Surface Water Supply of the United States 1953

Part 3-B. Cumberland and Tennessee River Basins

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

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1276

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

UNITED STATES GOVERNMENT PRINTING OFFICE, WASHINGTON : 1955

UNITED STATES DEPARTMENT OF THE INTERIOR

Douglas McKay, *Secretary*

GEOLOGICAL SURVEY

W. E. Wrather, *Director*

For sale by the Superintendent of Documents, U. S. Government Printing Office
Washington 25, D. C. - Price $1 (paper cover)

PREFACE

This report was prepared by the Geological Survey in cooperation with the States of 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 was computed under supervision of district engineers, Surface Water Branch, as follows:

W. R. Eaton----------Chattanooga, Tenn.
E. B. Rice----------Raleigh, N. C.
F. F. Schrader----------Louisville, Ky.
D. S. Wallace----------Charlottesville, Va.

CALENDAR FOR WATER YEAR 1953

OCTOBER 1952

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 1952

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 1952

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 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

FEBRUARY 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

MARCH 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				

APRIL 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		

MAY 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						

JUNE 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				

JULY 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	

AUGUST 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					

SEPTEMBER 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			

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SURFACE WATER SUPPLY OF CUMBERLAND AND TENNESSEE RIVER BASINS, 1953

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, 1953. 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 12,800 gaging stations in the 48 States and at many others in the Territories of Alaska and Hawaii. On September 30, 1953, 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 1953 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.

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

Tennessee: State Department of Conservation, C. P. Swan, commissioner, succeeded by G. F. Nicely, succeeded by J. N. McCord, through Division of Geology, W. D. Hardeman, director; 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, S. S. Kellam, director, succeeded by R. V. Long, acting 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 131 gaging stations, of which 8 were in Alabama, 6 in Georgia, 1 in Kentucky, 40 in North Carolina, 64 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 13 gaging stations in Kentucky and 23 in Tennessee.

Assistance was also furnished by the Weather Bureau, United States Department of Commerce.

The following organizations aided in collecting records:

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

Tennessee: Aluminum Co. of America, E. I. Du Pont de Nemours & Co., Inc., 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	209 Commerce Building.
North Carolina c/	Raleigh	908 Capitol Club Building.
Tennessee d/	Chattanooga	442 Post Office 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

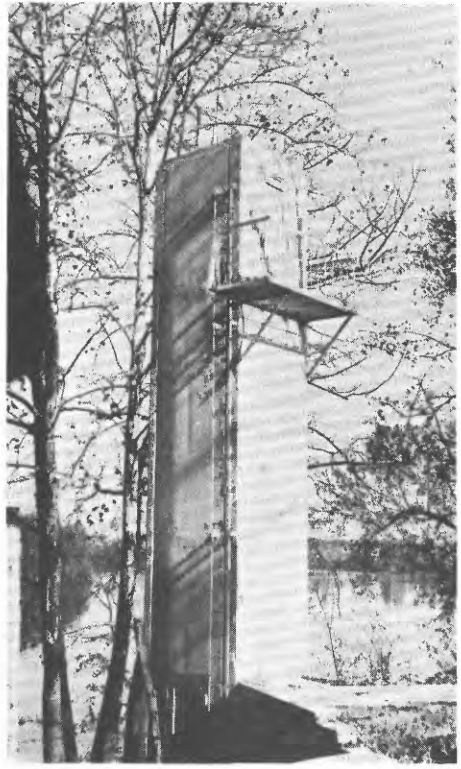
Beginning with the series of reports for the water year ending September 30, 1951, the order of listing gaging-station records was changed. In this report, in a downstream direction along the main stem all stations on a tributary entering above a main-stem station are listed before that station. If a 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 measurements of peak discharge (such as slope-area or contracted-opening measurements, 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 1953 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). 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 values for the maximum day and the minimum day for each month are underlined. If the value 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 values; 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"). Values 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 values 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.

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.

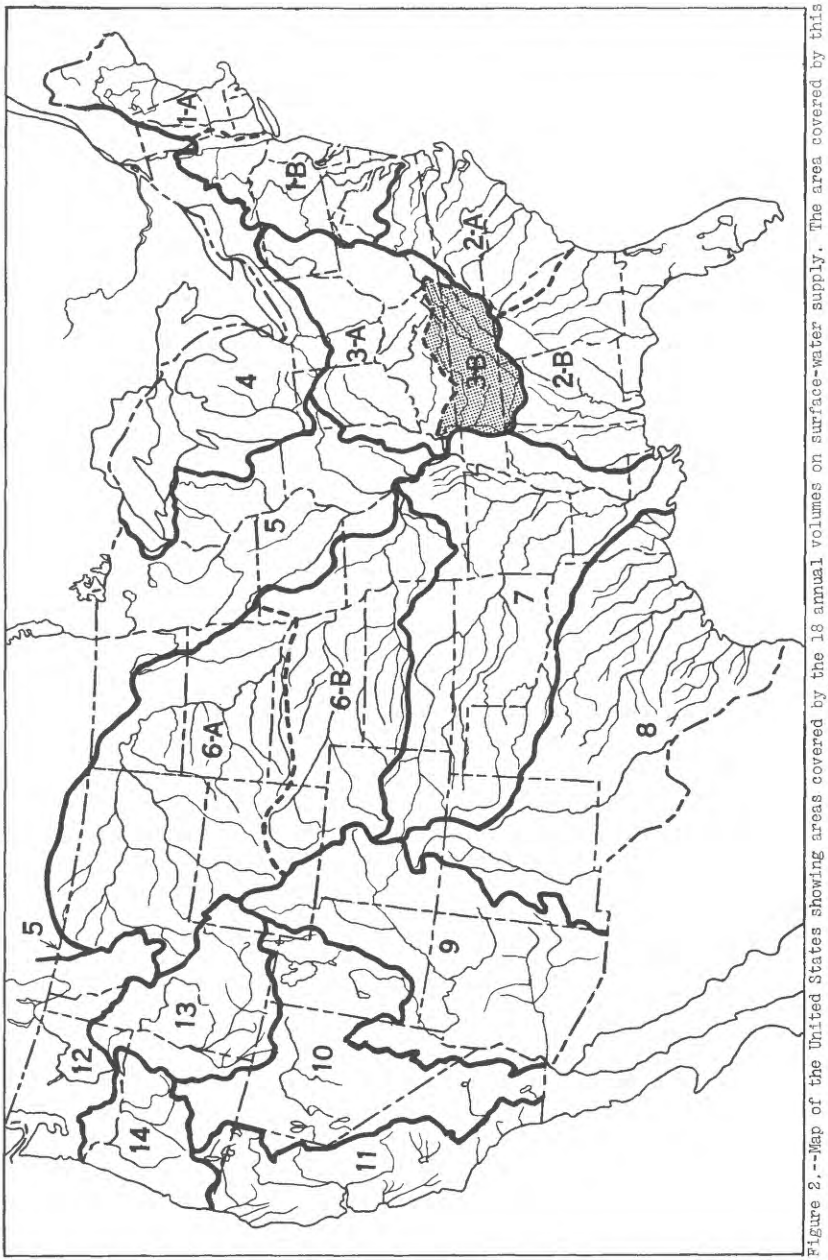


Figure 2.--Map of the United States showing areas covered by the 18 annual volumes on surface-water supply. The area covered by this report is shaded.

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

Report	Character of data	Year
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, 1899-1953

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

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:

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 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 1952 to September 1953 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.....	1940-53	Tennessee Valley Authority.
Do.....	Near Lexington, Tenn.....	1953	Do.
Big Creek.....	Near Darden, Tenn.....	1953	Do.
Birdsong Creek.....	Near Holliday, Tenn.....	1940-53	Do.
Cane Creek.....	Near Chesterfield, Tenn.....	1940-53	Do.
Do.....	Near Shady Hill, Tenn.....	1953	Do.
Chambers Creek.....	Kendrick, Miss.....	1939-53	Do.
Chattanooga Creek.....	At 38th St. in Chattanooga, Tenn..	1943-53	Do.
Chestuee Creek.....	Above Englewood, Tenn.....	1944-53	Do.
Do.....	Zion Hill, Tenn.....	1944-53	Do.
Do.....	Highway 30, Tennessee.....	1944-53	Do.
Do.....	Dentville, Tenn.....	1944-53	Do.
Coweeta Creek basin a/.	Coweeta Experimental Forest near Franklin, N. C.	1934-53	U. S. Forest Service.

a/ 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.	1943-53	Tennessee Valley Authority.
Fall Creek	Near Fort Patrick Henry Dam, Tenn.	1953	Do.
Flat Creek	Near Middlesburg, Tenn.	1953	Do.
Haley Creek	Near Chesterfield, Tenn.	1953	Do.
Harmon Creek	Near Lexington, Tenn.	1953	Do.
Horse Creek	Near Savannah, Tenn.	1939-53	Do.
Indian Creek	Near Cerro Gordo, Tenn.	1939-53	Do.
Limestone Creek	U. S. Highway 72, Alabama	1939-53	Do.
Little Chestuee Creek	Below Wilson Station, Tenn.	1947-53	Do.
Middle Creek	Below Highway 39 near Englewood, Tenn.	1944-53	Do.
Middleton Creek	Near Milledgeville, Tenn.	1939-53	Do.
Millican Creek	Near Douglas Dam, Tenn.	1942-53	Do.
Parker Branch	Near Leicester, N. C.	1952-53	Do.
Persimmon Creek	At Persimmon Creek Dam, near Letitia, N. C.	1942-53	Do.
Pigeon River basin b/	Near Waynesville, N. C.	1949-53	Do.
Pinetree Branch	Near Lexington, Tenn.	1941-53	Do.
Pond Creek No. 1	Near Wilson Dam, Ala.	1948-53	Do.
Pond Creek No. 2	Do.	1948-53	Do.
Rushing Creek	Near Decaturville, Tenn.	1953	Do.
Rutherford Creek	Near Columbia, Tenn.	1948-53	Do.
Snake Creek	Near Adamsville, Tenn.	1939-53	Do.
Turkey Creek (Beech River tributary).	Near Decaturville, Tenn.	1953	Do.
Turkey Creek (Tennessee River tributary).	Near Savannah, Tenn.	1939-53	Do.
White Creek	White Hollow, Tenn.	1934-53	Do.
White Oak Creek	Near Milledgeville, Tenn.	1939-53	Do.
Wolf Creek	At Graper Springs, Tenn.	1953	Do.
Yellow Creek	At Moser Bridge near Doskie, Miss.	1937-53	Do.

b/ The Tennessee Valley Authority operates stations on 5 small watersheds ranging in area from 3.5 to 5.3 acres in the Pigeon River basin.

HYDROLOGIC CONDITIONS

The water year 1953 was characterized by below normal runoff over most of the Cumberland and Tennessee River basins during the year. Drought conditions which existed in North Carolina and Tennessee during months of October, November, and December were broken by above normal runoff during January, which marked the first time since May 1952 that above normal runoff occurred in most of the area covered by this report. Runoff was deficient over most of the area during months of July, August, and September. No noteworthy floods occurred during the year. For three key gaging stations in the area covered by this report, a comparison of the monthly and yearly mean discharge during the 1953 water year with the median for the 25-year period 1921-45 is shown in figure on the opposite page.

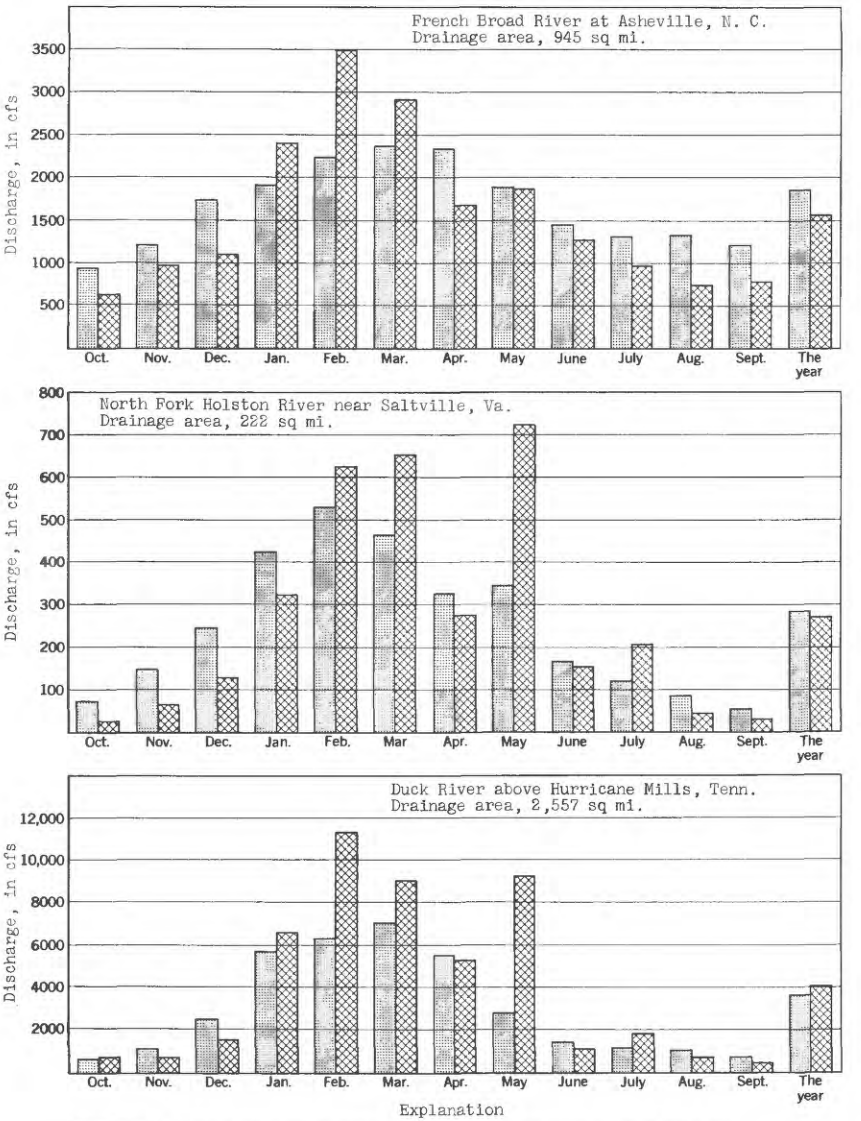

Figure 3.--Comparison of discharge at three key gaging stations during 1953 water year with median discharge for 25-year period.

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 1953.

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.--13 years, 139 cfs.

Extremes.--Maximum discharge during year, 2,810 cfs May 19 (gage height, 5.63 ft); no flow for part of Oct. 28.

1940-53: Maximum discharge, 7,500 cfs Jan. 7, 1946 (gage height, 9.65 ft), from rating curve extended above 2,900 cfs by logarithmic plotting; minimum, that of Oct. 28, 1952.

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.

Remarks.--Records good except those below 20 cfs, which are fair.

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

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 26				Nov. 27 to Feb. 21				Feb. 22 to Sept. 30			
0.25	3.2	1.0	80	0.6	30	2.0	420	0.0	2.0	1.1	120
.3	6.5	1.5	195	.8	52	3.0	960	.1	5.0	1.5	220
.5	20	2.3	500	1.0	80	5.0	2,310	.3	14	2.0	420
.7	38			1.5	210			.5	30	3.0	960
								.8	65	5.0	2,310

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	3.9	6.5	41	51	145	110	*96	168	53	34	10	5.8
2	5.2	7.2	38	51	112	188	86	178	50	28	94	5.0
3	3.9	5.8	*36	63	96	366	77	155	45	158	52	*5.0
4	3.2	6.5	32	67	86	705	74	130	40	126	29	5.0
5	3.2	6.5	47	66	72	530	72	147	35	96	26	14
6	3.9	7.2	88	*62	93	313	74	633	40	126	23	13
7	5.2	7.9	79	82	162	223	130	1,180	185	120	18	12
8	4.6	5.8	63	361	153	182	158	520	90	78	15	10
9	13	5.2	51	450	122	148	150	330	60	70	16	7.8
10	16	15	835	480	102	124	138	232	50	55	16	6.6
11	20	20	*1,040	301	94	110	118	178	56	45	14	6.2
12	17	22	343	204	210	98	116	*142	46	39	12	6.6
13	14	18	189	165	277	94	126	120	41	35	11	5.4
14	10	14	122	142	214	86	136	104	37	29	10	5.0
15	7.9	14	80	118	201	124	138	116	34	26	10	4.7
16	7.2	11	60	105	180	142	134	92	33	26	9.5	4.1
17	7.2	* 10	50	94	*285	136	116	78	43	24	12	5.0
18	6.5	9.3	52	194	231	187	104	143	38	25	12	4.7
19	5.2	16	47	253	189	229	104	2,260	34	25	10	4.7
20	3.2	18	42	198	345	199	90	1,430	25	21	10	8.2
21	5.2	38	42	410	1,860	158	82	490	25	20	9.5	7.8
22	4.6	108	41	490	705	134	77	271	26	26	8.6	6.2
23	3.9	114	39	309	366	134	74	223	*20	40	17	5.4
24	4.6	152	39	277	254	366	74	229	26	*29	15	6.2
25	5.2	203	36	261	202	352	71	165	25	21	12	6.6
26	6.5	476	36	224	170	347	74	130	19	18	9.5	6.2
27	5.2	263	36	217	138	188	70	102	21	15	8.2	5.8
28	3.9	108	35	525	124	155	65	82	25	14	7.4	5.4
29	3.9	67	33	515	-	132	60	71	65	12	7.4	5.4
30	*6.5	51	33	293	-	110	113	64	53	12	6.2	4.7
31	6.5	-	40	192	-	100	-	57	-	11	6.2	-
Total	216.3	1,805.9	3,745	7,220	7,188	6,470	2,997	10,220	1,340	1,404	516.5	198.5
Mean	6.98	60.2	121	233	257	209	99.9	330	44.7	45.3	16.7	6.62
Cfsm	0.085	0.733	1.47	2.84	3.13	2.55	1.22	4.02	0.544	0.552	0.203	0.081
In.	0.10	0.82	1.70	3.27	3.26	2.93	1.36	4.63	0.61	0.64	0.23	0.09

Calendar year 1952: Max 1,830 Min 3.2 Mean 132 Cfsm 1.61 In. 21.85
Water year 1952-53: Max 2,260 Min 3.2 Mean 119 Cfsm 1.45 In. 19.64

Peak discharge (base, 1,200 cfs).--Dec. 10 (10 p.m.) 2,040 cfs (4.66 ft); Feb. 21 (8 a.m.) 2,630 cfs (5.40 ft); May 7 (5 a.m.) 1,550 cfs (3.99 ft); May 19 (3 p.m.) 2,810 cfs (5.63 ft).

* Discharge measurement made on this day.

Cumberland River near Harlan, Ky.

Location.--Lat 36°50'50", 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 1953.

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.--13 years, 653 cfs.

