.6
Cfsm	0.112	0.133	0.337	2.18	0.797	2.07	1.35	1.27	0.309	0.559	0.230	0.174
In.	0.13	0.15	0.39	2.51	0.83	2.39	1.51	1.46	0.34	0.64	0.27	0.19

Calendar year 1953: Max 3,960 Min 23 Mean 264 Cfsm 1.19 In. 16.11
Water year 1953-54: Max 3,080 Min 23 Mean 177 Cfsm 0.797 In. 10.81

Peak discharge (base, 3,000 cfs).--Jan. 16 (11 a.m.) 3,470 cfs (5.10 ft); Jan. 22 (9 p.m.) 6,500 cfs (7.19 ft).
* Discharge measurement made on this day.

North Fork Holston River at Holston, Va.

Location.--Lat 36°46'29", long 82°04'22", on left bank at downstream side of bridge on U. S. Highway 19, 100 ft downstream from Greendale Creek, 0.4 mile upstream from Garrett Creek, 0.5 mile east of Holston, Washington County, and 0.6 mile upstream from Little Moccasin Creek.

Drainage area.--402 sq mi.

Records available.--June 1951 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 1,437.10 ft (revised) above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge during year, 7,570 cfs Jan. 23 (gage height, 10.24 ft); minimum, 41 cfs Sept. 8; minimum gage height, 1.98 ft Oct. 8, 9.
1951-54: Maximum discharge, 8,090 cfs May 19, 1953 (gage height, 10.61 ft); minimum, that of Sept. 8, 1954.

Remarks.--Records good. Records of chemical analyses and water temperatures for the water year 1954 are given in WSP 1350.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 4 to Sept. 6)

Oct. 1 to Dec. 15		Dec. 16 to Sept. 30			
1.9	43	1.9	34	3.0	408
2.0	50	2.0	45	4.0	995
2.3	108	2.3	130	6.0	2,570
2.6	202	2.6	235	9.0	6,010
3.1	397				

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	66	55	74	310	729	705	293	224	89	57	59
2	51	*60	55	65	288	995	*627	293	218	89	98	*53
3	51	56	54	68	275	1,310	571	306	210	98	186	45
4	51	56	56	71	267	1,310	505	*341	214	92	186	44
5	52	54	58	74	255	960	460	337	204	92	134	45
6	*52	54	60	74	235	735	417	315	193	95	137	44
7	52	53	76	71	218	610	604	297	179	83	116	43
8	50	52	86	68	193	566	765	341	172	144	102	42
9	49	53	105	63	190	610	711	350	165	158	*89	43
10	51	53	138	77	193	717	615	332	*172	130	83	44
11	52	53	132	148	193	765	549	310	182	106	74	45
12	52	53	141	90	193	693	495	293	176	89	65	44
13	51	52	192	70	176	598	432	275	176	74	59	47
14	51	52	297	126	172	729	390	323	293	68	59	53
15	52	53	397	323	176	825	372	593	228	63	61	53
16	52	53	259	3,840	179	699	490	735	235	65	68	47
17	52	53	172	2,040	210	566	1,480	582	301	63	63	47
18	52	53	120	890	*247	480	1,420	765	337	59	74	47
19	52	51	89	549	239	446	995	1,420	267	61	77	49
20	53	52	95	408	251	633	729	1,140	224	*86	130	68
21	52	57	98	687	1,560	765	576	890	196	441	112	235
22	53	57	98	4,070	1,280	657	485	717	182	1,030	86	214
23	52	66	90	5,160	795	598	427	560	162	516	65	144
24	53	76	80	1,790	588	566	386	450	148	267	77	109
25	53	74	70	1,060	475	*516	354	376	134	168	74	89
26	54	68	61	735	394	2,080	332	319	126	120	68	74
27	55	60	70	615	332	1,870	386	293	116	95	63	71
28	56	57	77	*560	319	1,240	399	263	112	74	61	61
29	55	56	83	470	-	890	363	259	106	65	59	61
30	58	55	*83	413	-------	765	328	279	92	61	74	65
31	62	-------	80	363	-------	699	-------	247	-------	53	65	-------
Total	1,633	1,708	3,527	25,112	10,203	25,622	17,368	14,294	5,744	4,694	2,722	2,085
Mean	52.7	56.9	114	810	364	827	579	461	191	151	87.8	69.5
Cfsm	0.131	0.142	0.284	2.01	0.905	2.06	1.44	1.15	0.475	0.376	0.218	0.173
In.	0.15	0.16	0.33	2.32	0.94	2.38	1.61	1.33	0.53	0.43	0.25	0.19

Calendar year 1953: Max 6,010 Min 49 Mean 460 Cfsm 1.14 In. 15.54
Water year 1953-54: Max 5,160 Min 42 Mean 314 Cfsm 0.781 In. 10.62

Peak discharge (base, 4,000 cfs).--Jan. 16 (4:30 p.m.) 4,680 cfs (7.90 ft); Jan. 23 (2 a.m.) 7,570 cfs (10.24 ft).
* Discharge measurement made on this day.

Big Moccasin Creek near Gate City, Va.

Location.--Lat 36°38'47", long 82°33'12", on left bank at downstream side of bridge on State Highway 71, 0.2 mile downstream from Franklin Branch, 0.9 mile upstream from Pike Branch, 1.6 miles upstream from Little Moccasin Creek, and 1.6 miles east of Gate City, Scott County.

Drainage area.--79.6 sq mi.

Records available.--October 1952 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 1,267.64 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge during year, 1,700 cfs Jan. 22 (gage height, 5.98 ft); minimum, 3.0 cfs Sept. 11 (gage height, 1.04 ft).
1952-54: Maximum discharge, 2,550 cfs May 19, 1953 (gage height, 7.67 ft); minimum, that of Sept. 11, 1954.

Remarks.--Records good.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second) (Shifting-control method used Oct. 30 to Dec. 17, Feb. 16-21)

1.0	2.0	2.5	213
1.1	7.0	3.0	375
1.2	15	4.0	790
1.5	44	5.0	1,240
2.0	113		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	13	10	17	65	264	139	116	66	18	13	*11
2	14	12	5.1	15	60	267	130	87	58	15	15	9.5
3	13	10	7.8	15	57	510	112	77	53	16	27	8.7
4	13	*9.5	10	13	54	550	101	78	49	29	29	7.8
5	13	9.5	10	13	54	264	90	67	47	30	23	8.7
6	*13	9.5	14	14	47	181	83	58	41	24	21	7.8
7	14	9.5	13	14	44	143	110	57	37	20	16	7.8
8	15	12	12	13	41	*125	123	66	35	22	15	5.8
9	15	12	18	13	38	123	101	62	34	20	14	5.1
10	15	7.8	27	19	37	127	87	54	33	26	13	5.1
11	15	9.5	33	37	36	125	78	50	*37	21	11	4.0
12	20	10	39	66	31	110	74	47	35	19	*7.8	7.8
13	18	11	44	45	29	104	67	45	37	17	13	7.0
14	15	10	*69	34	26	137	62	88	36	13	11	7.0
15	15	10	73	172	26	148	60	160	31	13	11	7.0
16	16	13	42	1,200	26	118	66	115	38	13	14	7.0
17	17	10	24	358	*28	98	550	91	43	14	11	7.8
18	19	8.7	20	141	30	87	361	95	49	15	12	5.8
19	18	11	18	94	27	83	190	235	45	14	20	7.0
20	13	9.5	21	80	27	91	135	162	34	*16	22	13
21	13	14	21	284	66	98	108	125	29	22	18	19
22	13	20	22	948	102	87	*98	100	23	28	13	26
23	11	21	21	1,040	77	78	88	84	27	24	13	23
24	9.5	19	14	361	66	77	78	73	26	41	31	17
25	11	21	13	199	60	74	70	65	22	18	23	13
26	13	18	12	141	56	290	64	60	20	5.1	12	11
27	13	14	13	132	48	267	77	*53	18	15	18	10
28	12	13	20	*130	57	170	77	53	16	13	20	9.5
29	14	11	17	106	-	134	69	50	19	11	17	9.5
30	13	14	17	90	-------	116	170	102	18	13	15	10
31	14	-------	17	76	-------	125	-------	98	-------	12	13	------ --
Total	440.5	372.5	696.9	5,880	1,315	5,171	3,618	2,673	1,058	577.1	511.8	298.7
Mean	14.2	12.4	22.5	190	47.0	167	121	86.2	35.3	18.6	16.5	10.0
Cfsm	0.178	0.156	0.283	2.39	0.590	2.10	1.52	1.08	0.443	0.234	0.207	0.126
In.	0.21	0.17	0.33	2.76	0.61	2.42	1.70	1.24	0.49	0.27	0.24	0.14

Calendar year 1953: Max 1,500 Min 5.1 Mean 101 Cfsm 1.27 In. 17.29
Water year 1953-54: Max 1,200 Min 4.0 Mean 62.0 Cfsm 0.779 In. 10.58

Peak discharge (base, 1,200 cfs).--Jan. 16 (10 a.m.) 1,380 cfs (5.31 ft); Jan. 22 (1:30 a.m.) 1,700 cfs (5.98 ft).
* Discharge measurement made on this day.

North Fork Holston River near Gate City, Va.

Location.--Lat 36°36'31", long 82°34'05", on left bank 100 ft upstream from bridge on U. S. Highway 23, 1.6 miles downstream from Big Moccasin Creek, and 2.1 miles southeast of Gate City, Scott County.

Drainage area.--672 sq mi.

Records available.--November 1931 to September 1954.

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.--22 years (1932-54), 818 cfs.

Extremes.--Maximum discharge during year, 11,900 cfs Jan. 23 (gage height, 9.77 ft); minimum, 48 cfs Sept. 20 (gage height, 1.17 ft).
1931-54: Maximum discharge, 23,700 cfs Aug. 14, 1940 (gage height, 14.75 ft); minimum, 37 cfs Dec. 24, 1943, result of freezeup; minimum gage height, 1.00 ft Jan. 6, 1940.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Diurnal fluctuation at low flow caused by small dam above station.

Revisions (water years).--WSP 783: 1932(M). WSP 823: Drainage area. WSP 1276: 1932-34.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

1.1	38	3.0	860
1.2	53	4.0	1,760
1.5	119	6.0	4,240
2.0	300	8.0	8,110
2.5	540	10.0	12,300

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	77	82	84	110	529	1,520	1,040	570	376	95	108	*84
2	75	88	84	100	465	1,810	900	475	332	92	114	86
3	73	100	84	105	440	2,700	830	460	312	92	185	73
4	67	*92	85	108	435	3,000	720	485	300	134	248	75
5	66	77	88	110	415	2,020	660	496	284	144	268	67
6	*67	73	90	110	385	1,420	600	475	264	116	213	64
7	67	73	100	105	354	1,110	900	445	244	111	168	60
8	67	73	120	100	328	948	1,100	460	224	128	154	58
9	67	75	150	95	304	916	1,000	496	213	128	138	55
10	67	73	210	120	292	996	900	485	199	206	128	55
11	67	71	200	180	292	1,060	800	450	*206	160	114	53
12	66	75	210	150	284	1,040	700	415	213	138	*97	53
13	69	73	300	105	272	900	630	395	210	116	95	52
14	71	75	*440	232	256	1,000	580	490	202	100	88	52
15	67	73	560	452	248	1,200	540	758	292	88	82	52
16	67	75	400	4,820	256	1,050	1,000	956	272	82	90	52
17	69	75	300	5,100	272	900	2,000	972	300	79	86	55
18	71	73	180	1,860	*292	758	1,900	846	552	77	88	55
19	71	75	140	1,010	320	680	1,400	1,810	430	88	95	50
20	69	75	145	712	324	725	1,000	1,970	316	*97	108	69
21	67	86	150	1,560	667	972	900	1,470	256	197	147	119
22	69	90	150	4,810	2,140	972	*818	1,160	213	1,020	171	198
23	71	114	140	11,000	1,340	832	712	924	196	908	125	260
24	71	114	120	4,450	916	790	624	751	171	618	138	174
25	71	116	110	2,140	725	*758	618	618	144	372	106	128
26	71	128	98	1,420	600	3,000	512	529	134	260	154	100
27	75	92	100	1,160	502	2,500	673	*475	125	206	103	88
28	82	88	115	*1,050	496	1,700	692	435	108	168	108	77
29	90	85	120	860	-	1,300	630	405	103	141	95	69
30	86	84	120	718	-------	1,100	876	435	97	128	86	67
31	84	-------	118	618	-------	1,000	-------	470	-------	116	82	-------
Total	2,217	2,543	5,311	45,470	14,149	40,677	26,255	21,581	7,288	6,405	3,982	2,500
Mean	71.5	84.8	171	1,467	505	1,312	875	696	243	207	128	83.3
Cfsm	0.106	0.126	0.254	2.18	0.751	1.95	1.30	1.04	0.362	0.308	0.190	0.124
In.	0.12	0.14	0.29	2.51	0.78	2.25	1.45	1.20	0.40	0.36	0.22	0.14

Calendar year 1953: Max 13,600 Min 66 Mean 798 Cfsm 1.19 In. 16.10
Water year 1953-54: Max 11,000 Min 50 Mean 489 Cfsm 0.728 In. 9.86

Peak discharge (base, 6,000 cfs).--Jan. 16 (9:30 p.m.) 7,270 cfs (7.55 ft); Jan. 23 (10 a.m.) 11,900 cfs (9.77 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Nov. 27 to Jan. 13, Mar. 13-17, Mar. 26 to Apr. 21; discharge estimated on basis of weather records and records for nearby stations.

Holston River at Surgoinsville, Tenn.

Location.--Lat 36°28'19", long 82°50'50", on right bank 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. Records include flow of Surgoinsville Creek.

Drainage area.--2,874 sq mi, includes that of Surgoinsville Creek.

Records available.--April 1941 to September 1954.

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.--13 years, 3,454 cfs (unadjusted).

Extremes.--Maximum discharge during year, 16,700 cfs Jan. 23 (gage height, 7.57 ft); minimum, 485 cfs July 19 (gage height, 1.25 ft).
1941-54: 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.--Records good. Flow partly regulated by South Holston, Watauga, Boone, and Fort Patrick Henry Lakes (see p. 245).

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

1.3	530	4.0	5,840
1.5	730	5.0	8,550
2.0	1,400	7.4	16,100
3.0	3,350		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,340	590	620	3,890	5,060	2,120	5,270	2,660	3,220	2,300	560	4,190
2	*1,720	*590	*620	3,960	*4,060	*2,940	*5,810	924	*2,940	2,780	*1,950	*4,510
3	1,720	570	630	3,990	3,150	5,110	4,580	*1,330	2,440	1,830	3,910	4,480
4	1,720	600	660	*4,210	3,130	6,820	3,400	2,980	2,630	660	3,890	2,810
5	1,760	610	680	4,180	2,750	3,890	2,440	2,270	3,800	600	3,940	590
6	2,420	640	2,160	4,010	1,310	2,500	2,920	1,040	1,310	982	3,920	530
7	2,540	640	2,180	3,990	1,360	2,010	2,450	829	1,060	2,200	2,470	1,580
8	1,720	650	1,700	4,040	1,260	1,740	2,630	876	2,440	2,340	640	4,140
9	1,420	650	970	4,380	900	1,610	2,730	888	2,620	2,320	2,120	4,000
10	1,510	640	2,820	4,510	807	1,610	1,940	1,280	1,990	1,730	3,860	3,980
11	1,580	640	3,630	3,750	829	1,700	1,380	1,850	2,400	590	3,690	2,560
12	1,510	640	3,720	3,890	1,510	1,580	1,280	1,700	1,950	974	3,930	540
13	1,530	630	3,260	4,360	840	2,070	1,190	1,660	620	3,880	3,810	1,810
14	1,600	630	3,020	4,340	785	1,960	1,070	1,880	1,090	3,360	2,580	3,870
15	1,830	620	3,990	4,910	774	2,570	1,020	1,510	2,380	2,580	570	3,840
16	1,790	620	3,990	11,600	763	3,110	1,090	1,250	2,540	3,120	1,760	3,830
17	1,790	610	3,770	11,100	796	2,750	3,310	2,250	2,670	3,250	4,020	3,880
18	1,790	620	3,530	7,360	974	1,460	5,320	2,770	2,600	550	4,000	2,400
19	1,810	690	3,280	5,840	1,080	2,560	5,090	3,650	4,080	1,650	3,910	730
20	1,740	840	3,510	5,010	1,020	1,750	5,790	4,410	2,060	3,890	4,010	2,270
21	1,380	752	3,510	8,470	1,000	1,280	5,370	3,280	1,170	5,040	2,690	3,520
22	1,340	720	3,750	10,500	2,030	1,420	5,180	2,060	4,210	5,010	650	3,920
23	1,320	741	3,820	16,100	2,300	1,750	5,030	1,360	3,000	4,880	2,060	4,060
24	1,340	700	3,800	11,600	2,290	1,950	2,980	2,000	3,560	2,560	4,200	4,060
25	1,280	710	3,870	7,470	2,440	2,150	1,030	2,990	3,610	936	4,080	2,480
26	1,320	720	3,800	6,200	1,780	4,080	1,170	2,150	2,020	2,010	3,960	640
27	1,530	730	3,920	6,020	2,400	4,980	1,060	2,600	860	3,490	3,970	1,610
28	774	670	3,920	5,870	1,090	3,310	1,340	2,710	570	3,490	2,620	3,410
29	640	620	3,750	5,290	-	2,460	1,790	2,080	2,260	4,510	650	3,420
30	580	620	3,750	5,160	-------	3,250	4,130	785	2,260	3,930	1,860	3,420
31	580	-------	3,870	5,190	-------	4,760	-------	1,950	-------	1,990	4,590	-------
Total	46,924	19,703	90,500	191,190	48,468	83,250	89,790	61,972	70,360	79,432	90,870	87,080
Mean	1,514	657	2,919	6,167	1,731	2,685	2,993	1,999	2,345	2,562	2,931	2,903

	Observed			Adjusted†				
Calendar year 1953:	Max 18,800	Min 570	Mean 3,104	Mean 3,082	Cfsm 1.07	In. 14.56
Water year 1953-54:	Max 16,100	Min 530	Mean 2,629	Mean 2,503	Cfsm 0.915	In. 11.82

* Discharge measurement made on this day.
† Adjusted for change in contents in South Holston, Watauga, Boone, and Fort Patrick Henry Lakes.

Mossy Spring near Jefferson City, Tenn.

Location.--Lat 36°07'17", long 83°28'22", in spring pool, 15 ft upstream from water plant intake, 300 ft south of city water plant, 300 ft upstream from mouth, 1.1 miles east of Jefferson City Post Office, Jefferson County.

Records available.--September 1950 to September 1954.

Gage.--Water-stage recorder.

Extremes.--Maximum and minimum discharges for the water years 1951-54 are contained in the following table:

Water year	Maximum			Minimum daily	
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)
1951	Mar. 29, 1951	128	1.84	Nov. 18, 19, 1950	14
1952	Dec. 21, 1951	127	1.83	Sept. 30, 1952	11
1953	Feb. 21, 1953	135	1.89	(a)	10
1954	Jan. 22, 1954	163	2.10	Jan. 8, 9, 1954	7.4

a Occurred Oct. 25, 26, 30, 31, Nov. 1-21, 1952.

1950-54: Maximum discharge, 163 cfs Jan. 22, 1954 (gage height, 2.10 ft); minimum daily, 7.4 cfs Jan. 8, 9, 1954.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Records do not include diversion averaging about three-quarters of a cubic feet per second for the water supply of Jefferson City.

Discharge, in cubic feet per second, 1950

Day	Discharge	Day	Discharge	Day	Discharge	Day	Discharge
Sept. 1	a25	Sept. 9	22	Sept.17	20	Sept.25	21
2		10	22	18	21	26	20
3		11	23	19	20	27	20
4		12	22	20	20	28	19
5		13	23	21	19	29	19
6	24	14	21	22	25	30	19
7	23	15	20	23	23		
8	22	16	20	24	21		
Total							654
Mean							21.8

a No gage-height record; discharge estimated on basis of weather records and records for nearby stations.

Discharge, in cubic feet per second, water year October 1950 to September 1951

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	16	16	18	107	88	115	84	46	30	39	19
2	19	16	18	18	113	86	118	86	45	29	37	18
3	18	16	26	17	103	84	123	86	44	30	35	18
4	17	18	77	24	96	84	118	83	44	68	33	18
5	17	17	64	21	91	93	114	82	43	84	31	18
6	17	16	50	20	86	91	110	79	42	71	30	18
7	17	16	61	20	94	111	106	79	42	61	30	18
8	17	16	66	23	93	115	105	77	45	54	29	18
9	19	16	56	21	88	114	103	75	61	51	28	18
10	18	16	49	20	83	110	103	74	65	45	27	18
11	18	15	42	19	82	109	102	73	54	42	26	18
12	18	15	38	18	79	109	109	72	50	38	26	18
13	18	15	34	37	76	113	108	71	52	37	25	18
14	18	15	31	80	74	115	104	70	52	36	24	18
15	18	15	29	98	71	113	102	68	48	34	28	18
16	18	15	27	87	68	110	113	67	45	32	25	18
17	18	15	26	79	67	105	113	65	44	31	25	17
18	18	14	25	74	65	102	110	64	41	31	24	17
19	18	14	23	68	71	98	108	63	40	30	23	17
20	17	22	23	64	91	94	105	61	38	30	23	17
21	17	27	21	61	109	93	103	60	40	29	23	17
22	17	19	20	58	102	91	100	58	38	28	22	17
23	17	17	20	56	96	90	98	57	36	48	21	16
24	16	16	20	54	92	88	97	56	35	87	21	15
25	17	16	20	53	88	86	96	55	34	79	21	17
26	17	16	18	50	87	85	93	53	34	71	20	17
27	17	16	18	46	94	84	92	52	33	65	20	17
28	16	16	18	44	92	86	91	a51	32	56	20	16
29	16	16	18	48	-	119	90	a50	32	51	20	16
30	16	16	18	56	-------	126	87	50	31	46	19	16
31	16	-------	18	72	-------	120	-------	49	-------	42	19	-------
Total	538	493	990	1,424	2,458	3,112	3,136	2,070	1,286	1,466	794	521
Mean	17.4	16.4	31.9	45.9	87.8	100	105	66.8	42.9	47.3	25.6	17.4
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1950: Max - Min - Mean - Cfsm - In. -
Water year 1950-51: Max 126 Min 14 Mean 50.1 Cfsm - In. -

a No gage-height record; discharge estimated on basis of weather records, recorded range in stage when available, and records for Mill Spring near Jefferson City.

Mossy Spring near Jefferson City, Tenn.--Continued

Discharge, in cubic feet per second, water year October 1951 to September 1952

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	80	27	71	86	51	64	35	22	16	24	17
2	15	66	26	68	84	50	64	34	21	16	30	16
3	15	54	25	66	80	74	62	33	21	16	20	16
4	15	41	47	64	85	104	60	32	21	16	17	15
5	16	33	60	67	88	93	58	31	20	16	16	15
6	16	29	49	66	85	88	56	30	20	15	39	15
7	16	49	40	64	82	84	55	30	20	15	36	14
8	16	39	36	62	79	80	54	30	20	15	26	14
9	16	32	34	60	77	77	53	29	20	15	24	14
10	16	29	31	84	75	73	51	29	19	15	26	14
11	16	26	30	84	73	a100	50	34	20	15	23	13
12	16	25	29	79	71	a90	49	39	19	15	20	13
13	16	23	27	76	70	a90	48	32	19	15	19	13
14	16	36	36	73	68	a85	45	30	18	14	17	13
15	15	37	73	71	67	a80	44	29	18	15	16	13
16	15	40	65	67	67	a75	43	28	18	16	18	13
17	15	38	57	66	65	a75	42	27	22	15	45	13
18	15	32	62	66	70	a75	41	26	19	15	34	13
19	15	30	65	65	67	a80	40	26	18	18	24	13
20	15	27	77	67	65	a75	39	26	18	17	21	13
21	15	25	124	66	63	a70	38	25	17	16	31	13
22	15	24	114	77	61	a70	36	24	17	15	58	13
23	15	23	105	82	60	a85	36	24	17	15	40	13
24	15	31	98	77	57	80	35	23	17	15	34	12
25	15	55	92	74	56	77	34	24	17	14	28	12
26	15	44	90	72	55	75	34	23	17	14	25	12
27	15	39	86	75	54	73	38	23	16	14	23	12
28	23	34	82	94	53	70	45	23	16	14	21	12
29	18	31	79	99	52	67	40	23	16	14	20	12
30	16	29	76	93	------	65	37	23	16	14	19	11
31	18	------	74	90	------	64	------	23	------	14	18	----
Total	490	1,101	1,916	2,285	2,015	2,395	1,391	868	559	469	812	402
Mean	15.8	36.7	61.8	73.7	69.5	77.3	46.4	28.0	18.6	15.1	26.2	13.4
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1951: Max 126 Min 15 Mean 54.2 Cfsm - In. -
Water year 1951-52: Max 124 Min 11 Mean 40.2 Cfsm - In. -

a No gage-height record; discharge estimated on basis of weather records, recorded range in stage when available, and records for Mill Spring near Jefferson City.

Discharge, in cubic feet per second, water year October 1952 to September 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	10	30	44	56	91	66	51	67	34	22	16
2	12	10	27	44	54	87	65	54	64	32	22	16
3	12	10	25	32	52	92	64	56	63	*31	22	16
4	12	10	23	30	50	116	63	51	61	30	23	16
5	12	10	32	28	48	116	62	49	58	30	*22	18
6	12	10	34	26	49	109	61	53	64	30	21	19
7	12	10	27	25	60	104	62	68	80	35	20	17
8	11	10	24	40	60	100	60	63	70	40	20	16
9	11	10	22	58	56	97	57	58	63	34	21	17
10	11	10	61	79	53	93	56	55	*58	31	20	16
11	11	10	88	74	52	90	55	53	55	30	20	16
12	12	10	75	67	103	87	56	52	53	30	20	16
13	12	10	63	62	104	84	63	50	53	28	20	17
14	12	10	55	56	96	84	61	*48	53	28	19	*16
15	11	10	49	52	103	98	57	46	53	27	19	15
16	11	10	44	49	106	94	55	45	51	26	20	15
17	12	10	41	46	102	91	54	44	49	26	21	14
18	11	10	37	45	97	90	52	43	48	26	22	15
19	11	10	34	44	93	88	52	87	45	26	20	14
20	11	10	31	41	91	86	50	102	44	26	20	15
21	11	10	29	61	126	84	49	91	44	26	19	14
22	11	11	27	66	128	83	48	84	43	26	18	14
23	11	12	25	61	120	80	46	88	42	25	19	14
24	11	12	23	57	113	79	45	113	41	25	18	14
25	10	25	23	54	106	78	44	98	40	24	18	14
26	10	70	21	52	102	76	43	90	38	24	18	14
27	11	75	20	51	98	75	43	84	38	24	16	14
28	11	60	19	64	93	74	42	79	38	23	16	14
29	11	50	18	68	-	73	40	76	36	23	16	13
30	10	40	18	63	------	71	47	73	35	23	17	13
31	10	------	32	60	------	68	------	71	------	22	16	----
Total	347	565	1,077	1,599	2,371	2,738	1,618	2,075	1,547	865	605	458
Mean	11.2	18.8	34.7	51.6	84.7	88.3	53.9	66.9	51.6	27.9	19.5	15.3
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 104 Min 10 Mean 36.0 Cfsm - In. -
Water year 1952-53: Max 128 Min 10 Mean 43.5 Cfsm - In. -

* Discharge measurement made on this day.
Note.--No gage-height record Oct. 31 to Nov. 2, Nov. 4-30, Dec. 16-21, Feb. 4-8, June 11-14, July 26; discharge estimated on basis of weather records, range in stage when available, and records for Mill Spring near Jefferson City.

Mossy Spring near Jefferson City, Tenn.--Continued

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	12	9.0	8.7	87	72	110	58	32	*19	16	12
2	12	11	8.7	8.4	85	73	103	55	31	20	16	12
3	13	11	*9.0	8.4	82	92	98	51	*32	20	16	*12
4	14	11	9	8.4	79	92	94	50	31	20	16	12
5	13	*11	9	8.0	77	87	88	47	29	20	*15	12
6	13	11	9	8.0	76	82	84	46	30	20	15	12
7	13	10	9	*7.7	73	77	82	45	28	20	15	11
8	*13	11	9	7.4	72	74	*79	45	28	22	15	11
9	13	10	9	7.4	67	72	76	44	28	21	15	11
10	13	10	9	7.7	66	*67	73	42	27	20	14	12
11	13	10	9	11	65	66	73	41	26	20	14	12
12	12	10	9	9.4	*62	62	70	*38	26	20	14	12
13	12	10	9	9.0	60	61	66	38	26	20	14	11
14	12	9.8	9	8.4	57	56	65	51	24	19	14	12
15	12	10	9	51	56	55	63	62	25	19	15	11
16	12	9.8	9.4	120	54	54	61	54	25	19	14	11
17	12	9.8	9.8	105	55	51	60	50	24	19	14	11
18	13	9.8	9.4	88	54	50	61	47	24	19	14	11
19	12	9.8	9.4	77	51	49	57	45	24	19	14	12
20	12	9.8	9.0	74	50	48	56	44	24	18	14	11
21	12	9.8	8.7	124	49	47	55	42	23	18	13	14
22	12	9.8	8.7	145	47	46	54	41	22	18	14	13
23	12	9.8	8.7	157	46	44	52	41	23	18	15	12
24	12	9.4	8.7	142	45	71	51	38	23	18	16	12
25	12	9.8	8.7	130	44	83	50	38	20	18	14	11
26	12	9.4	8.7	120	44	90	48	37	20	17	14	12
27	11	9.4	8.7	113	42	86	47	36	21	17	13	11
28	11	9	8.7	106	47	82	51	34	20	17	13	10
29	11	9	8.4	100	-	77	52	33	20	17	14	11
30	12	9	8.7	96	-------	74	65	33	20	17	13	11
31	11	-------	8.4	93	-------	96	-------	32	-------	16	12	------
Total	380	301.2	276.8	1,958.9	1,692	2,136	2,044	1,358	756	585	445	348
Mean	12.3	10.0	8.93	63.2	60.4	68.9	68.1	43.8	25.2	18.9	14.4	11.6
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 128 Min 8.4 Mean 40.6 Cfsm - In. -
Water year 1953-54: Max 157 Min 7.4 Mean 33.6 Cfsm - In. -

* Discharge measurement made on this day.

Note.--No gage-height record Nov. 28-30, Dec. 4-15, Feb. 2, 3, July 21 to Aug. 4; discharge estimated on basis of weather records, recorded range in stage when available, and records for Mill Spring near Jefferson City.

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, 2.5 miles upstream from Mill Spring Creek, and 3 miles north of Jefferson City, Jefferson County.

Drainage area.--3,429 sq mi.

Records available.--April 1937 to September 1954.

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, at datum 20.02 ft higher.

Average discharge.--17 years, 3,941 cfs (unadjusted).

Extremes.--Maximum discharge during year, 17,800 cfs July 6 (gage height, 29.50 ft); minimum daily, 60 cfs May 23.
1937-54: 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 recorded, 19.75 ft Dec. 25, 1941.

Remarks.--Records good. Flow regulated by South Holston, Watauga, Boone, Fort Patrick Henry, and Cherokee Lakes (see p. 245).

Revisions (water years).--WSP 923: 1939-40(M).

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 31 to Apr. 11, Apr. 23)

20.2	50	22.5	1,980
20.3	70	23.0	2,710
20.5	135	24.0	4,410
20.7	235	25.0	6,450
21.0	430	26.0	8,700
21.5	850	26.9	10,900
22.0	1,370		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,620	4,070	3,610	5,290	1,340	276	85	68	*2,170	*8,140	2,890	6,600
2	1,790	6,920	1,890	5,810	2,080	186	100	66	480	8,990	5,700	6,370
3	1,770	6,540	3,390	4,630	3,680	5,080	107	68	82	5,960	5,370	*6,530
4	1,640	6,290	*3,430	6,000	3,910	100	100	64	369	1,160	5,660	6,380
5	2,400	7,620	79	2,820	1,820	88	97	68	79	1,260	5,580	5,100
6	2,610	6,130	79	5,470	97	88	100	70	79	6,310	5,560	4,160
7	2,870	3,170	2,830	5,980	91	88	94	70	2,200	7,230	2,720	6,480
8	4,020	1,420	3,380	2,270	8,560	1,310	*94	73	4,870	7,360	2,820	6,650
9	4,080	*4,910	2,260	2,300	5,780	812	91	76	3,910	7,740	4,140	6,760
10	4,240	3,720	1,440	2,260	4,110	*557	94	70	4,040	2,910	*1,110	6,770
11	4,030	3,580	1,460	4,810	2,240	91	100	70	2,150	3,020	558	4,640
12	7,230	4,230	85	*7,020	*8,220	94	2,680	*68	1,340	10,600	85	3,880
13	6,800	1,970	85	6,580	3,840	100	2,480	68	70	7,860	79	6,740
14	*6,870	1,030	1,780	5,040	2,930	104	2,880	68	4,540	7,860	3,330	6,430
15	7,160	1,060	1,350	82	7,510	890	2,740	68	3,130	7,650	3,890	7,380
16	6,410	4,830	4,690	85	3,640	153	1,040	66	3,140	7,610	5,100	6,060
17	4,120	5,490	6,820	79	3,770	750	94	103	2,100	6,760	4,740	6,140
18	3,200	4,900	7,640	2,650	2,430	206	94	104	2,120	3,990	4,840	5,910
19	7,480	4,660	6,040	3,670	73	1,800	94	85	76	7,700	4,490	4,360
20	6,220	3,920	6,080	88	73	100	100	2,230	1,260	7,620	4,300	7,790
21	4,810	1,590	3,640	3,410	76	97	104	1,840	5,100	6,840	6,480	7,510
22	4,970	842	6,100	3,720	3,350	5,250	104	1,000	5,530	8,100	1,600	6,540
23	4,930	4,110	6,140	685	4,970	*6,830	107	60	6,000	6,970	4,900	5,870
24	3,050	3,560	7,730	97	1,410	1,520	2,910	699	5,630	2,360	4,840	6,150
25	3,320	3,380	5,910	602	2,000	104	100	2,840	5,650	1,730	6,400	2,840
26	7,480	992	4,280	200	2,340	107	8,150	2,270	4,700	4,750	7,280	3,020
27	7,410	3,350	6,810	359	2,120	104	*8,660	3,680	2,580	5,430	7,340	3,900
28	7,640	4,180	6,940	1,520	1,060	107	10,400	2,350	10,700	5,380	6,400	2,550
29	7,900	1,360	6,630	2,940	-	245	143	2,220	8,690	5,510	3,840	2,570
30	7,780	5,140	7,880	800	------	97	85	73	6,380	5,500	6,410	2,420
31	4,760	------	4,600	1,330	------	97	-------	2,200	-------	4,050	6,040	-------
Total	150,590	114,964	125,078	88,597	83,520	27,431	44,027	22,855	99,165	184,350	134,492	164,500
Mean	4,858	3,832	4,035	2,858	2,983	885	1,468	737	3,306	5,947	4,338	5,483

	Observed			Adjusted†		
Calendar year 1953:	Max 8,080	Min 47	Mean 3,875	Mean 3,614	Cfsm 1.05	In. 14.31
Water year 1953-54:	Max 10,700	Min 60	Mean 3,396	Mean 2,875	Cfsm 0.838	In. 11.38

* Discharge measurement made on this day.
† Adjusted for change in contents South Holston, Watauga, Boone, Fort Patrick Henry, and Cherokee Lakes.

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Mill Spring near Jefferson City, Tenn.

Location.--Lat 36°09'08", long 83°31'35", in spring pool at Tennessee Valley Authority pumping station, 300 ft northwest of State Highway 92, half a mile above mouth, and 3 miles northwest of Jefferson City, Jefferson County.

Records available.--August 1951 to September 1954 in reports of Geological Survey. October 1940 to September 1948 in files of Tennessee Valley Authority.

Gage.--Water-stage recorder and concrete weir.

Extremes.--Maximum and minimum discharges for the water year 1951-54 are contained in the following table:

Water year	Maximum			Minimum daily	
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)
1951†	Aug. 1, 1951	‡6.0	-	Sept. 30, 1951	3.0
1952	Dec. 21, 1951	15	1.08	Sept. 23-30, 1952	2.4
1953	Feb. 21, 1953	17	1.15	Nov. 3, 10-21, 1952	2.1
1954	Jan. 22, 1954	15	1.11	(a)	1.9

† Period August to September.
‡ Maximum daily.
a Occurred Nov. 26-28, 30, Dec. 1, 1953, Jan. 14, 1954.

1951-54: Maximum discharge, 17 cfs Feb. 21, 1953 (gage height, 1.15 ft); minimum daily, 1.9 cfs Nov. 26-28, 30, Dec. 1, 1953, Jan. 14, 1954.

Remarks.--Records good. Records do not include diversion averaging about 0.05 cfs for the domestic water supply of Cherokee Dam.

Rating tables, Aug. 1, 1951, to Sept. 30, 1954 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Aug. 6 to Oct. 17, 1951)

Aug. 1, 1951, to Sept. 30, 1953				Oct. 1, 1953, to Sept. 30, 1954			
0.2	1.4	0.9	12	0.2	1.4	0.9	11
.4	3.6	1.1	16	.4	3.6	1.1	14
.6	6.6			.6	6.2		

Discharge, in cubic feet per second, 1951

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	a6.0	3.6	9	4.0	3.6	17	3.7	3.5	25	3.5	3.5
2	a5.5	3.6	10	4.0	3.6	18	3.6	3.5	26	3.5	3.4
3	a5.5	3.6	11	4.0	*3.7	19	3.6	3.5	27	3.5	3.2
4	a5.0	3.6	12	3.9	3.7	20	3.6	3.5	28	3.5	3.2
5	a5.0	3.6	13	3.9	3.7	21	3.6	3.5	29	3.5	3.1
6	4.7	3.7	14	*3.9	4.0	22	3.6	3.5	30	3.5	3.0
7	4.4	3.6	15	3.7	3.6	23	3.6	3.5	31	3.6	-
8	4.2	3.6	16	3.7	3.6	24	3.5	3.4			
Total										124.8	105.7
Mean										4.03	3.52

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of record for Mossy Spring near Jefferson City.

Mill Spring near Jefferson City, Tenn.--Continued

Discharge, in cubic feet per second, water year October 1951 to September 1952

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.0	4.9	4.2	9.9	12	8.3	9.6	6.0	4.3	3.4	3.0	2.5
2	2.9	4.2	4.2	9.7	12	8.1	9.4	5.6	4.2	3.5	3.0	2.6
3	2.9	3.7	4.2	9.4	12	9.2	9.2	5.6	4.2	3.4	3.0	2.6
4	2.9	3.6	5.1	9.2	12	11	9.0	5.5	*4.2	3.4	3.0	2.6
5	2.9	3.5	5.5	9.0	12	11	8.8	5.5	4.0	3.4	3.0	2.5
6	2.9	3.5	5.5	8.8	12	*11	8.7	5.5	4.0	3.4	3.0	2.5
7	2.8	4.4	5.2	8.7	*11	11	8.3	5.3	4.0	3.4	*3.0	2.5
8	2.5	4.2	5.2	8.7	11	10	8.1	5.3	4.0	3.4	3.0	2.5
9	2.5	4.0	5.2	8.7	11	10	8.1	5.2	3.9	3.4	3.0	*2.5
10	2.5	4.0	5.0	9.5	11	10	*8.0	5.2	3.9	3.4	3.1	2.6
11	2.4	3.9	5.2	9.6	11	14	8.0	5.2	3.9	*3.2	3.0	2.6
12	2.4	3.7	5.0	9.7	11	13	7.8	*5.2	3.7	3.1	2.9	2.6
13	2.4	*3.7	5.0	9.7	10	13	7.6	5.0	3.7	3.2	2.9	2.6
14	2.4	4.0	5.3	9.6	10	13	7.4	5.0	3.7	3.1	2.9	2.6
15	2.4	4.2	6.8	*9.6	10	13	7.3	5.0	3.7	3.1	2.9	2.6
16	2.9	4.3	6.4	9.4	10	12	7.3	4.9	3.6	3.1	2.9	2.6
17	*3.0	4.2	6.4	9.2	10	12	7.1	4.9	3.6	3.1	2.9	2.6
18	2.9	4.2	7.1	9.0	9.7	12	7.1	4.7	3.6	3.1	2.8	2.5
19	2.9	4.2	7.6	8.8	9.6	11	6.9	4.7	3.6	3.1	2.8	2.5
20	2.9	4.2	9.3	8.8	9.6	11	6.8	4.7	3.6	3.2	2.8	2.6
21	2.9	4.0	15	8.7	9.4	11	6.6	4.7	3.5	3.2	2.8	2.6
22	2.8	4.0	14	9.4	9.2	11	6.4	4.6	3.6	3.2	2.8	2.5
23	2.6	4.0	14	9.7	9.0	11	6.4	4.6	3.5	3.1	2.8	2.4
24	2.6	4.1	13	9.6	9.0	11	6.3	4.6	3.5	3.1	2.8	2.4
25	2.6	4.6	12	9.6	8.8	11	6.3	4.6	3.5	3.1	2.6	2.4
26	2.6	4.4	*12	9.7	8.7	10	6.3	4.4	3.5	3.1	2.6	2.4
27	2.5	4.4	11	10	8.7	10	6.3	4.4	3.5	3.1	2.6	2.4
28	2.9	4.3	11	12	8.5	10	6.1	4.4	3.5	3.1	2.6	2.4
29	2.8	4.3	11	13	8.3	9.9	6.1	4.4	3.5	3.1	2.6	2.4
30	2.8	4.3	11	13	-------	9.7	6.0	4.6	3.5	3.1	2.5	2.4
31	2.9	-------	10	12	-------	9.6	-------	4.3	-------	3.0	2.6	-------
Total	84.4	123.0	247.4	301.7	296.5	337.8	223.3	153.6	112.5	99.6	88.2	75.5
Mean	2.72	4.10	7.98	9.73	10.2	10.9	7.44	4.95	3.75	3.21	2.85	2.52
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1951: Max - Min - Mean - Cfsm - In. -
Water year 1951-52: Max 15 Min 2.4 Mean 5.86 Cfsm - In. -

* Discharge measurement made on this day.

Discharge, in cubic feet per second, water year October 1952 to September 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	2.2	2.5	3.0	5.5	12	8.5	5.5	7.6	4.4	3.5	2.8
2	2.4	2.2	2.5	3.0	5.3	12	8.5	6.2	7.3	4.3	3.5	2.8
3	*2.4	2.1	*2.5	2.9	5.3	12	8.3	6.1	6.9	*4.2	3.5	2.6
4	2.4	2.2	2.4	3.0	5.3	14	8.1	5.8	6.8	4.2	3.5	2.6
5	2.4	*2.2	2.8	2.9	5.2	14	8.0	5.6	6.6	4.2	*3.5	2.6
6	2.4	2.2	2.8	*2.8	5.2	14	7.8	5.8	6.4	4.0	3.4	2.6
7	2.4	2.2	2.8	2.8	5.5	14	7.6	6.4	6.6	4.3	3.4	2.6
8	2.4	2.2	2.5	3.2	5.5	14	7.4	6.3	6.4	4.4	3.2	a2.5
9	2.4	2.2	2.5	3.6	5.3	13	*7.3	6.3	6.3	4.3	3.4	a2.4
10	2.4	2.1	3.9	4.3	5.2	13	7.1	6.1	*6.1	4.2	3.2	a2.4
11	2.3	2.1	4.8	4.3	5.4	13	6.8	5.8	6.1	4.2	3.2	a2.4
12	2.4	2.1	4.2	4.2	8.9	12	6.8	5.8	6.0	4.2	3.2	a2.4
13	2.3	2.1	3.9	4.2	9.2	12	6.6	5.6	6.0	4.0	3.2	a2.4
14	2.3	2.1	3.7	4.2	9.0	12	6.6	*5.5	5.8	4.0	3.2	*2.6
15	2.3	2.1	3.6	4.0	10	12	6.4	5.5	5.6	4.0	3.2	2.6
16	2.3	2.1	3.5	4.0	*11	12	6.4	5.3	5.5	4.0	3.2	2.6
17	2.2	2.1	3.4	3.9	11	*11	6.3	5.3	5.5	4.0	3.1	2.5
18	2.2	2.1	3.2	4.0	11	11	6.3	5.2	5.3	4.0	3.1	2.5
19	2.3	2.1	3.2	3.9	10	11	6.1	8.4	5.2	4.0	3.1	2.5
20	2.2	2.1	3.2	3.9	10	11	6.0	9.4	5.2	3.9	3.0	2.6
21	2.3	2.1	3.2	4.8	15	11	5.8	8.8	5.0	3.9	3.0	2.5
22	2.3	2.2	3.1	4.9	16	11	5.6	8.7	5.0	3.9	3.0	2.5
23	2.3	2.3	3.0	4.9	15	11	5.5	8.8	4.9	3.9	3.0	2.5
24	2.3	2.3	3.0	5.0	15	10	5.5	11	4.9	3.9	3.0	2.5
25	2.3	2.6	2.9	5.0	14	10	5.5	11	4.7	3.9	3.0	2.5
26	2.3	3.5	2.9	4.7	14	9.7	5.3	10	4.7	a3.7	3.0	2.5
27	2.2	3.2	2.9	4.7	13	9.6	5.3	9.6	4.7	3.7	2.9	2.5
28	2.2	2.9	2.9	5.3	13	9.4	5.2	9.0	4.7	3.6	2.9	2.5
29	2.2	2.6	2.8	5.5	-	9.2	5.2	8.5	4.6	3.6	2.8	2.5
30	2.2	2.6	2.8	5.3	-------	8.8	5.5	8.1	4.4	3.5	2.9	2.5
31	2.2	-------	3.0	5.3	-------	8.7	-------	7.8	-------	3.5	2.8	-------
Total	71.6	69.1	96.4	127.5	263.8	357.4	197.3	223.2	170.8	123.9	97.9	76.0
Mean	2.31	2.30	3.11	4.11	9.42	11.5	6.58	7.20	5.69	4.00	3.16	2.53
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 14 Min 2.1 Mean 5.26 Cfsm - In. -
Water year 1952-53: Max 16 Min 2.1 Mean 5.14 Cfsm - In. -

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of records for Mossy Spring near Jefferson City.

Mill Spring near Jefferson City, Tenn.--Continued

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	2.2	1.9	2.1	8.2	5.8	12	5.9	4.1	*3.2	2.9	2.4
2	2.4	2.1	2.0	2.1	8.0	6.1	12	5.8	4.1	3.2	2.8	2.4
3	2.4	2.1	2.0	2.1	7.9	7.9	11	5.8	4.2	3.2	2.9	*2.4
4	2.4	2.1	*2.0	2.1	7.4	8.3	11	5.8	4.1	3.2	2.8	2.4
5	2.4	*2.1	2.1	2.1	7.2	8.3	11	5.7	4.1	3.2	2.8	2.4
6	2.4	2.1	2.1	2.0	7.0	8.2	10	5.6	4.1	3.1	2.8	2.4
7	2.4	2.1	2.1	*2.0	6.8	8.2	10	5.4	4.0	3.1	2.8	2.4
8	*2.3	2.2	2.1	2.0	6.6	8.0	*9.8	5.3	4.0	3.1	2.8	2.4
9	2.4	2.1	2.1	2.0	6.5	7.9	9.3	5.3	*4.1	3.0	2.8	2.3
10	2.4	2.1	2.1	2.0	6.4	*7.6	9.0	5.2	4.0	3.0	*2.8	2.3
11	2.4	2.1	2.1	2.0	6.1	7.4	8.8	5.2	3.9	3.0	2.8	2.2
12	2.3	2.0	2.1	2.0	*5.9	7.2	8.7	*5.2	3.9	2.9	2.6	2.2
13	2.2	2.0	2.1	2.0	5.8	7.1	8.3	4.9	3.9	2.9	2.6	2.2
14	2.3	2.0	2.1	1.9	5.7	7.0	8.2	5.0	3.6	2.9	2.6	2.2
15	2.2	2.0	2.1	3.2	5.4	6.6	8.0	5.0	3.6	2.9	2.6	2.2
16	2.2	2.0	2.1	6.5	5.2	6.5	7.9	5.0	3.6	2.9	2.5	2.1
17	2.2	2.0	2.2	5.2	5.2	6.4	7.6	5.0	3.6	2.9	2.5	2.1
18	2.2	2.0	2.1	4.5	5.0	6.1	7.4	4.8	3.6	2.9	2.5	2.1
19	2.2	2.0	2.1	4.1	4.8	5.9	7.2	4.8	3.5	2.9	2.5	2.1
20	2.2	2.0	2.2	4.2	4.6	5.9	7.2	4.6	3.5	2.9	2.5	2.1
21	2.2	2.0	2.2	8.7	4.6	5.8	7.1	4.5	3.5	2.9	2.5	2.2
22	2.2	2.0	2.1	12	4.5	5.6	7.0	4.5	3.5	3.0	2.4	2.2
23	2.2	2.0	2.2	14	4.5	5.6	6.8	4.5	3.5	3.1	2.4	2.2
24	2.2	2.0	2.1	13	4.5	6.5	6.6	4.4	3.4	3.1	2.4	2.2
25	2.2	2.0	2.2	12	4.4	7.2	6.6	4.4	3.4	3.0	2.4	2.2
26	2.2	1.9	2.1	11	4.4	8.5	6.5	4.4	3.4	3.0	2.4	2.2
27	2.2	1.9	2.2	10	4.4	8.7	6.4	4.2	3.4	3.0	2.4	2.2
28	2.2	1.9	2.2	9.6	4.6	8.7	6.4	4.2	3.2	2.9	2.4	2.2
29	2.2	2.0	2.2	9.3	-	8.5	6.2	4.2	3.2	2.9	2.4	2.2
30	2.2	1.9	2.1	8.8	------	8.3	5.9	4.2	3.2	2.9	2.4	2.2
31	2.1	-----	2.1	8.7	-----	10	-----	4.1	------	2.9	2.4	------
Total	70.4	60.9	65.4	173.2	161.6	225.8	249.9	152.9	111.2	93.1	80.4	67.3
Mean	2.27	2.03	2.11	5.59	5.77	7.28	8.33	4.93	3.71	3.00	2.59	2.24
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 14 Min 1.9 Mean 4.80 Cfsm - In. -
Water year 1953-54: Max 14 Min 1.9 Mean 4.14 Cfsm - In. -

* Discharge measurement made on this day.

Holston River near Knoxville, Tenn.

Location.--Lat 36°00'56", long 83°49'54", on left bank 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.
Records available.--October 1930 to September 1954. Published as "at Strawberry Plains" 1930-48. Records published for both sites June 1945 to September 1948.
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 higher.
Average discharge.--24 years, 4,360 cfs (unadjusted).
Extremes.--Maximum discharge during year, 16,600 cfs July 13 (gage height, 7.47 ft); minimum daily, 218 cfs Dec. 7.
1930-54: 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.--Records good. Flow regulated by South Holston, Watauga, Boone, Fort Patrick Henry, and Cherokee Lakes (see p. 245).
Revisions (water years).--WSP 893: 1935(M). Revised figures of discharge, in cubic feet per second, for the water year 1939, superseding those published in WSP 873, are given herewith:

Jan. 31, 1939..... 7,750

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
January 1939.....	130,620	7,750	2,420	4,214	1.16	1.34
Water year 1938-39.....	1,388,675	24,800	702	3,805	1.05	14.25
Calendar year 1939.....	1,281,720	24,800	684	3,512	.969	13.14

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

1.2	180	3.0	2,580
1.4	290	4.0	4,920
1.7	540	5.0	7,840
2.0	890	5.9	10,800
2.5	1,640		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,150	4,410	4,290	3,920	1,750	2,500	1,890	450	2,270	7,170	3,680	6,560
2	1,800	5,640	3,160	4,540	2,280	1,540	1,240	384	2,560	8,620	3,960	6,360
3	1,840	6,860	1,920	5,660	1,560	2,080	981	424	1,160	8,650	5,640	7,610
4	1,860	5,970	4,080	4,670	5,340	5,800	842	540	617	4,580	6,000	6,720
5	1,780	6,310	2,360	5,420	2,630	1,150	746	400	628	1,660	5,940	7,080
6	2,510	7,260	402	2,520	1,910	842	698	360	460	3,840	6,150	5,120
7	2,760	6,050	218	7,710	584	734	*710	353	360	6,860	4,860	4,890
8	3,450	2,030	2,840	2,840	2,930	650	662	408	2,870	7,510	3,190	7,200
9	3,820	*2,680	3,230	2,190	7,490	*1,620	584	376	*5,840	7,770	3,870	7,100
10	3,830	4,550	2,110	2,250	4,940	1,280	540	*339	3,830	5,590	*3,740	7,100
11	4,460	3,560	1,370	2,830	*3,720	1,050	520	332	3,260	3,560	1,630	5,950
12	5,200	3,700	1,380	5,410	4,120	617	510	325	2,470	5,690	866	5,500
13	7,410	3,380	368	6,790	7,060	584	2,460	332	1,760	10,100	490	5,080
14	*6,910	1,540	299	5,340	3,350	584	2,540	628	1,390	8,030	397	6,980
15	6,530	1,090	1,590	5,650	4,540	540	2,880	628	3,880	8,270	4,290	6,640
16	6,920	1,920	*1,370	4,840	5,970	1,200	2,730	551	3,620	7,820	3,820	7,360
17	4,950	4,790	5,780	1,940	4,520	782	1,450	470	3,300	7,210	6,760	6,510
18	4,860	5,370	6,800	1,180	3,590	1,230	562	460	2,480	5,790	5,310	5,910
19	4,650	4,590	7,400	*3,070	1,700	638	440	500	2,420	*6,230	5,230	6,080
20	7,450	4,100	5,400	3,770	416	2,180	416	460	617	7,240	4,670	6,910
21	5,560	3,210	5,500	5,780	339	722	400	2,300	2,160	7,530	6,880	7,790
22	5,000	1,560	4,030	9,530	391	2,140	400	1,920	5,320	7,930	3,870	7,540
23	4,830	1,140	5,880	8,110	4,650	5,240	400	1,410	6,190	8,540	3,180	8,770
24	3,730	4,290	7,580	2,480	3,500	7,180	427	530	6,040	5,120	5,010	*6,100
25	2,940	3,280	4,990	1,310	1,660	1,980	2,500	933	5,990	2,650	6,160	4,400
26	4,800	2,940	5,280	1,420	2,080	1,870	1,950	2,870	5,940	3,000	7,360	3,440
27	7,280	1,110	4,650	1,080	2,360	1,310	*8,620	2,900	4,220	4,800	7,920	3,370
28	7,520	3,120	7,050	1,090	3,260	981	9,400	3,500	6,080	5,600	7,300	3,940
29	7,950	3,870	6,580	2,990	-	818	7,540	2,570	10,800	5,730	5,580	2,890
30	7,770	2,160	6,620	2,390	-	842	722	2,430	7,310	5,720	5,250	2,720
31	6,450	-	7,580	1,340	-	1,700	-	623	-	5,850	7,300	-
Total	150,970	112,480	122,107	118,060	88,640	52,384	55,760	30,708	105,842	194,660	146,303	177,620
Mean	4,870	3,749	3,939	3,808	3,166	1,690	1,859	991	3,528	6,279	4,719	5,921

	Observed			Adjusted†		
Calendar year 1953:	Max 8,900	Min 218	Mean 4,241	Mean 3,980	Cfsm 1.06	In. 14.42
Water year 1953-54:	Max 10,800	Min 218	Mean 3,714	Mean 3,192	Cfsm 0.852	In. 11.57

* Discharge measurement made on this day.
† Adjusted for change in contents in South Holston, Watauga, Boone, Fort Patrick Henry, and Cherokee Lakes.

First Creek at Mineral Springs Avenue, at Knoxville, Tenn.

Location.--Lat 36°00'53", long 83°55'18", on right bank 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 (includes 3.8 sq mi without surface drainage).

Records available.--April 1945 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 940.87 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--9 years, 23.3 cfs.

Extremes.--Maximum discharge during year, 593 cfs Jan. 21 (gage height, 6.78 ft); minimum, 2.2 cfs Nov. 6; minimum gage height, 1.58 ft Sept. 6-9.
1945-54: 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. 21, Oct. 1, 1945.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Discharge measurements generally made twice a month.

Revisions.--WSP 1276: Drainage area.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Jan. 15, Jan. 24 to Feb. 16, Aug. 15 to Sept. 21)

1.6	1.5	2.7	29
1.7	2.5	3.0	39
1.9	5.8	4.0	72
2.1	10	5.0	115
2.3	16	5.5	195
2.5	22	6.1	360

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.6	3.0	2.8	a4.2	31	76	76	17	42	5.3	4.0	3.4
2	3.4	3.0	2.6	a4.0	30	53	51	15	16	4.9	4.2	3.4
3	3.2	2.8	3.0	a4.0	27	59	44	77	36	5.6	4.4	3.2
4	3.2	2.5	3.7	a4.0	24	43	39	54	16	6.8	3.8	3.2
5	3.7	2.8	3.2	a4.4	22	47	34	28	13	6.8	3.8	3.2
6	3.7	2.4	3.1	a3.8	21	33	34	23	12	5.6	4.5	3.0
7	3.6	2.4	3.1	a3.7	20	29	31	23	12	5.4	3.8	3.0
8	3.6	2.6	3.0	a3.7	19	27	28	21	11	11	3.8	3.0
9	3.4	3.1	32	a3.6	18	25	26	18	11	6.2	4.7	3.0
10	3.2	2.8	15	a8.9	17	23	24	17	10	5.3	3.8	4.2
11	3.2	3.0	7.3	a 11	16	22	23	16	10	5.3	3.6	3.2
12	3.4	2.8	22	7.9	15	20	21	15	9.6	5.3	3.8	3.1
13	3.4	2.8	12	5.6	14	30	20	15	9.8	4.9	4.0	3.4
14	3.6	2.8	24	6.8	14	24	20	32	8.9	4.9	3.4	3.1
15	3.4	2.6	14	189	13	20	19	20	8.6	4.5	7.3	3.2
16	3.2	2.8	10	315	20	18	19	17	8.6	4.4	5.3	3.4
17	3.0	2.6	8.4	68	20	17	26	15	8.6	3.8	5.3	3.2
18	2.8	2.6	a7.3	49	16	16	19	17	8.1	4.0	5.6	3.4
19	3.0	2.6	a7.1	42	15	18	18	16	7.9	3.8	4.5	3.2
20	3.0	2.8	a6.6	91	16	30	17	15	7.7	3.7	5.5	9.1
21	3.0	3.1	a6.0	352	16	19	16	13	7.5	3.7	5.3	11
22	3.0	8.6	5.8	291	15	17	16	12	7.3	32	4.7	4.2
23	3.0	5.2	5.1	174	14	17	15	12	6.8	14	4.4	3.6
24	3.0	4.4	5.1	90	18	83	14	11	6.6	7.7	4.0	3.2
25	3.0	4.7	a4.7	70	16	81	13	11	6.6	6.4	4.0	3.1
26	3.0	3.2	a4.7	57	15	100	13	11	5.8	5.6	5.0	3.1
27	3.8	3.1	a4.5	57	14	52	18	10	5.6	5.3	3.8	3.1
28	3.2	3.0	a4.9	45	56	43	56	9.8	5.8	4.9	3.8	3.1
29	3.1	2.8	a5.4	40	-	37	38	9.8	5.6	4.7	3.7	3.0
30	3.0	3.0	a4.7	36	-------	33	21	9.6	5.4	4.2	3.7	4.6
31	3.0	-------	a4.2	33	-------	136	-------	9.1	-------	4.2	3.4	-------
Total	100.7	95.9	245.5	2,074.6	552	1,238	809	589.3	329.8	200.2	133.9	112.9
Mean	3.25	3.20	7.92	66.9	19.7	39.9	27.0	19.0	11.0	6.46	4.32	3.76
Cfsm	0.207	0.204	0.504	4.26	1.25	2.54	1.72	1.21	0.701	0.411	0.275	0.239
In.	0.24	0.23	0.58	4.91	1.31	2.93	1.92	1.40	0.78	0.47	0.32	0.27

Calendar year 1953: Max 241 Min 2.4 Mean 17.5 Cfsm 1.11 In. 15.16
Water year 1953-54: Max 352 Min 2.4 Mean 17.8 Cfsm 1.13 In. 15.36

Peak discharge (base, 600 cfs).--No peak above base.
a No gage-height record; discharge estimated on basis of weather records, recorded range in stage, and records for station at Fifth Avenue.

First Creek at Fifth Avenue, at Knoxville, Tenn.

Location.--Lat 35°58'40", long 83°54'51", on left bank 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 (includes 4.5 sq mi without surface drainage).
Records available.--June 1932 to March 1934, April 1945 to September 1954. Published as "at Knoxville" 1932-34.
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.--10 years (1932-33, 1945-54), 29.2 cfs.
Extremes.--Maximum discharge during year, 673 cfs Jan. 21 (gage height, 7.03 ft); minimum, 2.7 cfs Oct. 11, 12; minimum gage height, 0.24 ft Jan. 9.
1932-34, 1945-54: Maximum discharge, 1,230 cfs Feb. 13, 1948 (gage height, 8.92 ft); minimum, that of Oct. 11, 12, 1953; minimum gage height, that of Jan. 9, 1954.
Revisions.--The maximum discharge for the water year 1933 has been revised to 770 cfs Feb. 14, 1933 (gage height, 8.60 ft, from graph based on gage readings), superseding figure published in WSP 743.
Remarks.--Records good. Discharge measurements generally made twice a month.
Revisions.--WSP 1276: Drainage area. Revised figures of discharge, in cubic feet per second, for the water year 1933, superseding those published in WSP 743, are given herewith:

1932	
Dec. 28	363
1933	
Feb. 14	341
15	488
20	363

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
December 1932	363	9.7	67.9	3.20	3.70
February 1933	488	19	99.2	4.68	4.88
Water year 1932-33	488	5.4	37.1	1.75	23.75
Calendar year 1933	488	4.3	29.6	1.40	19.04

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 14 to Nov. 12, Nov. 17-22, Apr. 6-25, June 26 to Sept. 6, Sept. 20-30)

Oct. 1-14		Oct. 14 to Sept. 30					
0.5	2.2	0.1	2.1	0.9	18	3.0	100
.7	4.4	.3	4.6	1.1	24	4.0	180
		.5	8.0	1.5	38	5.0	290
		.7	12	2.0	56	6.2	484

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.4	3.3	3.7	5.2	35	100	102	22	68	7.1	5.2	3.7
2	3.8	3.4	3.6	5.1	33	64	59	19	27	8.2	8.6	3.4
3	3.4	3.3	3.4	5.2	32	77	50	76	50	8.8	6.0	3.4
4	3.4	3.2	4.5	5.2	28	51	45	73	23	12	5.9	3.3
5	4.2	3.3	3.4	5.4	26	43	40	33	17	13	6.2	3.3
6	4.0	3.3	3.8	4.6	24	37	42	28	15	6.7	8.6	3.3
7	3.8	3.3	3.8	4.2	22	33	34	28	14	5.9	5.6	4.3
8	3.8	3.3	3.6	4.2	22	30	31	25	14	19	5.9	3.9
9	3.4	3.3	45	4.0	21	28	26	22	13	7.1	10	3.9
10	3.1	3.2	20	15	20	26	24	20	13	6.0	5.6	4.2
11	2.9	3.2	9.4	17	19	24	24	20	12	5.6	5.4	4.5
12	3.4	3.2	26	9.4	17	21	23	19	11	5.9	5.5	3.8
13	3.8	3.2	14	7.6	17	32	22	22	20	5.9	5.6	4.0
14	4.2	3.2	28	11	16	26	21	45	9.8	6.2	4.8	3.8
15	3.6	3.2	14	272	16	22	20	25	9.4	5.6	9.6	3.7
16	3.6	3.3	11	431	27	20	24	21	9.4	5.6	5.6	3.8
17	3.4	3.3	9.2	78	24	19	34	19	9.8	6.5	5.6	3.7
18	3.3	3.3	8.2	50	18	18	22	27	9.8	5.5	6.0	3.8
19	3.4	3.3	7.3	44	16	23	20	21	8.8	4.9	4.6	3.7
20	3.4	3.2	7.1	117	20	36	19	19	8.0	4.6	9.4	20
21	3.4	3.3	7.3	467	17	22	18	17	7.8	4.8	5.8	19
22	3.4	15	7.1	374	16	20	18	16	7.8	55	4.6	4.8
23	3.3	9.0	6.6	198	15	21	18	15	7.6	22	4.6	4.0
24	3.3	7.9	6.0	93	22	122	17	14	7.6	9.4	4.3	3.7
25	3.3	7.4	6.0	76	18	99	20	13	7.6	7.1	4.3	3.6
26	3.3	5.1	5.7	63	17	138	19	13	6.7	6.9	4.2	3.4
27	4.4	4.9	5.6	66	16	61	21	13	6.0	7.1	4.3	3.4
28	3.4	5.0	6.4	50	81	50	54	13	6.6	6.9	4.2	3.3
29	3.4	3.8	6.9	45	-	43	63	12	6.7	7.1	4.1	3.3
30	3.3	3.7	6.2	40	-------	39	27	11	6.9	6.7	4.1	8.7
31	3.3	-------	5.7	37	-------	143	-------	11	-------	5.9	3.7	-------
Total	110.1	130.4	298.5	2,604.1	655	1,488	957	732	433.3	289.0	177.9	148.7
Mean	3.55	4.35	9.63	84.0	23.4	48.0	31.9	23.6	14.4	9.32	5.74	4.96
Cfsm	0.168	0.206	0.456	3.98	1.11	2.27	1.51	1.12	0.682	0.442	0.272	0.235
In.	0.19	0.23	0.53	4.59	1.15	2.62	1.69	1.29	0.76	0.51	0.31	0.26

Calendar year 1953: Max 371 Min 2.9 Mean 21.4 Cfsm 1.01 In. 13.79
Water year 1953-54: Max 467 Min 2.9 Mean 22.0 Cfsm 1.04 In. 14.13

Peak discharge (base, 600 cfs).--Jan. 16 (6:30 a.m.) 625 cfs (6.83 ft); Jan. 21 (7:30 a.m.) 673 cfs (7.03 ft).

Tennessee River at Knoxville, Tenn.

Location.--Lat 35°57'17", long 83°51'42", on left bank 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, includes that of First Creek.

Records available.--January 1899 to December 1912 (1899 and 1910-12, gage heights only) and October 1918 to September 1954 in reports of Geological Survey. October 1899 to September 1924 (prior to October 1918, revised) in Tennessee Division of Geology Bulletin 34. 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 (corrected), staff or recording gages at several sites within 4 miles of present site at various datums. Since Sept. 1, 1943 (corrected), auxiliary water-stage recorder 6.3 miles downstream.

Average discharge.--55 years (1899-1954), 12,770 cfs (unadjusted).

Extremes.--Maximum discharge during year, 45,300 cfs Jan. 22; maximum gage height, 18.04 ft Jan. 23; minimum daily discharge, 1,010 cfs Mar. 28; minimum gage height, 7.95 ft Jan. 18.

1899-1954: Maximum discharge observed, 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 daily, that of Mar. 28, 1954; minimum gage height, -1.7 ft Sept. 11, 1925, site and datum then in use.

Maximum stage known, 45.8 ft Mar. 10, 1867, site and datum of gage at old city pumping 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.--Records good above 10,000 cfs and fair below. Flow regulated by Douglas, South Holston, Watauga, Boone, Fort Patrick Henry, and Cherokee Lakes (see p. 245).

Revisions (water years).--WSP 583: 1902(M). WSP 823: Drainage area. WSP 893: 1867(M). See also Records available.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,080	4,120	11,200	7,760	18,600	9,910	7,020	3,370	10,000	13,900	9,590	7,290
2	2,050	5,140	9,640	10,500	18,300	7,500	3,220	5,260	7,400	16,600	12,500	7,090
3	1,980	6,470	8,940	11,200	14,900	9,500	2,140	6,630	6,630	15,000	14,000	9,460
4	1,970	5,070	10,900	8,060	18,500	16,400	2,130	1,410	4,630	7,730	13,700	9,100
5	2,630	6,470	7,750	9,470	16,600	5,710	2,630	7,870	4,670	2,830	14,400	8,940
6	4,370	7,690	1,790	5,900	15,100	6,910	5,500	10,400	4,210	8,870	15,700	6,680
7	4,370	6,100	2,820	13,700	13,300	6,470	6,360	7,340	4,910	14,900	13,600	6,630
8	4,940	3,140	7,990	9,860	15,000	9,230	8,180	7,150	8,500	15,300	8,230	9,860
9	4,940	7,480	9,550	8,020	20,100	11,000	8,730	6,070	10,700	15,100	11,200	9,700
10	4,350	10,400	7,870	8,260	17,000	12,300	4,600	9,340	9,340	11,000	8,660	9,540
11	4,330	10,200	4,040	9,770	*16,200	14,200	3,180	8,870	*9,380	6,920	5,460	9,780
12	5,500	10,600	3,370	11,200	15,800	14,000	6,560	10,100	8,050	11,700	2,770	7,640
13	9,390	9,400	1,200	14,900	19,000	14,100	11,900	10,100	7,530	18,000	5,090	6,210
14	9,620	5,670	6,940	12,900	15,000	14,700	11,400	7,610	8,830	16,300	6,540	9,590
15	10,300	4,170	9,660	10,900	13,400	14,200	10,400	3,570	12,400	17,100	8,980	9,890
16	7,090	6,900	*9,230	21,100	14,400	14,000	10,400	2,810	12,000	*16,500	10,200	10,700
17	5,820	8,690	12,900	10,700	12,700	*13,200	6,460	6,530	9,700	14,800	15,300	10,100
18	5,260	*11,500	14,300	5,830	12,600	12,400	5,790	5,390	7,730	10,200	12,700	9,170
19	5,240	9,120	14,300	8,340	10,400	12,200	4,220	4,210	8,150	13,300	12,100	7,380
20	7,620	6,810	13,300	8,960	6,320	15,000	3,280	5,500	6,070	15,600	*12,100	12,700
21	5,670	5,010	13,000	22,300	6,380	13,400	3,300	8,150	8,460	14,300	14,400	11,400
22	5,050	3,350	11,800	30,300	5,570	14,800	2,810	9,180	12,200	15,600	7,680	9,930
23	4,540	4,180	13,600	30,600	11,600	15,900	2,840	7,590	13,500	17,400	10,500	10,100
24	3,460	8,210	15,600	19,700	11,800	17,100	5,600	8,270	12,400	11,900	14,400	*9,620
25	1,780	7,130	13,300	25,200	9,520	13,000	7,350	7,350	12,400	4,220	12,000	6,160
26	4,580	5,930	12,000	*30,500	9,950	10,700	10,500	10,400	12,800	9,480	13,700	4,480
27	7,820	3,960	9,920	30,600	9,390	2,650	*18,300	11,300	11,100	13,200	14,300	3,360
28	8,150	5,190	10,500	29,600	8,790	1,010	18,700	11,800	11,600	13,300	12,600	5,110
29	8,880	6,040	10,300	30,400	-	4,570	16,800	10,800	17,600	13,700	6,710	3,320
30	8,150	7,310	10,500	26,500	-------	4,570	2,080	7,090	14,200	13,800	9,480	3,300
31	6,750	-------	11,300	21,100	-------	6,630	-------	8,360	-------	15,200	10,200	-------
Total	170,680	201,450	299,510	504,130	376,220	337,260	212,380	229,820	287,090	403,750	338,790	244,230
Mean	5,506	6,715	9,662	16,260	13,440	10,880	7,079	7,414	9,570	13,020	10,930	8,141
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 29,500 Min 1,200 Mean 10,350 Cfsm 1.16 In. 15.73
Water year 1953-54: Max 30,600 Min 1,010 Mean 9,878 Cfsm 1.11 In. 15.01

* Discharge measurement made on this day.

Little River near Maryville, Tenn.

Location.--Lat 35°47'10", long 83°53'04", on right bank on downstream side of bridge on U. S. Highway 411, 0.8 mile downstream from Crooked Creek, 5.0 miles east of Maryville, Blount County, and at mile 17.32.

Drainage area.--269 sq mi.

Records available.--July 1951 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 850.00 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge during year, 13,300 cfs Jan. 16 (gage height, 18.44 ft); minimum, 33 cfs Sept. 16, 18 (gage height, 6.72 ft).
1951-54: Maximum discharge, that of Jan. 16, 1954; minimum, that of Sept. 16, 18, 1954.
Floods of March 1875, April 1920, and Mar. 29, 1951, reached stages of 31.0, 24.0, and 21.05 ft (discharge, 20,200 cfs) respectively, present datum, from floodmarks.

Remarks:--Records good. Diurnal fluctuation at low flow caused by small mills above station.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 15				Jan. 16 to Sept. 30			
6.8	41	7.6	315	6.8	41	8.0	510
6.9	57	8.0	535	6.9	54	9.0	1,250
7.0	79	9.0	1,260	7.0	73	11.0	3,250
7.3	182	10.5	2,560	7.3	164	13.0	5,540
				7.6	285	16.6	10,400

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	61	79	137	438	2,140	2,560	456	648	124	86	60
2	*54	*64	*79	127	*402	*1,380	*1,480	414	*654	*127	*112	*67
3	54	64	72	134	379	2,430	1,060	*462	438	150	121	53
4	54	64	91	*137	362	1,660	840	582	374	133	95	49
5	54	64	210	127	325	1,020	689	480	300	124	84	51
6	50	64	144	124	300	773	614	438	267	133	139	58
7	51	61	250	117	276	640	640	426	244	118	195	50
8	51	57	194	110	254	575	542	498	228	124	121	46
9	54	61	315	107	244	556	568	432	212	133	137	50
10	49	54	926	113	236	575	486	396	204	121	171	45
11	51	54	409	326	228	614	456	368	196	109	130	58
12	54	56	345	256	220	703	462	346	200	106	109	60
13	47	54	382	171	200	759	426	346	216	89	103	60
14	51	50	547	198	193	1,020	408	634	212	86	100	50
15	47	51	481	2,530	189	810	390	620	216	86	92	51
16	51	59	350	*10,400	196	647	379	542	212	73	84	49
17	46	55	270	2,800	362	542	1,270	468	465	78	78	45
18	49	51	194	1,220	276	492	1,190	456	426	84	78	46
19	52	51	178	795	244	462	870	516	320	95	90	44
20	49	55	178	688	254	510	689	492	272	76	72	57
21	49	57	182	7,300	480	420	582	504	232	78	65	101
22	49	105	214	*8,570	374	374	510	444	212	261	67	95
23	*46	270	235	4,640	335	368	549	396	196	478	71	67
24	47	167	202	2,100	346	1,520	840	362	186	164	112	54
25	47	210	178	1,380	330	1,900	710	330	171	121	68	56
26	54	194	159	1,050	300	*3,420	986	310	164	103	73	45
27	52	137	152	1,030	276	1,890	766	290	154	92	68	56
28	54	120	148	802	616	1,230	647	276	147	86	62	48
29	121	101	174	668	-	915	582	272	133	86	92	46
30	121	85	167	575	-------	752	523	272	127	78	97	50
31	70	-------	152	492	-------	1,270	-------	244	-------	76	64	------
Total	1,735	2,596	7,657	49,224	8,635	32,367	22,714	13,072	8,026	3,792	3,036	1,667
Mean	56.0	86.5	247	1,588	308	1,044	757	422	268	122	97.9	55.6
Cfsm	0.208	0.322	0.918	5.90	1.14	3.88	2.81	1.57	0.996	0.454	0.364	0.207
In.	0.24	0.36	1.06	6.81	1.19	4.47	3.14	1.81	1.11	0.52	0.42	0.23

Calendar year 1953: Max 7,370 Min 46 Mean 469 Cfsm 1.74 In. 23.65
Water year 1953-54: Max 10,400 Min 44 Mean 423 Cfsm 1.57 In. 21.36

Peak discharge (base, 4,800 cfs).--Jan. 16 (7:30 a.m.) 13,300 cfs (18.44 ft); Jan. 21 (10:30 a.m.) 11,500 cfs (17.33 ft).
* Discharge measurement made on this day.

Little Tennessee River near Prentiss, N. C.

Location.--Lat 35°08'57", long 83°22'46", on left bank 600 ft upstream from Owenby Branch, 0.5 mile upstream from Cartoogechaye Creek, and 2 miles north of Prentiss, Macon County.

Drainage area.--140 sq mi.

Records available.--June 1944 to September 1954.

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.--10 years, 382 cfs.

Extremes.--Maximum discharge during year, 3,430 cfs Jan. 22 (gage height, 9.28 ft); minimum, 67 cfs Sept. 30 (gage height, 1.22 ft).
1944-54: Maximum discharge, 5,900 cfs June 16, 1949 (gage height, 12.85 ft); minimum, that of Sept. 30, 1954.
Flood in October 1898 reached a stage of about 15 ft, from profiles by Tennessee Valley Authority.

Remarks.--Records excellent except those for period of no gage-height record and those above 2,000 cfs, which are good.

Revisions (water years).--WSP 1236: 1949(M).

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Jan. 21-25)

Oct. 1 to Jan. 22				Jan. 23 to Sept. 30			
1.3	87	3.0	587	1.2	64	1.6	128
1.6	132	4.0	1,130	1.3	77	2.0	220
2.0	220	5.0	1,700				
2.5	377	7.0	2,680	Note.--Same as preceding table above 2.0 ft.			

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	117	99	127	267	501	878	917	423	292	157	177	99
2	114	99	124	256	480	621	730	407	348	155	161	95
3	109	96	122	264	459	616	650	423	304	159	150	94
4	106	96	387	253	435	550	597	468	310	187	132	92
5	104	96	310	247	415	501	559	404	270	159	126	89
6	102	96	317	242	400	468	573	385	253	155	171	86
7	99	95	463	234	381	443	625	377	244	146	150	83
8	99	94	301	231	370	*427	606	381	236	142	130	82
9	100	92	574	228	359	404	601	355	228	152	202	84
10	99	92	1,050	225	348	392	541	345	223	168	159	97
11	97	92	569	264	341	381	523	338	220	202	130	90
12	96	92	630	276	331	370	*501	331	215	157	*120	84
13	95	92	592	236	317	455	472	352	247	144	122	82
14	99	92	750	234	310	834	489	550	239	142	117	*82
15	112	92	616	356	304	587	489	a450	225	210	113	*78
16	115	91	472	2,380	307	501	637	a400	273	*163	109	76
17	102	91	388	1,800	370	459	840	a370	*335	146	106	76
18	99	91	341	750	310	439	635	352	431	138	104	76
19	99	91	314	592	*295	472	569	338	292	138	102	73
20	97	97	298	519	690	555	523	327	256	134	104	73
21	96	346	321	*1,510	1,180	480	501	*314	236	130	107	77
22	95	271	345	*2,500	665	443	480	304	220	146	120	78
23	95	516	348	2,660	532	435	472	295	210	148	170	74
24	*94	247	304	1,330	484	715	476	288	202	134	128	72
25	92	220	282	944	447	720	541	279	192	231	132	70
26	92	179	267	812	415	818	519	273	187	350	128	69
27	114	157	253	755	392	775	497	267	177	267	109	70
28	159	*143	244	680	552	829	463	270	172	189	109	69
29	114	136	*321	621	-	705	443	273	163	161	144	68
30	104	132	310	578	-------	635	447	282	161	150	122	68
31	100	-------	282	537	-------	764	-------	259	-------	148	106	-------
Total	3,215	4,223	12,022	22,781	12,390	17,672	16,916	10,880	7,361	5,208	4,060	2,406
Mean	104	141	388	735	442	570	564	351	245	168	131	80.2
Cfsm	0.743	1.01	2.77	5.25	3.16	4.07	4.03	2.51	1.75	1.20	0.936	0.573
In.	0.85	1.12	3.19	6.05	3.29	4.69	4.49	2.89	1.96	1.38	1.08	0.64

Calendar year 1953: Max 3,230 Min 87 Mean 322 Cfsm 2.30 In. 31.24
Water year 1953-54: Max 2,660 Min 68 Mean 326 Cfsm 2.33 In. 31.63

Peak discharge (base, 1,500 cfs).--Jan. 16 (3 p.m.) 2,840 cfs (7.34 ft); Jan. 22 (8 p.m.) 3,430 cfs (9.28 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for station at Needmore.

Cullasaja River at Highlands, N. C.

Location.--Lat 35°03'55", long 83°13'30", on right bank 0.5 mile downstream from Highlands municipal dam, 0.9 mile downstream from Big Creek, and 2 miles northwest of Highlands, Macon County.

Drainage area.--14.9 sq mi.

Records available.--December 1927 to September 1954.

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 0.5 mile upstream at datum 230.22 ft higher.

Average discharge.--26 years (1928-54), 57.1 cfs.

Extremes.--Maximum discharge during year, 618 cfs Jan. 22 (gage height, 2.89 ft); minimum, 1.2 cfs Nov. 4 (gage height, 0.10 ft).
1927-54: 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; minimum daily, 0.2 cfs Oct. 13, 1947.

Remarks.--Records excellent. Low flow regulated by Sequoyah Lake. Some diurnal fluctuation caused by powerplant at Highlands municipal dam.

Revisions (water years).--WSP 728: 1931. WSP 823: Drainage area. WSP 953: 1941(M). WSP 1206: 1950(m).

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

0.1	1.2	1.2	58
.2	2.2	1.4	82
.3	3.8	1.7	133
.4	6.3	2.0	203
.6	16	2.3	303
.8	27	2.6	446
1.0	40		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	17	20	40	73	100	125	54	33	17	3.1	19
2	18	16	19	38	69	77	92	51	39	12	4.1	19
3	18	9.8	20	42	66	79	102	62	35	11	12	19
4	18	1.2	166	38	60	68	88	61	31	16	9.5	18
5	18	1.3	72	36	56	61	77	53	28	14	9.5	17
6	18	1.3	151	35	53	58	102	49	26	13	13	12
7	18	1.3	114	*33	50	55	96	50	25	12	10	3.2
8	17	8.7	79	32	48	*53	90	47	26	11	9.5	3.0
9	17	10	210	32	46	52	91	45	21	11	17	2.8
10	17	13	180	33	42	51	79	42	*22	12	11	2.6
11	17	9.5	109	42	40	49	72	40	21	12	11	2.6
12	17	8.5	177	35	36	58	*65	40	21	11	*17	2.4
13	17	*8.1	124	30	29	93	60	44	20	14	17	2.2
14	17	8.5	177	32	28	172	62	65	20	13	17	*2.4
15	16	8.1	*114	68	34	94	57	54	21	7.0	17	6.6
16	16	8.1	96	390	58	81	120	47	39	*16	17	7.0
17	11	9.8	82	144	70	69	132	*45	46	15	17	6.6
18	1.6	6.9	73	97	41	65	91	42	33	10	7.0	6.6
19	1.7	8.5	65	86	*38	101	97	40	28	10	2.8	6.6
20	1.6	16	59	78	202	97	82	38	25	9.5	2.6	21
21	1.6	55	76	273	226	77	69	36	23	10	2.4	7.7
22	1.6	101	78	412	104	73	68	34	21	10	2.3	5.4
23	1.6	115	69	273	85	69	69	33	22	10	23	4.0
24	*5.5	44	57	182	78	114	82	32	25	8.5	44	4.2
25	9.0	40	53	144	69	92	111	31	17	16	•27	12
26	9.0	31	48	122	60	109	100	30	17	17	15	18
27	18	27	45	114	59	112	86	29	16	17	16	18
28	20	24	46	100	100	107	74	31	25	17	19	12
29	18	21	55	92	-	92	65	30	16	17	14	3.1
30	17	21	50	86	-------	84	56	29	17	13	14	3.2
31	17	-------	45	79	-------	128	-------	29	-------	3.1	15	----- -
Total	411.2	650.6	2,729	3,238	1,920	2,590	2,560	1,313	759	385.1	415.8	267.2
Mean	13.3	21.7	88.0	104	68.6	83.5	85.3	42.4	25.3	12.4	13.4	8.91
Cfsm	0.893	1.46	5.91	6.98	4.60	5.60	5.72	2.85	1.70	0.832	0.899	0.598
In.	1.03	1.62	6.81	8.08	4.79	6.46	6.39	3.28	1.89	0.96	1.04	0.67

Calendar year 1953: Max 780 Min 1.2 Mean 55.5 Cfsm 3.72 In. 50.51
Water year 1953-54: Max 412 Min 1.2 Mean 47.2 Cfsm 3.17 In. 43.02

Peak discharge (base, 550 cfs).--Jan. 16 (9 a.m.) 562 cfs (2.80 ft); Jan. 22 (1:30 p.m.) 618 cfs (2.89 ft).
* Discharge measurement made on this day.

Cullasaja River at Cullasaja, N. C.

Location.--Lat 35°09'59", long 83°19'25", on right bank at Cullasaja, Macon County, 0.4 mile downstream from Ellijay Creek and 4.1 miles upstream from mouth.

Drainage area.--86.5 sq mi.

Records available.--June 1907 to December 1909, February 1921 to September 1954.

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.--35 years, 224 cfs.

Extremes.--Maximum discharge during year, 2,810 cfs Jan. 22 (gage height, 9.78 ft); minimum, 29 cfs Sept. 15, 16 (gage height, 0.52 ft).

1907-9, 1921-54: 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.--Records excellent except those for periods of ice effect, which are good. Slight regulation at low flow by Sequoyah Lake.

Revisions (water years).--WSP 823: Drainage area. WSP 1143: 1907-10, 1921-31, 1932(M), 1933-38, 1939(M), 1940-43, 1944(M), 1946, 1947(M).

Rating table, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.5	28	1.5	134
.6	35	2.0	226
.7	42	3.0	487
.8	50	5.0	1,080
1.0	69	7.0	1,780
1.2	92	7.5	1,960

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	50	63	118	253	423	588	218	166	80	54	48
2	56	50	60	112	241	325	452	209	176	79	53	48
3	54	48	60	120	228	349	407	241	164	75	58	48
4	54	41	321	112	216	300	376	237	152	97	54	46
5	53	35	183	106	203	273	333	209	131	78	51	44
6	52	34	254	102	195	253	357	201	122	74	95	44
7	51	34	272	*96	183	239	357	201	118	70	68	39
8	51	34	178	96	176	*228	414	207	113	69	55	34
9	51	39	505	96	171	222	407	189	109	71	108	37
10	51	41	516	98	165	213	349	180	*108	77	69	44
11	50	46	285	118	158	205	330	174	120	76	56	38
12	50	41	405	b100	148	197	*305	169	109	69	*57	36
13	49	41	320	b85	144	340	281	189	128	66	60	33
14	53	41	470	b100	142	665	290	260	115	70	58	*31
15	58	40	323	168	139	409	276	220	108	67	57	30
16	52	*40	253	1,280	164	338	408	197	121	*72	57	30
17	49	41	b210	519	213	300	499	*185	245	69	58	31
18	43	42	b185	341	152	273	376	178	190	63	55	31
19	36	38	b175	276	*144	315	343	171	140	60	41	31
20	36	48	b160	248	512	343	323	167	124	58	38	35
21	35	156	181	1,050	718	283	290	160	113	66	50	56
22	34	196	187	*1,940	387	262	283	147	106	64	48	41
23	*34	262	176	1,190	308	255	269	148	102	68	56	37
24	34	115	150	717	283	423	281	137	98	58	83	35
25	37	104	140	554	253	376	310	136	96	67	101	33
26	41	86	131	464	228	519	290	132	91	89	70	38
27	58	76	124	421	209	478	271	130	87	78	57	42
28	70	71	125	365	334	449	248	132	86	68	58	42
29	54	66	*155	325	-	390	239	131	88	64	54	40
30	52	65	142	295	-------	357	226	126	78	64	48	35
31	51	-------	125	271	-------	531	-------	128	-------	57	44	-------
Total	1,507	2,021	6,834	11,883	6,667	10,533	10,178	5,509	3,704	2,183	1,871	1,157
Mean	48.6	67.4	220	383	238	340	339	178	123	70.4	60.4	38.6
Cfsm	0.562	0.779	2.54	4.43	2.75	3.93	3.92	2.06	1.42	0.814	0.698	0.446
In.	0.65	0.87	2.94	5.11	2.87	4.53	4.38	2.37	1.59	0.94	0.80	0.50

Calendar year 1953: Max 2,500 Min 34 Mean 188 Cfsm 2.17 In. 29.55
Water year 1953-54: Max 1,940 Min 30 Mean 175 Cfsm 2.02 In. 27.55

Peak discharge (base, 2,000 cfs).--Jan. 22 (11:30 a.m.) 2,810 cfs (9.78 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Little Tennessee River at Needmore, N. C.