Extremes.--Maximum discharge during year, 16,300 cfs Feb. 21 (gage height, 12.97 ft); minimum daily, 7 cfs Sept. 18; minimum gage height recorded, 0.29 ft Sept. 30. 1940-53: Maximum discharge, 37,900 cfs Jan. 8, 1946 (gage height, 22.81 ft); minimum, 6 cfs Oct. 16, 1948; minimum gage height recorded, that of Sept. 30, 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 tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21				Feb. 22 to Sept. 30			
0.3	7	1.5	360	0.2	0	2.0	590
.5	32	2.0	640	.3	10	3.0	1,350
.7	64	3.0	1,370	.6	55	5.0	3,550
.9	110	5.0	3,550	1.0	140	11.0	12,700
1.2	215	10.0	11,000	1.5	325		

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	20	19	200	a233	802	508	475	912	257	161	55	a15
2	19	22	170	a265	658	778	*415	1,010	205	120	55	a12
3	15	23	*140	a410	568	1,690	370	882	a180	245	146	*a12
4	14	24	125	520	a490	3,910	343	686	a167	514	115	a20
5	14	26	297	460	430	2,890	313	632	155	285	79	32
6	14	24	640	390	466	1,660	317	3,240	190	289	67	a45
7	15	24	502	568	1,160	1,140	566	6,680	644	492	59	a30
8	15	24	360	2,220	1,160	905	668	2,480	436	366	52	a25
9	26	26	290	3,140	897	723	650	1,560	277	245	48	a21
10	40	40	3,220	3,380	724	620	626	1,110	237	180	48	a18
11	59	52	5,440	2,070	658	548	530	852	273	138	42	a15
12	56	64	1,570	1,210	2,550	492	530	680	194	113	38	a13
13	46	61	883	876	2,310	497	596	*554	158	97	34	a11
14	36	50	610	724	1,420	453	608	458	a138	89	31	a9.5
15	28	44	445	*628	1,320	626	614	632	125	*81	30	a9
16	26	40	350	550	1,290	952	596	548	155	75	26	a8
17	23	35	280	484	*1,320	824	519	475	a253	73	44	a7.5
18	19	32	220	1,430	1,170	1,300	458	698	a180	88	43	a7
19	18	38	211	1,550	953	1,790	448	11,200	a132	135	36	a11
20	17	85	187	1,120	1,100	1,270	385	6,910	a109	97	36	a9.5
21	14	140	191	2,660	10,900	968	352	2,390	a113	79	26	a8.5
22	13	460	183	2,690	3,900	768	325	1,390	313	120	25	a7.5
23	14	425	168	1,600	1,900	674	301	968	202	480	25	a7.5
24	15	472	161	1,430	1,260	1,050	293	1,060	*118	265	25	a7.5
25	15	496	158	1,400	992	1,330	277	775	107	152	a32	a8
26	17	1,590	147	1,180	817	1,080	289	608	99	109	a30	a8.5
27	18	1,390	137	1,070	674	845	277	497	85	89	a25	a10
28	19	592	131	1,860	596	692	253	395	111	75	a25	a12
29	19	340	113	2,220	-	602	233	330	130	67	a20	16
30	*19	238	116	1,410	-	514	502	293	237	65	a20	12
31	19	-	140	1,010	-	464	-	273	-	59	a15	-
Total	702	6,896	17,785	40,758	42,485	32,563	13,129	51,178	5,980	5,443	1,352	428.0
Mean	22.6	230	574	1,315	1,517	1,050	438	1,651	199	176	43.6	14.3
Cfsm	0.060	0.615	1.53	3.52	4.06	2.81	1.17	4.41	0.532	0.471	0.117	0.038
In.	0.07	0.69	1.77	4.05	4.22	3.24	1.31	5.09	0.59	0.54	0.13	0.04

Calendar year 1952: Max 11,000 Min 11 Mean 637 Cfsm 1.70 In. 23.20
Water year 1952-53: Max 11,200 Min 7 Mean 599 Cfsm 1.60 In. 21.74

Peak discharge (base, 8,200 cfs).--Dec. 10 (12 p.m.) 9,540 cfs (9.12 ft); Feb. 21 (12 m.) 16,300 cfs (12.97 ft); May 7 (2:30 a.m.) 8,980 cfs (8.77 ft); May 19 (1 p.m.) 15,800 cfs (12.68 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 1953.

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.--13 years, 103 cfs.

Extremes.--Maximum discharge during year, 2,030 cfs Feb. 21 (gage height, 11.02 ft); minimum, 0.2 cfs Oct. 7 (gage height, 0.85 ft).
1940-53: Maximum discharge, 6,160 cfs Jan. 7, 1946 (gage height, 20.92 ft); minimum, 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, which are fair.

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

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 23-29)

0.85	0.8	1.7	68
.9	1.3	2.0	110
1.0	3.2	2.5	185
1.1	6.3	3.0	260
1.2	12	6.0	680
1.4	30	9.0	1,370

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	2.0	3.0	12	27	95	74	88	137	23	176	10	3.0
2	1.6	3.0	15	29	78	128	79	109	20	143	10	3.0
3	2.0	3.0	14	52	68	316	75	82	18	283	10	3.0
4	1.6	3.0	12	57	61	630	68	72	17	455	12	*3.2
5	2.2	3.0	192	53	52	442	62	72	15	215	*13	14
6	1.4	3.0	96	46	142	258	71	191	20	116	9.1	8.0
7	1.2	3.0	49	52	280	172	113	379	58	86	7.5	5.5
8	1.8	3.0	32	*689	214	126	103	296	28	72	7.5	4.9
9	4.6	3.0	25	*561	146	99	99	194	21	58	7.1	4.6
10	7.5	7.2	*798	774	107	85	92	128	19	44	6.7	4.3
11	5.0	7.5	548	417	109	76	79	97	23	37	6.3	4.3
12	4.5	5.9	161	234	630	71	160	79	16	32	5.9	3.7
13	4.5	4.9	96	150	447	78	164	*68	21	28	5.5	3.4
14	4.6	4.3	68	106	263	68	137	58	42	26	5.2	3.7
15	4.6	4.0	50	85	284	107	122	72	25	23	4.9	3.7
16	4.3	3.7	41	72	*251	102	100	83	42	22	4.6	3.4
17	4.3	3.4	34	64	206	97	83	68	52	21	5.6	3.4
18	4.6	3.4	30	185	164	270	82	69	35	59	5.9	3.4
19	4.3	10	26	170	131	269	72	973	25	49	4.9	3.4
20	4.3	16	25	143	173	190	61	613	19	30	4.3	4.3
21	4.0	28	26	660	1,280	136	57	311	49	24	4.0	4.6
22	3.2	106	24	455	517	106	50	167	633	32	4.3	3.4
23	5.4	41	23	269	294	99	48	109	148	44	4.3	3.2
24	4.6	34	21	274	198	124	44	86	*74	28	4.0	3.2
25	4.6	28	19	242	150	102	42	69	50	22	3.7	4.0
26	3.7	142	17	194	119	90	49	57	40	18	3.4	4.3
27	3.4	61	16	155	96	83	42	48	61	15	3.4	3.7
28	3.2	29	15	202	85	76	37	41	197	14	3.2	3.4
29	2.8	20	13	204	-	68	35	35	288	12	3.7	3.2
30	*3.0	15	14	160	-	*61	154	31	442	12	3.2	3.2
31	3.0	-	27	120	-	64	-	27	-	11	3.4	-
Total	109.8	601.3	2,539	6,901	6,640	4,667	2,468	4,821	2,521	2,207	186.6	126.4
Mean	3.54	20.0	81.9	223	237	151	82.3	156	84.0	71.2	6.02	4.21
Cfsm	0.059	0.334	1.37	3.72	3.96	2.52	1.37	2.60	1.40	1.19	0.101	0.070
In.	0.07	0.37	1.58	4.28	4.12	2.90	1.53	2.99	1.57	1.37	0.12	0.08

Calendar year 1952: Max 2,480 Min 1.2 Mean 100 Cfsm 1.67 In. 22.75
Water year 1952-53: Max 1,280 Min 1.2 Mean 92.6 Cfsm 1.55 In. 20.98

Peak discharge (base, 1,800 cfs).--Feb. 21 (10 a.m.) 2,030 cfs (11.02 ft).
* Discharge measurement made on this day.

Cumberland River near Pineville, Ky.

Location.--Lat 36°49', long. 83°45', on downstream side of center pier of bridge on U. S. Highway 25E, 0.5 mile south of Flat Lick, 2.3 miles downstream from Greasy Creek, 5.0 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 1953.

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.--15 years, 1,299 cfs.

Extremes.--Maximum discharge during year, 21,700 cfs May 20; maximum gage height, 34.45 ft May 20; minimum discharge, 6.0 cfs Oct. 6 (gage height, 4.65 ft).
1938-53: 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 determination at gage heights 44.34, 47.3 and 49.31 ft; minimum, that of Oct. 6, 1952.
Flood of March 1929 reached a stage of 47.3 ft (discharge, 51,000 cfs).

Remarks.--Records good. 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 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Fall used as a factor Nov. 26, 27, Dec. 10-13, Jan. 8-13, 19-30, Feb. 8, 12-18, 21-25, Mar. 3-7, 19, 20, 25, May 6-10, 20-23)

4.7	7.0	5.7	112	10.0	1,950
4.8	11	6.0	176	14.0	4,500
5.0	23	6.5	295	20.0	9,800
5.2	39	7.0	450	29.0	17,900
5.4	63	8.0	880		

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	31	22	365	300	1,720	1,100	1,070	1,900	440	650	110	29
2	26	23	305	365	1,350	1,310	1,100	1,980	394	422	98	16
3	24	23	288	494	1,130	2,860	1,000	1,910	341	578	92	12
4	23	24	272	794	995	5,940	895	1,460	310	1,570	115	*7.4
5	20	26	1,070	862	848	6,940	808	1,550	285	1,080	209	25
6	8.6	25	1,670	763	817	3,620	781	3,960	280	660	145	24
7	17	26	1,200	945	2,260	2,600	1,270	11,100	1,070	570	108	40
8	16	26	808	3,770	2,750	2,010	1,620	7,120	980	709	84	56
9	24	26	586	8,170	2,150	1,580	1,610	3,500	574	546	81	64
10	63	41	5,270	7,510	1,620	1,300	1,510	2,530	436	384	78	48
11	49	48	12,800	5,670	1,380	1,140	1,320	1,940	466	298	74	36
12	54	81	*4,720	2,940	3,820	1,000	1,300	1,480	426	250	58	29
13	70	89	2,100	2,100	5,700	1,020	1,580	*1,170	335	213	56	25
14	68	94	1,320	1,620	3,240	935	1,510	970	288	176	44	22
15	56	86	940	1,300	2,760	1,060	1,390	1,020	275	161	38	18
16	47	70	714	*1,120	*2,970	1,440	1,340	1,180	240	145	39	15
17	38	68	570	970	2,710	1,520	1,180	1,050	305	136	60	14
18	34	49	474	1,800	2,570	1,960	1,040	1,640	329	158	64	13
19	31	64	412	2,990	2,120	3,360	980	12,500	275	262	60	11
20	26	78	374	2,420	1,900	2,760	862	17,900	213	242	59	14
21	23	167	371	5,750	10,100	2,130	768	6,730	189	200	51	14
22	22	618	368	6,920	13,200	1,650	691	2,850	1,330	158	34	12
23	22	920	344	3,660	4,760	1,400	637	2,150	817	255	37	12
24	22	844	326	3,030	2,800	1,940	598	1,760	*422	582	40	11
25	22	905	310	3,070	2,270	2,510	554	1,500	288	365	28	11
26	22	2,240	300	2,630	1,860	2,260	542	1,140	228	255	27	12
27	22	2,970	282	2,280	1,520	1,800	558	895	202	194	30	14
28	22	1,380	270	2,710	1,280	1,480	490	722	336	152	26	16
29	22	750	260	3,960	-	1,260	440	590	398	128	14	17
30	22	482	242	2,960	-	*1,070	783	522	930	*114	17	15
31	*22	-	258	2,290	-	930	-	478	-	103	30	-
Total	968.6	12,265	39,589	86,163	82,600	63,885	30,227	97,197	13,402	11,716	2,006	652.4
Mean	31.2	409	1,277	2,779	2,950	2,061	1,008	3,135	447	378	64.7	21.7
Cfsm	0.038	0.498	1.55	3.38	3.59	2.51	1.23	3.81	0.544	0.460	0.079	0.026
In.	0.04	0.55	1.79	3.90	3.74	2.89	1.37	4.40	0.61	0.53	0.09	0.03

Calendar year 1952: Max 27,000 Min 8.6 Mean 1,276 Cfsm 1.55 In. 21.11
Water year 1952-53: Max 17,900 Min 7.4 Mean 1,207 Cfsm 1.47 In. 19.94

Peak discharge (base, 16,000 cfs).--Feb. 22 (1 a.m.) 18,000 cfs (31.95 ft at 4 a.m.); May 20 (2 a.m.) 21,700 cfs (34.45 ft at 6 a.m.).
* Discharge measurement made on this day.

Cumberland River at Barbourville, Ky.

Location.--Lat 36°52', long. 83°54', near center of span on upstream side of bridge on State Highway 11 at Barbourville, Knox County, 0.2 mile upstream from Richland Creek.

Drainage area.--972 sq mi.

Records available.--October 1922 to September 1931, July 1948 to September 1953.

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 Sept. 30, 1931, staff or chain gage at same site at datum 1.0 ft higher.

Average discharge.--14 years, 1,787 cfs.

Extremes.--Maximum discharge during year, 21,200 cfs May 20; maximum gage height, 29.61 ft May 20; minimum daily discharge, 10 cfs Sept. 4, 20.
1922-31, 1948-53: Maximum discharge, 50,300 cfs Mar. 24, 1929 (gage height, 39.20 ft, datum then in use), from rating curve extended above 20,000 cfs on basis of runoff comparisons with nearby stations; minimum observed, 0.2 cfs Oct. 5, 1930 (gage height, -0.25 ft, datum then in use).
Flood in January 1946 reached a stage of 42.8 ft, present datum.

Remarks.--Records good above 2,000 cfs and fair below. Records of water temperatures for the water year 1953 are given in WSP 1290.

Revisions (water years).--WSP 603: 1923, 1924. WSP 1113: 1923(M), 1925(M), 1927, 1929, drainage area.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Rate of change in stage used as a factor for most days with discharge above 4,600 cfs)

Oct. 1 to Nov. 19		Nov. 20 to Sept. 30			
1.1	16	1.3	10	4.0	1,530
1.2	26	1.4	28	6.0	3,360
1.3	40	1.7	95	10.0	5,400
1.6	115	2.0	190	20.0	10,700
		3.0	780	30.0	20,700

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	34	25	432	312	1,900	1,100	1,330	1,830	500	900	125	36
2	29	26	384	384	1,420	1,380	1,320	1,980	450	*500	115	40
3	27	26	348	480	1,210	3,270	1,110	1,940	400	1,000	100	26
4	30	28	354	750	1,050	7,700	1,060	1,490	350	1,800	115	10
5	26	28	1,030	984	914	8,400	894	1,490	320	1,300	135	14
6	24	28	2,040	888	852	5,160	858	6,730	320	800	155	40
7	26	28	1,350	1,190	1,990	3,140	1,520	12,700	1,110	660	140	34
8	29	28	956	*4,930	3,080	1,970	2,050	9,980	984	800	120	57
9	34	28	600	10,800	2,190	1,800	1,910	5,780	612	600	95	85
10	40	40	4,650	9,220	1,950	1,340	1,760	3,220	456	470	85	92
11	72	50	14,300	7,460	1,400	1,170	1,720	2,160	528	370	75	57
12	75	80	7,640	4,650	*2,940	1,080	1,480	2,000	456	280	*62	40
13	70	100	3,490	2,350	6,650	*1,040	*1,870	1,360	400	240	60	32
14	65	110	1,370	1,780	4,410	1,030	1,700	1,100	350	220	50	28
15	65	110	914	1,400	3,220	1,110	1,470	1,120	300	180	40	*21
16	75	100	888	1,130	3,630	1,420	1,480	1,270	270	160	38	17
17	62	80	768	1,110	3,030	1,530	1,260	1,180	320	145	60	17
18	54	80	600	1,860	2,910	1,930	1,170	*1,750	350	140	*63	19
19	45	70	528	3,740	2,330	3,860	1,180	10,500	320	280	60	17
20	35	75	456	3,010	2,150	3,440	1,040	20,200	270	290	58	10
21	*30	108	492	6,450	9,570	2,710	935	13,300	220	230	52	14
22	25	756	456	8,530	17,000	1,900	894	6,420	1,500	170	48	19
23	25	1,100	492	5,560	7,690	1,550	834	2,980	1,100	250	40	24
24	25	1,080	420	3,700	4,800	2,300	738	1,820	700	650	46	17
25	26	*1,040	354	3,480	2,190	2,760	654	1,600	480	500	36	15
26	26	2,270	348	2,980	1,860	2,490	630	1,230	350	330	34	21
27	26	3,590	288	2,550	1,650	2,050	648	984	250	230	32	15
28	25	1,650	294	3,080	1,270	1,710	600	864	350	180	30	17
29	25	876	276	4,550	-	1,400	522	720	500	140	19	15
30	25	552	288	3,830	-	1,250	678	610	1,100	125	15	17
31	25	-	252	2,510	-	1,210	-	560	-	110	15	-
Total	1,200	14,162	47,058	105,648	95,256	74,200	35,315	120,868	15,616	14,050	2,118	866
Mean	38.7	472	1,518	3,408	3,402	2,394	1,177	3,899	521	453	68.3	28.9
Cfsm	0.040	0.486	1.56	3.51	3.50	2.46	1.21	4.01	0.536	0.466	0.070	0.030
In.	0.05	0.54	1.80	4.04	3.64	2.84	1.35	4.62	0.60	0.54	0.08	0.03

Calendar year 1952: Max 30,900 Min 23 Mean 1,567 Cfsm 1.61 In. 21.95
Water year 1952-53: Max 20,200 Min 10 Mean 1,442 Cfsm 1.48 In. 20.13

Peak discharge (base, 18,000 cfs).--Feb. 22 (4 a.m.) 19,000 cfs (27.48 ft at 12 m.); May 20 (7 a.m.) 21,200 cfs (29.61 ft at 7 p.m.).
* Discharge measurement made on this day.

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 1953. 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, 18,800 cfs May 20 (gage height, 19.25 ft); minimum, 14 cfs Sept. 30 (gage height, 1.77 ft).

1950-53: Maximum discharge, 37,200 cfs Feb. 2, 1951 (gage height, 29.85 ft); minimum, that of Sept. 30, 1953.

Maximum stage since at least 1918, 34.2 ft Jan. 10, 1946 (present datum) from graph based on U. S. Weather Bureau gage readings. Flood of March 25, 1929, reached a stage of 32.7 ft (present datum) from graph based on U. S. Weather Bureau gage readings.

Remarks.--Records good. Records of chemical analyses and water temperatures for the water year 1953 are given in WSP 1290.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 20				May 21 to Sept. 30			
1.8	16	2.1	67	1.75	12	3.0	360
1.9	32	2.3	115	1.8	17	4.0	920
Note.--Same as following table above 2.3 ft.				1.9	29	6.0	2,420
				2.0	45	10.0	6,500
				2.3	115	19.0	18,400

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	54	26	914	512	3,600	2,170	2,140	2,530	728	2,290	455	35
2	*42	29	772	650	2,830	2,180	2,440	3,200	644	1,540	336	29
3	32	32	626	812	2,290	4,560	2,270	2,990	560	*1,540	*288	25
4	30	32	590	1,220	2,000	9,760	2,040	2,620	*485	3,940	233	24
5	30	32	1,290	1,610	1,760	12,800	1,800	2,290	425	3,370	233	42
6	30	32	4,560	1,640	*1,570	11,300	1,660	7,500	388	2,190	336	45
7	30	32	3,710	1,620	2,240	6,980	2,310	14,200	1,060	1,500	300	42
8	*29	32	1,490	*4,820	3,940	4,300	3,500	15,200	1,780	1,240	226	32
9	40	35	1,580	12,900	4,030	3,250	3,460	13,800	1,330	1,280	187	31
10	46	54	3,420	16,200	3,180	2,630	3,070	8,240	927	1,100	167	37
11	35	56	14,600	16,400	2,620	2,220	2,900	4,300	728	818	139	68
12	46	67	15,500	11,900	4,580	*1,980	2,750	3,030	750	614	130	78
13	94	89	11,600	6,590	9,600	1,860	*3,260	2,370	690	485	118	65
14	89	112	4,320	3,860	9,230	1,840	3,300	1,940	842	410	102	51
15	87	142	2,170	2,850	6,520	1,720	2,930	1,760	856	356	88	*45
16	99	145	1,600	2,330	6,590	1,860	2,690	1,990	596	324	85	39
17	89	136	1,270	2,030	6,100	2,190	2,460	2,110	1,120	308	110	34
18	82	124	1,050	3,180	5,120	2,590	2,150	2,420	818	296	133	31
19	78	124	896	4,960	4,280	4,730	2,070	7,730	674	415	110	29
20	65	118	800	5,420	3,750	5,740	2,110	17,700	536	470	108	29
21	54	189	746	7,790	9,800	4,410	1,860	18,300	415	435	98	24
22	46	1,240	740	13,400	18,000	3,310	1,610	16,700	4,290	384	90	20
23	42	2,730	716	11,900	17,300	2,710	1,440	10,400	4,580	352	88	21
24	38	*2,710	668	8,100	13,300	2,790	1,330	3,820	1,750	332	82	20
25	35	2,220	632	6,590	6,190	3,680	1,220	2,660	1,050	608	68	19
26	32	2,940	578	5,870	3,800	4,040	1,130	2,170	704	542	59	19
27	30	5,250	542	4,770	3,100	3,510	1,090	1,710	584	384	59	17
28	27	4,230	512	4,410	2,540	2,940	1,050	1,400	878	304	59	17
29	26	2,120	480	6,160	-	2,480	941	1,150	1,440	252	49	16
30	27	1,290	460	6,840	-	2,120	1,100	962	3,470	216	40	15
31	27	-	455	5,050	-	1,860	-	830	-	260	37	-
Total	1,511	26,368	79,287	182,384	159,860	120,510	64,081	178,022	35,098	28,555	4,613	999
Mean	48.7	879	2,558	5,883	5,709	3,887	2,136	5,743	1,170	921	149	33.3
Cfsm	0.029	0.525	1.53	3.52	3.41	2.32	1.28	3.43	0.699	0.551	0.089	0.020
In.	0.03	0.59	1.76	4.05	3.55	2.68	1.42	3.96	0.78	0.63	0.10	0.02

Calendar year 1952: Max 27,200 Min 26 Mean 2,481 Cfsm 1.48 In. 20.19
Water year 1952-53: Max 18,300 Min 15 Mean 2,414 Cfsm 1.44 In. 19.57

Peak discharge (base, 20,000 cfs).--No peak above base.
* Discharge measurement made on this day.