Location.--Lat 35°20'11", long 83°31'39", on left bank 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.

Records available.--June 1944 to September 1954.

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.--10 years, 1,034 cfs.

Extremes.--Maximum discharge during year, 12,200 cfs Jan. 22 (gage height, 8.58 ft); minimum, 62 cfs Sept. 8, 14 (gage height, 1.22 ft); minimum daily, 152 cfs Oct. 28.
1944-54: 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, that of Sept. 8, 14, 1954; minimum daily, 79 cfs Nov. 2, 1952.
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.--Records excellent except those based on twice-daily radio-stage reports and those below 300 cfs, which are good. Considerable diurnal fluctuation caused by Porters Bend powerplant at Lake Emory.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

1.5	151	4.0	2,360
1.7	223	5.0	3,960
2.0	362	6.0	5,880
2.5	700	7.0	8,120
3.0	1,150	7.4	9,090

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	311	270	336	609	1,300	2,590	2,890	1,060	819	470	419	270
2	306	261	321	594	g1,250	1,870	2,230	1,020	1,280	457	438	231
3	288	261	306	601	g1,200	1,860	1,950	1,030	985	470	379	231
4	297	252	766	573	g1,150	1,700	1,780	1,190	1,080	616	352	252
5	274	244	921	551	g1,100	1,490	1,630	1,020	903	510	321	231
6	274	244	630	551	g1,050	1,380	1,580	985	781	464	534	240
7	261	240	1,060	510	g1,000	1,250	1,710	966	765	438	522	215
8	257	240	765	524	g957	1,190	1,550	1,030	716	445	368	175
9	270	244	1,350	483	*912	1,140	1,780	948	685	451	583	182
10	261	240	*2,840	503	885	1,090	1,510	912	685	490	519	248
11	261	252	1,440	587	867	*1,060	1,430	885	685	573	357	225
12	257	252	1,470	601	850	1,040	1,370	858	677	503	336	212
13	257	248	1,610	517	798	1,310	1,290	885	685	419	336	215
14	265	236	1,910	531	781	2,940	1,320	1,420	724	*408	336	171
15	306	244	1,630	915	773	2,020	*1,270	1,210	685	457	316	200
16	297	240	1,170	6,580	781	1,630	1,390	1,070	669	477	302	193
17	283	240	994	4,750	1,000	1,450	2,220	985	*790	419	297	193
18	265	244	815	2,260	850	1,350	1,650	939	1,110	402	302	193
19	244	244	749	1,660	773	1,340	1,470	921	833	379	283	182
20	248	252	724	1,470	1,290	1,610	1,380	903	724	379	283	182
21	240	572	740	*5,640	3,460	1,390	1,290	*858	646	368	297	240
22	240	614	815	8,720	1,880	1,230	1,240	807	623	385	336	240
23	244	1,120	858	9,020	1,440	1,210	1,210	781	580	445	352	200
24	223	650	740	4,560	1,280	2,000	1,200	757	580	390	402	193
25	219	531	654	2,980	1,200	2,260	1,300	724	537	447	385	185
26	515	464	623	2,370	1,090	2,640	1,250	740	551	651	385	185
27	306	408	580	2,120	1,000	2,260	1,240	685	544	655	*347	193
28	152	*352	580	1,880	1,340	2,320	1,150	732	517	451	302	*196
29	244	345	716	1,660	-------	1,970	1,150	716	497	408	342	189
30	288	318	749	1,490	-------	1,780	1,120	724	483	385	326	187
31	274	-------	662	1,380	-------	1,980	-------	700	-------	385	288	-------
Total	8,427	10,322	29,524	67,190	32,257	52,350	45,550	28,461	21,839	14,197	11,345	6,249
Mean	272	344	952	2,167	1,152	1,689	1,518	918	728	458	366	208
Cfsm	0.624	0.789	2.18	4.97	2.64	3.87	3.48	2.11	1.67	1.05	0.839	0.477
In.	0.72	0.88	2.52	5.73	2.75	4.47	3.89	2.43	1.86	1.21	0.97	0.53

Calendar year 1953: Max 8,930 Min 152 Mean 872 Cfsm 2.00 In. 27.18
Water year 1953-54: Max 9,020 Min 152 Mean 898 Cfsm 2.06 In. 27.96

Peak discharge (base, 5,000 cfs).--Jan. 16 (12 m.) 8,170 cfs (7.02 ft); Jan. 22 (8:30 p.m.) 12,200 cfs (8.58 ft).

* Discharge measurement made on this day.
g Discharge based on twice-daily radio-stage reports.

Nantahala River near Rainbow Springs, N. C.

Location.--Lat 35°07'35", long 83°37'11", on right bank 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.

Records available.--October 1940 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 3,072.97 ft above mean sea level, datum of 1929.

Average discharge.--14 years, 196 cfs.

Extremes.--Maximum discharge during year, 3,320 cfs Jan. 16 (gage height, 6.36 ft); minimum, 33 cfs Nov. 18, 19 (gage height, 0.60 ft).
1940-54: 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, that of Nov. 18, 19, 1953.

Remarks.--Records good except those for periods of ice effect, which are fair.

Revisions (water years).--WSP 973: 1941(M).

Rating table, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.6	34	2.0	418
.8	65	2.5	641
1.0	103	3.0	910
1.2	149	4.0	1,550
1.5	235	4.9	2,180

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	40	59	162	307	456	570	195	273	85	122	57
2	51	38	57	154	289	344	463	187	226	87	103	*55
3	49	38	57	187	275	363	414	216	260	97	103	54
4	48	37	150	157	258	303	374	210	242	97	81	52
5	46	37	91	149	242	278	351	190	201	83	74	51
6	44	37	144	142	232	265	359	181	181	81	107	49
7	44	36	125	135	216	248	*322	207	167	79	79	48
8	44	36	101	130	207	238	352	216	*159	79	74	46
9	44	36	535	127	201	232	322	192	149	136	182	60
10	43	36	418	137	192	223	296	184	142	101	*99	57
11	43	36	248	175	198	216	282	*178	139	97	85	51
12	42	36	325	135	181	207	268	172	135	81	81	48
13	42	34	258	b130	175	377	261	198	162	78	79	46
14	49	34	414	b135	172	476	261	278	159	79	74	46
15	52	34	278	697	167	333	248	223	168	87	72	44
16	44	34	232	2,160	184	*292	359	207	152	81	69	43
17	42	34	198	785	*192	275	340	195	159	72	67	43
18	42	34	b185	529	165	258	292	187	154	70	65	42
19	40	*34	b175	422	159	314	275	175	137	70	63	40
20	40	58	b170	386	483	307	258	172	127	67	65	42
21	40	156	213	1,090	378	272	248	167	121	76	69	57
22	38	144	232	1,970	278	255	235	162	116	93	63	48
23	*38	132	204	1,280	248	265	258	159	114	83	104	43
24	38	85	181	868	242	514	235	154	105	70	83	42
25	38	118	170	675	220	424	238	149	103	354	72	40
26	38	79	157	556	207	570	220	147	99	210	67	40
27	60	72	147	542	198	498	207	142	97	118	89	40
28	51	67	157	447	473	438	207	139	93	*95	103	40
29	46	63	235	*402	-	390	216	147	89	83	81	40
30	42	60	192	370	-------	363	204	139	87	79	67	40
31	40	-------	175	333	-------	593	-------	132	-------	81	60	------
Total	1,370	1,715	6,283	15,567	6,739	10,587	8,935	5,600	4,516	3,049	2,602	1,404
Mean	44.2	57.2	203	502	241	342	298	181	151	98.4	83.9	46.8
Cfsm	0.852	1.10	3.91	9.67	4.64	6.59	5.74	3.49	2.91	1.90	1.62	0.902
In.	0.98	1.23	4.50	11.15	4.83	7.59	6.40	4.01	3.24	2.18	1.86	1.01

Calendar year 1953: Max 1,980 Min 34 Mean 169 Cfsm 3.26 In. 44.06
Water year 1953-54: Max 2,160 Min 34 Mean 187 Cfsm 3.60 In. 48.98

Peak discharge (base, 1,500 cfs).--Jan. 16 (3 a.m.) 3,320 cfs (6.36 ft); Jan. 22 (9 a.m.) 2,870 cfs (5.80 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Nantahala River at Nantahala, N. C.

Location.--Lat 35°17'55", long 83°39'22", on left bank on U. S. Highway 19, 1 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.

Records available.--May 1942 to September 1954.

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.--12 years, 489 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 2,840 cfs Jan. 22 (gage height, 5.41 ft); minimum, 16 cfs Nov. 9 (gage height, 1.19 ft).
1942-54: Maximum discharge, 7,510 cfs Feb. 10, 1946 (gage height, 8.15 ft); minimum, that of Nov. 9, 1953; minimum daily, 17 cfs Nov. 8, 16, 1952, Oct. 25, 1953.

Remarks.--Records excellent. Flow regulated by Nantahala Lake (see p. 245) and Queens Creek Reservoir (capacity, about 300 cfs-days).

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

1.2	17	3.0	540
1.4	33	3.5	865
1.7	75	4.0	1,250
2.0	135	4.7	1,960
2.5	289		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	547	18	564	646	192	565	573	528	720	616	538	620
2	546	412	613	639	109	558	536	620	665	618	556	620
3	329	394	600	646	107	736	317	646	658	590	600	620
4	398	418	346	652	492	641	178	*639	658	53	600	488
5	370	394	498	646	467	502	*480	550	639	442	600	362
6	456	460	104	635	95	453	487	451	554	618	632	373
7	438	416	462	646	91	91	467	509	470	618	123	564
8	446	145	464	652	216	499	462	639	427	625	68	620
9	438	417	510	598	79	487	471	496	462	656	599	613
10	404	471	488	610	97	480	464	470	442	442	606	626
11	416	435	392	672	73	*456	374	444	440	400	600	405
12	392	420	94	658	256	450	448	452	441	613	606	253
13	508	460	67	652	456	160	560	466	74	613	606	476
14	428	576	514	665	69	190	438	458	77	613	600	620
15	442	456	483	798	418	536	451	449	86	620	402	620
16	388	424	472	1,500	426	516	534	450	72	602	606	450
17	22	411	646	340	426	517	424	626	98	460	604	611
18	20	419	632	582	*424	502	259	632	120	334	607	440
19	384	418	530	563	410	521	463	626	107	557	608	232
20	382	424	416	530	456	109	444	639	82	613	608	462
21	379	33	535	*1,460	419	99	437	626	*73	620	608	490
22	384	309	665	1,910	485	448	446	482	76	639	538	528
23	386	381	658	1,270	509	460	444	444	74	620	615	525
24	20	383	*646	454	478	508	440	582	68	600	620	502
25	17	*402	466	504	474	556	192	620	61	582	606	530
26	382	390	540	540	326	647	436	620	440	*110	613	231
27	404	380	432	510	468	570	462	620	61	580	*606	390
28	416	476	594	510	122	545	471	613	550	606	613	*382
29	399	468	652	380	-	513	437	620	614	600	458	382
30	392	418	646	133	-------	499	448	613	614	600	608	386
31	188	-------	652	299	-------	569	-------	613	-------	594	613	-------
Total	11,121	11,628	15,381	21,300	8,640	14,383	13,043	17,243	9,923	16,854	17,267	14,421
Mean	359	388	496	687	309	464	435	556	331	544	557	481
(†)	-7,700	-7,500	-2,300	+15,100	+5,700	+10,400	+7,200	-3,600	+2,500	-8,900	-10,300	-10,100

Adjusted for change in contents in Nantahala Lake

Mean	110	138	422	1,174	512	799	675	440	414	257	225	144
Cfsm	0.764	0.958	2.93	8.15	3.56	5.55	4.69	3.06	2.88	1.78	1.56	1.00
In.	0.88	1.07	3.38	9.40	3.70	6.40	5.23	3.52	3.21	2.05	1.80	1.12

	Observed			Adjusted		
Calendar year 1953 :	Max 1,830	Min 17	Mean 370	Mean 401	Cfsm 2.78	In. 37.81
Water year 1953-54 :	Max 1,910	Min 17	Mean 469	Mean 443	Cfsm 3.08	In. 41.76

* Discharge measurement made on this day.
† Change in contents, in cfs-days, in Nantahala Lake; furnished by Tennessee Valley Authority.

Tuckasegee River at Tuckasegee, N. C.

Location.--Lat 35°16'55", long 83°07'37", on right bank 0.9 mile north of Tuckasegee, Jackson County, and 1.0 mile downstream from West Fork Tuckasegee River.

Drainage area.--143 sq mi.

Records available.--June 1934 to September 1954.

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.--20 years, 389 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 1,820 cfs Jan. 22 (gage height, 4.14 ft); minimum, 5.3 cfs Sept. 6, 7 (gage height, 0.56 ft); minimum daily, 9.0 cfs Oct. 25.
1934-54: 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, that of Sept. 6, 7, 1954; minimum daily, 8.0 cfs Sept. 6, 1952.

Remarks.--Records excellent. Flow regulated by Thorpe Lake beginning Feb. 12, 1941 (see p. 246), Cedar Cliff Lake beginning Apr. 26, 1952 (see p. 250), and Bear Creek Lake beginning Oct. 9, 1953 (see p. 250).

Revisions (water years).--WSP 823: Drainage area. WSP 1053: 1943.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

0.6	6.5	1.6	170
.8	19	2.0	327
1.0	39	2.5	595
1.3	89	3.1	1,010

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	186	16	220	258	202	366	814	422	178	126	90	156
2	360	147	233	262	56	756	766	384	88	178	158	158
3	68	178	242	267	188	502	600	366	462	148	354	156
4	208	177	161	262	199	527	572	512	186	140	*161	26
5	*146	167	183	262	202	766	790	483	187	108	188	11
6	44	177	80	214	52	564	878	*193	122	43	281	11
7	188	170	169	262	50	428	797	438	176	77	142	*124
8	134	36	198	258	278	435	253	672	184	62	72	318
9	281	162	248	254	347	*334	230	540	153	212	372	653
10	286	*169	223	235	384	345	230	261	*156	123	166	306
11	443	168	191	271	524	216	73	46	84	24	170	32
12	458	181	62	*262	493	211	212	40	128	*251	306	17
13	388	159	40	288	485	119	598	48	162	164	166	114
14	521	212	204	271	242	170	450	273	138	163	37	129
15	500	194	204	300	164	249	690	274	224	158	52	144
16	338	246	192	408	100	354	*791	40	220	69	260	155
17	16	166	262	133	398	735	633	544	388	20	212	164
18	25	180	258	248	308	707	540	687	381	46	182	26
19	286	182	258	222	495	736	689	688	306	164	204	16
20	368	156	169	210	506	555	441	586	307	162	167	132
21	328	23	188	848	799	256	340	56	44	254	254	201
22	294	30	185	970	*759	208	677	42	338	270	248	197
23	270	156	180	*940	452	215	540	30	364	254	376	163
24	56	164	180	855	586	745	372	190	348	34	245	152
25	9.0	168	28	878	662	533	391	190	335	20	188	156
26	172	171	26	768	762	780	516	186	96	257	158	156
27	174	176	156	484	404	762	456	184	102	328	160	158
28	170	196	236	326	96	580	236	193	34	368	177	154
29	170	198	*267	194	-	552	401	44	141	366	30	180
30	162	192	267	70	-------	704	403	30	120	338	148	158
31	31	-------	262	72	-------	783	-------	79	-------	410	149	-------
Total	7,080.0	4,717	5,762	11,552	10,193	15,193	15,379	8,721	6,152	5,337	5,873	4,523
Mean	228	157	186	373	364	490	513	281	205	172	189	151
(†)	-4,536	-1,309	+4,930	+10,080	+2,034	+3,506	+361	+412	-389	-2,067	-2,697	-3,150

Adjusted for change in reservoir contents

Mean	82.1	114	345	698	437	603	525	295	192	105	102	45.8
Cfsm	0.574	0.797	2.41	4.88	3.06	4.22	3.67	2.06	1.34	0.734	0.713	0.320
In.	0.66	0.89	2.78	5.63	3.18	4.86	4.09	2.38	1.50	0.85	0.83	0.36

	Observed			Adjusted		
Calendar year 1953:	Max 3,210	Min 9.0	Mean 313	Mean 337	Cfsm 2.36	In. 32.01
Water year 1953-54:	Max 970	Min 9.0	Mean 275	Mean 295	Cfsm 2.06	In. 28.01

* Discharge measurement made on this day.
† Change in contents, in cfs-days, in Thorpe, Cedar Cliff, and Bear Creek Lakes; furnished by Tennessee Valley Authority and Nantahala Power and Light Co.

Scott Creek above Sylva, N. C.

Location.--Lat 35°23'02", long 83°12'51", on right bank 800 ft downstream from Allens Branch, 3,500 ft upstream from Cope Creek, and 0.8 mile upstream from Sylva, Jackson County.

Drainage area.--50.7 sq mi.

Records available.--June 1941 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 2,056.42 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--13 years, 104 cfs.

Extremes.--Maximum discharge during year, 1,360 cfs Jan. 22 (gage height, 5.54 ft); minimum, 21 cfs Sept. 19, 20 (gage height, 1.64 ft).
1941-54: Maximum discharge, 1,990 cfs Feb. 10, 1946; maximum gage height, 6.77 ft Feb. 21, 1953; minimum discharge, 8.0 cfs Sept. 22, 23, 1941 (gage height, 1.30 ft); minimum daily, 22 cfs Sept. 19, 29, 30, 1954.
Maximum stage known, 8.6 ft Aug. 30, 1940, from floodmarks (discharge, 3,200 cfs, from rating curve extended above 1,800 cfs by logarithmic plotting).

Remarks.--Records good.

Revisions (water years).--WSP 1053: 1942-44(M).

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 21				Jan. 22 to Sept. 30			
1.6	18	2.4	152	1.6	15	2.7	207
1.7	28	2.7	236	1.7	23	3.0	303
1.8	40	3.0	340	1.8	33	3.5	500
2.0	69	3.5	528	2.0	59	4.0	700
2.2	106	4.2	801	2.2	92	4.7	985
				2.4	130		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	27	27	47	132	158	*204	92	73	43	45	27
2	28	26	26	46	128	130	179	90	73	45	41	27
3	28	26	27	51	124	151	163	103	98	46	35	26
4	28	26	105	46	118	130	153	97	84	59	*31	25
5	27	26	48	44	112	120	144	89	72	45	30	25
6	*27	26	72	43	108	114	148	87	67	44	63	25
7	26	26	62	40	101	110	142	*92	64	41	38	*24
8	26	26	41	38	97	110	135	90	61	46	32	23
9	26	26	246	40	96	*110	126	84	*59	46	79	24
10	26	*26	146	43	94	108	124	82	61	46	43	25
11	26	27	74	78	92	106	122	80	71	44	34	25
12	26	27	134	*50	87	105	116	80	61	*41	35	23
13	26	27	98	40	85	164	114	90	83	39	38	23
14	27	27	187	51	84	252	122	122	67	41	34	23
15	28	27	104	231	84	166	114	94	67	43	32	23
16	27	27	81	789	96	146	143	87	79	38	32	23
17	27	27	60	272	101	137	139	84	89	37	32	23
18	26	26	53	189	84	130	120	84	77	37	33	23
19	26	27	52	155	80	173	114	84	65	37	35	22
20	26	30	58	180	180	156	110	89	61	35	48	29
21	26	39	78	632	163	137	108	84	58	35	41	41
22	26	59	79	*953	*122	128	106	77	55	53	37	28
23	26	64	69	*564	108	132	106	75	53	48	33	25
24	26	34	57	372	108	270	105	73	51	38	32	24
25	26	48	54	279	101	228	105	72	49	37	36	23
26	26	33	51	231	96	326	103	70	49	38	44	24
27	43	30	48	228	92	234	99	69	48	34	38	23
28	36	29	51	185	145	207	96	72	45	32	37	23
29	28	27	*68	166	-	185	104	70	43	32	34	22
30	28	28	56	151	-------	171	97	72	43	32	30	22
31	27	-------	50	139	-------	225	-------	67	-------	40	27	----- --
Total	853	924	2,362	6,373	3,018	5,019	3,761	2,601	1,926	1,272	1,179	743
Mean	27.5	30.8	76.2	206	108	162	125	83.9	64.2	41.0	38.0	24.8
Cfsm	0.542	0.607	1.50	4.06	2.13	3.20	2.47	1.65	1.27	0.809	0.750	0.489
In.	0.63	0.68	1.73	4.67	2.21	3.68	2.76	1.91	1.41	0.93	0.86	0.55

Calendar year 1953: Max 1,150 Min 25 Mean 87.7 Cfsm 1.73 In. 23.50
Water year 1953-54: Max 953 Min 22 Mean 82.3 Cfsm 1.62 In. 22.02

Peak discharge (base, 900 cfs).--Jan. 16 (8 a.m.) 1,270 cfs (5.34 ft); Jan. 22 (9 a.m.) 1,360 cfs (5.54 ft).
* Discharge measurement made on this day.

Tuckasegee River at Dillsboro, N. C.

Location.--lat 35°21'59", long 83°15'38", on left bank 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.

Records available.--June 1928 to September 1954.

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.--26 years, 757 cfs (unadjusted).

Extremes.--Maximum discharge during year, 6,250 cfs Jan. 22 (gage height, 8.24 ft); minimum, 42 cfs Nov. 15 (gage height, 1.62 ft); minimum daily, 107 cfs Sept. 19.
1928-54: 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, 35 cfs Sept. 17, 1953 (gage height, 1.60 ft); minimum daily, that of Sept. 19, 1954.

Remarks.--Records excellent except those for period of no gage-height record and those below 300 cfs, which are good. Considerable diurnal fluctuation caused by Dillsboro powerplant 0.7 mile above station. Flow partly regulated by Thorpe Lake beginning Feb. 12, 1951 (see p. 246), Cedar Cliff Lake beginning Apr. 26, 1952 (see p. 250), and Bear Creek Lake beginning Oct. 9, 1953 (see p. 250).

Revisions (water years).--WSP 823: Drainage area. WSP 923: 1940(M).

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

1.9	90	3.5	780
2.0	111	4.0	1,130
2.2	159	5.0	2,000
2.4	218	6.0	3,050
2.7	333	7.2	4,630
3.0	479		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	298	125	322	416	634	844	1,600	736	376	285	360	256
2	443	152	346	416	478	1,210	1,410	730	482	282	228	254
3	290	278	342	442	578	1,200	1,260	725	591	336	438	252
4	166	*284	550	426	520	911	1,150	778	599	400	304	225
5	316	268	284	421	538	1,200	1,240	938	512	271	294	111
6	211	276	329	402	480	1,040	1,400	526	390	300	534	111
7	211	266	278	378	384	835	1,370	*662	408	196	376	*119
8	236	244	341	412	465	904	856	1,040	400	296	a240	286
9	314	157	893	407	636	*604	724	832	*344	328	a640	706
10	410	275	751	392	768	808	698	784	367	323	a355	531
11	514	270	445	484	736	573	624	344	362	282	a315	228
12	612	278	496	*442	813	558	559	348	319	*318	a415	116
13	378	270	344	418	820	720	953	361	464	319	a320	111
14	634	310	647	447	542	1,320	925	712	350	320	a270	250
15	628	289	526	782	432	924	1,020	626	475	336	a182	243
16	552	351	446	3,040	448	857	*1,220	476	613	272	a270	240
17	198	270	463	1,070	598	1,230	1,250	608	644	180	a325	250
18	125	281	412	744	654	1,200	998	994	820	176	a295	204
19	219	284	437	674	642	1,300	1,040	986	574	234	a310	107
20	482	288	357	638	1,020	1,160	962	1,000	555	292	a305	131
21	434	242	416	2,810	1,440	898	617	455	360	388	a380	345
22	401	204	418	4,490	*1,200	610	1,070	334	466	427	a340	312
23	386	295	400	*3,120	958	679	890	313	564	411	a355	254
24	266	294	362	2,170	964	1,470	808	380	542	270	a550	234
25	145	321	316	1,790	909	1,360	788	454	538	165	a290	246
26	160	295	188	1,600	1,080	1,740	820	452	354	300	*308	248
27	316	294	211	1,200	870	1,570	902	452	287	445	300	254
28	308	308	407	903	647	1,330	648	378	238	466	330	245
29	283	308	*479	884	-	1,200	710	389	294	490	274	250
30	264	300	447	614	-------	1,290	782	309	294	454	160	270
31	250	-------	437	542	-------	1,520	-------	332	-------	518	269	-------
Total	10,450	8,077	13,090	32,974	20,254	33,065	29,294	18,454	13,582	10,080	10,332	7,389
Mean	337	269	422	1,064	723	1,067	976	595	453	325	333	246
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 6,430 Min 125 Mean 597 Cfsm 1.72 In. 23.36
Water year 1953-54: Max 4,490 Min 107 Mean 567 Cfsm 1.63 In. 22.19

Peak discharge (base, 4,500 cfs).--Jan. 16 (9 a.m.) 4,540 cfs (7.14 ft); Jan. 22 (1:30 p.m.) 6,250 cfs (8.24 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for stations at Bryson City and at Tuckasegee.

Oconaluftee River at Birdtown, N. C.

Location.--Lat 35°27'42", long 83°21'13", on right bank 200 ft upstream from county bridge, 0.5 mile south of Birdtown, Swain County, 0.6 mile downstream from Adams Creek, 0.6 mile upstream from Goose Creek, and 2.2 miles southwest of Cherokee.

Drainage area.--184 sq mi.

Records available.--July 1945 to September 1946, July 1948 to September 1954.

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 September 30, 1946, staff gage at same site and datum.

Average discharge.--7 years, 506 cfs.

Extremes.--Maximum discharge during year, 7,970 cfs Jan. 16 (gage height, 7.95 ft); minimum, 82 cfs Nov. 19 (gage height, 0.67 ft).
1945-46, 1948-54: Maximum discharge, 15,000 cfs Jan. 7, 1946 (gage height, 12.0 ft, from floodmarks), from rating curve extended above 8,200 cfs on basis of computation of peak flow over dam; minimum, that of Nov. 19, 1953.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are good.

Rating table, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.6	67	2.0	640
.7	89	3.0	1,400
.8	114	4.0	2,400
1.0	172	5.0	3,580
1.2	239	6.0	4,950
1.5	365	6.6	5,850

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	109	117	114	222	526	960	*1,280	403	322	175	169	a165
2	109	117	109	211	504	670	1,060	389	381	178	191	a160
3	104	112	109	228	487	721	930	403	342	185	163	a150
4	102	106	481	208	455	628	826	399	324	446	145	a140
5	102	102	329	201	423	562	735	365	291	294	142	a130
6	*99	96	297	*198	403	514	688	352	270	228	442	a125
7	96	92	546	182	379	476	707	*365	258	182	278	a120
8	96	89	291	185	360	470	652	399	247	211	188	a115
9	96	89	1,170	182	*352	470	598	356	247	265	396	a110
10	96	89	*1,180	191	342	476	556	338	251	211	286	166
11	94	89	526	414	338	*504	538	324	232	185	208	a145
12	94	*89	652	262	316	568	550	316	236	169	182	a135
13	92	89	562	b210	295	756	514	295	330	163	188	a125
14	102	89	1,220	b260	295	1,200	509	598	*278	157	169	a115
15	106	87	714	1,480	286	798	504	444	286	157	157	109
16	99	87	514	*5,540	303	664	713	394	295	154	151	104
17	94	87	399	1,740	418	598	962	370	356	151	148	102
18	94	87	291	1,030	316	556	688	365	365	163	145	125
19	92	87	b270	777	295	622	628	408	338	151	142	102
20	92	89	b300	672	618	652	562	429	312	148	174	114
21	89	185	324	3,870	867	562	526	455	270	160	204	169
22	89	188	365	5,720	556	514	498	399	251	410	160	136
23	89	392	370	3,880	476	532	482	370	236	*401	154	109
24	89	182	307	1,970	460	1,440	487	352	222	218	154	102
25	89	274	291	1,360	429	1,270	470	334	214	178	148	96
26	87	185	270	1,050	399	2,240	526	320	204	172	*166	96
27	122	148	255	998	375	1,390	482	307	198	163	152	*96
28	139	134	255	819	632	1,130	455	303	191	157	278	92
29	151	120	291	700	-	952	444	312	182	151	324	89
30	120	120	262	640	-------	833	429	303	178	148	208	89
31	120	-------	243	580	-------	1,240	-------	274	-------	148	175	------
Total	3,152	3,817	13,307	35,980	11,905	24,968	18,999	11,441	8,107	6,279	6,186	3,631
Mean	102	127	429	1,161	425	805	633	369	270	203	200	121
Cfsm	0.554	0.690	2.33	6.31	2.31	4.38	3.44	2.01	1.47	1.10	1.09	0.658
In.	0.64	0.77	2.69	7.27	2.41	5.05	3.84	2.31	1.64	1.27	1.25	0.73

Calendar year 1953 : Max 6,360 Min 87 Mean 413 Cfsm 2.24 In. 30.46
Water year 1953-54 : Max 5,720 Min 87 Mean 405 Cfsm 2.20 In. 29.87

Peak discharge (base, 4,000 cfs).--Jan. 16 (4 a.m.) 7,970 cfs (7.95 ft); Jan. 22 (9 p.m.) 7,890 cfs (7.90 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for Scott Creek above Sylva and Jonathan Creek near Cove Creek.

b Stage-discharge relation affected by ice.

Tuckasegee River at Bryson City, N. C.

Location.--Lat 35°25'40", long 83°26'50", on left bank 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.

Records available.--November 1897 to September 1954 in reports of Geological Survey. Records prior to October 1913 revised in Tennessee Division of Geology Bulletin 34 and North Carolina Department of Conservation and Development Bulletin 34.

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 at same datum. Feb. 3, 1914, to May 17, 1920, water-stage recorder at site 200 ft upstream at same datum.

Average discharge.--56 years (1898-1954), 1,573 cfs (unadjusted).

Extremes.--Maximum discharge during year, 18,700 cfs Jan. 22 (gage height, 8.35 ft); minimum, 220 cfs Sept. 20 (gage height, 0.60 ft); minimum daily, 246 cfs Sept. 13, 20.

1897-1954: 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; minimum gage height, 0.47 ft Oct. 28, 1952; minimum daily discharge, 31 cfs Sept. 9, 10, 1925, caused by filling reservoir on Oconaluftee River; minimum daily during normal regulation, 186 cfs Oct. 13, 1925.

Flood in May 1840 reached a stage of 21 ft, from survey by the Tennessee Valley Authority.

Revisions.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
-	1898	Sept. 3, 1898	‡22,000	g9.3
403,758	1899	Mar. 19, 1899	32,500	g11.6
-	1900	Feb. 13, 1900	‡17,500	g8.0
-	1901	May 21, 1901	‡32,000	g11.5
-	1902	Feb. 28, 1902	‡39,300	g12.8
-	1903	Mar. 23, 1903	‡21,100	g9.0
-	1904	Jan. 22, 1904	‡9,080	g5.4
-	1905	Jan. 12, 1905	‡13,500	g6.8
-	1906	Sept.30, 1906	‡17,500	g8.0
803	1907	Nov. 19, 1906	48,300	g14.2
-	1908	Feb. 15, 1908	‡17,500	g8.0
-	1909	June 4, 1909	‡17,100	g7.9
-	1910	Dec. 13, 1909	‡6,900	g4.5
-	1911	Apr. 5, 1911	‡18,200	g8.2
-	1912	Mar. 29, 1912	‡14,800	g7.2
-	1913	Mar. 27, 1913	‡28,000	g10.7
-	1914	Apr. 20, 1914	‡4,610	g3.5
403	1915	Dec. 25, 1914	11,600	6.2
523	1916	Dec. 18, 1915	24,400	9.85
453	1917	Mar. 4, 1917	39,000	g12.8
523	1918	Jan. 28, 1918	26,200	10.3
523	1919	Dec. 22, 1918	19,600	8.6
523	1920	Apr. 2, 1920	41,100	h13.1
523	1921	Dec. 14, 1920	16,800	g7.8
543	1922	Jan. 21, 1922	21,800	g9.2
563	1923	Dec. 17, 1922	14,100	g7.0
583	1924	Jan. 11, 1924	10,700	g5.9
603	1925	Dec. 8, 1924	12,500	g6.5
623	1926	Jan. 18, 1926	13,500	g6.8
643	1927	Dec. 28, 1926	13,100	g6.7
663	1928	Aug. 16, 1928	21,600	9.15
683	1929	Mar. 14, 1929	13,800	6.90
743	1933	Dec. 28, 1932	22,000	9.25
758	1934	Mar. 3, 1934	17,900	8.13

‡ Not previously published.
g From graph based on gage readings.
h From high-water mark.

Remarks.--Records excellent. Considerable diurnal fluctuation caused by powerplants above station. Flow regulated by Thorpe Lake beginning Feb. 12, 1941 (see p. 246), Cedar Cliff Lake beginning Apr. 26, 1952 (see p. 250), Bear Creek Lake beginning Oct. 9, 1953 (see p. 250), and two small reservoirs with combined capacity of about 250 cfs-days.

Revisions (water years).--WSP 523: 1916, 1918-20. WSP 823: Drainage area. See also Records available. Revised figures of discharge, in cubic feet per second, for the water years 1907, 1916-20, superseding those published in Bulletin 34, Tennessee Division of Geology, and WSP 453, 523, are given herein:

Tuckasegee River at Bryson City, N. C.--Continued

Revised figures of daily discharge, in cubic feet per second, 1907, 1916-20

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1906		1918-Con.		1919-Con.		1919-Con.	
Nov. 18	9,960	Jan. 8	900	Aug. 21	800	Oct. 10	700
19	25,600	9	850	23	900	11	660
		10	900	24	850	12	660
1915		11	1,100	25	780	17	900
Dec. 17	5,310	28	14,100	26	740	18	850
18	16,200	29	8,180	27	720	19	800
19	5,710	30	9,550	28	700	20	750
29	11,200	31	6,900	29	680	21	700
30	7,150	Apr. 2	1,254	30	1,100	25	1,200
31	5,150	3	1,188	Sept. 1	900	26	1,000
		4	1,201	2	760	27	900
1916		5	1,162	3	700	28	850
July 9	8,340	Oct. 14	800	4	660	29	800
10	8,990	15	700	5	640	30	760
11	6,630	16	650	6	620	31	750
12	4,550	17	620	7	600	Nov. 2	1,200
17	5,480	18	600	8	580	3	950
20	5,020	24	7,150	9	560	4	850
21	5,660	28	8,180	10	550	5	800
22	4,650	29	14,100	11	550	6	760
		30	7,150	13	700	7	740
1917		31	4,820	14	640	8	720
Mar. 1	6,100	Dec. 22	17,800	15	600	9	700
2	5,150	23	6,430	16	580	10	680
3	12,100			17	570	11	680
4	28,000	1919		18	560	13	1,400
5	12,700	Aug. 2	1,200	19	550	14	1,200
6	7,660	3	1,300	20	540	15	1,100
7	5,890	5	1,300	21	800	16	1,000
8	5,600	7	1,100	22	850	17	900
9	4,570	8	1,000	23	900	18	850
24	10,300	9	960	24	950	19	800
25	6,480	10	900	27	650	20	750
26	5,730	11	860	28	600	21	720
27	8,800	14	1,200	29	550	22	710
28	6,550	15	1,100	30	530	23	700
29	5,480	16	1,000	Oct. 1	520	24	700
30	4,740	17	950	2	510	25	700
		18	900	3	500	28	1,000
1918		19	850	4	800	29	900
Jan. 7	1,000	20	820	9	750		

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
November 1906	25,600	1,070	2,900	4.43	4.94
Calendar year 1906	25,600	620	2,200	3.36	45.51
Water year 1906-7	25,600	515	1,740	2.66	36.04
December 1915	16,200	940	2,870	4.38	5.06
Calendar year 1915	16,200	595	1,650	2.52	34.26
July 1916	8,990	1,188	3,380	5.16	5.95
Water year 1915-16	16,200	678	1,960	2.99	40.74
Calendar year 1916	8,990	616	1,740	2.66	36.20
March 1917	28,000	3,048	6,080	9.28	10.70
Water year 1916-17	28,000	616	1,930	2.95	39.90
Calendar year 1917	28,000	520	1,870	2.85	38.67
January 1918	14,100	625	2,430	3.71	4.27
April	2,725	1,070	1,440	2.20	2.44
Water year 1917-18	14,100	520	1,260	1.92	26.17
October 1918	14,100	522	2,290	3.50	4.04
December	17,800	1,070	2,560	3.91	4.50
Calendar year 1918	17,800	522	1,620	2.47	33.57
August 1919	2,135	680	1,030	1.57	1.81
September	950	530	672	1.03	1.14
Water year 1918-19	17,800	522	1,800	2.75	37.26
October 1919	3,490	500	989	1.51	1.74
November	1,898	680	941	1.44	1.60
Calendar year 1919	7,315	500	1,560	2.38	32.34
Water year 1919-20	22,500	500	1,930	2.95	40.03

Tuckasegee River at Bryson City, N. C.--Continued

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 22				Jan. 23 to Sept. 30			
0.6	220	3.0	3,590	0.6	220	3.0	3,570
.7	290	4.0	5,710	.7	285	4.0	5,710
1.0	545	5.0	8,180	1.0	530	5.0	8,180
1.5	1,090	6.0	11,000	1.5	1,070	5.6	9,830
2.0	1.810	6.6	12,800	2.0	1,780		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	483	306	473	740	1,440	2,440	3,630	1,310	786	530	790	467
2	467	290	345	730	1,300	2,240	3,030	1,280	1,070	557	530	440
3	622	455	518	762	1,230	2,420	2,730	1,300	950	640	539	440
4	322	455	1,190	751	1,300	1,960	2,420	1,380	1,180	948	658	408
5	486	455	768	720	1,210	2,130	2,300	1,480	890	690	495	292
6	388	455	751	710	1,160	1,940	2,420	1,120	764	640	1,000	266
7	310	455	1,020	640	986	1,620	2,480	1,050	753	485	794	252
8	442	438	751	690	950	1,700	1,960	1,640	764	593	538	359
9	394	290	2,210	680	1,140	1,370	1,660	1,340	720	584	1,050	695
10	637	421	2,710	700	1,350	1,560	1,520	1,400	720	779	771	840
11	564	455	1,250	1,010	1,210	1,340	1,470	866	731	593	598	448
12	704	446	1,430	839	1,280	1,400	1,340	797	700	467	555	266
13	600	446	1,190	670	1,310	1,700	1,700	842	797	658	680	246
14	776	446	2,270	817	998	3,120	1,700	1,400	830	557	483	330
15	810	500	1,600	2,590	998	2,120	1,690	1,280	819	593	392	376
16	756	482	1,230	*11,100	962	1,910	2,050	1,140	962	521	400	368
17	504	509	1,030	4,060	1,120	2,070	2,750	962	1,140	458	586	376
18	283	446	850	2,400	1,210	2,070	2,000	1,510	1,450	416	548	392
19	276	464	910	1,920	1,060	2,200	1,910	1,570	1,070	424	476	252
20	589	464	828	1,650	1,780	2,270	1,860	1,570	986	548	539	246
21	618	602	828	8,170	2,900	1,860	1,410	1,270	866	557	630	490
22	582	464	946	12,800	2,100	1,380	1,700	854	733	890	611	512
23	552	862	*934	9,790	1,810	1,500	1,630	808	*926	1,010	562	424
24	512	592	795	5,480	*1,600	3,400	1,570	786	890	700	878	385
25	293	730	773	3,990	1,560	3,470	1,510	914	854	432	500	358
26	262	592	574	3,280	1,660	4,970	1,500	*902	690	440	555	379
27	496	*527	554	2,930	1,560	3,790	*1,600	878	584	670	542	378
28	570	500	710	2,240	1,650	3,260	1,410	866	575	708	*578	365
29	504	527	898	2,020	-	*2,670	1,260	878	476	710	762	361
30	484	491	839	1,680	-------	2,490	1,410	700	566	686	424	*386
31	457	-------	795	1,450	-------	3,200	-------	680	-------	*688	485	------
Total	15,743	14,565	32,170	88,009	38,834	71,570	57,620	34,773	25,242	19,172	18,949	11,797
Mean	508	486	1,038	2,839	1,387	2,309	1,921	1,122	841	618	611	393
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 15,200 Min 262 Mean 1,225 Cfsm 1.87 In. 25.38
Water year 1953-54: Max 12,800 Min 246 Mean 1,174 Cfsm 1.79 In. 24.33

Peak discharge (base, 9,000 cfs).--Jan. 16 (10 a.m.) 14,700 cfs (7.18 ft); Jan. 22 (10 p.m.) 18,700 cfs (8.35 ft).

* Discharge measurement made on this day.

Noland Creek near Bryson City, N. C.

Location.--Lat 35°29'06", long 83°30'15", on right bank in Great Smoky Mountain National Park, 1.1 miles downstream from Mill Creek, 3.6 miles upstream from Fontana Lake, and 5 miles northwest of Bryson City, Swain County.

Drainage area.--13.8 sq mi.

Records available.--October 1935 to September 1954.

Gage.--Water-stage recorder. Altitude of gage is 2,280 ft (from topographic map).

Average discharge.--19 years, 43.8 cfs.

Extremes.--Maximum discharge during year, 987 cfs Jan. 16 (gage height, 4.21 ft); minimum, 5.0 cfs Sept. 28-30 (gage height, 0.74 ft).
1935-54: Maximum discharge, 1,530 cfs Aug. 30, 1940 (gage height, 4.87 ft), from rating curve extended above 540 cfs on basis of critical-depth determination of peak flow; minimum, 3.5 cfs Oct. 24, 1939 (gage height, 0.66 ft).

Remarks.--Records good except those for periods of ice effect, which are fair.

Revisions (water years).--WSP 823: Drainage area. WSP 893: 1936, 1937-39(M).

Rating tables, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 15

0.8	5.8	1.8	59
.9	8.2	2.0	81
1.0	11	2.3	126
1.2	19	2.6	189
1.4	28	3.0	313
1.6	41	3.6	600

Jan. 16 to Sept. 30

0.7	4.2	1.4	32
.8	6.1	1.6	44
.9	8.7	1.8	60
1.0	12	2.0	81
1.2	20		

Note.--Same as preceding table above 2.0 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.4	9.4	9.4	25	53	70	104	40	37	16	11	8.2
2	9.1	9.4	9.1	24	50	55	89	38	33	15	13	7.7
3	8.8	8.8	9.1	25	48	59	79	43	33	16	11	7.4
4	8.5	8.5	50	23	45	52	70	41	30	17	9.7	7.1
5	8.2	8.2	23	22	41	48	64	38	28	15	9.0	6.9
6	8.2	8.0	41	*22	39	45	60	37	26	15	26	6.4
7	*7.7	*7.5	37	21	38	43	57	39	25	14	13	6.4
8	7.7	7.5	23	20	36	43	56	40	24	15	11	6.1
9	7.7	7.5	123	20	34	43	52	36	23	15	34	6.1
10	7.7	7.2	89	24	*34	*43	48	34	22	14	17	6.6
11	7.5	7.2	*41	38	33	44	46	34	20	13	13	7.9
12	7.5	7.0	60	22	30	48	44	33	20	12	12	6.4
13	7.2	7.0	48	b19	29	67	*42	35	24	12	12	5.9
14	8.2	7.0	85	23	29	77	42	46	22	11	11	5.9
15	8.0	6.8	56	267	28	57	41	39	24	11	10	5.9
16	7.5	6.8	45	542	32	52	61	36	33	11	9.4	5.7
17	7.5	6.8	b39	182	35	48	60	34	41	12	9.0	5.7
18	7.2	6.5	b35	109	29	46	50	34	39	12	8.7	5.5
19	7.2	6.5	b28	82	28	54	46	*34	36	11	8.4	5.3
20	7.0	8.7	b30	89	48	53	43	34	31	10	8.2	6.1
21	7.0	24	34	366	46	46	41	32	28	15	8.4	9.4
22	7.0	27	44	596	37	44	40	30	25	36	8.7	6.6
23	7.0	28	39	374	34	46	41	29	24	*20	9.7	5.9
24	6.8	15	34	192	35	126	43	28	22	14	9.0	5.7
25	6.8	23	32	130	33	127	46	26	20	12	16	5.5
26	6.8	14	30	98	32	165	45	26	20	12	14	5.5
27	12	12	28	102	30	116	42	25	19	11	11	*5.3
28	11	11	29	80	73	97	41	25	*18	11	14	5.2
29	12	10	32	70	-	81	43	28	17	11	14	5.2
30	9.1	10	28	64	-------	73	42	25	16	10	10	5.2
31	9.4	-------	26	57	-------	126	-------	23	-------	10	*8.7	----- --
Total	252.7	326.3	1,236.6	3,728	1,059	2,094	1,578	1,042	780	429	379.9	188.7
Mean	8.15	10.9	39.9	120	37.8	67.5	52.6	33.6	26.0	13.8	12.3	6.29
Cfsm	0.591	0.790	2.89	8.70	2.74	4.89	3.81	2.43	1.88	1.00	0.891	0.456
In.	0.68	0.88	3.33	10.05	2.85	5.64	4.25	2.81	2.10	1.16	1.02	0.51

Calendar year 1953: Max 409 Min 6.5 Mean 37.9 Cfsm 2.75 In. 37.31
Water year 1953-54: Max 596 Min 5.2 Mean 35.9 Cfsm 2.60 In. 35.28

Peak discharge (base, 600 cfs).--Jan. 16 (12:30 a.m.) 987 cfs (4.21 ft); Jan. 22 (5:30 p.m.) 966 cfs (4.18 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Little Tennessee River at Fontana Dam, N. C.

Location.--Lat 35°26'44", long 83°48'19", on left bank 0.4 mile downstream from Fontana Dam, Swain and Graham Counties, 5.3 miles upstream from Twenty Mile Creek, and at mile 60.6.

Drainage area.--1,571 sq mi.

Records available.--August 1938 to September 1954. Prior to October 1944, published as "near Fontana."

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. 25, 1946, discharge computed from powerplant records at Fontana Dam. Since Sept. 25, 1946, auxiliary water-stage recorder 2 miles downstream from base gage.

Average discharge.--16 years, 3,586 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, about 8,100 cfs at times after Feb. 4 (capacity of three turbines); maximum gage height, 8.49 ft Sept. 22; minimum discharge, 40 cfs at times; minimum gage height, 3.99 ft Jan. 23; minimum daily, 857 cfs June 6.
1938-54: 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.--Records good. Flow completely regulated by Thorpe, Nantahala, Bear Creek, Cedar Cliff, and Fontana Lakes (see pp. 246,250).

Revisions.--WSP 973: Drainage area.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,510	2,120	3,490	4,060	3,670	3,310	4,100	4,190	3,030	2,600	3,510	2,630
2	3,790	4,470	3,200	3,430	4,220	4,660	3,650	3,040	2,450	3,290	2,930	3,300
3	3,020	4,530	3,130	2,070	4,750	4,350	2,180	5,130	2,440	1,740	2,800	3,140
4	2,160	4,850	2,750	3,690	5,080	3,820	1,260	5,420	3,150	1,730	3,250	2,590
5	4,330	4,880	1,900	4,090	4,690	3,890	3,540	5,070	1,590	1,620	*3,830	2,540
6	4,610	4,640	1,360	3,970	3,630	3,450	3,550	4,640	857	2,190	2,860	2,540
7	4,490	4,500	2,650	4,430	3,290	2,790	3,920	5,300	1,960	2,220	3,420	4,420
8	3,910	3,490	2,470	3,960	4,290	3,730	4,050	4,250	3,330	2,960	3,130	4,030
9	4,460	4,860	2,940	3,670	4,260	3,470	3,950	2,640	1,650	2,620	3,610	5,270
10	2,880	4,130	2,370	3,090	3,060	2,840	2,730	4,480	1,640	1,930	4,230	4,060
11	2,780	4,390	3,070	4,200	4,010	2,690	1,570	4,080	1,690	2,100	3,780	2,530
12	4,300	4,410	2,130	4,220	4,390	2,390	2,640	4,140	1,840	3,280	3,760	1,780
13	4,220	4,510	1,360	4,750	3,580	1,700	2,600	4,640	950	3,190	1,830	*3,160
14	4,180	3,780	2,890	4,290	2,860	2,040	2,330	3,720	2,770	3,670	3,240	3,950
15	4,300	2,770	2,900	3,160	2,630	3,540	2,490	2,750	2,840	2,420	2,400	3,270
16	4,380	4,550	3,500	1,970	3,360	2,800	2,970	1,830	1,980	2,700	3,560	3,360
17	3,240	*4,240	3,470	2,290	4,160	*2,940	2,790	3,490	2,740	2,650	3,580	3,350
18	2,590	3,300	4,490	4,100	3,360	3,210	1,280	3,230	3,250	1,980	3,260	3,340
19	4,470	3,460	3,410	3,340	2,790	3,150	3,110	3,800	1,410	3,290	3,240	4,230
20	4,310	2,710	2,320	2,860	3,400	2,790	*3,250	3,780	1,060	2,880	3,250	4,980
21	4,220	2,040	3,210	1,650	2,410	1,630	3,750	3,450	*3,470	3,210	2,560	3,420
22	4,250	2,150	*3,090	2,830	3,500	4,040	4,300	1,580	3,480	*2,880	2,580	3,130
23	4,370	2,290	3,930	2,000	*3,950	4,130	4,490	1,260	3,950	3,010	3,790	3,420
24	3,350	3,560	3,100	1,890	3,690	3,830	2,100	*4,360	5,050	2,740	4,010	3,980
25	*3,140	4,140	1,550	2,530	3,610	3,400	1,800	3,070	4,860	2,570	3,600	2,740
26	4,630	2,670	2,040	*3,320	3,260	2,560	3,600	3,160	2,400	2,940	3,680	2,340
27	3,900	2,660	2,100	2,850	2,870	2,950	3,970	4,010	1,720	3,200	3,780	4,600
28	4,560	2,750	3,890	3,610	1,650	2,050	4,870	3,290	3,460	2,510	3,150	4,800
29	4,710	2,220	3,800	3 020	-	4,190	3,680	2,240	2,710	3,250	2,590	4,180
30	3,780	3,080	3,600	2,950	-------	4,020	4,020	2,080	2,520	2,590	3,690	4,090
31	3,440	-------	3,230	2,830	-------	3,550	-------	3,350	-------	2,930	2,640	-------
Total	120,280	108,150	89,340	101,120	100,420	99,910	94,540	111,450	76,247	82,890	101,540	105,170
Mean	3,880	3,605	2,882	3,262	3,586	3,223	3,151	3,595	2,542	2,674	3,275	3,506

	Observed			Adjusted†		
Calendar year 1953:	Max 4,880	Min 677	Mean 3,105	Mean 3,086	Cfsm 1.96	In. 26.66
Water year 1953-54:	Max 5,420	Min 857	Mean 3,263	Mean 3,057	Cfsm 1.95	In. 26.42

* Discharge measurement made on this day.
† Adjusted for change in contents in Thorpe, Nantahala, and Fontana Lakes.

Little Tennessee River at Calderwood, Tenn.

Location.--Lat 35°30'24", long 84°00'14", on right bank 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.
Records available.--January 1912 to December 1918, January 1921 to September 1954.
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.--38 years (1912-18, 1922-54), 4,306 cfs (unadjusted).
Extremes.--Maximum discharge during year, 12,800 cfs Jan. 22 (gage height, 3.86 ft); minimum daily, 1,070 cfs June 20.
1912-18, 1921-54: 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, 102 cfs Aug. 31, 1947.
Remarks.--Records good. Flow regulated by several reservoirs above station (see p. 245).
Cooperation.--Water-stage recorder inspected by employee of Aluminum Co. of America.
Revisions (water years).--WSP 803: 1933-35. WSP 823: 1917(M), drainage area. WSP 923: 1930. Monthly figures of cubic feet per second per square mile and runoff in inches from December 1927 to September 1941 may be considerably in error owing to regulation from one or more reservoirs above station and should not be used. Revised figures of discharge, in cubic feet per second, for some days in the water years 1912, 1916, and 1926, superseding those published in WSP 523 and 623, are given herewith:

July 5, 1912	5,490
June 17, 1916	14,390
May 17, 1926	3,430

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
July 1912	7,575	3,028	4,820	2.59	2.98
Calendar year 1912	36,100	1,798	5,110	2.74	37.33
June 1916	14,390	3,276	5,050	2.71	3.02
Water year 1915-16	40,670	2,000	5,480	2.94	40.06
Calendar year 1916	27,470	1,860	4,990	2.68	36.47
May 1926	3,580	2,060	2,900	1.56	1.80
Water year 1925-26	15,000	434	3,210	1.72	23.43
Calendar year 1926	27,900	1,160	3,820	2.05	27.85

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,580	2,160	3,390	4,260	4,840	4,930	5,540	5,220	4,650	4,060	4,270	3,520
2	4,090	4,880	3,450	4,160	4,700	5,620	4,590	4,360	4,020	3,960	3,540	4,110
3	3,560	4,550	3,460	2,810	5,750	6,270	3,190	6,040	4,060	2,410	3,920	3,140
4	3,340	5,230	2,890	4,460	5,680	5,430	1,760	6,260	4,330	1,780	3,430	3,080
5	4,690	5,250	2,100	4,830	5,140	5,130	4,860	5,740	2,790	2,660	4,230	2,330
6	4,600	4,820	1,470	5,370	4,200	5,130	4,520	5,320	2,550	3,700	3,390	2,600
7	4,950	4,190	*2,810	4,810	3,660	3,090	4,800	6,010	3,140	2,980	4,470	5,230
8	4,600	3,280	2,860	4,660	*4,940	*4,540	4,600	5,350	3,760	3,760	3,860	4,720
9	4,590	5,070	3,440	4,440	4,680	4,480	4,980	3,060	2,610	3,620	4,390	5,010
10	3,630	*4,540	2,560	3,620	3,600	3,830	3,660	5,050	2,810	2,960	*4,970	*5,060
11	3,520	4,630	3,390	4,620	4,600	3,500	2,450	4,630	*2,980	2,350	4,790	3,160
12	4,600	4,860	2,180	5,280	5,330	3,320	3,510	*4,830	2,740	3,880	4,200	1,910
13	*4,920	4,910	1,480	5,150	3,890	2,060	3,440	5,320	1,210	4,200	2,620	3,870
14	5,020	3,890	3,580	4,790	3,240	2,470	3,190	4,920	3,640	4,600	3,540	4,210
15	4,430	2,890	3,060	5,180	3,090	4,720	3,140	3,190	3,750	*3,240	2,650	3,970
16	4,520	4,390	4,110	5,540	4,530	4,070	4,140	2,570	3,220	3,950	4,540	4,000
17	3,320	4,040	4,770	2,950	4,890	3,830	3,220	3,950	3,820	3,300	4,610	3,400
18	2,890	3,320	5,050	5,170	4,260	4,000	2,270	4,060	4,220	2,730	3,680	3,500
19	4,950	3,240	3,950	3,790	3,620	4,270	4,510	4,790	2,870	4,090	3,830	4,540
20	4,870	2,720	2,500	3,900	3,660	3,240	4,050	4,950	1,070	4,190	3,540	5,350
21	4,740	2,330	3,770	6,520	2,450	2,180	4,570	4,720	3,490	3,960	3,270	4,100
22	4,550	1,950	3,810	6,390	4,270	4,900	5,460	2,280	4,540	3,840	3,020	3,850
23	4,300	3,260	4,500	4,040	4,910	4,850	5,430	1,670	5,270	3,980	4,420	4,060
24	3,340	3,410	4,200	2,300	5,040	5,340	3,190	4,810	6,060	3,340	4,540	4,470
25	3,170	4,550	2,180	3,440	4,590	5,280	2,530	4,090	6,140	2,610	4,230	3,180
26	4,530	2,810	2,930	4,270	4,390	4,910	4,820	4,160	3,620	3,350	4,120	2,480
27	4,230	3,160	2,440	3,520	3,250	5,000	5,390	4,590	1,550	3,570	4,090	5,240
28	4,820	2,970	4,240	4,060	2,160	3,440	6,140	4,430	4,120	3,250	3,890	4,900
29	5,320	2,500	4,450	3,880	-	5,240	4,750	2,910	4,160	3,820	3,030	4,670
30	3,870	3,370	4,530	2,770	-------	5,080	5,020	3,350	3,540	3,600	4,030	4,400
31	3,390	-------	4,370	2,710	-------	5,220	-------	4,500	-------	3,420	3,260	-------
Total	131,830	113,170	103,920	133,700	119,360	135,370	123,720	137,130	106,730	107,160	120,370	118,060
Mean	4,253	3,772	3,352	4,313	4,263	4,367	4,124	4,424	3,558	3,457	3,883	3,935

	Observed						Adjusted†					
Calendar year 1953:	Max	6,480	Min	1,370	Mean	3,743	Mean	3,729	Cfsm	2.00	In.	27.19
Water year 1953-54:	Max	6,520	Min	1,070	Mean	3,974	Mean	3,764	Cfsm	2.02	In.	27.44

* Discharge measurement made on this day.
† Adjusted for change in contents in Fontana, Cheoah, Calderwood, Nantahala, Thorpe, and Santeetlah Lakes.

Tellico River at Tellico Plains, Tenn.

Location.--Lat 35°21'42", long 84°16'44", on right bank 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.

Records available.--July 1925 to September 1954. Published as "near Tellico Plains" October 1927 to September 1930.

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 same 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.--29 years, 280 cfs.

Extremes.--Maximum discharge during year, 10,300 cfs Jan. 21 (gage height, 11.21 ft); minimum, 22 cfs Sept. 19, 20, 29, 30 (gage height, 0.90 ft).

1925-54: Maximum discharge, 15,100 cfs Mar. 29, 1951 (gage height, 12.82 ft), from rating curve extended above 6,500 cfs; minimum, 13 cfs Sept. 7, 1925 (gage height, 0.25).

Revisions.--The figures of maximum discharge for some water years have been revised as shown in the following table. They supersede figures published in the water-supply papers indicated:

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
643	1927	June 12, 1927	6,260	9.49
663	1928	Sept. 2, 1928	5,950	7.7
803	1936	Feb. 4, 1936	†13,200	12.20

† From rating curve extended above 6,500 cfs by logarithmic plotting.

Remarks.--Record good except those for period of no gage-height record, which are fair.

Revisions.--Revised figures of discharge, in cubic feet per second, for the water years 1936, 1940 and 1944, superseding those published in WSP 803, 893, and 1003, are given herewith:

1936
Feb. 4..... 6,710

1940
Apr. 28..... 309
29..... 278

1940-Con.
Apr. 30..... 266

1944
June 4..... 154
5..... 146

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
February 1936.....	19,316	6,710	250	666	5.64	6.09
Water year 1935-36.....	114,076	6,710	30	312	2.64	35.95
Calendar year 1936.....	114,116	6,710	30	312	2.64	35.98
April 1940.....	11,062	1,320	165	369	3.13	3.49
Water year 1939-40.....	53,704	1,320	28	147	1.25	16.94
Calendar year 1940.....	57,813	1,320	36	158	1.34	18.23
June 1944.....	3,658	227	68	122	1.03	1.15
Water year 1943-44.....	90,309	2,710	36	247	2.09	28.47
Calendar year 1944.....	92,639	2,710	36	253	2.14	29.21

Tellico River at Tellico Plains, Tenn.--Continued

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 16

0.9	22	2.5	465
1.0	33	3.0	705
1.3	84	4.0	1,240
1.6	155	6.5	2,720
2.0	276	8.5	4,550

Jan. 17 to Sept. 30

0.9	22	1.6	150
1.0	32	2.0	268
1.3	78	2.5	465

Note.--Same as preceding table above 2.3 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40	43	52	a115	288	876	1,070	275	624	106	54	33
2	*39	*41	*50	105	*271	*519	*645	252	*643	*101	*71	*31
3	37	40	50	112	265	964	514	*310	447	118	60	30
4	34	40	114	*105	258	640	438	376	372	155	52	29
5	33	39	103	101	230	456	388	310	310	106	47	28
6	32	37	84	97	218	376	356	275	262	101	89	27
7	33	37	177	92	203	325	329	278	230	93	88	26
8	32	36	105	90	192	299	332	313	209	91	58	25
9	32	36	387	88	189	285	313	262	194	101	162	25
10	32	36	482	99	183	275	278	239	183	88	93	38
11	32	36	212	315	180	265	268	224	172	86	64	31
12	31	36	228	177	172	258	271	212	161	80	55	28
13	31	36	203	150	158	335	249	227	164	74	55	26
14	30	36	341	150	155	537	252	278	177	73	52	26
15	30	36	250	1,320	153	408	249	278	230	73	49	25
16	31	a36	188	*4,420	166	332	313	249	241	69	46	24
17	31	a36	150	1,070	268	295	775	227	474	65	42	24
18	30	a36	116	580	192	275	575	233	414	62	40	24
19	30	a37	160	434	177	306	424	262	321	62	39	23
20	30	a40	136	410	255	344	356	275	246	62	39	25
21	30	46	171	5,070	310	285	317	255	212	62	49	36
22	29	63	222	3,740	249	258	292	227	189	88	58	47
23	29	210	206	1,840	221	262	275	209	180	127	44	32
24	29	78	163	a990	252	1,120	292	194	164	74	73	29
25	29	135	144	a690	236	790	295	197	150	65	47	27
26	29	103	142	542	221	1,590	292	174	139	101	47	26
27	37	a90	131	542	203	760	262	166	131	76	44	25
28	59	72	114	447	608	570	252	158	126	69	57	24
29	131	59	155	396	-	470	332	180	116	60	46	23
30	68	54	136	356	-------	416	332	172	113	57	40	22
31	46	-------	123	313	-------	700	-------	153	-------	54	36	-----
Total	1,166	1,660	5,295	24,956	6,473	15,591	11,336	7,440	7,594	2,599	1,796	839
Mean	37.6	55.3	171	805	231	503	378	240	253	83.8	57.9	28.0
Cfsm	0.319	0.469	1.45	6.82	1.96	4.26	3.20	2.03	2.14	0.710	0.491	0.237
In.	0.37	0.52	1.67	7.87	2.04	4.91	3.57	2.34	2.39	0.82	0.57	0.26

Calendar year 1953: Max 4,210 Min 29 Mean 263 Cfsm 2.23 In. 30.30
Water year 1953-54: Max 5,070 Min 22 Mean 238 Cfsm 2.02 In. 27.33

Peak discharge (base, 2,800 cfs).--Jan. 16 (3 a.m.) 6,850 cfs (9.79 ft); Jan. 21 (6 a.m.) 10,300 cfs (11.21 ft); June 1 (8:30 p.m.) 3,140 cfs (7.13 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records, recorded range in stage, and records for Little River near Maryville.

Little Tennessee River at McGhee, Tenn.

Location.--Lat 35°36'16", long 84°12'43", on right bank at mouth of Tellico River, 100 ft upstream from bridge on U. S. Highway 411, 0.3 mile upstream from Louisville & Nashville Railroad bridge, and 0.5 mile south of McGhee, Monroe County.

Drainage area.--2,443 sq mi, including that of Tellico River.

Records available.--January 1905 to December 1913 (gage heights only, October to December 1913) and October 1918 to September 1954 in reports of Geological Survey. November 1904 to September 1924 (most records prior to 1919, revised) in Tennessee Division of Geology Bulletin 34.

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.--49 years (1905-54), 5,672 cfs (unadjusted).

Extremes.--Maximum discharge during year, 30,500 cfs Jan. 22 (gage height, 15.22 ft); minimum daily, 1,710 cfs Dec. 6.

1904-54: Maximum discharge (revised), 104,000 cfs Nov. 19, 1906, from rating curve extended above 66,000 cfs; maximum gage height, 30.5 ft Apr. 2, 1920, site and datum then in use; minimum daily discharge, 500 cfs Sept. 13, 14, 1925.

Maximum stage known, 39.0 ft in March 1867, original site and datum.

Revisions.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
(†)	1905	Feb. 9, 1905	37,600	14.7
(†)	1906	Jan. 22, 1906	42,600	16.2
(†)	1907	Nov. 19, 1906	††104,000	30.0
(†)	1908	Feb. 15, 1908	30,800	12.5
(†)	1909	June 4, 1909	58,000	20.5
(†)	1910	June 5, 1910	29,200	12.0
(†)	1911	Apr. 5, 1911	41,600	15.9
(†)	1912	Mar. 29, 1912	55,200	19.8
(†)	1913	Mar. 27, 1913	62,100	21.5
(†)	1914	Apr. 19, 1914	18,100	8.4
(†)	1915	Dec. 26, 1914	58,400	20.6
(†)	1916	Dec. 18, 1915	58,800	20.7
(†)	1917	Mar. 5, 1917	††92,500	28.0
(†)	1918	Jan. 29, 1918	64,200	22.0
503	1919	Oct. 30, 1918	68,700	23.8
503	1920	Apr. 2, 1920	††102,000	30.5
523	1921	Feb. 10, 1921	60,700	22.0
543	1922	Jan. 22, 1922	72,300	24.6
563	1923	Dec. 18, 1922	44,300	17.6
583	1924	Apr. 18, 1924	39,100	16.0
603	1925	Dec. 9, 1924	42,300	17.0
623	1926	Jan. 19, 1926	22,900	12.4
643	1927	Dec. 26, 1926	49,300	20.87
663	1928	Sept. 3, 1928	38,500	18.0
683	1929	Mar. 23, 1929	40,800	18.50

† Bulletin 34, Tennessee Division of Geology.
†† From rating curve extended above 66,000 cfs.

Remarks.--Records excellent. Flow regulated by several reservoirs above station (see p. 245).

Revisions (water years).--WSP 803: 1933-35. WSP 823: Drainage area. See also Records Available. Previously published monthly figures of discharge, in cubic feet per second per square mile and runoff in inches, for December 1927 to September 1941 do not represent natural runoff owing to regulation from one or more reservoirs above station and should not be used. Revised figures of discharge, in cubic feet per second, for the water years 1905, 1911, 1913, 1915-22, 1925-29, superseding those published in WSP 503, 523, 543, 603, 623, 643, 663, and 683 and Bulletin 34, Tennessee Division of Geology, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1905		1913-Con.		1915-Con.		1917-Con.		1920	
Feb. 9	35,400	Mar. 24	11,300	Dec. 30	40,900	Mar. 22	20,200	Apr. 2	39,700
		25	10,400	31	18,100	23	15,700	3	73,200
1911		26	10,400			24	26,100	4	39,100
Apr. 6	36,700	27	34,500	1917		25	42,900	5	39,400
		28	46,600	Mar. 1	12,700	26	26,100	6	28,200
1913		29	26,400	2	32,900	27	33,200	7	22,400
Mar. 1	17,200	30	20,200	3	35,700	28	36,400	8	18,000
2	12,200	31	18,400	4	54,100	29	26,400		
3	9,860			5	88,200	30	21,800	1921	
4	9,020	1914		6	47,600	31	18,700	Feb. 9	15,800
5	8,180	Dec. 26	54,500	7	30,100			10	40,100
6	7,620			8	24,900	1918		11	49,000
11	12,200	1915		9	22,400	Jan. 12	11,000	12	27,600
12	10,400	Dec. 17	7,340	10	19,000	13	7,620	13	18,600
13	8,740	18	49,300	11	17,200	15	7,620		
14	38,900	19	39,600	12	15,700	16	9,300	1922	
15	46,900	20	18,700	13	20,200	27	12,200	Jan. 20	44,300
16	32,000	21	13,000	14	16,900	28	18,100	21	34,800
17	21,800	22	11,000	15	16,900	29	56,800	22	68,200
18	16,600	23	9,020	16	15,100	30	33,500	23	35,100
19	14,200	24	7,900	17	18,100	31	46,600	24	20,800
20	12,400	25	7,620	18	25,200	Oct. 26	15,500	Dec. 16	31,000
21	13,000	26	10,100	19	17,200	30	51,200	18	43,300
22	19,000	27	8,460	20	14,800	31	45,900		
23	13,000	29	29,800	21	14,200				

Little Tennessee River at McGhee, Tenn.--Continued

Revised figures of discharge, in cubic feet per second, 1905, 1911, 1913, 1915-22, 1925-29--Continued

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1924		1926-Con.		1926-Con.		1928		1929	
Dec. 9	40,700	Apr. 9	10,600	Dec. 22	13,200	Sept. 2	19,700	Mar. 1	23,500
		10	8,140	23	10,900	3	33,700	5	31,100
1926		12	8,390	25	26,400	4	22,000	6	28,900
Jan. 6	7,890	13	17,900	26	48,500	5	12,100	15	35,600
18	14,600	14	10,900	27	25,400	6	24,400	16	27,000
19	16,600	15	8,140	28	23,300	7	16,100	23	26,200
20	11,600	Dec. 13	14,600	29	41,300	8	13,900	24	33,600
22	9,640	14	17,900	30	22,800	9	11,100		
23	7,640	15	11,900	31	15,200				

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
February 1905	35,400	2,600	10,900	4.46	4.63
Water year 1904-5	35,400	-	4,750	1.94	26.42
Calendar year 1905	35,400	1,430	5,370	2.20	29.88
April 1911	36,700	5,410	12,920	5.29	5.90
Water year 1910-11	36,700	1,650	5,040	2.06	28.01
Calendar year 1911	36,700	1,650	5,460	2.23	30.32
March 1913	46,900	6,220	17,000	6.96	8.04
Water year 1912-13	46,900	1,650	6,300	2.58	35.01
Calendar year 1913	46,900	1,650	6,160	2.52	34.24
December 1914	54,500	3,420	12,520	5.12	5.91
Calendar year 1914	54,500	1,220	4,790	1.96	26.64
Water year 1914-15	54,500	1,220	6,320	2.59	35.11
December 1915	49,300	2,790	10,700	4.38	5.06
Calendar year 1915	49,300	1,650	6,370	2.61	35.41
Water year 1915-16	49,300	2,250	7,700	3.15	42.88
March 1917	88,200	13,100	26,700	10.93	12.58
Water year 1917	88,200	2,020	7,930	3.25	44.09
Calendar year 1917	88,200	1,520	7,610	3.12	42.27
January 1918	56,800	1,460	8,980	3.68	4.24
Water Year 1917-18	56,800	1,460	5,120	2.10	28.41
October 1918	51,200	1,340	6,330	2.59	2.99
Calendar year 1918	59,000	720	6,390	2.62	35.51
April 1920	73,200	4,920	16,600	6.79	7.56
Water year 1919-20	73,200	720	7,360	3.01	40.99
Calendar year 1920	73,200	1,810	7,580	3.10	42.25
February 1921	49,000	5,420	12,700	5.20	5.42
Water year 1920-21	49,000	1,810	5,790	2.37	32.19
Calendar year 1921	49,000	1,650	5,480	2.24	30.47
January 1922	68,200	3,310	12,300	5.03	5.82
Water year 1921-22	68,200	1,200	7,270	2.98	40.42
December 1922	43,300	1,200	8,100	3.32	3.82
Calendar year 1922	68,200	1,070	7,190	2.94	39.95
Water year 1922-23	43,300	1,070	6,720	2.75	37.36
December 1924	40,700	1,600	5,440	2.23	2.57
Calendar year 1924	40,700	1,600	5,420	2.22	30.23
Water year 1924-25	40,700	500	3,600	1.47	19.99
January 1926	16,600	1,690	5,300	2.17	2.51
April	17,900	2,980	6,210	2.54	2.84
Water year 1925-26	17,900	530	3,690	1.51	20.52
December 1926	48,500	2,780	12,200	-	-
Calendar year 1926	48,500	1,180	4,510	1.85	25.07
Water year 1926-27	48,500	1,180	5,630	2.30	31.27
September 1928	33,700	3,080	9,150	-	-
Water year 1927-28	33,700	1,140	6,540	2.68	36.43
Calendar year 1928	33,700	2,220	6,460	2.64	35.98
March 1929	35,600	7,900	17,000	-	-
Water year 1928-29	35,600	1,390	7,040	2.88	39.14
Calendar year 1929	35,600	1,390	7,730	3.16	42.96

Little Tennessee River at McGhee, Tenn.--Continued

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 26 to Apr. 5, June 1-13)

3.6	1,650
5.0	4,380
7.0	9,150
10.0	16,800
13.1	24,800

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,470	2,760	3,460	4,610	4,860	8,600	10,400	5,890	5,860	3,890	4,080	3,500
2	4,380	4,800	3,560	4,290	5,260	8,600	*7,930	5,330	7,180	4,170	4,040	3,770
3	3,890	5,090	3,630	3,460	6,560	9,700	5,070	6,080	5,190	3,540	3,600	3,350
4	3,580	4,930	3,140	4,110	6,560	9,280	3,580	7,330	4,720	1,910	3,630	3,250
5	4,370	5,360	2,630	5,000	6,270	7,010	4,770	6,820	3,910	2,300	3,910	2,630
6	4,630	5,000	1,710	5,170	4,930	6,410	5,690	6,100	3,010	3,460	4,110	2,370
7	4,820	4,820	*2,360	5,290	4,220	5,310	5,430	6,370	2,850	3,330	4,110	4,520
8	4,660	3,430	2,990	4,610	*5,430	*5,050	5,740	6,730	3,600	3,560	4,450	4,820
9	4,560	4,680	3,840	4,570	5,310	5,260	5,930	4,330	3,310	3,670	4,560	5,000
10	4,200	*4,820	3,970	4,300	4,110	4,980	5,050	4,930	2,620	3,130	*4,770	*5,210
11	3,760	4,520	3,580	4,930	4,820	4,590	3,710	5,190	*2,970	2,600	5,020	3,790
12	3,940	4,930	3,000	5,740	5,790	4,470	3,910	*4,910	2,800	3,210	4,700	3,100
13	*5,000	5,090	2,150	5,450	4,890	3,310	4,150	5,450	1,780	4,000	3,210	3,160
14	5,000	4,310	3,630	5,190	3,540	3,580	3,890	6,050	2,390	4,680	3,190	4,330
15	4,540	3,220	4,020	9,300	3,560	5,070	3,930	4,720	4,790	*4,220	3,200	3,950
16	4,910	4,060	4,480	23,100	4,240	5,380	4,040	3,860	3,330	3,670	3,820	3,920
17	3,930	4,360	4,720	14,100	5,790	4,890	6,250	3,890	4,260	3,330	4,910	3,720
18	3,060	3,710	5,480	*8,210	5,070	4,540	4,910	4,450	4,820	3,270	3,910	3,420
19	4,090	3,400	4,720	5,840	4,360	4,860	4,840	5,240	4,660	3,560	3,710	4,400
20	5,070	3,010	3,000	5,430	4,150	4,170	5,310	5,310	1,870	4,040	3,730	5,360
21	4,700	2,300	3,790	21,200	3,750	3,570	5,290	5,790	2,540	3,860	3,620	4,660
22	4,610	2,200	4,080	24,600	4,220	4,610	5,740	3,750	4,790	3,910	2,890	3,930
23	4,450	3,220	4,870	19,300	5,360	5,360	6,800	2,350	5,190	4,110	4,150	4,020
24	3,730	3,620	4,450	8,720	5,650	9,080	5,000	3,800	6,460	3,630	4,500	4,110
25	3,440	4,570	3,290	5,690	6,100	10,000	4,080	4,790	6,290	2,560	4,540	3,750
26	3,980	3,840	2,570	5,890	4,860	12,800	5,310	4,400	4,340	3,350	4,330	2,410
27	4,290	2,900	2,950	5,290	3,890	9,200	6,290	4,380	2,640	3,460	4,240	4,310
28	4,630	3,190	3,640	5,720	4,200	5,980	6,990	4,960	3,180	3,480	4,200	5,190
29	5,650	2,820	4,700	5,240	-	6,270	5,930	3,540	4,470	3,500	3,330	4,700
30	4,960	3,020	4,860	3,970	-------	6,290	5,360	3,540	3,600	3,730	3,820	4,960
31	3,210	-------	4,560	4,200	-------	7,610	-------	4,380	-------	3,110	3,710	-------
Total	134,510	117,980	113,830	242,520	137,750	195,830	161,320	154,660	119,420	108,240	123,990	119,610
Mean	4,339	3,933	3,672	7,823	4,920	6,317	5,377	4,989	3,981	3,492	4,000	3,987

	Observed			Adjusted†				
Calendar year 1953:	Max 16,000	Min 1,710	Mean 4,669	Mean 4,655	Cfsm 1.91	In. 25.86		
Water year 1953-54:	Max 24,600	Min 1,710	Mean 4,739	Mean 4,529	Cfsm 1.85	In. 25.17		

* Discharge measurement made on this day.
† Adjusted for change in contents in Santeetlah, Fontana, Thorpe, Cheoah, Calderwood and Nantahala Lakes.

Tennessee River at Loudon, Tenn.

Location.--Lat 35°44'33", long 84°19'56", in second pier from left bank of bridge on U. S. Highway 11, at Loudon, Loudon County, 9¾ miles downstream from Little Tennessee River, 10¾ miles downstream from Fort Loudoun Dam, 61 miles upstream from Watts Bar Dam, and at mile 591.6.

Drainage area.--12,220 sq mi.

Records available.--October 1922 to September 1954. Gage-height records collected in same vicinity since 1884 are contained in reports of 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, 5½ miles downstream at datum 6.60 ft lower. Since Feb. 17, 1942, auxiliary water-stage recorder at Lenoir City, 8¾ miles upstream from base gage.

Average discharge.--32 years, 18,810 cfs.

Extremes.--Maximum discharge recorded during year, 81,000 cfs Jan. 16, but may have been greater on Jan. 22 or 23 during period of no gage-height record; maximum gage height recorded, 18.12 ft Jan. 17; minimum daily discharge, 3,420 cfs Oct. 4; minimum gage height, 8.69 ft Feb. 22.

1922-54: Maximum discharge, 169,000 cfs Mar. 28, 1936 (gage height, 25.75 ft); minimum daily, 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.--Records good except those for periods of no gage-height record, which are fair. Flow regulated by many reservoirs above station.

Revisions.--WSP 823: Drainage area.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9,360	7,310	13,100	14,300	25,000	20,000	17,500	8,880	15,900	20,700	11,100	14,300
2	9,400	10,400	15,300	14,800	22,500	17,500	19,000	9,480	19,000	17,100	17,900	14,000
3	9,190	14,000	16,900	10,800	24,000	18,000	10,200	14,000	17,200	17,600	18,300	12,900
4	3,420	13,400	14,600	15,800	24,500	23,500	7,560	12,000	9,040	12,400	19,600	7,420
5	9,610	15,600	10,900	11,500	24,000	20,000	12,700	12,000	6,640	7,910	19,000	5,840
6	8,680	15,400	8,160	14,400	20,000	19,500	11,800	12,500	4,150	12,900	19,600	5,980
7	9,970	13,300	10,700	19,500	18,500	14,000	10,000	17,500	11,200	19,400	13,400	15,400
8	10,200	7,970	14,600	15,100	*19,000	14,000	16,300	14,000	*15,100	19,700	9,000	15,000
9	9,080	*12,100	13,100	11,700	20,900	16,000	*15,300	11,500	14,200	20,300	*14,400	15,800
10	10,100	15,500	12,500	6,150	19,200	*17,500	11,900	12,000	14,600	11,000	12,700	15,800
11	5,900	15,500	11,300	14,900	21,100	16,800	9,540	*16,000	12,400	7,880	13,100	6,920
12	8,820	14,200	9,820	18,700	24,600	16,200	13,100	14,300	12,500	16,600	8,610	4,720
13	*15,500	13,400	5,700	19,800	25,900	20,000	15,400	14,600	12,500	19,100	11,800	10,800
14	15,300	8,810	10,900	17,500	20,700	22,200	14,900	13,200	11,700	*21,100	10,700	*14,900
15	15,000	5,300	15,600	22,000	16,600	21,100	15,700	10,300	15,800	23,300	8,000	15,100
16	12,400	11,900	14,700	49,800	19,100	18,400	15,400	8,040	16,600	21,200	12,100	17,900
17	12,000	16,200	13,700	65,300	16,300	18,200	16,600	9,980	16,600	13,700	19,600	17,500
18	5,980	14,500	19,300	18,000	16,300	16,900	10,300	10,500	14,600	10,300	17,900	8,420
19	11,700	16,200	18,500	10,600	14,900	17,000	10,000	9,300	14,000	17,500	17,600	7,650
20	13,300	15,900	16,200	*13,000	13,500	17,000	10,200	9,720	8,510	19,100	21,500	12,700
21	11,900	9,370	*17,200	52,000	9,260	17,400	9,720	13,000	11,400	19,900	16,400	15,500
22	11,200	6,380	17,700	60,000	9,200	19,300	9,540	12,800	18,800	20,300	7,610	16,500
23	10,900	9,950	19,600	48,000	16,000	18,600	10,800	15,200	18,800	19,500	12,700	17,400
24	9,310	12,500	16,600	35,500	16,000	20,000	13,300	10,300	20,100	12,200	19,200	16,300
25	4,250	14,400	12,900	31,500	17,000	23,700	14,900	15,300	18,000	13,400	18,900	9,700
26	10,300	11,300	13,800	40,500	14,500	26,600	15,000	13,200	17,500	12,700	19,400	3,980
27	13,600	10,400	12,900	48,000	12,500	21,700	17,400	15,700	15,900	20,000	19,600	10,700
28	13,100	8,160	16,900	49,000	13,000	16,800	19,500	13,900	10,900	19,100	9,340	11,000
29	14,200	6,800	15,800	39,500	-	18,300	17,700	13,500	21,900	19,100	8,160	10,600
30	13,100	11,100	16,300	28,000	-------	10,400	14,100	12,100	21,200	16,500	14,000	10,100
31	9,940	-------	14,000	24,500	-------	11,700	-------	11,300	-------	13,500	17,500	------ --
Total	326,710	357,250	439,280	840,150	514,060	568,300	405,360	386,100	436,740	514,990	458,720	362,830
Mean	10,540	11,910	14,170	27,100	18,360	18,330	13,510	12,450	14,560	16,610	14,800	12,090
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 42,600 Min 2,690 Mean 15,750 Cfsm 1.29 In. 17.50
Water year 1953-54: Max 65,300 Min 3,420 Mean 15,370 Cfsm 1.26 In. 17.07

* Discharge measurement made on this day.

Note.--No gage-height record Jan. 20 to Feb. 8, Feb. 22 to Mar. 10, and May 3-11; discharge estimated on basis of Fort Loudoun Dam releases combined with records for Little Tennessee River at McGhee.

Clinch River at Richlands, Va.

Location.--Lat 37°05'10", long 81°46'52", on right bank 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.

Records available.--January 1946 to September 1954.

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.--8 years, 173 cfs.

Extremes.--Maximum discharge during year, 2,180 cfs Jan. 22 (gage height, 7.42 ft); minimum, 4.0 cfs Oct. 2, 3 (gage height, 0.48 ft); minimum daily, 16 cfs Oct. 12, 19, Nov. 9. 1946-54: Maximum discharge, 5,080 cfs May 19, 1953 (gage height, 13.23 ft); minimum, 4.0 cfs Oct. 8, 9, Nov. 4, 1952, Oct. 2, 3, 1953; minimum gage height, 0.45 ft July 2, 3, 1951; minimum daily discharge, 14 cfs Oct. 7, 1946.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Diurnal fluctuation at low flow caused by mill above station.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 22				Jan. 23 to Sept. 30			
0.6	10	2.0	245	0.7	18	3.0	488
.7	18	3.0	490	1.0	54	4.0	780
1.0	52	4.0	780	1.5	137	6.0	1,550
1.5	140	6.0	1,550	2.0	237		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*20	23	28	24	79	280	260	90	150	34	102	*61
2	17	22	23	21	75	350	240	82	120	32	133	51
3	17	25	24	25	75	560	210	85	105	38	99	50
4	20	*26	22	19	72	640	180	90	95	69	71	45
5	19	21	21	25	71	450	160	86	85	65	61	44
6	20	22	26	24	65	300	150	80	75	41	71	40
7	24	21	26	20	60	250	170	75	65	45	60	37
8	21	21	37	27	57	230	175	85	60	157	51	37
9	19	16	36	18	54	260	150	85	*55	90	48	37
10	21	21	41	23	56	300	140	76	90	53	*44	40
11	20	27	37	46	57	280	130	72	95	44	41	48
12	16	23	42	57	56	250	125	68	90	41	40	44
13	23	22	57	74	53	220	115	64	65	38	38	37
14	21	22	84	51	50	310	105	125	85	32	34	37
15	21	22	89	162	50	360	100	580	99	32	32	37
16	20	22	*50	1,110	*51	270	150	400	132	32	32	33
17	20	28	42	425	58	220	680	250	155	31	32	33
18	22	20	35	200	66	190	640	400	101	29	48	28
19	16	26	30	140	68	170	*350	580	81	71	74	33
20	22	20	26	100	66	190	300	450	67	*83	55	68
21	21	24	28	132	500	190	220	340	60	849	54	87
22	20	22	34	1,250	1,230	170	180	270	55	1,230	41	62
23	21	38	27	1,120	675	160	160	220	53	530	40	45
24	21	38	26	420	516	155	140	*180	48	257	54	37
25	22	32	25	249	250	*155	120	150	46	175	45	34
26	18	30	24	181	150	720	115	130	44	133	82	28
27	22	23	24	*159	140	600	110	230	41	103	90	29
28	23	32	24	141	110	400	115	170	40	84	219	29
29	29	22	27	118	-	300	105	165	34	74	149	26
30	27	22	26	107	-------	250	105	290	32	68	89	32
31	29	-------	20	89	-------	280	-------	200	-------	60	69	-------
Total	652	733	1,061	6,557	4,810	9,460	5,900	6,168	2,323	4,620	2,098	1,249
Mean	21.0	24.4	34.2	212	172	305	197	199	77.4	149	67.7	41.6
Cfsm	0.151	0.176	0.246	1.53	1.24	2.19	1.42	1.43	0.557	1.07	0.487	0.299
In.	0.17	0.20	0.28	1.76	1.29	2.52	1.58	1.65	0.62	1.23	0.56	0.33

Calendar year 1953: Max 3,840 Min 16 Mean 188 Cfsm 1.35 In. 18.28
Water year 1953-54: Max 1,250 Min 16 Mean 125 Cfsm 0.899 In. 12.19

Peak discharge (base, 1,300 cfs).--Jan. 16 (11:30 a.m.) 1,430 cfs (5.73 ft); Jan. 22 (8:30 p.m.) 2,180 cfs (7.42 ft); Feb. 22 (4:30 a.m.) 1,640 cfs (6.19 ft); July 22 (2 a.m.) 1,780 cfs (6.51 ft).
* Discharge measurement made on this day.
Note.--No gage-height record Feb. 9-21, Feb. 25 to June 14; discharge estimated on basis of 5 discharge measurements, weather records, and records for Clinch River at Cleveland, Clinch River at Speers Ferry, and North Fork Holston River near Saltville.

Clinch River at Cleveland, Va.

Location.--Lat 36°56'41", long 82°09'18", on right bank 500 ft upstream from highway bridge at Cleveland, Russell County, 0.5 mile downstream from Muddy Hollow, 2.3 miles downstream from Weaver Creek, and 4.4 miles downstream from Thompson Creek.

Drainage area.--528 sq mi.

Records available.--October 1920 to September 1954.

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 on highway bridge 500 ft downstream at different datum.

Average discharge.--32 years (1921-23, 1924-54), 679 cfs.

Extremes.--Maximum discharge during year, 6,980 cfs Jan. 23 (gage height, 10.47 ft); minimum, 48 cfs Oct. 24 (gage height, 1.25 ft).
1920-54: Maximum discharge, 26,500 cfs Dec. 22, 1926 (gage height, 23.0 ft, from graph based on gage readings, site and datum then in use), from rating curve extended above 13,000 cfs by logarithmic plotting; minimum, 39 cfs Feb. 10, 1934 (gage height, 0.96 ft).

Remarks.--Records good.

Revisions (water years).--WSP 823: Drainage area. WSP 1276: 1926(M).

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 17				Apr. 18 to Sept. 30			
1.2	38	4.0	1,160	1.3	60	3.0	600
1.5	102	5.0	1,930	1.6	120	4.0	1,160
2.0	225	7.0	3,530	2.0	215	5.0	1,890
2.5	390	10.0	6,380	2.5	380	6.0	2,690
3.0	610						

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*65	80	58	82	350	1,070	1,040	340	560	116	171	*156
2	73	78	58	67	322	1,260	925	312	464	116	310	138
3	62	67	65	71	304	2,170	815	312	400	114	392	124
4	58	*60	65	67	294	2,410	710	340	372	161	291	112
5	56	67	65	73	284	1,570	635	340	322	255	210	106
6	56	64	65	65	265	1,160	565	305	288	185	198	100
7	58	61	65	73	248	952	635	288	258	142	202	96
8	60	60	76	69	230	898	660	322	235	305	188	90
9	67	56	98	58	220	980	610	326	*225	540	*152	90
10	65	56	160	91	222	1,130	542	298	336	280	131	82
11	60	56	150	185	220	1,130	502	284	360	185	122	90
12	62	54	150	232	220	980	488	264	294	154	112	94
13	60	65	202	195	205	842	448	249	246	133	108	96
14	56	62	284	170	195	1,130	406	476	305	122	102	92
15	60	60	390	424	192	1,410	390	2,290	380	127	104	86
16	58	58	301	4,030	*192	1,130	498	1,580	294	142	96	80
17	58	58	198	2,810	218	870	2,650	950	633	120	124	82
18	58	56	135	1,130	259	735	2,530	1,110	1,040	106	190	72
19	60	65	110	685	265	660	*1,570	2,290	510	106	190	76
20	56	58	100	506	259	710	1,130	1,730	348	*133	190	152
21	56	67	110	635	1,790	735	865	1,350	264	241	185	322
22	54	69	116	3,510	2,330	635	700	1,180	228	2,210	159	270
23	56	100	120	*5,620	1,230	610	625	865	208	1,610	135	188
24	56	111	105	2,490	870	610	525	*700	188	838	180	142
25	54	120	95	1,340	685	*588	476	595	171	484	235	114
26	58	102	90	925	565	2,730	432	500	156	336	190	104
27	62	91	90	735	470	2,650	428	892	149	261	294	96
28	71	76	89	660	418	1,650	444	650	135	218	220	90
29	71	67	91	542	-	1,160	396	625	129	198	312	88
30	73	78	91	466	-------	952	408	1,130	124	188	238	84
31	87	-------	89	406	-------	1,070	-------	810	-------	178	183	-------
Total	1,906	2,122	3,881	28,412	13,322	36,587	23,048	23,683	9,622	10,304	5,914	3,512
Mean	61.5	70.7	125	917	476	1,180	768	764	321	332	191	117
Cfsm	0.116	0.134	0.237	1.74	0.902	2.23	1.45	1.45	0.608	0.629	0.362	0.222
In.	0.13	0.15	0.27	2.01	0.94	2.57	1.62	1.67	0.68	0.73	0.42	0.25

Calendar year 1953: Max 12,400 Min 54 Mean 667 Cfsm 1.26 In. 17.14
Water year 1953-54: Max 5,620 Min 54 Mean 445 Cfsm 0.843 In. 11.44

Peak discharge (base,5,000 cfs).--Jan. 23 (1 a.m.) 6,980 cfs (10.47 ft).
* Discharge measurement made on this day.

Guest River at Coeburn, Va.

Location.--Lat 36°55'45", long 82°27'23", on right bank at downstream side of bridge on State Highway 72, 1.0 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.

Records available.--September 1949 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 1,925.00 ft above mean sea level (Interstate Railway benchmark).

Average discharge.--5 years, 138 cfs.

Extremes.--Maximum discharge during year, 1,510 cfs Jan. 16 (gage height, 6.83 ft); minimum, 1.6 cfs Oct. 21, 22, 25, 26, Nov. 9, 10; minimum gage height, 1.27 ft Sept. 18. 1949-54: Maximum discharge, 2,850 cfs Jan. 31, 1950 (gage height, 9.93 ft); minimum, that of Oct. 21, 22, 25, 26, Nov. 9, 10, 1953; minimum gage height, that of Sept. 18, 1954.

Remarks.--Records good except those for periods of ice effect, which are fair.

Rating tables, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 15				Jan. 16 to Sept. 30			
1.2	1.0	2.0	78	1.2	1.0	2.5	143
1.3	2.0	2.5	155	1.3	3.4	3.0	230
1.4	5.0	3.0	252	1.4	6.0	4.0	475
1.5	12	3.5	368	1.5	15	6.0	1,190
				2.0	73	6.3	1,310

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	1.9	2.4	b9.4	73	268	125	106	69	14	12	4.4
2	1.9	1.8	2.4	b8.4	66	280	121	94	66	13	13	*4.2
3	1.9	1.7	2.4	8.3	60	474	117	89	63	21	23	3.9
4	1.9	1.7	2.7	b7.8	58	430	103	136	55	66	23	3.7
5	*1.9	*1.8	2.7	b7.5	54	270	87	120	50	49	19	3.7
6	2.0	1.8	2.7	b7.0	48	199	81	103	43	29	25	3.4
7	1.9	1.7	3.0	b6.8	44	167	94	94	38	21	19	3.4
8	1.8	1.7	3.3	b6.4	40	167	97	110	34	139	12	3.4
9	1.8	1.6	5.4	5.9	37	206	106	96	41	146	9.6	3.2
10	1.9	1.6	30	9.2	38	290	100	92	*46	69	*7.8	3.2
11	1.9	1.7	24	58	40	290	92	81	44	47	7.8	3.2
12	1.8	1.7	15	72	35	230	90	73	38	36	7.8	3.7
13	1.8	1.7	12	b64	33	206	85	66	48	28	5.7	4.4
14	1.8	1.7	33	b58	35	445	83	251	90	24	5.5	3.7
15	1.8	1.8	*47	314	30	372	60	925	76	22	5.7	3.4
16	1.8	1.8	32	1,310	30	238	64	460	87	20	5.2	3.2
17	1.8	1.8	b23	460	38	170	87	246	103	17	6.0	2.9
18	1.8	1.8	b17	169	41	140	96	236	106	14	6.0	2.9
19	1.9	1.9	b13	106	42	118	83	280	87	13	5.2	3.2
20	1.9	1.9	10	81	40	167	*80	230	64	14	5.0	35
21	1.7	2.2	10	167	150	170	76	173	50	*27	5.5	58
22	1.7	2.4	11	678	162	143	70	132	42	142	9.8	33
23	1.8	6.4	b12	750	120	137	70	110	40	81	6.9	18
24	1.8	7.0	b13	310	94	127	78	89	37	48	7.8	10
25	1.6	5.0	b11	192	85	117	78	78	30	34	6.0	6.9
26	1.6	4.6	b9.2	137	77	*400	96	*70	26	26	5.5	5.5
27	1.8	3.6	b8.4	*131	69	310	178	159	23	21	6.0	5.5
28	1.9	3.0	7.6	146	68	224	167	108	19	18	5.5	5.2
29	1.9	2.7	7.6	127	-	175	148	90	18	14	5.5	4.7
30	2.0	2.4	7.6	106	------	153	127	106	16	13	5.0	4.7
31	1.9	------	b7.4	87	------	131	------	81	------	11	5.0	------
Total	57.0	74.4	387.8	5,599.7	1,707	7,214	2,919	5,084	1,549	1,237	291.6	253.6
Mean	1.84	2.48	12.5	181	61.0	233	97.3	164	51.6	39.9	9.41	8.45
Cfsm	0.021	0.028	0.143	2.07	0.699	2.67	1.11	1.88	0.591	0.457	0.108	0.097
In.	0.02	0.03	0.16	2.39	0.73	3.08	1.24	2.17	0.66	0.53	0.12	0.11

Calendar year 1953: Max 2,090 Min 1.6 Mean 114 Cfsm 1.31 In. 17.73
Water year 1953-54: Max 1,310 Min 1.6 Mean 72.3 Cfsm 0.828 In. 11.24

Peak discharge (base, 1,500 cfs).--Jan. 16 (10 a.m.) 1,510 cfs (6.83 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Copper Creek near Gate City, Va.

Location.--Lat 36°40'26", long 82°33'57", on right bank at upstream side of highway bridge, 0.2 mile upstream from Plank Camp Creek, 1.1 miles downstream from Obeys Creek, and 2.6 miles northeast of Gate City, Scott County.
Drainage area.--106 sq mi.
Records available.--September 1947 to September 1954.
Gage.--Water-stage recorder. Altitude of gage is 1,290 ft (from topographic map). Prior to Aug. 30, 1953, wire-weight gage on highway bridge at same site and datum.
Average discharge.--7 years, 143 cfs.
Extremes.--Maximum discharge during year, 1,340 cfs Jan. 16 (gage height, 7.59 ft, from high-water mark in gage well); minimum, 17 cfs Dec. 1; minimum gage height, 2.14 ft Sept. 17, 18.
1947-54: Maximum discharge, 6,800 cfs 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, that of Dec. 1, 1953; minimum gage height, that of Sept. 17, 18, 1954.
Remarks.--Records good except those for periods of no gage-height record, which are fair.
Revisions (water years).--WSP 1143: 1948. WSP 1276: 1950(M).

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	21	18	23	96	328	150	118	117	42	44	*26
2	21	21	18	22	90	278	139	86	102	42	48	24
3	21	21	18	21	88	552	123	75	89	44	65	24
4	21	*21	20	20	89	566	112	82	82	59	51	23
5	21	20	19	20	83	286	106	72	72	63	38	22
6	*22	20	21	19	79	206	98	65	65	48	38	22
7	22	19	20	20	76	171	106	64	62	44	32	20
8	22	20	19	18	72	*148	110	71	58	49	29	20
9	23	19	30	20	71	142	104	74	55	55	28	20
10	23	19	50	35	68	140	93	65	55	49	27	20
11	23	19	60	60	64	131	88	60	*58	43	27	20
12	23	19	80	55	59	117	85	56	58	39	*27	20
13	23	19	120	40	53	110	78	56	100	39	27	20
14	23	19	*101	35	51	144	75	114	117	38	27	20
15	24	19	59	840	50	171	74	292	95	36	28	20
16	24	19	40	1,200	47	128	76	171	83	37	28	20
17	22	19	34	450	*46	110	167	126	83	36	28	19
18	22	19	27	250	50	100	184	136	96	35	53	19
19	22	19	25	180	47	96	117	270	79	35	43	19
20	22	20	28	300	47	102	92	182	69	*40	34	105
21	22	23	33	900	98	99	81	142	63	42	28	100
22	22	25	31	700	123	88	*74	116	58	51	27	60
23	22	33	27	500	89	85	72	99	60	59	26	35
24	22	29	25	400	78	85	67	88	54	37	40	30
25	22	28	22	350	72	90	63	81	50	31	28	28
26	22	23	21	250	65	388	59	74	49	28	30	28
27	23	21	21	220	62	264	72	*68	48	27	36	25
28	23	20	24	*176	72	179	76	65	45	27	100	23
29	23	19	25	148	-	152	75	68	44	26	58	22
30	22	19	25	126	-------	139	187	214	43	26	35	21
31	21	-------	24	111	-------	153	-------	155	-------	26	28	-------
Total	690	632	1,085	7,509	1,987	5,748	3,003	3,405	2,109	1,253	1,158	875
Mean	22.3	21.1	35.0	242	71.0	185	100	110	70.3	40.4	37.4	29.2
Cfsm	0.210	0.199	0.330	2.28	0.670	1.75	0.943	1.04	0.663	0.381	0.353	0.275
In.	0.24	0.22	0.38	2.63	0.70	2.02	1.05	1.20	0.74	0.44	0.41	0.31

Calendar year 1953: Max 1,900 Min 18 Mean 126 Cfsm 1.19 In. 16.11
Water year 1953-54: Max 1,200 Min 18 Mean 80.7 Cfsm 0.761 In. 10.34

Peak discharge (base, 1,200 cfs).--Jan. 16 (time unknown) 1,340 cfs (7.59 ft).
* Discharge measurement made on this day.
Note.--No gage-height record Dec. 3-13, Dec. 23 to Jan. 27, Sept. 18-29; discharge estimated on basis of weather records and records for Clinch River at Speers Ferry, Big Moccasin Creek near Gate City, and Powell River at Big Stone Gap.

Quillin Spring near Gate City, Va.

Location.--Lat 36°41'49", long 82°34'38", 4 miles north of Gate City, Scott County.
Records available.--January to September 1954 (discharge measurements only).
Extremes.--Maximum discharge measured during period, 3.42 cfs Jan. 28; minimum measured, 0.896 cfs Sept. 1.
Remarks.--Discharge measurements made 50 ft below spring.

Discharge measurements, in cubic feet per second, January to September 1954

Jan. 28	3.42	July 20	1.26
Feb. 17	1.60	Aug. 12	.943
Apr. 21	1.97	Sept. 1	.896
May 28	2.00		

Clinch River at Speers Ferry, Va.

Location.--Lat 36°38'55", long 82°45'02", on right bank 100 ft downstream from bridge on U. S. Highway 58, 0.5 mile downstream from Copper Creek, 0.8 mile northwest of Speers Ferry, Scott County, and 1.8 miles downstream from Clinchport.

Drainage area.--1,126 sq mi.

Records available.--October 1920 to September 1954. Gage-height records collected in this vicinity February 1895 to July 1933 are contained in reports of U. S. Weather Bureau.

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. 22, 1926, staff gage at site 400 ft upstream at datum 1.50 ft higher. Nov. 22, 1926, to Nov. 6, 1931, chain gage at present site and datum.

Average discharge.--34 years, 1,560 cfs.

Extremes.--Maximum discharge during year, 11,600 cfs Jan. 23 (gage height, 12.95 ft); minimum, 97 cfs Oct. 7-9 (gage height, 1.24 ft).
1920-54: 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 by logarithmic plotting; minimum, 42 cfs Sept. 29, Oct 23, 1939; minimum daily, 77 cfs Oct. 7, 8, 14, 15, 22, 1930.

Remarks.--Records good. Prior to May 1951, diurnal fluctuation at low flow caused by mill above station.

Revisions.--WSP 823: Drainage area. WSP 1276: 1925(M), 1927, 1928-31(M), 1932, 1935(M).

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 6-13)

1.2	90	4.0	1,260
1.6	168	6.0	3,100
2.0	268	9.0	6,560
2.5	431	13.0	11,600
3.0	645		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	114	119	110	168	1,040	2,450	2,110	1,460	1,580	235	260	*260
2	112	123	108	160	910	3,320	1,930	1,140	1,260	227	277	212
3	110	127	106	162	855	4,310	1,750	1,040	1,000	222	375	183
4	108	*127	103	149	828	5,960	1,580	1,110	882	406	550	164
5	106	121	104	145	800	4,090	1,460	1,140	800	427	490	153
6	*104	116	108	143	745	2,900	1,340	1,040	670	443	392	139
7	97	110	118	145	670	2,300	1,380	940	595	355	329	133
8	97	112	114	135	620	*2,060	1,460	1,080	530	332	310	123
9	97	112	137	139	572	2,020	1,460	1,110	494	720	280	118
10	101	108	257	194	*550	2,250	1,340	1,000	550	882	243	116
11	103	104	254	595	530	2,400	1,260	882	620	550	*214	112
12	106	106	335	595	502	2,200	1,140	800	720	388	195	104
13	106	106	371	450	470	1,930	1,080	745	580	307	186	104
14	104	104	*530	361	447	2,160	1,000	1,070	1,580	268	175	108
15	106	104	745	1,440	424	2,700	940	4,760	1,040	240	175	112
16	106	106	695	9,080	420	2,500	910	4,640	940	222	200	112
17	104	108	550	7,520	450	2,060	1,220	2,800	882	222	172	106
18	106	106	348	3,210	486	1,700	3,320	2,250	1,300	224	190	103
19	104	104	230	1,840	530	1,540	2,700	3,980	1,580	209	260	99
20	104	104	200	1,380	572	1,500	2,060	3,980	970	*214	307	135
21	104	110	214	2,700	1,000	1,620	*1,660	2,800	720	227	277	224
22	103	127	230	5,360	3,100	1,580	1,380	2,300	572	846	271	431
23	103	158	219	10,700	2,600	1,460	1,220	1,980	506	2,450	254	424
24	101	158	192	7,040	1,880	1,380	1,180	1,620	443	1,750	251	314
25	99	170	170	3,430	1,500	1,340	1,040	1,380	395	1,040	230	243
26	101	166	160	2,300	1,260	3,210	1,000	1,140	351	695	326	202
27	108	162	151	2,060	1,080	5,360	1,180	*1,180	323	506	307	177
28	112	149	155	2,060	1,000	3,650	1,340	1,540	295	402	411	164
29	114	133	177	1,750	-	2,600	1,300	1,220	268	345	355	153
30	116	119	177	1,460	-------	2,160	1,500	1,880	248	301	326	145
31	116	-------	172	1,220	-------	2,200	-------	2,110	-------	274	332	-------
Total	3,272	3,679	7,540	68,091	25,841	78,910	44,240	56,117	22,694	15,929	8,920	5,173
Mean	106	123	243	2,196	923	2,545	1.475	1,810	756	514	288	172
Cfsm	0.094	0.109	0.216	1.95	0.820	2.26	1.31	1.61	0.671	0.456	0.256	0.153
In.	0.11	0.12	0.25	2.25	0.85	2.61	1.46	1.86	0.75	0.53	0.30	0.17

Calendar year 1953: Max 22,200 Min 97 Mean 1,367 Cfsm 1.21 In. 16.48
Water year 1953-54: Max 10,700 Min 97 Mean 933 Cfsm 0.829 In. 11.26

Peak discharge (base, 10,000 cfs).--Jan. 16 (12 m.) 10,100 cfs (11.90 ft); Jan. 23 (11 a.m.) 11,600 cfs (12.95 ft).
* Discharge measurement made on this day.

North Fork Clinch River at Duffield, Va.

Location.--Lat 36°42'40", long 82°47'45", on right bank at upstream side of bridge on U. S. Highways 58 and 421, 0.2 mile downstream from Spurlock Branch, 0.5 mile south of Duffield, Scott County, and 1.6 miles upstream from Harris Branch.

Drainage area.--23.1 sq mi.

Records available.--October 1952 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 1,814.15 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge during year, 702 cfs Jan. 16 (gage height, 6.82 ft); minimum, 1.1 cfs Oct. 18-21; minimum gage height, 1.31 ft Sept. 7.
1952-54: Maximum discharge, 782 cfs Feb. 21, 1953 (gage height, 7.32 ft); minimum, that of Oct. 18-21, 1953.

Remarks.--Records good.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 4 to Dec. 9)

Oct. 1 to Jan. 15				Jan. 16 to Sept. 30			
1.3	1.0	1.9	27	1.3	1.1	2.0	37
1.4	2.4	2.2	51	1.4	3.0	2.5	79
1.5	5.4	2.6	88	1.5	6.0	3.0	137
1.6	8.8	3.0	137	1.6	11	5.0	430
1.7	14	4.0	280	1.8	22		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.3	1.5	1.6	3.2	31	160	35	25	9.3	2.5	2.1	1.5
2	1.3	1.5	1.6	2.9	27	106	31	23	9.3	2.5	2.5	*1.7
3	1.3	1.5	1.6	2.6	26	178	28	26	8.8	3.3	2.8	1.7
4	1.2	1.5	1.9	2.6	25	129	27	38	8.8	8.8	2.5	1.7
5	1.2	*1.5	1.9	2.6	22	84	26	37	8.0	5.7	3.6	1.5
6	*1.3	1.5	1.9	2.6	21	65	25	32	7.2	4.2	4.5	1.5
7	1.2	1.6	2.6	2.6	20	55	31	33	6.0	3.6	3.0	1.5
8	1.2	1.6	2.4	2.4	18	*53	33	39	5.7	4.8	2.8	1.5
9	1.2	1.6	5.9	2.6	18	61	32	39	6.8	4.5	2.5	1.7
10	1.2	1.6	13	12	17	67	30	36	7.2	3.6	2.3	1.7
11	1.3	1.6	6.1	47	16	62	28	30	*6.0	3.3	*2.3	1.7
12	1.2	1.6	6.4	20	14	52	26	26	5.7	3.0	2.1	1.7
13	1.2	1.5	7.1	11	12	55	23	22	7.6	2.5	2.1	1.5
14	1.2	1.6	15	9.3	12	76	22	55	13	2.3	2.1	1.7
15	1.3	1.5	*14	183	12	70	21	106	8.0	2.3	2.3	1.7
16	1.3	1.5	7.8	415	12	55	21	70	11	2.3	2.8	1.5
17	1.2	1.5	6.1	124	*12	46	24	52	19	2.3	2.5	1.5
18	1.2	1.5	4.5	58	12	39	23	55	14	2.3	2.5	1.7
19	1.1	1.5	4.0	36	9.7	37	22	79	9.7	2.5	2.1	1.7
20	1.1	1.5	3.5	47	11	37	20	63	7.6	*2.8	2.1	3.6
21	1.2	1.5	3.2	185	17	34	*19	49	6.4	13	2.1	3.9
22	1.2	1.8	3.4	295	18	31	20	40	5.4	20	2.1	3.0
23	1.4	2.6	3.7	192	19	31	22	30	5.4	6.4	2.1	2.1
24	1.5	2.1	3.3	90	19	30	26	24	5.1	4.2	2.3	2.1
25	1.5	2.9	3.0	107	18	34	24	20	4.5	3.6	2.8	1.9
26	1.5	2.6	2.7	44	8	164	23	17	4.2	3.0	2.1	1.9
27	1.6	1.9	2.5	71	16	106	24	*17	3.9	2.8	2.3	1.7
28	1.6	1.8	2.4	*90	32	73	30	15	3.6	2.5	1.9	1.7
29	1.5	1.8	2.9	64	-	57	28	14	3.0	2.5	1.7	1.7
30	1.5	1.6	3.2	49	-------	48	28	14	3.0	2.3	1.9	1.7
31	1.5	-------	3.2	38	-------	40	-------	11	-------	2.3	1.7	-------
Total	40.5	51.3	142.4	2,211.4	504.7	2,135	772	1,137	223.2	131.7	74.5	56.0
Mean	1.31	1.71	4.59	71.3	18.0	68.9	25.7	36.7	7.44	4.25	2.40	1.87
Cfsm	0.057	0.074	0.199	3.09	0.779	2.98	1.11	1.59	0.322	0.184	0.104	0.081
In.	0.07	0.08	0.23	3.56	0.81	3.44	1.24	1.83	0.36	0.21	0.12	0.09

Calendar year 1953: Max 565 Min 1.1 Mean 30.6 Cfsm 1.32 In. 17.98
Water year 1953-54: Max 415 Min 1.1 Mean 20.5 Cfsm 0.887 In. 12.04

Peak discharge (base, 500 cfs).--Jan. 16 (2 a.m.) 702 cfs (6.82 ft).
* Discharge measurement made on this day.

Clinch River above Tazewell, Tenn.

Location.--Lat 36°25'30", long 83°23'54", on right bank 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.

Records available.--April 1919 to September 1927 (published as "near Lone Mountain"), August 1927 to December 1936 (published as "near Tazewell"), July 1935 to September 1954.

Gage.--Water-stage recorder at present site and datum since Dec. 4, 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 miles downstream at datum 102.7 ft lower. Aug. 8, 1927, to Dec. 31, 1936, water-stage recorder at site 7.7 miles downstream at datum 47.2 ft lower. July 29 to Dec. 3, 1935, staff gage at present site and datum.

Average discharge.--35 years, 2,067 cfs.

Extremes.--Maximum discharge during year, 13,900 cfs Jan. 17 (gage height, 9.53 ft); minimum, 138 cfs Oct. 9-12, Sept. 14-15, 20; minimum gage height, 0.45 ft Oct. 9-12.

1919-54: Maximum discharge observed, 39,700 cfs Feb. 4, 1923 (gage height, 20.3 ft, site and datum then in use); minimum observed, 108 cfs Sept. 11, 1925.

Maximum stage known, about 24 ft in 1862, present site and datum, from information by local resident.

Remarks.--Records good.

Revisions.--Revised figures of discharge, in cubic feet per second, for periods in the water year 1928, superseding those published in WSP 663, are given herewith:

1928		1928-Con.	
Mar. 1	1,010	Mar. 18	7,550
2	958	19	6,840
3	905	30	5,370

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
March 1928	9,520	670	3,320	2.24	2.58
Water year 1927-28	14,300	220	2,390	1.61	21.98
Calendar year 1928	14,300	469	2,450	1.65	22.51

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

0.4	125	3.0	2,100
.5	151	4.0	3,350
.7	220	6.0	6,450
1.0	355	8.0	10,400
1.5	675	8.8	12,200
2.0	1,070		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*170	157	g182	224	1,450	2,730	*3,010	1,780	2,020	305	320	377
2	160	160	*166	209	*1,260	4,410	2,750	1,580	1,550	287	300	*310
3	154	160	163	209	1,150	5,630	2,440	1,340	*1,280	282	*428	260
4	151	166	166	209	1,150	*7,410	2,150	g1,400	1,070	345	556	228
5	148	*170	166	*201	1,090	6,500	1,920	g1,440	953	470	612	209
6	146	170	163	193	1,010	4,440	1,740	*1,370	857	*509	605	193
7	143	160	166	190	945	3,320	1,740	1,280	765	483	476	179
8	141	157	182	190	873	2,750	1,770	1,350	698	516	394	166
9	138	154	209	186	810	2,470	1,840	1,480	640	452	355	160
10	138	157	340	201	772	2,570	1,720	1,470	675	735	340	157
11	138	157	382	602	735	2,840	1,580	1,320	661	865	296	154
12	141	154	399	929	705	2,820	1,480	1,150	698	605	269	151
13	141	154	528	758	661	2,480	1,360	1,040	765	452	248	146
14	g143	154	633	612	626	2,290	1,260	1,220	805	366	236	141
15	g146	154	833	1,350	605	2,780	1,190	3,110	1,470	320	220	141
16	g148	154	873	10,200	584	3,100	1,130	7,810	1,060	287	212	143
17	g148	154	742	12,100	619	2,690	1,150	4,650	1,160	264	236	146
18	g148	157	g563	6,670	626	2,180	g2,210	3,010	1,460	252	228	146
19	g148	157	g394	3,190	640	1,890	g3,490	g3,160	1,600	274	212	141
20	151	g160	g292	2,160	668	1,780	g2,690	4,830	1,450	907	274	151
21	151	g160	g269	6,590	765	1,780	g2,080	3,950	1,010	428	394	228
22	148	g176	264	7,150	1,680	1,840	1,600	2,950	795	422	345	274
23	148	197	278	11,800	3,500	1,750	1,480	2,480	668	1,370	315	428
24	146	212	278	11,600	2,480	1,760	1,370	2,030	584	2,300	310	446
25	146	232	287	6,110	1,880	1,850	1,310	1,680	528	1,530	305	350
26	146	232	256	3,560	1,550	3,390	1,190	1,420	476	994	296	282
27	148	g220	248	2,790	1,320	5,680	1,170	1,230	422	728	305	240
28	151	g216	212	2,900	1,330	5,650	1,500	1,400	382	563	350	212
29	157	g209	212	2,580	-	3,910	1,550	1,540	345	458	355	193
30	157	g193	224	2,100	-------	2,540	1,570	1,330	320	399	422	179
31	157	-------	228	1,740	-------	2,960	-------	2,290	-------	350	345	-------
Total	4,596	5,213	10,298	99,503	31,484	100,190	53,440	68,090	27,167	18,518	10,559	6,531
Mean	148	174	332	3,210	1,124	3,232	1,781	2,196	906	597	341	218
Cfsm	0.100	0.118	0.225	2.18	0.763	2.19	1.21	1.49	0.615	0.405	0.231	0.148
In.	0.12	0.13	0.26	2.51	0.79	2.53	1.35	1.72	0.69	0.47	0.27	0.16

Calendar year 1953: Max 23,100 Min 138 Mean 1,735 Cfsm 1.18 In. 15.97
Water year 1953-54: Max 12,100 Min 138 Mean 1,193 Cfsm 0.809 In. 11.00

Peak discharge (base, 14,000 cfs).--No peak above base.

* Discharge measurement made on this day.

g Computed from bihourly readings of Tennessee Valley Authority radio gage located in Geological Survey gage well.

Powell River at Big Stone Gap, Va.

Location.--Lat 36°52'08", long 82°46'32", on right bank 10 ft upstream from bridge on U. S. Highway 23 at 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.

Records available.--October 1944 to September 1954.

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.--9 years (1945-54), 204 cfs.

Extremes.--Maximum discharge during year, 2,880 cfs Jan. 16 (gage height, 4.89 ft); minimum, 4.6 cfs Jan. 1 result of freeze-up; minimum gage height, 0.58 ft Jan. 1, Sept. 18. 1944-54: Maximum discharge, 16,500 cfs Jan. 7, 1946 (gage height, 9.8 ft, from floodmark); minimum, that of Jan. 1, 1954.

Remarks.--Records good.

Revisions (water years).--WSP 1053: Drainage area. WSP 1276: 1948.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 15				Jan. 16 to Sept. 30			
0.5	2.0	1.3	102	0.5	4.0	1.6	190
.6	6.0	1.6	175	.6	8.5	2.0	340
.7	14	2.0	310	.7	15	2.5	570
.8	24	2.5	555	.8	24	3.0	870
1.0	48	3.0	870	1.0	51	4.0	1,780
				1.3	106	5.0	3,020

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.8	7.6	7.6	14	118	385	166	128	70	34	17	*9.8
2	6.0	6.8	6.8	13	106	354	151	113	79	34	22	9.2
3	6.0	7.6	6.8	20	100	530	139	133	75	34	36	9.8
4	7.6	8.4	8.4	14	90	452	133	175	73	48	25	9.2
5	*7.6	*6.8	7.6	16	82	326	123	163	65	42	29	8.5
6	7.6	6.0	8.4	14	77	263	120	148	60	31	31	8.5
7	6.8	6.8	12	14	68	238	136	169	54	28	22	8.5
8	6.8	8.4	10	13	58	271	136	202	48	152	19	8.5
9	6.8	8.4	59	16	58	349	128	202	60	125	17	9.2
10	6.8	7.6	100	57	56	448	120	178	*58	66	17	8.5
11	6.0	7.6	44	148	54	462	120	151	51	51	*19	8.5
12	5.3	9.2	34	78	48	362	116	130	46	39	14	8.5
13	6.8	9.2	32	39	42	466	104	118	48	32	14	8.5
14	6.0	7.6	88	53	45	717	102	222	84	29	13	8.5
15	6.8	7.6	*69	594	44	530	100	560	116	30	13	8.5
16	6.0	8.4	45	1,960	45	362	106	434	197	28	13	8.5
17	6.8	9.2	20	516	*51	263	154	295	248	23	12	8.5
18	6.0	7.6	18	241	48	214	190	412	252	22	13	8.0
19	6.0	6.8	17	157	44	196	172	511	166	25	13	8.0
20	5.3	8.4	17	133	46	238	142	390	113	22	17	60
21	6.0	11	21	390	65	214	*128	287	86	*30	20	60
22	6.8	13	27	1,280	70	193	116	224	70	116	17	29
23	7.6	24	24	800	68	193	118	184	96	58	19	19
24	6.8	15	15	416	68	172	116	154	68	39	19	14
25	6.8	16	13	263	68	*166	108	130	54	30	14	12
26	7.6	14	13	199	61	267	118	*113	48	25	12	12
27	10	10	14	*238	56	279	208	116	46	21	12	11
28	12	10	19	259	97	246	199	96	40	20	11	10
29	12	7.6	21	220	-	211	178	90	38	19	10	9.8
30	11	7.6	21	178	-------	202	157	90	35	18	11	9.8
31	8.4	-------	19	142	-------	214	-------	77	-------	16	11	------
Total	224.8	284.2	817.6	8,495	1,833	9,785	4,104	6,395	2,544	1,287	532	411.8
Mean	7.25	9.47	26.4	274	65.5	316	137	206	84.8	41.5	17.2	13.7
Cfsm	0.065	0.085	0.236	2.45	0.585	2.82	1.22	1.84	0.757	0.371	0.154	0.122
In.	0.07	0.09	0.27	2.82	0.61	3.25	1.36	2.12	0.84	0.43	0.18	0.14

Calendar year 1953: Max 3,590 Min 5.3 Mean 151 Cfsm 1.35 In. 18.30
Water year 1953-54: Max 1,960 Min 5.3 Mean 101 Cfsm 0.902 In. 12.18

Peak discharge (base, 1,600 cfs).--Jan. 16 (4 a.m.) 2,880 cfs (4.89 ft); Jan. 22 (3 p.m.) 1,890 cfs (4.10 ft).

* Discharge measurement made on this day.

Powell River near Jonesville, Va.

Location.--Lat 36°39'43", long 83°05'42", on right bank 35 ft downstream from highway bridge, 2 miles southeast of Jonesville, Lee County, and 10 miles upstream from Wallen Creek.

Drainage area.--319 sq mi.

Records available.--November 1931 to September 1954.

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.--22 years (1932-54), 501 cfs.

Extremes.--Maximum discharge during year, 7,680 cfs Jan. 16 (gage height, 14.27 ft); minimum, 17 cfs Sept. 19, 20; minimum gage height, 0.91 ft Oct. 22-25.
1931-54: Maximum discharge, 35,000 cfs Jan. 8, 1946 (gage height, 30.8 ft), from rating curve extended above 17,000 cfs by logarithmic plotting; minimum, that of Sept. 19, 20, 1954.

Remarks.--Records good.

Revisions (water years).--WSP 823: Drainage area. WSP 1033: 1932-44.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 3				Mar. 4 to Sept. 30			
0.9	22	2.0	192	0.9	13	2.0	167
1.0	30	3.0	540	1.0	23	2.5	310
1.3	64	5.0	1,620	1.3	57	3.0	530
1.7	126	13.0	6,770	1.6	102	5.0	1,820

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	27	30	54	396	1,170	503	322	167	70	49	28
2	25	26	28	48	346	1,090	440	278	160	68	46	*27
3	*25	25	28	46	315	1,980	400	268	164	72	69	26
4	24	25	27	46	301	1,560	359	431	164	174	87	24
5	24	*24	27	46	265	980	342	458	155	169	84	22
6	24	24	28	44	235	740	310	408	142	123	94	22
7	24	24	29	44	212	598	364	364	130	94	106	21
8	23	24	31	41	184	598	382	485	117	94	80	20
9	24	24	46	39	172	665	386	530	114	210	62	19
10	24	24	277	66	172	815	359	490	*140	169	53	19
11	24	24	220	648	160	842	346	400	145	119	*47	18
12	24	24	126	460	152	690	334	334	122	98	45	18
13	24	24	107	214	134	980	296	289	119	84	46	18
14	24	23	143	145	124	1,620	275	350	220	72	40	18
15	24	24	*280	806	124	1,170	264	1,010	211	64	39	18
16	24	24	182	6,510	124	790	254	1,090	220	58	38	18
17	24	24	119	2,610	*137	598	286	740	404	58	47	18
18	24	24	70	925	139	516	342	690	598	56	47	18
19	24	24	58	560	132	498	350	1,290	418	75	40	18
20	24	24	52	432	128	598	322	980	272	117	39	28
21	24	26	54	1,800	158	552	*278	740	194	*87	52	88
22	24	28	57	2,940	214	503	254	552	158	507	47	122
23	23	41	64	3,580	229	494	240	458	138	303	49	84
24	23	52	52	1,440	214	462	254	368	167	164	51	55
25	23	58	45	870	212	*440	240	306	135	117	49	43
26	24	52	40	602	192	1,010	258	*272	112	94	49	35
27	23	44	40	740	174	1,060	282	268	100	78	50	30
28	26	38	45	*1,140	244	842	413	240	90	68	41	29
29	27	34	50	815	-	665	404	223	82	60	33	27
30	28	30	57	602	------	575	372	201	75	56	31	26
31	28	--------	58	480	-------	552	-------	187	--------	50	29	---- --
Total	759	890	2,470	28,793	5,589	25,653	9,909	15,022	5,433	3,628	1,639	957
Mean	24.5	29.7	79.7	929	200	828	330	485	181	117	52.9	31.9
Cfsm	0.077	0.093	0.250	2.91	0.627	2.60	1.03	1.52	0.567	0.367	0.166	0.100
In.	0.09	0.10	0.29	3.36	0.65	3.00	1.15	1.75	0.63	0.42	0.19	0.11

Calendar year 1953: Max 7,070 Min 23 Mean 409 Cfsm 1.28 In. 17.42
Water year 1953-54: Max 6,510 Min 18 Mean 276 Cfsm 0.865 In. 11.74

Peak discharge (base, 5,000 cfs).--Jan. 16 (2 p.m.) 7,680 cfs (14.27 ft); Jan. 23 (1 a.m.) 5,080 cfs (10.42 ft).
* Discharge measurement made on this day.

Powell River near Arthur, Tenn.

Location.--Lat 36°32'30", long 83°37'49", on left bank 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.

Records available.--October 1919 to September 1954 in reports of Geological Survey. Gage-height records collected at same site December 1892 to August 1920 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 1,045.84 ft above mean sea level (Tennessee River Survey datum). Prior to July 22, 1927, chain gage at same site and datum.

Average discharge.--35 years, 1,135 cfs.

Extremes.--Maximum discharge during year, 10,400 cfs Jan. 17 (gage height, 12.76 ft); minimum, 64 cfs Sept. 13-15; minimum gage height, -0.03 ft Oct. 10.

1919-54: Maximum discharge, 33,000 cfs Jan. 9, 1946 (gage height, 27.15 ft, from floodmark), from rating curve extended above 25,000 cfs on basis of slope-area determination of peak flow; minimum, 47 cfs Jan. 6, 1940, result of freezeup; minimum gage height, -0.12 ft Oct. 28, 29, 1948; minimum daily discharge, 65 cfs Sept. 13-16, 1954.

Maximum stage known, 27.2 ft Jan. 29, 1918 (discharge, 33,000 cfs).

Revisions.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
503	1920	Jan. 24, 1920	17,200	†16.5
523	1921	Dec. 15, 1920	10,100	††11.2
563	1923	Feb. 4, 1923	20,300	18.7

† Observed.
†† From graph based on gage readings.

Remarks.--Records good.

Revisions.--Revised figures of discharge, in cubic feet per second, for high-water periods in the water years 1920 and 1923, superseding those published in WSP 503 and 563, are given herewith:

1920		1923	
Jan. 23	12,900	Feb. 3	12,300
24	17,200	4	18,900
25	13,000	14	13,700

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
January 1920	17,200	230	2,390	3.49	4.03
Water year 1919-20	17,200	110	1,730	2.53	34.38
Calendar year 1920	17,200	185	1,510	2.20	29.97
February 1923	18,900	715	4,200	6.13	6.39
Water year 1922-23	18,900	101	1,400	2.04	27.72
Calendar year 1923	18,900	83	1,370	2.00	27.26

Powell River near Arthur, Tenn.--Continued

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 4-23)

Oct. 1 to Jan. 16				Jan. 17 to Sept. 30			
-0.1	75	1.0	427	-0.1	54	3.0	1,500
0.0	85	3.0	1,560	.2	98	6.0	3,900
.3	145	6.0	3,740	.5	180	12.1	9,710
.6	250	10.3	7,830	1.0	370		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*91	90	104	120	1,120	1,780	*1,180	708	356	152	115	80
2	88	90	*98	120	*930	2,350	1,030	625	343	144	120	*77
3	86	91	97	120	840	3,290	912	603	*330	144	*215	76
4	86	88	97	112	796	*4,120	828	674	321	149	184	73
5	85	*88	97	*110	730	3,480	779	746	305	125	180	73
6	85	88	98	110	647	2,250	746	*757	293	*222	204	72
7	84	88	100	106	581	1,680	752	718	274	208	171	70
8	84	86	97	108	520	1,400	779	746	257	226	161	67
9	84	86	168	104	485	1,300	840	818	240	194	174	67
10	84	86	399	123	460	1,280	812	878	232	155	141	67
11	84	85	447	630	440	1,370	768	812	232	257	122	66
12	84	88	482	1,120	410	1,400	740	702	257	204	112	66
13	85	92	347	894	384	1,410	697	625	240	158	108	65
14	86	90	427	518	366	1,620	652	625	218	141	103	65
15	88	90	523	1,790	343	2,330	608	806	330	125	100	65
16	88	88	487	7,830	338	2,060	603	1,330	374	112	98	65
17	86	91	432	*9,700	397	1,520	691	1,480	374	103	98	69
18	86	88	286	4,700	425	1,220	708	1,150	505	98	100	69
19	86	90	206	1,960	402	1,070	697	966	779	96	100	69
20	88	90	163	1,490	384	996	686	1,510	642	155	112	79
21	85	96	148	5,290	379	972	636	1,300	455	180	117	120
22	85	100	140	6,630	379	976	581	1,010	356	268	110	138
23	86	128	132	7,480	420	912	554	801	293	396	100	138
24	85	130	125	6,150	475	948	520	664	257	475	105	174
25	85	138	125	3,140	465	1,070	505	581	232	313	105	138
26	85	151	118	1,940	450	1,550	515	510	257	229	108	112
27	91	140	114	1,770	430	2,140	537	455	222	187	100	98
28	91	128	116	2,220	596	1,990	801	440	190	161	98	89
29	92	118	116	2,330	-	1,610	900	420	177	144	96	84
30	91	110	118	1,770	-------	1,360	796	397	164	130	96	82
31	90	-------	116	1,380	-------	1,300	-------	370	-------	122	89	----- --
Total	2,684	3,012	6,523	71,865	14,592	52,756	21,853	24,227	9,505	5,773	3,842	2,573
Mean	86.6	100	210	2,318	521	1,702	728	782	317	186	124	85.8
Cfsm	0.126	0.146	0.307	3.38	0.761	2.48	1.06	1.14	0.463	0.272	0.181	0.125
In.	0.15	0.16	0.35	3.90	0.79	2.86	1.19	1.32	0.52	0.31	0.21	0.14

Calendar year 1953: Max 11,200 Min 84 Mean 868 Cfsm 1.27 In. 17.20
Water year 1953-54: Max 9,700 Min 65 Mean 601 Cfsm 0.877 In. 11.90

Peak discharge (base, 9,000 cfs).--Jan. 17 (10:30 a.m.) 10,400 cfs (12.76 ft).
* Discharge measurement made on this day.

Clinch River below Norris Dam, Tenn.

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.

Records available.--October 1918 to September 1927 (published as "at Clinton"), May 1927 to September 1937 (published as "near Coal Creek"), and April 1936 to September 1954 in reports of Geological Survey. October 1903 to September 1924 (published as "at Clinton") in Bulletin 34 of Tennessee Division of Geology. Gage-height records collected in vicinity of Clinton from 1884 to 1943 are contained in reports of U. S. Weather Bureau.

Gage (revised).--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 downstream at datum 42.49 ft lower. July 1, 1920, to Sept. 30, 1927, chain gage at highway bridge 19.8 miles downstream (1,000 ft downstream from previous site) at datum 42.59 ft 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 downstream at datum 10.50 ft lower. Oct. 1, 1935, to Sept. 30, 1937, water-stage recorder at site 2.9 miles downstream at datum 13.50 ft lower. Apr. 16, 1936, to Jan. 27, 1937, staff gage at present site and datum.

Average discharge.--51 years, 4,332 cfs (unadjusted).

Extremes.--Maximum discharge during year, 8,650 cfs June 7 (gage height, 5.57 ft); minimum, 48 cfs Dec. 15, 16 (gage height, 1.19 ft); minimum daily, 50 cfs Dec. 13.
1903-54: 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, 24-26, May 29 to June 5, 1936 (gage height, 0.62 ft).
Flood of Mar. 31, 1886, reached a stage of 45 ft (discharge, 113,000 cfs) at Clinton.

Revisions.--Figures of maximum discharge for the water years 1917 and 1918 have been revised to 87,000 cfs Mar. 5, 1917 (gage height, 38.5 ft, from graph based on gage readings) and 85,100 cfs Jan. 30, 1918 (gage height, 38.0 ft, from graph based on gage readings, respectively, from rating curve extended above 62,000 cfs, superseding figures published in Bulletin 34 of Tennessee Division of Geology.

Remarks.--Records good. Flow completely regulated by Norris Lake (see p. 247).

Revisions.--Revised figures of discharge, in cubic feet per second, for high-water periods in the water years 1917-18, and 1928, superseding those published in Bulletin 34 of Tennessee Division of Geology, and WSP 663, are given herewith:

1917		1917-Con.		1918-Con.	
Mar. 3	47,000	Mar. 19	39,700	Jan. 31	81,700
4	67,100	26	39,400		
5	85,100			1928	
6	74,000	1918		June 2	4,540
7	60,600	Jan. 29	62,200	24	4,420
18	38,500	30	83,600	25	5,830

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
March 1917	85,100	10,600	27,900	9.13	10.53
Water year 1916-17	85,100	740	6,690	2.19	29.71
Calendar year 1917	85,100	680	6,410	2.10	28.45
January 1918	83,600	2,200	12,800	4.19	4.81
Water year 1917-18	83,600	680	4,150	1.36	18.42
Calendar year 1918	83,600	425	4,880	1.60	21.66
June 1928	45,400	3,050	8,020	2.75	3.06
Water year 1927-28	45,400	500	5,090	1.74	23.72
Calendar year 1928	45,400	1,460	5,500	1.88	25.65

Clinch River below Norris Dam, Tenn.--Continued

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

1.2	50	2.5	1,640
1.3	95	3.0	2,520
1.4	160	4.0	4,580
1.6	360	5.1	7,310
2.0	880		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,260	1,470	4,920	4,740	537	812	69	84	2,940	4,560	2,740	4,040
2	2,800	3,560	4,900	4,540	1,060	1,620	69	84	1,080	*6,400	2,070	4,130
3	2,440	2,480	2,310	5,430	436	3,700	69	1,160	102	5,310	3,160	4,220
4	2,240	1,600	972	5,590	328	652	69	89	1,990	590	3,520	2,640
5	4,410	4,600	972	5,180	235	69	147	89	95	530	4,660	2,600
6	4,500	3,060	995	5,080	198	74	69	5,450	95	4,210	*4,480	2,520
7	4,390	3,020	*2,720	5,240	61	69	*273	1,900	4,150	4,690	3,320	3,470
8	5,380	2,180	850	5,900	3,210	279	74	89	7,130	5,040	2,130	4,680
9	5,560	3,240	406	4,620	1,960	194	74	89	6,110	4,970	2,740	*4,690
10	2,970	2,650	521	940	2,150	69	69	3,900	*6,020	2,430	890	3,660
11	2,880	2,900	868	5,130	1,370	97	74	*4,710	4,030	2,910	918	3,750
12	5,450	3,800	472	*5,170	3,310	*69	4,910	4,360	2,870	5,940	437	2,120
13	5,920	2,550	50	6,170	2,420	69	5,050	4,390	2,360	7,270	364	4,070
14	*4,960	3,990	989	6,220	1,720	69	5,080	1,590	5,980	5,440	2,950	4,100
15	5,120	1,820	616	783	*1,940	448	5,080	79	7,100	5,870	3,110	4,240
16	3,490	3,720	1,840	53	2,400	302	3,100	79	6,640	5,910	3,340	4,170
17	3,570	4,260	4,230	53	2,240	473	2,640	79	4,970	2,000	4,730	4,330
18	1,580	2,280	4,540	1,520	1,250	239	79	79	4,090	2,560	3,820	4,400
19	4,850	*705	4,030	1,440	82	1,270	2,500	79	4,360	3,030	3,940	2,650
20	3,360	688	2,490	398	155	202	2,570	878	5,340	5,750	3,660	4,720
21	3,060	380	2,710	1,410	69	69	2,590	1,460	5,690	5,010	2,860	3,680
22	3,570	282	3,600	998	3,480	5,970	2,580	2,040	5,490	4,270	2,460	3,830
23	3,770	2,690	7,040	61	2,110	6,660	3,400	79	5,730	2,890	3,960	3,200
24	4,080	3,280	5,990	57	1,440	2,220	2,610	2,740	5,450	1,680	3,810	3,420
25	3,570	3,880	2,440	93	2,780	69	2,530	3,730	5,400	1,260	3,700	1,990
26	4,390	2,640	2,200	842	1,140	116	4,970	3,500	3,840	3,770	4,020	2,290
27	2,540	2,630	2,600	368	1,220	69	3,650	3,500	2,760	4,010	3,910	4,410
28	3,760	4,830	5,150	424	3,250	69	2,660	3,520	5,720	3,810	4,030	4,080
29	4,870	2,940	6,460	1,400	-	1,200	1,700	3,000	5,720	3,840	3,200	3,860
30	3,120	4,040	5,010	93	-------	69	147	2,040	4,340	3,900	3,720	3,940
31	3,300	-------	4,520	62	-------	74	-------	4,290	-------	3,340	4,100	-------
Total	118,160	82,165	87,411	80,005	42,551	27,361	58,902	59,156	127,592	123,190	96,749	109,900
Mean	3,812	2,739	2,820	2,581	1,520	883	1,963	1,908	4,253	3,974	3,121	3,663

	Observed			Adjusted†		
Calendar year 1953:	Max 12,500	Min 50	Mean 3,943	Mean 3,431	Cfsm 1.18	In. 15.99
Water year 1953-54:	Max 7,270	Min 50	Mean 2,776	Mean 2,435	Cfsm 0.836	In. 11.35

* Discharge measurement made on this day

† Adjusted for change in contents in Norris Lake.

Clinch River near Scarboro, Tenn.

Location.--Lat 35°56'45", long 84°13'17", on right bank 0.6 mile downstream from Beaver Creek, 2½ miles south of Scarboro, Anderson County, 4¾ miles miles downstream from Solway Bridge, and 17 miles west of Knoxville.

Drainage area.--3,300 sq mi.

Records available.--September 1936 to September 1954. Published as "near Wheat" September 1936 to January 1941.

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, at site 24 miles downstream at datum 35.99 ft lower.

Average discharge.--18 years, 4,497 cfs (unadjusted).

Extremes.--Maximum discharge during year, 11,300 cfs Jan. 22 (gage height, 7.17 ft); minimum daily, 378 cfs May 2.
1936-54: Maximum discharge, 42,900 cfs Feb. 9, 1937 (gage height, 23.45 ft, site and datum then in use); minimum daily, 131 cfs Jan. 23, 1941.

Remarks.--Records good. Flow regulated by Norris Lake, 41 miles upstream (see p. 247). The town of Oak Ridge diverts an average of about 15 cfs for municipal supply, 2½ miles upstream.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

1.3	314	3.0	2,990
1.5	501	5.0	6,990
1.8	870	6.5	9,990
2.1	1,320		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*6,250	2,640	*4,260	4,890	*702	*6,530	*2,780	463	*4,450	*4,310	3,490	*4,030
2	2,250	*2,070	4,810	4,330	1,100	3,070	1,960	378	3,100	5,490	*2,860	3,980
3	2,610	3,320	4,630	5,310	1,390	4,220	1,320	474	1,370	6,770	2,090	4,040
4	2,320	2,400	1,800	*5,630	898	4,950	1,020	*1,700	647	3,210	3,240	4,120
5	2,910	1,890	1,100	5,050	792	1,990	844	628	2,250	728	3,750	2,680
6	4,150	4,770	1,100	5,090	592	1,160	805	1,470	415	1,080	4,630	2,670
7	4,650	2,940	1,300	5,070	535	940	715	4,830	652	4,530	4,010	2,350
8	4,170	2,360	2,600	5,930	1,060	792	831	2,030	5,750	5,010	3,090	4,060
9	5,310	2,850	1,280	4,930	3,160	884	592	524	6,910	5,030	2,640	4,850
10	5,390	3,000	1,180	4,050	2,180	740	501	1,250	6,190	4,050	2,300	4,330
11	2,560	2,550	954	2,220	2,090	569	472	4,350	5,630	2,840	1,010	3,390
12	3,370	3,090	1,280	5,250	2,130	524	1,090	4,630	3,280	3,700	949	3,480
13	5,750	3,780	947	6,070	3,390	512	5,030	4,550	2,600	7,150	479	2,370
14	5,430	2,960	710	6,250	2,140	491	5,310	4,010	3,720	5,810	569	4,030
15	5,270	3,300	1,700	6,430	2,320	434	5,290	1,730	6,850	5,650	2,900	4,110
16	4,330	2,530	1,040	8,530	1,890	672	5,050	581	6,990	6,130	3,130	4,150
17	3,310	3,780	2,700	4,950	3,160	671	3,360	463	6,630	4,070	4,130	4,240
18	3,270	4,070	4,510	2,340	2,400	750	2,890	456	4,080	2,670	4,050	4,290
19	2,260	1,770	4,430	2,280	1,320	568	725	604	4,050	2,130	3,770	4,110
20	4,240	802	3,880	2,510	453	1,540	2,800	424	4,620	4,470	3,850	3,630
21	3,180	603	2,880	9,510	405	535	2,830	1,210	5,750	5,230	3,570	3,970
22	3,090	592	2,540	9,910	879	1,640	2,760	1,640	5,570	5,330	2,630	3,870
23	3,450	599	5,090	7,150	3,020	6,610	3,270	2,160	5,850	4,830	2,680	3,870
24	3,670	2,970	6,850	3,350	2,360	7,410	3,070	416	5,590	2,530	3,830	3,190
25	4,200	3,630	3,980	1,980	2,270	2,720	2,740	3,480	5,470	1,750	3,780	3,210
26	3,580	3,400	2,380	1,540	2,590	2,460	3,630	3,630	5,730	1,710	3,800	1,790
27	3,820	2,970	2,480	2,120	1,450	1,980	4,650	3,490	2,720	3,840	4,030	3,010
28	2,610	2,880	3,370	1,810	2,850	1,340	4,010	3,450	3,930	3,950	3,920	4,310
29	4,130	4,530	6,210	1,680	-	1,530	2,380	3,450	5,950	3,970	3,900	3,830
30	4,830	3,210	5,130	2,050	--------	1,470	1,890	2,310	5,110	3,800	3,040	4,030
31	3,200	--------	4,870	844	--------	1,780	--------	2,810	--------	3,610	4,040	--------
Total	119,560	82,256	91,991	139,054	49,526	61,462	74,595	63,591	131,854	125,378	96,157	109,990
Mean	3,857	2,742	2,967	4,486	1,769	1,983	2,486	2,051	4,395	4,044	3,102	3,666

	Observed			Adjusted†		
Calendar year 1953:	Max 13,500	Min 405	Mean 4,271	Mean 3,759	Cfsm 1.14	In. 15.46
Water year 1953-54:	Max 9,910	Min 378	Mean 3,138	Mean 2,798	Cfsm 0.848	In. 11.51

* Discharge measurement made on this day.
† Adjusted for change in contents in Norris Lake.

Whiteoak Creek at Oak Ridge National Laboratory, near Oak Ridge, Tenn.

Location.--Lat 35°55'34", long 84°18'49", on right bank 500 ft southeast of Oak Ridge National Laboratory, Roane County, 1.2 miles upstream from Melton Branch, and 6 miles south of Oak Ridge.

Drainage area.--2.08 sq mi.

Records available.--June 1950 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 775.64 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge during year, 216 cfs Jan. 20 (gage height, 2.53 ft); minimum daily, 0.8 cfs Nov. 6-8.
1950-54: Maximum discharge, 616 cfs Aug. 2, 1950 (gage height, 4.31 ft), from rating curve extended above 170 cfs; minimum daily, 0.7 cfs Nov. 2, 1950; Aug. 2, 8, 12, 13, 21, 26-28, 30, 31, Sept. 8, 9, Oct. 14, 1951; July 25, 26, 1953.

Remarks.--Records good. Natural flow affected by operations of Oak Ridge National Laboratory above station.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 19				Jan. 20 to Sept. 30			
0.0	0.4	0.5	16	0.1	0.9	0.6	18
.1	1.6	1.0	45	.2	1.8	1.0	44
.2	3.9	1.4	76	.3	3.6	1.3	68
.3	7.2			.4	7.0		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*1.9	1.1	*1.1	1.1	*3.6	*22	*11	2.2	*7.6	*1.8	1.5	*1.3
2	1.6	*1.2	1.2	1.1	3.4	12	8.1	2.8	2.0	1.6	*1.5	1.3
3	1.2	1.2	1.6	1.1	3.1	11	6.0	*8.8	2.0	2.0	1.6	1.5
4	1.1	1.1	1.7	*1.2	3.1	7.0	4.6	3.9	1.6	1.8	1.5	1.5
5	1.2	1.0	1.2	1.2	2.5	6.0	4.3	3.4	1.6	1.8	1.6	1.6
6	1.1	.8	2.2	1.1	2.5	4.6	4.3	3.1	1.6	2.0	1.6	1.6
7	1.1	.8	1.6	1.2	2.4	3.9	3.6	2.9	1.5	1.9	1.4	1.6
8	1.1	.8	1.6	1.2	2.4	3.6	3.9	2.4	1.5	1.8	4.7	1.3
9	1.2	1.0	13	1.2	2.2	3.4	2.7	2.0	1.5	2.0	2.7	1.6
10	1.2	1.1	1.6	3.3	2.2	2.9	2.5	2.0	1.5	1.9	1.6	1.3
11	1.2	1.5	1.0	2.5	2.2	2.7	2.5	2.0	1.8	1.8	1.3	1.1
12	1.4	1.4	9.4	1.9	2.2	2.5	2.5	1.9	1.6	2.0	1.3	1.0
13	1.2	1.4	3.3	1.7	2.0	4.8	2.4	2.7	1.8	1.8	1.3	1.1
14	1.2	1.4	8.0	4.3	2.0	3.1	2.4	5.3	1.8	2.4	1.4	1.2
15	1.2	1.2	2.8	*76	2.2	2.9	2.4	2.7	1.9	2.7	1.6	1.3
16	1.2	1.6	2.1	46	6.2	2.7	2.8	2.4	1.8	2.4	1.8	1.2
17	1.1	1.6	1.6	16	3.9	2.5	3.1	2.4	1.9	1.6	2.1	1.2
18	1.1	1.2	1.4	10	3.1	2.5	2.4	2.4	1.6	2.0	1.4	1.1
19	1.1	1.4	1.4	8.4	2.9	3.1	2.2	2.0	1.4	2.0	1.6	1.2
20	1.1	1.4	1.4	43	2.9	2.5	2.2	1.8	1.4	2.4	1.6	1.7
21	1.2	1.4	1.4	66	2.7	2.2	2.2	1.6	1.6	2.7	1.6	2.1
22	1.4	3.1	1.4	58	2.5	2.4	2.2	1.6	1.6	7.1	2.3	1.0
23	1.4	1.4	1.4	23	2.5	3.0	1.9	1.5	1.6	1.6	1.5	1.0
24	1.4	1.7	1.2	12	3.6	22	1.8	1.9	1.6	1.5	1.3	1.0
25	1.4	1.2	1.2	9.2	2.9	20	1.8	1.9	1.8	1.3	1.4	1.0
26	1.6	1.1	1.2	6.3	2.7	17	1.8	2.0	1.9	1.6	1.4	1.1
27	2.1	1.1	1.2	9.6	2.5	10	2.4	1.9	2.2	1.4	1.3	1.4
28	1.4	1.1	1.4	5.6	36	6.7	2.0	2.0	2.4	1.6	1.3	1.5
29	1.4	1.1	1.4	5.3	-	5.6	3.6	2.0	1.5	1.5	1.5	1.5
30	1.4	1.2	1.2	4.3	-------	4.6	2.4	2.0	1.8	1.5	1.6	7.4
31	1.2	-------	1.1	3.6	-------	19	-------	1.9	-------	1.5	1.3	-------
Total	40.4	38.6	73.3	426.4	112.4	218.2	98.0	79.4	57.4	63.0	51.6	45.7
Mean	1.30	1.29	2.36	13.8	4.01	7.04	3.27	2.56	1.91	2.03	1.66	1.52
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 43 Min 0.7 Mean 3.11 Cfsm - In. -
Water year 1953-54: Max 76 Min 0.8 Mean 3.57 Cfsm - In. -

Peak discharge (base, 170 cfs).--Jan. 15 (10 p.m.) 192 cfs (2.39 ft); Jan. 20 (8:30 p.m.) 216 cfs (2.53 ft).

* Discharge measurement made on this day.

Whiteoak Creek at Whiteoak Dam near Oak Ridge, Tenn.

Location.--Lat 35°53'17", long 84°19'15" at Whiteoak Dam, on White Wing Ferry Road, 0.9 mile downstream from Melton Branch, 2 miles south of Oak Ridge National Laboratory, Roane County, and 8 miles south of Oak Ridge.

Drainage area.--6.01 sq mi.

Records available.--July 1953 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 740.00 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--1953: Maximum discharge during period July to September, 49 cfs July 29; maximum gage height, 10.14 ft July 23; no flow July 17-20.
1953-54: Maximum discharge during water year, 499 cfs Jan. 15 (gage height, 11.64 ft, gate setting, 7.00 ft); maximum gage height, 11.67 ft Jan. 21, gate setting, 7.50 ft; no flow Dec. 1, May 18, 19.

Remarks.--Records good except those for days when there is flow over dam, which are fair. Flow affected by operations of Oak Ridge National Laboratory above station.

Discharge, in cubic feet per second, 1953

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1	a4	2.7	3.2	11	1.8	2.9	3.1	21	e2.4	2.9	1.4
2		3.2	3.3	12	2.2	2.9	3.1	22	e6.0	2.9	2.8
3		3.2	3.6	13	2.6	3.1	3.1	23	e12	3.2	5.1
4		3.7	3.7	14	2.8	3.1	2.9	24	6.9	2.9	4.2
5		3.6	5.8	15	2.9	3.1	3.3	25	6.1	2.9	6.0
6		3.6	4.8	16	1.8	2.9	3.2	26	3.4	2.9	5.4
7		3.3	3.7	17	0	2.7	3.3	27	3.1	2.9	4.4
8		3.3	3.3	18	0	2.9	3.3	28	2.8	2.9	4.1
9		3.2	3.2	19	0	3.1	3.7	29	20	2.9	4.0
10		2.9	3.2	20	0	2.9	4.4	30	9.6	2.8	3.8
								31	1.9	2.9	-
Total									128.3	94.4	112.4
Mean									4.14	3.05	3.75

a No gage-height record; discharge estimated on basis of records for station at Oak Ridge National Laboratory near Oak Ridge.
e Part of flow over top of dam.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.0	3.2	0	3.7	*8.7	*e75	*42	6.6	7.6	3.4	3.4	4.0
2	4.1	3.2	3.6	3.4	7.6	38	28	6.0	13	3.4	3.4	4.0
3	4.0	3.2	6.8	3.3	7.3	33	22	14	8.7	3.4	3.6	4.2
4	3.7	3.2	*6.3	3.2	6.8	26	16	21	6.5	3.8	3.6	4.5
5	3.4	3.2	5.5	3.6	6.1	20	13	15	5.1	3.6	3.6	4.8
6	3.4	3.2	5.5	*3.8	5.8	16	11	11	4.2	3.6	4.1	4.9
7	3.4	3.1	5.5	3.8	5.2	13	11	9.1	3.8	3.6	3.7	5.1
8	3.4	3.1	5.1	4.0	5.1	11	11	8.2	3.7	4.0	3.8	5.1
9	3.4	3.1	28	3.7	5.1	10	9.8	6.8	3.7	3.8	7.6	4.9
10	3.4	3.1	23	4.2	4.1	9.1	8.5	6.0	3.6	3.8	6.1	4.9
11	3.2	3.2	4.8	8.2	4.2	8.2	7.8	5.7	3.6	3.6	5.1	4.5
12	3.2	3.2	15	7.3	3.1	7.6	7.5	5.4	3.6	3.4	4.2	4.2
13	3.3	3.2	16	6.1	3.3	9.3	6.9	5.4	3.6	3.6	3.8	4.1
14	3.4	3.3	26	5.7	3.6	10	6.6	11	3.3	3.7	3.6	5.1
15	3.4	3.3	34	*e225	3.7	8.9	6.5	12	3.4	4.2	3.4	5.8
16	3.4	3.3	6.9	e192	5.8	7.8	6.9	9.1	3.7	4.5	3.6	4.4
17	3.3	2.6	6.3	54	14	6.9	9.7	4.3	3.8	4.0	4.4	3.7
18	3.2	1.7	6.3	42	12	6.8	8.9	0	4.0	3.8	4.7	3.3
19	3.1	2.6	6.1	17	9.5	7.5	7.6	0	3.6	3.8	4.5	3.2
20	3.1	3.3	6.0	e58	8.2	7.6	6.8	7.5	3.2	3.8	4.4	3.8
21	3.1	4.0	5.8	*e238	7.3	6.8	6.6	11	3.1	4.2	4.4	5.4
22	3.2	5.4	5.7	e199	6.6	6.3	6.1	6.6	3.2	6.1	5.1	4.5
23	3.3	6.9	5.5	e68	6.1	6.6	5.8	4.9	3.2	8.5	7.5	3.7
24	3.3	7.4	5.4	41	7.6	42	5.5	4.2	3.1	5.5	5.4	3.3
25	3.2	8.4	5.1	28	8.0	54	5.1	4.2	3.1	4.1	4.5	3.3
26	3.2	6.8	4.9	20	7.3	60	4.8	4.2	3.2	3.6	4.1	3.3
27	4.1	5.8	4.8	21	6.8	38	5.1	4.2	3.3	3.6	3.8	3.4
28	4.1	5.4	4.5	*18	e75	25	5.4	4.1	3.8	3.4	4.5	3.8
29	4.0	4.9	4.2	14	-	9.1	6.0	4.2	3.7	3.4	4.8	3.8
30	3.7	3.2	4.1	12	-------	7.3	8.4	4.4	3.4	3.4	4.4	6.8
31	3.4	-------	4.0	10	-------	e38	-------	4.0	-------	3.6	4.2	-------
Total	107.4	119.5	270.7	1,321.0	253.9	624.8	306.3	220.1	128.8	124.2	137.3	129.8
Mean	3.46	3.98	8.73	42.6	9.07	20.2	10.2	7.10	4.29	4.01	4.43	4.33
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max - Min - Mean - Cfsm - In. -
Water year 1953-54: Max 238 Min 0 Mean 10.3 Cfsm - In. -

* Discharge measurement made on this day.
e Part of flow over top of dam.

Emory River near Wartburg, Tenn.

Location.--Lat 36°06'46", long 84°36'54", on right bank 50 ft downstream from county highway bridge on Wartburg-Lancing road, 1¼ miles northwest of Wartburg, Morgan County, 1¼ miles downstream from Rock Creek, and 5¾ miles upstream from Obed River.

Drainage area.--83.2 sq mi.

Records available.--May 1934 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 1,002.14 ft above mean sea level, datum of 1929.

Average discharge.--20 years, 142 cfs.

Extremes.--Maximum discharge during year, 7,380 cfs Jan. 21 (gage height, 16.78 ft); no flow Oct. 1 to Nov. 24, Aug. 5, Aug. 23 to Sept. 29.
1934-54: 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 most years.

Remarks.--Records good except those below 1 cfs, which are poor.

Revisions.--WSP 823: Drainage area.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

1.1	0	2.5	179
1.2	.8	3.0	281
1.3	2.8	4.0	526
1.4	6.6	6.0	1,210
1.6	24	8.0	2,030
1.8	49	11.7	3,940
2.0	83		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.1	8.1	110	1,210	324	127	29	0.4	0.1	0
2	(*)	0	.1	8.1	92	*583	283	104	37	.3	.1	0
3		*0	.1	8.1	*81	553	223	353	40	.9	.1	0
4		0	*.1	7.6	70	384	175	532	41	3.8	.1	0
5		0	.2	7.1	59	275	138	322	32	1.8	0	0
6		0	.7	*6.6	51	211	119	223	24	1.1	.3	0
7		0	1.2	6.2	44	163	119	183	18	.8	.2	0
8		0	1.8	5.8	37	132	104	173	14	4.4	.3	0
9		0	28	5.4	35	110	91	136	11	3.5	1.2	0
10		0	76	7.1	32	96	79	112	12	2.8	.9	0
11		0	36	48	31	87	83	92	9.3	2.2	.7	0
12		0	37	60	26	78	102	78	7.6	1.8	.6	0
13		0	51	42	23	92	100	70	6.2	1.4	.6	0
14		0	138	37	21	129	102	100	5.0	1.1	.5	0
15		0	105	1,170	20	119	102	110	4.2	.8	.4	0
16		0	60	3,310	29	110	136	96	5.0	.5	.3	0
17		0	40	547	155	98	718	83	5.4	.4	.3	0
18		0	26	266	159	92	518	74	5.0	.3	.3	0
19		0	20	175	136	96	311	65	4.6	.3	.3	0
20		0	15	902	127	117	217	67	3.8	.2	.2	0
21		0	14	3,900	161	108	165	62	3.1	.1	.1	0
22		0	12	*2,730	151	98	130	49	2.5	.2	.1	0
23		0	11	812	125	104	161	42	2.0	1.8	0	0
24		0	11	377	432	1,270	223	36	1.6	3.5	0	0
25		.1	9.9	243	449	965	175	31	1.4	2.0	0	0
26		.1	9.3	177	287	730	205	26	1.2	1.4	0	0
27		.2	8.1	380	205	454	215	24	1.1	.9	0	0
28	(*)	.1	8.1	423	1,310	302	258	21	.8	.6	0	0
29		.1	9.3	279	-	221	209	20	.6	.4	0	0
30		.1	9.3	199	-------	175	161	22	.5	.3	0	.4
31		-------	8.7	142	-------	217	-------	17	-------	.1	0	------
Total	0	0.7	747.0	16,289.1	4,458	9,379	5,946	3,450	328.9	40.1	7.7	0.4
Mean	0	0.02	24.1	525	159	303	198	111	11.0	1.29	0.25	0.01
Cfsm	0	0.00024	0.290	6.31	1.91	3.64	2.38	1.33	0.132	0.016	0.0030	0.00012
In.	0	0.0003	0.33	7.28	1.99	4.19	2.66	1.54	0.15	0.02	0.003	0.0002

Calendar year 1953: Max 2,110 Min 0 Mean 113 Cfsm 1.36 In. 18.47
Water year 1953-54: Max 3,900 Min 0 Mean 111 Cfsm 1.33 In. 18.16

Peak discharge (base, 3,600 cfs).--Jan. 16 (4 a.m.) 6,410 cfs (15.47 ft); Jan. 21 (3:30 a.m.) 7,380 cfs (16.78 ft).

* Discharge measurement or observation of no flow made on this day.

Daddys Creek near Crab Orchard, Tenn.

Location.--Lat 35°55'33", long 84°54'47", on left bank 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.

Records available.--October 1930 to September 1954. Prior to October 1952, published as Daddy Creek near Crab Orchard.

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.--24 years, 168 cfs.

Extremes.--Maximum discharge during year, 6,880 cfs Jan. 21 (gage height, 16.10 ft); no flow Sept. 11-22.
1930-54: Maximum discharge, 11,600 cfs Feb. 13, 1948 (gage height, 21.30 ft); no flow Sept. 23, 24, 1936, Sept. 11-22, 1954.

Remarks.--Records good.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

0.30	0	1.5	36
.35	.03	2.0	85
.40	.09	2.8	200
.45	.2	3.5	338
.5	.3	6.0	1,040
.6	.8	8.0	1,880
.7	1.6	11.0	3,510
.9	4.8	13.2	4,910
1.1	12		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3	0.1	0.5	40	143	796	634	107	39	2.3	0.2	0.3
2	.3	.1	.5	35	127	573	428	92	130	2.0	.2	*.2
3	.2	.2	.6	32	115	626	302	127	143	1.6	.2	.2
4	.2	.2	.8	30	109	524	231	258	156	1.6	.2	.1
5	.1	.1	1.0	30	101	360	185	214	105	1.4	.2	.1
6	.1	.1	1.4	29	87	265	158	167	73	1.2	.2	.07
7	.09	.1	2.0	27	78	207	150	154	53	1.1	.2	.05
8	.07	.1	2.7	24	68	172	133	198	39	1.2	.2	.03
9	.05	.1	19	22	64	144	122	177	31	1.1	.2	.02
10	.04	.1	30	25	59	124	107	155	26	1.1	.2	.01
11	.03	.1	15	61	56	109	98	126	21	1.0	.2	0
12	.03	.1	21	92	48	95	100	106	15	.8	.2	0
13	.02	.1	50	72	42	96	95	95	12	.8	*.2	0
14	.02	.1	146	62	39	123	89	1,300	9.1	.7	.2	0
15	.02	.1	170	1,270	38	114	101	1,090	7.2	.6	.2	.*0
16	.02	.1	118	4,200	66	97	*160	537	83	.4	.1	0
17	.02	.1	84	1,530	340	87	663	326	177	.4	.1	0
18	.02	.1	58	556	*281	81	532	254	215	.3	.09	0
19	.02	.1	41	*333	212	86	331	221	116	.3	.07	0
20	.01	.1	36	1,210	207	130	235	*193	74	.2	.06	0
21	.01	.1	*38	4,860	265	123	183	202	*45	.2	.07	0
22	.01	.3	59	3,740	215	*106	148	160	30	.2	.1	0
23	.02	*.6	66	1,570	178	105	127	126	21	.3	.2	.1
24	.02	1.2	52	680	391	945	149	101	15	.4	.5	.3
25	.02	1.2	42	410	425	1,200	146	82	10	.8	.7	.3
26	.02	1.1	36	287	295	1,030	181	66	7.2	.8	*.5	.3
27	.02	1.0	32	386	219	631	197	53	5.6	.6	5.2	.2
28	.03	.9	27	379	633	410	166	45	4.3	.5	1.4	.2
29	*.04	.7	30	279	-	291	146	39	3.5	.5	.7	.1
30	.04	.6	42	217	-------	228	127	34	2.7	*.4	.5	.2
31	.05	-------	46	173	-------	445	-------	29	-------	.3	.4	-------
Total	1.94	9.9	1,267.5	22,661	4,901	10,323	6,424	6,834	1,668.6	25.1	13.69	2.78
Mean	0.063	0.33	40.9	731	175	333	214	220	55.6	0.81	0.442	0.093
Cfsm	0.00067	0.0035	0.437	7.82	1.87	3.56	2.29	2.35	0.595	0.0087	0.0047	0.00099
In.	0.0008	0.004	0.50	9.01	1.95	4.11	2.56	2.72	0.66	0.01	0.005	0.001

Calendar year 1953: Max 2,660 Min 0.01 Mean 137 Cfsm 1.47 In. 19.83
Water year 1953-54: Max 4,860 Min 0 Mean 148 Cfsm 1.58 In. 21.53

Peak discharge (base, 1,700 cfs).--Jan. 16 (5:30 a.m.) 5,010 cfs (13.36 ft); Jan. 21 (2 a.m.) 6,880 cfs (16.10 ft); May 14 (2:30 p.m.) 2,020 cfs (8.27 ft).
* Discharge measurement or observation of no flow made on this day.

Emory River at Oakdale, Tenn.

Location.--Lat 35°58'59", long 84°33'29", at Oakdale, Morgan County, 1,000 ft downstream from highway bridge and 1,100 ft downstream from Mud Lick Creek.

Drainage area.--764 sq mi.

Records available.--October 1929 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 763.38 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--25 years, 1,311 cfs.

Extremes.--Maximum discharge during year, 62,900 cfs Jan. 21 (gage height, 24.18 ft); no flow Oct. 24-29, Nov. 7-21.
1929-54: Maximum discharge, 101,000 cfs Feb. 13, 1948 (gage height, 31.00 ft); no flow at times in 1944, 1952-53.
Maximum stage known, about 42.3 ft Mar. 23, 1929, from floodmarks at highway bridge (discharge, 195,000 cfs, from rating curve extended above 85,000 cfs).

Remarks.--Records good.

Revisions (water years).--WSP 823: Drainage area. WSP 923: 1940.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 14				Jan. 15 to Sept. 30			
0.7	0	1.6	43	0.6	0	2.5	250
.8	.8	1.8	72	.7	.2	3.0	490
.9	1.6	2.0	119	.8	.8	3.5	840
1.0	3.6	2.5	250	.9	2.0	4.0	1,250
1.2	11	3.0	490	1.0	4.4	6.0	3,270
1.4	26	3.5	840	1.1	7.7	8.0	5,860
				1.3	18	10.0	9,350
				1.6	42	13.0	15,900
				1.8	68	17.0	29,700
				2.0	110	20.0	42,500

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	0.2	1.4	141	1,410	8,480	*4,490	1,060	489	35	8.2	*2.5
2	*1.4	.2	1.4	138	1,210	*5,190	3,510	888	*2,780	*29	7.0	1.9
3	1.3	*.2	1.4	131	*1,080	4,680	2,660	1,290	1,770	29	6.7	1.8
4	1.3	.2	*1.5	119	976	4,330	2,090	2,540	1,560	71	*5.4	1.6
5	1.2	.2	1.6	117	856	3,220	1,700	*2,090	1,160	64	4.7	1.4
6	1.0	.1	2.2	*114	739	2,450	1,440	1,640	864	42	5.4	1.3
7	1.0	0	2.8	112	648	1,930	1,370	1,400	655	31	5.1	1.2
8	1.0	0	3.0	105	557	1,590	1,230	1,550	490	29	6.3	.9
9	.9	0	22	100	508	1,360	1,120	1,400	396	37	28	.8
10	.8	0	164	102	479	1,180	1,000	1,210	396	43	24	.7
11	.7	0	168	168	452	1,040	912	1,030	355	37	17	.6
12	.6	0	163	298	402	920	976	880	260	35	36	.4
13	.6	0	191	386	345	856	952	768	214	34	31	.3
14	.6	0	514	335	308	1,100	888	2,210	193	29	24	.3
15	.6	0	768	3,980	294	1,060	880	4,850	199	23	20	.2
16	.6	0	571	28,000	308	912	960	3,050	190	19	17	.1
17	.5	0	391	10,100	1,570	808	4,060	2,110	508	16	14	.1
18	.5	0	264	4,130	2,180	746	4,590	1,630	760	14	12	.1
19	.5	0	194	2,510	1,730	725	3,090	1,410	599	11	11	.1
20	.4	0	184	5,090	1,500	896	2,220	1,240	380	10	8.6	.1
21	.2	0	163	*42,300	1,830	944	1,720	1,240	274	8.6	7.7	.3
22	.2	.2	150	29,500	1,710	824	1,430	1,060	214	9.6	7.7	.4
23	.1	.8	150	12,100	1,450	792	1,300	872	169	9.6	7.0	.5
24	0	1.0	176	5,540	2,500	5,530	1,800	718	138	8.2	5.4	.6
25	0	1.4	163	3,480	3,780	9,230	1,690	599	105	6.7	5.1	.6
26	0	1.4	136	2,500	2,750	8,250	1,850	496	83	5.7	4.4	.6
27	0	1.3	126	3,310	2,020	5,370	1,870	418	68	6.7	3.9	.7
28	0	1.2	121	4,220	6,510	3,560	1,640	350	56	7.0	3.9	.7
29	0	1.4	129	3,050	-	2,620	1,430	321	45	6.7	3.7	.9
30	.1	1.4	121	2,260	-------	2,080	1,220	282	39	8.2	3.4	5.6
31	.1	-------	121	1,740	-------	2,400	-------	250	-------	9.1	2.7	-------
Total	17.6	11.2	5,165.3	166,176	40,120	85,073	56,088	40,852	15,409	724.1	346.3	27.3
Mean	0.57	0.37	167	5,361	1,432	2,744	1,870	1,318	514	23.4	11.2	0.91
Cfsm	0.00075	0.00048	0.219	7.02	1.87	3.59	2.45	1.73	0.673	0.031	0.015	0.0012
In.	0.0009	0.0005	0.25	8.09	1.95	4.14	2.73	1.99	0.75	0.04	0.02	0.001

Calendar year 1953: Max 18,000 Min 0 Mean 1,087 Cfsm 1.42 In. 19.31
Water year 1953-54: Max 42,300 Min 0 Mean 1,123 Cfsm 1.47 In. 19.96

Peak discharge (base, 19,000 cfs).--Jan. 16 (7:30 a.m.) 37,500 cfs (18.88 ft); Jan. 21 (5:30 a.m.) 62,900 cfs (24.18 ft).
* Discharge measurement made on this day.
Note.--Gage heights computed from hourly radio-gage readings in same gage well, June 4-20.

White Creek near Glen Alice, Tenn.

Location.--Lat 35°47'49", long 84°45'37", on left bank a quarter of a mile upstream from Black Creek (also known as Hines Creek), half a mile upstream from Southern Railway bridge, and 1½ miles southwest of Glen Alice, Roane County.

Drainage area.--123 sq mi.

Records available.--May 1934 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 758.62 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--20 years, 215 cfs.

Extremes.--Maximum discharge during year, 12,200 cfs Jan. 21 (gage height, 16.18 ft); minimum, 0.06 cfs Sept. 11 (gage height, 0.56 ft).
1934-54: Maximum discharge, 19,000 cfs Jan. 5, 1949 (gage height, 19.45 ft); minimum, that of Sept. 11, 1954; minimum gage height, 0.55 ft Oct. 3-5, 1936.

Remarks.--Records good.

Revisions (water years).--WSP 783: 1934. WSP 803: 1935(M). WSP 823: Drainage area.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 14-20)

0.50	0.07	2.4	89
.56	.1	3.0	158
.70	.3	3.8	290
.75	.6	5.0	590
.80	1.2	6.0	990
.90	2.9	8.0	2,210
1.1	7.0	10.0	3,850
1.4	18	12.1	5,940
1.8	40		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	0.4	2.4	44	181	1,120	554	126	57	*1.6	0.1	0.2
2	*.4	.4	*2.2	41	*163	*724	*460	111	*87	1.5	*.1	*.2
3	.4	*.3	2.2	41	145	664	358	*423	106	1.6	.1	.1
4	.3	.3	2.7	*39	132	566	284	584	100	6.3	.1	.1
5	.2	.3	3.1	38	116	434	230	419	71	5.7	.1	.1
6	.2	.2	4.2	36	101	332	196	302	53	5.2	.2	.1
7	.2	.2	5.9	33	91	259	179	249	43	4.2	.1	.1
8	.2	.2	6.3	30	81	213	158	237	35	3.8	.1	.08
9	.2	.2	184	29	78	181	140	197	28	3.5	.2	.08
10	.2	.2	248	34	74	158	126	166	24	3.3	.2	.07
11	.2	.2	83	94	68	139	116	141	21	2.7	.1	.07
12	.2	.2	244	106	59	122	113	121	17	2.4	.1	.08
13	.2	.2	206	90	53	149	101	110	15	1.8	*.1	.09
14	.2	.2	503	91	50	174	97	560	12	1.2	.1	.1
15	.2	.2	302	3,180	49	153	97	614	10	.9	.1	*.09
16	.1	.2	175	5,220	55	140	127	424	10	.6	.1	.09
17	.1	.3	120	1,180	138	128	473	294	12	.5	.1	.09
18	.2	.3	84	605	134	121	484	246	33	.4	.1	.09
19	.2	.3	64	402	129	127	352	208	28	.3	.1	.09
20	.2	.3	56	1,780	152	154	264	191	18	.2	.1	.1
21	.2	.4	50	5,890	235	134	216	167	14	.2	.1	.2
22	.2	.9	53	3,740	238	126	179	138	11	.2	.1	.2
23	.2	4.0	53	1,440	216	128	163	116	8.8	.2	.1	.1
24	.2	4.4	47	756	414	1,160	182	94	6.8	.2	.1	.1
25	.2	4.0	43	504	476	1,210	157	78	5.7	.2	.1	.2
26	.2	4.8	38	365	372	1,160	238	65	4.8	.2	.2	.2
27	.3	4.0	35	405	282	713	181	53	4.0	.2	.2	.2
28	.3	3.5	36	390	1,240	521	167	46	3.3	.1	.2	.2
29	.3	2.7	45	332	-	386	145	40	2.6	.1	.2	.2
30	.3	2.6	50	264	-------	302	140	36	2.0	.1	.1	.6
31	.3	-------	48	213	-------	381	-------	29	-------	.1	.2	-------
Total	7.4	36.4	2,796.0	27,412	5,522	12,279	6,677	6,585	843.0	49.5	3.9	4.22
Mean	0.24	1.21	90.2	884	197	396	223	212	28.1	1.60	0.13	0.141
Cfsm	0.0020	0.0098	0.733	7.19	1.60	3.22	1.81	1.72	0.228	0.013	0.0011	0.0011
In.	0.002	0.01	0.85	8.29	1.67	3.71	2.02	1.99	0.25	0.01	0.001	0.001

Calendar year 1953: Max 4,210 Min 0.1 Mean 186 Cfsm 1.51 In. 20.54
Water year 1953-54: Max 5,890 Min 0.07 Mean 170 Cfsm 1.38 In. 18.80

Peak discharge (base, 4,800 cfs).--Jan. 16 (1 a.m.) 11,000 cfs (15.52 ft); Jan. 21 (3 a.m.) 12,200 cfs (16.18 ft).
* Discharge measurement made on this day.

Sewee Creek near Decatur, Tenn.

Location.--Lat 35°34'53", long 84°44'53", on right bank 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.

Records available.--May 1934 to September 1954. Prior to October 1935, published as Suee Creek near Decatur.

Gage.--Water-stage recorder. Datum of gage is 694.32 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--20 years, 190 cfs.

Extremes.--Maximum discharge during year, 6,380 cfs Jan. 21 (gage height, 12.58 ft); minimum, 14 cfs Sept. 20, 29; minimum gage height, 0.15 ft Sept. 2, 3, 7-9, 13, 20.
1934-54: Maximum discharge, 29,000 cfs Jan. 7, 1946 (gage height, 23.97 ft, from floodmarks), 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, that of Sept. 2, 3, 7-9, 13, 20, 1954.

Remarks.--Records good.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

0.19	16	2.0	650
.24	24	4.5	1,480
.3	38	9.0	3,500
.5	108	10.6	4,530
.9	320		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*18	20	20	20	170	887	617	74	g150	26	16	17
2	17	20	18	20	158	473	398	78	g173	*26	17	*17
3	17	20	18	20	143	408	316	293	g158	26	17	17
4	17	20	22	20	133	302	258	253	*g93	28	17	17
5	17	20	22	20	118	253	226	143	78	30	17	17
6	17	18	22	20	108	220	208	*113	64	28	*17	17
7	17	18	22	18	97	183	*201	108	60	26	17	17
8	17	18	20	18	93	164	170	104	57	26	18	17
9	18	18	210	17	89	148	148	93	54	26	57	17
10	18	*18	126	20	*85	138	138	81	51	26	30	17
11	18	20	41	54	81	128	128	78	48	24	22	17
12	18	20	122	54	78	*113	123	74	44	22	22	17
13	18	20	97	38	74	113	113	78	48	22	22	17
14	18	20	218	38	70	108	108	195	41	20	22	*17
15	18	20	118	*784	67	93	108	138	38	20	20	17
16	18	20	*74	*2,840	103	85	123	108	38	22	20	16
17	18	20	54	826	214	81	195	97	38	22	20	16
18	17	20	41	425	118	81	148	100	54	24	20	16
19	17	20	33	320	104	85	128	100	38	22	20	16
20	17	20	30	460	100	93	118	97	36	20	20	17
21	17	20	30	4,460	100	81	108	g93	33	20	22	18
22	18	30	30	3,710	93	74	100	g81	33	22	22	18
23	18	48	24	1,790	85	74	113	g78	33	22	32	16
24	18	26	22	767	153	1,140	118	g74	30	22	48	16
25	18	24	20	512	153	972	97	g70	30	20	22	16
26	18	24	20	395	133	1,680	89	g67	30	20	22	16
27	20	22	20	440	118	671	85	g64	30	18	22	16
28	22	20	20	336	678	464	81	g60	28	18	20	16
29	22	20	24	275	-	366	81	g100	28	17	20	16
30	20	20	24	236	-------	298	78	g78	26	17	18	18
31	20	-------	22	195	-------	552	-------	g60	-------	16	18	-------
Total	561	644	1,584	19,148	3,716	10,528	4,922	3,230	1,662	698	697	502
Mean	18.1	21.5	51.1	618	133	340	164	104	55.4	22.5	22.5	16.7
Cfsm	0.155	0.184	0.437	5.28	1.14	2.91	1.40	0.889	0.474	0.192	0.192	0.143
In.	0.18	0.20	0.50	6.09	1.18	3.35	1.56	1.03	0.53	0.22	0.22	0.16

Calendar year 1953: Max 3,920 Min 16 Mean 146 Cfsm 1.25 In. 16.94
Water year 1953-54: Max 4,460 Min 16 Mean 131 Cfsm 1.12 In. 15.22

Peak discharge (base, 2,000 cfs).--Jan. 16 (1:30 p.m.) 3,580 cfs (9.15 ft); Jan. 21 (12 m.) 6,380 cfs (12.58 ft); Mar. 26 (5 a.m.) 2,360 cfs (6.48 ft).