Cumberland River at Cumberland Falls, Ky.

Location.--Lat 36°50'14", long. 84°20'36", on left bank 600 ft upstream from ferry crossing of State Highway 90 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 1953.

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 600 ft downstream from present site at present datum.

Average discharge.--41 years (1907-11, 1915-31, 1932-53), 3,156 cfs.

Extremes.--Maximum discharge during year, 20,700 cfs May 20 (gage height, 8.43 ft); minimum daily, 16 cfs Sept. 30.
1907-11, 1915-53: Maximum discharge, 59,600 cfs Jan. 28, 1918 (gage height, 15.5 ft, present site and datum); minimum, 8.5 cfs Sept. 19, 20, 1932 (gage height, 0.97 ft).

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

Revisions.--WSP 953: Drainage area.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.05	11	2.4	1,360
1.1	27	3.0	2,430
1.2	70	4.5	6,120
1.4	200	6.0	11,000
1.7	470	9.0	23,400

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	70	27	1,170	652	4,630	2,650	2,800	2,840	904	2,930	307	43
2	60	27	940	748	3,540	2,990	3,130	3,860	808	1,960	536	39
3	51	27	820	940	2,860	7,010	2,880	3,520	712	1,670	370	39
4	43	31	760	1,260	2,450	11,800	2,550	3,200	640	3,280	325	39
5	39	31	1,270	1,710	2,160	13,900	2,070	2,970	569	3,980	289	43
6	35	31	4,450	1,910	2,010	12,400	2,240	11,400	525	2,650	280	39
7	35	31	3,180	*2,160	2,370	8,180	3,620	16,400	820	1,830	400	43
8	35	31	2,840	6,180	4,120	5,290	a4,000	16,000	1,800	1,390	334	43
9	43	39	1,960	14,500	4,730	3,980	a4,000	14,700	1,570	1,280	272	43
10	60	60	3,280	18,500	3,900	3,220	a3,500	10,400	1,210	1,330	208	39
11	65	88	14,000	18,300	3,200	2,710	a3,200	5,640	1,000	1,030	*172	35
12	60	82	15,800	13,700	5,150	2,410	a3,100	3,860	868	808	151	43
13	47	70	12,900	7,980	10,300	2,240	a3,500	2,990	832	652	144	a60
14	55	70	5,980	4,760	10,600	2,180	a4,000	2,430	1,130	536	130	*70
15	94	100	2,690	3,470	7,860	2,220	a4,000	2,160	979	460	118	60
16	88	137	1,940	2,780	7,490	2,240	3,450	2,470	1,670	420	100	51
17	88	144	1,500	2,370	7,180	2,450	3,150	2,630	1,890	410	106	a45
18	94	137	1,240	4,540	6,090	3,520	2,780	2,740	1,360	390	118	a40
19	88	144	1,070	5,870	5,210	5,530	2,610	9,120	992	481	158	a35
20	82	144	966	6,350	5,070	6,460	2,610	20,200	820	558	124	a35
21	70	179	892	10,000	15,100	5,240	2,370	19,100	664	547	118	a40
22	60	1,370	868	15,000	19,700	3,980	2,070	17,300	2,750	514	112	39
23	*51	2,840	856	13,800	18,300	3,340	1,850	12,600	5,670	760	106	31
24	47	*3,270	808	9,970	15,000	3,620	1,660	5,420	2,410	547	100	a25
25	43	2,690	760	7,730	8,020	4,480	1,520	3,200	1,420	470	88	a20
26	39	2,610	712	6,940	4,760	4,840	1,410	2,630	966	736	82	19
27	35	5,180	676	*5,840	3,780	4,250	1,320	2,090	748	558	70	a19
28	31	4,920	640	5,480	3,110	3,540	1,280	1,690	748	420	60	a17
29	31	2,910	604	6,820	-	2,990	1,200	1,380	*1,360	334	55	a17
30	27	1,670	569	7,860	-	2,550	1,460	1,170	4,000	272	55	a16
31	27	-	592	6,320	-	2,280	-	1,020	-	232	51	-
Total	1,693	29,090	86,733	214,440	188,690	144,490	79,330	207,130	41,835	33,435	5,539	1,127
Mean	54.6	970	2,798	6,917	6,739	4,661	2,644	6,682	1,394	1,079	179	37.6
Cfsm	0.027	0.486	1.40	3.46	3.37	2.33	1.32	3.35	0.698	0.540	0.090	0.019
In.	0.03	0.54	1.62	3.99	3.51	2.69	1.48	3.86	0.78	0.62	0.10	0.02

Calendar year 1952: Max 33,800 Min 27 Mean 2,962 Cfsm 1.48 In. 20.18
Water year 1952-53: Max 20,200 Min 16 Mean 2,832 Cfsm 1.42 In. 19.24

Peak discharge (base, 24,000 cfs).--No peak above base.
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for station at Williamsburg.

Laurel River near Otas, Ky.

Location.--Lat 36°58', long. 84°08', on left bank 200 ft downstream from bridge on State Highway 312, 0.5 mile downstream from Lynn Camp Creek, and 1.5 miles northwest of Otas, Whitley County.

Drainage area.--198 sq mi.

Records available.--October 1922 to September 1924, July 1942 to September 1953.

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 different datum.

Average discharge.--13 years, 360 cfs.

Extremes.--Maximum discharge during year, 3,560 cfs Jan. 8 (gage height, 9.29 ft); minimum, 1.0 cfs Aug. 16 (gage height, 1.07 ft).
1922-24, 1942-53: Maximum discharge, 18,600 cfs Jan. 8, 1946 (gage height, 17.94 ft), from rating curve extended above 9,000 cfs by logarithmic plotting; no flow Oct. 5, 6, 1922, Nov. 3, 1923.
Maximum stage known, 19 ft, present datum, in 1911, 1913, 1922, from information by Corps of Engineers.

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

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 20				May 21 to Sept. 30	
1.1	0.7	2.6	120	1.1	1.4
1.2	1.8	3.2	270	1.2	2.0
1.4	7.5	4.0	540	1.4	7.5
1.6	14	5.0	1,000	Note.--Same as	
1.9	30	7.0	2,100	preceding table	
2.2	60	9.0	3,360	above 1.4 ft.	

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	1.2	2.3	124	202	398	210	397	291	28	24	1.5	1.4
2	1.2	1.8	132	*200	321	812	454	189	20	25	1.9	1.4
3	1.2	1.7	160	333	261	1,670	321	118	16	67	3.4	1.5
4	1.2	1.6	138	388	229	1,930	264	91	14	48	2.8	1.6
5	1.1	1.8	686	336	*189	1,410	213	164	12	23	7.1	6.8
6	1.2	2.1	1,120	285	230	791	208	1,750	13	17	3.0	2.1
7	1.4	1.8	608	824	420	512	524	2,590	282	40	2.6	1.5
8	1.7	1.8	354	2,500	360	398	478	1,650	116	41	2.0	1.4
9	3.4	2.3	352	3,120	291	309	370	955	53	33	2.4	1.5
10	7.8	8.1	1,600	2,600	246	255	512	600	54	22	1.6	1.4
11	3.7	6.6	2,200	1,790	237	218	516	388	160	16	1.5	1.5
12	2.1	5.4	1,240	1,010	672	*194	496	270	80	11	*1.4	1.5
13	1.5	3.2	528	629	782	221	552	267	43	7.8	1.4	1.4
14	1.5	2.6	342	451	556	226	398	191	31	6.0	1.4	*1.4
15	1.8	2.9	252	348	580	626	*318	288	23	3.0	1.3	1.4
16	1.8	2.9	191	294	742	698	297	294	68	2.4	1.3	1.5
17	1.8	2.9	158	326	568	430	235	258	261	2.6	1.8	1.6
18	1.7	2.9	134	1,690	406	724	232	482	92	2.2	1.9	1.5
19	1.7	5.7	120	1,380	333	945	540	2,300	48	3.0	1.5	1.5
20	1.5	7.8	113	1,250	561	592	374	*3,240	28	2.0	1.4	3.3
21	*1.8	53	124	1,760	2,670	420	291	1,780	19	1.7	1.3	1.7
22	*2.1	1,590	120	1,620	2,240	327	237	647	14	7.8	1.4	1.5
23	2.3	1,660	106	955	1,080	291	194	364	11	58	1.5	1.5
24	2.3	1,060	94	910	620	462	169	273	8.1	22	1.5	1.5
25	2.3	*508	82	860	468	604	144	186	5.4	12	1.4	1.5
26	2.6	423	75	629	392	486	132	126	3.3	7.2	1.4	1.6
27	2.3	458	70	516	315	392	124	91	8.6	4.8	1.4	1.6
28	2.6	309	65	1,040	249	324	106	66	60	2.2	1.4	1.5
29	2.3	208	60	1,080	-	264	91	52	*57	1.7	1.4	1.5
30	2.1	160	55	683	-	218	186	43	93	1.8	1.4	1.5
31	2.3	-	90	482	-	194	-	36	-	1.6	1.4	-
Total	65.5	6,497.2	11,493	30,491	16,416	17,151	9,371	20,020	1,721.4	516.8	58.7	52.6
Mean	2.11	217	371	984	586	553	312	646	57.4	16.7	1.89	1.75
Cfsm	0.011	1.10	1.87	4.97	2.96	2.79	1.58	3.26	0.290	0.084	0.0095	0.0088
In.	0.01	1.22	2.16	5.73	3.08	3.22	1.76	3.76	0.32	0.10	0.01	0.01

Calendar year 1952: Max 8,480 Min 0.8 Mean 323 Cfsm 1.63 In. 22.22
Water year 1952-53: Max 3,240 Min 1.1 Mean 312 Cfsm 1.58 In. 21.38

Peak discharge (base, 4,800 cfs).--No peak above base.
* 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 1953.

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.--17 years, 914 cfs.

Extremes.--Maximum discharge during year, 12,300 cfs Jan. 9 (gage height, 20.97 ft); minimum, 2.2 cfs Sept. 16, 17; minimum gage height, 0.59 ft Oct. 8.
1936-53: Maximum discharge, 46,800 cfs June 29, 1947 (gage height, 45.48 ft); minimum observed, 1.1 cfs Sept. 22, 23, 1936.
Flood of January 1913 reached a stage of about 40 ft, from information by Corps of Engineers.

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

Revisions.--WSP 953: Drainage area.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 21 to Nov. 10)

Oct. 1 to Nov. 23				Nov. 24 to Sept. 30			
0.6	3.0	2.0	132	0.65	2.2	3.0	340
.7	5.8	2.5	235	.7	3.7	4.0	680
.8	9.5	3.0	375	.8	7.5	6.0	1,560
1.0	20	4.0	720	1.0	20	10.0	3,580
1.2	34	7.0	2,060	1.4	55	15.0	6,950
1.5	62			2.0	128	19.0	10,300
				2.5	220		

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	8.4	5.4	186	172	952	g560	636	576	137	475	31	5.9
2	7.3	4.6	160	*252	764	1,620	840	624	121	278	28	4.3
3	a6.5	4.8	180	298	640	3,960	692	728	109	202	29	3.7
4	a5.5	5.2	188	481	550	7,020	636	608	97	1,730	27	4.0
5	a5.0	5.2	376	490	*460	4,850	556	1,260	87	1,110	31	15
6	a4.0	5.8	1,710	463	436	2,430	525	1,780	160	672	40	18
7	a3.5	6.5	872	1,340	553	1,620	999	2,250	2,030	572	39	12
8	*a3.0	6.2	532	7,260	525	1,210	1,190	2,290	772	484	30	12
9	4.6	6.2	391	10,100	475	948	1,060	1,900	373	454	32	*13
10	11	11	967	4,110	439	*772	1,090	1,340	394	331	*52	10
11	7.6	21	2,480	3,060	436	660	1,030	964	1,150	232	40	7.5
12	6.2	30	1,220	1,910	951	572	1,030	736	564	178	34	6.3
13	6.5	28	744	1,300	1,540	550	1,760	596	364	145	28	5.9
14	8.8	22	508	992	1,230	532	*1,380	528	308	120	26	4.7
15	8.0	19	385	780	1,180	990	1,120	712	244	101	22	3.7
16	6.2	17	292	644	1,360	1,590	1,050	916	900	88	19	3.1
17	5.2	16	240	636	1,190	1,250	844	1,050	3,400	78	43	2.5
18	4.6	15	212	4,270	956	1,430	740	2,100	1,090	75	102	2.8
19	3.8	20	190	3,500	808	2,200	1,000	6,340	612	75	57	2.8
20	3.2	23	172	1,950	772	1,660	920	*6,880	406	77	48	3.4
21	3.2	41	170	2,160	g6,270	1,260	836	3,180	288	69	35	3.1
22	*4.0	1,550	174	2,460	g6,160	1,010	740	1,700	222	86	27	3.4
23	3.8	1,990	162	1,780	g2,460	856	652	1,090	174	106	22	3.1
24	3.5	932	152	2,300	g1,660	1,060	564	764	137	94	19	2.8
25	3.5	546	143	3,710	g1,260	1,240	494	560	114	69	20	2.5
26	4.2	*388	131	2,420	g1,000	1,210	475	424	97	56	20	2.5
27	5.2	568	122	1,750	g840	1,010	448	328	166	48	15	2.5
28	5.2	442	118	1,800	g680	848	382	262	280	40	12	2.8
29	4.8	292	110	2,000	-	728	346	216	514	35	10	2.8
30	5.2	228	104	1,520	-	604	379	184	*1,210	31	8.0	2.8
31	5.4	-	111	1,170	-	528	-	157	-	40	7.1	-
Total	166.9	7,248.9	13,502	67,078	36,547	46,778	24,414	43,043	16,520	8,151	953.1	168.9
Mean	5.38	242	436	2,164	1,305	1,509	814	1,388	551	263	30.7	5.63
Cfsm	0.0089	0.399	0.718	3.57	2.15	2.49	1.34	2.29	0.908	0.433	0.051	0.0093
In.	0.01	0.44	0.83	4.11	2.24	2.87	1.50	2.64	1.01	0.50	0.06	0.01

Calendar year 1952: Max 35,800 Min 3.0 Mean 870 Cfsm 1.43 In. 19.51
Water year 1952-53: Max 10,100 Min 2.5 Mean 725 Cfsm 1.19 In. 16.22

Peak discharge (base, 14,000 cfs).--No peak above base.
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of recorded range in stage and records for nearby stations.
g Computed from twice-daily radio-gage readings.

Buck Creek near Shopville, Ky.

Location.--Lat 37°12'38", long. 84°27'52", at center of span 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 1953.

Gage.--Wire-weight gage and crest-stage indicator. Datum of gage is 835.35 ft above mean sea level, unadjusted.

Extremes.--Maximum discharge during period, 4,850 cfs May 18 (gage height, 9.4 ft); no flow Sept. 13-30.

Remarks.--Records good.

Rating table, Dec. 19, 1952, to Sept. 30, 1953 (gage height, in feet, and discharge, in cubic feet per second)

0.55	0	1.7	55
.6	.3	2.0	95
.7	1.5	2.5	195
.8	3.5	3.0	310
1.0	9.0	4.0	660
1.2	18	6.0	1,760
1.4	29	8.0	3,410

Discharge, in cubic feet per second, December 1952 to September 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			-	40	187	165	195	235	33	86	30	0.5
2			-	43	159	1,060	203	465	28	50	16	.3
3			-	69	145	1,740	163	221	22	37	9.8	.2
4			-	101	123	2,670	135	157	20	791	8.7	.1
5			-	90	103	1,040	113	394	18	211	16	1.1
6			-	*76	111	460	187	305	576	147	13	.8
7			-	492	119	346	308	201	3,160	644	8.4	.6
8			-	*1,450	97	278	223	229	347	221	26	.5
9			-	970	80	223	187	169	149	131	86	*.4
10			-	910	71	*191	364	121	407	80	*34	.2
11			-	544	*71	167	285	97	603	53	18	.2
12			-	308	431	147	441	78	109	45	9.3	.1
13			-	235	310	187	397	66	251	35	8.4	0
14			-	195	231	177	*272	78	153	29	6.6	0
15			-	167	255	403	225	322	101	25	5.2	0
16			-	145	233	300	298	245	133	20	4.0	0
17			-	189	185	223	203	522	123	16	*50	0
18			-	1,080	157	566	211	2,520	72	146	22	0
19			28	508	139	472	379	*2,960	51	572	11	0
20			28	328	1,070	300	252	1,320	41	135	6.6	0
21			31	397	2,490	240	199	532	34	62	4.8	0
22			*31	275	860	203	161	331	28	139	3.5	0
23			30	231	406	233	149	238	25	173	2.9	0
24			31	750	310	400	131	177	24	63	3.3	0
25			29	1,130	265	282	123	141	18	40	4.2	0
26			28	439	225	221	125	103	14	31	3.1	0
27			28	334	189	191	103	80	12	22	2.3	0
28			25	370	157	167	89	60	14	18	1.5	0
29			24	308	-	145	78	48	199	14	.9	0
30			21	250	-	113	214	43	*296	11	.7	0
31			25	211	-	111	-	39	-	9.8	.6	-
Total			-	12,635	9,179	13,421	6,413	12,497	7,061	4,056.8	416.8	5.0
Mean			-	408	328	433	214	403	235	131	13.4	0.17
Cfsm			-	2.50	2.01	2.66	1.31	2.47	1.44	0.804	0.082	0.0010
In.			-	2.88	2.09	3.06	1.46	2.85	1.61	0.93	0.10	0.001

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

Peak discharge (base, 2,600 cfs).--Feb. 21 (4 a.m.) 3,140 cfs (7.7 ft); Mar. 4 (11 a.m.) 3,050 cfs (7.6 ft); May 18 (10 a.m.) 4,850 cfs (9.4 ft); June 7 (9 a.m.) 4,210 cfs (8.8 ft); June 11 (1 a.m.) 2,870 cfs (7.4 ft).

* Discharge measurement made on this day.

New River at New River, Tenn.

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

Drainage area.--383 sq mi.

Records available.--August 1934 to September 1953. 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.--19 years, 703 cfs.