* Discharge measurement made on this day.

g Computed from graph based on bihourly radio-gage readings furnished by Tennessee Valley Authority.

Richland Creek near Dayton, Tenn.

Location.--Lat 35°30'17", long 85°01'20", on left bank 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.

Records available.--June 1927 to September 1931, June 1934 to September 1954. Published as "at Dayton" 1927-31.

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 43.61 ft lower.

Average discharge.--24 years, 108 cfs.

Extremes.--Maximum discharge during year, 5,370 cfs Jan. 21 (gage height, 7.26 ft); minimum, 0.01 cfs Oct. 25-27 (gage height, 0.25 ft).
1927-31, 1934-54: Maximum discharge, 9,000 cfs Jan. 7, 1946 (gage height, 9.08 ft), from rating curve extended above 5,000 cfs; no flow July 28, Aug. 19 to Sept. 12, 1929, Sept. 14-30, 1931.

Remarks.--Records good except those below 1 cfs, which are fair. City of Dayton diverts an average of about 1 cfs 3 miles upstream.

Revisions (water years).--WSP 823: 1935-36(M), 1937, drainage area.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

0.24	0.01	0.6	10
.26	.03	.8	28
.28	.07	1.2	86
.29	.1	1.8	207
.31	.2	2.5	430
.33	.4	3.5	915
.38	1.4	4.5	1,610
.5	5.3	5.4	2,530

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.07	0.1	42	96	409	319	112	20	*0.3	0.2	0.4
2	*.2	.1	*.1	38	*86	*322	*238	96	*37	.6	*.2	*.4
3	.2	*.1	.2	44	78	350	178	*202	32	.8	.2	.4
4	.1	.1	.6	*45	81	277	142	238	37	.8	.2	.3
5	.05	.1	.3	45	70	210	116	175	24	.8	.2	.3
6	.05	.1	.4	41	62	164	100	132	17	.3	.2	.2
7	.05	.1	.8	36	55	132	93	116	13	.2	.2	.2
8	.05	.1	1.0	33	51	112	81	110	11	.2	.6	.2
9	.05	.1	61	31	48	96	70	88	8.3	.2	*7.8	.2
10	.05	.1	125	36	44	84	61	72	6.8	.2	4.9	.1
11	.05	.1	58	83	40	72	56	60	4.9	.2	2.3	.07
12	.05	.1	277	76	33	64	56	49	4.2	.2	1.2	.07
13	.05	.1	210	66	29	58	48	52	3.5	.2	*.8	.05
14	.05	.1	301	66	28	60	47	310	2.6	.1	.6	.03
15	.05	.1	202	741	27	52	58	295	2.3	.1	.4	*.03
16	.03	.1	142	1,830	38	49	81	200	2.3	.1	.3	.03
17	.03	.1	103	610	123	45	227	142	2.9	.1	.2	.03
18	.03	.1	75	332	107	42	192	127	6.3	.1	.2	.03
19	.03	.1	58	229	94	47	146	114	11	.1	.2	.02
20	.02	.1	48	428	121	62	116	130	8.3	.07	.2	.03
21	.02	.1	51	2,520	154	51	96	123	4.9	.07	.2	.07
22	.02	.2	58	1,910	132	45	83	101	2.3	.07	.2	.05
23	.02	.2	51	785	114	47	89	81	1.7	.1	.2	.05
24	.02	.2	42	416	218	782	180	64	1.0	.1	.1	.05
25	.01	.2	37	286	215	670	144	51	.8	.3	1.2	.05
26	.01	.2	33	210	164	770	169	40	.6	1.4	2.6	.05
27	.1	.2	28	238	132	398	129	31	.4	2.9	1.4	.05
28	.07	.2	29	204	421	265	108	25	.3	2.0	1.0	.05
29	.07	.2	51	169	-	194	140	24	.3	1.2	.8	.05
30	.07	.1	54	138	-------	154	132	22	.3	.3	.8	.05
31	.07	-------	48	112	-------	221	-------	16	-------	.2	.6	-------
Total	1.87	3.77	2,145.5	11,840	2,861	6,304	3,695	3,398	267.0	14.31	30.2	3.61
Mean	0.060	0.126	69.2	382	102	203	123	110	8.90	0.462	0.97	0.120
Cfsm	0.0012	0.0025	1.38	7.61	2.03	4.04	2.45	2.19	0.177	0.0092	0.019	0.0024
In.	0.001	0.003	1.59	8.77	2.12	4.67	2.74	2.52	0.20	0.01	0.02	0.003

Calendar year 1953 : Max 1,770 Min 0.01 Mean 82.9 Cfsm 1.65 In. 22.44
Water year 1953-54: Max 2,520 Min 0.01 Mean 83.7 Cfsm 1.67 In. 22.65

Peak discharge (base, 1,300 cfs).--Jan. 16 (8:30 a.m.) 2,490 cfs (5.37 ft); Jan. 21 (5 a.m.) 5,370 cfs (7.26 ft).
* Dischsrge measurement made on this day.

Hiwassee River at Presley, Ga.

Location.--Lat 34°54'17", long 83°43'01", on left bank 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.

Records available.--December 1941 to September 1954.

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.--12 years (1942-54), 132 cfs.

Extremes.--Maximum discharge during year, 1,960 cfs Jan. 16 (gage height, 9.00 ft); minimum, 22 cfs Sept. 27-30 (gage height, 1.61 ft).
1941-54: Maximum discharge, 5,700 cfs Mar. 11, 1952 (gage height, 15.24 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, that of Sept. 27-30, 1954; minimum gage height, 1.60 ft Oct. 6, 7, 1947.

Remarks.--Records excellent.

Revisions (water years).--WSP 973: 1942.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in feet per second)

1.6	21	3.0	233
1.7	29	4.0	464
1.9	49	6.0	990
2.1	74	7.5	1,440
2.5	136		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	54	37	49	100	190	303	298	152	508	82	59	36
2	50	36	48	96	182	233	256	147	321	82	54	*35
3	49	35	48	96	177	244	233	160	*250	87	51	34
4	47	34	134	91	169	214	214	154	208	84	48	32
5	45	34	98	88	162	196	202	145	179	80	47	31
6	44	34	129	85	154	184	*208	140	160	78	58	30
7	43	34	143	82	149	173	196	138	147	74	55	29
8	42	34	113	81	143	164	218	134	136	75	48	29
9	41	33	312	80	140	158	208	129	129	95	88	31
10	41	33	314	82	136	152	194	124	122	94	*62	31
11	38	33	188	96	145	149	190	*121	131	*92	50	31
12	38	33	216	85	133	141	181	119	121	77	48	29
13	38	33	192	81	126	162	177	129	128	73	47	28
14	47	33	263	81	124	216	177	156	119	74	45	28
15	42	32	208	221	121	*175	165	138	131	73	43	27
16	38	32	169	1,300	*133	162	242	131	153	69	42	27
17	38	31	*145	458	136	154	261	124	218	66	40	27
18	38	31	128	296	126	149	222	122	198	69	38	27
19	38	31	116	*239	121	169	202	119	162	68	38	26
20	37	60	111	210	293	171	190	119	143	65	41	27
21	*37	110	128	527	312	160	181	113	131	65	42	34
22	36	143	131	1,160	220	152	173	108	121	77	41	30
23	35	*141	124	800	188	167	173	105	116	66	58	27
24	35	88	114	486	177	270	167	102	109	62	55	27
25	34	80	109	377	164	261	169	100	106	61	50	26
26	34	66	103	316	152	287	167	97	102	70	46	26
27	46	60	98	294	145	326	162	96	97	*64	45	25
28	42	55	102	256	247	330	156	96	94	59	44	24
29	41	53	117	233	-	276	164	97	90	56	45	23
30	38	50	111	218	-------	246	156	91	87	55	41	24
31	37	-------	105	202	-------	269	-------	88	-------	74	38	----- --
Total	1,265	1,539	4,366	8,817	4,665	6,413	5,902	3,794	4,717	2,266	1,507	861
Mean	40.8	51.3	141	284	167	207	197	122	157	73.1	48.6	28.7
Cfsm	0.897	1.13	3.10	6.24	3.67	4.55	4.33	2.68	3.45	1.61	1.07	0.631
In.	1.03	1.26	3.57	7.21	3.81	5.24	4.82	3.10	3.86	1.85	1.23	0.70

Calendar year 1953: Max 1,700 Min 31 Mean 125 Cfsm 2.75 In. 37.42
Water year 1953-54: Max 1,300 Min 23 Mean 126 Cfsm 2.77 In. 37.68

Peak discharge (base, 800 cfs).--Jan. 16 (7 a.m.) 1,960 cfs (9.00 ft); Jan. 22 (12 m.) 1,640 cfs (8.12 ft); June 1 (7:30 a.m.) 1,200 cfs (6.73 ft).
* Discharge measurement made on this day.

Shooting Creek near Hayesville, N. C.

Location.--Lat 35°01'25", long 83°42'25", on left bank 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.

Records available.--August 1922 to March 1924, February 1942 to September 1945, October 1946 to September 1954.

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.--12 years (1922-23, 1942-45, 1946-54), 89.7 cfs.

Extremes.--Maximum discharge during year, 1,800 cfs Jan. 16 (gage height, 6.38 ft); minimum, 9.6 cfs Sept. 19 (gage height, 1.22 ft).
1922-24, 1942-45, 1946-54: 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, that of Sept. 19, 1954.

Remarks.--Records excellent except those for periods of ice effect, which are good. Slight diurnal fluctuation caused by small mill above station.

Rating tables, water year 1953-54, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to July 3				July 4 to Sept. 30	
1.5	14	3.0	254	1.3	12
1.6	20	3.5	424	1.4	15
1.8	32	4.0	620	1.6	22
2.0	50	4.5	825	1.8	34
2.3	87	5.0	1,050	2.0	50
2.6	143	5.3	1,190	2.2	73

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	19	24	65	105	257	339	86	139	29	34	18
2	22	18	23	60	101	183	254	83	89	30	28	*17
3	21	18	23	66	97	167	217	95	122	41	26	16
4	21	18	55	60	92	139	183	90	103	34	22	15
5	20	18	38	57	86	122	165	81	83	30	22	15
6	20	18	42	54	83	112	157	79	71	29	31	14
7	20	18	41	50	79	103	*145	83	65	27	24	14
8	20	18	36	47	74	98	148	80	*60	26	22	14
9	20	18	203	45	73	93	137	76	56	40	69	23
10	19	18	143	48	71	90	126	72	54	34	*32	19
11	19	18	84	58	74	87	120	*69	53	33	26	17
12	18	18	109	b47	68	84	112	68	50	28	24	15
13	18	18	92	b46	66	145	111	79	53	26	24	15
14	20	18	180	47	65	229	112	89	48	30	22	14
15	27	18	116	288	62	160	105	84	53	29	20	14
16	21	18	89	1,120	71	*132	138	77	49	26	20	14
17	20	18	b68	364	*76	118	145	73	66	24	18	14
18	20	18	*b58	220	66	109	126	72	61	24	18	13
19	19	18	b56	160	62	120	116	69	55	25	18	12
20	19	34	54	*135	158	126	109	72	48	24	20	18
21	18	48	66	488	160	112	103	66	45	28	28	25
22	18	54	72	1,060	116	105	100	62	42	30	24	18
23	*18	49	68	576	100	120	97	60	45	28	31	16
24	18	*34	61	350	97	288	100	58	40	25	29	15
25	18	44	57	257	87	280	103	57	37	35	26	14
26	18	33	53	208	81	370	101	55	35	47	23	15
27	22	30	49	194	76	309	98	54	32	31	29	14
28	21	27	54	160	212	287	95	54	31	*26	31	14
29	20	26	84	141	-	223	97	53	29	25	26	14
30	19	25	77	126	-------	194	90	50	28	24	21	14
31	19	-------	71	114	-------	314	-------	48	-------	24	19	----- --
Total	616	747	2,246	6,711	2,558	5,256	4,049	2,194	1,742	912	807	470
Mean	19.9	24.9	72.5	216	91.4	170	135	70.8	58.1	29.4	26.0	15.7
Cfsm	0.529	0.662	1.93	5.74	2.43	4.52	3.59	1.88	1.55	0.782	0.691	0.418
In.	0.61	0.74	2.22	6.64	2.53	5.20	4.00	2.17	1.72	0.90	0.80	0.46

Calendar year 1953: Max 751 Min 16 Mean 72.5 Cfsm 1.93 In. 26.16
Water year 1953-54: Max 1,120 Min 12 Mean 77.6 Cfsm 2.06 In. 27.99

Peak discharge (base, 700 cfs).--Jan. 16 (8:30 a.m.) 1,800 cfs (6.38 ft); Jan. 22 (8 a.m.) 1,720 cfs (6.27 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Hiwassee River below Chatuge Dam, near Hayesville, N. C.

Location.--Lat 35°01'45", long 83°47'45", on left bank 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.
Records available.--May 1907 to December 1909 (fragmentary), August 1922 to September 1923 (gage heights only), April 1942 to September 1954. Published as "near Hayesville" 1907-9, 1922-23.
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.--12 years (1942-54), 444 cfs (adjusted for storage).
Extremes.--Maximum discharge during year, 1,670 cfs June 25 (gage height, 5.47 ft); minimum, 1.0 cfs Oct. 25 (gage height, 0.34 ft).
1907-9, 1922-23, 1942-54: Maximum gage height recorded, 11.9 ft Mar. 13, 1909, site and datum then in use (discharge not determined); minimum discharge 0.6 cfs Oct. 21, 1952; minimum gage height, 0.30 ft Aug. 3, 1942, Oct. 21, 1952.
Remarks.--Records excellent except those below 10 cfs, which are good. Flow completely regulated by Chatuge Lake since 1942 (see p. 247).
Revisions (water years).-- WSP 973: 1942.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 27

0.3	0.6	1.4	75
.4	1.6	1.7	138
.6	4.1	2.0	211
.8	8.4	2.5	355
1.0	16	3.0	515
1.1	24	4.0	895
1.2	38	5.0	1,360

Mar. 28 to Sept. 30

1.2	38	2.5	372
1.4	78	3.0	530
1.7	150	4.0	930
2.0	229	5.0	1,420

Note.--Same as preceding table below 1.2 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	1.3	1.2	2.3	3.9	5.4	1,400	4.3	536	975	173	*96
2	1.4	1.3	1.3	2.3	3.8	3.9	1,320	3.9	808	502	184	85
3	1.3	1.2	1.5	2.6	3.8	4.3	1,200	5.6	*831	10	171	78
4	1.3	1.2	2.2	2.3	3.8	3.6	1,080	5.6	795	10	153	76
5	1.2	1.2	1.5	2.2	3.6	3.3	986	5.4	692	11	140	74
6	1.2	1.2	1.6	2.1	3.5	3.3	890	5.6	613	307	145	72
7	1.2	1.2	1.4	2.1	3.3	3.2	*840	6.4	554	872	148	68
8	1.3	1.2	1.3	2.1	3.3	3.1	831	10	500	988	140	61
9	1.3	1.2	11	2.1	3.2	3.1	862	27	459	840	*253	61
10	1.4	1.3	3.4	2.2	3.1	3.1	782	*65	421	741	276	63
11	1.4	1.3	2.3	2.4	3.3	2.9	728	*108	393	628	234	65
12	1.4	1.3	4.3	2.1	2.9	2.9	689	155	375	766	199	61
13	1.3	1.2	3.2	2.0	2.8	*20	662	*232	351	854	181	55
14	1.5	1.5	5.9	2.1	2.8	168	658	339	342	624	163	49
15	1.7	1.4	2.5	12	2.8	*289	288	366	330	497	150	49
16	1.5	1.4	2.2	34	3.5	361	11	378	333	411	138	48
17	1.4	1.3	2.2	6.8	*3.2	406	7.9	378	411	339	130	46
18	1.4	1.2	*2.2	5.6	2.8	436	8.4	381	523	278	120	46
19	1.4	1.3	2.2	*6.0	2.8	487	8.1	384	491	253	111	44
20	1.4	1.6	2.3	4.4	4.6	560	111	387	443	226	113	57
21	*1.4	1.8	2.7	22	3.5	546	304	369	615	213	120	83
22	1.3	3.0	2.6	46	3.1	532	322	354	880	210	125	83
23	1.3	1.8	2.3	12	2.9	560	333	342	836	202	125	76
24	1.3	1.5	2.2	8.4	3.1	771	348	333	887	192	138	70
25	1.3	1.6	2.2	6.9	2.9	926	363	322	1,270	186	142	63
26	1.3	1.3	2.1	5.8	2.8	1,210	162	316	1,270	229	135	61
27	1.6	1.3	2.1	6.0	2.7	1,300	8.7	310	944	224	132	59
28	1.4	1.2	2.5	5.0	7.8	1,380	8.7	301	903	*199	140	57
29	1.4	1.2	3.7	4.6	-	1,280	12	298	1,050	179	142	57
30	1.3	1.2	2.8	4.3	-------	1,160	5.8	298	1,080	171	130	65
31	1.3	-------	2.4	4.1	-------	1,190	-------	293	-------	168	113	-------
Total	42.3	41.7	83.3	224.8	95.6	13,624.1	15,209.6	6,782.8	19,936	12,305	4,764	1,928
Mean	1.36	1.39	2.69	7.25	3.41	439	507	219	665	397	154	64.3
(†)	+3,000	+4,000	+12,200	+32,100	+14,300	+11,400	+5,600	+4,600	-6,600	-6,400	-200	-300
Adjusted for change in contents in Chatuge Lake												
Mean	98.1	135	396	1,043	514	807	694	367	445	190	147	54.3
Cfsm	0.516	0.711	2.08	5.49	2.71	4.25	3.65	1.93	2.34	1.00	0.774	0.286
In.	0.60	0.79	2.40	6.33	2.82	4.90	4.07	2.23	2.61	1.16	0.89	0.32

	Observed			Adjusted			
Calendar year 1953:	Max 2,210	Min 1.0	Mean 302	Mean 384	Cfsm 2.02	In. 27.44	
Water year 1953-54:	Max 1,400	Min 1.2	Mean 206	Mean 407	Cfsm 2.14	In. 29.12	

* Discharge measurement made on this day.
† Change in contents, in cfs-days, in Chatuge Lake, furnished by Tennessee Valley Authority.

Hiwassee River above Murphy, N. C.

Location.--Lat 35°04'50", long 84°00'10", on right bank 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.
Records available.--June 1896 to August 1897 (gage heights only), October 1897 to June 1917, and October 1918 to September 1954 in reports of Geological Survey. Published as "at Murphy" prior to April 1940. October 1897 to December 1923 (including revised records for January 1901 to December 1902 and January 1904 to June 1917) in North Carolina Department of Conservation and Development Bulletin 34. October 1897 to September 1924 (including revised records for January 1901 to December 1902 and January 1904 to June 1917) in Tennessee Division of Geology Bulletin 34.
Gage.--Water-stage recorder. Datum of gage is 1,538.23 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Jan. 30, 1921, wire-weight or chain gages at bridge 2.8 miles downstream at datum 30.40 ft lower. Jan. 30, 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.--56 years (1898-1954), 917 cfs (adjusted for storage).
Extremes.--Maximum discharge during year, 14,100 cfs Jan. 16 (gage height, 12.08 ft); minimum, 59 cfs Nov. 15, 16, 19 (gage height, 1.88 ft); minimum daily, 64 cfs Nov. 7, 9. 1896-1917, 1918-54: Maximum discharge observed, 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 filling of Andrews Reservoir; minimum daily during normal regulation, 62 cfs Oct. 19, 1952.
Remarks.--Records excellent. Considerable diurnal fluctuation caused by Mission powerplant at Andrews Dam (normal regulated storage, about 75 cfs-days). Flow regulated by Chatuge Lake beginning Feb. 12, 1942 (see p. 247).
Revisions (water years).--WSP 583: 1899(M). WSP 973: Drainage area. WSP 1003: 1943. See also Records available.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

1.9	62	4.0	1,280
2.1	111	5.0	2,260
2.3	180	6.0	3,440
2.6	320	7.0	4,780
3.0	551	9.0	7,980
3.5	895	9.8	9,420

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	127	97	155	274	630	1,160	3,160	496	1,210	1,200	325	*209
2	130	88	71	245	484	799	2,470	478	*1,540	978	363	192
3	113	116	71	276	419	771	2,100	533	1,790	240	331	175
4	116	94	215	252	334	680	1,870	545	1,650	221	294	168
5	108	66	180	226	406	589	1,660	478	1,300	210	274	177
6	106	116	156	211	391	551	1,560	437	1,120	268	284	162
7	110	64	198	198	369	502	*1,440	455	1,020	942	300	136
8	100	122	164	197	358	472	1,440	545	910	1,180	269	142
9	104	64	978	188	344	443	1,430	478	835	1,110	*663	144
10	100	76	914	192	323	425	1,320	*487	771	1,020	490	170
11	101	92	420	231	369	414	1,250	511	780	872	388	169
12	101	82	546	210	352	391	1,190	533	729	824	358	147
13	97	88	539	184	325	1,140	1,140	620	708	1,080	331	142
14	103	84	892	200	315	1,890	1,160	792	708	845	305	133
15	137	108	602	1,510	305	1,320	987	835	694	718	284	124
16	114	70	*443	9,250	*320	*1,130	556	813	680	598	264	128
17	102	82	336	2,090	437	1,040	707	792	792	520	250	122
18	100	88	281	*1,090	342	1,020	609	778	991	467	231	126
19	103	86	268	866	315	1,110	546	785	910	426	227	118
20	98	88	230	641	512	1,250	508	792	806	398	222	134
21	*90	134	273	5,020	619	1,160	743	750	787	380	270	176
22	87	136	320	7,660	484	1,090	772	708	1,110	402	289	184
23	88	265	338	3,850	431	1,150	764	674	1,120	391	310	172
24	88	150	300	1,740	431	2,270	786	654	1,050	358	310	152
25	86	*160	269	1,060	397	2,270	749	625	1,340	336	310	144
26	86	128	246	940	374	2,990	728	615	1,540	*414	274	140
27	100	140	222	852	352	2,620	437	596	1,220	443	260	136
28	114	94	223	736	675	2,440	443	596	1,070	363	260	132
29	100	104	340	648	-	2,150	666	602	1,230	336	305	132
30	101	108	314	596	-------	1,910	630	596	1,270	310	260	142
31	90	-------	291	539	-------	2,600	-------	564	-------	315	231	-------
Total	3,200	3,190	10,795	42,172	11,413	39,747	33,821	19,163	31,681	18,165	9,532	4,528
Mean	103	106	348	1,360	408	1,282	1,127	618	1,056	586	307	151

	Observed			Adjusted†		
Calendar year 1953:	Max 3,780	Min 64	Mean 636	Mean 718	Cfsm 1.77	In. 24.00
Water year 1953-54:	Max 9,250	Min 64	Mean 623	Mean 825	Cfsm 2.03	In. 27.58

* Discharge measurement made on this day.
† Adjusted for change in contents in Chatuge Lake.

Valley River at Tomotla, N. C.

Location.--Lat 35°08'20", long 83°58'50", on right bank at highway bridge at Tomotla, Cherokee County, 0.2 mile upstream from Rodgers Creek, 4.7 miles northeast of Murphy, and 6.6 miles upstream from mouth.

Drainage area.--104 sq mi.

Records available.--June 1904 to December 1909, January 1914 to April 1917, October 1918 to September 1954.

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.--42 years (1904-9, 1914-16, 1919-54), 253 cfs.

Extremes.--Maximum discharge during year, 6,450 cfs Jan. 16 (gage height, 15.25 ft); minimum, 22 cfs Sept. 30 (gage height, 1.57 ft).
1904-9, 1914-17, 1918-54: Maximum discharge observed, 9,030 cfs Nov. 19, 1906 (gage height, 17.3 ft), from rating curve extended above 5,300 cfs; minimum, 12 cfs several times in August and September 1925 (gage height, 0.52 ft).

Remarks.--Records excellent.

Revisions (water years).--WSP 503: 1905-9, 1915-17. WSP 783: 1906(M). WSP 823: Drainage area.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

1.5	16	3.5	598
1.6	25	4.0	793
1.7	36	5.0	1,140
1.9	64	8.0	2,290
2.1	102	10.0	3,150
2.5	208	12.0	4,200
3.0	388	12.8	4,680

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	44	34	44	123	260	704	831	202	397	78	54	*39
2	45	34	42	114	247	458	623	190	*495	75	56	37
3	42	34	42	130	237	552	505	264	390	82	52	36
4	41	35	100	116	224	480	429	243	376	78	48	35
5	40	35	77	109	208	388	*380	211	296	75	45	34
6	39	34	73	102	196	329	344	199	240	82	87	32
7	37	34	94	96	184	292	325	224	208	71	64	30
8	36	34	71	92	178	267	310	240	184	73	55	29
9	36	34	486	88	172	247	288	211	170	90	171	30
10	36	34	406	96	167	234	267	*196	158	86	*75	35
11	35	34	184	164	170	224	257	184	153	73	60	33
12	34	35	240	130	158	211	243	175	140	69	55	29
13	33	35	230	111	150	468	240	196	167	64	56	28
14	34	35	376	114	148	893	254	230	153	66	54	28
15	37	35	264	1,290	145	*564	234	288	165	71	49	27
16	36	34	*187	4,660	*153	425	306	250	156	62	48	26
17	34	34	145	1,100	181	352	364	221	145	60	45	26
18	33	34	118	*590	150	318	303	211	150	60	45	25
19	33	34	107	417	145	356	271	202	156	58	52	24
20	*33	36	102	385	307	352	250	202	132	56	45	24
21	32	62	148	3,120	325	314	237	184	120	60	59	37
22	32	76	199	3,460	250	285	224	170	114	86	73	35
23	32	*126	208	2,170	218	296	218	161	109	103	68	29
24	32	64	164	946	224	834	218	153	104	89	64	27
25	32	98	140	652	205	828	234	145	98	61	54	26
26	32	66	120	501	190	1,010	230	140	96	*62	61	25
27	44	56	111	488	178	757	211	135	92	61	49	25
28	45	52	116	404	390	602	208	135	86	61	52	24
29	40	48	172	352	-	501	234	145	84	58	68	23
30	37	46	148	314	-------	437	224	138	80	54	48	26
31	35	-------	135	281	-------	599	-------	123	-------	52	42	-------
Total	1,131	1,382	5,049	22,715	5,760	14,577	9,262	5,968	5,414	2,156	1,854	884
Mean	36.5	46.1	163	733	206	470	309	193	180	69.5	59.8	29.5
Cfsm	0.351	0.443	1.57	7.05	1.98	4.52	2.97	1.86	1.73	0.668	0.575	0.284
In.	0.40	0.49	1.81	8.12	2.06	5.21	3.31	2.13	1.94	0.77	0.66	0.32

Calendar year 1953: Max 2,700 Min 27 Mean 201 Cfsm 1.93 In. 26.28
Water year 1953-54: Max 4,660 Min 25 Mean 209 Cfsm 2.01 In. 27.22

Peak discharge (base, 1,700 cfs).--Jan. 16 (7 a.m.) 6,450 cfs (15.25 ft); Jan. 21 (10 a.m.) 4,810 cfs (13.02 ft); June 1 (9:30 p.m.) 1,750 cfs (6.64 ft).
* Discharge measurement made on this day.

Nottely River near Blairsville, Ga.

Location.--Lat 34°50'28", long 83°56'10", on left bank 250 ft upstream from county road bridge, 0.1 mile downstream from Arkaqua Creek, 0.2 mile upstream from Akins Creek, and 2.7 miles southeast of Blairsville, Union County.

Drainage area.--74.8 sq mi.

Records available.--January 1942 to September 1954.

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.--12 years, 175 cfs.

Extremes.--Maximum discharge during year, 4,080 cfs Jan. 16 (gage height, 11.05 ft); minimum, 30 cfs Sept. 30 (gage height, 1.82 ft).
1942-54: Maximum discharge, 8,500 cfs Mar. 11, 1952 (gage height, 16.78 ft, from floodmark), 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).

Remarks.--Records excellent. Slight diurnal fluctuation at low flow caused by mills above station. Occasional regulation by Lake Trahlyta in Vogel State Park.

Revisions (water years).--WSP 1053: 1942(M), 1943. WSP 1236: 1946(M), 1950(M).

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 16				Jan. 17 to Sept. 30			
1.9	38	4.0	665	1.8	28	2.3	85
2.0	48	5.0	1,250	1.9	36	2.6	140
2.3	86	6.0	1,690	2.0	46		
2.6	140	7.0	2,070				
3.0	240	8.2	2,540	Note.--Same as preceding table above 2.6 ft.			
3.5	420						

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	66	42	52	128	229	400	525	194	1,140	94	61	*44
2	62	41	55	124	218	297	400	184	*547	104	58	43
3	58	40	75	122	212	376	344	196	422	100	56	41
4	56	39	182	113	202	297	308	189	318	99	53	39
5	52	39	128	99	191	265	284	176	259	92	52	38
6	51	39	155	94	184	240	*288	169	220	92	53	36
7	50	39	160	91	174	234	271	169	194	85	53	35
8	49	39	124	88	169	209	305	164	*176	85	50	34
9	49	39	546	88	162	199	274	158	164	155	*99	37
10	48	39	400	89	149	194	252	*151	155	175	69	43
11	47	39	226	109	167	186	243	149	158	130	55	44
12	46	39	288	94	151	179	229	147	153	97	53	37
13	45	39	252	91	142	203	223	162	161	87	53	35
14	49	39	360	91	140	304	218	184	151	84	50	35
15	48	39	256	384	138	*229	207	164	174	82	47	34
16	46	38	204	2,540	*178	209	312	155	261	79	45	34
17	45	38	*172	687	189	196	315	149	218	73	43	35
18	45	38	144	404	158	189	271	149	186	73	44	36
19	43	38	124	*315	149	226	246	147	164	78	45	33
20	43	55	116	274	344	234	229	149	151	72	54	36
21	42	102	153	998	322	212	226	138	142	76	65	48
22	*41	162	162	2,340	243	199	218	132	134	94	55	40
23	40	138	158	1,300	212	234	218	128	130	78	113	36
24	40	*85	140	698	212	380	209	124	122	72	82	34
25	39	88	130	501	196	360	207	122	116	67	66	34
26	40	72	120	404	184	488	223	120	113	73	57	34
27	59	64	111	368	174	550	209	116	109	*70	56	33
28	49	59	116	318	417	501	204	118	106	66	55	32
29	43	57	153	284	-	392	218	128	100	61	57	32
30	43	55	144	265	-------	336	199	118	97	60	52	34
31	42	-------	136	243	-------	500	-------	113	-------	60	46	-------
Total	1,481	1,680	5,542	13,684	5,606	9,018	7,875	4,662	6,541	2,713	1,797	1,106
Mean	47.8	56.0	179	441	200	291	262	150	218	87.5	58.0	36.9
Cfsm	0.639	0.749	2.39	5.90	2.67	3.89	3.50	2.01	2.91	1.17	0.775	0.493
In.	0.74	0.84	2.76	6.80	2.79	4.48	3.92	2.32	3.25	1.35	0.89	0.55

Calendar year 1953: Max 2,510 Min 36 Mean 164 Cfsm 2.19 In. 29.86
Water year 1953-54: Max 2,540 Min 32 Mean 169 Cfsm 2.26 In. 30.69

Peak discharge (base, 1,500 cfs).--Jan. 16 (6:30 a.m.) 4,080 cfs (11.05 ft); Jan. 22 (10:30 a.m.) 3,870 cfs (10.36 ft); June 1 (8 p.m.) 2,350 cfs (7.74 ft).
* Discharge measurement made on this day.

Nottely River at Nottely Dam, near Ivylog, Ga.

Location.--Lat 34°57'55", long 84°05'25", on right bank 1,600 ft downstream from Rhodes Branch, 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.

Records available.--July 1942 to September 1954.

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.--12 years, 411 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 2,290 cfs May 5 (gage height, 5.58 ft); minimum, 0.1 cfs Sept. 6-9, 19 (gage height, 0.15 ft).
1942-54: Maximum discharge, 2,830 cfs May 25, 1944 (gage height, 6.34 ft); minimum, that of Sept. 6-9, 19, 1954.

Remarks.--Records excellent except those below 20 cfs, which are fair. Flow completely regulated by Nottely Lake (see p. 247).

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

0.1	0	1.2	64
.2	.3	1.5	120
.3	1.0	2.0	250
.4	2.2	2.5	427
.5	4.2	3.0	640
.6	7.2	4.0	1,170
.8	18	5.0	1,830
1.0	36	5.6	2,310

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	309	138	0.4	1,420	0.8	1,010	2.1	631	710	244	200	0.3
2	302	138	.4	1,400	.8	1,010	1.6	631	868	244	83	.3
3	296	138	.4	1,370	.8	1,010	1.4	631	*868	247	.6	.3
4	289	138	.7	1,330	.7	1,010	1.2	1,090	874	247	.4	.3
5	285	138	.5	1,170	.7	1,000	*419	1,980	862	250	.6	.3
6	276	85	.4	978	.7	1,000	*1,460	2,250	852	260	.5	.3
7	263	.5	.4	950	.6	994	1,980	2,240	474	256	.2	.3
8	197	.4	.4	787	.6	1,200	1,970	2,220	.9	256	.2	.3
9	129	.4	2.2	604	.6	1,460	1,950	2,190	.7	256	1.2	.3
10	129	.4	.8	590	.6	1,450	1,930	*2,160	.7	272	.4	.3
11	131	.4	.6	572	.7	1,440	1,920	2,150	271	292	.3	.2
12	131	.4	.9	554	.6	1,440	1,480	2,130	568	292	.3	.4
13	131	.4	.7	533	.6	1,420	535	2,100	564	362	.3	.3
14	133	.4	1.0	508	.6	1,420	1.2	1,810	649	415	.2	.3
15	135	.4	.6	500	.6	1,410	1.2	1,460	755	396	.2	.3
16	135	.4	.6	404	*.9	*1,050	1.4	1,440	745	316	.5	.3
17	135	.4	.5	1.5	199	525	1.2	1,420	740	247	.3	.3
18	135	.4	.5	1.0	516	525	1.1	1,400	725	244	.3	.3
19	135	.4	.5	*.9	512	525	1.0	1,390	715	238	.3	.3
20	135	.5	.5	.9	516	525	1.0	1,360	695	220	.4	.4
21	135	.5	.6	5.0	516	525	1.0	1,190	680	198	.2	.4
22	*135	.8	.6	8.5	516	934	1.0	1,020	662	200	.3	.4
23	135	.6	.6	2.1	799	1,470	1.0	1,000	640	206	.7	.3
24	133	*.4	251	1.5	1,190	1,130	1.0	984	533	206	.5	.4
25	133	.5	516	1.1	1,190	770	1.0	972	439	206	.4	.4
26	133	.4	512	1.0	766	396	1.0	950	427	220	.3	.3
27	133	.4	508	1.1	311	1.9	1.0	928	411	*241	.3	.4
28	135	.4	710	1.0	1,010	1.6	1.1	781	392	238	.2	.4
29	138	.4	984	1.0	-	1.4	448	636	316	232	.2	.4
30	138	.4	972	.9	-------	1.2	843	626	244	200	.5	.5
31	138	-------	1,210	.9	-------	2.9	-------	613	------	182	.3	-------
Total	5,297	785.6	5,677.8	13,698.4	8,051.9	26,658.0	14,957.5	42,363	16,681.3	7,883	294.1	10.0
Mean	171	26.2	183	442	288	860	499	1,367	556	254	9.49	0.33
(†)	-700	+3,700	+5,700	+18,300	+4,300	-4,400	+3,300	-29,200	-2,000	0	+5,700	+3,300

Adjusted for change in contents in Nottely Lake

Mean	148	150	367	1,032	441	718	609	425	489	254	193	110
Cfsm	0.688	0.698	1.71	4.80	2.05	3.34	2.83	1.98	2.27	1.18	0.898	0.512
In.	0.80	0.78	1.97	5.53	2.14	3.85	3.16	2.28	2.54	1.36	1.04	0.57

	Observed			Adjusted†		
Calendar year 1953:	Max 1,780	Min 0.4	Mean 385	Mean 361	Cfsm 1.68	In. 22.82
Water year 1953-54:	Max 2,250	Min 0.2	Mean 390	Mean 412	Cfsm 1.92	In. 26.02

* Discharge measurement made on this day.
† Change in contents, in cfs-days, in Nottely Lake, furnished by Tennessee Valley Authority.

Turtletown Creek at Turtletown, Tenn.

Location.--Lat 35°07'57", long 84°20'37", on left bank 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.

Records available.--May 1934 to September 1954.

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.--20 years, 49.1 cfs.

Extremes.--Maximum discharge during year, 784 cfs Jan. 16 (gage height, 5.61 ft); minimum, 12 cfs Sept. 19, 20 (gage height, 0.89 ft).
1934-54: Maximum discharge, 1,120 cfs June 13, 1952 (gage height, 6.50 ft); minimum, 9.3 cfs Oct. 10, 1941 (gage height, 0.86 ft).

Remarks.--Records good. Some diurnal fluctuation caused by small mills above station.

Revisions (water years).--WSP 823: Drainage area. WSP 1143: 1936(M), 1946-47(M).

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Rate of change in stage used as a factor Jan. 16, 21-23)

0.9	12	2.5	262
1.2	34	3.0	330
1.5	70	4.0	435
2.0	149	4.8	543

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	19	18	26	55	96	136	53	68	31	23	18
2	30	19	18	24	53	71	92	52	*60	31	24	17
3	23	19	17	26	53	71	83	71	57	32	21	17
4	22	18	29	24	53	61	76	71	50	31	20	17
5	21	18	23	24	50	58	71	60	46	30	*19	16
6	21	18	22	23	47	53	*70	*56	43	*31	24	16
7	20	18	21	22	45	52	69	57	41	29	27	16
8	19	18	19	22	44	50	71	60	40	28	24	*15
9	19	18	88	22	*44	49	69	55	38	28	66	16
10	19	18	61	27	44	47	64	52	37	28	34	17
11	19	18	33	37	45	*46	62	51	37	30	26	16
12	19	18	41	*28	43	46	61	50	36	28	24	15
13	19	18	36	26	42	84	60	53	54	27	24	14
14	19	18	60	27	42	99	61	60	46	26	23	14
15	20	18	*43	147	42	69	58	57	101	26	22	14
16	*19	17	34	534	51	61	69	53	99	28	20	14
17	19	17	30	150	53	57	80	50	84	26	19	14
18	18	*17	26	86	45	55	69	50	79	29	19	14
19	18	17	26	70	43	62	64	50	70	29	19	13
20	17	17	24	67	55	66	60	50	56	26	22	14
21	17	19	31	396	53	55	57	47	49	24	28	19
22	17	30	34	500	47	53	55	45	44	24	26	18
23	17	27	30	244	44	65	55	44	43	25	42	16
24	17	23	27	127	51	120	67	42	41	24	31	15
25	17	28	25	98	46	98	69	42	38	27	*24	14
26	17	23	24	83	43	133	65	42	37	28	22	14
27	23	22	23	80	42	95	60	41	36	24	20	14
28	22	19	27	70	95	84	57	41	34	24	29	14
29	26	19	38	65	-	76	62	41	32	22	25	14
30	21	19	31	61	------	73	57	41	31	22	20	19
31	19	------	29	57	------	124	------	41	------	21	19	------
Total	620	587	988	3,193	1,370	2,229	2,049	1,578	1,527	839	786	464
Mean	20.0	19.6	31.9	103	48.9	71.9	68.3	50.9	50.9	27.1	25.4	15.5
Cfsm	0.743	0.729	1.19	3.83	1.82	2.67	2.54	1.89	1.89	1.01	0.944	0.576
In.	0.86	0.81	1.37	4.41	1.89	3.08	2.83	2.18	2.11	1.16	1.09	0.64

Calendar year 1953: Max 390 Min 17 Mean 49.0 Cfsm 1.82 In. 24.72
Water year 1953-54: Max 534 Min 13 Mean 44.5 Cfsm 1.65 In. 22.43

Peak discharge (base, 300 cfs).--Jan. 16 (11 a.m.) 784 cfs (5.61 ft); Jan. 22 (12 m.) 602 cfs (5.07 ft).
* Discharge measurement made on this day.

Hiwassee River near McFarland, Tenn.

Location.--Lat 35°10'48", long 84°26'36", on left bank 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.

Records available.--October 1942 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 830.56 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--12 years, 2,402 cfs (unadjusted).

Extremes.--Maximum discharge during year, 10,900 cfs Jan. 21 (gage height, 7.04 ft); minimum daily, 75 cfs Oct. 19.
1942-54: Maximum discharge, 22,500 cfs June 13, 1952 (gage height, 10.42 ft), from rating curve extended above 15,000 cfs; minimum daily, 55 cfs Sept. 12, 1943.

Remarks.--Records excellent except those below 500 cfs and those for periods of no gage-height record, which are fair. Flow regulated by Chatuge, Nottely, Hiwassee, and Apalachia Lakes (see p. 247).

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

1.2	58	4.0	2,800
1.6	165	5.0	5,090
1.9	290	6.0	7,800
2.4	620	6.9	10,500
3.0	1,170		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	984	224	*2,800	a2,600	3,450	2,710	*2,910	220	2,820	2,350	2,280	1,410
2	1,490	900	2,760	a1,900	3,100	2,500	1,990	204	3,140	2,400	1,350	1,680
3	1,080	895	2,580	a2,600	2,860	2,540	2,020	2,360	*2,920	1,320	1,470	1,210
4	1,000	907	2,240	a2,800	2,880	2,420	1,230	2,570	2,780	1,310	1,640	1,090
5	1,030	961	2,160	a2,800	2,880	2,370	2,160	2,520	1,430	1,350	*2,320	766
6	920	1,210	874	2,640	2,860	2,450	1,530	2,420	1,020	2,050	2,240	780
7	1,160	1,270	2,460	2,860	2,860	1,880	1,460	2,400	1,930	1,940	1,240	2,060
8	1,120	969	2,760	2,600	2,840	2,190	1,590	2,380	2,840	2,070	1,350	2,280
9	1,170	974	2,740	2,470	2,860	2,240	1,590	2,410	2,840	1,200	2,160	2,690
10	676	1,280	2,800	2,560	2,840	2,150	265	2,400	2,840	1,060	2,460	2,080
11	1,160	1,300	1,840	2,900	2,760	1,930	1,340	2,360	2,840	1,320	1,860	2,080
12	1,030	1,300	1,430	2,860	2,460	1,960	2,320	2,370	2,840	2,380	940	454
13	1,150	1,300	1,480	2,880	2,530	1,880	2,430	2,320	2,180	2,300	1,880	2,000
14	*1,180	1,300	2,100	2,320	2,760	1,600	2,480	2,420	2,510	2,320	1,270	2,370
15	1,170	1,160	2,420	2,950	2,820	2,720	2,500	2,230	2,550	2,210	1,250	2,200
16	1,030	1,050	2,490	5,440	2,520	2,230	2,450	1,260	2,460	2,190	1,880	2,090
17	214	1,200	2,780	1,540	2,820	2,160	2,770	1,810	2,730	1,460	1,680	2,490
18	a80	1,190	2,780	2,410	2,840	2,220	804	2,310	2,560	1,610	1,920	2,450
19	a75	995	1,870	2,590	2,510	2,220	458	2,530	2,680	2,280	2,120	336
20	464	1,120	2,750	1,960	1,450	2,320	245	2,580	1,680	2,300	1,980	1,650
21	1,130	574	2,860	7,000	1,360	1,860	220	2,620	2,640	2,310	2,000	1,810
22	1,070	368	2,860	a8,000	1,980	2,560	208	2,370	2,800	2,670	1,520	1,860
23	1,150	2,130	2,860	a7,000	2,820	2,500	204	2,250	2,840	2,400	1,940	*794
24	1,010	2,170	2,820	a6,000	2,900	3,090	302	2,710	2,840	1,110	1,370	906
25	928	2,580	110	a8,500	2,590	3,000	344	2,640	2,840	1,540	1,580	868
26	1,050	2,120	744	a10,500	1,610	3,020	275	2,510	2,560	1,340	1,390	83
27	1,110	2,040	1,830	*10,200	1,610	2,020	224	2,510	2,880	1,800	1,440	1,920
28	885	2,740	2,440	4,650	2,590	1,470	212	2,490	2,680	2,150	2,360	1,820
29	1,100	2,510	2,840	*4,500	-	2,110	255	2,370	2,490	2,380	1,330	1,860
30	869	2,620	2,700	3,520	-------	2,290	336	2,310	2,370	2,220	2,380	1,930
31	526	-------	1,950	3,450	-------	2,630	-------	2,340	-------	1,730	1,320	-------
Total	29,011	41,357	70,128	127,000	72,360	71,240	37,122	69,194	76,530	59,070	53,920	48,017
Mean	936	1,379	2,262	4,097	2,584	2,298	1,237	2,232	2,551	1,905	1,739	1,601

	Observed				Adjusted†					
Calendar year 1953:	Max	5,860	Min	75	Mean	1,982	Mean	2,067	Cfsm	1.82	In.	24.70
Water year 1953-54:	Max	10,500	Min	75	Mean	2,068	Mean	2,192	Cfsm	1.93	In.	26.19

* Discharge measurement made on this day.
† Adjusted for change in contents in Chatuge, Nottely, Hiwassee, and Apalachia Lakes.
a Mo gage-height record; discharge estimated on basis of weather records, recorded range in stage, and records for Apalachia Dam.

Toccoa River near Dial, Ga.

Location.--Lat 34°47'24", long 84°14'24", on right bank 1.4 miles upstream from Shallow Ford Bridge, 1.8 miles upstream from Stanley Creek, and 2.5 miles northwest of Dial, Fannin County.

Drainage area.--177 sq mi.

Records available.--January 1913 to September 1954.

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.--41 years, 486 cfs.

Extremes.--Maximum discharge during year, 7,840 cfs Jan. 16 (gage height, 9.35 ft, from graph based on bihourly radio-gage readings); minimum, 120 cfs Sept. 30 (gage height, 0.74 ft).
1913-54: Maximum discharge, 10,800 cfs Mar. 11, 1952 (gage height, 11.20 ft), from rating curve extended above 5,000 cfs on basis of slope-area determination of peak flow; minimum, 60 cfs Sept. 6, 1925 (gage height, 0.40 ft).
Flood in 1898 reached a stage about 2.8 ft higher than that of Mar. 11, 1952.

Remarks.--Records excellent.

Revisions (water years).--WSP 823: Drainage area. WSP 893: 1932(M).

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 15		Jan. 16 to Sept. 30			
0.7	116	0.7	112	3.0	1,070
1.0	171	1.0	178	5.0	2,650
1.6	357	1.5	328	7.0	4,810
2.5	770	2.0	530	7.5	5,410
3.1	1,140				

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	167	134	143	306	634	748	1,100	611	704	278	221	171
2	160	132	141	289	620	598	855	588	*685	318	210	166
3	154	130	143	289	602	700	764	629	652	297	*201	159
4	148	130	352	273	584	624	710	634	566	308	194	154
5	146	130	248	266	552	580	*665	*575	490	304	188	152
6	145	129	270	257	534	552	656	552	451	332	191	147
7	145	136	314	248	512	526	647	544	430	*278	199	*143
8	143	137	236	242	*498	*508	680	534	410	291	188	139
9	141	136	1,130	239	494	494	647	512	394	281	498	136
10	141	134	905	242	481	481	606	498	387	318	275	136
11	139	130	458	286	494	472	593	485	375	308	212	136
12	137	127	575	251	472	459	580	481	372	268	196	134
13	136	126	490	222	446	566	575	508	443	253	196	130
14	141	126	*616	236	438	695	580	584	459	247	191	128
15	*143	126	480	793	430	544	552	526	503	244	186	126
16	143	124	393	5,310	472	503	759	494	516	244	178	126
17	137	*124	337	1,560	544	485	825	476	498	235	171	124
18	136	124	300	963	446	476	675	472	434	226	168	141
19	134	124	289	770	430	593	629	468	402	232	176	143
20	134	129	282	665	866	593	598	464	383	226	183	139
21	132	225	401	1,700	814	526	580	446	368	258	215	154
22	132	302	476	3,460	611	498	566	430	353	375	224	156
23	130	325	454	2,240	539	534	580	418	342	272	201	152
24	130	198	373	1,440	534	634	593	414	335	259	*253	143
25	129	198	337	1,150	503	656	647	406	325	238	226	139
26	129	169	310	987	481	909	715	402	318	232	210	132
27	165	156	289	981	464	1,010	642	398	311	232	183	130
28	169	150	296	849	652	1,000	606	398	301	232	173	128
29	154	146	414	770	-	814	726	410	291	218	199	126
30	143	145	365	715	-------	732	652	390	284	238	196	122
31	136	-------	329	670	-------	885	-------	375	-------	224	178	-------
Total	4,419	4,602	12,146	28,669	15,147	19,395	20,003	15,122	12,782	8,266	6,480	4,212
Mean	143	153	392	925	541	626	667	488	426	267	209	140
Cfsm	0.808	0.864	2.21	5.23	3.06	3.54	3.77	2.76	2.41	1.51	1.18	0.791
In.	0.93	0.97	2.55	6.02	3.18	4.08	4.20	3.18	2.69	1.74	1.36	0.88

Calendar year 1953: Max 3,610 Min 124 Mean 406 Cfsm 2.29 In. 31.12
Water year 1953-54: Max 5,310 Min 122 Mean 414 Cfsm 2.34 In. 31.78

Peak discharge (base, 2,400 cfs).--Jan. 16 (9 a.m.) 7,840 cfs (9.35 ft); Jan. 22 (3:30 p.m.) 4,690 cfs (6.90 ft).
* Discharge measurement made on this day.

Toccoa River near Blue Ridge, Ga.

Location.--Lat 34°53'14", long 84°17'07", on left bank three-eighths of a mile downstream from Blue Ridge Dam of Tennessee Valley Authority, 2¼ miles west of Morganton, and 2½ miles northeast of Blue Ridge, Fannin County.

Drainage area.--233 sq mi.

Records available.--November 1898 to March 1903 and April 1913 to September 1954 in reports of Geological Survey. November 1898 to March 1903 and April 1913 to September 1924 (prior to April 1913, revised) in Tennessee Division of Geology Bulletin 34, published as Toccoa River near Morganton.

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 datum.

Average discharge.--41 years (1913-54), 586 cfs (unadjusted).

Extremes.--Maximum discharge during year, 1,900 cfs June 4 (gage height, 5.14 ft); minimum, 3.2 cfs Nov. 22, 23 (gage height, 0.77 ft); minimum daily, 3.5 cfs Nov. 22.
1913-54: Maximum discharge, 13,900 cfs July 9, 1916 (gage height, 13.0 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.--Records excellent except those below 100 cfs, which are good. Flow regulated by Blue Ridge Lake beginning Dec. 6, 1930 (see p. 248).

Revisions.--See Records available.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

0.7	1.2	1.6	90
.8	4.1	2.0	215
1.0	13	3.0	640
1.2	28	4.0	1,170
1.4	52	5.0	1,800

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	744	287	732	918	326	12	17	17	296	444	142	762
2	808	928	756	620	438	11	16	202	20	615	596	680
3	855	652	609	578	414	11	16	549	256	654	660	756
4	936	662	877	546	420	480	17	479	987	561	792	864
5	672	640	642	566	406	450	17	*236	996	729	870	785
6	968	681	9.3	268	336	420	199	210	717	633	938	801
7	866	848	856	272	300	385	256	387	734	*830	890	*834
8	803	854	850	284	*358	*410	342	271	724	852	820	1,000
9	714	622	364	7.9	532	309	255	266	726	861	20	1,020
10	849	873	4.5	404	558	338	197	17	727	656	684	1,080
11	812	842	4.1	424	560	246	201	17	708	246	588	892
12	833	690	4.5	618	369	269	215	17	739	770	616	857
13	690	774	4.1	880	396	13	278	17	746	916	786	850
14	820	850	209	875	348	12	274	17	844	750	818	632
15	738	621	540	225	408	12	352	18	792	748	817	835
16	720	796	530	96	234	12	144	19	804	758	802	1,010
17	638	*809	507	10	452	12	16	19	747	712	905	1,140
18	670	760	708	9.2	280	12	370	21	322	677	908	847
19	738	648	1,010	8.8	98	13	16	22	428	648	902	966
20	708	612	984	8.8	307	388	278	22	385	768	854	705
21	956	26	967	18	414	380	294	24	274	19	782	1,030
22	954	3.5	335	28	454	370	266	483	197	19	840	824
23	1,060	492	331	12	464	383	275	487	830	19	818	788
24	520	798	312	12	617	70	338	610	822	20	756	938
25	548	875	290	12	624	18	355	1,270	900	20	717	654
26	800	720	568	12	564	15	418	1,800	688	21	712	676
27	896	636	592	11	538	14	350	498	484	220	729	914
28	795	411	614	11	547	14	101	810	631	286	696	828
29	870	8.4	402	256	-	14	17	759	602	18	780	870
30	842	612	660	246	-------	14	17	738	446	62	734	677
31	854	-------	918	269	-------	17	-------	762	-------	717	468	-------
Total	24,677	19,030.9	16,189.5	8,505.7	11,762	5,124	5,907	11,064	18,572	15,249	22,440	25,515
Mean	796	634	522	274	420	165	197	357	619	492	724	850

	Observed			Adjusted†				
Calendar year 1953:	Max 1,220	Min 3.5	Mean 550	Mean 501	Cfsm 2.15	In. 29.20
Water year 1953-54:	Max 1,800	Min 3.5	Mean 504	Mean 515	Cfsm 2.21	In. 29.98

* Discharge measurement made on this day.
† Adjusted for change in contents in Blue Ridge Lake.

Ocoee River at Copperhill, Tenn.

Location.--Lat 34°59'29", long 84°22'36", on right bank 0.2 mile upstream from Fightingtown Creek and 0.4 mile downstream from Copperhill, Polk County.

Drainage area.--352 sq mi.

Records available.--March 1903 to December 1913, October 1918 to August 1925 (gage heights only), and November 1942 to September 1954 in reports of Geological Survey. March 1903 to September 1924 (March 1903 to December 1911, revised, gage heights only after Decem- 1913) in Tennessee Division of Geology Bulletin 34.

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.--19 years (1903-6, 1907-10, 1911-13, 1943-54), 842 cfs (unadjusted).

Extremes.--Maximum discharge during year, 6,100 cfs Jan. 16 (gage height, 6.36 ft); minimum daily, 126 cfs July 25.
1903-13, 1918-25, 1942-54: Maximum gage height observed, 18.5 ft Nov. 19, 1906, site and datum then in use (discharge not determined); minimum daily discharge determined, 76 cfs Dec. 24, 1943, Oct. 5, 1947.

Remarks.--Records good except those for periods of backwater, which are fair. Sixty-six percent of drainage area regulated by Blue Ridge Lake beginning Dec. 6, 1930 (see p. 248). The Tennessee Copper Co. diverts approximately 13,000 gal per minute just below station to Mill Creek, Potato Creek, or Ocoee River below the control.

Revisions.--See Records available.

Rating tables, water year 1953-54, except periods of backwater from Fightingtown Creek (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 30				May 1 to Sept. 2				Sept. 3-30	
1.5	150	2.8	850	1.6	122	3.2	1,210	2.4	440
1.8	204	3.5	1,690	2.0	295	3.9	2,160	2.8	755
2.3	470	4.8	3,780	2.6	660			3.3	1,250

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	782	588	662	1,020	557	474	794	270	*733	563	212	790
2	798	752	797	789	675	322	488	445	433	726	769	822
3	868	924	805	666	643	344	428	915	710	761	728	813
4	711	700	855	654	628	700	392	*800	1,400	625	*853	932
5	1,060	765	752	680	628	710	368	543	1,260	813	886	863
6	1,040	714	320	488	525	624	*537	459	1,030	*829	982	877
7	749	778	708	362	509	726	579	626	970	890	948	890
8	730	904	890	384	569	532	700	524	966	888	901	*1,040
9	757	918	1,210	160	*685	*612	608	498	942	960	722	1,080
10	1,050	720	416	464	752	570	518	260	946	810	802	1,110
11	906	930	202	362	812	462	504	255	930	382	716	1,130
12	836	918	240	*674	584	489	499	255	994	858	718	968
13	794	766	224	950	590	643	582	265	944	976	822	942
14	*771	863	492	960	534	744	587	300	984	885	870	449
15	858	877	*699	762	588	410	640	334	1,070	853	876	1,230
16	796	654	712	c3,770	460	344	493	280	1,010	851	858	1,040
17	732	870	643	624	706	305	386	260	1,050	801	948	1,100
18	612	*804	680	380	522	289	711	280	628	824	915	1,070
19	884	801	1,140	305	306	316	305	260	686	654	994	888
20	558	677	1,100	269	512	735	552	280	508	942	1,010	747
21	1,060	267	1,130	1,740	954	676	550	260	296	188	924	1,150
22	974	153	732	c3,080	639	654	538	708	561	145	890	859
23	1,100	552	418	970	740	700	543	692	964	145	927	1,220
24	834	764	518	551	836	656	624	810	972	156	888	897
25	429	959	426	440	844	518	622	1,190	990	126	*837	793
26	874	906	546	374	842	820	698	2,110	906	137	800	725
27	988	666	684	356	760	558	603	1,100	554	352	784	717
28	976	595	723	322	926	512	356	994	847	423	741	1,070
29	951	172	705	434	-	428	356	886	725	137	856	954
30	926	549	697	645	-------	392	289	1,020	570	215	846	878
31	858	-------	955	520	-------	606	-------	954	-------	758	544	-------
Total	26,262	21,506	21,081	24,155	18,326	16,871	15,850	18,813	25,579	18,671	25,567	28,044
Mean	847	717	680	779	654	544	528	607	853	602	825	935

	Observed						Adjusted†					
Calendar year 1953:	Max	1,580	Min	135	Mean	722	Mean	673	Cfsm	1.91	In.	25.95
Water year 1953-54:	Max	3,770	Min	126	Mean	714	Mean	725	Cfsm	2.06	In.	27.95

* Discharge measurement made on this day.
† Adjusted for change in contents in Blue Ridge Lake.
c Backwater from Fightingtown Creek.

Fightingtown Creek at McCaysville, Ga.

Location.--Lat 34°58'53", long 84°23'12", on right bank 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.

Records available.--November 1942 to September 1954.

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.--11 years (1943-54), 201 cfs.

Extremes.--Maximum discharge during year, 3,380 cfs Jan. 16 (gage height, 9.25 ft); minimum, 37 cfs Nov. 19, Sept. 29, 30.
1942-54: Maximum discharge, 5,420 cfs Mar. 29, 1951 (gage height, 11.92 ft); minimum, that of Nov. 19, 1953, and Sept. 29, 30, 1954.

Remarks.--Records good. Some diurnal fluctuation at low flow caused by small mills above station.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 15		Jan. 16 to Sept. 30			
1.4	39	1.3	31	4.0	905
1.8	101	1.6	69	6.0	1,620
2.2	188	2.2	192	7.4	2,200
3.0	445	3.0	445		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53	47	44	103	236	265	592	241	*230	106	76	54
2	56	47	43	97	228	222	428	230	240	104	78	53
3	50	46	43	99	220	287	372	432	259	110	*71	53
4	49	46	92	92	212	247	337	340	222	108	69	51
5	47	46	70	88	202	222	*317	*287	187	118	68	50
6	47	45	65	83	192	207	307	262	174	108	117	49
7	45	45	80	81	187	197	294	253	162	*98	93	49
8	45	45	64	80	180	187	307	253	156	98	76	*46
9	45	44	423	78	*178	*183	297	233	151	108	243	49
10	45	44	342	85	176	180	268	222	145	110	104	50
11	45	44	135	*141	192	176	259	214	141	114	85	49
12	45	*43	167	108	180	174	250	210	136	98	78	46
13	44	41	144	97	167	525	241	217	136	95	76	46
14	45	41	185	97	165	512	241	233	161	91	73	46
15	*53	41	*146	342	162	320	233	228	172	110	69	45
16	47	40	121	2,160	183	265	325	210	178	92	66	44
17	46	39	103	770	225	241	333	200	240	87	63	44
18	45	39	90	420	178	228	277	200	178	85	63	50
19	46	39	86	320	169	250	256	200	167	87	62	44
20	45	40	82	268	202	274	241	200	160	83	107	42
21	45	46	110	959	210	239	233	187	145	82	93	48
22	45	67	119	1,490	185	225	228	180	134	100	74	49
23	44	96	114	973	174	253	233	178	130	100	71	45
24	44	57	103	606	183	420	236	174	134	98	93	42
25	44	70	96	466	174	392	265	169	124	85	100	41
26	44	57	90	396	167	496	297	167	120	89	71	40
27	62	50	85	364	162	424	287	165	116	87	64	40
28	64	47	90	320	250	392	250	162	116	112	64	39
29	59	45	129	290	-	347	281	176	112	87	64	38
30	53	45	115	268	------	320	256	169	110	80	60	39
31	49	------	108	250	------	480	------	156	------	76	57	------
Total	1,496	1,442	3,684	11,991	5,339	9,150	8,741	6,748	4,856	3,006	2,548	1,381
Mean	48.3	48.1	119	387	191	295	291	218	162	97.0	82.2	46.0
Cfsm	0.681	0.678	1.68	5.46	2.69	4.16	4.10	3.07	2.28	1.37	1.16	0.649
In.	0.78	0.76	1.93	6.29	2.80	4.80	4.59	3.54	2.55	1.58	1.34	0.72

Calendar year 1953: Max 1,500 Min 39 Mean 165 Cfsm 2.33 In. 31.49
Water year 1953-54: Max 2,160 Min 38 Mean 165 Cfsm 2.33 In. 31.68

Peak discharge (base, 1,200 cfs).--Jan. 16 (11 a.m.) 3,380 cfs (9.25 ft); Jan. 22 (11 a.m.) 1,860 cfs (6.64 ft).
* Discharge measurement made on this day.

Davis Mill Creek at Copperhill, Tenn.

Location.--Lat 34°59'43", long 84°22'56", on right bank 0.4 mile northwest of Louisville & Nashville Railroad station, 0.8 mile from post office at Copperhill, Polk County, and 0.1 mile upstream from mouth.

Drainage area.--5.16 sq mi.

Records available.--July 1940 to September 1941 (published as Mill Creek at Copperhill), December 1948 to September 1954.

Gage.--Water-stage recorder and 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.

Average discharge.--5 years (1949-54), 33.7 cfs.

Extremes.--Maximum discharge during year, 1,360 cfs Aug. 21 (gage height, 4.23 ft); minimum daily, 23 cfs Aug. 7.
1940-41, 1948-54: Maximum discharge, 3,950 cfs Oct. 6, 1949 (gage height, 6.02 ft), from rating curve extended above 150 cfs on basis of critical-depth determination of peak flow; minimum daily, 3.1 cfs July 30, 1940.

Remarks --Records fair except those for periods of doubtful or no gage-height record, which are poor. Flow includes an unknown amount of diversion from other basins through the sulphuric acid plant of Tennessee Copper Co. Some fluctuation due to irregular release of wastes by Tennessee Copper Co. just above gage.

Revisions.--WSP 1206: Drainage area.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-27)

1.3	21	2.5	98
1.6	32	2.7	116
2.0	58		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	31	28	26	34	38	43	a32	a100	a30	30	28
2	39	31	28	27	35	34	40	a30	*35	a30	28	29
3	39	31	30	28	34	35	36	a80	*48	a30	26	28
4	39	30	33	28	30	31	35	a40	37	a30	*25	28
5	39	28	29	27	32	31	35	a35	a35	a36	26	28
6	37	28	29	27	32	29	*35	*a35	a34	*a33	24	29
7	35	28	29	27	31	30	35	a35	33	a30	23	28
8	34	28	28	28	31	31	37	a35	29	a30	33	*29
9	36	28	79	28	*32	*32	36	a34	31	a30	44	29
10	35	a28	35	33	31	32	35	a33	31	a30	31	29
11	34	33	32	33	34	31	35	a31	31	a30	29	28
12	35	30	34	*29	31	31	36	a31	31	a30	29	29
13	35	29	32	30	30	113	35	a33	30	a30	29	29
14	43	27	*38	29	31	48	33	a35	31	a30	28	31
15	*37	27	29	55	32	35	34	a33	31	a35	28	31
16	36	27	28	103	38	34	43	a32	31	a30	29	31
17	37	28	27	35	32	34	35	a32	34	a30	29	31
18	37	*29	27	29	31	33	32	a32	36	a35	31	31
19	37	28	28	a29	31	40	29	a32	34	a30	24	31
20	32	30	28	51	37	34	30	a32	31	a30	57	30
21	32	28	31	90	29	a30	30	a31	31	a30	68	31
22	36	46	29	103	30	30	a30	a30	31	a30	a40	31
23	35	33	27	49	30	40	a40	a30	32	a30	32	32
24	34	32	28	a45	35	51	a35	a31	31	a30	32	31
25	33	29	27	41	30	43	a35	a31	31	a40	32	32
26	34	30	27	a40	30	45	a36	a30	31	a30	31	30
27	40	29	27	39	27	40	a35	a31	30	a30	31	31
28	32	28	33	35	47	a39	a36	a30	29	33	47	31
29	29	28	29	35	-	38	a35	a31	31	30	a35	30
30	31	29	29	35	-------	37	a34	a30	30	27	31	32
31	30	-------	26	34	-------	80	-------	a30	-------	24	30	-------
Total	1,100	891	964	1,248	907	1,229	1,055	1,047	1,040	953	1,012	898
Mean	35.5	29.7	31.1	40.3	32.4	39.6	35.2	33.8	34.7	30.7	32.6	29.9
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 182 Min 26 Mean 35.2 Cfsm - In. -
Water year 1953-54: Max 113 Min 23 Mean 33.8 Cfsm - In. -

* Discharge measurement made on this day.
a Doubtful or no gage-height record; discharge estimated on basis of recorder graph, weather records, and records for stations on nearby streams.

North Potato Creek near Ducktown, Tenn.

Location.--Lat 35°00'54", long 84°22'58", on right bank 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.

Records available.--May 1934 to September 1954. Prior to October 1950, published as Potato Creek near Ducktown.

Gage.--Water-stage recorder and 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. 7, 1935, water-stage recorder and wooden weir and Oct. 8, 1935, to Aug. 25, 1948, water-stage recorder and Parshall flume, at same site and datum.

Average discharge.--20 years, 28.2 cfs.

Extremes.--Maximum discharge during year, 1,330 cfs June 1 (gage height, 5.57 ft); minimum, 5.6 cfs Sept. 11 (gage height, 0.63 ft).
1934-54: 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, 17, 1941.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Discharge includes diversion from Brush Creek and from Ocoee River. Some fluctuations caused by Tennessee Copper Co. plant's irregular pumpage from mines.

Revisions.--WSP 823: Drainage area.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

0.8	9.5	2.5	89
1.0	14	3.0	143
1.5	32	3.5	227
2.0	54	3.8	330

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	a18	17	22	36	43	45	29	224	20	21	16
2	19	18	16	21	32	32	38	28	*51	21	19	16
3	18	a18	18	25	35	35	37	86	*50	21	16	16
4	17	a17	30	22	33	28	34	39	35	21	15	15
5	18	a17	20	20	31	26	34	33	32	31	*16	16
6	17	17	20	20	30	26	*36	*31	29	23	20	16
7	15	a18	19	20	29	25	32	34	28	*19	19	15
8	16	a18	17	20	27	26	46	34	a28	20	27	*14
9	16	a18	142	20	*25	*24	35	29	a27	20	93	13
10	16	18	36	31	25	24	30	29	a26	20	24	13
11	16	a18	24	32	30	24	31	27	26	21	20	9.8
12	17	18	36	*22	25	23	29	27	25	21	20	9.6
13	16	17	31	21	24	138	30	34	52	18	20	12
14	18	16	51	27	24	66	31	36	34	19	18	13
15	21	16	*28	110	24	38	28	34	44	26	18	12
16	*17	17	24	300	36	30	53	30	31	20	16	12
17	17	15	20	58	29	29	43	29	38	18	12	12
18	16	*16	20	42	25	27	31	30	39	26	12	14
19	17	16	21	35	24	38	31	29	36	22	13	13
20	16	18	22	70	40	34	30	31	28	18	60	17
21	16	18	31	245	28	27	30	27	25	19	24	16
22	a16	50	28	329	26	28	30	25	23	18	20	13
23	16	24	23	84	24	44	39	25	23	20	24	12
24	a16	21	20	60	30	65	32	26	23	18	18	12
25	a16	19	22	54	25	61	31	26	23	37	18	13
26	16	20	20	47	24	59	33	25	22	23	17	14
27	a20	18	20	47	24	52	30	27	22	18	17	14
28	a21	18	32	38	64	42	36	25	22	18	82	13
29	a19	17	28	36	-	39	34	26	20	17	25	12
30	18	17	25	36	-------	34	30	25	20	17	20	23
31	a18	-------	22	33	-------	77	-------	25	-------	16	16	-------
Total	536	566	883	1,947	829	1,264	1,029	961	1,106	646	760	416.6
Mean	17.3	18.9	28.5	62.8	29.6	40.8	34.3	31.0	36.9	20.8	24.5	13.9
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 264 Min 15 Mean 31.0 Cfsm - In. -
Water year 1953-54: Max 329 Min 9.8 Mean 30.0 Cfsm - In. -

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records, recorded range in stage when available, and records for nearby stations.

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 upstream from former village of of Emf, Polk County, and 2 miles downstream from Goforth Creek.

Drainage area.--524 sq mi.

Records available.--January 1913 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 837.88 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--41 years, 1,227 cfs (unadjusted).

Extremes.--Maximum discharge during year, 14,900 cfs Jan. 16 (gage height, 9.98 ft); minimum daily, 48 cfs May 19.
1913-54: Maximum discharge, 29,400 cfs July 10, 1916 (gage height, 13.7 ft), from rating curve extended above 17,000 cfs; minimum daily, 5.0 cfs July 28, 1944.

Remarks.--Records good. Flow regulated by Blue Ridge and Ocoee No. 3 Lakes (see p. 248) and by powerplant above station.

Revisions (water years).--WSP 783: 1913-34.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

2.5	38	4.5	1,200
2.8	99	5.0	1,790
3.1	202	6.0	3,360
3.5	404	7.0	5,250
4.0	760	8.1	8,360

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	947	678	930	956	938	1,230	1,870	1,230	1,710	*956	654	*1,020
2	964	*768	938	938	930	1,270	1,690	981	1,560	990	964	1,020
3	964	930	930	938	938	1,460	1,620	1,010	1,530	981	1,020	1,020
4	956	930	938	938	947	1,040	1,060	*1,020	1,530	998	1,020	1,030
5	964	938	694	*938	947	*998	1,010	998	1,230	998	1,020	1,030
6	964	938	647	670	947	990	998	981	1,180	990	1,040	1,040
7	938	956	811	631	947	972	998	981	1,180	998	1,040	1,030
8	947	956	930	777	947	956	1,010	990	1,200	958	1,020	1,040
9	938	947	1,430	662	947	956	990	981	1,200	972	1,180	1,040
10	964	938	1,450	639	956	947	998	460	1,200	1,010	1,030	1,040
11	956	938	1,280	820	651	956	998	400	1,180	864	1,010	1,050
12	964	938	1,260	947	922	964	990	327	1,140	972	1,010	1,050
13	947	938	956	947	964	1,100	1,010	387	1,180	1,020	1,020	1,040
14	947	947	998	956	930	1,800	1,030	913	1,220	1,010	1,030	1,030
15	947	678	981	1,900	956	1,270	1,050	981	1,230	1,020	1,030	1,040
16	938	794	956	8,260	1,120	998	998	972	1,200	1,020	1,030	1,040
17	964	930	964	2,230	1,260	964	1,070	1,140	1,230	1,030	1,020	1,030
18	964	922	956	1,060	981	1,010	1,060	591	1,280	1,020	1,020	1,020
19	956	922	694	956	981	990	1,020	48	1,200	1,010	1,020	1,020
20	956	922	655	1,270	981	1,010	990	93	748	469	1,020	1,020
21	956	686	820	*4,570	972	990	981	981	655	359	1,100	1,020
22	956	647	930	6,450	972	964	990	1,200	828	462	1,120	1,020
23	947	836	938	3,010	972	972	1,010	1,200	998	526	1,030	1,020
24	947	475	947	1,740	981	1,410	998	1,210	1,160	524	1,020	1,010
25	930	820	938	1,590	981	1,690	998	1,230	1,140	504	1,020	990
26	938	938	930	1,030	972	1,920	782	1,240	1,120	586	1,030	930
27	938	938	938	1,230	972	1,690	631	1,160	628	320	1,020	1,010
28	947	678	956	1,280	1,120	1,440	964	1,220	820	380	1,020	1,020
29	947	631	964	981	-	998	1,140	1,200	823	180	1,020	1,010
30	930	811	964	947	-------	998	1,480	1,180	981	495	1,040	972
31	930	-------	964	938	-------	1,310	-------	1,180	-------	549	587	-------
Total	29,451	25,368	29,687	51,199	27,132	32,263	32,434	28,485	34,281	24,171	31,205	30,652
Mean	950	846	958	1,652	969	1,170	1,081	919	1,143	780	1,007	1,022

	Observed			Adjusted†		
Calendar year 1953:	Max 5,030	Min 49	Mean 1,070	Mean 1,022	Cfsm 1.95	In. 26.47
Water year 1953-54:	Max 8,260	Min 48	Mean 1,042	Mean 1,052	Cfsm 2.01	In. 27.26

* Discharge measurement made on this day.
† Adjusted for change in contents in Blue Ridge and Ocoee No. 3 Lakes.

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.

Records available.--January 1911 to September 1916, March 1921 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 716.96 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--38 years, 1,282 cfs (unadjusted).

Extremes.--Maximum discharge during year, 10,500 cfs Jan. 22 (gage height, 12.13 ft); minimum, 139 cfs June 26 (gage height, 3.02 ft).
1911-16, 1921-54: Maximum discharge, 21,700 cfs Mar. 29, 1951 (gage height, 20.22 ft); minimum daily, 6 cfs Oct. 28, 1925.

Remarks.--Records excellent. Flow regulated by Blue Ridge, Ocoee No. 3, and Parksville Lakes (see p. 248).

Cooperation.--Water-stage recorder inspected by employees of Tennessee Valley Authority.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 22				Jan. 23 to Sept. 30			
3.1	175	6.0	2,660	3.0	130	6.0	2,740
3.5	400	8.0	5,040	3.5	400	9.2	6,600
4.0	755	10.2	7,900	4.0	775		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,280	269	1,150	252	1,820	1,430	1,940	1,500	1,490	*1,140	175	*1,250
2	1,210	1,240	1,130	298	1,620	1,420	1,950	1,510	2,190	1,140	1,180	1,160
3	252	1,130	1,130	236	1,680	1,520	1,960	1,540	2,320	180	1,250	1,150
4	252	1,110	1,120	1,060	1,630	1,600	1,930	*1,550	2,270	170	1,250	232
5	1,220	1,130	247	*1,410	1,600	*1,470	1,860	1,540	1,500	1,160	1,250	225
6	1,180	1,100	242	1,520	236	269	1,940	1,520	268	1,230	1,300	1,260
7	1,210	274	1,220	1,560	242	258	1,520	1,520	1,380	1,470	218	1,360
8	1,230	264	1,420	1,570	1,690	1,680	1,470	205	1,470	1,470	185	1,240
9	1,300	1,130	1,360	236	1,540	1,650	1,550	200	1,470	1,490	2,180	1,330
10	258	1,130	1,540	2,170	1,640	1,710	269	986	1,470	248	1,620	1,560
11	258	1,190	1,540	1,020	1,690	1,790	264	215	1,470	180	1,620	310
12	1,240	1,190	247	1,150	1,660	1,830	1,270	210	252	1,200	1,630	236
13	1,210	1,170	247	1,050	242	252	1,170	210	180	1,450	1,640	1,160
14	1,190	269	1,830	1,170	247	958	1,180	210	1,480	1,450	250	1,310
15	1,200	264	2,170	1,340	1,310	2,030	1,200	210	1,570	1,480	205	1,330
16	1,190	1,130	2,230	1,810	1,300	1,850	1,250	210	1,570	1,250	1,420	1,440
17	252	1,110	2,290	2,770	1,300	1,620	274	1,190	1,620	248	1,110	1,530
18	264	1,120	2,280	2,560	1,640	1,580	280	225	1,610	162	1,080	368
19	1,230	*1,100	290	1,860	1,640	1,730	1,340	220	1,400	1,260	1,320	258
20	1,260	1,220	236	2,020	264	258	1,530	215	185	1,470	1,250	1,290
21	1,230	269	1,540	*5,410	264	258	1,350	1,450	1,420	1,490	238	1,350
22	1,210	269	1,380	7,840	1,440	1,390	1,500	1,520	1,300	731	230	1,510
23	1,010	1,410	1,380	6,500	1,410	1,400	1,510	280	1,210	678	1,310	1,550
24	258	1,250	1,430	3,810	1,450	1,370	284	1,250	1,110	162	1,430	1,560
25	190	1,040	242	2,920	1,580	1,360	190	1,180	1,030	166	1,430	230
26	1,200	842	242	1,770	1,560	1,320	1,200	1,360	144	166	1,470	220
27	1,340	832	242	1,500	269	286	1,030	1,500	144	342	1,350	1,440
28	1,390	247	1,680	1,580	269	269	1,510	1,390	1,070	190	334	1,320
29	1,320	796	1,460	1,650	-	1,920	1,500	284	1,230	166	269	1,310
30	1,320	1,240	1,620	247	-------	1,590	1,520	538	1,220	606	1,320	1,310
31	286	-------	1,810	247	-------	1,860	-------	1,430	-------	166	1,340	---------
Total	29,440	26,735	36,945	60,536	33,233	39,928	37,741	27,368	37,043	24,712	32,854	31,799
Mean	950	891	1,192	1,953	1,187	1,288	1,258	883	1,235	797	1,060	1,060

	Observed			Adjusted†			
Calendar year 1953:	Max 2,830	Min 190	Mean 1,179	Mean 1,129	Cfsm 1.90	In. 25.77	
Water year 1953-54:	Max 7,840	Min 144	Mean 1,146	Mean 1,157	Cfsm 1.94	In. 26.40	

* Discharge measurement made on this day.
† Adjusted for change in contents in Blue Ridge, Ocoee No. 3, and Parksville Lakes.

Hiwassee River above Charleston, Tenn.

Location.--Lat 35°12'33", long 84°39'31", on right bank 0.2 mile downstream from Ocoee River, a third of a mile upstream from Louisville & Nashville Railroad bridge, 2½ miles north of Benton, Polk County, and at mile 34.1.

Drainage area.--2,001 sq mi.

Records available.--October 1953 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 682.86 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Auxiliary water-stage recorder 1.8 miles downstream.

Extremes.--Maximum discharge during year, 25,800 cfs Jan. 22 (gage height, 20.55 ft); minimum, 375 cfs Sept. 27 (gage height, 1.51 ft); minimum daily, 500 cfs Oct. 18.

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow regulated by seven reservoirs (see p. 245).

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

1.7	470	7.0	5,840
2.0	620	10.0	9,950
3.0	1,230	15.0	17,400
4.0	2,070	18.8	23,200

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,500	620	3,980	2,990	5,480	5,870	7,540	*2,000	4,530	3,590	2,480	2,730
2	2,700	1,740	4,080	2,360	5,260	5,140	5,200	1,900	6,360	3,540	2,740	2,740
3	1,800	2,140	3,930	2,650	4,940	5,240	5,020	3,170	*5,940	2,240	2,470	2,580
4	1,300	2,060	3,490	3,720	4,940	5,060	3,980	4,630	5,750	1,400	3,020	1,530
5	2,000	2,120	2,820	4,500	4,810	4,480	4,340	4,460	3,920	2,240	3,510	1,390
6	2,300	2,210	1,210	4,270	3,630	3,420	4,120	4,510	1,860	3,060	4,050	1,480
7	2,500	1,760	3,370	4,550	3,450	3,070	*3,740	4,250	2,800	3,590	2,180	3,140
8	2,500	1,290	4,450	4,270	4,680	3,800	3,540	3,170	4,630	*3,810	1,810	3,600
9	2,500	2,040	4,590	2,840	4,760	4,440	3,620	2,810	4,630	3,130	4,750	*4,100
10	1,200	2,230	*4,760	4,490	4,680	4,150	1,430	3,470	4,630	1,630	4,800	3,920
11	1,500	2,520	*4,120	4,590	4,660	*4,100	1,400	2,930	4,640	1,580	*3,920	2,900
12	2,000	2,520	2,180	4,140	4,440	4,320	3,660	2,780	3,660	2,950	3,240	1,280
13	2,500	2,560	2,030	4,200	3,450	2,550	3,670	2,830	2,710	3,970	2,950	2,190
14	2,500	1,910	3,930	3,750	3,040	3,120	4,020	3,000	3,840	3,970	2,310	3,790
15	2,500	1,430	4,940	6,450	4,360	4,980	*3,960	2,690	4,420	3,930	1,540	3,550
16	2,400	*2,230	4,850	14,500	4,160	4,810	4,270	1,960	4,460	3,470	2,690	3,680
17	1,000	2,340	5,310	10,100	4,580	4,110	4,060	2,980	4,790	2,320	3,330	4,020
18	500	2,340	5,290	6,440	4,830	4,100	2,490	2,700	5,020	2,010	3,010	3,240
19	1,000	2,210	2,750	*5,610	4,550	4,240	2,160	2,960	4,930	2,990	3,500	1,640
20	1,500	2,100	3,130	4,790	2,290	3,060	2,510	3,080	2,670	3,900	3,340	1,960
21	2,000	1,310	4,350	*19,000	2,070	2,760	1,710	4,080	3,680	3,980	2,450	3,230
22	2,500	832	4,530	23,200	3,240	3,840	2,000	4,270	4,320	3,890	2,010	3,380
23	2,400	2,710	4,370	22,000	4,640	4,180	2,010	3,060	4,380	3,330	2,750	2,790
24	1,500	3,740	4,410	13,900	4,760	5,520	*1,090	4,010	4,290	1,840	3,320	2,370
25	1,200	3,660	1,680	10,700	4,850	6,200	888	3,920	4,160	1,310	2,960	1,440
26	2,000	3,380	748	12,900	3,480	7,700	1,480	4,150	3,070	1,880	3,140	885
27	2,500	2,730	1,600	12,000	2,860	4,490	1,530	4,320	3,190	2,190	2,880	2,170
28	2,500	3,060	3,770	7,530	2,990	3,200	1,910	4,220	3,640	2,060	3,020	3,100
29	2,500	3,270	4,620	6,630	-	4,190	1,940	3,140	4,180	2,680	1,880	3,380
30	2,240	3,990	4,600	4,600	-------	4,600	*1,970	2,890	3,600	3,020	3,250	3,110
31	1,340	-------	4,270	4,250	-------	5,230	-------	3,890	-------	2,020	3,010	-------
Total	61,380	69,052	114,158	237,920	115,880	135,970	91,258	104,230	124,700	87,520	92,310	81,315
Mean	1,980	2,302	3,683	7,675	4,139	4,386	3,042	3,362	4,157	2,823	2,978	2,710

	Observed			Adjusted†		
Calendar year 1953 :	Max -	Min -	Mean -	Mean -	Cfsm -	In. -
Water year 1953-54 :	Max 23,200	Min 500	Mean 3,605	Mean 3,738	Cfsm 1.87	In. 25.36

* Discharge measurement made on this day.
† Adjusted for change in contents in 7 reservoirs above station.
Note.--No gage-height record Oct. 1-29; discharge estimated on basis of weather records and records for station near McFarland and Ocoee River at Parksville.

South Chickamauga Creek below Georgia-Tennessee State line

Location.--Lat 34°59'52", long 85°10'36", on right bank 1,200 ft downstream from Mackey Branch, 1.0 mile downstream from Georgia-Tennessee State line, and 16.3 miles upstream from mouth.

Drainage area.--249 sq mi.

Records available.--July 1952 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 659.11 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge during year, 10,700 cfs Jan. 17 (gage height, 18.78 ft), from rating curve extended above 7,600 cfs on basis of velocity-area study; minimum, 47 cfs Sept. 3 (gage height, 1.46 ft).
1952-54: Maximum discharge, that of Jan. 17, 1954; minimum, that of Sept. 3, 1954.

Remarks.--Records good. Some diurnal fluctuations caused by small mills above station.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 14		Dec. 15 to Sept. 30			
1.6	51	1.5	49	12.0	3,310
2.5	184	2.5	185	14.0	4,560
4.2	475	3.5	364	16.0	6,500
		6.0	980	16.9	7,700
		9.0	2,020		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	68	60	63	144	293	1,380	*1,820	136	121	69	59	*55
2	68	60	*63	131	*274	734	946	130	148	*69	59	53
3	67	*60	63	126	259	624	617	172	248	71	58	49
4	66	60	70	124	239	*514	490	238	456	70	*57	54
5	66	59	80	114	222	408	399	*161	212	71	57	54
6	*66	59	78	*111	206	358	346	137	154	66	57	55
7	66	59	72	107	193	317	315	130	131	65	58	54
8	64	60	68	101	180	292	336	130	*119	64	60	54
9	64	60	143	100	176	266	578	128	111	75	887	54
10	64	60	332	112	172	250	401	118	107	101	263	54
11	64	60	144	239	173	234	301	112	104	79	90	54
12	64	60	308	212	190	219	275	108	100	71	70	54
13	60	60	356	161	166	482	243	126	96	66	68	54
14	62	60	457	144	154	2,200	229	350	93	65	66	56
15	62	60	317	756	149	971	215	254	93	63	68	56
16	63	60	180	5,360	365	530	214	176	91	60	64	*56
17	62	60	142	7,170	626	404	427	148	167	59	*62	55
18	61	60	119	1,610	292	348	275	140	332	60	62	55
19	60	60	107	727	231	354	227	166	130	62	128	53
20	60	60	101	598	222	475	203	170	100	62	100	52
21	60	62	108	5,240	234	334	187	148	93	60	73	54
22	60	67	148	*7,630	207	279	176	128	89	60	70	57
23	59	81	158	6,360	187	265	167	117	86	76	63	55
24	59	80	130	2,080	388	574	162	112	87	184	59	54
25	59	70	114	1,010	379	564	162	108	84	132	62	54
26	59	72	107	737	288	1,570	152	104	79	84	68	53
27	61	68	101	631	250	790	148	103	76	75	64	52
28	63	64	114	533	1,040	662	143	103	74	69	59	52
29	66	63	232	422	-	535	156	257	73	66	60	51
30	62	62	217	368	-------	449	149	279	70	64	65	54
31	61	-------	173	326	-------	684	-------	137	-------	60	58	----- --
Total	1,946	1,866	4,865	43,484	7,755	18,066	10,459	4,826	3,924	2,298	3,094	1,617
Mean	62.8	62.9	157	1,403	277	583	349	156	131	74.1	99.8	53.9
Cfsm	0.252	0.253	0.631	5.63	1.11	2.34	1.40	0.627	0.526	0.298	0.401	0.216
In.	0.29	0.28	0.73	6.49	1.16	2.70	1.56	0.72	0.59	0.34	0.46	0.24

Calendar year 1953: Max 6,190 Min 59 Mean 339 Cfsm 1.36 In. 18.48
Water year 1953-54: Max 7,630 Min 49 Mean 286 Cfsm 1.15 In. 15.56

Peak discharge (base, 4,000 cfs).--Jan. 17 (4 a.m.) 10,700 cfs (18.78 ft); Jan. 23 (1 a.m.) 8,720 cfs (17.61 ft).
* Discharge measurement made on this day.

South Chickamauga Creek near Chicamauga, Tenn.

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.

Records available.--October 1928 to September 1954. Prior to October 1937, published as Chickamauga Creek near Chickamauga.

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.--26 years, 700 cfs.

Extremes.--Maximum discharge during year, 14,900 cfs Jan. 17 (gage height, 16.24 ft); minimum, 65 cfs Sept. 4 (gage height, 0.47 ft).
1928-54: Maximum discharge, 27,600 cfs Mar. 30, 1951 (gage height, 20.73 ft); minimum, 61 cfs Oct. 8, 1941; minimum gage height, that of Sept. 4, 1954.

Remarks.--Records good. Some diurnal fluctuation at low flow caused by small mills above station.

Revisions (water years).--WSP 823: Drainage area. WSP 853: 1937.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 20 to Dec. 9)

Oct. 1 to Jan. 17

0.6	86	10.0	3,970
1.0	157	11.5	5,130
2.0	460	13.0	7,520
4.0	1,260	14.0	9,520
6.2	2,180	15.6	13,200
8.0	2,990		

Jan. 18 to Sept. 30

0.4	52	3.0	860
.8	134	6.2	2,180
1.5	317		

Note.--Same as preceding table above 6.2 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	118	108	99	297	536	2,740	*2,900	317	213	125	107	*94
2	114	108	*99	261	*500	1,480	2,130	285	237	125	98	84
3	113	*111	102	244	473	1,070	1,140	323	371	151	103	70
4	111	103	120	232	443	*896	876	440	856	125	*94	66
5	110	102	118	215	411	724	720	*353	405	122	86	72
6	*114	100	121	*203	383	636	628	291	288	116	92	72
7	110	99	116	189	359	566	570	266	247	122	88	76
8	108	100	110	176	338	514	551	252	*226	118	94	86
9	105	100	192	174	326	476	820	247	216	120	973	76
10	108	103	583	203	329	447	676	229	203	178	389	82
11	108	103	336	364	311	421	514	216	196	144	156	70
12	108	97	488	417	347	399	473	211	190	120	118	70
13	110	99	863	315	308	577	427	231	180	118	113	68
14	108	99	863	273	282	3,140	402	680	176	118	111	86
15	108	100	799	1,200	280	2,310	383	612	180	113	111	84
16	111	97	393	6,840	448	984	371	383	173	111	111	*78
17	113	100	294	13,100	1,000	728	566	311	263	105	116	82
18	113	99	244	6,140	483	620	440	288	443	105	122	84
19	111	94	209	2,170	392	608	374	308	216	105	204	76
20	114	96	192	1,160	380	796	347	317	178	111	196	74
21	102	100	195	7,370	418	608	317	285	168	111	132	96
22	105	105	232	*11,800	396	504	300	250	160	116	125	96
23	103	120	261	12,900	350	473	288	231	148	139	111	94
24	106	127	238	6,800	581	880	282	218	151	308	111	96
25	105	118	203	2,980	700	862	274	208	148	218	98	82
26	105	111	189	1,400	532	2,400	266	198	144	166	109	80
27	116	108	176	1,120	450	1,470	452	188	129	146	105	72
28	116	103	195	952	1,560	1,120	506	186	129	129	100	105
29	116	94	460	772	-	936	353	320	134	118	96	86
30	108	95	501	680	-------	796	386	380	*125	111	98	125
31	108	-------	364	600	-------	1,020	-------	234	-------	96	100	-------
Total	3,405	3,099	9,355	81,547	13,316	31,201	18,732	9,258	6,893	4,106	4,667	2,482
Mean	110	103	302	2,631	476	1,006	624	299	230	132	151	82.7
Cfsm	0.257	0.241	0.706	6.15	1.11	2.35	1.46	0.699	0.537	0.308	0.353	0.193
In.	0.30	0.27	0.81	7.09	1.16	2.71	1.63	0.80	0.60	0.36	0.41	0.22

Calendar year 1953: Max 9,440 Min 94 Mean 602 Cfsm 1.41 In. 19.08
Water year 1953-54: Max 13,100 Min 66 Mean 515 Cfsm 1.20 In. 16.36

Peak discharge (base, 5,500 cfs).--Jan. 17 (11 a.m.) 14,900 cfs (16.24 ft); Jan. 23 (6:30 a.m.) 13,900 cfs (15.87 ft).
* Discharge measurement made on this day.

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.

Records available.--April 1874 to October 1913, March 1915 to June 1930 and January 1936 to September 1954 in reports of Geological Survey. April 1874 to September 1924 in Tennessee Division of Geology Bulletin 34. July 1930 to September 1954 at site 38 miles downstream, published as Tennessee River at Hales Bar, near Chattanooga. Gage-height records collected in this vicinity since 1874 are contained in reports of U. S. Weather Bureau.

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 site 2¼ miles downstream from base gage.

Average discharge.--80 years (1874-1954), using records at Hales Bar July 1930 to December 1935, 37,200 cfs.

Extremes.--Maximum discharge during year, 185,000 cfs Jan. 22; maximum gage height, 31.70 ft Jan. 22; minimum daily discharge, 1,200 cfs Nov. 1; minimum gage height, 10.64 ft Oct. 8.

1874-1954: Maximum discharge observed, 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, that of Nov. 1, 1953; 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 Mar. 11, 1867, present datum, at Walnut Street (discharge, about 459,000 cfs).

Remarks.--Records excellent. Since 1936, flow regulated by increasing numbers of reservoirs above station (see p. 245).

Revisions (water years).--WSP 353: 1874-1912. WSP 783: 1917. WSP 823: 1875(M) WSP 973: 1942.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15,400	e1,200	*22,700	20,900	42,100	40,600	42,800	13,300	24,500	33,400	11,900	23,000
2	14,500	18,200	25,600	26,200	41,000	43,700	38,600	17,600	24,800	28,100	26,000	19,600
3	15,000	20,200	24,200	11,600	35,800	45,600	21,200	26,300	29,200	27,100	25,000	22,800
4	16,500	22,600	24,400	23,700	35,800	44,800	12,200	30,900	26,400	14,700	27,300	19,700
5	15,000	21,600	23,100	21,700	38,800	42,200	22,600	32,500	21,700	15,200	28,900	12,700
6	20,500	28,500	13,100	28,000	35,800	41,500	22,800	33,700	13,500	26,300	29,300	15,400
7	22,700	21,200	16,200	35,100	24,900	41,300	24,700	30,100	*26,100	24,900	24,600	22,500
8	24,400	7,900	20,700	26,000	31,800	38,100	28,400	22,500	30,700	26,100	8,420	24,100
9	19,400	25,500	20,200	26,600	34,400	31,100	25,900	18,800	28,900	22,700	29,200	23,200
10	20,800	20,600	24,300	11,900	31,600	30,500	20,800	22,700	23,800	20,700	29,000	22,100
11	11,800	21,100	35,700	35,900	35,300	32,600	9,690	24,100	20,400	21,500	29,700	20,400
12	19,500	21,200	26,600	29,500	34,300	30,100	24,300	25,900	25,700	28,500	31,100	11,600
13	23,000	24,600	16,400	32,900	33,600	29,100	24,000	25,200	23,000	33,000	25,800	24,000
14	21,500	22,400	22,400	27,400	31,200	29,800	22,900	27,000	25,000	30,600	20,500	22,400
15	22,300	e2,400	28,200	22,800	24,600	35,700	25,000	17,200	23,300	31,500	10,200	22,000
16	21,500	23,600	24,800	77,400	33,600	31,100	25,200	9,450	25,900	26,600	20,600	25,000
17	19,000	21,800	26,100	133,000	33,800	29,400	8,220	21,200	26,300	27,300	26,800	26,100
18	9,700	23,200	30,000	106,000	28,800	28,800	6,680	23,300	28,300	18,400	27,300	22,000
19	19,300	17,500	29,500	58,500	29,300	27,200	8,820	25,500	27,900	25,700	*26,000	13,000
20	22,500	18,100	23,500	43,100	30,100	26,300	17,900	26,300	20,800	28,300	22,000	22,200
21	22,000	16,900	27,000	131,000	19,400	22,000	18,000	26,000	25,100	30,800	20,100	22,500
22	19,600	15,100	26,800	178,000	15,000	25,700	14,100	26,200	30,000	26,400	20,700	25,500
23	15,000	22,700	29,000	*180,000	25,600	29,400	19,900	26,100	31,900	27,500	24,800	25,900
24	17,400	23,700	28,600	167,000	28,800	36,200	23,600	22,400	29,800	33,800	25,000	27,100
25	12,000	25,500	24,700	129,000	*34,900	43,200	21,600	24,200	29,200	20,100	26,000	20,200
26	19,300	13,100	20,100	104,000	32,100	44,700	20,700	23,600	29,400	22,300	27,000	10,600
27	18,800	25,400	11,400	91,800	21,900	43,400	22,600	22,200	24,100	24,000	25,100	18,900
28	22,900	24,500	24,500	75,600	20,000	42,400	*20,700	26,800	27,600	23,100	20,200	21,700
29	19,400	22,400	29,500	72,100	-	41,200	21,300	25,000	32,500	22,600	17,500	24,000
30	29,800	26,300	37,000	56,100	-------	30,700	12,200	17,000	30,200	25,500	25,600	18,300
31	18,200	-------	27,500	42,500	-------	41,200	-------	17,800	-------	26,000	25,200	-------
Total	588,700	599,000	763,800	2,025,300	864,300	1,099,600	627,410	730,850	786,000	792,700	736,820	628,500
Mean	18,990	19,970	24,640	65,330	30,870	35,470	20,910	23,580	26,200	25,570	23,770	20,950
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 105,000 Min 1,200 Mean 29,700 Cfsm 1.39 In. 18.84
Water year 1953-54: Max 180,000 Min 1,200 Mean 28,060 Cfsm 1.31 In. 17.80

* Discharge measurement made on this day.
e Extremely low fall; discharge estimated on basis of records for Chickamauga Dam, adjusted for storage and inflow.

Chattanooga Creek near Flintstone, Ga.

Location.--Lat 34°58'20", long 85°19'40", on right bank 0.8 mile south of Georgia-Tennessee State line and 2.3 miles northeast of Flintstone, Walker County.

Drainage area.--50.6 sq mi.

Records available.--December 1950 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 649.18 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge during year, 2,820 cfs Jan. 16 (gage height, 9.90 ft); minimum, 1.0 cfs Sept. 8, 9 (gage height, 0.17 ft).
1950-54: Maximum discharge, 6,140 cfs Mar. 29, 1951 (gage height, 12.90 ft, from high-water mark in gage well); minimum, that of Sept. 8, 9, 1954.

Remarks.--Records good.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Dec. 9, Dec. 11, 12, 17-28, Jan. 2-14)

Oct. 1 to Jan. 16				Jan. 17 to Sept. 30			
0.1	2.5	6.0	374	0.1	1.1	5.5	287
.3	6.5	6.8	485	.2	2.7	6.0	345
.5	12	7.2	645	.4	7.2	6.8	490
1.5	47	8.9	1,970	.8	19	7.2	640
4.0	199			1.2	34	9.0	2,060
				3.4	142		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.3	3.9	5.1	34	70	314	*256	64	22	6.0	3.5	*1.7
2	5.1	4.1	*5.1	29	*66	195	195	55	28	*6.0	3.3	1.6
3	5.1	*3.9	6.3	27	60	173	149	64	45	16	3.1	1.4
4	4.9	4.3	14	26	55	140	116	82	52	7.5	*2.9	1.4
5	4.9	4.5	14	23	52	119	97	*72	36	6.2	2.9	1.4
6	*4.5	4.7	11	*21	47	104	86	60	32	5.8	3.1	1.4
7	4.3	4.5	9.6	18	44	91	76	53	26	5.0	3.8	1.3
8	4.1	4.3	8.5	16	41	82	71	50	*22	4.8	3.5	1.4
9	3.9	4.3	44	14	40	74	68	43	20	5.3	5.3	1.7
10	3.9	4.1	65	16	38	68	58	38	21	5.5	4.0	2.4
11	3.9	4.3	23	29	42	62	56	34	22	6.2	3.1	2.2
12	3.7	4.1	89	32	40	57	53	31	19	4.8	3.1	1.6
13	3.5	4.1	64	28	35	76	49	43	17	4.6	2.9	1.4
14	3.3	4.1	135	28	34	90	48	156	18	4.2	2.9	2.2
15	3.3	4.3	78	215	33	66	46	137	22	3.8	2.9	1.7
16	3.3	4.3	45	1,910	46	60	51	99	20	3.5	2.9	*1.9
17	3.1	4.5	32	615	97	56	56	76	14	3.5	2.5	2.1
18	3.1	4.3	23	236	*72	56	50	64	14	3.5	2.7	2.4
19	2.9	4.5	18	152	64	65	47	60	13	4.8	4.6	2.2
20	2.9	5.3	16	127	70	76	44	61	12	4.0	4.0	1.6
21	2.9	5.3	18	*1,320	76	66	42	54	11	3.8	3.1	3.5
22	2.9	6.8	21	*2,040	68	60	40	48	10	4.2	2.5	4.4
23	3.1	7.5	19	932	63	61	40	43	10	26	2.5	4.0
24	3.1	6.5	17	387	95	79	54	38	9.5	17	2.5	3.5
25	3.3	6.5	15	236	109	92	49	35	8.8	10	2.1	3.5
26	3.5	6.5	13	174	98	265	47	32	8.0	7.7	2.2	2.9
27	4.3	6.5	11	146	86	205	53	31	7.5	6.5	2.1	2.9
28	4.7	5.7	15	118	277	157	51	30	7.2	5.3	1.9	4.0
29	4.7	5.5	58	102	-	124	74	37	6.5	4.8	2.2	4.0
30	4.5	5.3	51	90	-------	107	74	30	6.2	4.0	2.1	4.0
31	4.3	-------	41	79	-------	129	-------	25	-------	3.5	2.1	------
Total	120.3	148.5	984.6	9,220	1,918	3,369	2,196	1,745	559.7	203.8	92.3	71.7
Mean	3.88	4.95	31.8	297	68.5	109	73.2	56.3	18.7	6.57	2.98	2.39
Cfsm	0.077	0.098	0.628	5.87	1.35	2.15	1.45	1.11	0.370	0.130	0.059	0.047
In.	0.09	0.11	0.72	6.78	1.41	2.48	1.61	1.28	0.41	0.15	0.07	0.05

Calendar year 1953 : Max 1,650 Min 2.9 Mean 69.5 Cfsm 1.37 In. 18.65
Water year 1953-54 : Max 2,040 Min 1.3 Mean 56.5 Cfsm 1.12 In. 15.16

Peak discharge (base, 800 cfs).--Jan. 16 (11:30 a.m.) 2,820 cfs (9.90 ft); Jan. 22 (12 m.) 2,720 cfs (9.78 ft).
* Discharge measurement made on this day.

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.

Records available.--July 1930 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 588.51 ft 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.--24 years, 34,110 cfs.

Extremes.--Maximum discharge during year, 199,000 cfs Jan. 23; maximum gage height, 27.53 ft Jan. 23; minimum daily discharge, 2,900 cfs Nov. 1, 15; minimum gage height, 3.26 ft Nov. 5.

1930-54: Maximum discharge, 264,000 cfs Dec. 31, 1932, Jan. 1, 1933; maximum gage height, 31.2 ft Dec. 31, 1932, Jan. 1, 1933, Mar. 30, 1936; minimum daily discharge, that of Nov. 1, 15, 1953; minimum gage height, 1.21 ft Oct. 27, 1931, site and datum then in use.

Maximum stage known, 44.6 ft in March 1867, present site and datum. A stage of 37.4 ft occurred Mar. 8, 1917, present site and datum (discharge, 345,000 cfs, from rating curve extended above 261,000 cfs).

Remarks.--Records good except those below 10,000 cfs, which are fair. Flow regulated by many reservoirs above station (see p. 245).

Revisions (water years).--WSP 973: 1942.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16,400	e2,900	25,000	20,800	42,700	41,600	45,400	15,200	25,800	32,100	15,600	20,900
2	16,800	17,100	24,800	27,100	41,000	49,700	44,900	18,800	24,700	27,900	23,700	20,200
3	16,800	20,100	27,400	10,100	40,600	49,300	28,000	27,000	29,200	27,500	25,400	21,400
4	16,600	20,500	25,100	28,500	38,300	46,400	17,900	32,000	27,800	14,500	24,600	19,700
5	16,700	21,300	23,500	23,200	40,000	44,800	25,300	33,800	22,800	14,900	27,900	15,600
6	21,600	28,900	13,400	27,600	39,000	44,800	24,300	33,200	e12,000	24,000	29,200	17,000
7	26,600	23,800	17,000	37,100	27,900	40,700	26,500	30,900	25,600	25,400	28,900	21,300
8	24,900	e9,600	22,800	29,900	32,800	40,900	31,500	23,300	30,600	26,800	12,300	23,500
9	20,800	27,600	21,900	24,400	33,900	35,300	27,300	20,600	29,000	22,600	28,700	23,300
10	18,000	21,200	31,000	17,200	34,200	31,700	24,200	24,700	26,000	20,500	31,300	24,100
11	16,800	21,700	42,600	32,500	37,600	33,000	e10,500	23,600	20,400	26,200	30,300	22,800
12	23,900	23,200	28,500	32,700	36,000	30,600	26,500	27,600	25,300	29,600	31,000	14,400
13	23,800	30,000	18,100	31,200	36,000	30,600	26,500	26,900	21,700	29,300	23,700	24,800
14	25,100	23,800	19,400	29,300	33,500	32,600	23,900	28,500	25,400	31,600	24,800	22,900
15	24,400	e2,900	34,400	33,700	26,800	36,700	25,800	19,900	23,200	32,000	15,700	21,500
16	21,800	22,100	26,400	74,700	35,300	34,700	25,000	11,200	25,700	25,900	21,200	23,800
17	22,600	23,300	23,700	133,000	37,600	32,900	e*9,200	22,900	26,800	26,600	27,400	25,900
18	14,800	24,900	32,600	119,000	33,700	30,300	e7,400	26,400	29,100	23,000	26,800	22,300
19	18,100	21,000	30,600	71,000	31,400	31,100	e11,000	26,800	27,200	25,000	24,400	17,400
20	23,800	19,100	21,400	45,600	32,800	29,300	18,700	29,000	20,200	*28,500	23,600	21,500
21	22,300	18,100	29,800	123,000	21,700	25,300	19,300	27,500	25,700	28,800	21,600	23,900
22	21,300	16,700	27,100	189,000	18,300	29,300	13,700	28,000	29,300	26,200	24,000	24,200
23	19,000	22,600	*32,900	*192,000	30,500	32,300	18,500	27,500	32,500	23,000	24,200	26,800
24	18,400	25,300	32,800	175,000	31,400	36,800	21,500	23,200	30,200	34,100	26,200	27,300
25	e11,000	26,700	24,400	131,000	37,000	45,400	23,700	25,500	28,900	25,100	25,600	21,500
26	19,600	e12,800	20,200	104,000	37,700	51,300	21,100	25,500	28,300	22,600	26,400	e10,900
27	23,300	26,600	12,000	91,000	26,100	49,600	22,100	23,000	24,600	21,900	27,300	18,200
28	23,300	25,300	26,000	76,200	25,500	45,700	21,200	29,200	28,100	22,900	25,100	*21,500
29	24,400	24,200	31,500	71,200	-	44,700	22,700	26,100	31,500	22,200	20,600	21,600
30	*28,800	28,000	40,000	59,900	-------	*33,200	e8,900	17,400	30,100	24,200	25,900	19,300
31	19,600	-------	33,300	45,700	-------	44,200	-------	18,600	-------	27,600	25,600	-------
Total	641,300	631,300	819,600	‡2,106.6	939,000	‡1,184.8	672,500	773,800	787,700	792,500	769,000	639,500
Mean	20,690	21,040	26,440	67,950	33,550	38,220	22,420	24,960	26,260	25,560	24,810	21,320
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 115,000 Min 2,900 Mean 31,540 Cfsm 1.45 In. 19.64
Water year 1953-54: Max 192,000 Min 2,900 Mean 29,470 Cfsm 1.35 In. 18.35

* Discharge measurement made on this day.
‡ Expressed in thousands.
e Discharge estimated on basis of records at Hales Bar Dam.
Note.--No gage-height record at base or auxiliary gage Oct. 1, Dec. 4 to Jan. 3, and May 14 to June 1; discharge estimated on basis of records at Hales Bar Dam.

Sequatchie River near Whitwell, Tenn.

Location.--Lat 35°12'22", long 85°29'48", on right bank 15 ft downstream from highway bridge, 1½ miles east of Whitwell, Marion County, 3 miles upstream from bridge on State Highway 27, and 4½ miles downstream from Griffith Creek.

Drainage area.--384 sq mi.

Records available.--December 1920 to September 1954.

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. 16, 1927, staff gage at bridge 15 ft upstream at datum 0.03 ft higher. Sept. 16, 1927, to Oct. 31, 1929, staff gage and Nov. 1, 1929, to Sept. 30, 1930, wire-weight gage, at bridge 15 ft upstream at present datum.

Average discharge.--33 years (1921-54), 720 cfs.

Extremes.--Maximum discharge during year, 14,600 cfs Jan. 21 (gage height, 15.53 ft); minimum daily, 34 cfs Oct. 23-26.
1920-54: Maximum discharge, 21,400 cfs Jan. 5, 1949 (gage height, 16.55 ft); minimum, 19 cfs Sept. 6-21, 27, 28, 1925.

Remarks.--Records excellent except those for periods of no gage-height record, which are fair. Some diurnal fluctuation caused by two small mills above station.

Revisions (water years).--WSP 603: 1922(M). WSP 758: 1929(M). WSP 823: Drainage area. WSP 1033: 1943(M).

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 13-17)

Oct. 1 to July 25

0.5	33	6.0	1,510
.70	46	10.0	3,000
1.0	69	12.0	4,120
1.5	125	13.0	5,200
2.0	209	14.0	7,220
3.0	482	15.3	13,200

July 26 to Sept. 30

0.6	36	1.0	65
.80	48	1.5	125

Note.--Same as preceding table above 1.5 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	40	40	137	853	2,430	1,970	595	213	*82	48	58
2	*45	39	*39	136	768	*2,170	1,760	514	*205	82	*47	*55
3	42	*38	40	131	707	1,880	1,390	504	225	96	46	54
4	42	39	42	*126	649	1,650	1,110	639	243	148	44	53
5	41	38	41	125	598	1,420	932	690	219	104	43	51
6	40	38	45	124	536	1,190	806	612	199	89	45	50
7	39	38	46	119	488	966	724	*527	184	80	49	49
8	38	39	44	113	447	823	660	549	173	74	46	48
9	38	38	148	108	415	724	592	514	165	72	*3,230	47
10	39	38	205	108	395	653	533	460	161	67	1,020	47
11	38	37	193	116	374	592	501	406	157	67	326	45
12	38	37	380	126	346	536	482	366	154	66	213	44
13	37	36	343	132	318	495	456	348	143	64	173	44
14	36	35	409	143	299	463	*431	1,140	143	63	149	44
15	35	35	511	948	*288	434	508	1,960	138	59	132	*44
16	35	35	450	5,130	301	404	549	1,640	149	57	121	43
17	35	35	348	5,950	421	366	949	1,150	158	58	110	42
18	35	35	264	4,580	543	346	1,310	857	152	86	102	42
19	35	35	213	2,500	546	343	1,140	734	157	63	97	40
20	35	35	182	1,560	562	354	891	656	166	61	96	40
21	35	36	166	9,520	867	354	731	598	148	60	87	42
22	35	37	155	*12,800	830	337	632	530	131	70	86	40
23	34	41	148	9,940	734	323	559	466	120	75	84	39
24	34	40	140	6,460	874	886	704	404	110	78	83	38
25	34	42	136	3,920	1,180	2,800	670	360	106	121	74	38
26	34	40	128	2,400	1,140	3,170	731	323	102	137	85	36
27	38	41	118	1,950	918	2,980	1,120	293	97	73	74	36
28	38	41	118	1,670	1,570	2,180	758	267	94	63	69	36
29	38	40	120	1,390	-	1,500	687	250	88	57	74	36
30	38	40	132	1,170	-------	1,160	670	245	84	54	70	36
31	38	-------	137	983	-------	1,130	-------	225	-------	50	60	-------
Total	1,165	1,138	5,481	74,615	17,967	35,059	24,956	18,822	4,584	2,376	6,983	1,317
Mean	37.6	37.9	177	2,407	642	1,131	832	607	153	76.6	225	43.9
Cfsm	0.098	0.099	0.461	6.27	1.67	2.95	2.17	1.58	0.398	0.199	0.586	0.114
In.	0.11	0.11	0.53	7.23	1.74	3.40	2.42	1.82	0.44	0.23	0.68	0.13

Calendar year 1953: Max 7,710 Min 34 Mean 552 Cfsm 1.44 In. 19.50
Water year 1953-54: Max 12,800 Min 34 Mean 533 Cfsm 1.39 In. 18.84

Peak discharge (base, 5,500 cfs).--Jan. 17 (1 to 2 a.m.) 6,860 cfs (13.87 ft); Jan. 21 (6 p.m.) 14,600 cfs (15.53 ft).
e Discharge measurement made on this day.
Note.--No gage-height record Oct. 13-26, Nov. 11-21; discharge estimated on basis of weather records and records for stations on nearby streams.

Paint Rock River near Woodville, Ala.

Location.--Lat 34°37'27", long 86°18'23", in NW¼ sec. 10, T. 5 S., R. 3 E., on left bank 20 ft downstream from bridge on U. S. Highway 72, 1,000 ft downstream from Southern Railway bridge, 2 miles west of Woodville, and 4 miles upstream from Little Paint Creek.

Drainage area.--320 sq mi.

Records available.--December 1935 to September 1954.

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 at same datum.

Average discharge.--18 years (1936-54), 628 cfs.

Extremes.--Maximum discharge during year, 22,800 cfs Jan. 16 (gage height, 19.81 ft); minimum, 1.5 cfs Sept. 30 (gage height, 0.39 ft).
1935-54: Maximum discharge, 31,300 cfs Dec. 28, 1942; maximum gage height, 20.84 ft Jan. 5, 1949; minimum discharge, that of Sept. 30, 1954.

Remarks.--Records good.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 7-20, Nov. 24 to Dec. 4; rate of change in stage used as a factor Dec. 9-16, Jan. 15-26, Mar. 1-2, Apr. 17-18).

Oct. 1 to Jan. 16

0.5	15	2.0	112
.8	28	4.0	397
1.5	70	5.9	790

Note:--Same as following table above 5.9 ft.

Jan. 17 to Sept. 30

0.3	1.5	10.0	1,910
.5	6.2	14.0	3,820
.7	13	16.0	5,050
1.2	40	17.0	6,650
2.0	108	18.0	10,000
3.0	234	19.6	21,000
5.9	790		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	119	23	28	379	450	2,510	1,880	520	184	*34	27	7.2
2	*96	23	*25	332	*405	*1,760	*1,460	414	*154	32	*23	*6.8
3	81	*22	27	300	376	1,120	910	*506	307	32	19	6.5
4	71	22	60	*272	345	1,000	714	1,000	1,180	33	17	6.2
5	65	22	124	252	311	812	592	810	576	35	14	5.2
6	60	21	198	238	277	686	506	514	342	37	12	4.6
7	54	20	397	216	248	526	444	460	253	36	12	4.4
8	50	19	384	196	224	506	403	405	203	32	11	3.6
9	45	18	1,060	181	214	442	446	351	168	34	11	4.4
10	42	18	3,320	188	206	399	436	297	145	36	10	4.9
11	39	19	4,410	282	198	365	376	253	306	28	8.8	3.9
12	36	19	3,130	400	185	331	369	226	476	25	7.8	3.4
13	33	21	3,030	354	167	302	361	213	227	22	7.2	3.4
14	31	21	2,670	338	154	273	333	334	162	19	6.8	4.4
15	29	20	2,720	2,520	150	242	315	1,060	138	18	6.8	4.6
16	28	20	1,600	12,500	147	214	370	718	355	16	8.8	4.9
17	26	20	848	*13,100	670	196	1,720	502	420	14	8.8	4.9
18	25	20	584	5,280	860	186	1,920	405	416	13	8.8	4.9
19	24	20	451	3,180	456	202	1,080	482	193	19	7.5	4.6
20	24	20	381	1,610	414	324	742	434	141	15	9.8	4.4
21	23	21	446	7,100	1,020	334	588	504	115	12	13	4.9
22	23	22	335	20,300	792	264	488	392	99	18	14	5.4
23	22	23	328	12,100	578	236	414	313	85	60	15	4.6
24	22	26	299	5,390	612	231	638	261	74	263	*13	3.9
25	22	35	272	3,660	1,060	316	782	223	65	156	11	2.8
26	21	36	250	2,160	760	726	1,090	198	58	109	8.8	3.2
27	22	38	229	1,190	604	950	815	174	52	182	9.1	3.4
28	23	34	263	835	1,230	672	652	174	47	98	9.1	2.6
29	23	30	458	700	-	544	850	234	41	59	9.1	2.1
30	23	29	590	604	-------	476	674	277	38	41	8.8	*1.9
31	23	-------	474	518	-------	715	-------	244	-------	33	7.8	-------
Total	1,225	702	29,391	96,675	13,113	17,860	22,368	12,898	7,020	1,561	355.8	132.0
Mean	39.5	23.4	948	3,119	468	576	746	416	234	50.4	11.5	4.40
Cfsm	0.123	0.073	2.96	9.75	1.46	1.80	2.33	1.30	0.731	0.158	0.036	0.014
In.	0.14	0.08	3.42	11.24	1.52	2.08	2.60	1.50	0.82	0.18	0.04	0.02

Calendar year 1953: Max 7,090 Min 14 Mean 634 Cfsm 1.98 In. 26.91
Water year 1953-54: Max 20,300 Min 1.9 Mean 557 Cfsm 1.74 In. 23.64

Peak discharge (base, 6,000 cfs).--Jan. 16 (10 p.m.) 22,800 cfs (19.81 ft); Jan. 22 (3 a.m.) 22,500 cfs (19.78 ft).
* Discharge measurement made on this day.

Flint River near Chase, Ala.

Location.--Lat 34°49'08", long 86°28'52", in SW¼ sec. 36, T. 2 S., R. 1 E., on left bank 250 ft downstream from Nashville, Chattanooga & St. Louis Railway bridge, a quarter of a mile downstream from highway bridge, a third of a mile downstream from Brier Fork, and 5 miles northeast of Chase.

Drainage area.--342 sq mi.

Records available.--May 1930 to September 1954.

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.--24 years, 517 cfs.

Extremes.--Maximum discharge during year, 42,000 cfs Jan. 21 (gage height, 25.00 ft, from floodmark); minimum, 50 cfs Sept. 3, 27 (gage height, 0.82 ft).
1930-54: Maximum discharge, that of Jan. 21, 1954; minimum, 44 cfs Sept. 20, 27, 30, 1931; minimum gage height, 0.82 ft Sept. 3, 27, 1954.
Flood of September 1929 reached a stage of 25.0 ft, from floodmarks (discharge, 42,000 cfs, from rating curve extended above 27,000 cfs).

Remarks.--Records good. Some diurnal fluctuation caused by small mills above station.

Revisions (water years).--WSP 823: Drainage area. WSP 853: 1936(M).

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 21				Jan. 22 to Sept. 30			
0.9	57	7.0	3,340	0.8	47	1.8	350
1.5	230	9.0	5,050	1.0	78	3.0	945
2.0	420	14.0	10,500	1.3	153	3.5	1,220
3.5	1,220	19.4	25,000				
5.0	2,120						

Note.--Same as preceding table above 3.5 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	97	87	95	171	*455	985	470	256	224	91	76	63
2	95	84	92	162	430	640	460	206	455	96	76	61
3	95	*82	117	162	405	575	354	224	2,830	192	75	57
4	92	82	212	156	372	510	305	386	1,080	105	78	58
5	89	82	153	153	346	420	269	282	525	98	73	58
6	89	79	180	150	323	372	248	224	346	96	73	57
7	87	79	*177	144	300	336	232	199	269	98	73	*61
8	84	79	141	138	282	*318	244	196	232	93	73	61
9	84	82	943	138	278	296	296	185	*202	93	*71	60
10	84	82	670	147	274	282	252	*169	185	93	70	58
11	84	84	268	*174	260	269	232	159	216	85	73	58
12	*84	84	328	189	269	296	256	153	196	*75	73	58
13	82	87	332	177	248	252	236	182	175	71	68	58
14	79	87	555	177	236	240	216	725	159	73	64	58
15	79	87	452	1,450	232	220	202	640	159	73	68	58
16	79	87	300	7,630	595	206	1,260	410	169	75	64	58
17	79	87	240	3,040	2,010	199	2,390	300	156	73	66	57
18	79	87	206	1,170	710	196	905	305	199	73	64	58
19	77	87	186	804	485	216	580	323	147	71	64	61
20	77	87	180	1,070	780	269	435	269	136	71	204	60
21	77	87	177	*24,900	735	240	354	248	128	71	134	61
22	77	100	180	11,700	495	213	305	199	118	110	82	60
23	77	108	168	4,680	410	206	278	175	112	661	70	61
24	77	108	156	1,770	675	220	264	163	112	400	*124	61
25	77	102	150	1,170	570	269	244	153	108	159	78	61
26	77	100	147	905	430	545	224	145	105	122	78	60
27	79	97	144	935	368	445	210	142	102	110	70	55
28	79	95	153	805	1,340	330	236	147	100	96	66	60
29	84	95	189	655	-	*287	425	592	96	89	55	60
30	84	95	212	580	-------	269	364	695	93	85	64	*61
31	87	-------	186	510	-------	420	-------	332	-------	80	66	-------
Total	2,570	2,669	7,689	66,012	14,313	10,541	12,746	8,784	9,134	3,778	2,433	1,778
Mean	82.9	89.0	248	2,129	511	340	425	283	304	122	78.5	59.3
Cfsm	0.242	0.260	0.725	6.23	1.49	0.994	1.24	0.827	0.889	0.357	0.230	0.173
In.	0.28	0.29	0.84	7.18	1.56	1.15	1.39	0.96	0.99	0.41	0.26	0.19

Calendar year 1953: Max 7,930 Min 70 Mean 486 Cfsm 1.42 In. 19.31
Water year 1953-54: Max 24,900 Min 55 Mean 390 Cfsm 1.14 In. 15.50

Peak discharge (base, 5,000 cfs).--Jan. 16 (10:30 a.m.) 9,250 cfs (13.06 ft); Jan. 21 (9:30 a.m.) 42,000 cfs (25.00 ft).
* Discharge measurement made on this day.

Tennessee River at Whitesburg, Ala.

Location.--Lat 34°34'27", long 86°32'42", in NE¼ sec. 30, T. 5 S., R. 1 E., on right bank 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, 5½ miles downstream from Flint River, 11 miles south of Huntsville, 15½ miles downstream from Guntersville Dam, 58½ miles upstream from Wheeler Dam, and at mile 333.3.

Drainage area.--25,610 sq mi, approximately.

Records available.--October 1924 to September 1954. Prior to October 1936, published as at Decatur." Gage-height records collected in this vicinity since 1875 (fragmentary prior to April 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, staff gage, 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.

Average discharge.--29 years (1924-36, 1937-54), 42,070 cfs.

Extremes.--Maximum discharge during year, 258,000 cfs Jan. 23, 24; maximum gage height, 21.96 ft Jan. 24; minimum daily discharge, 700 cfs Nov. 1, Aug. 1; minimum gage height, 1.04 ft Nov. 21.

1924-36, 1937-54: Maximum discharge, 283,000 cfs Jan. 1, 1927 (gage height, 23.2 ft, site and datum then in use); minimum daily, 700 cfs Sept. 7, 1952, Nov. 1, 1953, Aug. 1, 1954.

Maximum stage known, 31.4 ft in March 1867, present site and datum, from high-water profile by Corps of Engineers.

Remarks.--Records good except those below 10,000 cfs, which are fair. Flow regulated by many reservoirs above station (see p. 245).

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16,400	e700	21,500	23,600	52,400	*49,200	59,100	20,800	26,700	33,200	e700	30,600
2	14,900	*17,900	22,300	28,400	43,000	57,700	56,400	18,000	26,800	34,300	37,000	30,000
3	17,300	21,000	23,600	16,400	44,500	60,700	31,900	28,700	35,300	e17,500	33,900	37,800
4	15,000	20,400	32,100	29,300	45,200	53,900	18,700	34,700	36,900	e5,900	34,000	22,300
5	16,000	22,700	24,500	35,200	47,200	52,400	26,700	36,000	23,100	19,000	36,400	e800
6	24,500	25,900	13,700	36,000	42,400	58,700	28,600	30,400	e17,600	29,600	31,500	e11,100
7	28,000	23,500	18,800	34,800	28,500	51,000	33,600	31,200	27,800	34,300	e8,100	33,100
8	24,400	e8,000	20,900	28,900	35,100	48,900	39,000	27,700	31,400	32,100	e800	34,300
9	15,700	21,000	23,600	28,100	37,600	45,400	36,800	25,500	27,200	30,500	37,900	36,200
10	20,700	20,100	29,500	19,200	40,000	38,100	35,100	*24,800	23,300	e11,200	39,100	24,900
11	14,000	18,400	31,300	37,400	44,100	37,000	e13,500	29,500	26,000	e14,800	39,300	e5,000
12	19,600	23,600	41,800	*36,000	40,300	38,800	30,800	29,800	20,700	29,700	42,400	e900
13	24,600	25,300	35,000	35,100	35,900	35,400	34,100	31,400	17,700	33,700	36,400	27,400
14	23,400	17,700	39,200	31,600	29,500	37,700	30,800	33,500	24,600	34,000	e9,300	34,500
15	22,100	11,700	47,500	38,000	30,100	38,600	29,400	19,700	27,700	37,300	e1,200	30,700
16	21,800	21,200	39,600	83,400	37,400	44,400	24,200	18,900	30,700	24,000	31,900	32,600
17	17,500	24,200	31,100	155,000	39,100	44,800	e11,800	26,600	32,600	e12,200	34,900	35,500
18	14,800	21,000	38,500	181,000	37,300	38,800	e5,800	30,800	29,600	e4,200	37,200	17,800
19	18,800	16,600	32,900	172,000	38,100	30,400	27,100	32,100	22,300	28,400	37,400	e2,600
20	25,100	13,500	17,400	119,000	35,000	29,200	22,200	34,100	17,100	31,600	36,600	20,500
21	20,100	24,100	27,400	119,000	24,400	27,400	24,500	33,000	27,500	*37,000	14,600	28,800
22	20,300	14,100	33,500	213,000	24,300	33,400	21,300	24,800	33,700	38,600	e1,400	31,000
23	21,500	28,700	38,000	*255,000	35,800	35,500	24,700	19,200	33,900	38,100	25,600	34,000
24	18,500	21,100	29,700	255,000	40,100	38,800	23,800	23,600	30,000	33,000	31,000	28,500
25	e9,800	29,100	21,500	242,000	39,400	48,600	20,600	27,600	29,000	e800	31,400	19,400
26	16,900	e14,700	16,700	208,000	43,500	50,200	23,000	31,100	23,400	35,500	33,500	e4,100
27	21,200	25,400	18,800	163,000	31,800	52,200	22,900	30,000	21,600	33,500	39,500	14,500
28	24,500	24,800	27,500	127,000	36,000	52,200	23,300	31,500	28,300	31,800	e13,800	18,500
29	21,300	22,300	35,100	109,000	-	51,700	29,300	22,000	34,500	32,700	e1,300	21,500
30	30,400	26,900	40,400	85,500	-------	53,200	27,900	e16,600	31,300	34,200	34,600	24,200
31	20,800	--------	36,400	62,500	-------	56,200	--------	20,000	--------	e7,100	36,200	----- --
Total	619,900	605,600	909,800	‡3,007.4	‡1,058	‡1,390.5	836,900	843,600	818,300	819,800	828,900	693,100
Mean	20,000	20,190	29,350	97,010	37,790	44,850	27,900	27,210	27,280	26,450	26,740	23,100
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 153,000 Min 700 Mean 37,050 Cfsm 1.45 In. 19.64
Water year 1953-54: Max 255,000 Min 700 Mean 34,060 Cfsm 1.33 In. 18.05

* Discharge measurement made on this day.
‡ Expressed in thousands.
e Extremely low fall; discharge computed on basis of records for Guntersville Dam releases, adjusted for storage and inflow.

Flint Creek near Falkville, Ala.

Location.--Lat 34°22'23", long 86°56'01", in SW¼ sec. 2, T. 8 S., R. 4 W., near left bank on downstream side of highway bridge, 1.2 miles downstream from Robinson Creek, 1.5 miles west of Falkville, and 2.8 miles upstream from Cedar Creek.

Drainage area.--86.3 sq mi.

Records available.--July 1952 to September 1954.

Gage.--Water-stage recorder. Altitude of gage is 580 ft (from topographic map).

Extremes.--Maximum discharge during year, 5,000 cfs Jan. 16 (gage height, 14.0 ft); no flow Oct. 4 to Nov. 24, Aug. 12-17, Sept. 1-3.
1952-54: Maximum discharge, that of Jan. 16, 1954; no flow at times each year.

Remarks.--Records good above 50 cfs, fair between 10 and 50 cfs, and poor below 10 cfs.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 25 to Dec. 9, Dec. 11, 12, Dec. 17 to Jan. 14, Feb. 4-20, and July 5-18)

Oct. 1 to Nov. 24		Nov. 25 to Sept. 30			
0.6	0	0.7	0	3.0	45
.7	.2	.8	.2	4.0	93
.8	.7	.9	.4	6.0	225
		1.1	1.0	8.0	415
		1.2	1.4	10.0	770
		1.4	2.8	10.5	960
		1.6	5.3	11.0	1,270
		2.0	13	13.0	3,500
		2.5	27		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3	0	0.2	42	123	427	350	33	12	0.4	0.4	0
2	.2	0	.1	38	114	265	233	27	9.8	.4	.2	0
3	.1	0	.4	35	105	225	195	79	145	.3	.2	0
4	0	0	11	31	90	178	156	132	155	3.3	.2	.1
5	0	0	8.4	28	82	147	*126	74	47	3.6	.1	.1
6	0	0	7.4	27	70	132	108	54	30	1.3	.1	.2
7	0	0	*16	23	62	114	93	43	22	.9	.1	.2
8	0	0	9.2	20	*54	*102	90	39	17	.7	.2	.2
9	0	*0	132	19	53	90	123	32	14	*.6	.2	.2
10	0	0	204	21	52	82	82	26	13	.5	.2	.2
11	0	0	43	*47	55	74	72	*22	10	.4	.1	.1
12	*0	0	313	47	70	70	72	19	8.2	.4	*0	.1
13	0	0	233	35	51	60	59	22	6.8	.4	0	.2
14	0	0	188	38	45	55	54	34	5.0	.3	0	*.3
15	0	0	156	252	43	45	50	33	3.9	.3	0	.2
16	0	0	93	3,260	50	38	171	26	6.9	.2	0	.3
17	0	0	58	1,800	90	35	283	20	6.3	.2	0	.3
18	0	0	40	780	67	34	170	17	5.2	48	109	.3
19	0	0	31	528	54	57	129	15	3.9	256	34	.3
20	0	0	27	330	200	93	99	14	2.8	19	6.2	.3
21	0	0	30	970	233	58	77	13	2.2	5.5	2.0	.4
22	0	0	41	3,500	150	45	64	11	1.9	51	1.1	.4
23	0	0	32	1,640	132	42	53	10	2.4	71	.7	.3
24	0	0	26	830	249	42	47	8.8	*1.8	11	.7	.3
25	0	.2	22	596	195	44	49	7.8	1.2	4.6	.4	.3
26	0	.7	21	404	160	111	39	6.8	1.0	8.8	.3	.2
27	0	.6	20	301	141	194	33	6.3	.8	12	.3	.2
28	0	.4	23	241	373	283	29	20	.7	3.7	.3	.2
29	0	.3	58	195	-	202	53	50	.6	2.2	.2	.2
30	0	.2	60	170	-------	174	51	26	.5	1.5	.1	.1
31	0	-------	51	144	-------	186	-------	17	-------	.8	.1	----- --
Total	0.6	2.4	1,954.7	16,392	3,163	3,704	3,210	937.7	536.9	509.3	157.4	6.2
Mean	0.02	0.08	63.1	529	113	119	107	30.2	17.9	16.4	5.08	0.21
Cfsm	0.00022	0.00093	0.731	6.13	1.31	1.38	1.24	0.350	0.207	0.190	0.059	0.0024
In.	0.0003	0.001	0.84	7.06	1.36	1.60	1.38	0.40	0.23	0.22	0.07	0.003

Calendar year 1953: Max 1,740 Min 0 Mean 130 Cfsm 1.51 In. 20.52
Water year 1953-54: Max 3,500 Min 0 Mean 83.8 Cfsm 0.971 In. 13.16

Peak discharge (base, 2,000 cfs).--Jan. 16 (3 p.m.) 5,000 cfs (14.0 ft); Jan. 22 (12 m.) 4,370 cfs (13.6 ft).
* Discharge measurement or observation of no flow made on this day.

389022 O - 56 - 15

West Fork Flint Creek near Oakville, Ala.

Location.--Lat 34°28'35", long 87°08'30", in SW¼ sec. 35, T. 6 S., R. 6 W., on left bank at upstream side of bridge on county highway 0.9 mile east of Five Points, 0.9 mile upstream from Shoal Creek, 1¼ miles downstream from McDaniel Branch, and 2¾ miles northeast of Oakville.

Drainage area.--87.6 sq mi.

Records available.--August 1952 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 576.59 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 3,050 cfs Jan. 22 (gage height, 19.75 ft); no flow Oct. 1 to Dec. 8, July 29 to Sept. 30.
1952-54: Maximum discharge, that of Jan. 22, 1954; no flow at times each year.

Remarks.--Records good above 30 cfs and poor below.

Rating cable, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

0.0	0	1.0	33
.1	.2	1.5	83
.2	.5	3.0	278
.3	1.2	6.0	538
.4	2.7	11.0	1,090
.5	4.7	16.0	2,100
.7	14	19.0	2,850

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	14	91	116	320	60	16	1.4		
2			0	12	83	92	187	52	16	1.3		
3			0	11	76	88	130	150	184	1.2		
4			0	9.5	69	80	104	200	114	1.1		
5			0	9.0	63	69	*87	127	37	1.6		
6			0	8.0	60	64	74	96	28	.9		
7			*0	7.0	56	61	66	79	23	.8		
8			0	6.0	*51	*56	62	72	19	.8		
9		(*)	12	5.3	49	53	64	61	16	*.7		
10			11	5.6	46	51	57	51	14	.7		
11	(*)		7.0	*7.0	70	48	53	*44	12	.6		
12			5.0	7.5	120	45	82	39	10	.6	(*)	
13			5.6	7.0	71	44	47	47	8.5	.5		
14			19	8.6	60	39	44	74	6.5	.5		
15			18	188	56	37	41	83	6.0	.4		(*)
16			11	1,340	63	34	349	68	138	.3		
17			7.5	1,090	97	32	503	55	42	.2		
18			6.0	474	70	30	232	47	16	.1		
19			5.0	166	60	36	143	42	11	7.2		
20			4.5	165	79	56	105	38	9.0	3.5		
21			4.5	1,310	93	52	86	33	7.0	1.4		
22			4.7	2,800	76	44	73	28	5.6	1.1		
23			4.5	2,350	70	40	68	26	5.0	.9		
24			3.9	1,040	76	39	187	23	*4.7	.8		
25			3.5	370	76	40	244	21	3.9	.7		
26			3.1	238	69	57	158	19	3.5	.5		
27			2.9	194	63	59	119	18	3.1	.4		
28			9.7	151	109	59	86	18	2.5	.1		
29			25	129	-	60	93	23	2.1	0		
30			23	116	-------	58	78	32	1.7	0		
31		-------	16	101	-------	141	-------	19	---------	0		-------
Total	0	0	212.4	12,339.5	2,022	1,780	3,912	1,745	765.1	30.3	0	0
Mean	0	0	6.85	398	72.2	57.4	130	56.3	25.5	0.98	0	0
Cfsm	0	0	0.078	4.54	0.824	0.655	1.48	0.643	0.291	0.011	0	0
In.	0	0	0.09	5.24	0.86	0.76	1.66	0.74	0.32	0.01	0	0

Calendar year 1953: Max 1,950 Min 0 Mean 109 Cfsm 1.24 In. 16.85
Water year 1953-54: Max 2,800 Min 0 Mean 62.5 Cfsm 0.713 In. 9.68

Peak discharge (base, 2,000 cfs).--Jan. 22 (2 p.m.) 3,050 cfs (19.75 ft).
* Discharge measurement or observation of no flow made on this day.

Elk River near Pelham, Tenn.

Location.--Lat 35°17'48", long 85°52'12", on right bank at downstream side of bridge on U. S. Highway 41, 1.1 miles southeast of Pelham, Grundy County, and 1.8 miles upstream from Caldwell Creek.

Drainage area.--65.6 sq mi.

Records available.--November 1951 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 981.62 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge during year, 4,520 cfs Jan. 21 (gage height, 12.00 ft); minimum, 1.0 cfs Sept. 27, 28; minimum gage height, 1.94 ft Sept. 11.
1951-54: Maximum discharge, that of Jan. 21, 1954; minimum that of Sept. 27, 28, 1954; minimum gage height, that of Sept. 11, 1954.

Remarks.--Records fair.

Rating tables, water year 1953-54 (gage height, in feet and discharge, in cubic feet per second)
(Shifting-control method used Oct. 15 to Dec. 8, Sept. 9-12, 27-30)

Oct. 1 to Jan 21, Sept. 10-30

2.1	0.8	5.0	294
2.2	2.0	8.0	774
2.4	6.7	9.0	1,010
2.7	18	9.5	1,310
3.0	36	11.1	3,350
3.5	75		

Jan. 22 to Sept. 9

2.0	1.5	2.8	25
2.2	4.6	3.0	36
2.5	13		

Note.--Same as preceding table above 3.0 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	3.0	1.9	54	112	545	489	56	26	5.1	2.8	*2.5
2	2.4	3.0	1.8	46	101	355	318	51	25	4.6	3.2	2.4
3	2.0	2.8	2.2	44	91	304	215	103	46	4.6	2.7	2.3
4	1.9	2.6	4.6	48	85	259	166	202	80	4.6	2.5	2.2
5	1.9	2.6	5.7	44	75	202	132	156	49	4.4	2.3	2.2
6	2.2	2.4	9.0	41	65	162	111	119	35	4.2	126	2.2
7	2.2	2.4	12	35	57	134	97	105	28	4.1	21	2.0
8	2.4	2.4	12	30	52	114	86	196	24	3.9	5.8	2.0
9	2.4	2.4	49	27	49	97	83	161	21	4.1	5.6	2.0
10	2.4	2.4	144	25	48	87	70	121	24	3.7	*4.6	*2.0
11	2.4	2.4	65	47	45	78	80	93	28	3.5	4.2	1.9
12	2.2	2.4	65	51	40	70	125	76	25	3.3	3.9	1.8
13	2.2	2.2	108	40	35	64	97	91	19	3.0	3.7	1.6
14	2.2	2.2	172	40	34	60	*90	313	17	2.8	3.5	1.4
15	2.2	2.2	152	727	*32	52	85	404	14	2.8	3.2	*1.3
16	2.2	2.0	*95	2,700	82	44	300	259	18	2.7	3.0	1.3
17	1.8	2.0	70	*1,180	227	41	760	174	26	2.5	2.7	1.3
18	1.8	1.9	53	521	167	*37	532	148	22	2.4	2.5	1.3
19	1.6	1.9	42	262	132	40	278	136	19	2.4	2.8	1.3
20	1.6	2.2	35	488	148	68	188	*173	17	2.4	3.3	1.4
21	1.6	2.8	35	3,350	178	55	146	167	14	2.5	2.8	1.9
22	1.5	4.9	59	2,480	137	46	121	131	12	5.8	2.4	*1.8
23	*1.5	3.3	60	1,170	117	47	100	103	11	5.1	*2.4	1.5
24	1.4	1.8	46	633	259	114	97	80	*9.5	3.7	2.2	1.4
25	1.4	*2.4	38	344	241	204	92	64	8.7	4.4	2.3	1.3
26	1.4	2.6	32	233	185	462	80	51	8.1	5.1	9.7	1.2
27	1.6	2.0	27	259	144	329	73	43	7.6	*3.5	9.7	*1.0
28	2.4	1.9	25	227	422	216	64	39	7.0	3.3	3.7	1.0
29	4.1	1.8	67	186	--	162	81	43	6.3	3.2	3.2	1.2
30	3.7	1.9	78	156	-------	134	70	38	5.6	3.0	3.0	2.0
31	3.3	-------	67	131	-------	243	-------	31	-------	2.7	2.8	-------
Total	66.7	72.8	1,633.2	15,619	3,360	4,825	5,226	3,927	652.8	113.4	253.5	50.7
Mean	2.15	2.43	52.7	504	120	156	174	127	21.8	3.66	8.18	1.69
Cfsm	0.033	0.037	0.803	7.68	1.83	2.38	2.65	1.94	0.332	0.056	0.125	0.026
In.	0.04	0.04	0.93	8.85	1.90	2.74	2.96	2.23	0.37	0.06	0.14	0.03

Calendar year 1953: Max 2,460 Min 1.4 Mean 116 Cfsm 1.77 In. 24.05
Water year 1953-54: Max 3,350 Min 1.0 Mean 98.1 Cfsm 1.50 In. 20.29

Peak discharge (base, 1,000 cfs).--Jan. 16 (9 a.m.) 3,090 cfs (10.90 ft); Jan. 21 (4:30 a.m.) 4,520 cfs (12.00 ft).
* Discharge measurement made on this day.

Bradley Creek near Prairie Plains, Tenn.

Location.--Lat 35°21'21", long 85°58'45", on left bank 165 ft downstream from highway bridge, 1.1 miles northwest of Prairie Plains, Coffee County, and 3.6 miles upstream from Elk River.

Drainage area.--41.3 sq mi.

Records available.--November 1951 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 968.13 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge during year, 1,810 cfs Jan. 21 (gage height, 9.79 ft); minimum, 3.6 cfs Oct. 22; minimum gage height, 1.03 ft Nov. 29 to Dec. 3.
1951-54: Maximum discharge, 2,500 cfs Jan. 27, 1952 (gage height, 11.68 ft); minimum, 3.3 cfs Nov. 17, 18, 1952 (gage height, 1.01 ft).

Remarks.--Records excellent.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 23

1.0	3.1	3.0	171
1.1	6.7	4.0	320
1.3	18	6.0	680
1.8	54	8.8	1,460
2.4	106		

Apr. 24 to Sept. 30

1.1	3.9	1.5	24
1.15	5.4	2.4	106
1.2	7.8		

Note.--Same as preceding table above 2.4 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.7	3.9	3.9	14	92	170	183	44	24	17	7.8	*5.0
2	6.7	3.9	3.9	13	86	120	102	38	25	18	9.3	4.7
3	6.7	3.9	4.2	13	80	126	82	49	41	18	8.3	4.7
4	6.2	3.9	4.2	13	73	99	69	56	31	17	7.3	4.7
5	6.2	3.9	4.2	12	66	84	61	42	25	16	7.3	4.7
6	5.7	3.9	5.3	12	61	74	56	36	23	15	12	4.4
7	5.7	3.9	4.9	12	56	65	56	43	21	15	12	4.4
8	5.3	3.9	4.9	12	52	59	52	63	21	14	8.8	4.4
9	5.3	4.2	23	12	49	55	49	41	20	14	7.8	4.4
10	5.3	4.2	24	12	46	50	45	35	46	13	*7.3	4.4
11	5.3	4.2	14	12	44	47	58	31	34	12	7.3	4.4
12	4.9	4.2	38	12	40	43	70	30	26	12	6.8	4.4
13	4.5	4.2	31	11	38	41	52	72	23	11	6.8	4.1
14	4.5	4.2	52	12	36	38	*48	208	22	11	6.8	4.1
15	4.5	4.2	42	231	*35	36	45	153	32	11	6.3	*4.1
16	4.2	4.2	34	*835	91	33	216	93	55	10	6.3	4.1
17	4.2	4.2	29	309	128	31	361	72	54	10	6.3	4.1
18	3.9	4.2	*26	184	72	*31	157	64	53	9.8	5.8	3.9
19	3.9	4.5	24	140	59	31	107	59	60	9.8	5.8	3.9
20	3.9	4.5	23	437	100	32	84	*72	40	9.8	5.8	3.9
21	3.9	4.5	22	*1,280	101	30	72	56	34	10	5.8	4.1
22	3.9	4.9	21	1,430	69	28	62	47	30	16	5.8	4.1
23	*3.9	4.5	19	516	62	28	151	41	27	12	*5.8	4.4
24	3.9	4.5	17	290	145	44	267	37	*25	11	5.4	4.1
25	3.9	*4.5	16	211	101	54	105	35	23	9.8	5.4	4.1
26	3.9	4.5	16	172	78	152	76	32	21	*9.8	5.8	3.9
27	3.9	4.5	15	223	66	73	64	30	21	9.8	5.8	*3.9
28	3.9	4.2	16	158	212	56	66	30	20	9.3	5.4	3.9
29	3.9	3.9	16	131	-	48	64	29	18	8.8	5.4	4.4
30	3.9	3.9	15	116	-------	44	53	27	18	8.3	5.4	20
31	3.9	-------	14	102	-------	138	-------	25	-------	7.8	5.4	-------
Total	146.5	126.1	582.5	6,937	2,138	1,960	2,933	1,690	913	376.0	213.3	143.7
Mean	4.73	4.20	18.8	224	76.4	63.2	97.8	54.5	30.4	12.1	6.88	4.79
Cfsm	0.114	0.102	0.455	5.42	1.85	1.53	2.37	1.32	0.736	9.293	0.167	0.116
In.	0.13	0.11	0.52	6.25	1.93	1.76	2.64	1.52	0.82	0.34	0.19	0.13

Calendar year 1953: Max 1,140 Min 3.9 Mean 52.3 Cfsm 1.27 In. 17.17
Water year 1953-54: Max 1,430 Min 3.9 Mean 49.8 Cfsm 1.21 In. 16.34

Peak discharge (base, 600 cfs).--Jan. 16 (12 m. to 2 p.m.) 1,030 cfs (7.39 ft); Jan. 21 (6 a.m.) 1,810 cfs (9.79 ft).
* Discharge measurement made on this day.

Elk River at Estill Springs, Tenn.

Location.--Lat 35°15'30", long 86°07'17", in center of stream on downstream side of 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, and 1.4 miles upstream from Rock Creek.

Drainage area.--282 sq mi.

Records available.--December 1920 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 859.10 ft above mean sea level, datum of 1929. Prior to Sept. 30, 1926, staff gage at site 100 ft downstream at same datum.

Average discharge.--33 years (1921-54), 472 cfs (unadjusted).

Extremes.--Maximum discharge during year, 9,310 cfs Jan. 22 (gage height, 13.57 ft); minimum daily, 22 cfs Sept. 11-15.
1920-54: 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 for several days in September, October, November 1924, October 1925.

Remarks.--Records excellent except those for periods of no gage-height record, which are fair. Flow regulated by Woods Reservoir since 1952 (see p. 249).

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

1.2	20	5.0	1,610
1.4	36	7.0	3,000
1.6	66	9.0	4,500
2.0	150	11.0	6,350
3.0	495	12.9	8,480

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	113	32	29	204	391	1,460	640	247	162	56	81	34
2	70	32	29	155	387	1,150	770	260	233	51	66	31
3	66	32	29	177	387	760	720	368	302	63	58	28
4	59	32	31	136	387	750	459	219	195	76	58	26
5	37	33	30	124	387	745	340	128	257	81	56	26
6	36	33	32	131	383	675	225	133	177	89	80	25
7	35	33	30	103	383	437	207	234	180	85	302	24
8	37	33	29	101	383	372	120	411	174	79	234	23
9	36	33	36	133	379	387	70	361	137	81	161	23
10	37	31	36	195	379	383	59	344	733	76	74	23
11	39	29	32	192	375	383	74	274	560	45	68	22
12	39	28	36	74	210	375	91	247	192	39	48	22
13	37	28	36	91	126	225	124	471	189	44	49	22
14	36	27	44	70	124	207	244	745	174	166	48	22
15	36	26	118	379	*133	207	270	901	133	252	48	22
16	36	26	164	2,930	287	207	843	862	404	210	59	*24
17	37	26	280	3,490	1,110	207	1,730	518	463	257	76	25
18	37	26	*260	*2,440	950	207	1,880	504	368	284	76	28
19	37	26	257	1,130	478	240	738	471	284	132	74	32
20	37	28	204	1,500	612	277	120	536	152	79	76	37
21	37	28	169	4,900	700	277	109	*447	199	85	93	49
22	*37	30	148	*8,460	450	*274	*105	a360	140	322	87	52
23	39	30	189	7,340	375	274	a100	a300	166	411	*91	51
24	39	30	145	3,940	720	270	a180	a250	130	284	81	46
25	39	*31	145	3,640	760	326	a400	a210	*77	91	77	46
26	40	30	145	2,660	750	531	a100	a180	129	*99	70	45
27	40	30	145	1,440	680	660	a120	a150	100	79	68	*44
28	34	29	164	1,110	962	603	a180	340	99	81	54	39
29	33	29	201	705	-	411	a220	332	85	105	56	40
30	32	28	204	705	-------	411	358	226	54	120	51	44
31	32	-------	204	567	-------	641	-------	212	-------	118	42	-------
Total	1,299	889	3,601	49,222	13,648	14,332	11,596	11,241	6,648	4,040	2,562	975
Mean	41.9	29.6	116	1,588	487	462	387	363	222	130	82.6	32.5

	Observed			Adjusted†		
Calendar year 1953:	Max 4,110	Min 26	Mean 351	Mean 398	Cfsm 1.41	In. 19.17
Water year 1953-54:	Max 8,460	Min 22	Mean 329	Mean 359	Cfsm 1.27	In. 17.28

Peak discharge (base, 2,600 cfs).--Jan. 16 (6 to 8 p.m.) 3,520 cfs (7.75 ft); Jan. 22 (6 p.m.) 9,310 cfs (13.57 ft).

* Discharge measurement made on this day.

† Adjusted for change in contents in Woods Reservoir.

a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, Elk River Dam records, and records for station at Fayetteville.

Elk River above Fayetteville, Tenn.

Location.--Lat 35°08'04", long 86°32'23", on right bank 100 ft downstream from highway bridge, 1¾ miles southeast of Fayetteville, Lincoln County, 4 miles upstream from Norris Creek, and at mile 93.9.

Drainage area.--827 sq mi.

Records available.--August 1934 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 650.58 ft above mean sea level, datum of 1929.

Average discharge.--20 years, 1,360 cfs (unadjusted).

Extremes.--Maximum discharge during year, 28,700 cfs Jan. 22 (gage height, 24.89 ft); minimum, 111 cfs Sept. 17 (gage height, 1.29 ft).
1934-54: Maximum discharge, 35,500 cfs Jan. 5, 1949 (gage height, 27.14 ft); minimum, that of Sept. 17, 1954; minimum gage height, 1.02 ft Oct. 27, 1941.

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow regulated by Woods Reservoir since 1952 (see p. 249).

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 22-29, Jan. 1-11, 13, 14)

Oct. 1 to Jan. 22

1.3	135	10.0	5,100
1.8	255	16.0	9,020
2.5	520	19.0	13,000
4.0	1,350	24.1	26,300
7.0	3,150		

Jan. 23 to Sept. 30

1.3	113	3.0	705
1.8	259	7.0	3,150

Note.--Same as preceding table above 7.0 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	220	145	139	425	1,870	3,150	2,210	810	550	336	280	159
2	240	145	137	417	1,560	3,100	2,240	696	569	504	280	147
3	222	143	149	405	1,470	2,700	1,780	750	2,090	557	260	142
4	198	143	182	343	1,400	2,080	1,690	977	1,320	350	250	139
5	192	141	185	397	1,330	1,880	1,370	885	840	326	240	131
6	188	139	202	315	1,260	1,730	1,100	612	723	410	230	129
7	173	139	208	322	1,190	1,580	895	596	624	340	230	126
8	165	139	202	300	1,150	1,310	*785	592	572	323	240	121
9	165	139	558	276	1,130	1,120	736	810	512	312	300	*116
10	163	139	*792	297	1,090	1,090	612	682	960	299	*282	121
11	161	*139	630	378	*1,060	*1,050	586	696	3,410	292	272	118
12	161	141	620	456	1,030	1,010	592	596	1,760	282	221	116
13	157	139	555	346	870	966	596	*696	933	262	215	116
14	155	139	1,190	*346	718	815	580	2,000	*790	249	202	118
15	*155	137	956	2,770	669	714	632	1,960	692	253	202	116
16	153	139	720	*8,730	1,550	674	4,650	1,770	620	*344	196	116
17	153	139	575	8,690	2,510	652	5,000	1,520	815	320	187	116
18	149	137	610	7,320	2,490	640	4,110	1,150	950	320	190	116
19	149	137	580	4,260	2,040	648	3,330	1,140	860	350	212	116
20	149	139	520	4,050	1,640	669	2,120	1,260	696	340	221	118
21	147	139	520	*16,400	1,830	692	1,080	1,280	580	340	218	*129
22	147	141	434	26,200	1,800	669	895	1,130	530	1,600	208	145
23	147	165	397	21,500	1,420	669	770	955	475	1,200	212	147
24	145	161	397	16,400	1,450	714	911	790	461	670	202	142
25	145	159	382	9,820	1,970	922	1,110	750	454	540	205	136
26	143	159	354	6,350	1,830	1,600	928	648	400	430	*199	131
27	145	153	346	5,140	1,680	1,610	669	616	386	350	202	131
28	149	147	360	3,550	2,700	1,500	710	576	382	320	187	129
29	153	141	405	2,860	-	1,420	840	960	368	290	182	131
30	151	139	448	2,320	-------	1,180	875	870	358	280	167	164
31	145	-------	448	2,090	-------	1,480	-------	682	-------	270	164	-------
Total	5,085	4,302	14,201	153,473	42,707	40,034	44,404	29,455	24,680	13,059	6,856	3,884
Mean	164	143	458	4,951	1,525	1,291	1,480	950	823	421	221	129

		Observed			Adjusted†		
Calendar year 1953 :	Max	11,100	Min 137	Mean 1,138	Mean 1,185	Cfsm 1.43	In. 19.44
Water year 1953-54 :	Max	26,200	Min 116	Mean 1,047	Mean 1,077	Cfsm 1.30	In. 17.68

Peak discharge (base, 8,000 cfs).--Jan. 16 (2:30 p.m.) 9,150 cfs (16.18 ft); Jan. 22 (4 p.m.) 28,700 cfs (24.89 ft).

* Discharge measurement made on this day.

† Adjusted for change in contents in Woods Reservoir.

Note.--No gage-height record July 17 to Aug. 9; discharge estimated on basis of weather records and records for stations at Estill Springs and near Prospect.

Richland Creek near Pulaski, Tenn.

Location.--Lat 35°12'51", long 87°06'05", on right bank a quarter of a mile upstream from bridge on U. S. Highway 64, 1 mile downstream from Weakley Creek, and 4 miles west of Pulaski, Giles County.

Drainage area.--366 sq mi.

Records available.--April 1934 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 642.54 ft above mean sea level, datum of 1929.

Average discharge.--20 years, 592 cfs.

Extremes.--Maximum discharge during year, 8,940 cfs Jan. 22 (gage height, 16.34 ft); minimum, 7.9 cfs Sept. 11 (gage height, 0.52 ft).
1934-54: Maximum discharge, 62,400 cfs 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, that of Sept. 11, 1954.

Remarks.--Records good except those for periods of no gage-height record, which are fair.

Revisions (water years).--WSP 823: 1935-36(M). WSP 1113: 1945-46(M).

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 22				Jan. 23 to Sept 30			
0.7	23	2.9	576	0.5	7.4	1.0	59
.8	32	7.0	2,080	.6	12	1.5	172
1.0	62	12.0	4,180	.8	34	2.9	576
1.3	119	14.0	5,760				
1.6	189	15.9	8,240	Note.--Same as preceding table above 2.9 ft.			
2.0	294						

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	32	37	64	461	759	1,850	353	158	38	16	9.7
2	29	32	37	79	410	655	1,500	328	175	45	17	8.9
3	28	32	62	66	375	610	1,000	404	556	163	23	8.9
4	28	32	104	56	339	494	800	452	308	243	21	9.3
5	28	32	71	53	302	443	600	404	224	165	19	10
6	27	32	124	50	274	416	500	356	188	76	17	11
7	26	32	101	47	244	384	*416	342	165	64	18	9.7
8	25	32	69	47	224	350	389	322	150	61	17	9.7
9	25	32	135	47	214	325	347	272	141	49	16	*10
10	25	*32	*142	50	*208	*311	319	235	136	44	16	8.9
11	25	34	90	79	206	290	372	214	126	43	*15	8.2
12	25	34	86	77	182	280	353	*206	114	40	13	8.5
13	25	34	88	*69	167	265	314	470	105	38	13	9.7
14	*25	35	121	81	162	250	305	2,910	90	34	13	10
15	26	40	137	1,140	158	240	294	1,960	*100	*31	12	9.7
16	26	38	104	4,700	1,350	230	3,950	1,140	114	27	12	9.7
17	26	37	79	1,950	2,370	210	5,500	802	93	25	10	9.7
18	25	37	64	903	1,210	200	2,270	617	88	24	11	9.7
19	24	37	58	600	838	220	1,350	503	81	28	12	9.7
20	24	38	59	1,830	3,950	240	957	449	74	30	15	12
21	25	43	59	7,390	3,350	220	727	372	68	33	24	*28
22	25	47	58	*8,110	1,570	210	593	330	62	43	19	34
23	25	52	53	5,380	1,080	200	840	300	58	43	16	19
24	25	46	50	2,020	900	240	669	263	54	37	13	14
25	26	44	50	1,240	702	670	610	238	52	35	*13	13
26	27	43	49	936	579	1,000	491	221	50	32	14	12
27	29	41	47	1,180	503	640	416	214	49	28	14	12
28	31	40	58	964	921	450	404	203	48	24	12	12
29	32	38	81	813	-	340	482	263	43	22	12	12
30	32	37	77	673	-------	300	407	208	39	18	10	270
31	32	-------	69	544	-------	400	-------	175	-------	17	9.7	-------
Total	830	1,115	2,419	41,238	23,249	11,842	29,025	15,526	3,709	1,600	462.7	619.0
Mean	26.8	37.2	78.0	1,330	830	382	968	501	124	51.6	14.9	20.6
Cfsm	0.073	0.102	0.213	3.63	2.27	1.04	2.64	1.37	0.339	0.141	0.041	0.056
In.	0.08	0.11	0.25	4.19	2.36	1.20	2.95	1.58	0.38	0.16	0.05	0.06

Calendar year 1953: Max 12,700 Min 16 Mean 603 Cfsm 1.65 In. 22.38
Water year 1953-54: Max 8,110 Min 8.2 Mean 361 Cfsm 0.986 In. 13.37

Peak discharge (base, 6,000 cfs).--Jan. 22 (8 p.m.) 8,940 cfs (16.34 ft); Apr. 17 (5:30 a.m.) 6,880 cfs (14.98 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Mar. 11 to Apr. 6, Aug. 2-10; discharge estimated on basis of recorded range in stage, weather records, and records for stations on nearby streams.

Elk River near Prospect, Tenn.

Location.--Lat 35°01'39", long 86°56'52", on right bank 50 ft upstream from highway bridge, 1.1 miles downstream from Richland Creek, 3.2 miles east of Prospect, Giles County, 5.2 miles upstream from Ford Creek, and 7.7 miles upstream from Tennessee-Alabama State line.

Drainage area.--1,784 sq mi.

Records available.--July 1904 to February 1908, January 1919 to September 1954. Published as "near Elkmont, Ala." 1904-8, 1919-34.

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 11¼ miles downstream at datum 13.52 ft lower.

Average discharge.--38 years (1904-7, 1919-54), 2,979 cfs (unadjusted).

Extremes.--Maximum discharge during year, 43,600 cfs Jan. 23 (gage height, 31.63 ft); minimum, 116 cfs Sept. 15, 16 (gage height, 0.62 ft).
1904-8, 1919-54: Maximum discharge, 100,000 cfs Feb. 14, 1948 (gage height, 38.17 ft); minimum, 85 cfs Sept. 18-20, 1925, Sept. 11, 1931.

Remarks.--Records excellent. Flow regulated by Woods Reservoir since 1952 (see p. 249).

Revisions (water years).--WSP 523: 1904-8, 1919-20. WSP 823: Drainage area. WSP 1003: 1929(M).

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 4		Dec. 5 to Sept. 30					
0.8	155	0.6	112	6.0	3,600	28.0	30,300
1.0	205	1.0	197	10.0	7,040	30.0	36,400
1.3	300	1.4	338	15.0	12,000	31.5	42,900
		2.0	650	20.0	18,200		
		3.0	1,260	25.0	25,100		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	300	200	200	600	g3,100	4,730	5,810	1,810	1,170	438	325	172
2	268	195	200	568	g2,710	4,590	4,860	1,710	1,040	413	330	170
3	293	195	208	562	g2,380	4,350	4,010	2,120	2,480	628	330	163
4	300	192	259	534	g2,220	3,550	3,360	2,060	3,230	896	300	159
5	272	190	317	459	g2,060	2,990	2,930	2,070	1,930	710	281	152
6	247	188	375	480	g1,880	2,700	2,320	1,730	1,400	524	270	144
7	238	185	428	413	g1,730	2,500	*2,010	1,440	1,210	546	259	136
8	229	185	375	404	g1,620	2,270	1,740	1,400	1,060	464	259	134
9	217	180	*723	394	g1,590	1,920	1,580	1,300	974	433	285	*130
10	202	182	1,140	375	g1,520	*1,800	1,420	1,390	884	399	433	126
11	200	*188	1,050	423	*g1,530	1,720	1,380	1,240	1,680	366	*343	121
12	198	188	914	529	1,460	1,640	1,390	1,200	3,710	347	304	119
13	192	188	980	595	1,350	1,560	1,280	*3,850	1,790	334	259	121
14	*192	190	1,450	*529	1,180	g1,520	1,240	12,500	*1,210	313	239	119
15	190	190	1,710	3,800	1,070	g1,310	1,210	8,750	1,070	*292	226	117
16	185	190	1,270	16,100	3,000	g1,140	14,000	5,150	1,020	274	214	117
17	182	192	950	*17,000	7,980	g1,130	22,000	3,910	1,020	356	214	119
18	185	192	758	12,900	5,170	g1,080	15,600	3,180	1,380	408	206	119
19	182	192	746	8,940	4,180	g1,130	7,290	2,580	1,180	408	203	121
20	178	192	710	8,010	5,100	g1,200	5,390	2,480	1,080	443	233	123
21	178	192	644	24,000	7,080	g1,200	3,370	2,370	938	433	256	140
22	178	200	639	32,000	4,840	g1,160	2,520	2,150	800	423	252	150
23	175	211	551	*42,500	3,610	g1,130	2,580	1,910	722	2,570	256	172
24	172	241	496	36,000	2,990	1,280	2,500	1,640	639	2,000	236	172
25	172	247	475	27,000	2,970	1,540	2,330	1,440	617	1,040	*233	168
26	175	238	469	20,300	3,040	3,750	2,420	1,340	606	812	233	159
27	182	232	443	10,700	2,720	3,610	1,840	1,210	534	622	220	152
28	188	226	459	7,330	3,740	3,170	1,890	1,260	512	464	217	146
29	192	217	518	5,210	-	2,760	2,530	1,660	496	404	229	148
30	200	208	595	g4,280	-------	2,400	2,060	1,960	459	347	194	159
31	205	-------	622	g3,520	-------	2,900	-------	1,410	-------	325	182	-------
Total	6,467	6,006	20,674	286,455	83,820	69,730	124,860	80,220	36,841	18,432	8,021	4,248
Mean	209	200	667	9,240	2,994	2,249	4,162	2,588	1,228	595	259	142

	Observed			Adjusted†			
Calendar year 1953:	Max 30,900	Min 160	Mean 2,649	Mean 2,695	Cfsm 1.51	In. 20.51
Water year 1953-54:	Max 42,500	Min 117	Mean 2,043	Mean 2,073	Cfsm 1.16	In. 15.78

Peak discharge (base, 17,000 cfs).--Jan. 17 (8:30 a.m.) 17,800 cfs (19.66 ft); Jan. 23 (6 p.m.) 43,600 cfs (31.63 ft); Apr. 17 (7:30 p.m.) 22,100 cfs (22.88 ft).

* Discharge measurement made on this day.

† Adjusted for change in contents in Woods Reservoir.

g Computed from graph based on bihourly radio-gage readings furnished by Tennessee Valley Authority.

Big Nance Creek at Courtland, Ala.

Location.--Lat 34°40'12", long 87°19'02", in SW¼ sec. 30 T. 4 S., R. 7 W., near right bank on downstream side of pier of bridge on State Highway 20, at Courtland, 12¾ miles upstream from mouth.

Drainage area.--166 sq mi.

Records available.--July 1935 to September 1940, March 1945 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 537.60 ft above mean sea level, datum of 1929. Prior to Sept. 30, 1940, staff gage at same site and datum.

Average discharge.--14 years, 277 cfs.

Extremes.--Maximum discharge during year, 7,620 cfs Jan. 23 (gage height, 20.49 ft); minimum daily, 0.4 cfs Sept. 15-17.
1935-40, 1945-54: Maximum discharge, 12,300 cfs Jan. 7, 1950 (gage height, 22.60 ft); minimum daily, that of Sept. 15-17, 1954; minimum gage height observed, 1.19 ft Sept. 28, 29, 1947.

Remarks.--Records good except those for period of no gage-height record and those for periods of indefinite stage-discharge relation, which are poor.

Revisions (water years).--WSP 1033: 1939, 1940(M). WSP 1053: 1939(M).

Rating tables, water year 1953-54, except periods of indefinite stage-discharge relation and discharge, in cubic feet per second)
(Shifting-control method used Oct. 20 to Dec. 9, July 6-12)

Oct. 1 to Jan. 21				Jan. 22 to Sept. 30			
1.3	0.4	3.0	185	1.2	0.3	5.0	550
1.4	6.0	5.0	550	1.3	1.5	9.0	1,480
1.6	20	9.0	1,480	1.4	6.0	12.0	2,340
2.0	58	11.9	2,310	1.6	20	15.0	3,240
2.5	116			2.0	58	18.0	4,870
				3.0	185	20.0	6,940

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a3.8	1.5	6.0	20	163	504	859	76	50	3.9	1.0	e1.3
2	a3.8	1.5	6.0	16	149	240	438	65	39	3.9	.9	e1.2
3	a3.2	1.5	11	15	139	172	204	100	171	3.4	1.2	e1.1
4	a3.2	1.5	18	13	126	155	145	277	304	2.4	1.5	e1.1
5	a3.2	1.5	19	12	113	124	*115	182	108	3.0	1.2	e1.0
6	a2.6	1.0	25	12	104	106	94	99	56	2.6	1.0	e1.0
7	a2.6	1.0	*19	12	95	95	80	74	42	2.6	1.5	*1.0
8	a2.6	1.0	26	12	*88	85	86	87	34	2.2	1.2	1.5
9	a2.1	*1.0	58	11	83	*79	120	64	29	2.2	1.2	e1.2
10	a2.1	1.0	91	12	79	75	90	56	26	1.8	*1.8	e1.0
11	a2.1	1.0	44	13	116	72	79	*48	24	1.8	1.5	e.8
12	*1.5	1.0	29	*16	579	68	98	42	22	*1.8	e1.2	e.7
13	1.5	1.0	31	17	224	65	88	61	21	1.8	e1.0	e.6
14	1.5	1.5	47	22	136	60	70	801	20	1.5	e1.0	e.5
15	1.5	1.5	65	336	113	53	60	770	21	1.0	e.9	e.4
16	1.5	1.5	44	1,730	113	47	1,100	301	33	.9	e.8	e.4
17	1.5	1.5	25	2,310	272	43	2,760	180	84	.9	e.7	e.4
18	1.5	1.5	17	924	246	42	1,640	129	96	.9	e.6	e.6
19	1.5	2.1	13	277	146	45	406	103	28	1.2	31	e.8
20	1.5	2.1	12	220	170	65	251	91	19	1.0	21	e1.2
21	1.5	2.1	12	1,960	394	74	191	78	16	.9	5.4	*e2.2
22	1.0	2.6	12	*5,140	206	58	156	65	*12	1.5	e4.0	3.9
23	1.0	3.2	12	6,690	141	48	136	59	10	1.2	e3.5	3.4
24	1.0	3.8	12	3,020	125	45	153	52	8.4	1.0	e3.0	3.0
25	1.0	3.8	11	753	126	46	156	48	6.6	1.0	*e2.5	e2.6
26	1.0	4.3	11	420	111	86	112	43	6.0	.9	e2.2	e2.4
27	1.5	4.9	10	336	93	119	95	40	5.4	.9	e2.0	e2.2
28	2.1	5.4	10	277	321	80	88	40	4.9	1.0	e1.8	e2.0
29	2.1	6.0	12	232	-	66	100	75	4.4	1.0	e1.6	e1.8
30	1.5	6.0	19	206	-------	59	88	167	4.4	1.0	e1.5	e1.6
31	1.5	-------	20	184	-------	142	-------	79	-------	1.0	e1.4	-------
Total	60.0	69.3	747.0	25,218	4,771	3,018	10,058	4,332	1,305.1	52.2	101.1	42.9
Mean	1.94	2.31	24.1	813	170	97.4	335	140	43.5	1.68	3.26	1.43
Cfsm	0.012	0.014	0.145	4.90	1.02	0.587	2.02	0.843	0.262	0.010	0.020	0.0086
In.	0.01	0.02	0.17	5.65	1.07	0.68	2.25	0.97	0.29	0.01	0.02	0.01

Calendar year 1953: Max 4,070 Min 1.0 Mean 233 Cfsm 1.40 In. 19.06
Water year 1953-54: Max 6,690 Min 0.4 Mean 136 Cfsm 0.819 In. 11.15

Peak discharge (base, 3,800 cfs).--Jan. 23 (3 a.m.) 7,620 cfs (20.49 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for Bear Creek at Bishop.
e Stage-discharge relation indefinite; discharge computed on basis of gage-height record, 2 discharge measurements, and intermittent pumping records.

Shoal Creek at Iron City, Tenn.

Location.--Lat 35°01'20", long 87°34'44", on right bank 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 east of Iron City, Lawrence County, and at mile 21.7.

Drainage area.--348 sq mi.

Records available.--July 1925 to September 1954.

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.--29 years, 630 cfs.

Extremes.--Maximum discharge during year, 10,400 cfs Feb. 20 (gage height, 12.35 ft); minimum, 69 cfs Sept. 12 (gage height, 0.43 ft).
1925-54: 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 at gage height 22.9 ft; minimum, 38 cfs Aug. 31, 1943 (gage height, -0.02 ft).

Remarks.--Records good. Diurnal fluctuation at low flow caused by powerplant at Lawrenceburg.

Revisions (water years).--WSP 823: Drainage area. WSP 1113: 1927(M).

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 16				Apr. 17 to Sept. 30			
0.5	90	3.6	1,430	0.4	65	2.0	510
1.0	230	6.0	2,940	0.8	131	3.6	1,430
1.7	467	8.0	4,400	1.5	310		
2.5	835	10.9	7,900	Note.--Same as preceding table above 3.6 ft.			

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	121	129	132	174	483	770	905	670	240	127	107	77
2	118	129	132	168	443	680	700	615	253	125	111	77
3	118	129	184	160	411	710	636	896	540	142	155	75
4	118	129	365	152	376	631	577	992	490	604	144	75
5	118	129	227	146	350	582	524	862	298	248	121	74
6	118	129	433	143	330	541	483	714	259	178	113	72
7	118	129	402	138	314	499	*455	620	234	153	119	72
8	115	129	230	135	296	459	423	535	231	142	113	*73
9	115	129	*293	135	290	431	391	442	250	135	104	75
10	115	*129	347	160	*281	*411	380	387	237	131	97	75
11	115	129	236	233	314	399	564	354	221	127	95	73
12	115	129	227	205	293	376	780	*334	208	123	*90	70
13	115	132	222	*182	270	380	735	372	218	121	88	72
14	*115	132	247	196	267	411	662	796	210	113	88	72
15	115	132	267	1,040	264	350	604	698	*195	*107	86	72
16	115	132	224	4,680	629	324	4,100	540	203	106	86	72
17	115	132	194	1,770	1,540	311	4,920	446	208	102	86	72
18	115	132	168	935	870	305	2,010	391	208	100	88	74
19	115	132	154	667	690	387	1,300	364	186	110	88	78
20	118	138	152	1,590	5,560	459	944	347	178	119	138	75
21	118	140	166	7,660	4,440	411	742	331	171	210	158	115
22	118	154	168	7,770	1,560	380	632	328	167	364	121	160
23	118	185	154	4,230	1,080	365	1,240	316	160	270	106	109
24	118	157	143	1,710	1,030	471	1,180	293	155	186	100	93
25	118	146	138	1,120	850	537	835	264	151	164	107	90
26	124	146	135	895	730	984	720	261	146	142	*119	88
27	126	143	135	1,010	636	890	593	261	144	133	104	87
28	135	138	174	845	810	765	610	267	140	127	97	84
29	135	135	261	715	-	658	1,030	273	133	121	88	84
30	135	132	224	626	-------	590	852	273	131	115	82	123
31	129	-------	191	541	-------	644	-------	248	-------	111	80	----- --
Total	3,701	4,086	6,725	39,691	25,407	16,111	30,527	14,490	6,565	5,056	3,279	2,508
Mean	119	136	217	1,280	907	520	1,018	467	219	163	106	83.6
Cfsm	0.342	0.391	0.624	3.68	2.61	1.49	2.93	1.34	0.629	0.468	0.305	0.240
In.	0.40	0.44	0.72	4.24	2.72	1.72	3.26	1.55	0.70	0.54	0.35	0.27

Calendar year 1953: Max 14,800 Min 98 Mean 656 Cfsm 1.89 In. 25.58
Water year 1953-54: Max 7,770 Min 70 Mean 433 Cfsm 1.24 In. 16.91

Peak discharge (base, 6,000 cfs).--Jan. 16 (1 p.m.) 6,120 cfs (9.52 ft); Jan. 22 (6 p.m.) 9,940 cfs (12.12 ft); Feb. 20 (10:30 p.m.) 10,400 cfs (12.35 ft); Apr. 17 (12:30 a.m.) 8,790 cfs (11.46 ft).
* Discharge measurement made on this day.

Tennessee River at Florence, Ala.

Location.--Lat 34°47'12", long 87°40'08", in SW¼ sec. 14, T. 3 S., R. 11 W., on left bank 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.

Records available.--November 1871 to September 1894 (gage heights only), October 1894 to September 1954.

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 1½ miles downstream.

Average discharge.--60 years (1894-1954), 50,790 cfs.

Extremes.--Maximum discharge during year, 311,000 cfs Jan. 23 (computed on basis of Wilson Dam records); maximum gage height, 23.31 ft Jan. 23; minimum daily discharge, 3,500 cfs Oct. 4; minimum gage height, 6.83 ft Nov. 22.
1871-1954: Maximum discharge observed, 444,000 cfs Mar. 19, 1897 (gage height, 32.5 ft), from rating curve extended above 320,000 cfs; minimum daily, 250 cfs Sept. 13, 1953; minimum gage height, -3.0 ft Oct. 8, 1925, caused by filling of Wilson Lake.

Remarks.--Records good. Flow regulated by many reservoirs above station (see p. 245).

Cooperation.--Auxiliary water-stage recorder graph furnished by the Tennessee Valley Authority.

Revisions (water years).--WSP 473: 1897(M).