Extremes.--Maximum discharge during year, 21,200 cfs Feb. 21 (gage height, 21.74 ft); minimum, 0.1 cfs Oct. 30 to Nov. 9; minimum gage height, 1.01 ft Nov. 8, 9.
1934-53: 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.--Four discharge measurements furnished by Corps of Engineers.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21				Feb. 22 to Sept. 30			
1.0	0.1	2.1	54	1.1	0.5	2.2	67
1.1	.2	2.5	125	1.2	.7	2.5	119
1.2	.6	3.0	265	1.3	1.7	3.0	254
1.3	1.8	4.0	710	1.4	4.2	3.5	440
1.4	3.8	6.0	1,900	1.5	8.2	4.0	670
1.5	7.8	10.0	5,200	1.6	13	7.0	2,640
1.6	13	14.0	9,500	1.9	32	11.0	6,100
1.8	25	16.0	12,300				

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	2.2	0.1	83	285	785	408	625	2,660	84	115	52	4.2
2	1.6	.1	68	456	605	557	764	1,420	70	78	91	3.5
3	1.1	.1	62	590	496	2,680	681	906	58	68	87	2.5
4	.9	.1	61	710	424	5,850	575	645	49	128	58	1.9
5	.8	.1	1,030	565	360	3,480	484	548	42	163	48	3.5
6	.6	*.1	1,310	447	380	1,700	460	2,200	39	123	42	4.2
7	.6	.1	520	*380	1,410	1,120	858	3,820	36	96	33	5.0
8	.6	.1	304	2,760	1,400	822	1,020	2,000	142	170	30	3.8
9	.8	.1	215	4,430	975	630	840	1,250	*107	274	31	3.5
10	1.4	.6	*4,140	5,840	740	520	725	846	78	235	26	3.5
11	.9	1.1	4,030	2,730	670	448	605	620	67	143	23	7.4
12	.8	1.2	1,150	1,340	7,070	400	902	*480	62	99	*20	7.4
13	.7	2.6	640	892	3,820	436	1,720	396	64	74	19	5.8
14	.7	9.8	416	665	1,760	408	*1,220	324	72	59	14	3.8
15	*.6	10	300	515	1,500	580	930	310	68	46	13	*3.5
16	.6	12	227	424	1,570	986	810	285	128	41	11	3.0
17	.6	11	184	420	1,330	*725	640	254	210	38	9.0	2.3
18	.5	9.8	158	2,150	*1,110	900	570	228	155	72	7.8	1.5
19	.5	11	134	1,800	920	1,260	758	2,370	105	399	7.4	1.0
20	.4	12	121	1,210	876	980	736	3,800	78	310	5.8	1.5
21	.4	16	114	4,690	12,200	786	635	1,690	128	192	9.5	1.2
22	.3	119	110	3,200	4,040	650	538	942	416	*209	17	.9
23	.3	234	100	1,790	1,840	620	468	615	241	650	19	.8
24	.3	181	94	2,420	1,210	992	416	444	143	440	17	.7
25	.3	166	87	1,960	924	900	362	343	99	271	11	.7
26	.3	556	82	1,390	736	708	339	268	72	176	14	.7
27	.3	730	75	1,090	580	575	313	222	67	123	17	.7
28	.2	272	68	2,210	484	494	271	173	107	96	13	.7
29	.2	160	65	2,580	-	436	238	141	85	74	10	.6
30	.1	114	62	1,490	-	370	2,390	119	153	59	7.8	.6
31	.1	-	78	1,040	-	412	-	99	-	57	5.8	-
Total	19.7	2,630.0	16,088	52,469	50,215	31,833	21,893	30,418	3,225	5,078	769.1	80.4
Mean	0.64	87.7	519	1,693	1,793	1,027	730	981	108	164	24.8	2.68
Cfsm	0.0017	0.229	1.36	4.42	4.68	2.68	1.91	2.56	0.282	0.428	0.065	0.0070
In.	0.002	0.26	1.56	5.09	4.88	3.09	2.13	2.95	0.31	0.49	0.07	0.008

Calendar year 1952: Max 13,400 Min 0.1 Mean 517 Cfsm 1.35 In. 18.38
Water year 1952-53: Max 12,200 Min 0.1 Mean 588 Cfsm 1.54 In. 20.84

Peak discharge (base, 16,000 cfs).--Feb. 21 (3 p.m.) 21,200 cfs (21.74 ft).
* Discharge measurement made on this day.

Clear Fork River near Robbins, Tenn.

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

Drainage area.--278 sq mi.

Records available.--October 1930 to September 1953. 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.--23 years, 450 cfs.

Extremes.--Maximum discharge during year, 7,250 cfs Feb. 21 (gage height, 9.17 ft); minimum, 1.6 cfs Sept. 19, 23, 24 (gage height, 0.89 ft).
1930-53: 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, which are fair.

Cooperation.--Four discharge measurements furnished by Corps or Engineers.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 12-16)

Oct. 1 to Dec. 10				Dec. 11 to Sept. 30			
0.9	2.6	1.5	44	0.9	1.7	2.0	126
1.0	4.6	1.8	87	1.0	4.2	2.5	275
1.1	9.0	2.0	137	1.1	9.0	3.0	485
1.3	24	3.0	470	1.3	22	4.0	1,070
				1.5	40	6.0	2,700
				1.8	84	9.0	6,960

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	4.6	5.0	40	70	565	369	575	1,990	66	90	125	4.2
2	4.2	5.0	36	104	449	495	580	1,040	54	54	174	3.5
3	4.0	5.0	34	152	378	3,340	500	684	45	39	122	3.2
4	3.8	5.5	35	247	328	3,810	436	510	39	33	70	2.7
5	3.6	5.5	95	214	275	2,260	361	549	34	96	48	3.2
6	3.4	*5.5	294	177	312	1,360	340	2,350	30	81	38	3.2
7	3.4	5.5	183	*169	722	935	678	1,340	28	54	32	2.9
8	3.2	5.5	117	1,640	1,350	712	690	876	27	46	27	3.2
9	3.4	5.9	89	1,870	535	555	580	640	*28	46	26	4.2
10	3.8	9.0	463	2,680	426	454	500	485	26	66	21	4.6
11	5.1	14	*722	1,660	450	391	436	382	24	45	19	4.2
12	6.8	30	356	909	3,540	344	708	*316	21	32	*18	3.8
13	5.5	24	220	612	2,360	378	1,340	275	24	26	16	2.9
14	4.4	19	158	458	1,290	356	*909	230	126	21	13	2.5
15	*3.8	16	124	356	1,100	391	673	294	106	18	10	*2.3
16	3.8	13	98	297	1,230	395	555	332	291	18	9.0	2.1
17	3.8	12	82	312	1,010	*336	440	332	546	24	27	1.9
18	3.8	11	74	1,310	*768	573	408	290	189	41	47	1.7
19	3.8	13	67	1,050	629	909	575	2,140	111	155	25	1.9
20	3.8	16	62	776	754	695	472	2,700	77	117	17	2.1
21	3.8	24	61	3,200	6,080	560	413	1,360	60	67	14	1.9
22	3.8	41	61	2,120	2,930	467	365	798	72	*73	12	1.7
23	4.0	46	91	1,360	1,460	480	316	535	108	537	10	1.7
24	4.0	52	60	1,860	1,000	1,180	282	400	67	277	9.6	2.1
25	4.2	42	55	1,520	786	1,040	250	316	47	122	15	3.2
26	4.2	44	50	1,060	662	780	230	240	37	76	13	3.5
27	4.4	73	47	828	540	607	207	189	31	51	11	3.5
28	5.0	78	44	1,160	440	495	183	143	37	38	9.0	3.2
29	5.5	60	41	1,500	-	413	164	115	45	30	7.5	3.2
30	5.0	48	39	994	-	340	1,610	92	177	25	6.0	3.2
31	5.0	-	46	717	-	361	-	77	-	56	4.6	-
Total	130.9	733.4	3,914	31,382	32,369	25,781	15,776	22,020	2,573	2,454	995.7	87.5
Mean	4.22	24.4	126	1,012	1,156	832	526	710	85.8	79.2	32.1	2.92
Cfsm	0.015	0.088	0.453	3.64	4.16	2.99	1.89	2.55	0.309	0.285	0.115	0.011
In.	0.02	0.10	0.52	4.20	4.33	3.45	2.11	2.95	0.34	0.33	0.13	0.01

Calendar year 1952: Max 7,170 Min 2.1 Mean 357 Cfsm 1.28 In. 17.48
Water year 1952-53: Max 6,080 Min 1.7 Mean 379 Cfsm 1.36 In. 18.49

Peak discharge (base, 6,500 cfs).--Feb. 21 (11 a.m.) 7,250 cfs (9.17 ft).
* Discharge measurement made on this day.

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 1953.

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

Average discharge.--11 years, 1,768 cfs.

Extremes.--Maximum discharge during year, 29,200 cfs Feb. 21 (gage height, 24.31 ft); minimum, 19 cfs Sept. 16-19 (gage height, 1.67 ft).
1942-53: Maximum discharge, 69,600 cfs Feb. 13, 1948 (gage height, 38.50 ft); minimum, 11 cfs Oct. 4, 1948 (gage height, 1.62 ft).
Maximum stage known, 52.9 ft in March 1929, from information by local residents.

Remarks.--Records good except those below 50 cfs, which are fair.

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

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.67	19	4.0	800
1.7	22	6.0	2,000
2.0	62	10.0	5,500
2.3	111	15.0	12,000
2.6	200	19.0	18,500

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	32	35	228	272	2,030	1,130	1,650	7,030	280	480	264	40
2	28	36	190	540	1,580	1,410	2,100	3,670	244	280	412	36
3	28	*39	175	735	1,310	5,790	1,870	2,430	204	280	404	32
4	26	39	168	1,080	1,130	11,700	1,600	1,780	172	288	312	30
5	23	40	*364	*1,050	985	9,360	1,350	1,970	150	248	220	40
6	*25	39	2,160	860	*995	4,670	1,240	6,280	141	332	172	51
7	25	38	1,150	775	2,070	3,170	1,860	7,130	185	284	144	39
8	27	38	665	3,530	3,040	2,380	2,580	4,380	*141	252	125	43
9	36	40	484	9,640	2,290	1,820	2,180	2,900	183	408	118	35
10	70	73	1,540	10,100	1,710	1,470	1,820	2,050	232	408	118	28
11	64	97	7,800	7,130	1,520	1,260	1,570	1,550	252	380	104	26
12	59	93	2,520	3,780	9,940	1,100	1,630	1,240	200	256	91	25
13	48	77	1,320	2,370	10,200	1,110	3,630	1,040	159	*193	*82	23
14	42	77	860	1,710	4,970	1,130	3,100	890	332	156	77	22
15	44	71	615	1,330	3,590	1,160	2,350	960	380	130	70	21
16	45	65	488	1,060	3,880	*1,730	1,900	1,020	636	116	82	19
17	43	59	412	950	3,400	1,580	1,800	985	1,450	153	59	19
18	40	55	368	3,260	2,840	2,080	1,350	1,350	730	178	68	*19
19	38	70	328	4,210	2,320	3,300	1,700	5,410	468	392	93	20
20	35	98	300	2,890	2,840	2,700	*1,630	9,970	340	710	83	30
21	32	107	284	10,100	18,000	2,110	1,460	4,950	280	452	68	36
22	32	280	268	8,550	13,400	1,710	1,280	2,940	472	412	64	34
23	31	312	268	4,650	5,200	1,680	1,130	1,900	528	1,040	61	32
24	31	388	252	5,370	3,430	3,470	995	1,370	400	1,180	58	28
25	31	320	232	5,020	2,680	3,340	890	1,040	284	645	62	25
26	32	368	220	3,660	2,160	2,550	805	810	216	440	58	25
27	34	957	200	2,880	1,730	1,970	735	630	176	332	56	27
28	32	660	190	3,500	1,420	1,810	660	516	204	272	54	27
29	34	408	172	5,680	-	1,360	592	436	256	200	48	28
30	34	300	165	3,750	-	1,150	2,500	372	256	172	48	28
31	34	-	212	2,740	-	1,090	-	324	-	159	44	-
Total	1,135	5,279	24,398	113,172	110,620	82,070	49,757	79,323	9,911	11,166	3,899	888
Mean	36.6	176	787	3,651	3,951	2,647	1,659	2,559	330	380	119	29.6
Cfsm	0.039	0.187	0.835	3.88	4.19	2.81	1.76	2.72	0.350	0.382	0.126	0.031
In.	0.04	0.21	0.96	4.47	4.37	3.24	1.96	3.13	0.39	0.44	0.15	0.04

Calendar year 1952: Max 22,500 Min 23 Mean 1,240 Cfsm 1.32 In. 17.92
Water year 1952-53: Max 18,000 Min 19 Mean 1,348 Cfsm 1.43 In. 19.40

Peak discharge (base, 29,000 cfs).--Feb. 21 (9 p.m.) 29,200 cfs (24.31 ft).
* Discharge measurement made on this day.

Pitman Creek near Somerset, Ky.

Location.--Lat 37°08'05", long. 84°35'15", on downstream side of bridge near center of span on State Highway 39, 300 ft upstream from Bradleys Branch and 2.5 miles north of Somerset, Pulaski County.

Drainage area.--26.3 sq mi.

Records available.--October 1950 to September 1953 (discontinued).

Gage.--Wire-weight gage and crest-stage indicator. Gage read twice daily. Altitude of gage is 900 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,190 cfs Feb. 21 (gage height, 7.88 ft); no flow for many days.
1950-53: Maximum discharge, 3,560 cfs Mar. 22, 1952 (gage height, 10.82 ft); no flow at times each year.

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

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 24 to Dec. 3)

Oct. 1 to Jan. 10				Jan. 11 to May 19				May 20 to Sept. 30			
3.15	0	3.6	8.5	3.54	3.9	4.5	102	3.2	0	4.0	40
3.2	.1	3.7	14	3.6	6.0	5.0	175	3.3	.4	4.5	102
3.25	.2	3.8	21	3.7	10	5.5	270	3.4	1.6	5.0	175
3.3	.4	4.0	42	3.8	19	6.2	480	3.5	5.0	6.0	420
3.4	1.1	4.5	102	4.0	40			3.7	15		
3.5	4.2	5.1	190								

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	0.8	5.4	33	23	47	27	5.0	*12	1.9	0
2		0	1.3	6.2	26	152	23	19	3.4	9.0	.9	0
3		0	*1.8	b11	23	353	17	11	3.1	5.5	.8	0
4		*0	2.4	b9.0	19	338	13	9.2	2.5	18	.5	0
5		0	38	b8.0	16	140	10	38	2.2	9.0	3.1	.2
6		0	14	*b8.0	19	88	17	13	21	7.0	.9	0
7		0	10	33	20	63	31	10	29	212	.7	0
8	(*)	0	5.4	185	10	50	20	10	11	30	.6	0
9		0	4.6	132	10	37	17	8.4	5.0	16	3.4	*0
10		.6	22	187	9.2	*31	25	6.8	69	12	.7	0
11		.4	15	99	*10	27	17	4.8	20	8.5	.5	0
12		.3	10	59	120	24	52	3.9	9.5	6.0	.4	0
13		.3	7.0	45	80	32	40	3.9	37	4.6	.3	0
14		.3	b4.5	32	60	47	*28	3.9	14	3.4	.2	0
15		.3	b3.5	26	63	110	25	37	9.0	2.8	.2	0
16		.3	b3.0	22	41	51	26	25	50	2.2	.1	0
17		.3	b2.5	30	32	36	17	76	12	2.2	*1.6	0
18		.3	b2.5	127	24	134	38	241	7.5	3.4	.8	0
19		.6	3.0	87	23	71	37	*306	5.0	15	.2	0
20		.6	3.0	70	160	50	24	151	3.4	6.5	.2	0
21		.6	3.8	126	472	39	19	81	2.8	3.1	.1	0
22		9.6	3.8	75	133	37	13	52	2.8	38	.1	0
23		7.5	3.4	75	84	78	13	36	1.9	14	0	0
24		1.0	3.4	214	68	86	10	27	1.2	6.0	0	0
25		.7	3.0	134	53	58	15	18	1.0	3.4	0	0
26		1.1	3.0	91	44	44	15	15	.9	2.2	0	0
27		2.4	2.4	70	32	34	10	12	.8	1.4	0	0
28		1.3	2.4	91	24	29	8.8	10	11	1.2	0	0
29		1.0	2.1	59	-	23	7.6	8.0	70	.9	0	0
30		.9	2.1	48	-	19	59	7.0	25	1.0	0	0
31		-	3.8	39	-	21	-	5.5	-	2.8	0	-
Total	0	30.4	187.5	2,203.6	1,708.2	2,325	694.4	1,276.4	436.0	459.1	18.2	0.2
Mean	0	1.01	6.05	71.1	61.0	75.0	23.1	41.2	14.5	14.8	0.59	0.01
Cfsm	0	0.038	0.230	2.70	2.32	2.85	0.878	1.57	0.551	0.563	0.022	0.00038
In.	0	0.04	0.27	3.12	2.42	3.29	0.98	1.80	0.62	0.65	0.03	0.0003

Calendar year 1952: Max 2,250 Min 0 Mean 36.3 Cfsm 1.38 In. 18.80
Water year 1952-53: Max 472 Min 0 Mean 25.6 Cfsm 0.973 In. 13.22

Peak discharge (base, 850 cfs).--Feb. 21 (1:30 a.m.) 1,190 cfs (7.88 ft); Mar. 3 (4:30 a.m.) 1,080 cfs (7.66 ft); July 7 (9 a.m.) 935 cfs (7.37 ft).
* Discharge measurement or observation of no flow made on this day.
b Stage-discharge relation affected by ice.

Cumberland River near Rowena, Ky.

Location.--Lat 36°53', long. 85°08', on right bank 1.5 miles downstream from Wolf Creek Dam, 2.1 miles upstream from Black Fish 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 1953.

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.--13 years (1940-53), 8,854 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 22,300 cfs Apr. 13 (gage height, 19.04 ft); minimum, 50 cfs Sept. 28 (gage height, 1.20 ft).
1939-53: 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.

Remarks.--Records good except those below 300 cfs, which are fair. Flow regulated since July 1950 by Wolf Creek Reservoir (see p. 62).

Revisions.--WSP 953: Drainage area.

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	2,100	2,000	6,640	582	5,080	5,380	9,300	2,700	16,500	*4,730	1,870	8,580
2	2,170	155	*6,800	11,000	9,530	6,470	14,500	2,460	14,800	6,660	1,450	4,470
3	2,100	2,020	7,400	6,170	13,900	8,380	14,900	200	16,600	4,780	8,400	4,130
4	1,890	*1,980	6,750	2,080	12,300	12,100	15,800	130	16,800	212	9,200	4,840
5	127	1,930	5,320	*14,400	16,200	6,100	16,600	140	17,600	102	9,400	1,220
6	2,180	2,050	3,500	13,800	12,600	6,580	14,900	2,030	14,200	6,280	10,600	136
7	2,160	2,030	706	10,400	9,760	5,600	13,400	2,180	5,990	3,780	*9,400	1,440
8	2,090	1,950	5,910	7,870	5,020	5,580	15,200	370	15,200	5,140	742	*4,860
9	2,060	151	5,700	12,400	9,820	*6,320	16,300	140	18,100	2,850	1,380	1,520
10	2,010	1,930	8,150	11,000	*8,640	7,970	9,340	130	18,800	1,700	7,960	2,740
11	2,190	1,950	8,990	7,930	9,940	5,500	12,800	1,040	18,800	330	4,320	2,880
12	*160	1,970	8,170	11,400	14,100	7,350	13,600	340	15,700	102	5,970	3,010
13	1,920	1,930	9,640	13,300	14,800	6,760	18,300	145	14,300	2,550	5,560	148
14	2,020	1,920	7,250	10,200	10,700	9,650	*10,100	7,690	8,280	4,040	7,180	3,200
15	2,080	1,940	16,600	9,060	2,990	3,700	13,700	4,120	17,400	6,650	9,150	2,750
16	1,940	134	13,200	9,750	15,500	8,400	19,000	210	16,900	3,150	1,150	2,670
17	1,780	1,790	14,400	8,510	15,300	11,100	11,500	180	17,200	4,340	6,780	2,200
18	2,110	1,920	11,100	1,080	13,800	8,020	13,200	3,520	11,700	2,920	3,140	1,860
19	291	1,930	10,300	9,240	11,200	7,260	8,200	4,120	13,000	126	3,080	1,020
20	2,400	2,310	7,200	5,050	13,300	6,460	15,000	9,930	16,700	6,490	6,260	153
21	2,090	2,040	2,280	11,700	10,400	10,500	15,800	11,900	8,000	4,580	2,080	1,660
22	2,190	1,910	13,600	14,200	6,790	4,800	8,680	18,900	10,800	4,410	4,500	2,100
23	2,100	147	11,900	6,090	11,900	11,800	3,420	22,100	14,000	5,850	5,840	2,960
24	2,010	1,870	13,400	12,300	10,400	16,600	5,620	20,200	14,100	9,120	5,090	2,580
25	2,080	1,900	2,520	8,610	9,980	15,500	7,550	13,900	15,100	950	4,110	1,350
26	164	1,910	9,640	9,750	8,380	20,000	1,960	*15,000	12,800	116	2,120	1,980
27	1,950	146	5,950	11,000	6,120	16,500	13,200	16,800	660	5,450	149	110
28	2,100	1,890	816	9,340	7,500	16,900	11,300	14,400	111	6,440	1,800	2,150
29	2,100	1,990	15,700	11,800	-	12,700	8,490	12,200	4,510	6,380	4,380	1,100
30	2,460	142	16,700	10,600	-	11,300	3,430	8,970	5,560	9,300	1,940	1,310
31	2,090	-	14,100	12,900	-	6,280	-	9,460	-	8,600	2,180	-
Total	57,112	47,935	270,332	293,512	295,950	287,540	354,890	205,605	390,211	128,128	147,172	71,087
Mean	1,842	1,598	8,720	9,468	10,570	9,275	11,830	6,632	13,010	4,133	4,747	2,370

	Observed			Adjusted†			
Calendar year 1952:	Max 39,100	Min 82	Mean 11,440	Mean 8,055	Cfsm 1.39	In. 18.94	
Water year 1952-53:	Max 22,100	Min 102	Mean 6,985	Mean 7,276	Cfsm 1.26	In. 17.06	

* Discharge measurement made on this day.
† Adjusted for change in contents in Wolf Creek Reservoir. Records for Wolf Creek Reservoir furnished by Corps of Engineers.