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20,000	10,400	24,200	24,300	73,800	64,400	a73,600	39,100	27,300	32,000	8,100	22,500
2	18,800	19,300	22,600	25,100	54,000	67,400	a62,000	27,000	32,500	34,300	36,900	25,200
3	16,100	19,600	25,000	21,100	54,000	73,700	29,000	38,600	35,000	21,000	37,100	26,400
4	3,500	23,100	24,700	30,400	50,900	65,900	21,700	44,500	36,800	9,300	31,700	14,600
5	20,300	22,300	18,200	33,800	42,000	66,500	32,300	40,100	27,700	20,800	25,100	8,300
6	21,800	27,400	17,500	38,900	41,600	63,500	*37,500	29,400	22,400	32,900	21,400	14,800
7	30,400	20,800	27,600	37,400	39,600	45,900	33,500	31,900	38,600	33,200	22,000	24,600
8	30,600	15,000	*27,300	34,600	49,700	54,500	26,900	24,600	38,100	26,300	8,200	26,000
9	29,200	24,300	33,000	20,700	*38,200	47,200	35,100	18,600	30,400	28,900	24,200	a30,900
10	18,100	23,800	38,900	23,400	40,700	44,600	34,700	31,000	27,000	g19,600	30,800	a25,200
11	8,200	22,800	37,500	36,700	48,000	40,400	28,400	30,900	30,700	g19,400	33,700	a12,600
12	22,500	21,400	32,400	43,500	50,600	53,600	32,600	31,600	31,200	g33,600	*32,500	a8,200
13	*22,700	21,400	35,400	35,900	39,700	40,300	32,500	34,400	24,200	32,000	36,600	a24,200
14	23,600	17,500	47,300	35,100	31,100	35,600	33,200	48,600	24,800	37,100	22,500	a26,200
15	25,700	7,800	47,800	37,600	43,000	47,600	35,700	41,700	26,200	32,400	10,900	a25,200
16	20,500	20,600	45,400	94,000	42,000	49,400	53,900	37,400	*28,600	24,700	38,700	a23,700
17	16,500	22,300	44,000	193,000	48,000	44,800	59,500	39,700	26,500	25,600	29,800	a28,100
18	7,900	23,300	39,000	185,000	55,100	41,800	32,000	34,000	25,300	14,900	28,400	a14,200
19	27,400	21,000	31,700	183,000	61,900	36,600	48,200	35,700	27,400	27,100	25,900	a13,500
20	28,100	19,400	25,400	162,000	54,600	41,000	36,000	38,100	25,800	g31,400	24,800	a24,200
21	23,600	12,100	29,300	a226,000	42,000	32,900	37,600	30,100	32,500	g35,500	18,600	a27,400
22	21,700	13,300	30,100	a270,000	42,900	g33,700	28,200	26,600	34,400	g27,200	9,300	a25,400
23	23,300	24,800	41,100	a299,000	46,400	g38,500	27,800	28,000	34,800	g27,400	32,000	a28,600
24	20,700	27,300	29,300	a287,000	42,500	g32,800	27,900	29,700	26,900	g20,600	28,900	a22,500
25	14,400	21,900	24,200	a282,000	36,000	g31,700	20,500	30,100	23,900	g9,400	28,400	a11,800
26	20,400	15,600	23,700	a272,000	48,600	g34,100	29,700	28,000	25,600	g34,700	34,200	a8,800
27	17,200	25,000	19,100	a238,000	31,500	37,900	32,800	32,100	18,700	31,500	34,200	a20,700
28	20,900	24,800	32,800	a175,000	43,800	g32,900	27,500	28,100	28,100	28,700	19,100	a21,700
29	19,700	16,400	31,800	a140,000	-	37,500	29,500	26,000	31,200	33,600	15,100	a21,200
30	18,000	25,400	37,400	105,000	-------	g50,400	35,400	18,800	30,600	35,500	29,200	a19,200
31	14,400	-------	44,000	75,600	-------	62,300	-------	26,400	-------	23,900	25,500	-------
Total	626,200	610,100	987,700	‡3,665.1	‡1,292.2	‡1,449.4	‡1,075.2	‡1,000.8	873,200	844,500	803,900	625,900
Mean	20,200	20,340	31,860	118,200	46,150	46,750	35,840	32,280	29,110	27,240	25,930	20,860
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 192,000 Min 250 Mean 43,290 Cfsm 1.41 In. 19.07
Water year 1953-54: Max 299,000 Min 3,500 Mean 37,960 Cfsm 1.23 In. 16.72

* Discharge measurement made on this day.
‡ Expressed in thousands.
a No gage-height record at auxiliary gage; discharge estimated on basis of records of release for Wilson Dam.
g Computed from bihourly remote-indicator-gage readings furnished by Tennessee Valley Authority.

Bear Creek at Bishop, Ala.

Location.--Lat 34°39'21", long 88°07'21", in SE¼ 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, and three-quarters of a mile southwest of Bishop.

Drainage area.--667 sq mi.

Records available.--August 1926 to March 1932, June 1933 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 419.91 ft above mean sea level, datum of 1929. Prior to June 23, 1928, and Feb. 10, 1929, to Mar. 31, 1932, staff gage 35 ft downstream at datum 5.06 ft lower. June 7, 1933, to May 28, 1934, chain gage at bridge 20 ft downstream at same datum as staff gage.

Average discharge.--24 years (1926-27, 1929-31, 1933-54), 1,060 cfs.

Extremes.--Maximum discharge during year, 15,500 cfs Jan. 23 (gage height, 17.23 ft); minimum, 9.3 cfs Sept. 15-17.
1926-54: Maximum discharge, 32,000 cfs Dec. 26, 1926 (gage height, 22.0 ft, present datum, from floodmarks); minimum, that of Sept. 15-17, 1954; minimum gage height observed, -0.15 ft Sept. 1, 1943.

Remarks.--Records good.

Revisions (water years).--WSP 698: 1929. WSP 853: 1927, 1928(M), 1929, 1930(M), 1932(M).

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 29 to Dec. 5, Dec. 8, 9, 13, 14, 17-28, Jan. 2-10, 12-14)

Oct. 1 to Jan. 23

0.8	42	8.0	2,500
1.0	63	10.0	3,500
2.0	207	12.0	5,000
2.5	310	14.0	7,500
3.0	450	16.0	11,600
5.0	1,140	17.1	15,100

Jan. 24 to Sept. 30

0.3	7.5	2.0	250
.4	12	3.0	480
.6	30	6.0	1,670
1.0	76	8.0	2,510

Note.--Same as preceding table above 8.2 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	63	63	80	335	914	1,340	2,090	734	212	59	42	18
2	62	64	80	253	810	1,280	1,580	718	191	102	39	18
3	60	68	110	211	730	1,380	1,390	1,580	338	160	46	17
4	59	72	227	188	670	1,190	1,140	1,560	718	72	42	16
5	58	63	223	170	610	1,030	950	1,480	826	90	35	15
6	58	62	441	162	554	930	*818	1,180	384	93	31	14
7	55	60	328	150	501	854	710	942	280	68	30	14
8	51	60	*211	143	465	774	710	786	230	58	28	*g13
9	49	56	312	133	*439	*714	1,020	674	201	58	27	g13
10	48	*59	432	157	422	658	914	570	185	55	*43	19
11	47	61	369	340	417	614	1,100	471	165	50	44	18
12	48	62	366	305	422	586	1,290	*422	149	49	39	14
13	*49	63	269	*261	409	554	1,060	442	137	51	46	g11
14	51	66	308	269	391	508	914	526	131	*80	34	g9.8
15	50	67	399	1,290	370	450	910	634	*124	64	28	g9.3
16	50	68	342	4,950	384	404	3,140	570	119	47	26	g9.3
17	49	71	281	4,390	468	374	6,820	471	187	39	24	g9.3
18	49	76	209	2,700	518	363	4,550	401	241	175	22	g10
19	50	72	168	3,640	530	414	5,320	354	332	197	20	g11
20	51	71	147	2,080	4,550	508	3,060	334	212	104	50	g12
21	52	71	145	4,010	4,490	590	1,680	310	180	341	175	*15
22	52	79	153	11,500	1,940	543	1,350	288	142	749	86	26
23	51	87	146	15,100	1,420	453	1,210	272	119	294	52	33
24	50	89	145	11,800	1,690	419	1,270	254	103	212	49	149
25	51	90	143	7,740	1,350	442	1,210	239	90	120	*38	82
26	51	90	133	3,820	1,110	646	1,070	223	83	83	31	52
27	55	86	126	2,110	978	650	946	225	76	67	28	35
28	56	83	164	1,590	1,520	622	790	288	73	61	23	26
29	60	82	330	1,350	-	602	1,120	328	64	52	25	23
30	59	80	402	1,170	-------	578	856	274	62	52	28	22
31	62	-------	480	1,030	-------	963	-------	234	-------	49	22	-------
Total	1,656	2,141	7,669	83,347	29,072	21,433	50,988	17,784	6,354	3,751	1,253	733.7
Mean	53.4	71.4	247	2,689	1,038	691	1,700	574	212	121	40.4	24.5
Cfsm	0.080	0.107	0.370	4.03	1.56	1.04	2.55	0.861	0.318	0.181	0.061	0.037
In.	0.09	0.12	0.43	4.65	1.62	1.20	2.84	0.99	0.35	0.21	0.07	0.04

Calendar year 1953: Max 12,500 Min 37 Mean 1,011 Cfsm 1.52 In. 20.58
Water year 1953-54: Max 15,100 Min 9.3 Mean 620 Cfsm 0.930 In. 12.61

Peak discharge (base, 7,500 cfs).--Jan. 23 (11 a.m.) 15,500 cfs (17.23 ft); Feb. 20 (12 p.m.) 7,600 cfs (14.06 ft).
* Discharge measurement made on this day.
g Computed from twice-daily staff-gage readings.

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.

Records available.--September 1930 to September 1954.

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 lock wall in lower pool at Pickwick Landing Dam, 16.8 miles upstream. Apr. 5, 1937, to Jan 31, 1939, auxiliary staff gage 4.0 miles downstream and Feb. 1, 1939, to Sept. 30, 1948, water-stage recorder 4.3 miles downstream.

Average discharge.--24 years, 51,910 cfs.

Extremes.--Maximum discharge during year, 291,000 cfs Jan. 26; maximum gage height, 85.55 ft Jan. 27; minimum daily discharge, 6,500 cfs Oct. 4; minimum gage height, 53.63 ft Jan 1.

1930-54: 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. 28, 1931.

Maximum stage known, 101.2 ft Mar. 21, 1897, present datum, 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 Sept. 8, 1925, present datum.

Remarks.--Records good. Flow regulated by many reservoirs above station (see p. 245).

Revisions (water years).--WSP 853: 1937.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17,100	11,800	27,600	19,600	93,200	63,600	52,800	51,500	32,300	28,200	17,600	25,300
2	17,500	15,700	25,100	21,500	63,600	67,200	39,000	29,600	42,400	34,300	30,300	19,600
3	16,900	26,800	27,000	21,600	50,900	83,700	36,400	38,600	*39,500	31,800	27,500	18,500
4	6,500	25,500	24,800	32,800	51,000	70,300	26,400	51,700	43,100	24,300	27,100	24,100
5	21,800	25,300	15,600	28,300	53,600	68,300	39,800	46,800	31,500	15,900	28,800	17,400
6	26,200	27,600	11,800	34,300	38,500	60,900	51,100	36,500	21,100	31,500	24,100	23,100
7	32,800	13,200	32,800	39,100	38,600	50,300	*49,600	39,200	38,900	31,500	32,300	23,000
8	29,300	13,000	29,800	36,900	47,500	53,700	54,700	31,400	37,000	28,800	23,000	26,400
9	22,300	*26,400	32,900	20,600	39,600	48,300	41,200	25,700	30,200	18,700	27,900	21,100
10	21,300	26,200	39,600	21,300	37,100	43,800	37,400	36,000	28,700	33,100	31,500	14,800
11	12,300	25,500	35,000	33,000	44,000	46,500	30,800	36,100	29,600	33,100	29,200	27,000
12	22,900	26,200	30,900	39,100	45,700	43,800	36,800	36,800	32,500	29,800	32,100	14,900
13	25,000	26,600	31,700	36,400	40,700	36,200	37,200	34,200	31,000	30,300	27,100	18,300
14	23,700	14,200	36,100	33,200	38,700	39,300	34,700	42,700	29,900	31,100	27,400	21,900
15	23,700	12,900	43,800	43,500	39,200	41,200	33,100	47,500	31,700	30,700	23,400	23,700
16	22,100	20,100	45,100	87,500	38,500	48,500	33,900	43,700	30,900	25,300	29,400	24,700
17	21,500	23,500	45,800	161,000	51,600	44,900	36,000	48,800	36,000	29,800	27,100	29,000
18	11,600	24,400	45,500	176,000	55,600	36,100	39,600	38,900	29,700	29,700	25,000	24,200
19	26,100	17,600	36,100	180,000	59,800	38,900	50,000	39,700	27,300	25,400	*25,600	16,000
20	26,800	22,900	20,100	177,000	65,000	38,800	48,000	37,900	29,500	28,900	25,000	21,100
21	21,600	12,700	28,100	200,000	56,500	29,700	55,900	32,000	34,200	30,800	29,500	24,200
22	20,000	11,900	33,700	238,000	61,700	27,200	53,800	33,700	36,300	26,900	27,300	23,200
23	24,000	27,900	40,100	267,000	58,300	26,500	52,700	31,000	38,500	31,300	26,600	28,500
24	20,200	26,300	32,900	279,000	45,000	28,100	27,900	28,100	28,800	35,500	29,500	24,000
25	13,700	20,500	24,400	286,000	43,600	21,900	23,900	33,900	26,000	14,900	28,200	25,300
26	20,400	13,100	21,300	*290,000	35,900	33,800	34,400	34,400	35,800	37,500	27,300	14,100
27	19,500	21,800	19,200	277,000	32,000	30,600	36,300	36,900	33,600	32,100	28,000	13,200
28	23,000	22,800	32,300	228,000	33,500	16,000	34,600	34,300	24,500	27,300	29,300	18,400
29	20,200	12,700	31,400	183,000	-	30,100	35,500	32,600	30,200	28,600	25,200	22,600
30	21,900	20,300	35,400	139,000	-------	39,100	48,300	21,800	28,800	29,900	26,200	16,200
31	17,500	-------	31,100	113,000	-------	56,200	-------	22,900	-------	30,900	25,500	------ --
Total	649,400	615,400	967,000	‡3,742.7	‡1,358.9	‡1,363.5	‡1,211.8	‡1,134.9	969,500	897,900	844,000	643,800
Mean	20,950	20,510	31,190	120,700	48,530	43,980	40,390	36,610	32,320	28,960	27,230	21,460
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 198,000 Min 6,300 Mean 46,820 Cfsm 1.41 In. 19.18
Water year 1953-54: Max 290,000 Min 6,500 Mean 39,450 Cfsm 1.19 In. 16.16

* Discharge measurement made on this day.
‡ Expressed in thousands.

Duck River below Manchester, Tenn.

Location.--Lat 35°28'15", long 86°07'18", on right bank 50 ft downstream from Power's bridge, 2 miles southwest of Manchester, Coffee County, 3½ miles downstream from Little Duck River, and 7 miles upstream from Crumpton Creek.

Drainage area.--107 sq mi.

Records available.--April 1934 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 878.23 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--20 years, 174 cfs.

Extremes.--Maximum discharge during year, 6,500 cfs Jan. 21 (gage height, 11.73 ft); minimum, 8.9 cfs Sept. 5 (gage height, 0.87 ft).
1934-54: 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.

Remarks.--Records good. Occasional regulation for short periods during low flow by small reservoir above station.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 20				Jan. 21 to June 16				June 17 to Sept. 30			
1.0	15	2.8	340	1.4	53	5.0	1,360	0.8	7.5	2.0	115
1.3	29	4.0	865	1.8	118	7.0	2,480	1.0	12	3.0	420
1.6	57	6.0	1,880	2.5	260	9.8	4,530	1.2	19	3.7	730
2.0	107	7.5	2,780	3.0	430			1.4	31		
2.3	170										

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	21	21	27	136	703	730	102	76	33	28	16
2	22	21	21	27	125	320	302	95	91	33	31	16
3	22	21	24	27	116	244	206	228	159	35	28	10
4	22	21	28	25	111	202	168	317	134	36	26	9.3
5	21	20	24	25	104	165	147	179	98	48	25	9.1
6	21	19	31	24	93	145	132	136	80	49	30	9.3
7	21	20	27	24	86	129	156	129	72	39	29	9.3
8	21	20	24	23	77	118	141	174	66	41	25	9.5
9	21	21	51	23	76	109	138	138	63	37	24	10
10	20	21	42	26	74	104	122	109	313	36	24	10
11	20	21	33	28	71	96	181	95	212	35	25	10
12	20	21	42	27	63	91	311	87	132	33	44	10
13	19	22	40	25	60	87	198	200	102	31	42	10
14	19	22	60	29	58	84	*158	*960	87	31	25	10
15	19	22	49	504	58	79	149	554	79	30	23	*10
16	19	22	44	2,760	184	71	920	255	256	29	24	10
17	19	22	40	*766	*676	66	1,920	177	730	28	25	11
18	19	22	*36	260	260	65	582	150	184	28	24	12
19	18	22	34	151	176	69	284	136	120	27	22	12
20	18	22	34	1,070	224	79	202	145	91	27	28	13
21	18	23	34	4,390	296	74	167	141	71	55	22	21
22	18	27	33	4,500	186	*68	145	116	58	33	20	14
23	*18	25	30	1,620	149	69	189	104	51	51	22	12
24	18	*24	28	522	210	280	622	93	44	39	22	12
25	19	25	27	308	212	530	226	86	*41	49	*20	12
26	19	23	27	228	163	950	163	79	39	46	19	12
27	20	22	27	406	134	380	140	74	37	*33	18	12
28	20	22	30	308	586	226	122	74	36	31	17	*12
29	21	21	31	210	-	181	123	72	33	30	17	13
30	20	21	29	177	-------	158	122	68	33	28	17	14
31	21	-------	28	154	-------	322	-------	65	-------	27	17	----- --
Total	615	656	1,029	18,694	4,764	6,264	9,166	5,338	3,588	1,168	763	350.5
Mean	19.8	21.9	33.2	603	170	202	306	172	120	37.7	24.6	11.7
Cfsm	0.185	0.205	0.310	5.64	1.59	1.89	2.86	1.61	1.12	0.352	0.230	0.109
In.	0.21	0.23	0.36	6.50	1.66	2.18	3.19	1.86	1.25	0.41	0.27	0.12

Calendar year 1953: Max 4,350 Min 18 Mean 145 Cfsm 1.36 In. 18.39
Water year 1953-54: Max 4,500 Min 9.1 Mean 144 Cfsm 1.35 In. 18.24

Peak discharge (base, 2,500 cfs).--Jan. 16 (11:30 a.m.) 3,500 cfs (8.56 ft); Jan. 21 (7 a.m.) 6,500 cfs (11.73 ft); Apr. 17 (3 a.m.) 2,820 cfs (7.57 ft).
* Discharge measurement made on this day.

Duck River near Shelbyville, Tenn.

Location.--Lat 35°28'49", long 86°29'58", on right bank 150 ft downstream from highway bridge, 2 miles upstream from Sugar Creek, 2¼ miles west of Shelbyville, Bedford County, and 2¾ miles downstream from Flat Creek.

Drainage area.--481 sq mi.

Records available.--April 1934 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 685.51 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--20 years, 790 cfs.

Extremes.--Maximum discharge during year, 17,700 cfs Jan. 22 (gage height, 23.81 ft); minimum, 45 cfs Sept. 16.
1934-54: 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, 29 cfs Sept. 2, 1945.

Remarks.--Records good. Prior to 1948, diurnal fluctuation caused by powerplant upstream.

Revisions (water years).--WSP 783: 1934. WSP 853: Drainage area.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 15				Jan. 16 to Sept. 30			
0.7	65	3.5	925	0.7	39	4.5	1,420
1.0	106	7.0	2,850	1.0	75	10.0	4,450
1.5	223	8.1	3,560	1.5	194	16.0	8,400
2.0	378			2.5	560	23.0	16,400

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	85	78	80	127	724	2,300	2,330	432	216	112	99	59
2	83	77	78	121	656	1,760	1,850	384	241	110	136	59
3	81	77	83	121	596	1,240	1,190	440	448	108	116	58
4	80	78	98	117	548	968	912	648	480	200	99	56
5	80	77	104	114	496	816	752	700	356	143	89	54
6	78	76	122	110	448	708	648	502	267	124	88	50
7	77	75	146	106	404	620	580	428	225	131	461	48
8	76	73	123	104	368	560	568	448	200	112	185	47
9	75	73	165	103	346	508	520	472	263	106	124	47
10	76	75	355	114	339	472	468	396	1,750	104	99	*47
11	76	76	226	163	318	440	508	332	1,540	97	91	47
12	76	76	188	209	294	408	688	300	788	93	86	47
13	76	77	235	163	270	384	736	*692	508	91	82	47
14	76	77	546	158	257	360	616	3,060	368	89	89	47
15	76	77	530	3,520	251	318	544	2,250	283	84	88	47
16	75	77	335	9,800	1,700	294	4,270	1,420	238	82	80	*46
17	75	77	*246	*5,750	*2,910	277	6,390	952	500	79	74	48
18	75	77	190	2,150	1,760	264	3,760	760	1,000	79	70	50
19	75	77	163	1,240	1,080	270	1,880	648	500	82	121	52
20	75	78	144	3,080	948	287	1,260	740	332	80	171	53
21	75	80	136	12,500	984	274	*984	640	251	79	104	66
22	*73	87	133	*16,400	908	260	836	544	206	120	88	*82
23	73	96	127	13,000	732	*254	724	460	*185	364	77	80
24	73	*96	117	3,880	700	728	856	392	174	552	*70	64
25	73	94	110	1,940	760	1,190	1,090	350	160	238	68	58
26	73	91	106	1,380	708	2,580	788	318	149	185	70	55
27	76	90	104	1,740	604	2,000	620	290	138	*188	70	54
28	80	87	114	1,580	1,560	1,190	540	283	131	128	68	54
29	84	83	131	1,260	-	888	504	280	126	108	66	68
30	83	80	146	1,000	-------	736	472	264	119	95	63	99
31	80	-------	136	840	--------	1,410	-------	235	-------	88	60	-------
Total	2,389	2,412	5,517	82,890	21,669	24,764	37,884	20,060	12,142	4,251	3,252	1,689
Mean	77.1	80.4	178	2,674	774	799	1,263	647	405	137	105	56.3
Cfsm	0.160	0.167	0.370	5.56	1.61	1.66	2.63	1.35	0.842	0.285	0.218	0.117
In.	0.18	0.19	0.43	6.41	1.68	1.91	2.93	1.55	0.94	0.33	0.25	0.13

Calendar year 1953: Max 13,600 Min 70 Mean 688 Cfsm 1.43 In. 19.42
Water year 1953-54: Max 16,400 Min 46 Mean 600 Cfsm 1.25 In. 16.93

Peak discharge (base, 8,000 cfs).--Jan. 16 (1:30 p.m.) 10,500 cfs (18.28 ft); Jan. 22 (4 p.m.) 17,700 cfs (23.81 ft).

* Discharge measurement made on this day.

Duck River at Columbia, Tenn.

Location.--Lat 35°37'05", long 87°01'57", on right bank 4 ft downstream from bridge on former U. S. Highway 31, 2 blocks north of public square at Columbia, Maury County, three-quarters of a mile downstream from Columbia hydroelectric plant, 2½ miles upstream from Rutherford Creek, and at mile 132.4.

Drainage area.--1,208 sq mi.

Records available.--October 1904 to December 1908 and April 1920 to September 1954 in reports of Geological Survey. October 1904 to December 1908 and April 1920 to October 1924 (prior to October 1921, revised) in Tennessee Division of Geology Bulletin 34. Gage-height records collected in this vicinity, during periods of high water, since 1886, are contained in reports of 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.--38 years (1904-8, 1920-54), 1,911 cfs.

Extremes.--Maximum discharge during year, 28,200 cfs Jan. 22 (gage height, 36.43 ft); minimum, 42 cfs Sept. 13; minimum daily, 43 cfs Sept. 13, 14.
1904-8, 1920-54: 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.--Records good. Low flow regulated by powerplants above station.

Revisions (water years).--WSP 783: 1929(M). See also Records available.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 4-24, Feb. 8-16)

Oct. 1 to Jan. 14, July 16 to Sept. 30

1.8	41	3.0	345
2.0	61	4.0	850
2.4	136	4.3	1,030

Jan. 15 to July 15

2.0	61	10.0	4,620
2.3	122	20.0	12,100
2.6	237	30.0	21,100
4.0	1,000	36.1	27,800
7.0	2,780		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	144	74	91	141	1,980	3,440	4,580	829	394	88	113	61
2	115	73	*91	139	1,690	3,750	4,410	763	350	92	109	59
3	101	*67	107	130	1,480	3,180	3,420	988	384	84	103	57
4	89	64	113	117	1,310	2,430	2,520	1,310	455	86	101	53
5	*76	64	99	109	1,170	1,950	1,980	1,340	714	106	117	52
6	70	72	246	105	1,050	1,630	1,610	1,250	592	114	130	50
7	68	72	168	99	944	1,380	1,400	972	356	154	115	49
8	66	66	126	93	846	1,200	1,210	846	306	128	103	48
9	64	62	146	91	768	1,080	1,110	736	279	104	146	48
10	62	60	184	176	768	966	1,020	692	274	94	239	*47
11	67	59	200	645	692	878	1,030	648	2,100	92	159	46
12	67	66	388	275	576	807	1,210	460	2,320	86	126	44
13	59	70	320	265	521	812	1,270	*723	1,290	82	105	43
14	54	70	354	345	460	851	1,270	8,140	834	80	97	43
15	56	74	640	4,690	570	829	1,170	10,200	626	74	87	44
16	59	73	1,000	14,200	*2,880	697	7,330	5,080	626	73	86	44
17	64	64	*554	16,600	8,840	582	15,200	3,270	812	70	*84	45
18	64	66	397	*11,200	6,910	510	13,400	2,320	554	66	78	45
19	61	68	281	4,630	3,860	494	7,380	1,800	790	66	78	46
20	59	74	207	6,970	8,260	532	3,960	1,540	890	66	72	46
21	59	76	168	21,500	6,070	565	*2,830	1,460	526	73	67	*53
22	60	76	144	*26,900	3,510	521	2,160	1,280	258	97	78	53
23	60	74	136	27,800	2,730	482	1,830	1,070	*290	91	128	54
24	60	*74	123	25,800	2,260	*956	1,550	917	228	89	*117	58
25	59	74	115	15,100	1,880	2,430	1,420	785	184	174	126	59
26	57	80	107	4,800	1,680	4,420	1,760	834	154	358	139	70
27	*56	87	99	4,610	1,550	4,700	1,470	477	135	281	97	66
28	57	93	105	4,670	2,290	3,560	1,180	433	119	*190	80	58
29	60	91	128	3,630	-	2,570	1,120	532	104	171	72	86
30	60	91	121	2,950	-------	1,950	1,060	526	96	165	68	922
31	64	-------	134	2,390	-------	2,310	-------	450	-------	132	66	------
Total	2,117	2,174	7,092	201,170	67,545	52,462	92,860	52,671	17,040	3,626	3,286	2,449
Mean	68.3	72.5	229	6,489	2,412	1,692	3,095	1,699	568	117	106	81.6
Cfsm	0.057	0.060	0.190	5.37	2.00	1.40	2.56	1.41	0.470	0.097	0.088	0.068
In.	0.07	0.07	0.22	6.19	2.08	1.62	2.86	1.62	0.52	0.11	0.10	0.08

Calendar year 1953: Max 21,400 Min 54 Mean 1,770 Cfsm 1.47 In. 19.90
Water year 1953-54: Max 27,800 Min 43 Mean 1,382 Cfsm 1.14 In. 15.54

Peak discharge (base, 16,000 cfs).--Jan. 17 (9 a.m.) 17,100 cfs (25.74 ft); Jan. 22 (6 p.m.) 28,200 cfs (36.43 ft); Apr. 17 (7 to 9 p.m.) 16,400 cfs (25.00 ft).
* Discharge measurement made on this day.

Rutherford Creek near Carters Creek, Tenn.

Location.--Lat 35°40'23", long 86°58'42", on right bank at upstream side of county highway bridge, 1 mile downstream from Double Branch, 3.2 miles south of town of Carters Creek, Maury County, 3.5 miles upstream from Carters Creek, and 5.1 miles northeast of Columbia.

Drainage area.--68.8 sq mi.

Records available.--September 1953 to September 1954.

Gage.--Water-stage recorder. Altitude of gage is 590 ft (from topographic map).

Extremes.--Maximum discharge during period September 1953 to September 1954, 7,740 cfs Jan. 21 (gage height, 20.92 ft), from rating curve extended above 2,700 cfs; no flow Sept. 16-18, 1953, Aug. 9 to Sept. 28, 1954.

Remarks.--Records good except those below 10 or above 3,000 cfs, which are poor.

Rating tables, Sept. 16, 1953, to Sept. 30, 1954 (gage height, in feet, and discharge, in cubic feet per second)

Sept. 16, 1953, to Jan. 20, 1954				Jan. 21 to Sept. 30, 1954			
1.0	0	1.8	18	1.0	0	1.8	24
1.1	.01	2.0	38	1.1	.03	2.0	42
1.2	.2	2.5	108	1.2	.2	2.5	105
1.3	.7	3.0	185	1.3	1.4	3.0	184
1.4	1.9	5.0	593	1.4	3.3	5.0	593
1.5	3.5	8.0	1,300	1.5	5.9	9.0	1,550
1.6	6.2	11.2	2,160	1.6	9.3	14.0	3,210
1.7	10			1.7	16		

Discharge, in cubic feet per second, 1953

Sept. 16	*0	Sept. 24	0.04
17	0	25	.08
18	0	26	.08
19	.4	27	.08
20	.1	28	.06
21	.08	29	.04
22	.06	30	.04
23	.06		

* Observation of no flow made on this day.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.04	0.02	0.03	3.7	134	214	201	42	15	1.0	0.01	0
2	.04	.02	*.03	3.3	*116	169	152	38	13	.8	.01	*0
3	.03	*.02	.4	3.2	104	147	124	56	16	.6	.02	0
4	.02	.02	3.8	3.0	91	119	106	59	16	.5	.01	0
5	*.02	.02	5.6	2.8	79	106	93	41	12	2.1	.01	0
6	.02	.02	111	*2.6	70	96	86	35	10	3.1	.02	0
7	.02	.02	16	2.5	61	87	80	33	9.3	1.9	.01	0
8	.02	.02	4.2	2.3	56	79	70	31	*8.0	1.0	.01	0
9	.02	.02	5.3	2.5	54	72	61	27	68	.5	0	0
10	.02	.02	9.0	127	48	66	57	*23	173	.2	0	0
11	.01	.03	5.6	106	45	62	87	21	32	.3	0	0
12	.01	.03	4.5	48	38	58	74	20	17	.2	0	0
13	.01	.03	4.2	27	37	80	*61	58	12	.1	0	0
14	.01	.03	16	*29	36	64	58	*463	9.3	.07	0	0
15	.01	.03	30	1,370	34	53	54	172	14	.03	0	0
16	.01	.03	10	1,300	976	48	1,880	113	28	.02	0	0
17	.01	.03	7.2	413	461	*44	766	87	33	.01	0	0
18	.01	.03	6.9	266	263	42	421	71	11	.01	*0	0
19	.01	.03	6.6	200	206	46	284	63	8.4	.01	0	0
20	.01	.04	4.7	2,160	*1,670	47	208	69	7.1	.01	0	0
21	.01	.04	3.2	*3,070	502	39	164	46	6.2	*.2	0	0
22	.01	.06	3.2	*2,140	316	36	134	38	5.3	4.1	0	0
23	.01	.04	3.0	676	250	41	113	35	4.5	5.0	0	0
24	.01	.03	2.8	443	253	330	98	30	3.8	3.1	0	0
25	.01	.04	2.5	318	182	320	83	27	*3.3	1.9	0	0
26	.01	.03	1.9	253	150	337	71	25	3.1	.7	0	
27	.02	.03	1.9	617	131	223	61	24	2.9	.3	0	0
28	.02	.03	2.6	322	406	170	64	22	2.5	.2	0	0
29	.02	.03	3.5	250	-	137	60	23	2.3	.1	0	.8
30	.02	.03	4.7	194	-------	115	53	19	1.7	.02	0	76
31	.02	-------	4.2	157	-------	316	-------	16	-------	.01	0	-------
Total	0.51	0.87	284.56	14,511.9	6,769	3,763	5,824	1,827	547.7	28.09	0.10	76.8
Mean	0.016	0.029	9.18	468	242	121	194	58.9	18.3	0.906	0.003	2.56
Cfsm	0.00023	0.00042	0.133	6.80	3.52	1.76	2.82	0.856	0.266	0.013	0.000044	0.037
In.	0.0003	0.0005	0.15	7.84	3.66	2.03	3.15	0.99	0.30	0.02	0.00005	0.04

Calendar year 1953: Max - Min - Mean - Cfsm - In. -
Water year 1953-54: Max 3,070 Min 0 Mean 92.1 Cfsm 1.34 In. 18.18

Peak discharge (base, 1,800 cfs).--Jan. 16 (3 a.m.) 2,930 cfs (13.35 ft); Jan. 21 (1 a.m.) 7,740 cfs (20.92 ft); Feb. 16 (6 p.m.) 2,450 cfs (12.03 ft); Feb. 20 (12:30 p.m.) 2,860 cfs (13.18 ft); Apr. 16 (11:30 a.m.) 3,160 cfs (13.89 ft).

* Discharge measurement or observation of no flow made on this day.

Big Bigby Creek at Sandy Hook, Tenn.

Location.--Lat 35°29'21", long 87°13'58", on right bank 45 ft west of Louisville & Nashville Railroad track, 0.2 mile downstream from bridge on U. S. Highway 43, 0.45 mile upstream from Dry Creek, 0.5 mile northeast of Sandy Hook, Maury County, and 3.5 miles southwest of Mount Pleasant.
Drainage area.--17.5 sq mi.
Records available.--September 1953 to September 1954.
Gage.--Water-stage recorder. Datum of gage is 670.59 ft above mean sea level, datum of 1929.
Extremes.--1953-54: Maximum discharge during water year, 1,520 cfs Jan. 20 (gage height, 8.56 ft), from rating curve extended above 830 cfs; minimum, 1.5 cfs Sept. 4-7.
Remarks.--Records fair except those for periods of no gage-height record, which are poor.

Rating tables, Sept. 1, 1953, to Sept. 30, 1954 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 7-15, Mar. 7-23)

Sept. 1, 1953, to Apr. 16, 1954

1.0	2.7	2.5	104
1.1	4.8	3.0	180
1.3	10	3.5	270
1.5	16	4.0	365
1.7	25	5.0	575
2.0	47		

Apr. 17 to Sept. 30, 1954

1.2	1.2	1.5	12
1.3	3.5	1.7	23
1.4	7.3	2.0	47

Note.--Same as preceding table above 2.0 ft.

Discharge, in cubic feet per second, 1953

Day	Discharge	Day	Discharge	Day	Discharge	Day	Discharge
Sept. 1	3.5	Sept. 9	3.3	Sept. 17	3.2	Sept. 25	4
2	3.8	10	3.3	18	3.2	26	4
3	3.8	11	3.3	19	10	27	4
4	4.0	12	3.3	20	5	28	4
5	4.6	13	3.3	21	4	29	4
6	3.8	14	3.3	22	4	30	4
7	3.5	15	3.3	23	4		
8	3.3	16	*3.3	24	4		

Total	118.1
Mean	3.94
Cubic feet per second per square mile	0.225
Runoff in inches	0.25

Peak discharge (base, 600 cfs).--No peak above base.
* Discharge measurement made on this day.
Note.--No gage-height record Sept. 17-30; discharge estimated on basis of weather records, recorded range in stage, and records for station near Mount Pleasant and for Richland Creek near Pulaski.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4	4.6	4.8	6.3	14	33	37	18	7.3	4.3	2.5	1.9
2	4	4.6	*4.6	6.0	*13	26	29	17	8.2	3.9	2.5	*1.7
3	4	*4.6	7.9	6.0	13	25	24	25	22	3.9	4.5	1.7
4	4	4.6	8.4	6.0	12	20	22	28	12	6	3.8	1.7
5	*4.0	4.6	6.8	5.8	12	18	19	23	11	5	3.3	1.5
6	4.0	4.6	18	*5.8	11	17	18	20	9.6	4.5	3.0	1.5
7	4.0	4.6	8.6	5.6	10	15	16	18	6.9	4	2.7	1.5
8	4.0	4.6	6.8	5.3	10	14	16	16	*6.2	3.8	2.6	1.9
9	4.2	4.6	8.9	5.6	10	14	15	14	6.5	3.6	2.5	2.2
10	4.2	4.6	7.8	9.7	10	12	15	*12	6.2	3.5	2.5	2.2
11	4.0	4.8	7.0	10	9.7	12	19	11	5.8	3.5	2.4	2.2
12	4.0	4.8	7.6	8.6	9.5	11	17	10	5.8	3.4	2.3	2.2
13	4.0	4.8	7.0	7.6	8.9	11	*16	27	5.6	3.4	2.2	2.2
14	3.8	4.8	9.5	10	8.9	11	16	*57	5.4	3.3	2.1	2.2
15	3.8	4.8	8.4	199	8.9	10	15	36	5.2	3.2	2.1	1.9
16	3.8	4.8	7.3	124	126	9.5	424	27	7.5	3.1	2.0	1.9
17	4.0	4.8	6.8	24	72	*9.2	146	22	7	3.0	2.0	2.2
18	3.8	4.8	6.0	15	36	9.2	69	19	6.5	2.9	*1.9	2.4
19	4.0	4.8	6.0	12	26	12	43	17	6	2.8	1.9	2.2
20	4.0	5.0	5.8	308	*389	12	31	16	5.5	2.9	3.0	2.2
21	4.0	5.0	6.0	*272	96	11	25	13	5.2	*3.0	3.2	6.5
22	4.0	5.8	6.0	378	50	10	23	12	5.2	4.6	3.0	3.5
23	4.0	5.3	5.8	97	37	11	29	11	5	4.3	2.4	3.0
24	4.0	5.0	5.6	50	38	17	22	10	5	3.9	2.2	2.6
25	4.0	5.0	5.6	32	27	28	21	9.6	*5.0	3.5	2.4	2.6
26	4.2	5.0	5.6	26	23	41	19	9.2	4.3	3.2	2.6	2.6
27	4.4	4.8	5.6	29	20	31	17	8.7	4.3	3.0	2.6	2.4
28	4.6	4.8	7.3	24	45	25	22	9.6	4.3	2.8	2.2	2.2
29	4.6	4.8	7.8	21	-	22	24	9.6	4.3	2.7	2.2	3.0
30	4.6	4.8	7.0	18	-------	19	21	8.7	4.3	2.6	2.2	5.4
31	4.6	-------	6.8	16	-------	36	-------	8.2	-------	2.5	1.9	-------
Total	126.6	144.5	223.1	1,743.3	1,145.9	551.9	1,230	542.6	203.1	110.1	78.7	73.2
Mean	4.08	4.82	7.20	56.2	40.9	17.8	41.0	17.5	6.77	3.55	2.54	2.44
Cfsm	0.233	0.275	0.411	3.21	2.34	1.02	2.34	1.00	0.387	0.203	0.145	0.139
In.	0.27	0.31	0.47	3.70	2.44	1.17	2.61	1.15	0.43	0.23	0.17	0.16

Calendar year 1953: Max - Min - Mean - Cfsm - In. -
Water year 1953-54: Max 424 Min 1.5 Mean 16.9 Cfsm 0.966 In. 13.12

Peak discharge (base, 600 cfs).--Jan. 20 (6:30 p.m.) 1,520 cfs (8.56 ft); Feb. 20 (7 a.m.) 960 cfs (6.65 ft); Apr. 16 (10 a.m.) 917 cfs (6.48 ft).
* Discharge measurement made on this day.
Note.--No gage-height record Oct. 1-4, June 13-24, July 4-20, July 27 to Aug. 17; discharge estimated on basis of weather records, recorded range in stage, and records for station near Mount Pleasant and for Richland Creek near Pulaski.

Big Bigby Creek near Mount Pleasant, Tenn.

Location.--Lat 35°30'12", long 87°13'54", near midchannel on downstream side of pier of bridge on U. S. Highway 43, 400 ft downstream from small water-supply dam, 0.8 mile downstream from Dry Creek, 2.55 miles southwest of Mount Pleasant, Maury County, and 2.6 miles upstream from West Fork.

Drainage area.--25.8 sq mi.

Records available.--September 1953 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 654.99 ft above mean sea level, datum of 1929.

Extremes.--1953-54: Maximum discharge during water year, 2,810 cfs Jan. 20 (gage height, 8.02 ft), from rating curve extended above 930 cfs; minimum, 1.2 cfs Aug. 24, Sept. 23, 27-29.

Remarks.--Records fair. Irregular discharge at low flow caused by removal and delayed return of ore-processing water upstream.

Discharge, in cubic feet per second, 1953

Day	Discharge	Day	Discharge	Day	Discharge	Day	Discharge
Sept. 1	*4.2	Sept. 9	3.8	Sept. 17	3.6	Sept. 25	2.9
2	4.4	10	4.0	18	3.6	26	3.3
3	4.2	11	4.0	19	8.5	27	3.2
4	4.2	12	3.4	20	4.9	28	3.0
5	5.0	13	3.2	21	3.2	29	3.2
6	3.1	14	3.6	22	2.9	30	3.0
7	2.8	15	4.0	23	3.0		
8	3.2	16	*4.2	24	2.9		

Total	112.5
Mean	3.75
Cubic feet per second per square mile	0.145
Runoff in inches	0.16

Peak discharge (base, 1,000 cfs).--No peak above base.
* Discharge measurement made on this day.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.0	4.0	5.2		21	61	66	25	9.5	2.9	1.5	1.3
2	3.2	4.0	*5.9		*17	51	55	28	9.2	3.1	1.5	*1.8
3	3.5	*4.3	18		15	47	50	42	26	4.7	5.0	2.3
4	3.9	4.7	15	a4.5	12	36	45	48	14	2.9	3.3	1.3
5	*3.5	4.5	8.9		12	32	33	48	12	2.9	2.3	1.3
6	3.3	4.3	39	(*)	15	36	26	39	a9	1.8	2.3	1.3
7	3.2	4.2	12	3.8	15	32	23	31	a8	2.3	4.1	1.3
8	2.9	4.0	8.0	4.2	9.8	25	21	28	*6.1	2.4	4.3	1.8
9	3.2	4.0	17	8.8	8.5	19	21	22	6.2	3.5	1.9	1.8
10	3.5	4.2	11	22	8.9	17	23	*17	6.9	5.0	1.8	1.8
11	3.3	4.1	8.5	17	8.9	17	34	13	6.1	3.0	1.6	1.6
12	2.8	4.2	11	11	6.7	17	25	12	6.9	3.1	1.5	1.5
13	3.2	4.1	10	9.8	9.3	18	*23	35	8.4	3.4	1.5	1.3
14	3.3	4.0	14	20	9.3	17	22	*79	4.8	3.7	1.6	1.5
15	3.5	3.9	12	361	7.3	12	23	62	4.0	2.8	2.6	1.3
16	3.9	4.0	8.9	241	194	8.5	857	50	6.9	3.4	2.1	1.3
17	3.7	4.3		72	109	*8.0	266	34	4.3	4.0	1.6	1.3
18	2.9	4.3		40	65	11	120	24	4.3	2.4	*1.9	1.3
19	3.0	4.3		27	49	14	74	22	8.4	2.1	2.1	1.3
20	3.7	4.5		763	*762	17	53	20	8.4	1.5	1.6	1.3
21	3.7	5.2		*532	164	18	40	18	3.8	*2.1	4.9	3.9
22	3.7	5.2		*720	81	14	33	20	2.8	5.7	2.6	1.3
23	3.2	6.2		152	66	12	43	22	2.0	5.0	1.5	1.2
24	3.9	6.4	a9.5	89	66	26	34	18	1.6	5.7	1.2	1.9
25	3.9	5.2		60	52	45	31	16	*2.1	2.7	1.8	3.6
26	4.1	4.3		45	40	68	23	16	5.2	1.8	1.5	1.9
27	4.3	5.2		50	39	39	19	15	5.9	1.9	1.3	1.5
28	3.9	4.7		36	79	51	29	11	2.8	2.2	1.5	1.2
29	4.3	4.7		30	-	36	31	12	2.3	1.5	1.5	1.3
30	4.3	5.0		28	--	28	25	12	1.8	2.1	1.3	4.7
31	4.3	------		26	------	61	------	10	------	3.2	1.3	------
Total	110.1	136.0	346.9	3,395.6	1,941.7	913.5	2,168	849	199.7	94.8	66.5	52.2
Mean	3.55	4.53	11.2	110	69.3	29.5	72.3	27.4	6.66	3.06	2.15	1.74
Cfsm	0.138	0.176	0.434	4.26	2.69	1.14	2.80	1.06	0.258	0.119	0.083	0.067
In.	0.16	0.20	0.50	4.89	2.80	1.32	3.13	1.22	0.29	0.14	0.10	0.08

Calendar year 1953: Max - Min - Mean - Cfsm - In. -
Water year 1953-54: Max 857 Min 1.2 Mean 28.1 Cfsm 1.09 In. 14.83

Peak discharge (base, 1,000 cfs).--Jan. 15 (9 p.m.) 1,060 cfs (4.66 ft); Jan. 20 (7 p.m.) 2,810 cfs (8.02 ft); Feb. 20 (8 a.m.) 1,880 cfs (6.28 ft); Apr. 16 (11 a.m.) 1,900 cfs (6.34 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records, recorded range in stage, and records for station at Sandy Hook.

Duck River at Centerville, Tenn.

Location.--Lat 35°47'16", long 87°27'56", on right bank 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, 1¼ 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.

Records available.--March 1919 to September 1954.

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, 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 Oct. 3, 1929, staff gage, at site 75 ft upstream at present datum.

Average discharge.--34 years (1920-54), 3,106 cfs.

Extremes.--Maximum discharge during year, 37,600 cfs Jan. 23 (gage height, 24.87 ft); minimum daily, 130 cfs Sept. 16, 17; minimum gage height recorded, 0.30 ft Sept. 21, but may have been less during period of no gage-height record.

1919-54: Maximum discharge, 97,700 cfs Feb. 14, 1948 (gage height, 37.58 ft); minimum, 68 cfs Aug. 30, 1925; minimum gage height, that of Sept. 21, 1954.

Remarks.--Records good except those for period of no gage-height record, which are fair. Some diurnal fluctuation at low flow caused by powerplants above station. Minor diversions for irrigation.

Revisions (water years).--WSP 543: 1921(m). WSP 803: 1935. WSP 823: Drainage area. WSP 853: 1920(M).

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 22

0.5	190	2.0	1,080	0.3	140	1.5	700	16.0	19,000
.8	295	4.0	2,950	.5	190	2.0	1,100	20.0	25,700
1.4	625			.8	295	4.0	2,950	25.0	38,000
				1.0	390	8.0	7,670		

Jan. 23 to Sept. 30

Note.--Same as following table above 4.0 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	230	238	279	395	3,790	5,250	4,780	2,350	847	308	275	160
2	271	238	*279	400	3,170	5,930	6,960	2,060	791	295	271	160
3	271	244	308	415	2,750	5,800	5,970	2,430	791	291	283	160
4	255	255	415	410	2,400	4,670	4,610	2,950	855	473	259	160
5	241	255	451	390	2,130	3,750	3,590	2,950	799	446	238	155
6	*230	244	468	375	1,930	3,150	2,890	2,640	951	365	220	150
7	220	238	822	*360	1,740	2,730	2,570	2,350	927	331	224	150
8	220	241	604	350	1,560	2,420	*2,220	1,940	752	308	252	150
9	217	248	484	354	1,440	2,170	1,980	1,700	685	318	244	150
10	217	252	462	639	1,340	1,970	1,880	1,470	685	295	230	145
11	220	248	468	1,130	1,290	1,820	2,280	1,340	625	271	255	140
12	214	244	462	1,300	1,180	1,690	2,480	1,250	2,350	255	318	138
13	217	*241	549	875	1,040	1,750	2,440	1,170	2,320	252	283	135
14	220	244	632	732	999	1,800	2,340	2,770	1,520	244	252	135
15	220	248	667	3,390	911	1,660	2,250	13,000	1,100	234	220	132
16	217	252	822	18,100	2,620	*1,520	5,580	10,800	*935	227	208	130
17	208	255	1,120	20,900	12,900	1,370	19,900	5,960	1,070	220	193	130
18	202	255	838	20,400	14,300	1,260	22,100	3,970	1,100	214	190	132
19	208	255	688	12,300	9,110	1,210	17,500	2,910	935	211	188	135
20	214	248	569	10,700	11,800	1,210	9,570	*2,450	887	208	*205	138
21	217	252	513	33,800	19,000	1,180	5,930	2,160	1,100	*208	220	*140
22	217	291	484	35,900	10,200	1,170	4,400	2,020	783	217	217	150
23	214	318	440	*37,500	6,600	1,180	3,880	1,790	625	227	210	155
24	214	308	395	36,200	5,330	1,710	3,420	1,540	484	255	210	165
25	217	291	380	33,600	4,300	2,930	3,000	1,360	478	252	220	165
26	217	283	370	21,000	3,570	4,840	3,160	1,210	430	227	210	165
27	224	275	360	8,890	3,000	6,790	2,990	1,190	400	348	200	168
28	227	267	365	8,570	4,010	6,160	2,660	983	375	440	200	172
29	227	271	415	7,310	-	4,700	2,840	1,020	345	350	190	208
30	227	279	440	5,740	-------	3,560	2,670	1,020	326	291	180	318
31	230	-------	405	4,600	-------	3,290	-------	959	-------	267	170	-------
Total	6,943	7,778	15,954	327,036	134,410	90,640	158,840	83,712	26,271	8,848	7,035	4,691
Mean	224	259	515	10,550	4,800	2,929	5,295	2,700	876	285	227	156
Cfsm	0.109	0.126	0.251	5.15	2.34	1.43	2.59	1.32	0.428	0.139	0.111	0.176
In.	0.13	0.14	0.29	5.94	2.44	1.65	2.88	1.52	0.48	0.16	0.13	0.09

Calendar year 1953: Max 28,000 Min 187 Mean 3,122 Cfsm 1.52 In. 20.71
Water year 1953-54: Max 37,500 Min 130 Mean 2,389 Cfsm 1.17 In. 15.85

Peak discharge (base, 20,000 cfs).--Jan. 18 (4 a.m.) 21,300 cfs (17.50 ft); Jan. 23 (1 p.m.) 37,600 cfs (24.87 ft); Feb. 21 (5 a.m.) 21,600 cfs (17.68 ft); Apr. 18 (2:30 p.m.) 22,400 cfs (18.18 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Aug. 23 to Sept. 20; discharge estimated on basis of adjacent record, recorded range in stage, weather records, and records for station above Hurricane Mills and other nearby stations.

Piney River at Vernon, Tenn.

Location.--Lat 35°52'17", long 87°30'00", on left bank 500 ft upstream from relocated county highway bridge, 600 ft upstream from Pretty Creek, 0.2 mile northwest of Vernon, Hickman County, 2.2 miles downstream from Mill Creek, 6.5 miles north of Centerville, and 8.4 miles upstream from mouth.

Drainage area.--193 sq mi.

Records available.--July 1925 to September 1954.

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, at same site and datum. Feb. 9, 1931, to May 11, 1934, staff gage half a mile downstream at datum 2.77 ft lower.

Average discharge.--29 years, 300 cfs.

Extremes.--Maximum discharge during year, 11,500 cfs Jan. 20 (gage height, 12.47 ft); minimum, 49 cfs Sept. 15; minimum gage height, 0.15 ft Jan. 9.
1925-54: Maximum discharge observed, 32,500 cfs Dec. 21, 1926 (gage height, 16.5 ft); minimum, 35 cfs Sept. 19, 20, 1936; minimum gage height observed, -0.09 ft Sept. 27, Oct. 16, 1951.

Remarks.--Records fair.

Revisions (water years).--WSP 758: 1927(M). WSP 823: Drainage area.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	70	a83	a72	75	303	444	274	408	142	78	55	58
2	72	82	*68	73	284	402	249	437	135	75	66	55
3	70	89	85	73	268	398	231	633	202	84	71	55
4	70	89	102	73	252	346	214	599	163	128	60	53
5	72	91	82	71	237	316	205	524	148	150	55	53
6	*69	85	243	71	222	303	196	448	135	106	62	53
7	69	82	132	*71	208	280	193	416	128	89	64	53
8	70	80	108	71	199	261	*182	366	122	87	60	55
9	69	82	106	75	193	243	168	323	118	87	64	55
10	68	a82	96	155	182	231	174	290	115	84	62	53
11	70	a78	89	138	177	219	216	264	113	82	60	53
12	72	a74	87	96	166	205	225	246	108	80	60	53
13	70	*70	82	84	161	193	225	261	106	78	66	53
14	69	a70	96	84	158	177	225	*297	103	75	66	51
15	70	a72	94	513	158	166	225	271	101	75	62	51
16	72	a74	87	1,190	202	*153	363	255	*101	84	60	51
17	70	a76	82	433	268	145	583	243	122	75	55	53
18	72	a76	80	303	246	142	528	231	110	71	55	53
19	72	a78	78	243	246	145	448	222	103	71	55	53
20	72	a78	78	*2,620	*1,180	142	380	*219	98	69	*73	53
21	72	a80	82	4,050	951	130	340	199	96	*69	71	*89
22	*72	a120	82	1,490	591	128	360	191	94	71	66	66
23	72	a100	80	890	473	145	644	179	91	69	62	62
24	75	a100	78	621	402	1,450	672	171	89	66	75	60
25	75	82	75	491	349	925	505	161	87	62	94	60
26	78	a80	73	430	a310	688	430	155	84	58	71	62
27	91	a78	73	502	a300	539	394	153	84	55	66	60
28	89	a78	91	448	a410	451	422	158	84	55	64	62
29	85	a76	87	405	-	388	487	171	82	55	62	101
30	85	a76	82	366	-------	340	462	158	80	55	60	155
31	a83	-------	78	330	-------	316	-------	145	--------	55	58	------
Total	2,285	2,461	2,828	16,535	9,096	10,411	10,220	8,794	3,344	2,398	1,980	1,844
Mean	73.7	82.0	91.2	533	325	336	341	284	111	77.4	63.9	61.5
Cfsm	0.382	0.425	0.473	2.76	1.68	1.74	1.77	1.47	0.575	0.401	0.331	0.319
In.	0.44	0.47	0.54	3.19	1.75	2.01	1.97	1.69	0.64	0.46	0.38	0.36

Calendar year 1953 : Max 3,400 Min 68 Mean 273 Cfsm 1.41 In. 19.16
Water year 1953-54: Max 4,050 Min 51 Mean 198 Cfsm 1.03 In. 13.90

Peak discharge (base, 4,000 cfs).--Jan. 20 (12 p.m.) 11,500 cfs (12.47 ft).
* *Discharge measurement made on this day.*
a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for Buffalo River near Flat Woods and near Lobelville.

Duck River above Hurricane Mills, Tenn.

Location.--Lat 35°55'42", long 87°44'26", on left bank a quarter of a mile downstream from Tumbling Creek, 1.5 miles upstream from bridge on State Highway 13, 3.8 miles southeast of Hurricane Mills, Humphreys County, and at mile 26.0.

Drainage area.--2,557 sq mi.

Records available.--July 1925 to September 1954. Prior to October 1951, published as "near Hurricane Mills."

Gage.--Water-stage recorder. Datum of gage is 370.53 ft above mean sea level, datum of 1929. Prior to June 2, 1927, tape gage, June 2, 1927, to Feb. 20, 1934, staff gage, and Feb. 21, 1934, to Sept. 30, 1951, water-stage recorder, at bridge 5.6 miles downstream at datum 8.80 ft lower.

Average discharge.--29 years, 3,929 cfs.

Extremes.--Maximum discharge during year, 40,200 cfs Jan. 23 (gage height, 21.57 ft); minimum, 265 cfs Sept. 15-18 (gage height, 0.70 ft).
1925-54: Maximum discharge, 122,000 cfs Feb. 14, 1948 (gage height, 30.70 ft, from floodmark in gage house, present site and datum); minimum, 185 cfs Sept. 11, 12, 1925; minimum gage height, 0.15 ft Oct. 2, 1941, site and datum then in use.

Remarks.--Records good. Some diurnal fluctuation at low flow caused by powerplants above station. Minor diversions for irrigation.

Revisions (water years).--WSP 803: 1935. WSP 823: 1927(M). WSP 853: Drainage area.

Rating table, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 21 to June 13)

0.7	265	6.0	5,260
1.0	435	8.0	8,000
1.2	575	12.0	15,000
1.5	785	16.0	22,600
2.0	1,150	19.0	30,600
3.0	1,980	22.0	42,400
4.0	2,980		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	442	442	463	617	5,090	*5,920	*4,460	3,700	1,240	561	470	315
2	435	442	463	603	4,300	6,420	6,280	3,350	1,170	540	498	310
3	463	442	491	610	3,750	6,910	6,950	3,760	1,240	547	512	310
4	477	442	568	617	3,310	6,170	5,730	4,290	1,220	673	505	305
5	456	449	631	617	2,920	5,080	4,660	4,520	1,220	806	463	300
6	442	442	827	596	2,620	4,310	3,860	4,210	1,130	778	429	290
7	435	435	806	575	2,360	3,770	3,350	3,760	1,250	659	423	290
8	429	435	1,020	554	2,160	3,360	3,040	3,340	1,200	603	423	290
9	423	435	*834	554	1,990	3,020	2,650	2,790	1,060	561	435	290
10	423	435	715	729	1,860	2,710	2,430	2,460	985	568	429	285
11	423	*435	680	1,070	1,730	2,490	2,590	2,180	955	533	411	280
12	*429	429	680	1,330	1,680	2,320	3,070	2,020	1,080	512	417	270
13	423	429	666	1,450	1,560	2,180	3,140	1,960	2,880	484	505	270
14	423	429	785	1,080	1,460	2,260	3,120	2,020	2,460	470	470	270
15	429	435	848	2,230	*1,380	2,180	3,010	7,150	1,790	449	435	270
16	429	435	876	13,800	1,480	2,030	3,190	13,700	1,440	435	393	265
17	429	435	1,040	20,700	7,930	1,890	13,500	8,590	1,310	429	369	265
18	423	435	1,250	21,200	14,300	1,740	21,000	5,600	1,460	411	351	270
19	417	442	1,000	18,500	12,900	1,650	21,500	4,180	1,490	405	339	270
20	423	442	869	13,500	11,000	1,610	14,600	3,330	1,220	399	429	275
21	423	435	792	29,200	19,500	1,590	8,340	2,860	1,330	393	411	*290
22	429	498	729	38,200	16,900	1,560	5,970	2,520	1,360	399	417	310
23	429	554	680	40,000	9,470	1,570	5,450	2,320	1,060	417	393	315
24	429	540	638	*39,800	7,010	2,400	5,200	2,060	890	429	411	315
25	429	526	596	38,000	5,900	4,370	4,480	1,840	785	442	381	315
26	435	498	568	34,700	4,880	4,950	4,340	1,650	757	442	411	315
27	449	477	547	17,800	4,210	6,940	4,080	1,510	701	405	411	315
28	463	463	575	10,400	4,650	7,600	3,970	1,510	659	*519	381	315
29	449	456	596	9,310	-	6,280	3,890	1,380	617	645	393	333
30	449	456	624	7,570	-------	5,030	*4,080	1,370	*582	561	369	526
31	449	-------	645	6,110	-------	4,180	-------	*1,330	-------	484	*333	-------
Total	13,506	13,648	22,502	372,022	158,300	114,490	181,930	107,260	36,541	15,959	13,017	9,039
Mean	436	455	726	12,000	5,654	3,693	6,064	3,460	1,218	515	420	301
Cfsm	0.171	0.178	0.284	4.69	2.21	1.44	2.37	1.35	0.476	0.201	0.164	0.118
In.	0.20	0.20	0.33	5.41	2.30	1.67	2.65	1.56	0.53	0.23	0.19	0.13

Calendar year 1953: Max 29,900 Min 370 Mean 3,899 Cfsm 1.52 In. 20.71
Water year 1953-54: Max 40,000 Min 265 Mean 2,899 Cfsm 1.13 In. 15.40

* Discharge measurement made on this day.

Buffalo River near Flat Woods, Tenn.

Location.--Lat 35°29'45", long 87°49'58", on right bank 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.

Records available.--May 1920 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 513.58 ft above mean sea level, datum of 1929. Prior to May 27, 1934, staff gage at same site and datum.

Average discharge.--34 years, 727 cfs.

Extremes.--Maximum discharge during year, 15,300 cfs Jan. 21 (gage height, 18.87 ft); minimum, 112 cfs Sept. 6, 11-17 (gage height, 1.84 ft).
1920-54: 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 17,000 cfs on basis of slope-area and contracted-opening determinations of peak flow and rainfall-runoff study; minimum observed, 65 cfs Sept. 9, 1925; minimum gage height observed, 1.12 ft Sept. 26, 1931.

Remarks.--Records good except those for periods of no gage-height record or shifting control, which are fair.

Revisions (water years).--WSP 758: 1933. WSP 803: 1935. WSP 823: Drainage area.

Rating tables, water year 1953-54, except periods of shifting control (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 16				Jan. 17 to Sept. 30			
1.9	145	5.0	1,410	1.8	112	6.0	2,050
2.5	335	8.0	3,300	2.0	176	10.0	4,820
3.0	525	11.0	5,650	3.0	536	14.0	8,650
				4.0	945	17.0	12,700

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	167	180	200	227	607	1,160	806	846	302	173	124	124
2	167	183	250	218	558	1,000	788	778	*287	169	133	121
3	164	183	310	212	518	970	698	1,080	569	169	186	118
4	164	183	270	212	488	909	641	1,420	761	421	228	115
5	164	183	450	200	455	801	592	1,220	525	384	190	115
6	164	183	350	200	425	725	547	980	403	305	179	112
7	164	180	470	194	403	668	518	828	356	238	186	118
8	164	178	*360	192	384	615	*492	733	341	207	186	118
9	164	*186	290	197	363	573	462	649	338	200	176	115
10	164	186	300	276	352	536	436	577	323	186	156	115
11	164	186	286	374	345	506	540	529	305	179	149	115
12	167	183	254	335	327	477	710	492	284	176	145	112
13	*167	186	254	286	312	480	737	480	330	169	139	112
14	164	186	262	279	309	518	660	543	280	*162	136	112
15	164	189	300	1,180	309	*466	619	698	259	152	130	112
16	164	189	282	5,120	1,310	429	928	592	256	145	124	112
17	164	189	248	3,400	3,480	406	3,850	525	377	142	121	112
18	167	192	221	1,500	2,040	392	2,930	484	403	139	121	121
19	167	192	209	965	*1,260	392	1,700	455	320	152	118	130
20	167	192	203	*1,970	2,420	425	1,210	436	280	166	*159	133
21	167	192	212	12,300	5,510	425	950	421	262	166	238	*145
22	167	215	221	9,350	2,720	392	806	392	242	176	196	217
23	167	300	218	7,110	1,580	395	980	381	234	200	262	245
24	167	260	200	2,980	1,230	484	914	359	220	193	190	190
25	167	280	192	1,750	1,060	540	810	*345	210	169	200	162
26	169	250	192	1,270	860	600	950	338	203	162	179	152
27	178	230	192	1,100	753	687	770	327	203	149	166	149
28	186	220	218	1,040	909	657	714	334	196	142	159	145
29	189	210	290	860	-	611	864	348	186	136	152	139
30	186	200	286	757	-------	573	985	348	176	133	139	179
31	183	-------	251	676	-------	596	-------	316	-------	127	130	-------
Total	5,227	6,066	8,241	56,730	31,287	18,408	28,607	18,254	9,431	5,787	5,097	4,065
Mean	169	202	266	1,830	1,117	594	954	589	314	187	164	136
Cfsm	0.378	0.452	0.595	409	2.50	1.33	2.13	1.32	0.702	0.418	0.367	0.304
In.	0.43	0.50	0.69	4.72	2.60	1.53	2.38	1.52	0.78	0.48	0.42	0.34

Calendar year 1953: Max 10,800 Min 145 Mean 761 Cfsm 1.70 In. 23.08
Water year 1953-54: Max 12,300 Min 112 Mean 540 Cfsm 1.21 In. 16.39

Peak discharge (base, 4,500 cfs).--Jan. 16 (5 p.m.) 6,140 cfs (11.55 ft); Jan. 21 (2:30 p.m.) 15,300 cfs (18.87 ft); Feb. 21 (11 a.m.) 6,130 cfs (11.53 ft); Apr. 17 (8 p.m.) 4,620 cfs (9.75 ft).
* Discharge measurement made on this day.
Note.--No gage-height record Nov. 23 to Dec. 8; discharge estimated on basis of recorded range in stage, weather records, and records for station near Lobelville. Shifting-control method used Aug. 3 to Sept. 4.

Buffalo River near Lobelville, Tenn.

Location.--Lat 35°48'46", long 87°47'51", on right bank 30 ft upstream from Standing Rock Bridge, 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.

Records available.--November 1927 to September 1954.

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 left bank at same datum.

Average discharge.--26 years (1928-54), 1,168 cfs.

Extremes.--Maximum discharge during year, 17,200 cfs Jan. 22 (gage height, 14.85 ft); minimum, 176 cfs Sept. 14-20 (gage height, 1.05 ft).
1927-54: 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 18,000 cfs on basis of slope-area determination of peak flow; minimum, 135 cfs Aug. 18, 1953, caused by regulation upstream at unknown location; minimum discharge unaffected by regulation, 142 cfs Oct. 1-8, 1931 (gage height, 0.35 ft).

Remarks.--Records good.

Revisions (water years).--WSP 803: 1935. WSP 853: 1928-37.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1-26, Jan. 23 to Apr. 2

1.3	246	10.0	5,370
2.0	444	12.0	8,000
2.5	616	13.0	9,950
3.0	806	14.0	13,000
7.0	2,950	15.0	18,100

Oct. 27 to Jan. 22, Apr. 3 to Sept. 30

1.0	165	3.0	790
1.5	277	7.0	2,950
2.0	405		

Note.--Same as preceding table above 7.0 ft.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	270	279	298	383	1,260	1,740	1,060	1,470	479	284	220	207
2	265	277	295	358	1,120	1,820	1,240	1,420	*463	277	233	198
3	263	277	315	342	1,010	1,740	1,240	1,810	495	288	286	191
4	260	277	358	330	911	1,640	1,150	2,050	682	315	275	187
5	258	277	374	325	831	1,540	1,060	2,170	980	358	277	187
6	258	277	492	320	770	1,400	990	1,940	840	457	277	187
7	260	277	489	310	751	1,280	915	1,670	660	416	266	185
8	260	279	523	305	663	1,160	*855	1,460	562	358	256	187
9	263	279	*566	310	630	1,080	790	1,280	562	325	254	187
10	260	282	482	433	598	990	745	1,120	632	300	249	185
11	260	*282	439	624	573	921	795	1,000	550	291	238	183
12	*263	282	427	586	548	857	940	*900	485	277	231	183
13	263	282	402	554	524	806	1,120	860	448	268	224	180
14	260	282	388	495	507	770	1,190	930	451	*261	220	178
15	258	284	394	1,720	*490	*774	1,120	925	433	254	213	176
16	258	284	408	5,790	844	736	1,200	1,030	460	249	209	176
17	258	284	408	5,510	4,300	690	1,900	940	492	240	207	176
18	258	284	380	4,450	4,350	656	3,990	845	538	236	200	176
19	258	284	353	2,370	2,860	645	3,380	763	606	245	202	176
20	258	286	332	3,250	3,830	634	2,320	709	523	247	*254	183
21	258	291	328	12,200	5,400	630	1,830	678	448	249	279	*191
22	258	322	330	13,800	6,280	634	1,530	655	405	256	279	200
23	258	355	325	*13,800	3,730	627	1,360	614	377	270	279	209
24	258	350	325	9,380	2,460	690	1,420	578	355	275	259	249
25	258	350	318	4,280	1,990	766	1,360	546	342	277	249	254
26	260	332	305	2,630	1,700	870	1,280	520	325	266	254	233
27	270	320	300	2,320	1,480	935	1,360	498	318	252	242	224
28	275	308	312	2,120	1,640	1,030	1,240	495	308	242	231	211
29	279	302	350	1,890	-	1,010	1,360	520	300	233	229	209
30	282	300	380	1,640	-------	955	1,440	534	293	229	222	220
31	282	-------	405	1,440	-------	965	-------	506	-------	224	211	-------
Total	8,149	8,845	11,801	94,265	52,050	30,991	42,180	31,436	14,812	8,719	7,525	5,888
Mean	263	295	381	3,041	1,859	1,000	1,406	1,014	494	281	243	196
Cfsm	0.372	0.417	0.539	4.30	2.63	1.41	1.99	1.43	0.699	0.397	0.344	0.277
In.	0.43	0.47	0.62	4.96	2.74	1.63	2.22	1.65	0.78	0.46	0.40	0.31

Calendar year 1953: Max 11,000 Min 222 Mean 1,178 Cfsm 1.67 In. 22.62
Water year 1953-54: Max 13,800 Min 176 Mean 868 Cfsm 1.23 In. 16.67

Peak discharge (base, 5,200 cfs).--Jan. 16 (time and discharge unknown); Jan. 22 (11 p.m.) 17,200 cfs (14.85 ft); Feb. 22 (2 p.m.) 6,660 cfs (11.10 ft).
* Discharge measurement made on this day.

Big Sandy River at Bruceton, Tenn.

Location.--Lat 36°02'19", long 88°13'42", on downstream end of right abutment of county 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.

Records available.--July 1929 to September 1954.

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.--25 years, 297 cfs.

Extremes.--Maximum discharge during year, 3,320 cfs Jan. 22 (gage height, 12.32 ft); minimum, 37 cfs Aug. 19 (gage height, 2.16 ft).
1929-54: 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.

Remarks.--Records fair.

Revisions (water years).--WSP 853: Drainage area. WSP 923: 1929-35.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Jan. 26, Jan. 29 to Feb. 11, Feb. 18)

Oct. 1 to Apr. 16				Apr. 17 to June 17		June 18 to Sept. 30	
2.3	44	11.0	1,600	2.5	71	2.1	34
3.0	110	11.5	1,970	3.0	118	2.5	58
7.0	632	12.0	2,700	4.0	252	3.0	110
9.0	980	13.0	5,150	8.0	870		
				9.0	1,060		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	71	84	101	168	* 362	130	716	80	48	42	*38
2	49	71	84	99	162	202	121	372	77	48	46	38
3	*49	71	167	97	*155	*241	118	566	647	53	47	39
4	48	71	281	94	148	180	116	380	232	72	44	38
5	50	71	136	96	141	154	114	204	109	56	42	38
6	55	70	378	93	138	144	*122	160	91	51	42	38
7	56	71	*250	90	132	136	120	157	83	49	45	47
8	55	72	130	93	129	133	116	146	123	48	43	45
9	57	73	129	102	134	130	110	123	222	48	*41	42
10	58	74	129	382	132	129	112	110	99	47	40	40
11	59	76	106	300	128	128	221	105	83	47	40	40
12	*58	76	102	155	120	128	167	103	77	47	40	39
13	57	76	98	114	119	122	128	226	74	46	42	39
14	57	*76	114	195	114	112	121	438	87	45	41	39
15	58	78	130	996	*116	*104	133	211	77	45	39	38
16	58	78	108	1,360	591	102	520	146	183	45	38	38
17	58	79	94	1,120	617	103	400	123	341	45	38	38
18	58	80	84	*997	276	107	215	116	92	45	38	39
19	58	81	85	308	183	143	157	109	74	*51	46	39
20	59	82	94	816	1,060	145	132	102	70	45	108	38
21	59	83	107	1,660	847	118	120	94	65	44	66	*41
22	60	199	107	2,940	770	114	128	91	58	46	46	42
23	61	220	93	2,420	333	222	205	93	56	50	42	40
24	61	117	82	1,420	254	618	452	87	53	53	42	40
25	62	106	84	446	204	461	323	84	52	45	83	40
26	64	94	90	285	178	486	159	85	52	44	46	40
27	83	88	93	668	184	271	144	83	51	43	42	40
28	80	84	143	594	500	192	356	84	50	*43	42	40
29	76	84	173	378	-	162	922	91	49	42	40	66
30	72	84	123	220	-------	*147	*797	114	*48	42	40	94
31	70	-------	106	183	-------	136	-------	*86	-------	42	39	-------
Total	1,855	2,656	3,984	18,822	8,033	5,932	6,979	5,605	3,455	1,475	1,430	1,273
Mean	59.8	88.5	129	607	287	191	233	181	115	47.6	46.1	42.4
Cfsm	0.292	0.432	0.629	2.96	1.40	0.932	1.14	0.883	0.561	0.232	0.225	0.207
In.	0.34	0.48	0.72	3.41	1.46	1.08	1.27	1.02	0.63	0.27	0.26	0.23

Calendar year 1953: Max 4,000 Min 48 Mean 276 Cfsm 1.35 In. 18.25
Water year 1953-54: Max 2,940 Min 38 Mean 168 Cfsm 0.820 In. 11.17

Peak discharge (base, 2,000 cfs).--Jan. 22 (3:30 p.m.) 3,320 cfs (12.32 ft).
* Discharge measurement made on this day.

Tennessee River near Paducah, Ky.

Location.--Lat 37°01'11", long 88°16'50", on left bank at Gilbertsville, Marshall County, 3,500 ft downstream from Kentucky Dam, 2.3 miles upstream from Shadie Creek, 16 miles east of Paducah, McCracken County, and at mile 21.7.

Drainage area.--40,200 sq mi, approximately (at Gilbertsville).

Records available.--October 1875 to September 1954. Prior to September 1889 (gage heights only) and October 1889 to September 1931, published as "at Johnsonville, Tenn." July 1930 to September 1931, published as "at Aurora Landing, Ky." October 1931 to August 1944, published as "near Johnsonville, Tenn." October 1931 to September 1935, published as "at Shannon Dam Site near Murray, Ky." October 1935 to December 1942, published as "near Buchanan, Tenn."

Gage.--Water-stage recorder at present site since Feb. 8, 1939. 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 present site at same datum. Auxiliary water-stage recorder 16.3 miles downstream at same datum; 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).

Prior to Oct. 21, 1926, U. S. Weather Bureau staff gages at various sites and datums in the vicinity of old Nashville, Chattanooga & St. Louis Railway bridge near Johnsonville. Oct. 21, 1926, to Oct. 7, 1931, water-stage recorder at site 3.9 miles downstream from present U. S. Highway 70 bridge, at datum 320.72 ft above mean sea level, datum of 1929. Oct. 1, 1931, to Aug. 20, 1944, water-stage recorder at U. S. Highway 70 bridge at datum 1.21 ft lower.

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 to river mile 66.2, all at different datums.

Average discharge.--65 years (1889-1954), 63,810 cfs.

Extremes.--Maximum discharge during year, 344,000 cfs Jan. 26, 28; maximum gage height, 40.50 ft Jan. 26; minimum daily discharge, 17, 400 cfs Nov. 26; minimum gage height, 13.21 ft May 23.

1889-1954: Maximum discharge, 500,000 cfs Feb. 17, 1948; maximum gage height, 62.43 ft Feb. 2, 1937 at Gilbertsville, present datum; minimum daily discharge, 500 cfs Sept. 7, 1944.

Remarks.--Records good. Backwater from Ohio River and dam 52; discharge computed using fall as determined by auxiliary water-stage recorder as a factor. Flow regulated by many reservoirs above station (see p. 245). Records of chemical analyses and water temperature for the water year 1954 are given in WSP 1350.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20,900	17,700	27,900	26,100	202,000	69,800	54,700	53,700	34,100	29,000	27,700	29,200
2	20,600	26,100	27,500	25,700	115,000	*92,700	51,500	52,900	45,100	30,500	31,100	27,100
3	20,900	27,500	27,100	26,400	75,700	97,700	46,000	53,400	49,600	31,000	30,800	27,500
4	17,800	27,900	28,300	31,700	58,700	99,200	37,400	52,200	48,600	30,900	30,800	26,100
5	30,400	27,900	27,900	35,200	58,400	92,100	44,100	51,100	45,300	31,300	32,500	25,900
6	27,200	28,700	29,000	38,400	55,600	80,800	38,200	50,400	39,900	34,400	30,700	25,200
7	26,400	28,500	34,800	39,600	56,900	76,300	39,600	47,800	35,100	35,200	a30,000	24,900
8	26,400	17,900	36,400	34,300	56,900	68,100	*40,200	43,200	35,600	33,800	a28,300	27,900
9	25,900	28,500	43,900	27,100	56,600	53,200	40,500	48,000	35,000	33,200	a28,900	25,900
10	27,100	27,500	51,100	25,600	56,400	53,700	37,100	*53,400	35,600	30,200	a35,800	26,000
11	18,200	28,300	45,600	33,800	46,600	54,600	30,100	42,300	36,200	25,700	a36,200	23,200
12	*26,600	28,100	40,300	45,800	48,100	55,100	35,100	42,800	28,400	30,800	a36,400	23,200
13	26,200	27,100	36,000	46,100	46,200	56,000	33,500	42,000	29,900	33,400	a32,100	23,300
14	26,600	27,300	47,800	41,600	41,000	49,500	32,800	37,700	*34,500	33,200	26,400	22,900
15	27,100	18,100	55,200	44,100	51,500	57,100	26,800	49,100	36,800	32,700	27,400	23,000
16	29,200	*26,300	46,400	89,000	55,500	48,200	39,100	49,100	37,000	32,400	29,200	22,700
17	29,600	26,700	45,500	162,000	57,700	43,400	49,700	49,500	37,500	26,700	31,900	22,400
18	18,300	26,600	46,800	216,000	60,700	37,000	49,200	48,500	37,300	27,000	33,500	22,400
19	27,700	25,600	40,000	222,000	75,800	43,700	50,100	53,800	37,800	*31,700	32,800	21,400
20	25,800	26,600	34,000	233,000	96,100	40,500	51,400	53,500	38,300	32,000	32,500	23,200
21	25,600	26,600	*34,000	268,000	108,000	39,800	52,100	50,100	39,300	32,500	27,400	21,700
22	27,900	17,700	38,900	275,000	108,000	39,400	52,000	47,700	43,000	33,600	26,600	21,600
23	29,300	27,100	42,700	288,000	108,000	31,100	53,300	25,500	44,000	34,600	29,800	21,300
24	29,100	26,600	38,800	334,000	101,000	31,300	53,000	32,500	43,900	34,000	34,300	21,200
25	18,300	27,700	24,900	337,000	86,700	31,900	54,300	34,100	43,300	25,200	*35,000	21,400
26	26,900	17,400	26,200	338,000	70,800	39,400	53,900	35,200	45,500	30,300	35,500	21,100
27	28,400	27,900	25,600	340,000	54,400	42,500	54,900	31,400	44,600	34,600	33,400	21,200
28	28,900	26,200	31,200	343,000	59,600	43,300	45,200	27,500	39,600	34,000	28,100	21,300
29	28,300	17,900	40,900	*329,000	-	37,600	51,100	27,800	33,100	34,900	28,200	21,800
30	28,300	28,400	44,400	297,000	-------	39,300	55,400	28,500	30,800	33,400	30,600	21,400
31	27,100	-------	43,200	270,000	-------	55,500	-------	28,600	-------	27,400	29,800	-------
Total	797,000	762,400	‡1,162.3	‡4,862.5	‡2,067.9	‡1,699.8	‡1,352.3	‡1,343.3	‡1,164.7	979,600	963,700	707,400
Mean	25,710	25,410	37,490	156,900	73,850	54,830	45,080	43,330	38,820	31,600	31,090	23,580
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1953: Max 248,000 Min 17,400 Mean 58,900 Cfsm 1.47 In. 19.89
Water year 1953-54: Max 343,000 Min 17,400 Mean 48,940 Cfsm 1.22 In. 16.53

* Discharge measurement made on this day.
‡ Expressed in thousands.
a No gage-height record at auxiliary gage; discharge estimated on basis of records of release from Kentucky Dam.

East Fork Clarks River at Murray, Ky.

Location.--Lat 36°35'34", long 88°18'00", on downstream side of left pier of Nashville, Chattanooga & St. Louis Railway bridge, 0.1 mile downstream from bridge on State Highway 121, 1 mile south of Murray, Calloway County, and 1½ miles upstream from Clayton Creek.

Drainage area.--89.7 sq mi.

Records available.--October 1951 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 459.88 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 2,260 cfs Jan. 20 (gage height, 9.78 ft); no flow for many days.
1951-54: Maximum discharge, 23,700 cfs Mar. 22, 1952 (gage height, 16.3 ft, from floodmark), from rating curve extended above 10,000 cfs by logarithmic plotting; no flow for many days each year.

Remarks.--Records good.

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 19)

Oct. 1 to Jan. 20

1.14	0	1.5	7.7
1.2	.2	1.7	18
1.3	1.8	2.0	38
1.4	4.3		

Note.--Same as following table above 2.0 ft.

Jan. 21 to Sept. 30

0.92	0	1.3	4.3	4.0	285
1.0	.2	1.4	7.1	5.0	464
1.05	.6	1.6	15	7.0	1,010
1.1	1.0	2.0	38	9.0	1,780
1.15	1.5	2.5	84		
1.2	2.3	3.0	141		

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	4.0	0.9	20	50	16	124	*22	0	0	0
2		0	3.7	.9	18	30	14	78	15	0	4.4	0
3		0	5.2	.7	17	55	12	117	766	37	*.6	0
4		0	6.2	.7	16	29	11	59	42	7.2	0	0
5		0	11	.7	19	20	11	29	19	1.1	0	0
6		0	166	.7	20	16	22	20	12	.4	0	0
7		0	9.5	.7	20	14	25	337	8.1	.2	0	0
8		0	2.3	.7	18	12	14	74	8.9	.2	0	0
9		0	1.8	.9	20	11	9.9	30	138	0	0	0
10		0	1.0	4.9	19	9.9	8.8	20	22	0	0	0
11		0	*.7	3.0	18	9.1	19	15	9.9	0	0	0
12	(*)	0	.7	3.0	18	*8.4	16	*12	5.6	0	0	0
13		0	.6	2.7	17	7.4	11	9.5	4.1	0	0	0
14		0	1.2	4.0	18	6.1	9.9	8.4	4.3	0	0	0
15		0	1.0	212	18	5.6	10	7.4	2.4	0	0	*0
16		0	.7	178	892	5.3	195	6.1	2.1	0	0	0
17		0	.6	26	193	5.3	80	5.6	3.8	0	0	0
18		*0	.4	12	*52	5.6	30	5.3	2.8	0	0	0
19		0	.4	8.6	30	7.7	18	4.8	1.5	0	0	0
20		0	.4	911	438	6.5	12	3.8	1.2	0	0	0
21		0	.4	*779	94	5.6	9.1	3.2	1.0	*0	0	.9
22		.5	.6	280	44	6.1	135	3.2	.6	0	0	.6
23		4.3	.4	65	72	12	*70	3.2	.5	0	0	.1
24		3.0	.4	56	76	1,480	24	2.8	*.4	0	0	0
25		3.2	.4	39	37	524	14	2.4	.2	0	0	0
26		3.2	.7	294	24	*209	9.5	2.3	.2	0	0	0
27	(*)	2.7	.6	584	25	75	86	1.9	.1	0	*0	0
28		2.5	1.6	78	185	46	589	2.3	.1	0	0	0
29		4.3	1.4	42	-	32	244	3.8	0	0	0	.7
30		4.3	.7	29	-------	24	76	3.8	0	0	0	.4
31		-------	*.7	23	-------	19	-------	2.6	-------	0	0	-------
Total	0	28.0	225.3	3,641.1	2,438	2,746.6	1,801.2	997.4	1,093.8	46.1	5.0	2.7
Mean	0	0.93	7.27	117	87.1	88.6	60.0	32.2	36.5	1.49	0.16	0.09
Cfsm	0	0.010	0.081	1.30	0.971	0.988	0.669	0.359	0.407	0.017	0.0018	0.0010
In.	0	0.01	0.09	1.51	1.01	1.14	0.75	0.41	0.45	0.02	0.002	0.001

Calendar year 1953: Max 4,540 Min 0 Mean 94.6 Cfsm 1.05 In. 14.30
Water year 1953-54: Max 1,480 Min 0 Mean 35.7 Cfsm 0.398 In. 5.39

Peak discharge (base, 3,000 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.

East Fork Clarks River near Benton, Ky.

Location.--Lat 36°52'24", long 88°20'48", on downstream side of right pier of 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.

Records available.--May 1938 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 344.53 ft above mean sea level, datum of 1929 (Tennessee Valley Authority benchmark). Prior to Sept. 10, 1951, wire-weight gage at same site and datum.

Average discharge.--16 years, 279 cfs.

Extremes.--Maximum discharge during year, 2,350 cfs Mar. 26 (gage height, 12.45 ft); minimum, 2.6 cfs Oct. 3, 4, 5.
1938-54: Maximum discharge, 27,600 cfs Mar. 22, 1952 (gage height, 16.68 ft), from rating curve extended above 14,000 cfs; minimum observed, 1.8 cfs Aug. 9, 1948.
Maximum stage known, 17.8 ft in February 1937, from floodmarks.

Remarks.--Records good.

Revisions (water years).--WSP 923: Drainage area. WSP 1143: 1938-47. WSP 1206: 1949(M).

Rating tables, water year 1953-54 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 12-22, Nov. 7-21, Nov. 25 to Dec. 5, Jan. 4-10)

Oct. 1 to Jan. 22				Jan. 23 to Sept. 30			
2.2	2.6	3.5	46	2.1	1.7	3.5	56
2.3	3.7	4.0	80	2.2	3.0	4.0	93
2.5	7.4	5.0	178	2.4	7.5	5.0	190
2.7	13	10.0	755	2.6	14	10.0	755
3.0	25	12.2	1,700	3.0	32	12.2	1,750

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.7	3.6	4.0	9.2	99	330	90	350	*81	7.8	75	3.0
2	2.7	3.6	4.0	9.2	84	163	78	306	98	7.5	29	3.0
3	2.7	3.6	5.2	9.2	75	154	69	333	861	7.5	*9.8	3.0
4	2.7	3.7	5.2	8.4	66	154	62	280	1,060	82	6.8	3.0
5	2.8	3.7	6.0	8.4	60	110	57	168	209	51	5.2	3.0
6	2.9	3.7	430	8.4	55	87	132	116	93	19	5.0	3.0
7	2.9	3.7	207	*8.4	51	75	151	1,010	64	13	4.6	3.4
8	2.9	3.7	41	8.4	48	68	97	1,010	52	11	4.6	3.6
9	2.9	3.9	24	9.0	48	62	68	270	71	9.2	4.6	3.4
10	2.9	4.0	17	12	46	58	70	153	147	7.8	4.6	3.2
11	2.9	4.0	*12	14	44	56	97	107	56	7.0	4.4	3.0
12	*2.9	4.0	11	16	41	*54	78	*82	44	6.8	4.2	2.9
13	3.0	4.2	9.2	15	39	51	68	68	37	6.2	4.2	2.9
14	2.9	4.0	10	18	39	46	63	58	35	6.2	3.8	2.9
15	2.9	4.0	9.2	135	39	43	75	53	31	6.0	3.8	*2.9
16	2.9	4.0	8.7	626	487	40	394	48	27	5.5	3.8	2.9
17	3.0	4.0	7.7	267	1,360	39	478	44	24	5.0	3.6	3.0
18	3.0	4.0	7.0	81	*698	39	208	44	21	4.8	3.4	3.2
19	3.0	*4.0	7.0	54	235	43	125	41	21	4.8	3.8	3.2
20	3.0	4.0	7.0	662	480	44	87	37	19	4.6	40	196
21	3.0	4.7	7.2	*1,560	667	41	68	34	17	*5.0	19	530
22	3.0	12	7.0	1,660	256	38	106	32	15	28	8.8	46
23	3.3	19	7.0	584	176	42	*550	32	13	29	6.0	13
24	3.4	8.4	7.0	249	238	755	198	30	12	21	4.6	7.8
25	3.4	5.6	6.8	196	190	*1,630	106	28	*11	8.5	*4.0	6.2
26	4.0	4.9	6.8	205	131	1,500	76	27	11	6.0	3.8	5.2
27	5.4	4.4	6.8	1,010	104	500	177	25	10	5.0	3.8	4.6
28	5.4	4.0	7.7	810	330	257	1,420	24	9.8	4.6	3.6	4.4
29	*4.2	3.9	8.2	249	-	185	1,290	29	9.2	4.4	3.4	85
30	3.9	3.9	9.2	167	-------	143	558	40	8.5	4.0	3.6	258
31	3.9	-------	9.2	122	-------	111	-------	30	-------	4.0	3.2	------ --
Total	100.5	148.2	915.1	8,790.6	6,186	6,918	7,096	4,909	3,167.5	392.2	288.0	1,214.7
Mean	3.24	4.94	29.5	284	221	223	237	158	106	12.7	9.29	40.5
Cfsm	0.014	0.022	0.130	1.25	0.974	0.982	1.04	0.696	0.467	0.056	0.041	0.178
In.	0.02	0.02	0.15	1.44	1.01	1.13	1.16	0.80	0.52	0.06	0.05	0.20

Calendar year 1953: Max 11,000 Min 2.6 Mean 275 Cfsm 1.21 In. 16.43
Water year 1953-54: Max 1,660 Min 2.7 Mean 110 Cfsm 0.485 In. 6.56

Peak discharge (base, 4,400 cfs).--No peak above base.
* Discharge measurement made on this day.