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 12⅘ miles upstream from confluence with West Fork.
Drainage area.--204 sq mi.
Records available.--February 1943 to September 1953.
Gage.--Water-stage recorder. Datum of gage is 680.30 ft above mean sea level, Sandy Hook datum.
Average discharge.--10 years, 390 cfs.
Extremes.--Maximum discharge during year, 10,200 cfs Feb. 21 (gage height, 14.26 ft); minimum, 5.0 cfs Sept. 18, 19; minimum gage height, 0.57 ft Oct. 4-8.
1943-53: Maximum discharge, 28,300 cfs Feb. 13, 1948 (gage height, 27.20 ft); minimum, 3.6 cfs Sept. 26-28, 1948; minimum gage height, 0.56 ft Aug. 27, 1951.
Revisions.--The figures of maximum discharge for water years 1944 and 1946 have been revised to 20,800 cfs Feb. 17 1944 (gage height, 22.00 ft), and 21,000 cfs Jan. 7, 1946 (gage height, 22.60 ft), superseding those published in WSP 1003 and 1033, and 1053, respectively.
Remarks.--Records good.
Cooperation.--Five discharge measurements furnished by Corps of Engineers.
Revisions (water years).--WSP 1003: 1943. Revised figures of discharge, in cubic feet per second, for high-water periods in water year 1944, superseding those published in WSP 1003 and 1033, are given herewith:

Feb. 17, 1944..... 9,070
Sept.29, 1944..... 8,700

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
February 1944	46,420	9,070	87	1,601	7.85	8.46
September	14,825	8,700	27	494	2.42	2.70
Water year 1943-44	137,836.3	9,070	6.2	377	1.85	25.05
Calendar year 1944	160,939.3	9,070	6.2	440	2.16	29.33

Revised peak discharge. -- 1943-44: Feb. 17 (8:30 p.m.) 20,800 cfs; Sept. 29 (5 p.m.) 16,600 cfs.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 9				Jan. 10 to Sept. 30			
0.5	3.5	1.4	80	0.5	2.5	2.5	300
.7	10	2.0	200	.6	5.3	3.0	470
.8	14	2.5	320	.7	9.0	4.0	1,000
1.0	27	3.0	500	1.0	27	6.0	2,500
1.1	36	4.0	960	1.2	50	10.0	5,800
1.2	47	5.0	1,480	2.0	188	11.0	6,700

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	6.2	5.3	16	38	412	298	458	1,540	74	24	67	6.2
2	5.9	5.3	16	50	336	367	438	796	61	23	189	5.9
3	5.6	5.3	17	120	292	3,410	388	530	53	26	96	5.9
4	5.3	5.3	16	161	258	4,110	342	420	46	35	52	7.4
5	5.3	*5.3	40	141	226	1,790	298	526	41	28	36	15
6	5.3	5.3	60	*113	249	940	295	685	36	25	28	12
7	5.3	5.3	52	109	438	655	526	615	36	23	24	9.0
8	5.3	5.3	37	*1,250	442	514	506	486	52	25	22	7.8
9	5.3	6.2	32	1,040	370	412	442	392	*56	34	24	7.4
10	7.1	9.2	188	2,280	318	351	416	327	44	32	*20	7.4
11	8.0	12	187	976	372	306	434	278	82	24	19	7.0
12	7.1	12	137	542	*3,680	275	839	*246	56	21	18	6.6
13	6.8	11	87	395	1,680	292	1,070	196	74	18	17	6.2
14	7.1	10	59	306	868	292	*690	174	123	17	16	*5.9
15	*6.8	9.6	*46	241	748	490	538	200	82	16	15	5.6
16	6.5	8.4	37	198	690	518	446	252	450	16	14	5.3
17	6.2	7.7	32	181	605	*438	381	288	290	20	12	5.3
18	5.6	7.4	30	458	*502	868	364	406	161	60	12	5.0
19	5.6	9.2	27	526	430	928	518	2,520	108	92	10	5.6
20	5.3	12	26	489	1,450	650	434	2,360	77	71	10	5.9
21	5.3	12	26	2,660	6,460	518	381	994	60	47	9.0	6.6
22	5.3	15	27	*1,170	1,960	423	336	585	55	*38	8.6	6.2
23	5.3	18	26	760	958	466	298	412	56	61	8.2	5.6
24	5.3	16	26	1,260	670	1,010	270	409	44	69	9.0	5.3
25	5.3	14	25	1,100	542	784	243	309	38	50	9.0	8.2
26	5.6	21	24	724	470	585	228	237	33	36	8.6	8.2
27	5.3	26	23	565	406	478	208	184	31	28	7.8	11
28	5.3	21	21	1,170	336	398	183	147	29	24	7.4	8.2
29	5.3	19	20	1,100	-	339	168	121	29	20	7.0	7.0
30	5.3	17	19	685	-	290	2,060	102	27	21	6.6	6.6
31	5.3	-	24	510	-	327	-	87	-	22	6.2	-
Total	180.2	336.1	1,403	21,318	26,168	23,522	14,198	16,824	2,404	1,046	788.4	215.3
Mean	5.81	11.2	45.3	688	935	759	473	543	80.1	33.7	25.4	7.18
Cfsm	0.028	0.055	0.222	3.37	4.58	3.72	2.32	2.66	0.393	0.165	0.125	0.035
In.	0.03	0.06	0.26	3.89	4.77	4.29	2.59	3.07	0.44	0.19	0.14	0.04

Calendar year 1952: Max 5,670 Min 5.3 Mean 271 Cfsm 1.33 In. 18.08
Water year 1952-53: Max 6,460 Min 5.0 Mean 297 Cfsm 1.46 In. 19.77

Peak discharge (base, 8,000 cfs).--Feb. 21 (6 a.m.) 10,200 cfs (14.26 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 1953.

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

Average discharge.--10 years (1943-53), 170 cfs.

Extremes.--Maximum discharge during year, 4,950 cfs Feb. 21 (gage height, 9.09 ft); minimum, 2.9 cfs Oct. 2-6, Aug. 30; minimum gage height, 0.45 ft Aug. 30.
1942-53: Maximum discharge, 10,400 cfs Jan. 7, 1946 (gage height, 15.56 ft); minimum, 2.8 cfs Oct. 15, 16, 1948; minimum gage height, 0.41 ft Sept. 9, 10, 19-22, 1951.

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

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

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Dec. 4)

Oct. 1 to Jan. 3				Jan. 4 to Sept. 30			
0.6	7.7	1.8	118	0.45	2.9	1.8	120
.7	11	2.0	165	.5	3.7	2.2	220
1.0	22	2.4	290	.6	6.9	3.0	550
1.3	43	3.0	550	.8	15	4.0	1,060
1.5	66			1.0	26	6.0	2,350
				1.4	64	7.0	3,170

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	3.1	3.8	6.2	20	148	117	248	532	40	15	10	3.3
2	2.9	3.8	6.7	22	120	128	208	290	35	14	11	3.3
3	2.9	3.8	6.5	64	106	1,600	175	190	31	15	12	3.3
4	2.9	3.8	6.7	68	93	1,910	152	254	28	24	9.3	15
5	2.9	*3.8	a28	47	79	745	134	770	26	19	8.5	50
6	2.9	3.8	a30	*37	92	410	140	354	25	15	8.1	18
7	3.1	3.8	a25	38	220	280	272	252	45	17	7.3	10
8	3.3	3.8	a20	930	182	211	214	190	38	22	8.1	7.3
9	3.8	4.7	a15	415	145	165	190	152	*27	20	8.1	5.4
10	6.2	11	a270	928	124	142	175	128	39	15	*7.7	4.7
11	5.9	9.8	100	302	212	128	160	110	58	12	7.3	4.4
12	5.3	8.7	40	168	1,640	114	424	*94	32	12	6.5	4.1
13	5.0	7.0	24	117	*655	110	428	82	37	11	5.7	3.9
14	4.4	6.2	20	89	362	108	*280	74	69	10	5.4	*3.7
15	*3.8	5.3	*16	70	334	255	220	76	44	10	5.0	3.7
16	3.6	5.0	15	60	334	227	180	75	90	10	4.7	3.7
17	3.6	4.7	13	56	252	*190	145	76	87	24	4.4	3.7
18	3.6	3.8	13	309	*199	542	160	278	51	55	4.7	3.5
19	3.6	7.3	12	199	172	456	241	1,750	38	73	4.7	4.7
20	3.6	9.1	12	275	873	298	178	1,090	30	30	4.4	6.1
21	3.3	11	12	1,690	2,950	224	152	433	27	21	4.1	6.1
22	3.6	9.1	12	541	825	180	136	252	27	35	5.4	5.0
23	3.8	8.4	11	354	420	285	122	175	24	*72	6.9	4.4
24	4.1	6.7	11	885	294	645	111	227	21	43	8.9	4.1
25	4.1	6.2	11	546	230	397	102	142	18	25	6.1	7.3
26	4.1	11	10	322	188	272	93	110	17	20	4.7	9.7
27	4.1	22	10	224	158	211	83	87	18	17	4.1	7.7
28	4.1	14	10	478	132	175	74	70	20	14	3.9	6.1
29	3.8	9.8	9.4	410	-	145	69	60	20	14	3.7	5.0
30	3.8	7.3	9.4	252	-	126	940	53	17	12	3.5	4.4
31	3.8	-	11	185	-	140	-	47	-	11	3.1	-
Total	119.0	218.5	795.9	10,101	11,539	10,936	6,206	8,473	1,079	707	197.3	221.6
Mean	3.84	7.28	25.7	326	412	353	207	273	36.0	22.8	6.36	7.39
Cfsm	0.036	0.067	0.238	3.02	3.81	3.27	1.92	2.53	0.333	0.211	0.059	0.068
In.	0.04	0.08	0.27	3.48	3.97	3.77	2.14	2.92	0.37	0.24	0.07	0.08

Calendar year 1952: Max 2,480 Min 2.9 Mean 127 Cfsm 1.18 In. 15.99
Water year 1952-53: Max 2,860 Min 2.9 Mean 139 Cfsm 1.29 In. 17.43

Peak discharge (base, 3,400 cfs).--Feb. 21 (4 a.m.) 4,950 cfs (9.09 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for East Fork near Jamestown.

Obey River near Byrdstown, Tenn.

Location.--Lat 36°32'12", long. 85°10'25", at bridge on State Highway 42, 1.8 miles upstream from Eagle Creek and 3.4 miles southwest of Byrdstown, Pickett County.
Drainage area.--452 sq mi.
Records available.--October 1918 to September 1943 (discontinued).
Gage.--Water-stage recorder. Datum of gage is 577.08 ft above mean sea level, Sandy Hook datum. Prior to Nov. 16, 1933, chain gage and Nov. 16, 1933, to May 9, 1938, water-stage recorder, at site a quarter of a mile downstream at same datum.
Average discharge.--25 years, 748 cfs.
Extremes.--1918-43: Maximum discharge, 35,000 cfs June 29, 1928, and Mar. 23, 1929 (gage height, 36.7 ft at present site, from gage-relation curve), from rating curve extended above 14,000 cfs on basis of slope-area computations from cross-sections and profiles furnished by Corps of Engineers; minimum observed, 7 cfs Nov. 3, 1920 (gage height, 0.90 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)
523	1920	Feb. 22, 1920	22,600	28.5
543	1922	Mar. 2, 1922	34,500	35.65
563	1923	Jan. 28, 1923	15,200	21.6
583	1924	Jan. 3, 1924	18,400	24.94
603	1925	Feb. 16, 1925	†9,280	16.4
623	1926	Jan. 22, 1926	†9,630	16.92
643	1927	Dec. 22, 1926	22,100	30.0
698	1930	Mar. 19, 1930	11,000	18.8
713	1931	Mar. 28, 1931	10,100	17.6
728	1932	Jan. 30, 1932	22,900	30.4
743	1933	Sept. 4, 1933	15,600	25.0
758	1934	Mar. 3, 1934	19,000	28.1
783	1935	Mar. 12, 1935	17,200	26.66
823	1937	Jan. 2, 1937	28,800	33.68

† Maximum observed.

Revisions.--Revised figures of discharge, in cubic feet per second, for high-water periods in the water years 1920, 1922-37, superseding those published in previous water-supply papers, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1920		1923-Con.		1928-Con.		1932-Con.		1935-Con.	
Jan. 22	8,580	Feb. 4	6,710	June 30	18,200	Feb. 5	6,460	Apr. 7	5,480
23	12,500	Mar. 7	9,910	Nov. 19	6,620	6	3,010	8	7,220
24	9,010	12	10,900	20	6,060			9	3,450
25	5,310	13	5,310			1933			
Feb. 22	15,400			1929		Feb. 15	8,860	1936	
23	6,980	1924		Jan. 19	6,760	16	5,150	Mar. 24	3,240
24	3,810	Jan. 3	15,900	25	9,830	20	8,860	25	7,450
25	2,370	4	7,600	26	6,340	21	5,850	26	9,660
Apr. 1	9,310	May 29	10,700	Feb. 26	10,600	Mar. 19	10,900	27	11,400
2	15,800	30	8,320	27	5,220	20	8,650	28	5,380
3	5,950			Mar. 23	25,100	Sept. 4	13,100	Apr. 6	12,400
4	4,000	1925		24	11,400	5	10,700	7	7,170
		Feb. 16	8,090	Apr. 28	6,200				
1921				29	5,640	1934		1937	
Dec. 16	212	1926		May 7	7,110	Jan. 7	6,500	Jan. 2	17,600
17	264	Jan. 22	8,580	16	5,220	8	4,510	3	11,100
		Dec. 9	4,140			Feb. 26	9,660	15	10,100
1922		10	8,720	1930		27	3,580	16	6,100
Mar. 1	6,440	21	13,200	Feb. 13	5,080	Mar. 3	15,800	17	6,030
2	25,900	22	15,500	14	7,670	4	6,660	18	10,000
3	5,110	23	4,990	Mar. 19	8,300	19	4,100	19	6,090
10	23,800	24	6,750			20	11,400	20	6,450
11	7,400	25	15,200	1931		21	4,300	21	6,160
Apr. 28	12,000	26	12,800	Mar. 28	7,530			22	5,060
29	4,840	27	4,840	29	4,470	1935		23	7,950
		28	6,930			Mar. 12	14,200	24	6,290
1923		29	10,700	1932		13	7,980	25	8,570
Jan. 28	12,900	30	3,960	Jan. 29	7,460	14	3,620	26	4,780
29	4,540	31	2,320	30	15,500	26	9,110	Feb. 9	11,600
31	8,160			31	5,110	27	3,560	10	5,180
Feb. 1	4,050	1928		Feb. 3	10,300	Apr. 5	3,280	May 14	7,120
3	10,500	June 29	20,800	4	14,600	6	10,500	June 10	5,810

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October 1918	-	-	-	410	0.907	1.05
November	-	-	-	540	1.19	1.33
December	-	-	-	630	1.39	1.60
January 1919	-	-	-	2,350	5.20	6.00
February	-	-	-	740	1.64	1.71
March	-	-	-	1,750	3.87	4.46
Water year 1918-19	-	-	-	643	1.42	19.30
Calendar year 1919	-	-	-	876	1.94	26.32
January 1920	-	13,900	175	1,970	4.36	5.02
February	-	15,400	480	1,890	4.18	4.51
April	-	15,800	480	2,260	5.00	5.58
Water year 1919-20	-	15,800	18	1,250	2.77	37.58
Calendar year 1920	-	15,800	18	961	2.13	28.93

Note.--Monthly discharge for period October 1918 to March 1919 not previously published.

Obey River near Byrdstown, Tenn.--Continued

Revised figures of monthly discharge, in cubic feet per second, water years 1919-20, 1922-37--Continued

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
December 1921	-	5,220	202	1,120	2.48	2.86
Calendar year 1921	-	5,660	150	660	1.46	19.82
March 1922	-	25,900	885	4,090	9.05	10.43
April	-	12,000	535	1,950	4.31	4.81
Water year 1921-22	-	25,900	12	1,130	2.50	34.02
Calendar year 1922	-	25,900	17	1,090	2.41	32.65
January 1923	-	12,900	240	2,160	4.78	5.51
February	-	10,500	418	2,180	4.82	5.03
March	-	10,900	755	2,840	6.28	7.25
Water year 1922-23	-	12,900	21	978	2.16	29.36
Calendar year 1923	-	12,900	10	929	2.06	27.88
January 1924	-	15,900	530	2,140	4.73	5.46
May	-	10,700	280	1,540	3.41	3.92
Water year 1923-24	-	15,900	10	727	1.61	21.89
Calendar year 1924	-	15,900	15	695	1.54	20.93
February 1925	-	8,090	470	1,420	3.14	3.28
Water year 1924-25	-	8,090	13	431	.954	12.96
Calendar year 1925	-	8,800	13	599	1.33	17.99
January 1926	-	8,580	182	1,050	2.32	2.68
Water year 1925-26	-	8,580	40	716	1.58	21.51
December 1926	-	15,500	435	4,350	9.62	11.09
Calendar year 1926	-	15,500	40	976	2.16	29.29
Water year 1926-27	-	15,500	31	1,130	2.50	33.79
June 1928	-	20,800	570	2,950	6.53	7.29
Water year 1927-28	-	20,800	26	975	2.16	29.36
November 1928	-	6,620	80	718	1.59	1.77
Calendar year 1928	-	20,800	28	1,000	2.21	30.17
January 1929	-	9,830	260	1,810	4.00	4.61
February	-	10,600	420	1,430	3.16	3.29
March	-	25,100	650	3,300	7.30	8.42
April	-	5,640	340	1,170	2.59	2.89
May	-	7,110	340	1,660	3.67	4.23
Water year 1928-29	-	25,100	19	969	2.14	29.08
Calendar year 1929	-	25,100	19	1,040	2.30	31.10
February 1930	-	7,670	625	1,630	3.61	3.76
March	-	8,300	555	1,650	3.65	4.21
Water year 1929-30	-	8,300	12	611	1.35	18.39
Calendar year 1930	-	8,300	12	438	.969	13.18
March 1931	-	7,530	340	940	2.08	2.40
Water year 1930-31	-	7,530	13	306	.677	9.20
Calendar year 1931	-	8,800	12	418	.925	12.56
January 1932	-	15,500	360	1,840	4.07	4.69
February	-	14,600	630	3,180	7.04	7.59
Water year 1931-32	-	15,500	12	825	1.83	24.86
Calendar year 1932	-	15,500	20	872	1.93	26.28
February 1933	-	8,860	422	2,130	4.71	4.90
March	-	10,900	333	1,320	2.92	3.37
September	-	13,100	61	1,110	2.46	2.74
Water year 1932-33	-	13,100	26	954	2.11	28.62
Calendar year 1933	-	13,100	26	816	1.81	24.47
January 1934	-	6,410	186	778	1.72	1.98
February	-	9,660	112	733	1.62	1.69
March	-	15,600	462	3,280	7.26	8.37
Water year 1933-34	-	15,600	33	643	1.42	19.33
Calendar year 1934	-	15,600	50	657	1.45	19.74
March 1935	92,046	14,200	780	2,970	6.57	7.57
April	61,356	10,500	369	2,050	4.54	5.06
Water year 1934-35	299,255	14,200	22	820	1.81	24.61
Calendar year 1935	294,548	14,200	18	807	1.79	24.23
March 1936	75,740	11,400	323	2,380	5.27	6.08
April	47,851	12,400	228	1,600	3.54	3.95
Water year 1935-36	198,829	12,400	10	543	1.20	16.38
Calendar year 1936	217,501	12,400	10	594	1.31	17.92
January 1937	143,470	17,600	632	4,630	10.24	11.80
February	48,449	11,600	655	1,730	3.83	3.99
May	40,117	7,120	224	1,290	2.85	3.29
June	15,634	5,810	69	521	1.15	1.28
Water year 1936-37	327,311	17,600	14	897	1.98	26.92
Calendar year 1937	320,958	17,600	30	879	1.94	26.39

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 1953.
Gage.--Water-stage recorder. Datum of gage is 707.54 ft above mean sea level, Sandy Hook datum.
Average discharge.--10 years, 178 cfs.
Extremes.--Maximum discharge during year, 4,200 cfs Feb. 21 (gage height, 6.29 ft); minimum, 3.9 cfs Sept. 1, 2 (gage height, 0.69 ft).
1943-53: Maximum discharge, 13,300 cfs Jan. 7, 1946 (gage height, 8.94 ft); minimum, that of Sept. 1, 2, 1953.
Remarks.--Records good. Some diurnal fluctuation at low flow caused by small mills above station.
Cooperation.--Four discharge measurements furnished by Corps of Engineers.
Revisions.--Revised figures of discharge, in cubic feet per second, for period June to September 1943, superseding those published in WSP 1003, are given herewith:

Sept. 6, 1943..... 13

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
September 1943.....	270.9	18	7.2	9.03	0.086	0.10

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 3-5)

Oct. 1 to Nov. 5		Nov. 6 to May 19				May 20 to Sept. 30			
0.9	6.5	1.0	6.2	2.5	216	0.6	3.0	1.4	32
1.0	9.5	1.2	14	3.0	400	.7	4.0	1.7	65
1.2	18	1.4	26	3.5	690	.8	5.5	2.0	112
		1.6	45	4.0	1,080	1.0	11	2.5	216
		1.8	73	5.0	2,080	1.2	19		
		2.0	109	6.0	3,600	Note.--Same as preceding table above 2.5 ft.			

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	7.7	8.0	16	22	175	132	306	269	48	39	27	3.9
2	7.1	8.0	16	27	149	160	269	202	43	32	23	4.2
3	6.5	8.0	16	38	132	808	221	160	39	30	27	4.4
4	6.5	8.3	17	57	118	1,170	193	212	36	30	21	20
5	7.4	7.7	69	52	101	619	166	767	35	32	16	42
6	6.8	*7.7	78	46	118	382	175	482	43	28	15	17
7	7.1	8.4	42	*83	193	278	314	332	72	29	14	12
8	7.4	7.7	29	*1,050	179	224	259	243	42	30	17	9.4
9	10	9.5	*27	540	151	186	224	195	35	37	16	8.3
10	16	16	316	913	132	164	204	162	*144	30	14	7.7
11	13	17	175	400	211	145	177	134	138	24	14	7.3
12	12	16	98	235	1,390	130	274	*113	71	22	*12	7.0
13	10	12	64	172	589	126	296	98	65	21	12	7.5
14	*8.9	11	48	138	354	118	232	96	87	19	11	6.2
15	8.6	9.9	35	115	332	260	*211	132	66	19	11	*6.6
16	8.3	9.2	29	98	*310	269	209	122	936	19	11	6.4
17	8.0	8.4	25	88	243	*219	177	126	365	24	6.8	5.9
18	7.7	8.0	23	279	200	569	170	198	184	41	7.5	5.7
19	8.0	14	22	219	177	494	175	1,470	126	36	8.6	6.4
20	7.7	16	22	192	490	323	157	894	95	28	8.3	10
21	7.7	16	22	1,150	2,460	246	141	433	76	*23	7.7	5.5
22	7.7	22	22	538	746	204	128	269	64	25	8.3	6.4
23	8.0	29	21	323	428	225	118	200	53	29	10	6.4
24	8.6	22	19	504	300	444	105	158	45	27	8.0	6.4
25	8.6	17	18	460	240	332	98	128	39	21	7.5	16
26	8.6	24	17	300	207	253	90	109	36	19	7.0	14
27	8.3	33	16	235	177	214	83	92	36	18	6.8	13
28	8.0	24	16	431	149	186	76	78	44	17	6.6	5.9
29	7.7	19	16	386	-	160	70	68	42	16	6.4	7.5
30	8.0	16	15	262	-	138	289	61	53	15	8.7	7.0
31	8.0	-	18	204	-	155	-	53	-	16	4.9	-
Total	263.9	432.8	1,367	9,557	10,451	9,333	5,607	8,056	3,158	796	374.1	286.0
Mean	8.51	14.4	44.1	308	373	301	187	260	105	25.7	12.1	9.53
Cfsm	0.081	0.137	0.420	2.93	3.55	2.87	1.78	2.48	1.00	0.245	0.115	0.091
In.	0.09	0.15	0.48	3.38	3.70	3.31	1.99	2.85	1.12	0.28	0.13	0.10

Calendar year 1952: Max 3,130 Min 5.5 Mean 147 Cfsm 1.40 In. 19.06
Water year 1952-53: Max 2,460 Min 3.9 Mean 136 Cfsm 1.30 In. 17.58

Peak discharge (base, 3,600 cfs).--Feb. 21 (7 a.m.) 4,200 cfs (6.29 ft).
* Discharge measurement made on this day.

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 1953.

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.--13 years (1939-42, 1943-53), 1,293 cfs (unadjusted).

Extremes.--Maximum discharge during year, 4,010 cfs July 3 (gage height, 13.32 ft); minimum not determined; minimum gage height, 4.11 ft Nov. 30, Dec. 27, 28.

1939-42, 1943-53: 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 pp. 62,63). 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, level notes, and three discharge measurements furnished by Corps of Engineers.

Rating tables, water year 1952-53, except periods of backwater from Cumberland River (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 23				Jan. 24 to Sept. 30	
4.9	97	7.0	600	4.9	87
5.3	160	9.0	1,470	5.3	160
5.5	200	12.0	3,090	Note.--Same as preceding table above 5.3 ft.	
6.0	300	13.0	3,770		

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	399	-	1,040	e17	-	-	1,800	896	3,510	2,560	174	616
2	398	e20	434	1,160	e66	-	1,770	188	3,550	2,520	-	1,640
3	424	366	444	-	952	-	1,800	e50	3,540	2,540	2,860	2,150
4	-	414	430	-	e23	c1,580	2,280	-	3,600	-	2,720	2,130
5	-	390	438	e3,280	988	c967	267	-	3,610	-	3,140	-
6	932	398	-	e1,060	1,340	516	2,800	160	e3,570	2,530	2,950	-
7	395	*392	-	e2,660	-	1,170	2,880	-	3,590	2,460	2,640	-
8	400	-	544	e2,560	-	739	2,640	260	3,560	2,530	-	853
9	398	-	*e10	*e1,300	240	1,070	2,210	-	3,610	2,460	-	-
10	396	961	213	855	315	1,320	1,660	-	*e3,620	-	2,320	503
11	-	378	1,080	-	956	472	2,550	*2,360	e3,600	-	*1,320	518
12	-	360	420	e2,480	e2,190	-	1,980	1,100	e3,650	-	358	884
13	994	390	1,700	e930	1,650	-	2,740	664	3,690	e20	1,420	-
14	372	384	-	572	694	-	e2,370	574	2,740	(*)	2,760	-
15	540	e20	1,600	e17	128	e17	*2,380	644	2,590	e20	2,800	-
16	*398	-	1,880	522	1,630	*1,940	2,570	716	e2,300	326	168	-
17	395	1,010	1,740	737	1,360	1,150	2,320	794	e2,190	-	1,180	912
18	-	390	1,860	738	1,230	1,260	2,190	1,600	e3,450	340	2,900	-
19	-	388	385	1,120	881	1,380	2,300	2,190	3,640	-	2,740	-
20	956	407	-	-	248	1,320	1,280	3,510	2,140	2,060	2,870	-
21	452	398	-	1,980	c1,140	1,990	1,300	1,420	172	1,380	1,420	268
22	398	-	1,060	1,860	721	-	1,300	e20	2,660	660	2,620	282
23	389	-	1,100	244	596	2,300	1,300	-	2,820	673	-	-
24	386	947	366	1,030	106	2,240	1,740	-	*2,810	e50	2,240	-
25	-	402	-	-	604	3,420	2,370	c2,730	2,880	-	1,130	-
26	-	398	-	710	188	c3,470	845	3,480	2,920	-	398	-
27	942	-	-	-	327	c3,460	2,500	3,500	2,640	173	-	-
28	452	503	-	-	-	3,550	3,440	3,530	-	834	-	e40
29	416	-	2,240	e50	-	1,320	2,460	3,490	2,480	-	2,270	-
30	419	-	2,140	-	-	1,440	682	3,500	2,660	2,510	324	110
31	408	-	2,210	-	-	1,780	-	3,480	-	2,360	1,570	-
Total	11,659	9,916	23,334	25,682	18,573	39,871	60,724	40,856	87,792	29,006	47,292	10,906
Mean	376	331	753	828	663	1,286	2,024	1,318	2,926	936	1,526	364

	Observed						Adjusted†					
Calendar year 1952:	Max	4,050	Min	-	Mean	1,651	Mean	1,185	Cfsm	1.27	In.	17.26
Water year 1952-53:	Max	3,690	Min	-	Mean	1,111	Mean	1,099	Cfsm	1.18	In.	15.96

* 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 water-stage recorder on Cumberland River at Celina as a factor.

e Discharge is computed release from Dale Hollow Dam.

Note.--Discharge negligible on days where no discharge is shown.

Cumberland River at Celina, Tenn. 35

Location.--Lat 36°33'20", long. 85°30'47", on right pier of bridge on State 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 1953. 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.--31 years, 11,250 cfs (unadjusted).
Extremes.--Maximum discharge during year, 26,200 cfs Feb. 21; maximum gage height, 16.97 ft Feb. 21; minimum discharge observed, 377 cfs July 14 (gage height, 1.77 ft), but may have been less on July 6, 7, or 14, during period of no gage-height record.
1922-53: 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 profile of Cumberland River.
Remarks.--Records good except those for periods of fragmentary gage-height record or record computed from wire-weight-gage readings, which are fair, and those for periods of no gage-height record, which are poor. Flow regulated by Wolf Creek and Dale Hollow Reservoirs (see pp. 62, 63).
Revisions (water years).--WSP 893: 1923-38. Revised figures of discharge, in cubic feet per second, for a day in water year 1924, superseding those published in WSP 583 and 893, are given herewith:

July 9, 1924..... 7,550

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
July 1924.....	160,120	14,100	1,520	5,165	0.706	0.81
Water year 1923-24.....	4,156,504	99,600	215	11,360	1.55	21.12
Calendar year 1924.....	4,374,314	99,600	290	11,940	1.63	22.22

Rating table, water year 1952-53, except periods when rate of change in stage was used as a factor (gage height, in feet, and discharge, in cubic feet per second)

2.1	790	5.0	4,750
2.5	1,310	10.0	11,800
3.0	1,980	17.0	25,500

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	2,260	2,400	2,540	k14,700	13,300	8,010	12,000	k8,570	fk14,500	8,410	k9,410	2,780
2	2,510	2,110	4,540	k5,770	k7,370	7,860	k14,100	5,220	a20,000	a9,000	4,760	k8,670
3	2,570	2,430	7,340	k7,940	k10,800	k13,500	k17,500	3,510	f19,000	a10,000	4,180	k7,960
4	2,130	1,170	7,830	k7,760	13,200	k21,000	18,200	2,470	20,600	a6,000	fk9,390	6,620
5	2,080	2,390	8,130	6,610	k14,300	k17,600	17,800	2,190	20,900	a3,000	a12,000	k5,960
6	2,290	2,410	6,640	k13,400	17,000	k9,680	19,200	2,330	21,500	a3,000	a13,000	3,200
7	1,230	*2,400	5,020	17,700	g13,500	k9,340	19,400	1,990	k17,500	a8,000	f13,500	1,140
8	2,440	2,220	2,540	k14,500	g11,400	k8,090	17,700	3,270	k11,300	a7,000	k10,100	1,240
9	2,600	2,090	4,450	11,600	a6,000	k6,810	18,900	2,250	fk18,800	a7,800	4,090	4,320
10	2,540	2,510	6,340	16,100	a10,000	k9,080	20,100	894	f22,200	a4,000	3,670	3,070
11	2,190	1,280	k9,180	k13,100	a17,000	k9,010	k14,400	*2,880	23,000	a2,800	k6,820	2,320
12	2,150	2,390	9,800	11,800	a20,000	6,750	a17,000	1,560	22,400	a1,500	k6,110	4,010
13	2,480	2,540	10,200	*12,900	a18,000	8,130	a20,000	1,690	k19,900	a900	k7,260	3,940
14	1,180	2,470	9,930	12,400	k17,300	7,970	a22,000	1,440	k16,600	*f1,080	k8,280	1,770
15	2,510	2,090	k10,300	11,000	k13,900	10,200	fk18,700	k6,690	f12,100	3,730	k10,100	1,810
16	2,570	2,060	17.200	k10,400	k7,880	*k7,950	k19,100	k7,060	a19,000	k6,550	k9,760	3,200
17	2,360	2,430	16,300	fk10,700	k15,600	k8,810	k20,800	5,610	a19,000	4,810	f5,750	3,730
18	1,660	1,240	16,600	fk13,300	18,100	k15,200	k14,700	7,180	a20,000	4,630	fk7,360	2,650
19	1,990	2,060	k12,200	k6,740	k15,400	k13,200	k17,300	k12,200	a14,000	4,500	k7,430	2,480
20	2,480	2,670	10,500	k8,230	k12,700	10,400	k11,700	16,500	a15,000	3,630	6,100	1,360
21	1,500	2,620	k8,110	10,600	k22,300	10,100	k17,700	k14,200	fk15,500	5,280	7,330	1,270
22	2,600	2,620	5,340	k15,300	k15,700	11,000	k16,800	k14,700	k11,100	6,620	6,560	803
23	2,480	2,120	k12,500	15,700	k10,300	9,510	k11,300	k21,000	a14,000	6,470	4,720	2,370
24	2,790	2,400	13,300	k18,500	k12,400	k17,300	k6,640	23,100	a16,000	k6,280	k7,790	2,960
25	2,120	1,240	k13,000	k18,400	12,500	20,700	k8,220	22,300	f17,100	8,600	k6,990	3,020
26	2,010	2,390	5,760	k12,200	11,000	k22,200	8,500	k17,600	18,300	3,550	5,440	1,970
27	2,480	2,060	k7,880	10,700	9,600	24,100	k6,740	a19,000	k15,900	1,150	3,000	1,610
28	1,270	1,980	k7,160	k13,900	k7,520	k20,800	k15,000	a21,000	4,570	3,840	1,700	1,450
29	2,430	829	5,210	12,600	-	k18,300	k15,000	a19,000	3,310	6,290	2,340	1,310
30	2,600	2,040	k15,100	13,000	-	15,000	13,100	a17,000	5,520	k9,180	4,040	1,600
31	2,790	-	19,200	fk12,200	-	k13,400	-	14,000	-	a12,000	4,950	-
Total	69,290	63,659	290,140	379,750	374,070	391,000	469,600	298,404	488,600	169,600	213,930	90,593
Mean	2,235	2,122	9,359	12,250	13,360	12,610	15,650	9,626	16,290	5,471	6,901	3,020

	Observed						Adjusted†					
Calendar year 1952:	Max	60,700	Min	829	Mean	14,210	Mean	10,360	Cfsm	1.42	In.	19.27
Water year 1952-53:	Max	24,100	Min	803	Mean	9,037	Mean	9,317	Cfsm	1.27	In.	17.28

* Discharge measurement made on this day.
† Adjusted for change in contents in Wolf Creek and Dale Hollow Reservoirs.
a No gage-height record; discharge estimated on basis of weather records, recorded range in stage, and records for stations near Rowena, Ky., and at Carthage, Obey River below Dale Hollow Dam, and Caney Fork below Center Hill Dam near Lancaster.
f Computed from partly estimated gage-height record.
g Computed on basis of once-daily wire-weight-gage readings and record for Obey River below Dale Hollow Dam.
k Computed by using rate of change in stage as a factor.

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, 1½ miles upstream from Flat Creek, 4 miles south of Hilham, Overton County, and 15 miles north of Cookeville.

Drainage area.--70.8 sq mi.

Records available.--June 1932 to September 1953.

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 same site and datum.

Average discharge.--21 years, 107 cfs.

Extremes.--Maximum discharge during year, 1,700 cfs Feb. 21 (gage height, 5.28 ft); minimum, 3.6 cfs Aug. 30, 31, Sept. 2-4; minimum gage height, 0.69 ft Oct. 3, 4.

1932-53: Maximum discharge, 5,460 cfs Jan. 7, 1946 (gage height, 9.28 ft); minimum daily, 2.5 cfs Sept. 30, Oct. 2, 5, 6, 1936.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Some diurnal fluctuation at low flow caused by mills above station, prior to 1951.

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

Revisions (water years).--WSP 1033: 1939(M). WSP 1143: 1948. Revised figures of discharge, in cubic feet per second, for water year 1948, superseding those published in WSP 953, are given herewith:

Nov. 25, 1941..... 20

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
November 1941.....	329.4	52	5.0	11.0	0.155	0.17
Calendar year 1941.....	20,381.3	2,060	5.0	55.8	.788	10.70
Water year 1941-42.....	19,324.7	798	5.0	52.9	.747	10.14

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 10				Dec. 11 to Sept. 30			
0.6	3.5	1.0	16	0.7	3.1	2.0	134
.7	4.6	1.3	40	.8	5.5	3.0	490
.8	6.8	2.0	132	1.0	16	4.0	890
.9	11			1.2	28	5.0	1,500
				1.6	71		

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	4.3	4.6	5.7	13	114	97	195	380	50	21	10	3.8
2	4.2	4.5	5.9	14	94	110	140	120	45	19	12	3.6
3	4.0	4.5	6.1	16	84	619	121	100	42	21	11	3.6
4	3.9	4.5	6.1	17	75	1,050	106	200	39	24	9.3	50
5	4.0	*4.5	28	18	68	483	96	*228	36	22	8.3	92
6	4.0	4.5	25	*18	81	318	105	130	36	19	8.8	21
7	4.2	4.5	15	18	105	242	140	108	60	27	8.3	12
8	4.3	4.5	*11	273	96	189	123	94	*37	25	9.3	8.8
9	4.8	4.8	11	208	81	144	113	82	32	20	10	7.8
10	7.9	12	114	402	72	125	103	72	37	17	*8.3	6.8
11	5.9	9.8	60	185	119	111	92	67	41	16	7.3	5.5
12	4.8	6.8	33	114	695	100	286	61	32	14	6.8	5.1
13	*4.5	5.7	24	86	*371	96	*260	56	43	14	5.9	4.8
14	4.4	5.0	23	72	256	97	185	110	58	13	5.5	*4.8
15	4.4	4.8	17	59	251	252	150	140	36	13	5.5	4.5
16	4.4	4.8	14	52	215	179	130	85	63	13	5.1	4.5
17	4.4	4.8	13	55	168	138	110	85	43	22	5.1	4.5
18	4.3	4.6	13	155	129	*314	120	369	34	42	5.1	4.2
19	4.3	7.6	12	114	*113	280	100	915	29	28	5.1	4.8
20	4.3	12	11	128	347	208	90	611	28	*20	4.5	11
21	4.4	7.6	11	773	1,280	163	80	346	25	17	4.5	5.9
22	4.3	6.4	11	357	522	132	75	238	25	26	4.5	4.5
23	4.5	6.1	10	310	334	185	70	168	23	31	7.8	4.0
24	4.8	5.7	9.8	655	256	310	70	174	22	23	5.1	4.0
25	4.8	5.0	9.3	399	205	238	65	121	21	18	4.8	4.5
26	4.8	6.1	8.8	270	163	182	65	100	24	16	4.5	5.5
27	4.8	7.9	8.3	195	129	144	70	85	33	14	4.0	5.5
28	4.6	6.8	8.3	270	110	123	75	71	36	13	4.0	4.8
29	4.5	5.9	7.8	215	-	108	70	66	27	12	3.8	4.2
30	4.5	5.7	7.8	160	-	96	140	61	24	11	3.6	4.0
31	4.6	-	11	127	-	113	-	56	-	10	3.8	-
Total	141.9	182.0	550.9	5,748	6,533	6,946	3,545	5,499	1,081	601	201.6	310.0
Mean	4.58	6.07	17.8	185	233	224	118	177	36.0	19.4	6.50	10.3
Cfsm	0.065	0.086	0.251	2.61	3.29	3.16	1.67	2.50	0.508	0.274	0.092	0.145
In.	0.07	0.10	0.29	3.02	3.43	3.65	1.86	2.89	0.57	0.32	0.11	0.16

Calendar year 1952: Max 1,370 Min 3.9 Mean 82.2 Cfsm 1.16 In. 15.82
Water year 1952-53: Max 1,280 Min 3.6 Mean 85.9 Cfsm 1.21 In. 16.47

Peak discharge (base, 1,200 cfs).--Feb. 21 (8 a.m.) 1,700 cfs (5.28 ft); Mar. 4 (7 a.m.) 1,360 cfs (4.80 ft); May 19 (1 p.m.) 1,290 cfs (4.70 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Apr. 15 to May 4, Aug. 20; discharge estimated on basis of weather records, recorded range in stage, and records for Falling Water River near Cookeville.