Reservoirs in Tennessee River basin

Douglas Lake.--Lat 35°57'40", long 83°32'20", at Douglas Dam on French Broad River, 6½ miles north of Sevierville, Sevier County, Tenn., and at mile 32.3. Drainage area, 4,541 sq mi. Records available, February 1943 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 516,900 cfs-days May 24 (elevation, 984.41 ft); minimum, 32,900 cfs-days Jan. 14 (elevation, 913.83 ft); maximum contents during period 1943-54, 760,000 cfs-days July 25, 1949 (elevation, 1,001.79 ft); minimum (after first filling), that of Jan. 14, 1954.

Reservoir formed by concrete main dam and 10 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 is used for navigation, flood control, and power. Records furnished by Tennessee Valley Authority.

Revisions (water years).--WSP 1276: 1948.

South Holston Lake.--Lat 36°31'15", long 82°05'11", 470 ft upstream from South Holston Dam on South Fork Holston River in Sullivan County, Tenn., 7.0 miles southeast of Bristol, Virginia-Tennessee, and at mile 49.8. Drainage area, 703 sq mi. Records available, November 1950 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to May 11, 1951, staff gage at same site and datum. Maximum contents during year, 203,700 cfs-days May 31 (elevation, 1,692.44 ft); minimum, 72,600 cfs-days Jan. 15 (elevation, 1,625.90 ft). Maximum contents during period 1950-54, 293,800 cfs-days Apr. 14, 1952 (elevation, 1,721.40 ft); minimum (after first filling), that of Jan. 15, 1954.

Reservoir is formed by rock and rolled earth-fill dam. Spillway is uncontrolled morning-glory type, 128 ft in diameter with six piers 3 ft wide to guide flow spilling into a concrete-lined shaft and tunnel 34 ft in diameter. Closure of dam was made Nov. 20, 1950; water in reservoir first reached minimum pool elevation Jan. 25, 1951. Total capacity at elevation 1,742.00 ft (spillway crest) is 375,100 cfs-days, of which 315,200 cfs-days is controlled storage above elevation 1,616.00 ft (minimum pool). Reservoir is used for navigation, flood control, and power. Records furnished by Tennessee Valley Authority.

Watauga Lake.--Lat 36°19'20", long 82°07'16", at Watauga Dam on Watauga River, 5 miles east of Elizabethton, Carter County, Tenn., and at mile 36.7. Drainage area, 468 sq mi. Records available, December 1948 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 185,600 cfs-days June 1 (elevation, 1,923.47 ft); minimum, 77,600 cfs-days Jan. 21 (elevation, 1,869.83 ft). Maximum contents during period 1948-54, 285,900 cfs-days June 24, 1950 (elevation, 1,958.58 ft); minimum (after first filling), that of Jan. 21, 1954.

Reservoir is formed by rock and rolled earth-fill dam. Spillway is uncontrolled morning-glory type, 128 ft in diameter with six piers 3 ft wide to guide flow spilling into a concrete-lined shaft and tunnel 34 ft in diameter. Closure of dam was made 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. Records furnished by Tennessee Valley Authority.

Boone Lake.--Lat 36°26'26", long 82°26'16", at Boone Dam on South Fork Holston River in Sullivan County, Tenn., 0.7 mile northeast of Spurgeon, Washington County, Tenn., 1.3 miles downstream from Watauga River, and at mile 18.6. Drainage area, 1,840 sq mi. Records available, December 1952 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 95,200 cfs-days Apr. 18 (elevation, 1,383.23 ft); minimum, 45,600 cfs-days Jan. 6 (elevation, 1,352.68 ft). Maximum contents during period 1952-54, 98,100 cfs-days June 10, 1953 (elevation, 1,384.52 ft); minimum (after first filling), that of Jan. 6, 1954.

Reservoir is formed by gravity nonoverflow type concrete dam. Spillway equipped with five radial gates, 35 ft high by 35 ft wide. Storage began Dec. 16, 1952; water in reservoir first reached minimum pool elevation Jan. 5, 1953. Total capacity at elevation 1,385.0 ft (top of gates) is 99,200 cfs-days, of which 75,700 cfs-days is controlled storage above elevation 1,330 ft (minimum pool). Reservoir is used for navigation, flood control, and power. Records furnished by Tennessee Valley Authority.

Fort Patrick Henry Lake.--Lat 36°29'53", long 82°30'32", at Fort Patrick Henry Dam on South Fork Holston River, 0.2 mile upstream from bridge on U. S. Highway 23, 4.5 miles southeast of Kingsport, Sullivan County, Tenn., and at mile 8.2. Drainage area, 1,903 sq mi. Records available, October 1953 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during period, 14,000 cfs-days Feb. 11 (elevation, 1,263.80 ft); minimum (after first filling), 9,300 cfs-days Mar. 16 (elevation, 1,252.32 ft).

Reservoir is formed by gravity nonoverflow type concrete dam. Spillway equipped with five radial gates, 35 ft high by 35 ft wide. Storage began Oct. 27, 1953; water in reservoir first reached minimum pool elevation Dec. 8, 1953. Total capacity at elevation 1,263 ft (top of gates) is 13,700 cfs-days, of which 1,700 cfs-days is controlled storage above elevation 1,258 ft (minimum pool). Reservoir is used for navigation, flood control, and power. Records furnished by Tennessee Valley Authority.

Cherokee Lake.--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, Tenn., and at mile 52.3. Drainage area, 3,429 sq mi. Records available, December 1941 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 434,000 cfs-days June 7 (elevation, 1,047.26 ft); minimum, 48,400 cfs-days Jan. 7 (elevation, 980.77 ft). Maximum contents during period 1941-54, 779,400 cfs-days May 11, 1944 (elevation, 1,074.37 ft); minimum (after first filling), that of Jan. 7, 1954.

Reservoirs in Tennessee River basin--Continued

Cherokee Lake--Continued.
Reservoir is formed by concrete dam with riprapped earth embankments. Spillway equipped with nine 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. Records furnished by Tennessee Valley Authority

Fort Loudoun Lake.--Lat 35°47'30", long 84°14'35", at Fort Loudoun Dam on Tennessee River, 1 mile northeast of Lenoir City, Loudoun County, Tenn., and at mile 602.3. Drainage area, 9,550 sq mi. Records available, July 1943 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum 12 p.m. contents during year, 183,000 cfs-days Sept. 12; maximum elevation, 813.87 ft June 29; minimum 12 p.m. contents, 135,000 cfs-days Jan. 17; minimum elevation, 805.54 ft Jan. 18. Maximum elevation during period 1943-54, 815.00 ft Sept. 11, 1943, May 14, 1945; minimum (after first filling), that of Jan. 18, 1954. Contents based on backwater profile.
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 flood storage above elevation 807.00 ft (minimum navigation pool). Reservoir is used for navigation, flood control, and power. Records furnished by Tennessee Valley Authority.

Nantahala Lake.--Lat 35°11'56", long 83°39'17", at Nantahala Dam on Nantahala River, 4.2 miles southeast of Topton, Cherokee County, N. C., and 5.5 miles upstream from Whiteoak Creek. Drainage area, 91.0 sq mi. Records available, October 1944 to September 1954. 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. Maximum contents during year, 60,900 cfs-days Apr. 30 (elevation, 2,878.29 ft); minimum, 17,800 cfs-days Jan. 15 (elevation, 2,798.92 ft). Maximum contents during period 1944-54, 70,200 cfs-days Jan. 19, 1950, Mar. 14, 1952 (elevation, 2,890.29 ft); minimum, 9,900 cfs-days Jan. 8, 1953 (elevation, 2,773.56 ft).
Reservoir 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 reservoir 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 2,760.00 ft (minimum pool). Reservoir is used for flood control and power. Gage-height record furnished by the Aluminum Co. of America; level storage records furnished by Tennessee Valley Authority.

Thorpe Lake.--Lat 35°11'57", long 83°09'15", at Thorpe Dam on West Fork Tuckasegee River, 2.3 miles northwest of Glenville, Jackson County, N. C., and 3.0 miles upstream from Shoal Creek. Drainage area, 36.7 sq mi. Records available, October 1944 to September 1954. Prior to October 1948, published as "Glenville Reservoir." 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. Maximum contents during year, 17,400 cfs-days Oct. 1 (elevation, 3,070.72 ft); minimum, 7,800 cfs-days Jan. 15 (elevation, 3,048.68 ft). Maximum contents during period 1944-54, 35,700 cfs-days Mar. 13, 1950 (elevation, 3,100.01 ft); minimum, 7,400 cfs-days Jan. 7, 1953 (elevation, 3,047.27 ft).
Reservoir is formed by earth and rock dam and six 40-foot fuse-plug dams. Side channel spillway equipped with two taintor gates 12 ft high by 25 ft wide. Dam completed and storage began Feb. 12, 1941. Water in reservoir 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). Reservoir is used for flood control and power. Gage-height record furnished by Aluminum Co. of America; level storage records furnished by Tennessee Valley Authority.

Fontana Lake.--Lat 35°27'07", long 83°48'18", at Fontana Dam on Little Tennessee River, 5.8 miles upstream from Twenty Mile Creek, 9.0 miles north of Robbinsville, Graham County, N. C., and 9.5 miles upstream from Cheoah Dam. Drainage area, 1,571 sq mi. Records available, November 1944 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 460,700 cfs-days Apr. 27 (elevation, 1,650.97 ft); minimum, 170,700 cfs-days Jan. 15 (elevation, 1,541.12 ft). Maximum contents during period 1944-54, 722,300 cfs-days July 23, 1949 (elevation, 1,708.91 ft); minimum (after first filling), that of Jan. 15, 1954.
Reservoir is formed by gravity nonoverflow type concrete dam. Spillway equipped with four radial gates 35 ft high by 35 ft wide. Storage began Nov. 7, 1944; dam completed March 1945; water in reservoir 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). Reservoir is used for navigation, flood control, and power. Records furnished by Tennessee Valley Authority.

Santeetlah Lake.--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, N. C., and 9.3 miles upstream from mouth. Drainage area, 176 sq mi. Records available, October 1946 to September 1954. 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. Maximum contents during year, 61,800 cfs-days May 23 (elevation, 1,803.48 ft); minimum, 15,800 cfs-days Jan. 10 (elevation, 1,747.27 ft). Maximum contents during period 1946-54, 80,100 cfs-days Feb. 4, 1949 (elevation, 1,817.19 ft); minimum, that of Jan. 10, 1954.

Reservoirs in Tennessee River basin--Continued

Santeetlah Lake--Continued.
Reservoir is formed by concrete gravity and arch dam with concrete spillway controlled by six taintor gates 12 ft high by 25 ft wide. Dam completed and storage began Dec. 7, 1927. Water in reservoir first reached minimum pool elevation June 1928. 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). Reservoir is used for power. Gage-height record furnished by Aluminum Co. of America; level storage records furnished by Tennessee Valley Authority.

Norris Lake.--Lat 36°13'29", long 84°05'29", at Norris Dam on Clinch River, 2½ miles northwest of Norris, Anderson County, Tenn., and at mile 79.8. Drainage area, 2,912 sq mi. Records available, June 1935 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, adjustment of 1912, and 0.11 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Elevations given are referred to adjustment of 1912. Maximum contents during year, 646,100 cfs-days June 7 (elevation, 993.82 ft); minimum, 140,700 cfs-days Jan. 15 (elevation, 929.13 ft). Maximum contents during period 1935-54, 1,236,700 cfs-days Feb. 11, 1937 (elevation, 1,031.10 ft); minimum (after first filling), that of Jan. 15, 1954.
Reservoir is formed by concrete gravity dam with three drum gates 100 ft wide by 14 ft high. 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 1,294,200 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. Records furnished by Tennessee Valley Authority.

Watts Bar Lake.--Lat 35°37'13", long 84°47'00", at Watts Bar Dam on Tennessee River, 6.5 miles southeast of Spring City, Rhea County, Tenn., 72.4 miles downstream from Fort Loudon Dam, and at mile 529.9. Drainage area, 17,310 sq mi. Records available, October 1941 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum 12 p.m. contents during year, 518,000 cfs-days May 16; maximum elevation, 742.55 ft May 17; minimum 12 p.m. contents, 382,000 cfs-days Dec. 17; minimum elevation, 734.81 ft Feb. 23. Maximum elevation during period 1941-54, 745.12 ft Mar. 9, 1942; minimum (after first filling), 733.44 ft Mar. 20, 1945. Contents based on backwater profile.
Reservoir is formed by concrete dam with riprapped earth embankments. Spillway equipped with 20 taintor 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. Records furnished by Tennessee Valley Authority.

Chatuge Lake.--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, 2.5 miles southeast of Hayesville, Clay County, N. C., and at mile 120.9. Drainage area, 189 sq mi. Records available, February 1942 to September 1954. Gage, water stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 123,700 cfs-days June 3 (elevation, 1,927.65 ft); minimum, 34,800 cfs-days Oct. 1 (elevation, 1,889.55 ft). Maximum contents during period 1942-54, 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).
Reservoir is formed by a rolled earth-fill dam with side channel spillway equipped with flashboards. Storage began Feb. 12, 1942; water in reservoir 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). Reservoir is used for navigation, flood control, and power. Records furnished by Tennessee Valley Authority.

Nottely Lake.--Lat 34°57'29", long 84°05'22", at Nottely Dam on Nottely River, 1.3 miles upstream from Dooley Creek, 1.8 miles west of Ivylog, Union County, Ga., and 2.5 miles upstream from Georgia-North Carolina State line. Drainage area, 214 sq mi. Records available, January 1942 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 34,800 cfs-days Feb. 22 (elevation, 1,740.20 ft); minimum, 300 cfs-days July 30 (elevation, 1,641.6 ft, estimated). Maximum contents during period 1942-54, 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).
Reservoir is formed by rock and rolled earth-fill dam with side channel spillway equipped with flashboards. Storage began Jan. 24, 1942; water in reservoir 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). Reservoir is used for navigation, flood control, and power. Records furnished by Tennessee Valley Authority.

Hiwassee Lake.--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, N. C., 3.9 miles upstream from Shoal Creek, and at mile 75.8. Drainage area, 968 sq mi. Records available, October 1939 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, preliminary adjustment of 1929. Subtract 0.63 ft from all elevations to reduce to datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 208,400 cfs-days June 7 (elevation, 1,522.49 ft); minimum, 53,300 cfs-days Jan. 14 (elevation, 1,435.38 ft). Maximum contents during period 1939-54, 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).

Reservoirs in Tennessee River basin--Continued

Hiwassee Lake--Continued.
Reservoir is formed by gravity overflow concrete dam with seven taintor gates 23 ft high by 32 ft long. Slight storage began Apr. 13, 1939, during construction; systematic storage operation began Jan. 14, 1940; dam completed February 1940; water in reservoir 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). Reservoir is used for navigation, flood control, and power. Records furnished by Tennessee Valley Authority.

Apalachia Lake.--Lat 35°10'04", long 84°17'49", at Apalachia Dam on Hiwassee River in Cherokee County, N. C., 0.1 mile upstream from North Carolina-Tennessee State line, 1.5 miles northeast of Farner, Polk County, Tenn., 9.8 miles downstream from Hiwassee Dam, and at mile 66.1. Drainage area, 1,018 sq mi. Records available, February 1943 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 29,500 cfs-days Oct. 5 (elevation, 1,280.02 ft); minimum, 19,500 cfs-days Apr. 18 (elevation, 1,260.59 ft). Maximum contents during period 1943-54, 30,300 cfs-days June 13, 1952 (elevation, 1,281.40 ft); minimum (after first filling), that of Apr. 18, 1954.
Reservoir is formed by concrete gravity dam. Spillway equipped with ten radial gates. Storage began Feb. 14, 1943; water in reservoir 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). Reservoir is used for navigation, flood control, and power. Records furnished by Tennessee Valley Authority.

Blue Ridge Lake.--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, Ga., and at mile 53.0. Drainage area, 232 sq mi. Records available, December 1930 to September 1954. Gage, water-stage recorder. To convert elevations given herein to datum of 1929, supplementary adjustment of 1936, 0.18 ft should be subtracted. Maximum contents during year, 97,900 cfs-days May 23 (elevation, 1,688.95 ft); minimum, 11,700 cfs-days Jan. 15 (elevation, 1,600.37 ft). Maximum 12 p.m. contents during period 1930-54, 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).
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 cfs-days, of which 92,300 cfs-days is controlled storage above elevation 1,590.0 ft (minimum pool). Reservoir is used for power. Records furnished by Tennessee Valley Authority.

Ocoee No. 3 Lake.--Lat 35°02'25", long 84°28'00", at Ocoee No. 3 Dam on Ocoee River, 5 miles west of Ducktown, Polk County, Tenn., and at mile 29.2. Drainage area, 496 sq mi. Records available, October 1942 to September 1954. 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. Maximum contents during year, 4,500 cfs-days Oct. 31, Jan. 16; maximum elevation, 1,435.36 ft Jan. 16; minimum contents, 2,000 cfs-days Dec. 18 (elevation, 1,416.96 ft). Maximum contents during period 1942-54, 7,800 cfs-days (elevation, 1,436.7 ft, estimated) Jan. 8, 1946; minimum 12 p.m. contents (after first filling), 1,100 cfs-days Apr. 3, 1943 (elevation, 1,394.95 ft).
Reservoir is formed by concrete dam. Spillway with crest at elevation 1,412.00 ft equipped with seven taintor 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, and after Dec. 31, 1953. Total capacity at elevation, 1,435.00 ft (top of gates) is 4,400 cfs-days, of which 3,000 cfs-days is controlled storage above elevation 1,413.00 ft (minimum pool). Reservoir is used for power. Records furnished by Tennessee Valley Authority.

Parksville Lake.--Lat 35°05'44", long 84°38'51", at Parksville Dam on Ocoee River at Parksville, Polk County, Tenn., 13⅝ miles east of Cleveland, and at mile 11.9. Drainage area, 595 sq mi. Records available, June 1914 to September 1954. Prior to October 1953, published as "Parksville (Ocoee No. 1) Reservoir." 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 elevations above mean sea level. Maximum contents during year, 44,500 cfs-days Jan. 22 (elevation, 838.4 ft); minimum, 31,600 cfs-days Jan. 14 (elevation, 823.9 ft). Maximum 12 p.m. contents during period 1914-54, 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.
Reservoir is formed by concrete dam with 347 ft of spillway. Spillway is equipped with four floodgates 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; revised capacity table used after Oct. 31, 1952. Total capacity at elevation 837.66 ft (about top of flashboards) is 43,700 cfs-days, of which 16,900 cfs-days is controlled storage above elevation 817.0 ft (minimum pool). Reservoir is used for power. Records furnished by Tennessee Valley Authority.

Chickamauga Lake.--Lat 35°06'07", long 85°13'42", at Chickamauga Dam on Tennessee River, 5⅝ miles northeast of Chattanooga, Hamilton County, Tenn., 58.9 miles downstream from Watts Bar Dam, and at mile 471.0. Drainage area, 20,790 sq mi. Records available, October 1939 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Maximum 12 p.m. contents during year, 322,000 cfs-days May 3; maximum elevation, 683.64 ft May 4; minimum 12 p.m. contents, 190,000 cfs-days Dec. 26; minimum elevation, 674.40 ft Feb. 15. Maximum elevation during period 1939-54, 685.37 ft May 20, 1950; minimum (after first filling), 673.27 ft Jan. 21, 1942. Contents based on backwater profile.

Reservoirs in Tennessee River basin--Continued

Chickamauga Lake--Continued.

Reservoir 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. Storage began Feb. 6, 1940; water in reservoir 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). Reservoir is used for navigation, flood control, and power. Records furnished by Tennessee Valley Authority.

Hales Bar Lake.--Lat 35°02'48", long 85°32'20", at Hales Bar Dam on Tennessee River, 5¼ miles southeast of Jasper, Marion County, Tenn., 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. Records available, October 1914 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum 12 p.m. contents during year, 113,000 cfs-days Jan. 22; maximum elevation, 634.61 ft Jan. 14; minimum 12 p.m. contents, 69,000 cfs-days Apr. 4; minimum elevation, 630.84 ft Oct. 30. Maximum elevation during period 1914-54, 642.8 ft Mar. 8, 1917; minimum (after first filling), 619.0 ft Apr. 16, 1918. Contents based on backwater profile.

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). Reservoir is used for navigation, flood control, and power. Records furnished by Tennessee Valley Authority.

Guntersville Lake.--Lat 34°25'17", long 86°23'34", in powerhouse at Guntersville Dam on Tennessee River in sec. 14, T. 7 S., R. 2 E., 11 miles northwest of Guntersville, Ala., 82.1 miles downstream from Hales Bar Dam, and at mile 349.0. Drainage area, 24,450 sq mi. Records available, October 1938 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Maximum 12 p.m. contents during year, 645,000 cfs-days Jan. 23; maximum elevation, 595.41 ft Apr. 18; minimum 12 p.m. contents, 404,000 cfs-days Nov. 8; minimum elevation, 591.70 ft Nov. 25. Maximum elevation during period 1939-54, 596.29 ft Mar. 2, 1944; minimum (after start of operation plan in April 1940), 591.65 ft Sept. 8, 1953. Contents based on backwater profile.

Reservoir is formed by concrete dam with riprapped earth embankments. Spillway 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. Records furnished by Tennessee Valley Authority.

Woods Reservoir.--Lat 35°17'54", long 86°05'48", at Elk River Dam on Elk River, 1.2 miles upstream from Spring Creek, 2½ miles northeast of Estill Springs, Franklin County, Tenn., and 6.8 miles upstream from bridge on U. S. Highway 41A. Drainage area, 263 sq mi. Records available, May 1952 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 41,900 cfs-days Jan. 22 (elevation, 960.82 ft); minimum, 26,300 cfs-days Nov. 8-11 (elevation, 951.93 ft). Maximum contents during period 1952-54, that of Jan. 22, 1954; minimum (after first filling), that of Nov. 8-11, 1953.

Reservoir is formed by concrete gravity and earth-fill type dam with riprapped embankments. Spillway equipped with three taintor gates, 25 ft high by 50 ft wide and two sluice gates 6 ft high by 4 ft wide. Closure of dam was made May 1, 1952; water in reservoir first reached minimum pool elevation Feb. 6, 1953. Total capacity at elevation 962.0 ft (surcharge pool) is 44,400 cfs-days, of which 9,900 cfs-days is controlled storage above elevation 957.0 ft (minimum pool). Reservoir is used for cooling water, flood control, and recreational purposes. Records furnished by United States Air Force.

Wheeler Lake.--Lat 34°47'52", long 87°22'51", at Wheeler Dam on Tennessee River, in SW¼ sec. 9, T. 3 S., R. 8 W., 0.9 mile upstream from Big Nance Creek, 29.5 miles downstream from Decatur, Ala., 74.1 miles downstream from Guntersville Dam, and at mile 274.9. Drainage area, 29,590 sq mi. Records available, October 1936 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Maximum 12 p.m. contents during year, 728,000 cfs-days Jan. 24; maximum elevation, 556.36 ft Apr. 19; minimum 12 p.m. contents, 408,000 cfs-days Feb. 22; minimum elevation, 549.60 ft Feb. 23. Maximum elevation during period 1936-54, 557.32 ft Mar. 1, 1944; minimum (after start of operation plan in August 1937), 548.92 ft Nov. 1, 1937. Contents based on backwater profile.

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 ft (ordinary minimum pool). Reservoir is used for navigation, flood control, and power. Records furnished by Tennessee Valley Authority.

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Reservoirs in Tennessee River basin--Continued

Wilson Lake.--Lat 34°47'46", long 87°37'27", in SE¼ sec. 18, T. 3 S., R. 10 W., at cooling-water intake 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. Records available, August 1926 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Maximum contents during year, 329,200 cfs-days Apr. 20 (elevation, 508.07 ft); minimum, 255,900 cfs-days Dec. 25 (elevation, 504.34 ft). Maximum contents during period 1926-54, that of Apr. 20, 1954; maximum elevation, 508.35 ft Feb. 11, 1948; minimum contents, 233,200 cfs-days Apr. 6, 1927 (elevation, 501.3 ft).

Reservoir is formed by concrete gravity dam with fixed ogee crest. Spillway equipped with 58 Stoney gates 20.54 ft (18.77 ft prior to June 1941) high by 38 ft wide. Storage began Apr. 14, 1924. Revised capacity table used after Dec. 31, 1953. 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. Records furnished by Tennessee Valley Authority.

Pickwick Lake.--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, Tenn., 6.1 miles upstream from Lick Creek, 52 miles downstream from Wilson Dam, and at mile 206.7. Drainage area, 32,820 sq mi. Records available, October 1937 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Maximum 12 p.m. contents during year, 523,000 cfs-days Jan. 24; maximum elevation, 416.10 ft Apr. 19; minimum 12 p.m. contents, 339,000 cfs-days Feb. 25; minimum elevation, 407.82 ft Feb. 26. Maximum elevation during period 1937-54, 419.49 ft Mar. 30, 1944; minimum (after first filling), 407.12 ft Dec. 18, 1944. Contents based on backwater profile.

Reservoir is formed by concrete dam with riprapped earth embankments. Spillway equipped with twenty-two 2-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. 7, 1938; 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. Records furnished by Tennessee Valley Authority.

Kentucky Lake.--Lat 37°00'45", long 88°16'12", at Kentucky Dam on Tennessee River at Gilbertsville, Marshall County, Ky., and at mile 22.4. Drainage area, 40,200 sq mi. Records available, July 1944 to September 1954. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Maximum 12 p.m. contents during year, 1,679,000 cfs-days Jan. 26; maximum elevation, 359.94 ft Apr. 24; minimum 12 p.m. contents, 982,000 cfs-days Jan. 2; minimum elevation, 353.32 ft Feb. 11. Maximum elevation during period 1944-54, 368.81 ft Jan. 24, 1950; minimum (after first filling), 349.20 ft Jan. 22, 1947. Contents based on backwater profile.

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. Records furnished by Tennessee Valley Authority.

Other reservoirs.--The following smaller reservoirs in the Tennessee River basin are described below, but records of contents are not published herein:

Burnett Lake on North Fork Swannanoa River near Black Mountain, N. C., with total capacity of 11,600 cfs-days, of which 8,900 cfs-days is controlled storage.

Lake Walters on Pigeon River near Waterville, N. C., with total capacity of 12,700 cfs-days, of which 10,300 cfs-days is controlled storage.

Davy Crockett Lake on Nolichucky River at Nolichucky Dam, Tenn., with total capacity of 8,070 cfs-days, of which 4,060 cfs-days is controlled storage.

Bear Creek Lake on Tuckasegee River near Tuckasegee, N. C., with total capacity of 17,500 cfs-days, of which 2,290 cfs-days is controlled storage.

Cedar Cliff Lake on Tuckasegee River near Tuckasegee, N. C., with total capacity of 3,200 cfs-days, of which 400 cfs-days is controlled storage.

Cheoah Lake on Little Tennessee River at Cheoah, N. C., with total capacity of 17,700 cfs-days, of which 3,700 cfs-days is controlled storage.

Calderwood Lake on Little Tennessee River at Calderwood, Tenn., with total capacity of 20,800 cfs-days, of which 2,060 cfs-days is controlled storage.

Reservoirs in Tennessee River basin--Continued

Monthly elevation and contents, water year October 1953 to September 1954

Date	Douglas Lake			South Holston Lake			Watauga Lake		
	Elevation (feet)†	Contents (cfs-days)	Change in contents during month (cfs-days)	Elevation (feet)†	Contents (cfs-days)	Change in contents during month (cfs-days)	Elevation (feet)†	Contents (cfs-days)	Change in contents during month (cfs-days)
Sept.30....	940.79	131,800	-	1,655.08	119,400	-	1,905.87	144,300	-
Oct. 31....	944.65	154,200	+22,400	1,651.19	112,300	-7,100	1,895.61	122,800	-21,500
Nov. 30....	936.84	111,100	-43,100	1,653.12	115,800	+3,500	1,897.36	126,400	+3,600
Dec. 31....	928.05	73,300	-37,800	1,643.97	99,800	-16,000	1,884.31	101,500	-24,900
Calendar year 1953.	-	-	+11,500	-	-	-53,600	-	-	+4,500
Jan. 31....	955.61	230,200	+156,900	1,648.85	108,100	+8,300	1,881.23	96,100	-5,400
Feb. 28....	944.71	154,600	-75,600	1,657.16	123,300	+15,200	1,887.56	107,600	+11,500
Mar. 31....	965.28	312,400	+157,800	1,672.93	155,800	+32,500	1,903.96	140,100	+32,500
Apr. 30....	980.66	472,200	+159,800	1,685.40	185,400	+29,600	1,915.62	166,400	+26,300
May 31....	982.82	497,600	+25,400	1,692.20	203,100	+17,700	1,923.43	185,500	+19,100
June 30....	975.33	412,800	-84,800	1,686.63	188,500	-14,600	1,919.94	176,800	-8,700
July 31....	963.55	296,700	-116,100	1,677.85	167,000	-21,500	1,912.72	159,700	-17,100
Aug. 31....	945.20	157,600	-139,100	1,663.80	136,400	-30,600	1,902.50	137,000	-22,700
Sept.30....	939.36	124,000	-33,600	1,649.24	108,800	-27,600	1,884.82	102,400	-34,600
Water year 1953-54.	-	-	-7,800	-	-	-10,600	-	-	-41,900

Date	Boone Lake			Fort Patrick Henry Lake			Cherokee Lake		
Sept.30....	1,377.57	83,700	-	-	-	-	1,031.01	288,000	-
Oct. 31....	1,375.41	79,700	-4,000	1,226.80	2,800	-	1,015.30	183,800	-104,200
Nov. 30....	1,368.20	67,200	-12,500	1,242.36	6,300	+3,500	993.61	86,000	-97,800
Dec. 31....	1,353.99	47,200	-20,000	1,261.25	12,900	+6,600	984.10	56,800	-29,200
Calendar year 1953.	-	-	+28,100	-	-	-	-	-	-87,000
Jan. 31....	1,362.69	58,800	+11,600	1,261.60	13,000	+100	1,021.25	219,300	+162,500
Feb. 28....	1,364.12	60,900	+2,100	1,254.65	10,200	-2,800	1,018.03	199,500	-19,800
Mar. 31....	1,378.42	85,400	+24,500	1,260.15	12,400	+2,200	1,031.45	291,400	+91,900
Apr. 30....	1,378.79	86,100	+700	1,259.62	12,200	-200	1,039.87	362,500	+71,100
May 31....	1,380.34	89,200	+3,100	1,260.06	12,400	+200	1,045.60	417,200	+54,700
June 30....	1,378.35	85,200	-4,000	1,259.25	12,000	-400	1,043.12	392,900	-24,300
July 31....	1,377.81	84,200	-1,000	1,259.88	12,300	+300	1,030.87	286,900	-106,000
Aug. 31....	1,373.56	76,300	-7,900	1,261.40	13,000	+700	1,023.42	233,400	-53,500
Sept.30....	1,374.40	77,800	+1,500	1,260.64	12,600	-400	1,007.54	143,500	-89,900
Water year 1953-54.	-	-	-5,900	-	-	-	-	-	-144,500

Date	Fort Loudoun Lake‡			Nantahala Lake*			Thorpe Lake*		
Sept.30....	812.57	177,000	-	2,846.20	39,900	-	3,070.72	17,400	-
Oct. 31....	811.08	166,000	-11,000	2,831.92	32,200	-7,700	3,065.57	14,800	-2,600
Nov. 30....	809.02	153,000	-13,000	2,815.92	24,700	-7,500	3,058.10	11,400	-3,400
Dec. 31....	807.45	143,000	-10,000	2,810.70	22,400	-2,300	3,055.50	10,300	-1,100
Calendar year 1953.	-	-	-1,000	-	-	+11,300	-	-	+2,400
Jan. 31....	808.14	147,000	+4,000	2,841.88	37,500	+15,100	3,059.16	11,800	+1,500
Feb. 28....	807.82	145,000	-2,000	2,851.82	43,200	+5,700	3,062.83	13,500	+1,700
Mar. 31....	809.51	156,000	+11,000	2,868.09	53,600	+10,400	3,066.06	15,000	+1,500
Apr. 30....	812.32	175,000	+19,000	2,878.23	60,800	+7,200	3,068.47	16,200	+1,200
May 31....	812.86	179,000	+4,000	2,873.18	57,200	-3,600	3,067.84	15,900	-300
June 30....	812.89	179,000	0	2,876.68	59,700	+2,500	3,066.88	15,400	-500
July 31....	812.27	175,000	-4,000	2,863.87	50,800	-8,900	3,064.04	14,000	-1,400
Aug. 31....	812.69	178,000	+3,000	2,847.27	40,500	-10,300	3,057.83	11,300	-2,700
Sept.30....	812.07	173,000	-5,000	2,828.33	30,400	-10,100	3,049.34	8,100	-3,200
Water year 1953-54.	-	-	-4,000	-	-	-9,500	-	-	-9,300

Date	Fontana Lake			Santeetlah Lake*			Norris Lake		
Sept.30....	1,616.85	344,900	-	1,767.15	27,400	-	973.06	423,000	-
Oct. 31....	1,585.57	260,600	-84,300	1,756.49	20,600	-6,800	960.73	319,900	-103,100
Nov. 30....	1,553.01	191,900	-68,700	1,754.50	19,500	-1,100	951.11	253,500	-66,400
Dec. 31....	1,553.67	193,200	+1,300	1,755.37	19,900	+400	941.00	195,100	-58,400
Calendar year 1953.	-	-	-20,600	-	-	+2,900	-	-	-186,900
Jan. 31....	1,612.90	333,200	+140,000	1,791.31	48,200	+28,300	965.60	358,300	+163,200
Feb. 28....	1,611.95	330,400	-2,800	1,790.52	47,400	-800	968.15	379,400	+21,100
Mar. 31....	1,636.86	409,600	+79,200	1,799.73	57,400	+10,000	985.95	553,500	+174,100
Apr. 30....	1,650.46	458,800	+49,200	1,801.68	59,600	+2,200	989.30	591,800	+38,300
May 31....	1,646.88	445,400	-13,400	1,801.98	60,000	+400	993.14	637,700	+45,900
June 30....	1,644.66	437,200	-8,200	1,799.66	57,300	-2,700	986.28	557,300	-80,400
July 31....	1,636.64	408,800	-28,400	1,790.16	47,000	-10,300	977.82	468,200	-89,100
Aug. 31....	1,621.55	359,300	-49,500	1,781.38	38,700	-8,300	969.68	392,500	-75,700
Sept.30....	1,596.78	288,600	-70,700	1,771.16	30,300	-8,400	957.84	298,800	-93,700
Water year 1953-54.	-	-	-56,300	-	-	+2,900	-	-	-124,200

* Elevation is above a local datum; see text for adjustment to datum of 1929, supplementary adjustment of 1936.
† Elevation at 12 p.m.
‡ Contents based on backwater profile.

Reservoirs in Tennessee River basin--Continued

Monthly elevation and contents, water year October 1953 to September 1954--Continued

Date	Watts Bar Lake‡			Chatuge Lake			Nottely Lake		
	Elevation (feet)†	Contents (cfs-days)	Change in contents during month (cfs-days)	Elevation (feet)†	Contents (cfs-days)	Change in contents during month (cfs-days)	Elevation (feet)†	Contents (cfs-days)	Change in contents during month (cfs-days)
Sept.30....	739.06	451,000	-	1,889.55	34,800	-	1,659.58	1,400	-
Oct. 31....	737.50	423,000	-28,000	1,891.75	37,800	+3,000	1,650.10	700	-700
Nov. 30....	735.83	394,000	-29,000	1,894.44	41,800	+4,000	1,680.63	4,400	+3,700
Dec. 31....	735.20	385,000	-9,000	1,901.61	54,000	+12,200	1,700.60	10,100	+5,700
Calendar year 1953.	-	-	-5,000	-	-	+29,800	-	-	-8,700
Jan. 31....	736.08	402,000	+17,000	1,915.64	86,100	+32,100	1,732.63	28,400	+18,300
Feb. 28....	736.47	407,000	+5,000	1,920.62	100,400	+14,300	1,737.83	32,700	+4,300
Mar. 31....	737.31	421,000	+14,000	1,924.20	111,800	+11,400	1,732.58	28,300	-4,400
Apr. 30....	741.27	494,000	+73,000	1,925.85	117,400	+5,600	1,736.59	31,600	+3,300
May 31....	740.91	487,000	-7,000	1,927.19	122,000	+4,600	1,668.82	2,400	-29,200
June 30....	741.06	491,000	+4,000	1,925.29	115,400	-6,600	1,645.75	400	-2,000
July 31....	740.46	480,000	-11,000	1,923.34	109,000	-6,400	1,645.53	400	0
Aug. 31....	739.16	453,000	-27,000	1,923.27	108,800	-200	1,688.10	6,100	+5,700
Sept.30....	738.44	440,000	-13,000	1,923.18	108,500	-300	1,698.58	9,400	+3,300
Water year 1953-54.	-	-	-11,000	-	-	+73,700	-	-	+8,000

Date	Hiwassee Lake			Apalachia Lake			Blue Ridge Lake		
Sept.30....	1,495.95	140,700	-	1,278.02	28,400	-	1,652.50	48,800	-
Oct. 31....	1,489.74	128,000	-12,700	1,277.63	28,200	-200	1,630.97	29,300	-19,500
Nov. 30....	1,472.42	97,900	-30,100	1,279.40	29,200	+1,000	1,608.94	15,600	-13,700
Dec. 31....	1,449.20	67,300	-30,600	1,276.97	27,800	-1,400	1,607.18	14,700	-900
Calendar year 1953.	-	-	+8,400	-	-	+1,800	-	-	-17,900
Jan. 31....	1,470.76	95,400	+28,100	1,278.53	28,700	+900	1,647.01	43,200	+28,500
Feb. 28....	1,453.22	72,000	-23,400	1,275.08	26,800	-1,900	1,653.09	49,400	+6,200
Mar. 31....	1,486.87	122,500	+50,500	1,278.86	28,900	+2,100	1,669.40	68,800	+19,400
Apr. 30....	1,513.91	183,900	+61,400	1,263.23	20,700	-8,200	1,682.39	87,500	+18,700
May 31....	1,518.66	197,200	+13,300	1,275.95	27,300	+6,600	1,686.81	94,400	+6,900
June 30....	1,519.02	198,200	+1,000	1,272.32	25,300	-2,000	1,684.67	91,000	-3,400
July 31....	1,510.90	176,000	-22,200	1,274.08	26,200	+900	1,681.62	86,300	-4,700
Aug. 31....	1,497.16	143,300	-32,700	1,274.21	26,300	+100	1,672.28	72,700	-13,600
Sept.30....	1,477.77	106,400	-36,900	1,273.70	26,000	-300	1,656.04	52,600	-20,100
Water year 1953-54.	-	-	-34,300	-	-	-2,400	-	-	+3,800

Date	Ocoee No. 3 Lake**			Parksville Lake			Chickamauga Lake		
Sept.30....	1,432.46	4,200	-	834.6	40,800	-	679.33	249,000	-
Oct. 31....	1,433.48	4,500	+300	834.7	40,900	+100	677.80	227,000	-22,000
Nov. 30....	1,431.29	3,900	-600	833.7	39,900	-1,000	676.45	208,000	-19,000
Dec. 31....	1,430.26	3,700	-200	827.3	34,300	-5,600	675.32	194,000	-14,000
Calendar year 1953.	-	-	+200	-	-	-300	-	-	-10,000
Jan. 31....	1,429.10	3,000	‡‡-200	832.8	39,100	+4,800	676.10	208,000	+14,000
Feb. 28....	1,433.64	4,000	+1,000	829.6	36,200	-2,900	676.05	204,000	-4,000
Mar. 31....	1,431.44	3,400	-600	833.9	40,100	+3,900	677.47	222,000	+18,000
Apr. 30....	1,428.38	2,800	-600	832.8	39,100	-1,000	683.41	317,000	+95,000
May 31....	1,433.78	4,000	+1,200	836.0	42,100	+3,000	682.63	303,000	-14,000
June 30....	1,433.56	4,000	0	835.4	41,500	-600	681.46	283,000	-20,000
July 31....	1,433.41	3,900	-100	835.6	41,700	+200	680.80	272,000	-11,000
Aug. 31....	1,434.16	4,100	+200	835.4	41,500	-200	680.41	266,000	-6,000
Sept.30....	1,431.98	3,600	-500	835.1	41,200	-300	679.37	250,000	-16,000
Water year 1953-54.	-	-	‡‡-100	-	-	+400	-	-	+1,000

Date	Hales Bar Lake‡			Guntersville Lake‡			Woods Reservoir		
Sept.30....	633.88	74,000	-	592.11	411,000	-	952.05	26,500	-
Oct. 31....	633.88	74,000	0	592.17	409,000	-2,000	951.98	26,400	-100
Nov. 30....	634.12	75,000	+1,000	591.99	411,000	+2,000	952.17	26,700	+300
Dec. 31....	633.09	73,000	-2,000	593.03	442,000	+31,000	954.05	29,600	+2,900
Calendar year 1953.	-	-	+2,000	-	-	-12,000	-	-	+17,100
Jan. 31....	632.23	73,000	0	592.86	442,000	0	956.11	33,000	+3,400
Feb. 28....	632.50	71,000	-2,000	593.51	456,000	+14,000	956.25	33,200	+200
Mar. 31....	632.91	74,000	+3,000	593.50	462,000	+6,000	956.75	34,100	+900
Apr. 30....	634.36	75,000	+1,000	594.85	493,000	+31,000	959.55	39,400	+5,300
May 31....	633.86	74,000	-1,000	594.83	495,000	+2,000	960.02	40,300	+900
June 30....	633.78	75,000	+1,000	594.85	499,000	+4,000	959.98	40,200	-100
July 31....	633.71	75,000	0	594.48	486,000	-13,000	959.19	38,700	-1,500
Aug. 31....	632.78	72,000	-3,000	594.11	470,000	-16,000	958.67	37,700	-1,000
Sept.30....	633.41	72,000	0	593.89	463,000	-7,000	958.57	37,500	-200
Water year 1953-54.	-	-	-2,000	-	-	+52,000	-	-	+11,000

** Storage volume taken from revised table beginning Jan. 1, 1954.
† Elevation at 12 p.m.
‡ Contents based on backwater profile.
‡‡ Based on revised storage table being applicable Sept. 30 and Dec. 31, 1953.

Reservoirs in Tennessee River basin--Continued

Monthly elevation and contents, water year October 1953 to September 1954--Continued

Date	Wheeler Lake‡			Wilson Lake**			Pickwick Lake‡		
	Elevation (feet)†	Contents (cfs-days)	Change in contents during month (cfs-days)	Elevation (feet)†	Contents (cfs-days)	Change in contents during month (cfs-days)	Elevation (feet)†	Contents (cfs-days)	Change in contents during month (cfs-days)
Sept.30....	553.71	499,000	-	507.10	277,400	-	410.60	390,000	-
Oct. 31....	552.22	458,000	-41,000	506.96	276,300	-1,100	410.00	378,000	-12,000
Nov. 30....	550.85	426,000	-32,000	506.61	273,500	-2,800	409.25	363,000	-15,000
Dec. 31....	550.33	418,000	-8,000	505.40	264,100	-9,400	409.10	360,000	-3,000
Calendar year 1953.	-	-	-2,000	-	-	+1,700	-	-	+19,000
Jan. 31....	551.34	448,000	+30,000	505.63	309,700	‡‡+1,700	409.43	375,000	+15,000
Feb. 28....	551.04	434,000	-14,000	505.46	308,400	-1,300	409.39	368,000	-7,000
Mar. 31....	554.95	546,000	+112,000	506.94	320,100	+11,700	412.15	426,000	+58,000
Apr. 30....	555.90	568,000	+22,000	507.44	324,100	+4,000	414.65	474,000	+48,000
May 31....	556.04	572,000	+4,000	506.57	317,100	-7,000	414.65	474,000	0
June 30....	555.66	561,000	-11,000	506.82	319,100	+2,000	413.65	452,000	-22,000
July 31....	554.72	529,000	-32,000	506.53	316,800	-2,300	412.63	431,000	-21,000
Aug. 31....	553.32	489,000	-40,000	506.83	319,200	+2,400	411.25	402,000	-29,000
Sept.30....	552.22	458,000	-31,000	506.40	315,800	-3,400	411.18	402,000	0
Water year 1953-54.	-	-	-41,000	-	-	‡‡-5,600	-	-	+12,000

Date	Kentucky Lake‡		
	Elevation (feet)†	Contents (cfs-days)	Change in contents during month (cfs-days)
Sept.30....	355.66	1,099,000	-
Oct. 31....	354.77	1,031,000	-68,000
Nov. 30....	354.44	1,010,000	-21,000
Dec. 31....	354.09	990,000	-20,000
Calendar year 1953.	-	-	0
Jan. 31....	353.63	1,167,000	+177,000
Feb. 28....	354.31	1,037,000	-130,000
Mar. 31....	355.18	1,112,000	+75,000
Apr. 30....	359.00	1,363,000	+251,000
May 31....	359.53	1,377,000	+14,000
June 30....	357.77	1,253,000	-124,000
July 31....	357.09	1,204,000	-49,000
Aug. 31....	356.26	1,142,000	-62,000
Sept.30....	355.90	1,107,000	-35,000
Water year 1953-54.	-	-	+8,000

** Storage volumes taken from revised table beginning Jan. 1, 1954.
† Elevation at 12 p.m.
‡ Contents based on backwater profile.
‡‡ Based on revised storage table being applicable Sept. 30 and Dec. 31, 1953.

In 1931, a minor drought year, a study was made of large springs in East Tennessee and the results published in WSP 713. In 1950, a more detailed study, including some of those springs, was started in cooperation with the Ground Water Branch in connection with an investigation of the ground-water resources of the region. This study, made on a "roving" basis, was continued until June 1954. Discharge of one group of springs has been measured monthly for one year, then measurements made on another group for a year. During the final round of measurements in June 1954, measurements were made at many springs where regular monthly measurements had previously been discontinued. As some of the springs were measured during the drought year 1931, comparisons might be made to determine probable minimum flow of springs which were not measured in 1931.

Many of these springs are used for municipal or industrial water supplies. Others do not have well sustained flow during the dry season. Results of these discharge measurements show the characteristics of the springs and give good indication of the variation of the flow. A complete list of spring measurements made during the water year October 1953 to September 1954, showing the yield, and in most instances the temperature and physical appearance of the water, is given in the following table:

Discharge measurements, water year October 1953 to September 1954

Spring	Location	Tributary to--	Date	Discharge (gallons per minute)	Temperature (degrees Fahrenheit)		Remarks
					Air	Water	
Anderson County							
Bacon	½ mile south of Dossett.	Brushy Fork to Poplar Creek to Clinch River.	Oct. 1	610	87	58	Clear.
Do	....do	....do	Nov. 2	588	73	57	Do.
Do	....do	....do	Dec. 4	420	60	58	Do.
Do	....do	....do	Jan. 4	471	38	56	Do.
Do	....do	....do	Feb. 3	4,290	46	57	Do.
Do	....do	....do	Mar. 2	3,860	52	58	Do.
Do	....do	....do	Apr. 1	4,530	59	58	Do.
Do	....do	....do	May 6	1,730	58	57	Do.
Do	....do	....do	June 2	1,180	89	58	Do.
Blount County							
Big	3 miles southeast of Friendsville.	Gallagher Creek to Tennessee River.	June 8	2,230	81	59	Milky.
Chambers	3½ miles east of Rockford.	Little River	8	628	85	61	Clear.
Lovingood	1 mile southeast of Middle Settlement, 3 miles west of Alcoa.	Lackey Creek to Tennessee River.	8	2,150	78	58	Do.
Morton Spring	At Bungalow Town..	Fulton Creek to Pistol Creek to Little River.	8	808	80	59	Do.
Bradley County							
Carpenter	1,500 ft southeast of Lebanon Church, 5½ miles east of Cleveland.	London Branch to South Chestuee Creek to Hiwassee River.	June 18	373	87	62	Clear.
Seaton	On State Highway 60, 6½ miles south of Cleveland.	Jerry Branch to Coahulla Creek to Conasauga River (Mobile River Basin).	18	1,030	80	63	Do.
Richey	On Chatata Valley Road 5¾ miles east of Cleveland.	Shady Valley Creek to Chatata Creek to Hiwassee River.	18	882	89	61	Do.
Carroll County							
Vaughn	4 miles north of Rosser.	Crooked Creek	Sept. 21	54	64	59	Clear.
Do	....do	....do	21	76	64	59	Do.
Do	....do	....do	29	63	74	60	Do.
Carter County							
Big	2½ miles southwest of Elizabethton.	Gap Creek to Watauga River.	June 3	2,250	69	54	Clear.
Blue	½ mile northeast of Blue Spring School and 6 miles east of Elizabethton.	Blue Spring Branch to Watauga River..	Oct. 6	260	60	54	Do.
Do	....do	....do	Nov. 3	245	72	54	Do.
Do	....do	....do	Dec. 1	241	47	53	Do.
Do	....do	....do	Jan. 5	395	42	52	Do.
Do	....do	....do	Feb. 3	1,340	40	52	Milky.
Do	....do	....do	Mar. 3	4,020	33	48	Clear.
Do	....do	....do	Apr. 5	3,500	74	52	Milky.
Do	....do	....do	May 5	1,830	56	54	Clear.
Do	....do	....do	June 3	911	80	53	Do.
Elliot	At Winner, 7 miles northeast of Elizabethton.	Stoney Creek to Watauga River.	Oct. 6	530	59	54	Do.

Discharge measurements of springs in Tennessee, water year October 1953 to September 1954--Continued

Carter County--Continued

Spring	Location	Tributary to--	Date	Discharge (gallons per minute)	Temperature (degrees Fahrenheit)		Remarks
					Air	Water	
Elliot....	At Winner, 7 miles northeast of Elizabethton.	Stoney Creek to Watauga River.	Nov. 3	438	69	54	Clear.
Do....	....do.....	....do.....	Dec. 1	434	47	53	Do.
Do....	....do.....	....do.....	Jan. 5	655	40	53	Do.
Do....	....do.....	....do.....	Feb. 3	2,540	40	53	Milky.
Do....	....do.....	....do.....	Mar. 3	3,260	35	52	Clear.
Do....	....do.....	....do.....	Apr. 5	4,670	72	52	Milky.
Do....	....do.....	....do.....	May 5	2,270	55	53	Clear.
Do....	....do.....	....do.....	June 3	1,500	65	53	Do.

De Kalb County

Blue.....	At Blue Spring, 6½ miles south of Smithville.	Sink Creek to Caney Fork.	Oct. 19	233	73	58	Clear.
Do....	....do.....	....do.....	Nov. 24	180	49	54	Do.
Do....	....do.....	....do.....	Dec. 10	157	43	56	Do.
Do....	....do.....	....do.....	Jan. 25	503	54	55	Do.
Do....	....do.....	....do.....	Feb. 26	332	-	-	Do.
Do....	....do.....	....do.....	Mar. 25	462	76	56	Do.
Do....	....do.....	....do.....	Apr. 23	357	68	58	Do.
Do....	....do.....	....do.....	May 27	319	-	-	Do.
Do....	....do.....	....do.....	June 7	346	82	58	Do.
Overall (Blue)†.	2 miles southeast of Liberty.	Connell Creek to Smith Fork to Caney Fork.	Oct. 19	1,200	81	64	Do.
Do....	....do.....	....do.....	Nov. 24	2,120	54	61	Do.
Do....	....do.....	....do.....	Dec. 10	4,280	42	60	Do.
Do....	....do.....	....do.....	Jan. 25	9,510	58	54	Slightly murky.
Do....	....do.....	....do.....	Feb. 26	8,480	-	-	Clear.
Do....	....do.....	....do.....	Mar. 25	9,510	77	55	Murky
Do....	....do.....	....do.....	Apr. 23	8,820	59	58	Do.
Do....	....do.....	....do.....	May 27	6,780	-	-	Clear.
Do....	....do.....	....do.....	June 7	4,940	81	61	Do.
Pine Creek	3½ miles southeast of Smithville.	Head of Pine Creek to Caney Fork.	7	a63	79	58	Do.
Do....	....do.....	....do.....	7	781	79	59	Do.
Wharton...	2½ miles south of Smithville.	Shining Rock Creek to Pine Creek to Caney Fork.	Oct. 19	588	81	58	Do.
Do....	....do.....	....do.....	Nov. 24	606	52	57	Do.
Do....	....do.....	....do.....	Dec. 10	521	43	57	Do.
Do....	....do.....	....do.....	Jan. 25	1,530	54	57	Do.
Do....	....do.....	....do.....	Feb. 26	723	-	-	Do.
Do....	....do.....	....do.....	Mar. 25	942	78	56	Do.
Do....	....do.....	....do.....	Apr. 23	1,200	66	-	Do.
Do....	....do.....	....do.....	May 27	898	-	-	Do.
Do....	....do.....	....do.....	June 7	880	85	57	Do.

† Location published in WSP 728, 743, and 1236 in error.
a Discharge at main spring only.

Dickson County

Bruce.....	4¾ miles southwest of Dickson.	Piney River to Duck River.	June 2	588	58	57	Clear.
Fielder...	5 miles southwest of Dickson.	....do.....	2	871	63	58	Do.

Franklin County

Francis...	2½ miles west of Cowan.	Boiling Fork Creek to Elk River.	Oct. 15	2,520	85	60	Clear.
Do....	....do.....	....do.....	Nov. 11	1,850	72	59	Do.
Do....	....do.....	....do.....	Dec. 10	2,680	53	60	Do.
Do....	....dc.....	....do.....	Jan. 15	2,530	60	58	Do.
Do....	....do.....	....do.....	Feb. 12	6,670	34	58	Do.
Do....	....do.....	....do.....	Mar. 22	3,480	48	59	Do.
Do....	....do.....	....do.....	Apr. 8	3,350	59	60	Do.
Do....	....do.....	....do.....	May 14	2,720	59	59	Do.
Do....	....do.....	....do.....	June 29	3,120	90	59	Do.
Sharps (published in WSP 728 and 758 as Winchester).‡	1 mile north of Winchester.	Wagner Creek to Boiling Fork Creek to Elk River.	Oct. 15	2,570	82	61	Do.
Do....	....do.....	....do.....	Nov. 11	1,850	65	58	Do.
Do....	....do.....	....do.....	Dec. 10	3,860	60	59	Do.
Do....	....do.....	....do.....	Jan. 15	5,990	61	58	Do.
Do....	....do.....	....do.....	Feb. 12	10,700	32	58	Do.
Do....	....do.....	....do.....	Mar. 29	8,290	68	58	Do.
Do....	....do.....	....do.....	Apr. 8	7,710	58	60	Do.
Do....	....dc.....	....do.....	May 14	5,790	59	59	Do.
Do....	....do.....	....do.....	June 29	7,360	93	59	Do.

‡ Winchester water supply.

Discharge measurements of springs in Tennessee, water year October 1953 to September 1954--Continued

Spring	Location	Tributary to--	Date	Discharge (gallons per minute)	Temperature (degrees Fahrenheit)		Remarks
					Air	Water	
Franklin County--Continued							
Talley Williams	5 miles southeast of Winchester.	Norwood Creek to Boiling Fork Creek to Elk River.	Oct. 15	269	82	60	Clear.
Do....	....do.....	....do.....	Nov. 11	84	70	58	Do.
Do....	....do.....	....do.....	Dec. 10	8,380	47	58	Milky.
Do....	....do.....	....do.....	Jan. 15	20,600	54	59	Partly muddy.
Do....	....do.....	....do.....	Feb. 12	2,260	32	59	Clear.
Do....	....do.....	....do.....	Mar. 22	1,880	50	55	Do.
Do....	....do.....	....do.....	Apr. 8	3,530	59	57	Do.
Do....	....do.....	....do.....	May 14	9,240	59	56	Cloudy.
Do....	....do.....	....do.....	June 29	669	88	59	Clear.
Grainger County							
Buffalo...	On State Game Farm at Buffalo Springs.	Buffalo Creek to Holston River.	June 9	3,940	76	58	Clear.
Heatherly.	At Perrin School.....	Holston River.....	Oct. 8	292	70	58	Do.
Do....	....do.....	....do.....	Nov. 9	276	45	58	Do.
Do....	....do.....	....do.....	Dec. 4	278	60	58	Do.
Do....	....do.....	....do.....	Jan. 7	260	45	58	Do.
Do....	....do.....	....do.....	Feb. 12	592	40	58	Do.
Do....	....do.....	....do.....	Mar. 10	920	70	58	Do.
Do....	....do.....	....do.....	Apr. 8	1,140	60	58	Do.
Do....	....do.....	....do.....	May 12	790	68	58	Do.
Do....	....do.....	....do.....	June 9	548	75	58	Do.
Indian Cave.	At mouth of Indian Cave, 9 miles southwest of Rutledge.	Holston River.....	Oct. 8	373	68	58	Do.
Do....	....do.....	....do.....	Nov. 9	286	44	58	Do.
Do....	....do.....	....do.....	Dec. 4	373	60	58	Do.
Do....	....do.....	....do.....	Jan. 7	292	46	58	Do.
Do....	....do.....	....do.....	Feb. 12	803	40	58	Do.
Do....	....do.....	....do.....	Mar. 10	992	69	58	Do.
Do....	....do.....	....do.....	Apr. 8	1,850	60	58	Milky.
Do....	....do.....	....do.....	May 12	1,110	68	58	Clear.
Do....	....do.....	....do.....	June 9	996	72	58	Do.
Grundy County							
Big.....	At Big Spring, 2.4 miles northeast of Mount View.	Unnamed Creek to Elk River.	Sept. 1	494	90	66	Clear.
Hamblen County							
Panther...	1 mile north of Alpa, 5 miles southwest of Morristown.	Panther Creek to Holston.	June 9	965	81	58	Clear.
Hamilton County							
Anderson's	5 miles southwest of Georgetown.	Long Savannah Creek to Wolftever Creek to Tennessee River.	June 4	1,880	63	58	Clear.
Unnamed...	0.4 mile southwest of Falling Water.	Mill Branch to Falling Water Creek to North Chickamauga Creek to Tennessee River.	May 3	289	68	57	Do.
Hickman County							
Upper Sinking Creek.	0.9 mile east of Pleasantville Post Office.	Cane Creek to Buffalo River.	May 25	1,590	74	59	Clear.
Humphreys County							
Crystal...	4.4 miles north of Denver.	Bear Creek to Tennessee River.	Oct. 1	880	85	58	Clear.
Do....	....do.....	....do.....	Nov. 14	848	66	57	Do.
Do....	....do.....	....do.....	Dec. 9	942	44	58	Do.
Do....	....do.....	....do.....	Jan. 24	880	49	57	Do.
Do....	....do.....	....do.....	Feb. 15	884	63	58	Do.
Do....	....do.....	....do.....	Mar. 15	902	37	56	Do.
Do....	....do.....	....do.....	Apr. 1	898	-	-	Do.
Do....	....do.....	....do.....	May 12	925	62	59	Do.
Do....	....do.....	....do.....	June 2	848	71	59	Do.
Horner....	2.0 miles southwest of Buffalo.	Horner Spring Branch to Buffalo River.	Oct. 12	583	79	60	Do.
Do....	....do.....	....do.....	Nov. 11	579	49	59	Do.
Do....	....do.....	....do.....	Dec. 9	628	57	59	Do.
Do....	....do.....	....do.....	Feb. 1	898	57	57	Do.
Do....	....do.....	....do.....	15	575	67	58	Do.
Do....	....do.....	....do.....	Mar. 15	610	47	56	Do.
Do....	....do.....	....do.....	Apr. 7	646	77	58	Do.
Do....	....do.....	....do.....	May 12	687	62	58	Do.
Do....	....do.....	....do.....	June 2	642	83	59	Do.

Discharge measurements of springs in Tennessee, water year October 1953 to September 1954--Continued

Spring	Location	Tributary to--	Date	Discharge (gallons per minute)	Temperature (degrees Fahrenheit)		Remarks
					Air	Water	
Jackson County							
Big.....	1 mile west of Whitleyville.	Jenning Creek to Cumberland River.	June 7	2,550	87	56	Clear.
Jefferson County							
Baker.....	Just east of Strawberry Plains.	Crowder Branch to Holston River.	June 9	2,590	81	62	Muddy.
Blue.....	4 miles north of New Market.	Holston River.....	Oct. 8	934	68	58	Clear.
Do....	....do.....	....do.....	Nov. 9	853	54	58	Do.
Do....	....do.....	....do.....	Dec. 4	754	60	58	Do.
Do....	....do.....	....do.....	Jan. 7	678	47	58	Do.
Do....	....do.....	....do.....	Feb. 12	1,690	34	58	Do.
Do....	....do.....	....do.....	Mar. 10	2,740	69	58	Do.
Do....	....do.....	....do.....	Apr. 8	3,660	66	58	Slightly Milky.
Do....	....do.....	....do.....	May 12	1,810	66	58	Clear.
Do....	....do.....	....do.....	June 9	1,350	78	58	Do.
Buck Hollow.	3½ miles northeast of New Market.	Holston River.....	9	610	79	61	Do.
Knox County							
Big Blue (published in WSP 713 as Deep Spring).	2.3 miles southwest of Hall Crossroad and 3 miles northwest of Fountain City.	Beaver Creek to Clinch River.	Oct. 7	606	65	60	Milky.
Do....	....do.....	....do.....	Nov. 10	462	56	57	Clear.
Do....	....do.....	....do.....	Dec. 7	579	47	57	Do.
Do....	....do.....	....do.....	Jan. 12	453	26	48	Do.
Do....	....do.....	....do.....	Feb. 15	1,560	70	58	Milky.
Do....	....do.....	....do.....	Mar. 9	3,440	58	57	Do.
Do....	....do.....	....do.....	Apr. 7	3,720	70	58	Clear.
Do....	....do.....	....do.....	May 11	1,800	58	57	Slightly cloudy.
Do....	....do.....	....do.....	June 10	530	82	58	Clear.
Boiling...	1.0 mile east of Thorngrove.	Limestone Creek to Tuckehoe Creek to French Broad River	8	4,240	87	60	Muddy.
Carter Mill.	1.0 mile southeast of Trentville.	Lyon Creek to Holston River.	8	844	84	59	Clear.
Fowler....	2.0 miles northwest of Powell Station.	Big Spring Branch to Bull Run Creek to Clinch River.	2	1,210	79	58	Do.
Loudon County							
Allen Fine	1.5 miles west of Martel.	Muddy Creek to Tennessee River.	June 8	889	85	57	Clear.
Simpson...	On State Highway 72, 5 miles southeast of Loudon.	Clear Prong to Fork Creek to Little Tennessee River.	8	2,540	83	57	Do.
Marion County							
Bible.....	1 mile southwest of Comfort.	Big Fiery Gizzard Creek to Battle Creek to Tennessee River.	Oct. 16	1,170	68	60	Clear.
Do....	....do.....	....do.....	Nov. 3	1,000	77	58	Do.
Do....	....do.....	....do.....	Dec. 11	5,570	41	58	Do.
Do....	....do.....	....do.....	Jan. 28	5,520	36	53	Do.
Do....	....do.....	....do.....	Feb. 12	4,850	36	59	Do.
Do....	....do.....	....do.....	Mar. 18	3,970	67	52	Do.
Do....	....do.....	....do.....	Apr. 20	5,740	74	54	Do.
Do....	....do.....	....do.....	May 7	5,070	58	56	Do.
Do....	....do.....	....do.....	June 29	3,740	74	59	Do.
Blowing...	Just below source at Sequatchie.	Owens Spring Branch to Little Sequatchie River.	Oct. 16	516	62	60	Do.
Do....	....do.....	....do.....	Nov. 3	462	80	60	Do.
Do....	....do.....	....do.....	Dec. 11	2,440	55	55	Do.
Do....	....do.....	....do.....	Jan. 28	6,840	34	53	Do.
Do....	....do.....	....do.....	Feb. 12	2,460	40	57	Do.
Do....	....do.....	....do.....	Mar. 18	2,210	64	54	Do.
Do....	....do.....	....do.....	Apr. 20	4,530	74	55	Do.
Do....	....do.....	....do.....	May 7	2,140	58	55	Do.
Do....	....do.....	....do.....	June 29	362	70	57	Do.
Blue††....	At Jasper.....	Town Creek to Sequatchie River.	Oct. 16	243	59	58	Do.
Do....	....do.....	....do.....	Nov. 3	259	80	60	Do.
Do....	....do.....	....do.....	Dec. 11	4,610	52	56	Do.
Do....	....do.....	....do.....	Jan. 28	19,500	32	54	Milky.
Do....	....do.....	....do.....	Feb. 12	4,290	38	58	Clear.
Do....	....do.....	....do.....	Mar. 18	4,210	64	54	Do.
Do....	....do.....	....do.....	Apr. 20	12,200	73	55	Do.
Do....	....do.....	....do.....	May 7	3,640	58	56	Do.
Do....	....do.....	....do.....	June 29	754	81	61	Do.
T. H. Martin No. 1	At Martin Springs (Dove).	Battle Creek.....	Oct. 16	152	70	60	Do.

†† Measurement for 1931 published in WSP 713 as Smith's Blue Springs.

Discharge measurements of springs in Tennessee, water year October 1953 to September 1954--Continued

Marion County--Continued

Spring	Location	Tributary to--	Date	Discharge (gallons per minute)	Temperature (degrees Fahrenheit)		Remarks
					Air	Water	
T. H. Martin No. 1.	At Martin Springs (Dove).	Battle Creek.....	Nov. 3	149	78	58	Clear.
Do....	....do.....	....do.....	Dec. 11	12,000	38	54	Milky.
Do....	....do.....	....do.....	Jan. 28	17,100	38	53	Do.
Do....	....do.....	....do.....	Feb. 12	4,760	34	58	Clear.
Do....	....do.....	....do.....	Mar. 18	4,610	63	53	Do.
Do....	....do.....	....do.....	Apr. 20	15,500	68	54	Milky.
Do....	....do.....	....do.....	May 7	9,380	55	56	Clear.
Do....	....do.....	....do.....	June 29	372	81	59	Do.
T. H. Martin No. 2.	½ mile southwest of Martin Springs (Dove).	Battle Creek.....	Oct. 16	396	70	57	Do.
Do....	....do.....	....do.....	Nov. 3	411	78	56	Do.
Do....	....do.....	....do.....	Dec. 11	28,500	41	53	Milky.
Do....	....do.....	....do.....	Jan. 28	29,200	38	52	Do.
Do....	....do.....	....do.....	Feb. 12	9,980	35	55	Clear.
Do....	....do.....	....do.....	Mar. 18	8,880	66	50	Do.
Do....	....do.....	....do.....	Apr. 20	27,600	74	53	Cloudy.
Do....	....do.....	....do.....	May 7	17,800	55	56	Clear.
Do....	....do.....	....do.....	June 29	1,530	63	58	Do.

McMinn County

Arnwine...	5 miles north of Athens.	Lathan Spring Branch to North Mouse Creek.	June 18	1,380	95	62	Clear.
Cate.....	3½ miles northeast of Riceville.	North Mouse Creek...	Sept. 29	460	83	60	Do.
Cedar.....	2 miles southwest of Athens.	Cedar Spring Branch to Oostanaula Creek to Hiwassee River.	29	b810	86	63	Do.
Dodd.....	Dentville.....	Trews Branch to Chestuee Creek.	June 18	933	90	61	Do.
Hicks-Brown.	2½ miles north of Englewood.	Middle Creek to Chestuee Creek.	18	929	92	61	Do.
Malone....	2 miles east of Niota	Oostanaula Creek....	18	1,800	92	61	Do.
Do....	....do.....	....do.....	Sept. 29	665	84	60	Do.
Thompson..	1.0 mile northwest of Riceville.	North Mouse Creek...	June 18	1,120	95	60	Do.
Do....	....do.....	....do.....	Sept. 29	758	82	59	Do.
Whiteside.	3½ miles southeast of Goodfield, 6½ miles northwest of Riceville.	Short Creek to Rogers Creek.	June 4	736	62	57	Do.

b Sum of several springs.

Meigs County

Big.....	Big Spring.....	Agency Creek to Hiwassee River.	June 4	1,070	65	60	Clear.

Perry County

Bates.....	2.0 miles south of Lobelville.	Jones Hollow Branch to Lagoon Branch to Buffalo River.	Oct. 12	251	79	58	Clear.
Do....	....do.....	....do.....	Nov. 11	200	47	57	Do.
Do....	....do.....	....do.....	Dec. 9	274	58	58	Do.
Do....	....do.....	....do.....	Feb. 1	525	62	56	Do.
Do....	....do.....	....do.....	15	355	68	55	Do.
Do....	....do.....	....do.....	Mar. 15	399	49	56	Do.
Do....	....do.....	....do.....	Apr. 7	480	76	56	Do.
Do....	....do.....	....do.....	May 12	467	62	57	Do.
Do....	....do.....	....do.....	June 2	251	84	57	Do.
Bunch Cave (Spring No. 444 in WSP 677).	1.3 miles west of Horner, 5.0 miles northeast of Peters Landing.	Mayberry Branch to Cedar Creek to Tennessee River.	Oct. 13	215	-	-	Do.
Do....	....do.....	....do.....	Nov. 9	215	64	56	Do.
Do....	....do.....	....do.....	Dec. 8	377	56	57	Do.
Do....	....do.....	....do.....	Jan. 27	6,010	47	55	Murky.
Do....	....do.....	....do.....	Feb. 19	5,740	64	55	Do.
Do....	....do.....	....do.....	Mar. 16	1,140	29	55	Clear.
Do....	....do.....	....do.....	Apr. 7	2,060	80	58	Do.
Do....	....do.....	....do.....	May 25	714	75	57	Do.
Do....	....do.....	....do.....	June 2	781	81	59	Do.
Hinson (Spring No. 464 in WSP 677).	2.8 miles east of Beardstown.	Cane Creek to Buffalo River.	Oct. 12	1,550	80	60	Do.
Do....	....do.....	....do.....	Nov. 11	1,890	42	56	Do.
Do....	....do.....	....do.....	Dec. 9	2,180	58	56	Do.
Do....	....do.....	....do.....	Feb. 1	3,910	62	54	Do.
Do....	....do.....	....do.....	15	2,100	66	56	Do.
Do....	....do.....	....do.....	Mar. 15	3,090	47	56	Do.
Do....	....do.....	....do.....	Apr. 7	3,160	77	54	Do.
Do....	....do.....	....do.....	May 12	3,690	60	58	Do.
Do....	....do.....	....do.....	June 2	2,800	80	59	Do.

Discharge measurements of springs in Tennessee, water year October 1953 to September 1954--Continued

Perry County--Continued

Spring	Location	Tributary to--	Date	Discharge (gallons per minute)	Temperature (degrees Fahrenheit)		Remarks
					Air	Water	
Hurricane Creek.	5.2 miles southeast of Linden.	Hurricane Creek to Buffalo River.	Oct. 13	8,530	-	-	Clear.
Do....	....do.....	....do.....	Nov. 11	8,710	28	56	Do.
Do....	....do.....	....do.....	Dec. 8	9,200	54	57	Do.
Do....	....do.....	....do.....	Feb. 1	17,500	56	55	Do.
Do....	....do.....	....do.....	19	28,800	58	56	Do.
Do....	....do.....	....do.....	Mar. 15	11,600	47	56	Do.
Do....	....do.....	....do.....	Apr. 8	12,200	57	57	Do.
Do....	....do.....	....do.....	May 25	10,700	77	59	Do.
Do....	....do.....	....do.....	June 2	10,100	79	59	Do.
Ledbetter (Spring No. 466 in WSP 677).	2.2 miles northeast of Lobeville.	Lost Creek to Buffalo River.	Oct. 12	224	80	60	Do.
Do....	....do.....	....do.....	Nov. 11	233	55	57	Do.
Do....	....do.....	....do.....	Dec. 9	471	62	57	Do.
Do....	....do.....	....do.....	Feb. 1	1,300	64	53	Do.
Do....	....do.....	....do.....	15	449	68	56	Do.
Do....	....do.....	....do.....	Mar. 15	565	50	57	Do.
Do....	....do.....	....do.....	Apr. 7	880	74	58	Do.
Do....	....do.....	....do.....	May 12	794	62	57	Do.
Do....	....do.....	....do.....	June 2	422	81	56	Do.
Sinking Creek No. 449b in WSP 677).	4 miles northeast of Flat Woods.	Sinking Creek to Buffalo River.	Oct. 13	3,180	-	-	Do.
Do....	....do.....	....do.....	Nov. 11	3,030	40	58	Do.
Do....	....do.....	....do.....	Dec. 8	3,590	56	55	Do.
Do....	....do.....	....do.....	Jan. 27	11,300	42	55	Do.
Do....	....do.....	....do.....	Feb. 19	9,830	62	55	Do.
Do....	....do.....	....do.....	Mar. 16	5,880	39	55	Do.
Do....	....do.....	....do.....	Apr. 8	5,340	55	56	Do.
Do....	....do.....	....do.....	May 25	4,670	77	57	Do.
Do....	....do.....	....do.....	June 2	3,820	80	58	Do.
Unnamed...	4.7 miles northeast of Peters Landing.	Denton Hollow Branch to Mayberry Branch to Cedar Creek to Tennessee River.	Oct. 13	909	-	-	Do.
Do....	....do.....	....do.....	Nov. 9	58	67	58	Slightly cloudy
Do....	....do.....	....do.....	Dec. 8	94	59	58	Clear.
Do....	....do.....	....do.....	Jan. 27	1,080	47	54	Murky.
Do....	....do.....	....do.....	Feb. 19	853	63	55	Do.
Do....	....do.....	....do.....	Mar. 16	202	35	56	Clear.
Do....	....do.....	....do.....	Apr. 7	399	80	57	Do.
Do....	....do.....	....do.....	May 25	144	75	56	Do.
Do....	....do.....	....do.....	June 2	157	84	61	Do.

Roane County

Crystal (McKinney's).	4 miles northeast of Wheat.	East Fork Poplar Creek to Poplar Creek to Clinch River.	June 2	583	74	65	Milky.
Ladd.....	0.7 mile north of U. S. Highway 70, 3.8 miles east of Kingston.	Ladd Creek.....	Oct. 7	103	62	57	Clear.
CMW (Lum) Roberts.	1.2 miles north of U. S. Highway 70, 4.3 miles east of Kingston.	Ladd Creek.....	7	70	62	57	Do.
Rose Bailey.	2.1 miles southeast of Kingston on U. S. Highway 70.	Smith Creek to Tennessee River.	7	63	65	72	Do.

Sequatchie County

Barker's..	1½ miles northeast of Dunlap.	Big Brush Creek.....	Oct. 29	642	54	57	Clear.
Do....	....do.....	....do.....	Nov. 23	498	47	55	Do.
Do....	....do.....	....do.....	Dec. 2	498	56	58	Do.
Do....	....do.....	....do.....	Jan. 4	1,340	53	57	Do.
Do....	....do.....	....do.....	Feb. 2	4,550	60	57	Do.
Do....	....do.....	....do.....	Mar. 22	3,290	43	56	Do.
Do....	....do.....	....do.....	Apr. 16	3,870	63	56	Do.
Do....	....do.....	....do.....	May 20	3,770	58	56	Do.
Do....	....do.....	....do.....	June 21	2,590	68	57	Do.

Stewart County

Brandon (Spring No. 17 in WSP 640).	6.0 miles north of Dover (published in WSP 743 as 4 miles north of Dover).	Cumberland River....	June 4	570	60	56	Slightly cloudy
Shelby No. 1 (part of Spring No. 4 in WSP 640)	1.2 miles northeast of Tobaccoport (published in WSP 743 as 1 mile east of Tobaccoport).	Shelby Creek to Cumberland River.	4	758	64	57	Clear.

Discharge measurements of springs in Tennessee, water year October 1953 to September 1954--Continued

Spring	Location	Tributary to--	Date	Discharge (gallons per minute)	Temperature (degrees Fahrenheit)		Remarks
					Air	Water	
Stewart County--Continued							
Shelby No. 2 (part of Spring No. 4 in WSP 640).	1.2 miles northeast of Tobaccoport.	Shelby Creek to Cumberland River.	June 4	1,680	64	57	Clear.
Sullivan County							
Merrill...	2 miles southeast of Bluff City.	South Fork Holston River.	June 3	2,080	74	55	Clear.
Unicoi County							
Birchfield	2 miles northeast of Erwin.	North Indian Creek.	June 1	1,750	67	55	Clear.
Do....	....do.....	....do.....	Nov. 2	978	26	57	Do.
United States Fisheries	2½ miles northeast of Erwin.	....do.....	Oct. 5	1,060	86	57	Do.
Do....	....do.....	....do.....	Nov. 2	1,060	66	56	Do.
Do....	....do.....	....do.....	Dec. 1	893	49	58	Do.
Do....	....do.....	....do.....	Jan. 4	1,000	51	52	Do.
Do....	....do.....	....do.....	Feb. 2	1,000	57	55	Do.
Do....	....do.....	....do.....	Mar. 2	1,050	46	55	Do.
Do....	....do.....	....do.....	Apr. 5	1,100	74	59	Do.
Do....	....do.....	....do.....	May 6	1,120	51	56	Do.
Do....	....do.....	....do.....	June 1	996	67	58	Do.
Wayne County							
Mill (published as Big Spring in WSP 663).	6 miles west of Waynesboro (published as 10 miles west of Waynesboro in WSP 663 and 2 miles southwest of Waynesboro in WSP 728).	Hardin Creek to Tennessee River.	June 2	2,770	80	63	Clear.
White County							
Blue.....	1½ miles above Calfkiller River, and 4½ miles northeast of Sparta.	Blue Spring Creek to Calfkiller River.	Oct. 28	415	50	53	Clear.
Do....	....do.....	....do.....	Nov. 23	817	48	55	Do.
Do....	....do.....	....do.....	Dec. 21	1,520	56	54	Do.
Do....	....do.....	....do.....	Jan. 19	15,100	59	49	Do.
Do....	....do.....	....do.....	Feb. 17	31,600	41	50	Do.
Do....	....do.....	....do.....	Mar. 22	5,340	56	50	Do.
Do....	....do.....	....do.....	Apr. 16	13,800	67	54	Do.
Do....	....do.....	....do.....	May 20	9,670	61	55	Do.
Do....	....do.....	....do.....	June 21	951	90	56	Do.
Johnson's Mill.##	1½ miles southeast of Doyle.	Calfkiller River to Caney Fork.	June 22	4,840	80	60	Muddy.
Reno Bridge.	200 ft below Reno Bridge, 2¾ miles southwest of Doyle.	Caney Fork.....	Oct. 28	132	51	57	Clear.
Do....	....do.....	....do.....	Nov. 24	149	51	56	Do.
Do....	....do.....	....do.....	Dec. 22	319	57	58	Do.
Do....	....do.....	....do.....	Jan. 19	4,760	60	55	Slightly muddy.
Do....	....do.....	....do.....	Feb. 17	4,800	45	56	Clear.
Do....	....do.....	....do.....	Mar. 23	1,140	52	57	Do.
Do....	....do.....	....do.....	Apr. 15	1,740	78	58	Do.
Do....	....do.....	....do.....	May 21	1,330	78	58	Do.
Do....	....do.....	....do.....	June 22	709	71	59	Do.
Town Creek	Head of Town Creek, 2 miles west of Sparta.	Town Creek to Calfkiller River.	21	13,000	88	60	Muddy.

Published in WSP 728 as Taylor's Mill Spring.

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.

Records available.--October 1925 to September 1949, discontinued (prior to March 1926 monthly discharge only, published in WSP 1306).

Gage.--Water-stage recorder. August 1926 to June 1949, sharp-crested rectangular weirs. Datum of gage is 3,138.38 ft above mean sea level, datum of 1929. Prior to Mar. 31, 1936, staff gage at site 300 ft upstream at same datum.

Average discharge.--24 years, 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.

Revisions.--WSP 823: Drainage area. Revised figures of discharge, in cubic feet per second, for the water year 1929, superseding those published in WSP 683, are given herewith:

Jan. 8, 1929..... 35
Jan. 9, 1929..... 31

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
January 1929.....	87	15.8	35.3	3.53	4.08
Water year 1928-29.....	480	4.8	36.3	3.63	49.33

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.

Records available.--March 1915 to August 1950 (discontinued).

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 mile upstream at same datum. Apr. 10 to June 13, 1934, staff gage at described site at same datum.

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

Extremes.--1915-50: Maximum discharge, 130,000 cfs (revised) Mar. 23, 1929 (gage height, 69.0 ft, 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.

Revisions.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
-	1916	Nov. 15, 1915	†a48,400	36.72
453	1917	Mar. 3, 1917	a45,200	35.1
503	1920	Mar. 13, 1920	a46,600	35.8
523	1921	Apr. 17, 1921	a45,000	35.05
543	1922	Mar. 10, 1922	a45,400	35.2
563	1923	Mar. 7, 1923	a36,300	30.4
583	1924	May 30, 1924	a46,400	35.7
603	1925	Feb. 16, 1925	a36,900	30.7
643	1927	Dec. 26, 1926	a50,600	37.8
683	1929	Mar. 23, 1929	130,000	69.0
823	1937	Jan. 2, 1937	70,400	46.38
873	1939	Feb. 3, 1939	95,600	55.95
973	1943	Dec. 30, 1942	68,200	45.50

† Not previously published.
a Maximum observed.

The minimum daily discharge for the water year 1925 has been revised to 17 cfs Aug. 31 and Sept. 3, 1925; minimum gage height, 1.39 ft, superseding figure published in WSP 603.

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

Revisions.--WSP 953: Drainage area. Revised figures of discharge, in cubic feet per second, for the water years 1916-18, 1920-25, 1927-28, superseding those published in WSP 453, 473, 503, 523, 543, 563, 583, 603, 643, and 663 are given herein:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1915		1917-Con.		1920-Con.		1924-Con.		1925-Con.	
Nov. 14	7,050	Mar. 4	28,300	Feb. 22	21,900	Jan. 4	24,000	Sept.25	35
15	48,200	5	21,600	23	19,500	12	11,300	26	29
16	20,400	7	6,450	24	11,700	16	12,100	27	28
17	7,700	12	9,650	Apr. 2	30,200	17	19,200	28	29
19	14,800	13	11,100	3	21,600	May 1	14,200	29	28
20	13,200	14	7,050			29	19,200	30	32
21	6,930	15	6,930	1921		30	46,400		
Dec. 17	10,400	17	28,500	Apr. 17	45,000	Dec. 8	21,200	1926	
18	36,100	18	22,400	18	11,800	9	29,100	Dec. 10	22,800
19	20,400	19	8,090			1925		11	15,900
20	7,570	22	8,350	1922				21	31,400
29	22,200	23	6,450	Mar. 1	21,800	Feb. 15	22,600	22	47,600
30	22,200	24	20,000	2	39,400	16	29,300	23	13,000
31	8,090	25	17,200	3	12,800	Sept. 1	19	24	14,200
		26	7,050	10	45,400	2	19	25	46,200
1916		27	10,200	11	19,500	3	17	26	50,600
Dec. 28	11,600	28	13,000	15	18,200	4	18	27	12,000
29	26,200	29	6,930	16	11,200	5	18	28	16,500
30	6,450			Apr. 28	43,400	10	18	29	26,700
		1918				11	18	30	12,800
1917		Jan. 27	15,300	1923		12	19		
Jan. 4	21,000	28	46,600	Jan. 23	11,800	13	20	1927	
5	30,600	29	26,900	24	15,800	14	20	Nov. 17	26,600
6	23,400	30	14,600	28	24,600	15	20	18	12,300
15	6,570	31	17,300	29	11,000	16	24		
22	18,300			31	25,100	17	22	1928	
23	14,900	1920		Feb. 3	33,300	18	21	June 4	27,200
24	6,330	Jan. 22	27,200	Mar. 7	36,300	19	57	5	18,200
30	14,100	23	34,000			20	50	29	41,400
31	6,570	24	28,500	1924		21	52	30	79,600
Mar. 1	6,930	25	17,900	Jan. 1	11,300	22	53		
2	13,000	Feb. 4	13,100	2	12,800	23	45		
3	39,200	5	20,000	3	42,000	24	43		

South Fork Cumberland River at Nevelsville, Ky.--Continued

Revised figures of monthly discharge, in cubic feet per second, 1916-18, 1920-25, 1927-28

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
November 1915	48,200	409	5,280	4.18	4.66
December	36,100	800	5,890	4.66	5.37
Water year 1915-16	48,200	107	2,870	2.27	30.96
December 1916	26,200	214	2,100	1.66	1.91
Calendar year 1916	27,500	80	1,860	1.47	20.08
January 1917	30,600	1,350	6,900	5.46	6.29
March	39,200	2,710	11,200	8.86	10.20
Water year 1916-17	39,200	65	2,740	2.17	29.44
Calendar year 1917	39,200	65	2,670	2.11	28.69
January 1918	46,600	660	5,620	4.45	5.13
Water year 1917-18	46,600	88	1,790	1.42	19.10
Calendar year 1918	46,600	76	2,020	1.60	21.65
January 1920	34,000	602	6,010	4.75	5.48
February	21,900	1,270	5,250	4.15	4.48
April	30,200	1,270	4,990	3.95	4.40
Water year 1919-20	40,700	63	3,350	2.65	36.12
Calendar year 1920	40,700	90	2,770	2.19	29.87
April 1921	45,000	602	4,110	3.25	3.63
Water year 1920-21	45,000	82	1,710	1.35	18.39
Calendar year 1921	45,000	82	1,880	1.49	20.22
March 1922	45,400	1,870	9,030	7.14	8.24
April	43,400	1,270	6,280	4.97	5.54
Water year 1921-22	45,400	107	3,120	2.47	33.53
Calendar year 1922	45,400	92	3,020	2.39	32.45
January 1923	25,100	910	5,330	4.22	4.86
February	33,300	970	5,830	4.61	4.80
March	36,300	1,590	7,500	5.93	6.84
Water year 1922-23	36,300	92	2,690	2.13	28.85
Calendar year 1923	36,300	56	2,510	1.99	26.96
January 1924	42,000	1,330	6,560	5.19	5.98
May	46,400	1,090	4,870	3.85	4.44
Water year 1923-24	46,400	54	2,170	1.72	23.48
December 1924	29,100	137	2,670	2.11	2.44
Calendar year 1924	46,400	54	2,240	1.77	24.23
February 1925	29,300	1,330	4,580	3.62	3.77
September	57	17	28.8	.023	.03
Water year 1924-25	29,300	17	1,420	1.12	15.22
Calendar year 1925	29,300	17	1,690	1.34	18.18
December 1926	50,600	1,270	12,100	9.57	11.07
Calendar year 1926	67,500	84	2,900	2.29	31.21
Water year 1926-27	50,600	53	3,140	2.48	33.77
November 1927	26,600	51	1,740	1.38	1.54
Calendar year 1927	28,500	51	2,230	1.76	23.98
June 1928	79,600	1,270	8,510	6.73	7.51
Water year 1927-28	79,600	51	2,930	2.32	31.51
Calendar year 1928	79,600	115	2,980	2.36	32.08

Measurements of streamflow in the Cumberland and Tennessee River basins made at points other than regular gaging stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from groundwater storage. These measurements when correlated with the simultaneous discharge of a nearby stream where continuous records are available will give a picture of the low-flow potentiality of stream. For many sites measurements have been made in other years.