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 1953.

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

Average discharge.--13 years, 366 cfs.

Extremes.--Maximum discharge during year, 5,050 cfs Feb. 21 (gage height, 11.66 ft); minimum, 13 cfs Oct. 19.
1940-53: Maximum discharge, 14,600 cfs Jan. 5, 1949 (gage height, 25.80 ft); minimum, that of Oct. 19, 1952.

Remarks.--Records good.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.0	10	2.0	285
1.1	20	4.0	1,150
1.3	55	8.0	3,120
1.6	140	10.0	4,140

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	*22	20	26	46	369	353	329	1,500	140	55	60	22
2	22	20	25	82	305	397	317	812	130	55	57	22
3	22	20	25	154	269	2,360	285	537	118	57	60	20
4	20	22	23	195	239	3,230	266	413	111	99	55	22
5	19	22	31	143	213	1,980	242	445	105	85	53	30
6	19	22	62	111	220	1,140	246	686	99	72	51	28
7	18	23	57	96	445	817	449	642	154	67	47	25
8	18	23	40	326	445	628	469	525	157	147	44	25
9	19	25	34	853	349	489	401	425	118	127	42	23
10	19	33	176	1,200	289	417	437	353	99	88	38	23
11	19	33	209	786	501	369	565	297	91	74	36	23
12	20	30	118	*433	3,890	329	835	258	88	67	34	23
13	20	28	74	289	*2,200	321	1,230	231	82	62	34	22
14	20	28	55	220	1,110	353	786	209	88	60	34	22
15	19	28	46	184	858	848	578	213	82	57	33	22
16	17	25	40	157	826	732	*650	239	85	53	33	22
17	17	25	*38	147	664	565	505	281	99	74	31	20
18	16	33	33	642	525	583	441	285	96	143	30	20
19	14	33	31	610	445	709	493	2,290	79	181	28	23
20	15	26	30	397	729	574	445	2,640	74	140	*26	28
21	16	25	30	812	4,080	481	381	1,200	72	102	26	*25
22	16	25	30	776	2,530	413	337	736	82	*111	26	23
23	*15	25	30	646	1,240	433	301	513	74	213	26	23
24	18	*23	31	1,460	866	*984	273	393	69	157	26	22
25	19	20	31	1,240	678	822	254	*321	*67	118	25	22
26	20	25	30	772	557	610	239	266	67	94	25	22
27	20	30	28	549	481	493	216	231	65	79	25	22
28	20	33	28	786	405	417	198	202	62	72	25	22
29	20	33	26	974	-	357	192	181	60	69	23	22
30	20	31	26	642	-	309	1,410	167	55	67	23	20
31	19	-	30	469	-	289	-	150	-	65	23	-
Total	578	789	1,493	16,197	25,728	22,802	13,770	17,641	2,768	2,910	1,099	688
Mean	18.6	26.3	48.2	522	919	736	459	569	92.3	93.9	35.5	22.9
Cfsm	0.104	0.148	0.271	2.93	5.16	4.13	2.58	3.20	0.519	0.528	0.199	0.129
In.	0.12	0.16	0.31	3.38	5.38	4.76	2.88	3.69	0.58	0.61	0.23	0.14

Calendar year 1952: Max 4,310 Min 14 Mean 265 Cfsm 1.49 In. 20.26
Water year 1952-53: Max 4,080 Min 14 Mean 292 Cfsm 1.64 In. 22.24

Peak discharge (base, 4,400 cfs).--Feb. 12 (4 p.m.) 4,690 cfs (11.00 ft); Feb. 21 (6 p.m.) 5,050 cfs (11.66 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-McMinnville pike, 3¼ 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 1953.

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.--21 years, 218 cfs.

Extremes.--Maximum discharge during year, 5,360 cfs Feb. 12 (gage height, 9.34 ft); minimum, 40 cfs Sept. 18, 19 (gage height, 1.15 ft).
1932-53: 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 determinations 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 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to July 22				July 23 to Sept. 30			
1.0	37	5.0	1,340	1.1	34	2.0	200
1.4	88	7.0	2,620	1.5	92	2.5	345
2.0	214	8.0	3,550				
3.0	510						

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

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	45	46	48	54	167	195	573	552	111	85	77	42
2	44	47	51	55	149	399	284	286	107	83	70	42
3	44	45	52	62	137	1,470	221	219	103	88	66	42
4	46	46	51	62	128	1,430	190	212	102	96	64	60
5	45	46	67	62	118	594	172	322	100	139	62	128
6	43	46	68	58	137	381	264	271	96	100	60	56
7	43	45	57	57	190	305	396	228	100	93	59	49
8	44	45	53	78	152	258	258	224	96	93	106	46
9	49	47	59	114	128	228	212	188	95	86	78	45
10	51	55	250	405	116	209	258	185	90	82	63	45
11	47	55	114	219	712	195	233	147	91	80	59	46
12	46	51	83	154	*3,370	190	796	139	88	77	57	44
13	44	48	69	126	803	228	510	130	88	75	56	42
14	44	47	64	*109	433	342	292	128	91	75	54	42
15	44	46	60	98	514	747	*243	154	88	74	53	42
16	44	46	*57	90	393	351	216	216	522	75	52	42
17	43	46	55	88	289	266	190	284	156	118	52	42
18	44	47	53	190	233	348	202	260	116	297	52	41
19	43	53	51	154	209	330	248	1,880	103	141	*52	46
20	42	58	53	204	1,040	248	192	*914	98	103	50	49
21	43	52	51	912	3,370	219	172	384	96	98	49	45
22	*44	49	49	330	756	202	158	273	141	297	49	*44
23	44	47	49	750	430	433	147	224	96	*392	50	42
24	44	46	48	1,290	339	*492	141	195	*91	135	46	41
25	44	*47	47	503	308	310	139	174	88	103	46	44
26	44	51	47	305	289	248	141	156	86	89	47	49
27	44	52	47	240	248	219	130	143	86	82	46	46
28	44	51	47	380	216	195	124	132	105	75	45	44
29	44	49	46	284	-	178	118	124	91	72	45	44
30	46	51	45	216	-	165	1,570	118	86	78	44	42
31	44	-	51	185	-	193	-	114	-	92	42	-
Total	1,380	1,460	1,942	7,814	15,374	11,568	8,790	8,956	3,407	3,573	1,751	1,432
Mean	44.5	48.7	62.6	252	549	373	293	289	114	115	56.5	47.7
Cfsm	0.337	0.369	0.474	1.91	4.16	2.83	2.22	2.19	0.864	0.871	0.428	0.361
In.	0.39	0.41	0.55	2.20	4.33	3.26	2.48	2.52	0.96	1.01	0.49	0.40

Calendar year 1952: Max 3,800 Min 42 Mean 183 Cfsm 1.39 In. 18.92
Water year 1952-53: Max 3,370 Min 41 Mean 185 Cfsm 1.40 In. 19.00

Peak discharge (base, 3,200 cfs).--Feb. 12 (7:30 a.m.) 5,360 cfs (9.34 ft); Feb. 21 (6 a.m.) 5,260 cfs (9.27 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, 1¾ miles downstream from Barren Fork, and 2½ miles northeast of McMinnville, Warren County.

Drainage area.--624 sq mi.

Records available.--October 1924 to September 1953.

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.--29 years, 1,119 cfs.

Extremes.--Maximum discharge during year, 19,000 cfs Feb. 12 (gage height, 19.75 ft); minimum, 58 cfs Oct. 29, 30 (gage height, 1.02 ft).

1924-53: 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.

Revisions.--Figures of maximum discharge for water years 1926 and 1928 have been revised to 14,100 cfs June 23, 1926 (gage height, 14.6 ft) and 50,100 cfs June 29, 1928 (gage height, 32.4 ft), superseding those published in WSP 623 and 663, respectively.

Remarks.--Records excellent.

Revisions (water years).--WSP 873: 1929, 1932(M), 1934-35, 1936(M), 1937. Revised figures of discharge, in cubic feet per second, for water years 1925-26, 1933, 1936, and 1940, superseding those published in WSP 603, 623, 743, 803, and 893, are given herewith:

May 12, 1925	2,490	Mar. 29, 1933	1,020
Nov. 8, 1925	1,320	Nov. 21, 1935	258
May 17, 1926	1,190	May 11, 1940	566
Feb.15, 1933	18,100		

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
May 1925	-	2,490	225	788	1.26	1.45
Water year 1924-25	-	-	-		*0.837	*11.37
November 1925	-	5,470	520	1,780	2.85	3.18
Calendar year 1925	-	-	-	763	1.22	16.60
May 1926	-	1,420	205	446	0.715	0.82
Water year 1925-26	-	11,100	55	946	1.52	20.57
Calendar year 1926	-	27,700	68	1,214	1.95	26.41
February 1933	-	18,100	582	3,750	6.01	6.26
March	-	7,140	810	1,796	2.88	3.32
Water year 1932-33	-	18,100	86	1,363	2.18	29.64
Calendar year 1933	-	18,100	56	1,027	1.65	22.35
November 1935	15,668	2,700	65	522	0.837	0.93
Calendar year 1935	350,736	22,000	61	961	1.54	20.90
Water year 1935-36	358,690	14,000	61	980	1.57	21.37
May 1940	20,719	1,820	285	668	1.07	1.23
Water year 1939-40	284,047	8,190	45	776	1.24	16.93
Calendar year 1940	292,163	8,190	68	798	1.28	17.40

* Partly estimated.

Collins River near McMinnville, Tenn.--Continued

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

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

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	*98	60	129	370	1,190	1,130	1,790	5,650	291	149	174	86
2	90	61	125	626	1,020	1,430	1,520	3,740	266	142	165	80
3	78	62	121	698	870	3,230	1,200	5,110	250	151	151	78
4	76	62	121	970	770	5,740	1,040	2,760	237	165	165	109
5	75	62	160	775	690	5,410	890	2,280	224	184	156	227
6	73	64	258	626	666	3,280	905	2,350	216	201	142	206
7	73	66	458	518	1,080	2,320	1,410	2,290	208	170	136	151
8	73	69	334	498	1,390	1,820	1,200	1,900	204	191	198	127
9	82	76	269	954	1,170	1,470	1,010	1,610	191	182	206	116
10	84	94	690	3,410	942	1,240	948	1,290	182	160	167	110
11	84	104	718	3,670	2,140	1,100	1,710	1,050	177	147	149	106
12	82	100	762	2,240	15,400	980	2,630	865	170	136	145	104
13	80	86	530	*1,380	*11,900	975	4,240	744	165	134	138	100
14	80	78	402	1,020	4,900	1,060	2,890	674	167	127	134	94
15	78	76	321	798	3,410	3,210	*2,000	757	165	125	127	94
16	71	76	*269	674	3,120	2,890	1,560	816	1,110	127	127	90
17	71	76	231	602	2,520	2,050	1,240	895	568	174	131	86
18	71	75	204	1,080	2,140	1,830	1,060	890	315	382	129	86
19	69	90	184	1,150	1,780	1,810	1,040	2,590	274	338	*123	100
20	69	98	174	980	2,150	1,440	890	*3,100	239	277	119	100
21	69	106	170	2,240	11,800	1,220	766	2,020	218	244	116	102
22	*69	96	167	1,840	8,580	1,080	694	1,350	244	374	123	*98
23	69	86	182	1,960	4,170	1,240	642	1,010	214	*1,210	116	92
24	67	84	177	6,050	2,770	*1,880	594	811	*194	522	114	90
25	67	*84	177	4,490	2,240	1,630	558	682	182	394	108	94
26	67	110	174	2,880	1,900	1,380	530	598	167	288	106	90
27	67	119	167	2,090	1,570	1,180	510	518	163	234	102	92
28	66	134	156	2,040	1,320	1,040	474	450	165	201	100	90
29	60	158	154	2,240	-	905	434	386	174	182	96	86
30	58	140	151	1,830	-	798	4,270	345	158	167	94	84
31	60	-	179	1,440	-	788	-	312	-	177	90	-
Total	2,276	2,652	8,314	52,139	93,598	57,556	40,645	49,843	7,498	7,655	4,147	3,168
Mean	73.4	88.4	268	1,682	3,343	1,857	1,355	1,608	250	247	134	106
Cfsm	0.118	0.142	0.429	2.70	5.36	2.98	2.17	2.58	0.401	0.396	0.215	0.170
In.	0.14	0.16	0.50	3.11	5.58	3.43	2.42	2.97	0.45	0.46	0.25	0.19

Calendar year 1952: Max 13,500 Min 58 Mean 840 Cfsm 1.35 In. 18.32
Water year 1952-53: Max 15,400 Min 58 Mean 903 Cfsm 1.45 In. 19.66

Peak discharge (base, 11,000 cfs).--Feb. 12 (6:30 p.m.) 19,000 cfs (19.75 ft); Feb. 21 (6:30 p.m.) 15,400 cfs (17.24 ft).
* Discharge measurement made on this day.

Collins River near Rowland, Tenn.

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

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

Records available.--April 1916 to January 1925 (discontinued).

Gage.--Chain gage read twice daily. Datum of gage was 795.86 ft above mean sea level.

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

Extremes.--1916-24: Maximum discharge, 34,000 cfs Apr. 2, 1920 (gage height, 16.66 ft); minimum observed, 60 cfs Nov. 10, 1922 (gage height, 0.95 ft).
Flood in 1854 reached a stage of 32.6 ft, from information by local residents (estimated discharge, 82,000 cfs); flood in 1902 reached a stage of 27.2 ft, from information by local residents (estimated discharge, 66,000 cfs).

Revisions.--Revised figures of discharge, in cubic feet per second, for a day in the water year 1921, superseding those published in WSP 523, are given herewith:

Oct. 27, 1920..... 225

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October 1920.....	367	165	258	0.349	0.40
Calendar year 1920.....	29,700	160	1,770	2.39	32.53
Water year 1920-21.....	18,300	155	1,160	1.57	21.24

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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 1953.

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, water-stage recorder at sites from half a mile upstream to 100 ft downstream from powerplant at different datums. Apr. 12, 1925, to Sept. 9, 1930, water-stage recorder at present site at datum 2.00 ft higher.

Average discharge.--34 years (1914-20, 1925-53), 3,213 cfs (unadjusted).

Extremes.--Maximum discharge during year, 46,100 cfs Feb. 12 (gage height, 19.60 ft); minimum daily, 36 cfs Sept. 27, 28.

1911-53: 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 Reservoir beginning Dec. 8, 1916 (see p. 62).

Revisions.--Revised figures of discharge, in cubic feet per second, for the water years 1934 and 1937, superseding those published in WSP 758 and 823, are given herewith:

Mar. 26, 1934..... 26,300
Jan. 25, 1937..... 40,800
Mar, 23, 1937..... 3,040

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
March 1934	430,870	61,000	1,150	13,900	8.48	9.77
Water year 1933-34	940,326	61,000	69	2,576	1.57	21.33
Calendar year 1934	973,268	61,000	104	2,666	1.63	22.13
January 1937	517,550	62,200	3,540	16,700	10.18	11.74
March	99,200	4,440	2,230	3,200	1.95	2.25
Water year 1936-37	1,276,920	62,200	92	3,498	2.13	28.97
Calendar year 1937	1,174,110	62,200	134	3,217	1.97	26.64

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

-0.8	32	3.0	1,140
-.5	59	5.0	2,590
0.0	133	7.0	4,500
.5	225	10.0	9,190
1.0	338	13.0	17,200
2.0	654	18.0	37,000

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	292	39	162	507	3,710	3,520	3,470	11,700	2,010	564	52	282
2	297	39	279	480	3,520	3,480	3,490	9,350	2,200	473	52	159
3	291	170	275	45	3,490	10,100	3,490	10,100	2,390	545	649	261
4	44	199	323	46	3,480	17,600	3,490	6,120	2,330	51	899	200
5	44	257	325	820	3,460	15,200	3,480	5,100	2,190	50	890	393
6	283	231	39	2,080	3,210	8,400	3,470	6,170	1,740	520	844	478
7	215	260	39	1,910	3,340	6,340	3,460	5,680	55	597	842	497
8	197	38	655	2,560	3,410	4,960	3,460	5,010	801	744	56	331
9	203	39	522	2,840	3,420	4,030	3,460	4,380	835	668	54	286
10	176	201	1,410	2,460	3,410	3,740	3,450	3,780	735	933	476	359
11	47	298	2,020	3,610	3,410	3,520	3,460	3,510	833	51	1,030	299
12	47	279	1,090	3,660	35,400	3,480	4,570	3,490	524	50	954	219
13	141	276	39	*3,680	24,500	3,470	11,000	3,460	52	729	1,120	261
14	226	267	39	3,580	*11,700	3,450	7,050	3,430	49	479	985	272
15	216	38	1,060	3,520	9,190	6,270	5,320	3,420	692	475	52	242
16	212	38	1,080	3,480	7,900	7,620	*4,940	3,400	1,970	466	52	240
17	205	201	1,020	3,440	6,620	5,270	3,900	3,370	1,370	387	487	238
18	46	205	1,040	3,430	4,980	5,210	3,510	3,370	2,180	57	369	233
19	46	204	1,040	3,420	4,520	5,270	3,500	3,390	857	56	446	259
20	204	317	41	3,430	6,540	3,940	3,490	9,170	49	492	*437	302
21	207	175	41	3,440	28,000	3,880	3,500	6,840	48	2,160	411	297
22	207	38	511	3,460	19,200	3,580	3,480	4,520	709	1,410	1,600	181
23	218	38	511	3,470	9,950	3,480	3,460	3,840	799	1,390	58	284
24	203	206	658	13,300	7,020	4,630	3,430	3,510	*841	958	1,710	254
25	39	*234	43	10,700	5,650	4,960	3,400	3,470	731	88	1,500	38
26	39	274	461	6,640	4,620	4,150	3,380	3,470	502	79	1,380	37
27	148	39	42	5,460	4,040	3,890	3,360	3,460	50	1,510	1,300	36
28	146	698	42	5,500	3,750	3,800	3,320	3,440	49	1,620	1,550	36
29	147	38	500	6,940	-	3,510	3,300	3,410	550	1,760	1,270	38
30	148	38	686	5,170	-	3,480	3,320	1,050	555	1,920	778	38
31	145	-	599	4,190	-	3,470	-	976	-.	1,810	316	-
Total	5,079	5,374	16,592	117,248	231,400	167,500	119,410	145,386	28,696	23,072	22,619	7,050
Mean	164	179	535	3,782	8,266	5,403	3,980	4,690	957	744	730	235

		Observed				Adjusted†				
Calendar year 1952:	Max	34,300	Min	38	Mean	2,311	Mean	2,264	Cfsm	1.38	In.	18.79
Water year 1952-53:	Max	35,400	Min	36	Mean	2,437	Mean	2,417	Cfsm	1.47	In.	20.01

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

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 1953.

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.--21 years, 111 cfs.

Extremes.--Maximum discharge during year, 1,820 cfs Feb. 21 (gage height, 15.9 ft, from graph based on gage readings); minimum observed, 2.8 cfs Oct. 1-6, Oct. 26 to Nov. 1; minimum gage height observed, 1.40 ft for several days in August and September.
1932-53: 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.