Determinations of peak flow at points other than regular gaging stations are given in a separate table on page 282.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1953 to September 1954

Cumberland River basin

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Oct. 14	Clover Fork.....	Cumberland River.....	At bridge on State Highway 215, at Evarts, Harlan County, Ky.	1.72
Nov. 18	....do.....	....do.....	....do.....	2.59
Oct. 14	Martins Fork.....	....do.....	At bridge on rural road just off U. S. Highway 421, 0.8 mile west of Cawood, Harlan County, Ky.	1.31
Nov. 18	....do.....	....do.....	....do.....	2.23
Oct. 14	Yellow Creek bypass.	....do.....	At Middlesboro, Ky.....	1.25
July 26	....do.....	....do.....	....do.....	0
Sept. 2	....do.....	....do.....	....do.....	0
Oct. 15	Straight Creek....	....do.....	At bridge on State Highway 66, 2 miles east of Pineville, Bell County, Ky.	.30
Nov. 19	....do.....	....do.....	....do.....	.71
Oct. 29	Clear Fork.....	....do.....	0.5 mile below bridge on U. S. Highway 25, 5.4 miles south of Williamsburg, Whitley County, Ky.	4.56
Sept.28	....do.....	....do.....	....do.....	7.56
Oct. 28	Jellico Creek.....	....do.....	At bridge on State Highway 92, 7.7 miles southwest of Williamsburg, Whitley County, Ky.	0
Sept.28	....do.....	....do.....	....do.....	.02
Oct. 27	Roundstone Creek..	Rockcastle River.....	¼ mile below bridge on State Highway 490, at Livingston, Rockcastle County, Ky.	4.53
27	Rockcastle River..	Cumberland River.....	At Louisville & Nashville RR. bridge, at Livingston, Rockcastle County, Ky.	3.66
28	Little South Fork Cumberland River.	South Fork Cumberland River.	2,000 ft below bridge on State Highway 92, 8.2 miles east of Oil Valley, Wayne County, Ky.	1.41
29	Fishing Creek.....	Cumberland River.....	At old bridge abutment on State Highway 80, 3 miles east of Nancy, Pulaski County, Ky.	.90
28	Beaver Creek.....	Cumberland River (Wolf Creek Reservoir).	At bridge on State Highway 90, 2 miles west of Monticello, Wayne County, Ky.	5.83
28	Otter Creek.....	....do.....	At old bridge on State Highway 90, 1¾ miles west of Susie, Wayne County, Ky.	3.50
Sept.15	Whiteoak Creek....	Clear Fork River.....	At bridge on State Highway 52, 0.8 mile southeast of Rugby, Morgan County, Tenn.	0
Aug. 18	Big South Fork Cumberland River.	Cumberland River.....	150 ft upstream from Oneida and Western RR. bridge and 6.2 miles west of Helenwood, Scott County, Tenn. (published in WSP 603 as South Fork of Cumberland River near Oneida).	a16.6
June 8	North Fork Pine Creek.	Pine Creek.....	At old gaging station at Oneida, Scott County, Tenn. (published as Pine Creek in WSP 728 and 743).	b.1
7	Jennings Creek....	Cumberland River.....	At bridge on State Highway 85, 4½ miles north of Gainesboro, Jackson County, Tenn.	0
7	Pine Creek.....	Caney Fork.....	Above Pine Creek Springs, 1,000 ft upstream from bridge on State Highway 146 and 3¾ miles southwest of Smithville, De Kalb County, Tenn.	0
7	....do.....	....do.....	At bridge on State Highway 146, below Pine Creek Springs, 3½ miles southwest of Smithville, De Kalb County, Tenn.	1.74
Oct. 19	Shining Rock Creek	Pine Creek.....	Above Wharton Spring, 2¾ miles south of Smithville, De Kalb County, Tenn.	0
Nov. 24	....do.....	....do.....	....do.....	0
Jan. 25	....do.....	....do.....	....do.....	1.18
Feb. 26	....do.....	....do.....	....do.....	.05
Mar. 25	....do.....	....do.....	....do.....	1.26
Apr. 23	....do.....	....do.....	....do.....	.46
May 27	....do.....	....do.....	....do.....	b.02
June 7	....do.....	....do.....	....do.....	0
Oct. 19	....do.....	....do.....	Below Wharton Spring, 2¾ miles south of Smithville, De Kalb County, Tenn.	1.31
Nov. 24	....do.....	....do.....	....do.....	1.35
Dec. 10	....do.....	....do.....	....do.....	1.16
Jan. 25	....do.....	....do.....	....do.....	4.58
Feb. 26	....do.....	....do.....	....do.....	1.66

a Furnished by Corps of Engineers.
b Estimated.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1953 to September 1954--Continued

Cumberland River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Mar. 25	Shining Rock Creek	Pine Creek.....	Below Wharton Spring, 2¾ miles south of Smithville, De Kalb County, Tenn.	3.36
Apr. 23	....do.....	....do.....	....do.....	3.13
May 27	....do.....	....do.....	....do.....	2.02
June 7	....do.....	....do.....	....do.....	1.96
Aug. 25	Big Hickory Creek.	Barren Fork.....	At bridge on State Highway 55, 2 miles southwest of McMinnville, Warren County, Tenn.	10.7
Sept.29	Barren Fork.....	Collins River.....	At bridge on State Highway 56, at McMinnville, Warren County, Tenn.	62.0
Oct. 19	Smith Fork.....	Caney Fork.....	At bridge on State Highway 53, 1 mile west of Liberty, De Kalb County, Tenn.	0
19	Dry Creek.....	Smith Fork.....	At bridge on State Highway 26, at east edge of Dowelltown, De Kalb County, Tenn., 2/3 mile upstream from mouth.	0
19	Helton Creek.....	....do.....	At bridge just upstream from mouth, 2¾ miles southwest of Temperance Hall, De Kalb County, Tenn.	0
19	Walker Creek.....	....do.....	At bridge just upstream from mouth, 1 mile northwest of Temperance Hall, De Kalb County, Tenn.	0
19	Hickman Creek.....	Caney Fork.....	At bridge on State Highway 53, just north of public square at Alexander, De Kalb County, Tenn.	0
Nov. 24	....do.....	....do.....	....do.....	0
Oct. 19	....do.....	....do.....	At Carthage junction, Smith County, Tenn.	b.005
19	Round Lick Creek..	Cumberland River.....	At bridge on State Highway 26, at east edge of business section of Watertown, Wilson County, Tenn.	0
19	....do.....	....do.....	At bridge on State Highway 141, 1¼ miles northwest of Grant, Smith County, Tenn.	0
Aug. 10	Spring Creek.....	....do.....	At county road bridge (Blue Bird Road), 2.9 miles east of Lebanon, Wilson County, Tenn.	0
10	....do.....	....do.....	At bridge on U. S. Highway 70, 3 miles east of Lebanon, Wilson County, Tenn.	0
10	....do.....	....do.....	At bridge on "Federal aid secondary highway" 6135, 4 miles northeast of Lebanon, Wilson County, Tenn.	0
Sept.16	Bartons Creek.....	....do.....	At bridge on U. S. Highway 70N at west city limits of Lebanon, Wilson County, Tenn.	0
16	Sinking (Town) Creek.	Bartons Creek.....	At site of former gaging station at Lebanon, Wilson County, Tenn.	0
16	Martha Branch.....	Spencer Creek.....	At bridge on U. S. Highway 70N, 0.4 mile northwest of Martha, Wilson County, Tenn.	0
16	Cedar Creek.....	Cumberland River.....	At bridge on U. S. Highway 70N, 2¼ miles north of Mount Juliet, Wilson County, Tenn.	0
16	Silver Springs....	Cedar Creek.....	....do.....	0
Mar. 26	Cumberland River..	Ohio River.....	Below Old Hickory Dam, 2.2 miles east of Hendersonville, Sumner County, Tenn.	a36,300
July 12	....do.....	....do.....	....do.....	a3,230
Aug. 11	....do.....	....do.....	....do.....	a5,750
Sept.13	....do.....	....do.....	....do.....	a5,320
Aug. 12	East Fork Stones River.	Stones River.....	75 ft upstream from Doolittle Street Bridge and about 1,000 ft upstream from bridge on U. S. Highway 70S at Woodbury, Cannon County, Tenn.	4.24
Oct. 15	Wades Branch.....	East Fork Stones River.	At county road bridge ½ mile southeast of Walterhill, Rutherford County, Tenn.	b.01
15	Lytle Creek.....	West Fork Stones River.	At bridge on U. S. Highway 41, at Murfreesboro, Rutherford County, Tenn.	0
Aug. 10	Fall Creek.....	Stones River.....	At bridge on State Highway 10, (U. S. Highway 231), 5 miles north of Walterhill, Rutherford County, Tenn.	0
10	Hurricane Creek...	....do.....	¾ mile south of Vester and 4 miles south of Gladeville, Wilson County, Tenn.	0
July 2	Suggs Creek.....	....do.....	At bridge on Old Hickory Blvd., 2 miles northwest of Couchville, Davidson County, Tenn.	0
Sept.16	Scotts Creek.....	Stoner Creek.....	At bridge on U. S. Highway 70N, 3.8 miles northwest of Mount Juliet, Wilson County, Tenn.	0
Nov. 6	Mill Creek.....	Cumberland River.....	At highway bridge at Antioch, Davidson County, Tenn.	0
Oct. 15	....do.....	....do.....	At Central State Hospital, 1½ miles southwest of Una, Davidson County, Tenn.	b.15

a Furnished by Corps of Engineers.
b Estimated.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1953 to September 1954--Continued

Cumberland River basin--Contined

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Sept.15	Browns Creek.....	Cumberland River.....	At Lafayette Street Bridge (U. S. Highways 41 and 70S) just inside southeast city limits, 2.0 miles southeast of Capitol, at Nashville, Davidson County, Tenn.	0
Aug. 18	Richland Creek....	....do.....	At Evelyn Ave. ford, first crossing upstream from bridge on U. S. Highway 70S, at Belle Meade, Davidson County, Tenn.	0
Sept. 1	....do.....	....do.....	....do.....	0
14	Big Marrowbone Creek.	....do.....	At bridge on State Highway 12, 3.2 miles southeast of Ashland City, Cheatham County, Tenn.	0
Aug. 18	Lynnwood Branch...	Harpeth River.....	At bridge on U. S. Highway 431, 3.5 miles north of Franklin, Williamson County, Tenn.	0
18	Cartwright Creek..	....do.....	At bridge on U. S. Highway 431, $\frac{1}{2}$ mile north of Bethlehem and 6 miles north of Franklin, Williamson County, Tenn.	0
18	Beech Creek.....	Little Harpeth River..	At bridge on U. S. Highway 431, $4\frac{3}{4}$ miles west of Brentwood, Williamson County, Tenn.	0
Sept. 9	South Harpeth River.	Harpeth River.....	2 miles south of Pegram, Cheatham County, Tenn. (published in WSP 728 as 4 miles southeast of Kingston Springs).	4.45
9	Turnbull Creek....	....do.....	$\frac{1}{4}$ mile upstream from mouth and 2/3 mile west of Kingston Springs, Cheatham County, Tenn.	15.4
Aug. 2	Cumberland River..	Ohio River.....	1,500 ft downstream from Cheatham Dam gage, near Neptune, Cheatham County, Tenn.	a4,630
17	....do.....	....do.....	....do.....	5,530
Sept. 1	....do.....	....do.....	....do.....	a4,460
14	....do.....	....do.....	....do.....	7,130
Oct. 5	Red River.....	Cumberland River.....	0.7 mile above bridge on State Highway 75, 2.4 miles north of Adairville, Logan County, Ky.	4.69
Nov. 5	....do.....	....do.....	....do.....	2.80
Oct. 2	Whipperwill Creek.	Red River.....	At bridge on U. S. Highway 79, 7.5 miles southwest of Russellville, Logan County, Ky.	.13
Nov. 5	....do.....	....do.....	....do.....	.12
Oct. 2	West Fork Red River.	Big West Fork Creek...	At bridge on U. S. Highway 41, 3 miles northwest of Trenton, Todd County, Ky.	.48
Nov. 5	....do.....	....do.....	....do.....	.32
June 4	Shelby Creek.....	Cumberland River.....	Above Shelby Springs, above county bridge, 1.2 miles northeast of Tobaccoport, Stewart County, Tenn.	0
4	....do.....	....do.....	Below Shelby Spring No. 2, just below county bridge, 1.2 miles northeast of Tobaccoport, Stewart County, Tenn.	3.74
Nov. 5	Sinking Fork.....	Little River.....	At bridge on State Highway 117, 2 miles south of Gracey, Christian County, Ky.	0
5	Muddy Fork.....	....do.....	At bridge on State Highway 139, 4 miles north of Cadiz, Trigg County, Ky.	5.01
2	Eddy Creek.....	Cumberland River.....	At bridge on State Highway 93, 4 miles southeast of Eddyville, Lyon County, Ky.	5.33
Oct. 14	Livingston Creek..	....do.....	At bridge on State Highway 295, 2 miles southeast of Dycusburg, Crittenden County, Ky.	4.28
29	....do.....	....do.....	....do.....	4.62

a Furnished by Corps of Engineers.

Tennessee River basin

Aug. 19	Pigeon River.....	French Broad River....	At site of former gaging station at Hartford, $4\frac{1}{2}$ miles downstream from Big Creek and Tennessee-North Carolina State line and $10\frac{3}{4}$ miles south of Newport, Cocke County, Tenn.	405
25	....do.....	....do.....	....do.....	423
Oct. 9	....do.....	....do.....	At site of former gaging station at county highway bridge, 1.3 miles downstream from Sinking Creek, 2.1 miles upstream from mouth, and 2.7 miles north of Newport, Cocke County, Tenn.	275
9	....do.....	....do.....	....do.....	177
Aug. 6	....do.....	....do.....	....do.....	426
25	....do.....	....do.....	....do.....	273
Oct. 9	....do.....	....do.....	At Wilton Springs Bridge, $\frac{1}{4}$ mile upstream from Cosby Creek and $7\frac{1}{2}$ miles south of Newport, Cocke County, Tenn.	90.6
9	....do.....	....do.....	....do.....	66.3
9	....do.....	....do.....	....do.....	280
July 23	....do.....	....do.....	....do.....	240
Aug. 19	....do.....	....do.....	....do.....	121

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1953 to September 1954--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Sept.13	Little Limestone Creek.	Nolichucky River.....	At bridge on U. S. Highway 11E at Jonesboro, Washington County, Tenn.	1.45
13	Richland Creek....	....do.....	At culvert near Link School, 0.5 mile upstream from mouth and 4.7 miles south of Greeneville, Greene County, Tenn.	4.76
13	Long Creek.....	....do.....	At bridge on U. S. Highway 25E, ½ mile north of White Pine, Jefferson County, Tenn.	3.63
Oct. 21	Little Pigeon River.	French Broad River....	350 ft downstream from new bridge on State Highway 73, 1½ miles southwest of Pittman Center, Sevier County, Tenn., and 1.6 miles upstream from Webb Creek.	9.75
Sept.13	....do.....	....do.....	....do.....	14.4
Oct. 21	Webb Creek.....	Little Pigeon River...	At Pittman Center, Sevier County, Tenn., 10 ft downstream from Lindsay Creek and 0.2 mile upstream from mouth.	2.14
Sept.13	....do.....	....do.....	....do.....	2.76
Aug. 31	Little Pigeon River.	French Broad River....	200 ft above Hadsden Bridge on U. S. Highway 411 and 3½ miles east of Sevierville, Sevier County, Tenn.	37.2
Oct. 21	East Fork Little Pigeon River.	Little Pigeon River...	15 ft downstream from bridge on U. S. Highway 411, 1.3 miles upstream from mouth, 4.8 miles east of Sevierville, Sevier County, at Harrisburg, Tenn.	3.83
Aug. 31	....do.....	....do.....	....do.....	5.85
Oct. 21	West Fork Little Pigeon River.	....do.....	At bridge on U. S. Highway 441 at headquarters, 2 miles upstream from Fighting Creek and 2.5 miles south of Gatlinburg, Sevier County, Tenn.	4.65
Sept.13	....do.....	....do.....	....do.....	6.92
Oct. 21	LeConte Creek....	West Fork Little Pigeon River.	At bridge on U. S. Highway 441, 0.1 mile upstream from mouth in Gatlinburg, Sevier County, Tenn.	.60
21	Roaring Fork Creek.	....do.....	20 ft upstream from bridge on U. S. Highway 441, 80 ft upstream from mouth in Gatlinburg, Sevier County, Tenn.	1.46
Sept.13	....do.....	....do.....	....do.....	1.63
Aug. 31	West Fork Little Pigeon River.	Little Pigeon River...	350 ft downstream from bridge on Highway 71, 1.6 miles northwest of Pigeon Forge, Sevier County, Tenn.	25.5
Oct. 21	Walden Creek.....	West Fork Little Pigeon River.	100 ft upstream from bridge on paved county road, ½ mile upstream from mouth and 2½ miles northwest of Pigeon Forge, Sevier County, Tenn.	3.72
Sept.14	Beaverdam Creek...	Laurel Creek.....	At bridge on U. S. Highway 421 at Shady Valley, Johnson County, Tenn.	1.57
14	Sinking Creek.....	Beidleman Creek.....	At county bridge ½ mile downstream from former measuring section at bridge on U. S. Highway 421 and 2½ miles upstream from mouth and at Ruthton, Sullivan County, Tenn.	3.77
14	Beck (Back) Creek.	Beaver Creek.....	At bridge on U. S. Highway 11E, 100 ft upstream from mouth near Bluff City, Sullivan County, Tenn.	1.80
14	Beaver Creek.....	South Fork Holston River.	At Thomas Bridge on State Highway 37, near Bluff City, Sullivan County, Tenn.	21.8
14	Town Creek.....	Roan Creek.....	At bridge on U. S. Highway 421, 25 ft downstream from Goose Creek and 0.2 mile southwest of city limits of Mountain City, Johnson County, Tenn.	1.34
14	Doe Creek.....	....do.....	At bridge on State Highway 67, 100 ft downstream from Dugger Branch and 2.1 miles northeast of Doe Station, Johnson County, Tenn.	19.4
13	Stoney Creek.....	Watauga River.....	At county highway bridge, 0.3 mile upstream from mouth at Hunter, Carter County, Tenn.	5.36
13	Buffalo Creek.....	....do.....	At bridge on State Highway 91, 300 ft upstream from mouth at Rio Vista near Elizabethton, Carter County, Tenn.	5.84
Mar. 16	South Fork Holston River.	Holston River.....	Below Boone Dam, Tenn., 150 ft upstream from highway bridge, 2,000 ft downstream from Boone Dam, and 0.9 mile northeast of Spurgeon, Washington County, Tenn.	2,980
16	....do.....	....do.....	....do.....	3,040
16	....do.....	....do.....	....do.....	3,100
16	....do.....	....do.....	....do.....	3,090
17	....do.....	....do.....	....do.....	2,320

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1953 to September 1954--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Mar. 17	South Fork Holston River.	Holston River.....	Below Boone Dam, Tenn., 150 ft upstream from highway bridge, 2,000 ft downstream from Boone Dam, and 0.9 mile northeast of Spurgeon, Washington County, Tenn.	2,280
17	....do.....	....do.....	....do.....	2,310
17	....do.....	....do.....	....do.....	2,290
17	....do.....	....do.....	....do.....	1,670
17	....do.....	....do.....	....do.....	1,670
17	....do.....	....do.....	....do.....	1,660
17	....do.....	....do.....	....do.....	1,650
May 4	....do.....	....do.....	....do.....	2,990
4	....do.....	....do.....	....do.....	3,000
5	....do.....	....do.....	....do.....	2,300
5	....do.....	....do.....	....do.....	2,280
5	....do.....	....do.....	....do.....	1,720
5	....do.....	....do.....	....do.....	1,690
Nov. 3	....do.....	....do.....	At construction bridge, 1,000 ft downstream from Fort Patrick Henry Dam, Sullivan County, Tenn.	478
Mar. 18	....do.....	....do.....	300 ft downstream from bridge on U. S. Highway 23 and 1,200 ft downstream from Fort Patrick Henry Dam, Sullivan County, Tenn.	1,260
Mar. 18	....do.....	....do.....	....do.....	1,250
18	....do.....	....do.....	....do.....	1,300
18	....do.....	....do.....	....do.....	1,300
18	....do.....	....do.....	....do.....	2,370
18	....do.....	....do.....	....do.....	2,370
18	....do.....	....do.....	....do.....	2,440
18	....do.....	....do.....	....do.....	2,450
May 20	Kendrick Creek....	South Fork Holston River.	0.3 mile downstream from mouth of Straight Branch, 0.4 mile upstream from mouth, and 5 miles southeast of Kingsport, Sullivan County, Tenn.	17.6
Mar. 21	....do.....	....do.....	....do.....	18.0
19	South Fork Holston River.	Holston River.....	1,000 ft downstream from bridge on U. S. Highway 23 and 2,000 ft downstream from Fort Patrick Henry Dam, Sullivan County, Tenn.	3,790
19	....do.....	....do.....	....do.....	3,620
19	....do.....	....do.....	....do.....	3,690
19	....do.....	....do.....	....do.....	3,690
May 4	....do.....	....do.....	¼ mile downstream from Fort Patrick Henry Dam, Sullivan County, Tenn.	2,900
4	....do.....	....do.....	....do.....	2,970
4	....do.....	....do.....	....do.....	2,960
4	....do.....	....do.....	....do.....	2,920
4	....do.....	....do.....	....do.....	3,380
4	....do.....	....do.....	....do.....	3,440
4	....do.....	....do.....	....do.....	3,280
5	....do.....	....do.....	....do.....	1,710
5	....do.....	....do.....	....do.....	1,800
5	....do.....	....do.....	....do.....	1,660
5	....do.....	....do.....	....do.....	1,700
20	....do.....	....do.....	....do.....	3,470
20	....do.....	....do.....	....do.....	3,450
21	....do.....	....do.....	....do.....	1,210
21	....do.....	....do.....	....do.....	1,210
20	....do.....	....do.....	1 mile downstream from Fort Patrick Henry Dam, Sullivan County, Tenn.	3,650
21	....do.....	....do.....	....do.....	1,280
20	....do.....	....do.....	Overflow channel at head of Long Island at Tennessee Eastman Corporation plant, Kingsport, Sullivan County, Tenn.	265
Sept.14	Reedy Creek.....	South Fork Holston River.	0.1 mile downstream from Roach Branch, in Kingsport, Sullivan County, Tenn.	4.36
14	Big Creek.....	Holston River.....	At former gaging station site near Rogersville, Hawkins County, Tenn., 2 miles upstream from mouth.	1.74
Oct. 22	First Creek.....	Tennessee River.....	At Cumberland Ave. in Knoxville, Knox County, Tenn., 0.2 mile upstream from mouth.	3.82
15	Second Creek.....	....do.....	At downstream end of culvert on Heiskel St., 0.4 mile downstream from city limits of Knoxville, Knox County, Tenn., 1.15 miles north of Rule High School, and 3½ miles upstream from mouth.	1.17
22	....do.....	....do.....	....do.....	.97
Sept.14	....do.....	....do.....	....do.....	.87
Oct. 20	Third Creek.....	....do.....	At culvert on Papermill Rd., 0.1 mile west of city limits of Knoxville, Knox County, Tenn. and 3.5 miles upstream from mouth.	3.87
Sept.14	....do.....	....do.....	....do.....	4.76
Oct. 14	....do.....	....do.....	In Tyson Park at Knoxville, Knox County, Tenn., 250 ft upstream from U. S. Highways 70 and 11 and 1 mile upstream from mouth.	4.95
20	....do.....	....do.....	....do.....	4.95
Aug. 30	....do.....	....do.....	....do.....	5.40

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1953 to September 1954--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Oct. 15	Fourth Creek.....	Tennessee River.....	At culvert across Lyons View Road, ¾ mile south of Bearden Post Office, Knox County, Tenn., 1.2 miles upstream from mouth.	3.09
20	....do.....	....do.....	....do.....	2.66
Aug. 30	....do.....	....do.....	....do.....	3.54
Sept.14	....do.....	....do.....	....do.....	2.91
Oct. 20	Knob Creek.....	....do.....	On William Henson Home property, 150 ft downstream from U. S. Highway 129, 1½ miles south of city limits of Knoxville, Knox County, Tenn., and 2.2 miles upstream from mouth.	1.17
20	Ten Mile Creek....	....do.....	At bridge on Williams Road, ¼ mile upstream from Ebenezer Branch and 0.3 mile northwest of Ebenezer, Knox County, Tenn.	6.11
Aug. 30	....do.....	....do.....	....do.....	6.93
Sept.13	....do.....	....do.....	....do.....	6.41
Oct. 20	Ebenezer Branch...	Ten Mile Creek.....	400 ft downstream from Southern Ry. bridge, 0.1 mile upstream from mouth, 0.15 mile northwest of Ebenezer, Knox County, Tenn.	.74
Aug. 30	....do.....	....do.....	....do.....	1.00
Oct. 20	Blue Grass Sink...	Tennessee River.....	At farm road bridge to Lowe Ferry Rd, 0.7 mile northeast of Blue Grass, Knox County, Tenn., 0.7 mile upstream from Denton Spring Branch, and 0.9 mile southeast of Blue Grass School.	.57
20	Denton Spring Branch.	Bluegrass Sink.....	1,000 ft upstream from Lowe Ferry Rd. and 0.7 mile south of Blue Grass School at Blue Grass, Knox County, Tenn.	1.10
23	Lackey Creek tributary.	Lackey Creek.....	At farm road ¾ mile northwest of Armona, ¼ mile upstream from backwater from Fort Loudon Reservoir, and 3½ miles northwest of Maryville, Blount County, Tenn.	3.46
Sept.13	....do.....	....do.....	....do.....	3.61
Oct. 15	Turkey Creek.....	Tennessee River.....	Just upstream from Dry Branch, 20 ft upstream from new bridge, 0.2 mile downstream from North Fork, and 0.7 mile northwest of Concord, Knox County, Tenn.	3.15
21	....do.....	....do.....	....do.....	1.70
Aug. 30	....do.....	....do.....	250 ft downstream from North Fork, 1,500 ft upstream from bridge and 0.7 mile northwest of Concord, Knox County, Tenn.	2.20
Oct. 15	Little River.....	Tennessee River.....	In Great Smoky Mountain National Park, 600 ft upstream from Middle Prong Little River and 3 miles southeast of Townsend, Blount County, Tenn.	13.3
21	....do.....	....do.....	....do.....	12.5
Aug. 31	....do.....	....do.....	....do.....	24.8
Sept.13	....do.....	....do.....	....do.....	17.0
Oct. 21	West Prong Little River.	Middle Prong Little River.	In Great Smoky Mountain National Park, 150 ft upstream from Middle Prong, 3 miles southeast of Townsend, Blount County, Tenn.	2.57
Aug. 31	....do.....	....do.....	....do.....	2.62
Sept.13	....do.....	....do.....	....do.....	1.94
Oct. 21	Middle Prong Little River.	Little River.....	100 ft upstream from West Prong, 0.3 mile upstream from mouth and 3 miles southeast of Townsend, Blount County, Tenn.	5.07
Aug. 31	....do.....	....do.....	....do.....	5.76
Sept.13	....do.....	....do.....	....do.....	4.31
Oct. 15	Little River.....	Tennessee River.....	At ford at Townsend, Blount County, Tenn., ¼ mile downstream from old depot and 1.8 miles upstream from Short Creek.	38.8
21	Hessee Creek.....	Little River.....	At ford, 0.2 mile upstream from mouth and 1.4 miles south of Walland, Blount County, Tenn.	4.22
Sept.13	....do.....	....do.....	....do.....	1.94
Oct. 21	Reed Creek.....	....do.....	300 ft upstream from mouth, at Walland, Blount County, Tenn.	.09
Sept.13	....do.....	....do.....	....do.....	.21
Oct. 21	Ellejoy Creek.....	....do.....	0.1 mile upstream from mouth and 7 miles east of Maryville, Blount County, Tenn.	3.92
Sept.13	....do.....	....do.....	....do.....	2.55
Oct. 21	Crooked Creek.....	....do.....	100 ft upstream from county bridge, 1.2 miles upstream from mouth, and 5 miles east of Maryville, Blount County, Tenn.	5.60
20	Nails Creek.....	....do.....	50 ft downstream from unnamed tributary from left, 100 ft downstream from county road, 0.6 mile upstream from mouth, ¼ mile west of Wildwood and 6 miles northeast of Maryville, Blount County, Tenn.	4.32
Apr. 15	Pistol Creek.....	....do.....	At bridge at Best St. in Maryville, Blount County, Tenn. and 2.0 miles upstream from Brown Creek.	10.9

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1953 to September 1954--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Apr. 26	Pistol Creek.....	Little River.....	At bridge at Best St. in Maryville, Blount County, Tenn. and 2.0 miles upstream from Brown Creek.	9.80
May 4	....do.....	....do.....	....do.....	8.57
Apr. 15	....do.....	....do.....	At bridge on State Highway 73, 0.1 mile northwest of city limits of Alcoa, Blount County, Tenn.	39.1
26	....do.....	....do.....	....do.....	34.4
May 4	....do.....	....do.....	....do.....	42.2
Apr. 15	....do.....	....do.....	At county bridge 0.7 mile upstream from mouth and 1.3 miles south of Rockford, Blount County, Tenn.	48.4
26	....do.....	....do.....	....do.....	45.8
May 4	....do.....	....do.....	....do.....	65.4
Oct. 20	....do.....	....do.....	0.35 mile upstream from mouth and 1 mile south of Rockford, Blount County, Tenn.	15.9
13	Town Creek.....	Tennessee River.....	At bridge on U. S. Highway 11 at Lenoir City, Loudon County, Tenn.	2.54
21	Abrams Creek.....	Little Tennessee River.	In Great Smoky Mountain National Park, 0.2 mile upstream from mouth, ½ mile downstream from Panther Creek, and 0.7 mile east of Chilhowee, Blount County, Tenn.	11.9
13	Citico Creek.....	....do.....	At county bridge, 0.1 mile upstream from Smoky Branch, ½ mile south of Citico Beach, Monroe County, Tenn., and 2.9 miles upstream from mouth.	7.44
21	....do.....	....do.....	....do.....	5.73
Aug. 31	....do.....	....do.....	....do.....	7.81
Oct. 21	Ninemile Creek....	....do.....	100 ft upstream from county highway bridge, 4.9 miles upstream from mouth, and 4 miles east of Vonore, Monroe County, Tenn.	12.4
Sept.13	....do.....	....do.....	....do.....	11.4
Oct. 13	....do.....	....do.....	At bridge on State Highway 72, 0.5 mile upstream from mouth and 3 miles northeast of Vonore, Monroe County, Tenn.	14.4
21	Ballplay Creek....	Tellico River.....	100 ft upstream from county bridge, 0.4 mile downstream from Pinetree Branch, 1.5 miles upstream from mouth, and 6 miles southeast of Vonore, Monroe County, Tenn.	2.36
21	Notchy Creek.....	....do.....	100 ft upstream from county bridge, 0.2 mile upstream from mouth, 2½ miles south of Vonore, Monroe County, Tenn.	4.93
Aug. 31	....do.....	....do.....	....do.....	5.40
Oct. 13	Tellico River.....	Little Tennessee River.	At old gage site, 0.1 mile upstream from Corn Tassel Branch, 0.1 mile downstream from Notchy Creek, 2.3 miles southeast of Vonore, Monroe County, Tenn., and 4.2 miles west of mouth.	61.0
21	Island Creek.....	....do.....	At bridge on State Highway 72, ½ mile northwest of Vonore, Monroe County, Tenn., 0.9 mile downstream from Moree Branch, and 2.8 miles upstream from mouth.	2.01
Jan. 21	....do.....	....do.....	....do.....	406
Aug. 31	....do.....	....do.....	....do.....	1.67
Oct. 21	Baker Creek.....	....do.....	0.5 mile upstream from mouth and 3 miles west of Greenback, Loudon County, Tenn.	9.12
Sept.13	....do.....	....do.....	....do.....	11.5
Oct. 21	Bat Creek.....	....do.....	At bridge on State Highway 72, 2.3 miles upstream from mouth and 4½ miles northwest of Vonore, Monroe County, Tenn.	8.16
Jan. 21	....do.....	....do.....	....do.....	1,150
Aug. 31	....do.....	....do.....	....do.....	8.30
Oct. 21	Fork Creek.....	....do.....	At bridge on State Highway 72, 0.1 mile downstream from Clear Prong, ¼ mile upstream from mouth and 6 miles southwest of Loudon, Loudon County, Tenn.	17.4
Sept.13	....do.....	....do.....	....do.....	16.7
Oct. 14	Hines Creek.....	Tennessee River.....	At bridge on U. S. Highway 70, 4½ miles northwest of Lenoir City, Loudon County, Tenn.	.31
13	Stukree Creek.....	....do.....	At bridge on State Highway 72, at Loudon, Loudon County, Tenn.	1.86
14	Sweetwater Creek..	....do.....	At bridge on U. S. Highway 11, ½ mile north of Sweetwater, Monroe County, Tenn.	7.30
Sept.10	....do.....	....do.....	....do.....	5.48
Aug. 31	....do.....	....do.....	At bridge on State Highway 72, 1.3 miles upstream from mouth and 2½ miles west of Loudon, Loudon County, Tenn.	20.5

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1953 to September 1954--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Oct. 14	Paint Rock Creek..	Tennessee River.....	Just downstream from mouth of Little Paint Rock Creek, ½ mile southeast of Paint Rock, Roane County, Tenn.	6.38
14	Stamp Creek.....	....do.....	At bridge on county road, 2.75 miles east of Barnardsville, Roane County, Tenn.	.20
14	....do.....	....do.....	At bridge on county road, 2½ miles southeast of Barnardsville, Roane County, Tenn.	0
1	Indian Creek.....	Powell River.....	At county highway bridge, 0.1 mile downstream from Station Creek, 3.2 miles upstream from mouth, and 1.3 miles south of Gibson Station, Claiborne County, Va.	4.28
15	Big Creek.....	Clinch River.....	At bridge on U. S. Highway 25W, 0.5 mile north of LaFollette, Campbell County, Tenn.	.45
15	Coal Creek.....	....do.....	At Main Street Bridge in Lake City, Anderson County, Tenn.	1.01
21	....do.....	....do.....	....do.....	.89
Aug. 30	....do.....	....do.....	400 ft downstream from bridge on U. S. Highway 25W in Lake City, Anderson County, Tenn.	.93
Oct. 7	Buffalo Creek.....	Hinds Creek.....	At culvert on State Highway 71, 1 mile southeast of Norris, Anderson County, Tenn.	.46
Sept.14	....do.....	....do.....	....do.....	b.50
Oct. 21	....do.....	....do.....	At county highway bridge, 0.7 mile upstream from mouth and 2½ miles south of Norris, Anderson County, Tenn.	.96
Aug. 30	....do.....	....do.....	....do.....	.84
Oct. 21	Hinds Creek.....	Clinch River.....	At county highway bridge, 0.4 mile upstream from John Creek, and 4.5 miles northeast of Clinton, Anderson County, Tenn.	3.73
Aug. 30	....do.....	....do.....	....do.....	2.59
Oct. 14	....do.....	....do.....	2.4 miles upstream from Brush Creek and 3¼ miles northeast of Clinton, Anderson County, Tenn.	4.22
7	Bullrun Creek.....	....do.....	At bridge on State Highway 71, 2.1 miles downstream from Smith Branch and 6½ miles northwest of Fountain City, Knox County, Tenn.	7.86
21	....do.....	....do.....	....do.....	7.92
Aug. 30	....do.....	....do.....	....do.....	5.94
Sept.14	....do.....	....do.....	....do.....	4.45
Oct. 21	....do.....	....do.....	At county highway bridge, ½ mile upstream from Louisville & Nashville RR. bridge, 1.1 miles upstream from mouth, and 1¼ miles southeast of Edgemoor Station, Anderson County, Tenn.	14.2
7	Beaver Creek.....	....do.....	Just downstream from Blue Spring, 1½ miles southeast of Halls Crossroads, Knox County, Tenn.	5.02
14	....do.....	....do.....	At bridge on U. S. Highway 25W, 0.15 mile downstream from unnamed creek, 3.3 miles upstream from Grassy Creek, and 1½ miles southwest of Powell Station, Knox County, Tenn.	6.77
21	....do.....	....do.....	....do.....	4.87
21	....do.....	....do.....	At Couch Ford, 1.1 miles upstream from mouth and 2½ miles southwest of Solway Station, Knox County, Tenn.	10.9
Sept.14	....do.....	....do.....	....do.....	7.41
Oct. 21	Conner Creek.....	....do.....	At county highway bridge, 100 ft downstream from spring, 2,000 ft upstream from mouth and 4.0 miles southwest of Solway Station, Knox County, Tenn.	1.90
Sept.14	....do.....	....do.....	....do.....	1.91
Oct. 21	Hickory Creek.....	....do.....	At bridge on Buttermilk Road, 0.1 mile downstream from Grable Branch, 1.4 miles upstream from mouth, and 5¼ miles west of Farragut, Knox County, Tenn.	.91
Sept. 1	Melton Branch.....	Whiteoak Creek.....	At mouth 8 miles southwest of Oak Ridge and 9 miles southeast of Oliver Springs, Anderson County, Tenn.	.039
Nov. 3	Brushy Creek.....	Poplar Creek.....	On relocated State Highway 61 about 2 miles west of Oak Ridge and 4 miles east of Oliver Springs, Anderson County, Tenn.	4.22
6	....do.....	....do.....	....do.....	3.90
Oct. 14	Poplar Creek.....	Clinch River.....	At State Highway 61, 2½ miles southeast of Oliver Springs, Anderson County, Tenn.	4.92
Aug. 30	....do.....	....do.....	....do.....	4.77

b Estimated.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1953 to September 1954--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Oct. 30	Poplar Creek.....	Clinch River.....	At county highway bridge, ½ mile downstream from Indian Creek and 3½ miles south of Oliver Springs, Anderson County, Tenn.	5.39
Nov. 6	....do.....	....do.....	....do.....	4.85
Oct. 14	East Fork Poplar Creek.	Poplar Creek.....	7 miles southwest of Oak Ridge, Roane County, Tenn.	17.1
Nov. 6	....do.....	....do.....	....do.....	12.9
Sept.14	....do.....	....do.....	....do.....	21.3
Oct. 14	Bear Creek.....	East Fork Poplar Creek.	½ mile upstream from mouth and 8 miles southwest of Oak Ridge, Roane County, Tenn.	.66
Nov. 6	....do.....	....do.....	....do.....	.62
Sept.14	....do.....	....do.....	....do.....	.52
Oct. 2	Rock Creek.....	Emory River.....	800 ft upstream from mouth and 2 miles northwest of Wartburg, Morgan County, Tenn.	0
July 8	Obed River.....	....do.....	1,000 ft downstream from Adams bridge, 8⅔ miles northeast of Crossville, Cumberland County, Tenn.	4.18
Aug. 12	....do.....	....do.....	....do.....	.024
Sept. 1	....do.....	....do.....	....do.....	.007
July 9	Otter Creek.....	Obed River.....	Just upstream from mouth, 5 miles north of Hebbertsburg, Cumberland County, Tenn.	.48
Aug. 12	....do.....	....do.....	....do.....	.15
Sept. 1	....do.....	....do.....	....do.....	.012
30	....do.....	....do.....	....do.....	.12
July 8	Daddys Creek.....	....do.....	1,000 ft upstream from mouth and 4.3 miles north of Hebbertsburg, Morgan County, Tenn.	4.75
Aug. 12	....do.....	....do.....	....do.....	.61
Sept. 1	....do.....	....do.....	....do.....	.32
30	....do.....	....do.....	....do.....	1.20
July 8	Obed River.....	Emory River.....	At Obed junction, just downstream from Daddys Creek and just upstream from Ramsey Creek, 4.6 miles north of Hebbertsburg, Morgan County, Tenn.	11.2
Aug. 12	....do.....	....do.....	....do.....	4.01
Sept. 1	....do.....	....do.....	....do.....	.80
30	....do.....	....do.....	....do.....	1.61
Oct. 2	Crooked Fork Creek	....do.....	At bridge on State Highway 62, 2 miles south of Petros, Morgan County, Tenn.	0
2	Little Emory River	....do.....	At county highway bridge, 1 mile north of State Highway 61 and 5.2 miles north of Harriman, Roane County, Tenn.	.001
Jan. 21	Ten Mile Creek....	Big Sewee Creek.....	At bridge on State Highway 68, 150 ft upstream from mouth and 10½ miles northwest of Decatur, Meigs County, Tenn.	700
Sept.23	Hiwassee River....	Tennessee River.....	1,500 ft upstream from Apalachia powerhouse, 2.3 miles west of McFarland, Polk County, Tenn.	39.8
23	....do.....	....do.....	....do.....	39.4
23	Smith Creek.....	Hiwassee River.....	At mouth just downstream from Apalachia powerhouse, west of McFarland, Polk County, Tenn.	.14
Nov. 10	Conasauga Creek...	....do.....	200 ft downstream from mouth of Tuggle Spring and 1.8 miles southeast of Etowah, McMinn County, Tenn.	21.3
Sept.10	Cane Creek.....	Conasauga Creek.....	At bridge on U. S. Highway 411, 1.7 miles southwest of Etowah, McMinn County, Tenn.	.62
10	Chesturee Creek...	Hiwassee River.....	At bridge on U. S. Highway 411, 1.4 miles southwest of Englewood, McMinn County, Tenn.	7.03
Oct. 1	Ostanaula Creek...	....do.....	Just upstream from Ingleside Spring No. 2, at Athens, McMinn County, Tenn.	6.54
Nov. 19	....do.....	....do.....	....do.....	5.40
Mar. 19	....do.....	....do.....	....do.....	29.1
July 21	....do.....	....do.....	....do.....	8.44
Aug. 6	....do.....	....do.....	....do.....	7.99
Sept. 9	....do.....	....do.....	....do.....	6.03
July 21	....do.....	....do.....	....do.....	9.12
Aug. 6	....do.....	....do.....	....do.....	8.84
Sept. 9	....do.....	....do.....	....do.....	6.39
Oct. 1	....do.....	....do.....	Just downstream from Ingleside Spring No. 1, at Athens, McMinn County, Tenn.	8.58
Nov. 19	....do.....	....do.....	....do.....	7.53
Mar. 19	....do.....	....do.....	....do.....	30.1
July 21	....do.....	....do.....	....do.....	11.8
Aug. 6	....do.....	....do.....	....do.....	10.4
Sept. 9	....do.....	....do.....	....do.....	7.39
9	South Mouse Creek.	....do.....	At county highway bridge 1,000 ft downstream from sewage beds and 1.3 miles north of Cleveland, Bradley County, Tenn.	5.06
29	....do.....	....do.....	At old Acme Mill, 3 miles northwest of Niota, McMinn County, Tenn.	3.91

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1953 to September 1954--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Sept. 9	South Mouse Creek.	Hiwassee River.....	100 ft downstream from county highway bridge and 3¾ miles west of Athens, McMinn County, Tenn.	11.1
9	....do.....	....do.....	50 ft downstream from Dry Valley Creek, 800 ft downstream from county highway bridge, 1 1/3 miles northwest of Sanford, McMinn County, Tenn.	18.3
9	Spring Creek.....	....do.....	60 ft downstream from county highway bridge and 2½ miles east of Lamontville, McMinn County, Tenn.	1.25
9	Rogers Creek.....	....do.....	150 ft downstream from county highway bridge and 2.4 miles northeast of Lamontville, McMinn County, Tenn.	5.95
Aug. 23	Depot Branch.....	Lost Creek.....	¾ mile south of depot at Sewanee, Franklin County, Tenn.	.056
23	Juanita Creek.....	Gilliam Creek.....	At bridge on U. S. Highway 41, ½ mile west of Monteagle, Grundy County, Tenn.	.022
Oct. 23	Henley Creek.....	Caldwell Creek.....	At bridge on U. S. Highway 41, 1.2 miles south of Mount View, Grundy County, Tenn.	.21
Sept. 1	....do.....	....do.....	....do.....	.30
Oct. 23	Caldwell Creek....	Elk River.....	Near Bells Mill, 1.5 miles south of Mount View and 1.8 miles south of Pelham, Grundy County, Tenn.	.27
Aug. 31	....do.....	....do.....	....do.....	.61
Oct. 22	Petty Branch.....	....do.....	At bridge on State Highway 50, 2.1 miles east of Alto, Franklin County, Tenn.	0
Aug. 31	....do.....	....do.....	....do.....	0
Oct. 22	Dick Creek.....	Mud Creek.....	1.9 miles southeast of Alto, Franklin County, Tenn.	0
21	Rose Creek.....	....do.....	At county highway bridge, 0.9 mile southeast of Alto, Franklin County, Tenn.	0
Aug. 31	....do.....	....do.....	....do.....	0
Oct. 22	Mud Creek.....	Elk River.....	0.9 mile east of Alto, Franklin County, Tenn.	.054
Aug. 31	....do.....	....do.....	....do.....	0
Oct. 21	Yellow Branch.....	....do.....	At Wilder Chapel, 1.7 miles northwest of Alto, Franklin County, Tenn.	0
Aug. 31	....do.....	....do.....	....do.....	0
Oct. 23	Beans Creek.....	....do.....	At county highway bridge, ½ mile east of Prairie Plains, Coffee County, Tenn.	.48
Aug. 31	....do.....	....do.....	....do.....	.33
Sept.15	....do.....	....do.....	....do.....	.10
Oct. 22	Gum Creek.....	....do.....	0.7 mile upstream from mouth, 0.8 mile north of Gum Creek and 3.3 miles north of Oak Grove, Franklin County, Tenn.	0
22	Childer Creek.....	....do.....	At bridge ¼ mile upstream from mouth and 1.6 miles northeast of Capitol Hill, Franklin County, Tenn.	0
23	Taylor Creek.....	....do.....	At bridge 0.6 mile upstream from mouth, ¾ mile southwest of Estill Springs, Franklin County, Tenn.	9.22
Aug. 31	....do.....	....do.....	....do.....	7.92
Oct. 23	Rock Creek.....	....do.....	450 ft upstream from mouth and 1.5 miles southwest of Estill Springs, Franklin County, Tenn.	12.4
Aug. 31	....do.....	....do.....	....do.....	11.6
Oct. 22	Boiling Fork Creek	....do.....	At bridge on U. S. Highway 64, 2.3 miles northeast of Cowan, Franklin County, Tenn.	.17
22	Miller Creek.....	Boiling Fork Creek...	At bridge on U. S. Highway 64, 1.6 miles northeast of Cowan, Franklin County, Tenn.	0
Aug. 31	....do.....	....do.....	....do.....	0
23	Boiling Fork Creek	Elk River.....	At bridge near pumping station at Cowan, Franklin County, Tenn.	.84
Oct. 21	Keith Cove.....	Boiling Fork Creek...	1.1 miles upstream from mouth and 1.7 miles southwest of Cowan, Franklin County, Tenn.	0
Aug. 31	....do.....	....do.....	....do.....	0
Oct. 22	Norwood Creek.....	....do.....	3.1 miles southwest of Cowan and 3.6 miles southeast of Winchester, Franklin County, Tenn.	1.74
Aug. 31	....do.....	....do.....	....do.....	1.48
Oct. 22	Boiling Fork Creek	Elk River.....	At bridge on U. S. Highway 41A, at Winchester, Franklin County, Tenn.	10.1
Aug. 23	....do.....	....do.....	....do.....	9.76
Oct. 21	Wagner Creek.....	Boiling Fork Creek...	At bridge on old State Highway 50, 1.0 mile southwest of Dechard, Franklin County, Tenn.	0
Aug. 23	....do.....	....do.....	....do.....	0
Oct. 21	Dry Creek.....	....do.....	At bridge on State Highway 50, 1.3 miles west of Winchester, Franklin County, Tenn.	0
Aug. 31	....do.....	....do.....	....do.....	0

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1953 to September 1954--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Oct. 21	Unnamed branch....	Elk River.....	At bridge on State Highway 50, 3.9 miles north of Belvidere, Franklin County, Tenn.	0
Aug. 31	....do.....	....do.....	....do.....	0
Oct. 22	Kitchens Creek....	....do.....	At Mansford 1.3 miles northeast of Harmony, Franklin County, Tenn.	1.82
Aug. 31	....do.....	....do.....	....do.....	1.90
Oct. 22	Murrell Creek.....	....do.....	At bridge on State Highway 50, 0.4 mile above mouth and 1.2 miles northwest of Harmony, Franklin County, Tenn.	2.36
Aug. 31	....do.....	....do.....	....do.....	2.46
Oct. 21	Beans Creek.....	....do.....	At town of Beans Creek, 1½ miles south of Old Salem, Franklin County, Tenn.	1.64
Aug. 31	....do.....	....do.....	....do.....	2.14
Oct. 22	Mathias Branch....	Beans Creek.....	At county highway bridge, 0.9 mile east of Huntland, Franklin County, Tenn.	0
21	Robinson Creek....	....do.....	0.3 mile upstream from mouth, 1.4 miles west of Old Salem, and 2.6 miles north of Huntland, Franklin County, Tenn.	1.22
Aug. 30	....do.....	....do.....	....do.....	1.94
Oct. 21	Factory Branch....	....do.....	½ mile upstream from mouth at Falls Mill, Franklin County, Tenn.	3.00
21	Caney Hollow Creek	....do.....	Just downstream from Dog Branch, 0.7 mile upstream from mouth and 1.1 miles north of Falls Mill, Franklin County, Tenn.	1.02
Aug. 30	....do.....	....do.....	....do.....	.81
Oct. 22	Beans Creek.....	Elk River.....	1.3 miles upstream from mouth and 2.1 miles northeast of Shady Grove, Tenn.	17.7
Aug. 30	....do.....	....do.....	....do.....	19.4
Oct. 20	Shelton Creek.....	....do.....	At bridge 0.7 mile west of Smithland, ¾ mile upstream from mouth, 4.1 miles east of Kelso, Lincoln County, Tenn.	4.01
Aug. 30	....do.....	....do.....	....do.....	2.55
Oct. 20	Teal Hollow.....	Dukes Creek.....	At bridge on U. S. Highway 64, 700 ft upstream from mouth, at Kelso, Lincoln County, Tenn.	.72
Aug. 30	....do.....	....do.....	....do.....	.63
Oct. 20	Dukes Creek.....	Elk River.....	At bridge 0.6 mile northeast of Kelso, Lincoln County, Tenn., 0.7 mile upstream from mouth.	1.08
Aug. 30	....do.....	....do.....	....do.....	.84
Oct. 20	East Fork Mulberry Creek.	Mulberry Creek.....	At Locks Mill, 1.0 mile east of Mulberry, 2.7 miles upstream from mouth, 6½ miles north of Kelso, Lincoln County, Tenn.	2.54
Aug. 31	....do.....	....do.....	....do.....	1.50
Oct. 20	Mulberry Creek....	Elk River.....	Near Warren cemetery, 1.4 miles upstream from mouth and 2.2 miles south of Mulberry, Lincoln County, Tenn.	1.90
21	Lees Creek.....	....do.....	500 ft upstream from head of Oakwood Acres Lake, 1.0 mile above mouth, and 3½ miles southeast of Fayetteville, Lincoln County, Tenn.	.28
Aug. 31	....do.....	....do.....	....do.....	.12
Oct. 21	Stewart Creek.....	....do.....	½ mile northeast of Liberty, 3,000 ft upstream from mouth and 3.0 miles southeast of Fayetteville, Lincoln County, Tenn.	1.22
Aug. 31	....do.....	....do.....	....do.....	.69
Jan. 16	Norris Creek.....	....do.....	At bridge on State Highway 50, 1.5 miles downstream from Little Norris Creek and 2 miles northeast of Fayetteville, Lincoln County, Tenn.	518
22	....do.....	....do.....	....do.....	1,360
Oct. 20	....do.....	....do.....	At bridge on U. S. Highway 64, at Fayetteville, Lincoln County, Tenn., 1.6 miles upstream from mouth.	.14
Aug. 30	....do.....	....do.....	....do.....	.12
Oct. 21	Cane Creek.....	....do.....	At bridge on U. S. Highway 64, 2¼ miles west of Fayetteville, Lincoln County, Tenn.	.016
Aug. 30	....do.....	....do.....	....do.....	.009
Oct. 21	Molino Creek.....	....do.....	At bridge 1.2 miles upstream from mouth and 1.4 miles northeast of Molino, Lincoln County, Tenn.	.20
Aug. 31	....do.....	....do.....	....do.....	0
Oct. 21	Swan Creek.....	....do.....	At East Cyruston, 1.2 miles upstream from mouth and 3.7 miles west of Harms, Lincoln County, Tenn.	.016
Aug. 30	....do.....	....do.....	....do.....	0
Oct. 21	Coldwater Creek...	....do.....	At bridge 1.2 miles upstream from mouth at Coldwater, Lincoln County, Tenn.	1.42
Aug. 31	....do.....	....do.....	....do.....	.25

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1953 to September 1954--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Oct. 21	Bradshaw Creek....	Elk River.....	1.3 miles upstream from mouth at Dellrose, Lincoln County, Tenn.	0.066
Aug. 30	....do.....	....do.....	....do.....	.58
Oct. 21	Kelly Creek.....	....do.....	0.4 mile southeast of Baugh, Giles County, Tenn. and 1.4 miles upstream from mouth.	.55
Aug. 30	....do.....	....do.....	....do.....	0
Oct. 21	Indian Creek.....	....do.....	0.8 mile upstream from mouth and 0.9 mile southwest of Bryson, Giles County, Tenn.	.045
Aug. 30	....do.....	....do.....	....do.....	0
Oct. 21	Robertson Fork....	Richland Creek.....	At county highway bridge at Bufords, Giles County, Tenn.	.43
Aug. 30	....do.....	....do.....	....do.....	0
Oct. 21	Big Creek.....	....do.....	At county highway bridge, 0.8 mile west of Riversburg, Giles County, Tenn.	11.9
Aug. 30	....do.....	....do.....	....do.....	6.08
Oct. 14	Pigeon Roost Creek	....do.....	At county highway bridge, 0.6 mile upstream from mouth and 1.0 mile south of Wales, Giles County, Tenn.	.30
Nov. 10	....do.....	....do.....	....do.....	.38
Dec. 10	....do.....	....do.....	....do.....	3.82
Jan. 13	....do.....	....do.....	....do.....	.84
Feb. 10	....do.....	....do.....	....do.....	16.6
Mar. 10	....do.....	....do.....	....do.....	12.4
Apr. 7	....do.....	....do.....	....do.....	17.2
May 12	....do.....	....do.....	....do.....	8.44
June 15	....do.....	....do.....	....do.....	5.59
July 15	....do.....	....do.....	....do.....	1.60
Aug. 11	....do.....	....do.....	....do.....	.82
26	....do.....	....do.....	....do.....	1.21
Sept. 9	....do.....	....do.....	....do.....	.76
Oct. 21	Weakly Creek.....	....do.....	At county highway bridge, $\frac{1}{2}$ mile upstream from mouth and 5 miles northwest of Pulaski, Giles County, Tenn.	11.1
Aug. 30	....do.....	....do.....	....do.....	5.48
Oct. 21	Chicken Creek.....	....do.....	At bridge just upstream from mouth, $1\frac{1}{2}$ miles southwest of Pulaski, Giles County, Tenn.	.17
Aug. 30	....do.....	....do.....	....do.....	b.03
Oct. 21	Buchanan Creek....	....do.....	At bridge on U. S. Highway 31, $6\frac{1}{2}$ miles southeast of Pulaski, Giles County, Tenn.	.35
Jan. 16	....do.....	....do.....	....do.....	226
22	....do.....	....do.....	....do.....	1,250
Aug. 30	....do.....	....do.....	....do.....	0
Oct. 21	Newton Branch.....	Buchanan Creek.....	At bridge on U. S. Highway 31, 1.0 mile upstream from mouth and $3\frac{1}{2}$ miles southeast of Tarpley, Giles County, Tenn.	0
Aug. 30	....do.....	....do.....	....do.....	0
Oct. 21	Ragsdale Creek....	Elk River.....	0.4 mile north of Alabama-Tennessee State line, 0.8 mile upstream from mouth and 4.3 miles southwest of Elkton, Giles County, Tenn.	0
21	Ford Creek.....	....do.....	On road to Aspen Hill at Prospect, Giles County, Tenn.	0
21	Jenkins Creek.....	....do.....	At Bethel, Giles County, Tenn.....	0
21	West Fork Shoal Creek.	Shoal Creek.....	$\frac{1}{4}$ mile upstream from mouth and $2\frac{3}{4}$ miles west of Bethel, Giles County, Tenn.	1.59
21	East Fork Shoal Creek.	....do.....	....do.....	.82
20	Shoal Creek.....	Elk River.....	$\frac{1}{4}$ mile southwest of Leggtown, Limestone County, Ala. and $2\frac{3}{4}$ miles upstream from mouth.	2.37
20	Sulphur Creek.....	....do.....	0.3 mile west of Walnut Hill, $1\frac{1}{2}$ miles upstream from mouth and $3\frac{3}{4}$ miles southwest of Elkmont, Limestone County, Ala.	1.75
21	East Fork Sugar Creek.	Sugar Creek.....	At Mount Zion Church, $4\frac{1}{2}$ miles west of Minor Hill, Lawrence County, Tenn.	17.2
21	Shannon Creek.....	East Fork Sugar Creek	....do.....	4.27
20	Sugar Creek.....	Elk River.....	0.3 mile downstream from Stinnet Branch and 2.7 miles south of Mount Rozell, Limestone County, Ala.	36.1
20	Big Creek.....	....do.....	0.7 mile east of Elk River Mills Bridge and 1.2 miles northwest of Pleasant Point, Limestone County, Ala.	5.84
20	Anderson Creek....	....do.....	Just downstream from Dement Creek, 0.1 mile upstream from county highway bridge at Confluence Church, Lauderdale County, Ala.	9.17
Sept.22	Shoal Creek.....	Tennessee River.....	At ford 1,100 ft downstream from Little Shoal Creek, above outlet from water-supply spring and 1.0 mile west of Lawrenceburg, Lawrence County, Tenn.	20.8

b Estimated.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1953 to September 1954--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Oct. 26	Bear Creek.....	Tennessee River.....	Lat 34°38', long 88°09', in SE¼ sec. 20, T. 5 S., R. 11 E., at bridge on county road, 4 miles east of Tishomingo, Miss.	31.7
(c)	Cripple Deer Creek.	Bear Creek.....	Lat 34°42', long 88°18', SW¼ sec. 26, T. 4 S., R. 10 E., Chickasaw meridian, Tishomingo County, at bridge on Highway 25, 4½ miles north of Tishomingo, Miss.	.99
Oct. 26	....do.....	....do.....	....do.....	.62
(c)	Yellow Creek.....	Tennessee River.....	Lat 34°51', long 88°21', NW¼ sec. 3, T. 3 S., R. 9 E., Chickasaw meridian, Tishomingo County, at bridge ¼ mile upstream from Southern Ry. and 1.5 miles northwest of Burnsville, on Highway 72, Miss.	6.52
Oct. 26	....do.....	....do.....	Lat 34°50', long 88°18', S½ sec. 12, T. 3 S., R. 9 E., Chickasaw meridian, Tishomingo County, at bridge ½ mile upstream from Southern Ry. and ¾ mile southeast from Burnsville on Highway 72, Miss.	1.40
Sept.20	Little White Oak Creek.	White Oak Creek.....	At bridge on State Highway 22, just east of Enville, Chester County, Tenn.	0
20	Flats Creek.....	....do.....	At bridge on State Highway 69, 4.5 miles west of Saltillo, Hardin County, Tenn.	0
20	Bingham Creek.....	Flats Creek.....	At bridge on State Highway 69, 4.0 miles west of Saltillo, Hardin County, Tenn.	0
Nov. 9	Marsh Creek.....	Tennessee River.....	At bridge 2¼ miles southeast of Pope, Perry County, Tenn.	0
Dec. 8	....do.....	....do.....	....do.....	0
Oct. 22	....do.....	....do.....	400 ft downstream from county bridge and 1.8 miles southeast of Pope, Perry County, Tenn.	0
22	Cypress Creek.....	....do.....	¼ mile southeast of Pope, Perry County, Tenn.	1.63
Sept.20	Flat Creek.....	Beech River.....	At bridge on State Highway 100, 0.9 mile north of Scotts Hill, Henderson County, Tenn.	0
20	Millpond Branch....	Flat Creek.....	At bridge on State Highway 100, 0.95 mile north of Scotts Hill, Henderson County, Tenn.	.04
Oct. 22	Lick Creek.....	Tennessee River.....	200 ft downstream from county bridge, just downstream from North Fork and 3.7 miles south of Pine View, Perry County, Tenn.	2.46
22	Toms Creek.....	....do.....	At county bridge, 0.6 mile west of Pine View, Perry County, Tenn.	.16
22	Roan Creek.....	....do.....	75 ft downstream from first bridge upstream from mouth and 10 miles west of Lobelville, Perry County, Tenn.	0
22	Crooked Creek.....	....do.....	At first bridge upstream from mouth, 9 miles northwest of Lobelville, Perry County, Tenn.	0
23	Duck River.....	....do.....	3.3 miles northeast of Fredonia, Coffee County, Tenn.	0
23	Boiling Springs Branch.	Duck River.....	2.0 miles northeast of Fredonia, Coffee County, Tenn.	.54
Aug. 31	....do.....	....do.....	....do.....	.70
Oct. 23	Messick Creek.....	....do.....	At bridge on State Highway 53, 1.6 miles northeast of Fredonia, Coffee County, Tenn.	.35
Aug. 31	....do.....	....do.....	....do.....	.36
Oct. 23	Eaton Branch.....	....do.....	0.3 mile upstream from mouth and 0.2 mile south of Fredonia, Coffee County, Tenn.	0
23	Wolf Creek.....	Little Duck River....	1.2 miles upstream from mouth and 1.4 miles east of Manchester, Coffee County, Tenn.	.49
Sept. 1	....do.....	....do.....	....do.....	1.33
Oct. 23	Hunt Creek.....	....do.....	At bridge on U. S. Highway 41, 2 miles southeast of Manchester, Coffee County, Tenn.	1.51
Sept.10	....do.....	....do.....	....do.....	1.48
Oct. 23	Little Duck River..	Duck River.....	At bridge on U. S. Highway 41, northwest of Manchester, Coffee County, Tenn.	5.93
Aug. 25	....do.....	....do.....	....do.....	6.24
Sept.15	....do.....	....do.....	....do.....	5.34
28	....do.....	....do.....	....do.....	5.09
Oct. 23	Brewer Creek.....	....do.....	0.7 mile east of Blanton Chapel, Coffee County, Tenn. and 1.3 miles upstream from mouth.	1.91
Aug. 31	....do.....	....do.....	....do.....	1.27
Oct. 23	Crumpton Creek.....	....do.....	150 ft downstream from Wiley Creek and 0.1 mile north of Rutledge Falls, Coffee County, Tenn.	4.71
Aug. 31	....do.....	....do.....	....do.....	5.06

c Measurement made Nov. 3, 1952.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1953 to September 1954--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Oct. 26	Shipman Creek.....	Duck River.....	At county bridge at Roseville, 0.8 mile upstream from mouth and 2.5 miles west of Normandy, Bedford County, Tenn.	3.41
Aug. 30	....do.....	....do.....	....do.....	3.76
Oct. 23	Garrison Fork.....	....do.....	At bridge on U. S. Highway 41, at Beech Grove, Coffee County, Tenn.	.61
27	Noah Fork.....	Garrison Fork.....	0.7 mile upstream from mouth and 1.0 mile east of Fairfield, Bedford County, Tenn.	5.25
27	Wartrace Creek.....	....do.....	Near bridge on State Highway 64, 0.5 mile southwest of Wartrace, Bedford County, Tenn. and 1.2 miles above mouth.	.007
Aug. 30	....do.....	....do.....	....do.....	.027
Oct. 26	Garrison Fork.....	Duck River.....	At county highway bridge, 0.6 mile upstream from mouth and 1.4 miles west of Haley, Bedford County, Tenn.	4.42
Aug. 30	....do.....	....do.....	....do.....	2.78
Oct. 26	Thompson Creek.....	....do.....	At county highway bridge, 1.5 miles upstream from mouth, 1.8 miles west of Roseville and 3.0 miles west of Normandy, Bedford County, Tenn.	1.92
Aug. 30	....do.....	....do.....	....do.....	1.17
Oct. 26	Flat Creek.....	....do.....	At State Highway 64, 0.6 mile upstream from mouth and 1.2 miles southwest of Shelbyville, Bedford County, Tenn.	.72
Aug. 31	....do.....	....do.....	....do.....	.40
Oct. 26	Sugar Creek.....	....do.....	At county highway bridge, 0.5 mile upstream from mouth and 3.8 miles northeast of Bedford, Bedford County, Tenn.	0
Aug. 24	....do.....	....do.....	....do.....	0
Oct. 26	Little Hurricane Creek.	....do.....	At U. S. Highway 41A, 0.8 mile upstream from mouth and 1.1 miles northwest of Elbethel, Bedford County, Tenn.	0
Aug. 30	....do.....	....do.....	....do.....	0
Oct. 26	Fall Creek.....	....do.....	At county highway bridge, 0.4 mile upstream from Hurricane Creek and $\frac{2}{3}$ mile north of Elbethel, Bedford County, Tenn.	0
26	Hurricane Creek....	Fall Creek.....	2.7 miles north of Elbethel, Bedford County, Tenn.	0
26	Fall Creek.....	Duck River.....	At county highway bridge, 0.7 mile upstream from mouth and 3.0 miles northwest of Elbethel, Bedford County, Tenn.	0
Aug. 30	....do.....	....do.....	....do.....	0
Oct. 26	Sinking Creek.....	....do.....	At county highway bridge, 0.9 mile upstream from mouth and 1.2 miles southwest of Halls Mill, Bedford County, Tenn.	0
Aug. 30	....do.....	....do.....	....do.....	0
Oct. 26	Alexander Creek....	North Fork Creek.....	At county highway bridge 0.7 mile upstream from mouth and 3.3 miles southeast of Unionville, Bedford County, Tenn.	0
26	Weakly Creek.....	....do.....	0.2 mile upstream from mouth and 1.2 miles north of Poplins Crossroads, Bedford County, Tenn.	.003
Aug. 30	....do.....	....do.....	....do.....	0
Oct. 26	North Fork Creek...	Duck River.....	1.0 mile northwest of Poplins Crossroads, Bedford County, Tenn.	0
Aug. 30	....do.....	....do.....	....do.....	0
Oct. 22	Wilson Creek.....	....do.....	At county highway bridge, 0.7 mile upstream from mouth and 2.2 miles northeast of Wilhoite Mills, Marshall County, Tenn.	0
22	Spring Creek.....	....do.....	0.7 mile north of Wilhoite Mills, Marshall County, Tenn., and 1.3 miles upstream from mouth.	0
22	Rich Creek.....	....do.....	0.5 mile upstream from mouth and 1.4 miles southwest of Wilhoite Mills, Marshall County, Tenn.	0
22	Sanders Creek.....	Big Rock Creek.....	At bridge on State Highways 11 and 31A, 2.8 miles southwest of Lewisburg, Marshall County, Tenn.	0
22	Collins Creek.....	....do.....	At ford 1.0 mile upstream from mouth and 1.3 miles southeast of Lewisburg, Marshall County, Tenn.	0
22	Snake Creek.....	....do.....	At bridge on U. S. Highway 31A, 0.9 mile upstream from mouth and 2.2 miles northeast of Lewisburg, Marshall County, Tenn.	0
22	Dry Branch.....	....do.....	At bridge on State Highway 11, 3.1 miles northeast of Lewisburg, Marshall County, Tenn.	0
20	Big Rock Creek.....	Duck River.....	At Double Bridges, 1.5 miles south of Oslin and 1.8 miles south of Verona, Marshall County, Tenn.	.60

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1953 to September 1954--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Aug. 31	Big Rock Creek.....	Duck River.....	At Double Bridges, 1.5 miles south of Oslin and 1.8 miles south of Verona, Marshall County, Tenn.	0.74
Oct. 22	Mud Creek.....	East Rock Creek.....	At county highway bridge, ½ mile upstream from mouth and 1.8 miles southeast of Farmington, Marshall County, Tenn.	0
22	East Rock Creek....	Big Rock Creek.....	0.3 mile upstream from Belfast Creek and ½ mile southwest of Farmington, Marshall County, Tenn.	0
Jan. 21	....do.....	....do.....	At bridge on State Highway 64, 0.2 mile downstream from Belfast Creek and 0.2 mile west of Farmington, Marshall County, Tenn.	415
22	....do.....	....do.....	....do.....	1,160
Oct. 22	Belfast Creek.....	East Rock Creek.....	1.2 miles upstream from mouth and 1.3 miles south of Farmington, Marshall County, Tenn.	0
Aug. 24	East Rock Creek....	Big Rock Creek.....	At bridge on State Highway 64, at Farmington, Marshall County, Tenn.	0
Oct. 22	....do.....	....do.....	3½ miles northwest of Farmington, Marshall County, Tenn.	0
20	Caney Creek.....	Duck River.....	At bridge on State Highway 99, 0.2 mile west of Caney Spring, Marshall County, Tenn.	0
Jan. 14	....do.....	....do.....	....do.....	b.01
Aug. 30	....do.....	....do.....	....do.....	0
Nov. 4	Duck River.....	Tennessee River.....	At State Highway 106, at river mile 172.1, Marshall County, Tenn.	81.5
4	....do.....	....do.....	....do.....	78.8
4	....do.....	....do.....	Below State Highway 106, at river mile 171.5, Maury County, Tenn.	78.1
4	....do.....	....do.....	Below State Highway 106, at river mile 170.6, Maury County, Tenn.	79.7
4	....do.....	....do.....	Below State Highway 106, at river mile 169.1, Maury County, Tenn.	81.4
4	....do.....	....do.....	Below State Highway 106, at river mile 168.8, Maury County, Tenn.	77.6
4	....do.....	....do.....	Below State Highway 106, at river mile 167.6, Maury County, Tenn.	78.3
4	....do.....	....do.....	Below State Highway 106, at river mile 167.2, Maury County, Tenn.	78.3
4	Flat Creek.....	Duck River.....	At bridge on State Highway 106, at Rally Hill, Maury County, Tenn.	0
Oct. 20	....do.....	....do.....	At bridge on State Highway 99, 1.0 mile upstream from mouth and 1.7 miles west of Pottsville, Maury County, Tenn.	0
Aug. 30	....do.....	....do.....	....do.....	.24
Nov. 4	....do.....	....do.....	At mouth 1.4 miles southwest of Pottsville, Maury County, Tenn.	b.15
4	Duck River.....	Tennessee River.....	Below State Highway 106, at river mile 166.5, Maury County, Tenn.	75.7
4	....do.....	....do.....	Below State Highway 106, at river mile 166.1, Maury County, Tenn.	82.5
4	....do.....	....do.....	Above Sowell Ford, at river mile 164.6, Maury County, Tenn.	73.7
4	....do.....	....do.....	....do.....	80.0
4	....do.....	....do.....	....do.....	78.6
4	....do.....	....do.....	....do.....	80.4
4	....do.....	....do.....	Above Sowell Ford, at river mile 163.4, Maury County, Tenn.	71.4
4	....do.....	....do.....	Above Sowell Ford, at river mile 162.8, Maury County, Tenn.	79.6
4	....do.....	....do.....	Above Sowell Ford, at river mile 162.3, Maury County, Tenn.	73.3
4	Derryberry Branch..	Duck River.....	At mouth, 4.4 miles southwest of Pottsville, Maury County, Tenn.	0
4	Duck River.....	Tennessee River.....	Above Sowell Ford, at river mile 161.1, Maury County, Tenn.	74.8
4	....do.....	....do.....	Above Sowell Ford, at river mile 160.1, Maury County, Tenn.	72.4
4	....do.....	....do.....	At Sowell Ford, near Pottsvile, Maury County, Tenn., at river mile 159.4.	72.8
4	....do.....	....do.....	....do.....	75.3
4	....do.....	....do.....	....do.....	74.7
Sept. 2	....do.....	....do.....	....do.....	63.3
2	....do.....	....do.....	At Leftwich Bridge, Maury County, Tenn., at river mile 156.1.	60.9
Oct. 20	Cedar Creek.....	Duck River.....	1.7 miles upstream from mouth and 2.4 miles northwest of Berlin, Maury County, Tenn.	0
Aug. 30	....do.....	....do.....	....do.....	0
Oct. 20	Dry Creek.....	Cedar Creek.....	0.7 mile upstream from mouth and 2.4 miles northwest of Berlin, Maury County, Tenn.	0
Aug. 30	....do.....	....do.....	....do.....	0
Oct. 21	Fountain Creek.....	Duck River.....	At bridge on State Highway 50A, 1.6 miles southeast of Culleoka, Maury County, Tenn. and 1.8 miles above confluence with Globe Creek.	1.14
Aug. 31	....do.....	....do.....	....do.....	.17

b Estimated.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1953 to September 1954--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Oct. 21	Mooresville Creek..	Globe Creek.....	At bridge on State Highway 50A, at Mooresville, Marshall County, Tenn., 1½ miles upstream from mouth.	0
Aug. 31	....do.....	....do.....	....do.....	0
Oct. 21	Bear Creek.....	....do.....	At bridge on State Highway 50A, 1.1 miles upstream from mouth and 1.3 miles northwest of Mooresville at Marshall, Maury County line, Tenn..	0
Aug. 31	....do.....	....do.....	....do.....	0
Oct. 21	Sheepneck Creek....	Bear Creek.....	At bridge on State Highway 50A, 50 ft upstream from mouth and 2.1 miles northwest of Mooresville, Maury County, Tenn.	.03
Aug. 31	....do.....	....do.....	....do.....	.001
Oct. 21	Globe Creek.....	Fountain Creek.....	400 ft downstream from mouth of Bear Creek and 2.3 miles northwest of Mooresville, Maury County, Tenn.	.06
Aug. 31	....do.....	....do.....	....do.....	0
Oct. 21	Hurricane Creek....	....do.....	0.2 mile northwest of Fountain Heights, Maury County, Tenn.	0
Aug. 31	....do.....	....do.....	....do.....	0
Oct. 21	Silver Creek.....	....do.....	At county highway bridge, 1.0 mile northeast of Fountain Heights, Maury County, Tenn., and 1.3 miles upstream from mouth.	.018
Aug. 31	....do.....	....do.....	....do.....	0
Oct. 21	Fountain Creek.....	Duck River.....	0.3 mile upstream from mouth, 1.3 miles north of Fountain Heights, and 2.0 miles northeast of Glendale, Maury County, Tenn.	1.02
Aug. 31	....do.....	....do.....	....do.....	0
Sept. 2	Lytle Creek.....	....do.....	At bridge on State Highway 50, 1.5 miles southeast of Columbia, Maury County, Tenn.	0
Oct. 20	....do.....	....do.....	250 ft downstream from county highway bridge, 0.6 mile upstream from mouth, and 1.0 mile northeast of Columbia, Maury County, Tenn.	.23
21	Little Bigby Creek.	....do.....	100 ft downstream from bridge on State Highways 50 and 99, and 1¾ miles west of Columbia, Maury County, Tenn.	1.13
21	Knob Creek.....	....do.....	200 ft upstream from county highway bridge at Timmons (Athendale) and 4¾ miles northwest of Columbia, Maury County, Tenn.	0
Nov. 3	....do.....	....do.....	....do.....	b.10
Oct. 21	Greenlick Creek....	....do.....	400 ft downstream from county highway bridge and 4½ miles northwest of Columbia, Maury County, Tenn.	.18
21	Snow Creek.....	....do.....	300 ft downstream from first bridge upstream from mouth and 2 miles east of Williamsport, Maury County, Tenn.	.44
21	Leipers Creek.....	....do.....	200 ft upstream from first bridge upstream from mouth and 1 mile east of Williamsport, Maury County, Tenn.	2.76
21	Poplar Creek.....	....do.....	At first bridge upstream from mouth, ½ mile south of Williamsport, Maury County, Tenn.	0
Dec. 2	Dry Creek.....	Big Bigby Creek.....	At Louisville & Nashville RR. bridge, 100 ft above mouth, and 3 miles southwest of Mount Pleasant, Maury County, Tenn.	0
Oct. 21	Sugar Fork.....	....do.....	At bridge on U. S. Highway 43, 1¼ miles northeast of Mount Pleaaand, Maury County, Tenn.	.33
21	Big Bigby Creek....	Duck River.....	At former gaging station, 200 ft downstream from bridge on State Highway 99, at Cross Bridges, Maury County, Tenn.	5.95
21	Catheys Creek.....	....do.....	At ford, ½ mile downstream from county bridge, 1¾ miles above mouth, and 4¼ miles southwest of Williamsport, Maury County, Tenn.	5.22
21	Dunlap Creek.....	....do.....	200 ft downstream from bridge on State Highway 50 at Shady Grove (Duck River Post Office), Hickman County, Tenn.	.16
20	Barren Fork.....	Locust Fork.....	At ford 0.4 mile above mouth, 6¾ miles southeast of Wrigley, Hickman County, Tenn.	2.40
20	Hassell Creek.....	Lick Creek.....	At bridge, ½ mile upstream from mouth and 2½ miles northeast of Littlelot, Hickman County, Tenn.	4.70
20	Lick Creek.....	Duck River.....	400 ft upstream from Bratton Ford bridge and ¾ mile northeast of Littlelot, Hickman County, Tenn.	34.0

b Estimated.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1953 to September 1954--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Oct. 21	Dry Creek.....	Duck River.....	At first bridge upstream from mouth, 1¼ miles northeast of Graytown and 4¾ miles east of Centerville, Hickman County, Tenn.	4.60
21	Swan Creek.....	....do.....	At bridge on State Highway 99, 1.1 miles east of Gordonsburg, Lewis County, Tenn.	4.18
20	....do.....	....do.....	200 ft downstream from bridge on State Highway 50, 3¼ miles southeast of Centerville, Hickman County, Tenn.	80.5
21	Haley Creek.....	....do.....	At first bridge upstream from mouth, 2½ miles east of Centerville, Hickman County, Tenn.	1.69
21	Defeated Creek.....	....do.....	100 ft upstream from bridge on State Highways 48 and 100, 1 mile northeast of Centerville, Hickman County, Tenn.	1.03
21	Indian Creek.....	....do.....	At Twomey, ¼ mile downstream from Armory, ⅝ mile south of Centerville, Hickman County, Tenn.	3.81
20	Piney River.....	....do.....	100 ft downstream from ford, 0.2 mile south of Dickson County line, 4.9 miles north of Pinewood, Hickman County, Tenn.	13.4
20	Big Spring Creek...	Piney River.....	¼ mile upstream from mouth and 1½ miles north of Pinewood, Hickman County, Tenn.	9.10
Jan. 7	Mill Creek.....	....do.....	300 ft upstream from mouth of North Fork Mill Creek and 1¼ miles southwest of Wrigley, Hickman County, Tenn.	0
Oct. 21	Beaverdam Creek....	Duck River.....	At bridge on State Highway 50, at Coble, Hickman County, Tenn.	43.9
21	Wolf Creek.....	....do.....	At county highway bridge, 3½ miles northwest of Coble, Hickman County, Tenn.	4.17
21	Barren Hollow Branch.	....do.....	50 ft downstream from county highway bridge, 1 mile northwest of Only, Hickman County, Tenn.	3.56
21	Sugar Creek.....	....do.....	¼ mile downstream from county highway bridge at Bucksnort and 1½ miles north of Only, Hickman County, Tenn.	9.23
22	Tumbling Creek.....	....do.....	At Taylortown, ½ mile upstream from mouth and 4 miles southeast of Hurricane Mills, Humphreys County, Tenn.	13.1
22	Little Hurricane Creek.	Hurricane Creek.....	150 ft downstream from county bridge and 5 miles south of McEwen, Humphreys County, Tenn.	3.80
22	Hurricane Creek....	Duck River.....	1,000 ft upstream from mouth and 2 miles west of Hurricane Mills, Humphreys County, Tenn.	18.0
20	Saw Branch.....	Buffalo River.....	¾ mile upstream from county highway bridge at Barnesville and 5 miles west of Summertown, Lawrence County, Tenn.	4.33
20	Grinders Creek.....	....do.....	500 ft upstream from mouth and 5½ miles south of Hohenwald, Lewis County, Tenn.	4.86
20	Little Buffalo River.	....do.....	At first bridge upstream from mouth, 7 miles south of Hohenwald, Lewis County, Tenn.	44.4
20	Allens Creek.....	....do.....	At highway bridge at Riverside, 0.3 mile upstream from mouth and 7¾ miles southwest of Hohenwald, Lewis County, Tenn.	4.72
21	Rockhouse Creek....	....do.....	At first bridge upstream from mouth at Howard, 7 miles southwest of Hohenwald, Lewis County, Tenn.	8.95
21	Trace Creek.....	....do.....	400 ft upstream from mouth and 7½ miles southwest of Hohenwald, Lewis County, Tenn.	7.31
21	Forty-eight Creek..	....do.....	200 ft downstream from county highway bridge, ½ mile upstream from mouth, 1 mile west of Ashland, and 8½ miles northeast of Waynesboro, Wayne County, Tenn.	23.8
21	Opossum Creek.....	....do.....	At ford at mouth, 4½ miles southeast of Flat Woods, Perry County, Tenn.	0
21	Green River.....	....do.....	At Little Hope, ½ mile upstream from mouth and 3¾ miles southeast of Flat Woods, Perry County, Tenn.	11.7
Feb. 19	Sinking Creek.....	....do.....	Just upstream from Sinking Creek Spring, 4 miles northeast of Flat Woods, Perry County, Tenn.	18.5
Mar. 16	....do.....	....do.....	....do.....	a.20
Apr. 8	....do.....	....do.....	....do.....	0
May 25	....do.....	....do.....	....do.....	0
June 2	....do.....	....do.....	....do.....	0
Oct. 13	....do.....	....do.....	....do.....	7.08
Nov. 11	....do.....	....do.....	....do.....	6.75

a Furnished by Corps of Engineers.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1953 to September 1954--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Dec. 8	Sinking Creek.....	Buffalo River.....	Just upstream from Sinking Creek Spring, 4 miles northeast of Flat Woods, Perry County, Tenn.	8.00
Feb. 19	....do.....	....do.....	....do.....	40.4
Mar. 16	....do.....	....do.....	....do.....	13.3
Apr. 8	....do.....	....do.....	....do.....	11.9
May 25	....do.....	....do.....	....do.....	10.4
June 2	....do.....	....do.....	....do.....	8.51
Oct. 21	....do.....	....do.....	At first bridge upstream from mouth, 2¾ miles north of Flat Woods, Perry County, Tenn.	0
Dec. 8	....do.....	....do.....	....do.....	0
May 25	....do.....	....do.....	....do.....	0
Oct. 21	Rockhouse Creek....	....do.....	At first bridge upstream from mouth, 6 miles south of Linden, Perry County, Tenn.	0
May 25	Sugar Hill Branch..	....do.....	3¼ miles south of Linden, Perry County, Tenn.	0
Feb. 19	Hurricane Creek....	....do.....	At Hurricane Creek Church, 6 miles southeast of Linden, Perry County, Tenn.	.30
Mar. 15	....do.....	....do.....	....do.....	0
Apr. 8	....do.....	....do.....	....do.....	0
May 25	....do.....	....do.....	....do.....	0
Feb. 1	Inman Hollow Branch	Hurricane Creek.....	25 ft downstream from bridge, 200 ft upstream from mouth, and 6 miles southeast of Linden, Perry County, Tenn.	.58
19	....do.....	....do.....	....do.....	b1.50
Mar. 15	....do.....	....do.....	....do.....	0
Apr. 8	....do.....	....do.....	....do.....	b.10
May 25	....do.....	....do.....	....do.....	0
Oct. 13	Hurricane Creek....	Buffalo River.....	½ mile downstream from Boiling Spring and 5.2 miles southeast of Linden, Perry County, Tenn.	19.0
Nov. 11	....do.....	....do.....	....do.....	19.4
Dec. 8	....do.....	....do.....	....do.....	20.5
Feb. 1	....do.....	....do.....	....do.....	39.5
19	....do.....	....do.....	....do.....	66.0
Mar. 15	....do.....	....do.....	....do.....	25.9
Apr. 8	....do.....	....do.....	....do.....	27.4
May 25	....do.....	....do.....	....do.....	23.7
June 2	....do.....	....do.....	....do.....	22.5
Oct. 21	....do.....	....do.....	At county highway bridge, 1 mile upstream from mouth and 3¾ miles southeast of Linden, Perry County, Tenn.	5.58
22	Short Creek.....	....do.....	0.7 mile upstream from bridge on State Highway 100 and 1 mile east of Linden, Perry County, Tenn.	1.88
22	....do.....	....do.....	At bridge on State Highway 100, ½ mile northeast of Linden, Perry County, Tenn.	0
21	Coon Creek.....	....do.....	100 ft downstream from bridge on State Highway 100, 2½ miles northeast of Linden, Perry County, Tenn.	3.31
21	Brush Creek.....	....do.....	500 ft downstream from first bridge above mouth, 4½ miles northeast of Linden, Perry County, Tenn.	4.16
May 25	Upper Sinking Creek	Cane Creek.....	75 ft downstream from Sinking Creek Spring, 0.9 mile east of Pleasantville, Hickman County, Tenn.	3.55
Oct. 21	Cane Creek.....	Buffalo River.....	100 ft upstream from county bridge, 1 1/3 miles east of Beardstown, Perry County, Tenn.	35.7
22	Blue Creek.....	Duck River.....	At county bridge, 1 1/3 miles upstream from mouth, 4 miles southwest of Waverly, Humphreys County, Tenn.	14.3
July 19	Cypress Creek.....	Tennessee River.....	At bridge on U. S. Highway 70, 1½ miles southeast of Camden, Benton County, Tenn.	0
Sept. 1	....do.....	....do.....	....do.....	0
Oct. 22	Trace Creek.....	....do.....	125 ft below bridge on U. S. Highway 70, 0.3 mile east of Waverly, Humphreys County, Tenn.	.73
22	Big Richland.....	....do.....	75 ft upstream from county highway bridge, just downstream from Wolf Creek and 5½ miles north of Waverly, Humphreys County, Tenn.	14.6
22	Whiteoak Creek.....	....do.....	200 ft upstream from bridge on State Highway 13 and 9¾ miles north of Waverly, Humphreys County, Tenn.	7.35
Sept.20	Hunting Creek.....	Big Sandy River.....	At bridge on U. S. Highway 70, 2.1 miles east of Bruceton, Carroll County, Tenn.	0

b Estimated.

The following table contains determinations of peak discharge made at crest stage by indirect methods at points other than regular gaging stations in the area covered by this report.

Miscellaneous determinations of peak discharge during water year October 1953 to September 1954

Date	Stream	Tributary to--	Locality	Drainage area (sq mi)	Discharge (cfs)
April*	Cove Creek.....	North Fork Holston. River.	At bridge on U. S. Highway 58, 1½ miles northwest of Shelleys, Scott County, Va., and 10 miles northwest of Bristol.		604
July 22-23	Brush Creek.....	French Broad River.	Lat 35°50'40", long 82°44'30", at bridge on secondary road 0.8 mile upstream from mouth, 5 miles northwest of Marshall, N.C., and 0.7 mile southwest of Walnut Post Office, Madison County.	7.99	1,190

* Date of high water is uncertain.

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