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

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Jan. 7, Jan. 12-20, 27, Jan. 30 to Feb. 11, Feb. 16-20)

Oct. 1 to Feb. 20			Feb. 21 to Sept. 30		
5.0	279		1.4	6.0	7.0	464
8.0	572		1.6	12	11.0	940
10.0	800		2.0	32	14.0	1,360
14.0	1,360		3.0	104	16.0	1,860

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	2.8	2.8	4.0	11	128	116	96	310	31	16	17	6.0
2	2.8	3.2	4.6	13	103	124	88	166	32	16	16	6.0
3	2.8	3.6	4.8	22	91	1,130	76	112	31	38	16	6.0
4	2.8	4.0	4.8	29	80	1,420	68	100	26	24	16	30
5	2.8	*4.0	28	24	68	847	65	*211	26	16	19	84
6	2.8	4.0	11	*19	98	377	70	154	26	17	20	21
7	3.2	4.0	9.2	16	168	270	96	124	85	214	14	12
8	3.2	4.0	8.5	424	152	203	96	108	*42	103	12	9.0
9	4.0	4.4	9.6	407	112	158	88	90	32	44	12	9.0
10	8.0	10	86	574	92	138	225	75	30	32	*13	7.2
11	4.4	7.0	30	289	200	122	209	66	34	25	12	6.0
12	3.6	5.2	*22	155	1,240	109	345	58	32	19	12	6.0
13	3.2	4.0	16	111	*660	108	*414	54	29	19	9.0	6.0
14	3.2	3.6	14	84	349	109	245	51	32	17	9.0	*6.3
15	3.2	3.2	12	68	290	153	168	54	29	16	9.0	6.0
16	*3.2	3.6	11	56	273	154	140	51	39	16	9.0	6.0
17	3.0	4.0	8.5	51	214	128	116	57	35	66	9.0	6.0
18	3.2	3.6	7.5	155	158	*191	127	58	27	135	9.0	6.0
19	3.4	12	7.0	150	*131	220	130	244	26	117	9.0	7.2
20	3.2	7.8	7.5	110	415	167	108	325	24	59	9.0	10
21	3.2	4.4	6.8	965	1,600	134	92	168	22	39	9.0	6.0
22	3.2	4.0	7.0	492	855	119	88	112	30	111	9.0	6.0
23	4.0	4.0	7.5	343	413	155	79	90	20	215	9.0	6.0
24	4.4	4.0	6.8	798	296	399	72	72	20	92	9.0	6.0
25	4.0	4.4	6.5	570	238	267	62	64	19	57	9.0	6.0
26	2.8	8.8	6.5	303	191	193	50	57	16	41	7.5	6.3
27	2.8	5.8	6.0	213	158	155	54	48	20	55	6.0	6.6
28	2.8	4.8	6.0	361	134	131	55	45	25	32	7.5	6.6
29	2.8	4.0	5.8	337	-	116	56	41	21	*29	6.6	6.6
30	2.8	4.0	6.0	210	-	100	346	38	21	19	6.0	6.0
31	2.8	-	8.5	155	-	88	-	38	-	20	6.0	-
Total	104.4	146.2	379.4	7,515	8,907	8,101	3,924	3,241	882	1,699	335.6	317.8
Mean	3.37	4.87	12.2	242	318	261	131	105	29.4	54.8	10.8	10.6
Cfsm	0.046	0.066	0.166	3.30	4.34	3.56	1.79	1.43	0.401	0.748	0.147	0.145
In.	0.05	0.07	0.19	3.81	4.52	4.11	1.99	1.64	0.45	0.86	0.17	0.16

Calendar year 1952: Max 1,460 Min 2.8 Mean 76.9 Cfsm 1.05 In. 14.29
Water year 1952-53: Max 1,600 Min 2.8 Mean 97.4 Cfsm 1.33 In. 18.02

* Discharge measurement made on this day.

Caney Fork near Silver Point, Tenn.

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

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

Records available.--October 1922 to June 1948 (discontinued).

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

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

Extremes.--1922-48: Maximum discharge, 178,000 cfs Mar. 23, 1929 (gage height, 58.6 ft, site and datum used after Feb. 4, 1939, from floodmarks), from rating curve extended above 50,000 cfs on basis of computed areas and flood profiles at gage heights of 40 and 60 ft, site and datum then in use; minimum daily discharge, 25 cfs Nov. 4, 25, 26, 1924, Sept. 30, 1925.
Maximum stage known, that of Mar. 23, 1929.

Revisions.--The previously published figures of discharge, in cubic feet per second per square mile and runoff in inches, for December 1922 to September 1939, are in error because of the effect of regulation by Great Falls Reservoir and should not be used. Revised figures of discharge, in cubic feet per second, for the water years 1932, 1933 and 1939, superseding those published in WSP 728, 743, and 873, are given herewith:

July 20, 1932..... 1,450
Feb. 23, 1933..... 11,000
July 11, 1939..... 2,280

Month	Cfs-days	Maximum	Minimum	Mean
July 1932	-	12,100	411	2,290
Water year 1931-32	-	44,000	122	3,960
Calendar year 1932	-	44,000	256	4,400
February 1933	-	51,100	2,400	12,180
Water year 1932-33	-	51,100	260	4,510
Calendar year 1933	-	51,100	188	3,686
July 1939	49,417	3,230	464	1,594
Water year 1938-39	1,564,944	88,100	305	4,288
Calendar year 1939	1,481,368	88,100	206	4,059

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

Location.--Lat 36°06'10", long. 85°50'40", on left bank 1.1 miles (revised) 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 1953. 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.--9 years, 4,162 cfs (unadjusted).
Extremes.--Maximum discharge during year, 13,200 cfs Feb. 21; maximum gage height, 19.23 ft Feb. 21; minimum daily discharge, 33 cfs Nov. 4-6.
1944-53: 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.
Revisions.--The maximum discharge for the water year 1951 has been revised to 25,900 cfs Feb. 7, 1951 (gage height, 28.27 ft), superseding figure published in WSP 1206.
Remarks.--Records good except those between 100 and 800 cfs, which are fair. Flow regulated by Great Falls and Center Hill Reservoirs (see pp. 62, 63).
Cooperation.--Four discharge measurements furnished by Corps of Engineers.
Revisions.--Revised figures of discharge, in cubic feet per second, for the high-water period in the water year 1951, superseding those published in WSP 1206, are given herewith:

1951		1951-Con.	
Feb. 1	16,600	Feb. 6	25,100
2	23,500	7	25,200
3	23,900	8	25,400
4	23,800	9	21,000
5	23,900		

Month	Observed				Adjusted†		
	Cfs-days	Maximum	Minimum	Mean	Mean	Per square mile	Runoff in inches
February 1951	413,450	25,400	6,420	14,770	-	-	-
Water year 1950-51	1,889,633	25,400	12	5,177	4,487	2.03	27.57
Calendar year 1951	1,998,977	25,400	30	5,477	5,486	2.49	33.85

† Adjusted for change in contents in Great Falls and Center Hill Reservoirs.

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	47	48	2,610	76	449	11,700	4,230	3,430	2,570	48	348	1,480
2	42	42	2,370	2,720	1,130	11,700	7,570	129	5,820	42	50	1,900
3	41	38	2,970	482	4,330	12,300	6,830	51	7,730	44	1,480	1,010
4	41	33	3,150	45	3,140	12,700	4,480	52	9,910	44	6,140	1,150
5	41	33	2,300	7,110	3,280	11,900	5,620	433	11,400	44	6,300	47
6	42	33	840	5,010	4,040	11,700	8,920	1,640	8,700	43	6,550	44
7	43	52	557	2,670	848	11,700	6,540	1,970	2,350	56	6,910	1,370
8	43	41	2,340	62	277	11,700	6,090	4,290	*7,160	50	282	585
9	44	42	1,410	4,620	1,760	11,800	4,070	255	9,600	49	45	45
10	45	44	1,980	2,040	2,320	8,130	3,550	50	6,300	43	3,620	44
11	43	42	3,360	1,340	4,120	6,920	4,700	6,130	2,920	43	600	532
12	43	515	6,050	5,080	6,450	3,540	5,430	6,430	863	43	1,080	512
13	43	43	6,050	*3,500	6,470	1,130	*7,900	3,590	2,810	45	1,770	45
14	43	41	5,360	3,820	5,180	179	6,520	3,860	1,580	43	4,040	1,400
15	340	47	8,480	186	3,140	204	7,000	3,830	3,620	48	2,910	*54
16	46	41	*7,040	1,720	7,310	6,980	7,270	3,910	575	*314	1,400	46
17	*42	41	7,410	305	7,640	9,410	5,410	3,640	432	77	1,780	1,960
18	42	41	5,140	738	8,680	*11,800	8,630	5,310	806	86	1,900	60
19	41	75	4,280	1,370	5,900	11,800	2,290	7,520	880	48	1,650	48
20	42	591	98	67	*8,710	8,980	5,770	6,160	44	2,130	2,480	46
21	42	1,290	44	2,060	10,300	6,260	8,060	1,520	46	431	569	1,360
22	43	45	5,900	2,140	10,800	2,750	5,980	101	44	498	1,460	890
23	43	41	5,890	2,350	11,100	7,970	1,990	2,900	43	1,230	888	314
24	43	41	5,950	3,140	12,200	10,200	3,590	3,550	43	74	1,720	121
25	42	41	211	551	11,900	10,100	3,870	7,640	459	45	45	46
26	42	41	707	1,460	11,000	9,960	2,440	7,830	46	44	40	44
27	45	41	766	568	11,400	6,280	8,530	*7,640	45	45	171	44
28	42	338	193	829	11,700	6,220	6,880	5,480	44	2,360	355	956
29	43	43	6,410	3,820	-	1,380	3,390	5,300	44	2,250	1,900	45
30	43	41	5,090	2,460	-	4,780	364	4,600	43	8,680	199	46
31	43	-	4,680	4,120	-	4,120	-	2,550	-	4,420	1,370	-
Total	1,625	3,845	109,396	68,439	173,374	246,293	161,694	111,571	68,927	23,411	60,010	16,244
Mean	52.4	128	3,529	2,143	6,192	7,945	5,390	3,599	2,898	755	1,936	541

	Observed						Adjusted†					
Calendar year 1952:	Max	15,800	Min	31	Mean	3,440	Mean	2,879	Cfsm	1.31	In.	17.81
Water year 1952-53:	Max	12,700	Min	33	Mean	2,906	Mean	2,948	Cfsm	1.34	In.	18.19

* Discharge measurement made on this day.
† Adjusted for change in contents in Great Falls and Center Hill Reservoirs.

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 1953. 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.--31 years, 17,120 cfs (unadjusted).

Extremes.--Maximum discharge during year, 50,900 cfs Feb. 21; maximum gage height, 22.20 ft Feb. 21; minimum discharge, 802 cfs July 15 (gage height, 8.41 ft).

1922-53: Maximum discharge, 210,000 cfs (revised) Dec. 30, 1926; maximum gage height, 59.8 ft Dec. 30, 1926; minimum discharge, 304 cfs Oct. 29, 1940.

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, 893	1927	Dec. 30, 1926	210,000	†59.8
683, 893	1929	Mar. 24, 1929	187,000	‡55.85
823, 893	1937	Jan. 26, 1937	172,000	54.66

† Occurred on the same day as the maximum discharge but at a different time.
‡ Occurred Mar. 25, 1929.

Remarks.--Records good except those for periods of reconstructed gage-height record, which are fair. Flow regulated by Wolf Creek, Dale Hollow, Great Falls, and Center Hill Reservoirs (see pp. 62, 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. Revised figures of discharge, in cubic feet per second, for the high-water period in the water year 1927, superseding those published in WSP 643 and 893, are given herewith:

1926		1926-Con.	
Dec. 26	181,000	Dec. 29	203,000
27	200,000	30	204,000
28	198,000	31	178,000

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
December 1926	204,000	14,800	82,750	7.73	8.92
Calendar year 1926	204,000	832	20,890	1.95	26.51
Water year 1926-27	204,000	648	27,370	2.56	34.72

Cumberland River at Carthage, Tenn.--Continued

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Rate of change in stage used as a factor Feb. 21, 22, Mar. 4, 5)

8.5	950
9.0	1,940
12.0	9,900
18.0	31,400
22.0	48,600

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	1,720	2,940	2,500	20,300	15,700	20,000	21,000	21,500	17,200	6,110	14,200	6,660
2	2,080	2,730	5,310	14,500	14,700	20,600	20,900	13,600	20,600	8,920	12,900	5,540
3	2,680	2,400	7,690	7,860	11,400	28,800	25,500	7,100	26,000	11,100	6,090	10,700
4	2,780	2,580	*10,400	9,510	16,300	44,100	24,500	5,280	28,400	10,800	8,040	8,920
5	2,500	1,720	11,500	11,300	17,400	39,700	25,000	5,670	31,700	7,130	15,800	8,890
6	2,350	2,180	10,400	13,500	*19,600	31,700	25,600	6,320	31,700	4,060	18,800	6,740
7	2,420	2,650	7,740	19,200	21,000	23,900	28,600	5,800	25,500	5,830	18,600	4,550
8	1,720	2,580	6,530	19,200	14,900	23,100	26,700	6,190	21,200	8,190	17,300	3,380
9	2,400	2,520	5,830	19,300	11,100	20,700	24,600	6,710	21,700	8,440	9,930	1,870
10	2,910	2,500	7,410	26,900	9,340	18,100	25,400	3,720	26,400	8,140	6,580	3,980
11	2,910	2,730	10,900	22,500	16,000	18,300	24,200	3,980	27,200	5,510	5,750	3,640
12	2,550	2,110	14,000	18,200	32,800	14,700	24,800	9,620	*25,400	2,840	8,390	3,690
13	2,420	2,730	15,900	18,200	31,900	10,500	29,800	8,020	23,500	2,080	7,830	4,550
14	*2,600	2,810	15,600	17,700	28,200	10,600	30,200	7,100	22,000	1,280	9,340	4,920
15	1,790	2,730	16,700	14,700	24,400	10,700	30,200	9,000	19,500	968	12,100	3,590
16	2,630	2,420	19,600	12,400	20,300	15,300	26,700	15,800	17,900	3,930	13,700	1,900
17	2,890	2,280	23,000	12,900	19,100	18,000	27,600	16,400	21,100	7,550	11,200	3,690
18	2,680	2,450	22,000	19,500	25,800	25,300	26,000	16,600	21,200	6,920	7,300	5,540
19	2,300	1,920	20,500	16,900	25,400	30,900	22,100	28,200	20,300	6,580	9,870	3,410
20	2,180	2,160	14,200	10,100	24,900	25,900	21,800	34,300	16,500	6,140	9,400	2,910
21	2,580	4,240	10,200	20,900	47,200	20,400	21,400	24,700	16,800	6,240	8,300	2,600
22	1,900	3,930	10,200	21,300	39,300	16,300	*25,700	19,500	15,700	8,360	8,610	2,940
23	2,580	3,020	11,800	22,000	29,600	18,600	20,500	20,400	11,800	11,800	8,000	2,180
24	2,760	2,470	19,300	31,000	25,200	24,900	14,200	25,900	14,300	9,090	6,500	2,300
25	2,940	2,520	16,200	29,900	26,800	32,600	11,700	29,400	17,100	7,800	*9,140	3,280
26	2,520	1,830	11,900	23,000	24,800	32,700	12,200	29,600	18,200	8,810	7,180	3,410
27	2,280	2,300	7,160	15,400	23,300	32,500	14,600	26,900	18,900	4,660	5,800	2,500
28	2,650	2,420	8,670	15,500	21,700	31,000	15,600	26,800	14,800	3,280	3,900	2,370
29	1,810	2,710	10,000	20,400	-	26,100	20,600	25,200	5,590	5,870	3,380	2,450
30	2,250	1,420	11,900	18,300	-	21,600	24,000	24,000	3,800	12,300	4,080	1,340
31	2,810	-	21,400	18,500	-	20,200	-	20,500	-	16,100	4,970	-
Total	75,590	76,000	386,340	560,870	638,140	727,800	691,700	503,810	601,990	216,528	293,980	124,440
Mean	2,438	2,533	12,460	18,090	22,790	23,490	23,060	16,250	20,070	6,985	9,483	4,148

		Observed				Adjusted†				
Calendar year 1952:	Max	80,300	Min	1,420	Mean	19,040	Mean	14,630	Cfsm	1.37	In.	18.61
Water year 1952-53:	Max	47,200	Min	968	Mean	13,420	Mean	13,740	Cfsm	1.28	In.	17.43

* Discharge measurement made on this day.
† Adjusted for change in contents in Wolf Creek, Dale Hollow, Great Falls, and Center Hill Reservoirs.
Note.--Discharge Apr. 19-22, Apr. 25 to May 25 computed from reconstructed gage-height graph based on daily readings of wire-weight gage, twice-daily readings (5 days per week) of upper lock 7 staff gage, and partial record.

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

Location.--Lat 36°16'26", long. 86°38'39", on left bank at intake tower, 800 ft upstream from dam 3, 1.0 mile north of Old Hickory, Davidson County, 2.0 miles upstream from site of Old Hickory Dam, 3.7 miles downstream from Drake Creek, and at mile 218.3.
Drainage area.--11,700 sq mi, approximately.
Records available.--October 1931 to September 1942, October 1947 to June 1953 (discontinued).
Gage.--Water-stage recorder. Datum of gage is 390.85 ft above mean sea level, Sandy Hook datum. Prior to Nov. 15, 1933, staff gage at site 800 ft downstream at same datum. Nov. 15, 1933, to Sept. 30, 1942, water-stage recorder at site 200 ft downstream at same datum.
Average discharge.--16 years (1931-42, 1947-52), 18,480 cfs (unadjusted).
Extremes.--Maximum discharge during period October 1952 to June 1953, 55,700 cfs Feb. 22 (gage height, 20.53 ft); minimum, 1,450 cfs Dec. 1; minimum gage height, 7.57 ft Nov. 6, 7, Dec. 1.
1931-42, 1947-53: Maximum discharge, 173,000 cfs Jan. 29, 1937; maximum gage height, height, 47.40 ft Jan. 29, 1937; minimum daily discharge, 86 cfs Aug. 15, 1936; minimum gage height observed, 6.3 ft Oct. 10, 1931, caused by manipulation of valves in lock 3.
Maximum stage known, 51.5 ft Dec. 31, 1926, from floodmarks (discharge, 200,000 cfs).
Remarks.--Records good. Discharge figures include from 38 to 54 cfs diverted from dam 3 pool and returned to stream below the dam. Flow regulated by Wolf Creek, Dale Hollow, Great Falls, and Center Hill Reservoirs (see pp. 62, 63) and navigation pools above station. Some flow affected by backwater from construction of Old Hickory Dam.
Cooperation.--Record of daily diversion furnished by E. I. du Pont de Nemours and Co., Inc.
Revisions (water years).--WSP 923: 1932-40. WSP 1113: 1940(m).

Rating table, Oct. 1, 1952, to June 30, 1953 (gage height, in feet, and discharge, in cubic feet per second)
(Rate of change in stage used as a factor Feb. 21-23, Mar. 4-6; shifting-control method used Feb. 13, 21-23, Mar. 4-6, May 20)

7.6	1,480	11.0	13,600
8.0	2,450	14.0	30,500
9.0	5,550	16.0	42,600

Discharge, in cubic feet per second, October 1952 to June 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,140	g2,440	g1,590	23,200	g20,000	g22,300	26,800	28,000	19,500			
2	1,600	g2,680	g2,810	18,300	g15,600	g23,500	23,400	21,000	17,900			
3	1,920	g2,520	g5,310	13,100	g13,900	*36,200	24,900	11,600	24,000			
4	2,390	g2,290	g8,630	8,320	g14,100	g53,900	26,900	7,350	27,800			
5	2,420	g2,210	*g11,800	g9,630	g17,200	*50,200	26,100	8,830	30,500			
6	2,210	g1,680	g12,200	g12,900	g18,700	41,100	26,300	7,680	32,700			
7	2,060	g1,800	g9,790	g15,800	g23,500	31,200	29,400	*7,870	30,800			
8	2,040	g2,470	g7,270	g21,300	g20,300	25,500	29,400	8,020	24,000			
9	1,870	g2,390	6,530	20,900	g14,000	24,400	27,400	8,980	22,000			
10	2,370	g2,500	6,500	31,900	g11,100	21,000	26,000	6,790	24,600			
11	2,630	g2,550	9,260	g29,800	g13,300	19,200	26,600	4,190	28,200			
12	2,630	g2,490	12,100	g22,000	g34,700	18,900	26,700	7,090	27,000			
13	2,390	g2,310	15,300	g20,100	g40,500	14,200	30,000	9,360	24,800			
14	2,270	g2,520	16,100	g18,800	g34,000	11,400	32,200	8,360	24,100			
15	*2,240	g2,620	16,100	g18,300	g30,000	11,500	31,800	10,800	21,200			
16	1,850	g2,490	17,500	g13,600	g25,200	12,500	30,800	15,600	24,500			
17	2,500	g2,410	22,600	g13,500	g21,500	18,200	28,300	29,000	22,700			
18	2,570	g2,280	23,900	g20,500	g23,200	27,200	29,300	25,900	21,500			
19	2,370	g2,230	22,300	22,000	g27,900	33,100	26,800	35,500	21,900			
20	2,090	g1,980	19,000	16,600	g27,900	32,800	22,000	44,800	19,500			
21	1,920	g2,210	12,200	g20,600	g51,600	25,900	22,900	36,100	16,200			
22	g2,210	g3,910	9,550	*27,200	g52,700	20,600	24,100	25,000	17,300			
23	g1,900	g3,460	11,300	25,900	g40,500	23,500	26,100	18,600	14,100			
24	g2,260	g2,620	14,800	g36,400	g30,100	25,200	18,300	23,800	12,300			
25	g2,500	g2,500	g19,600	g38,200	g28,300	30,500	13,700	28,800	15,200			
26	g2,680	g2,390	g14,500	g30,500	g28,300	35,200	12,200	31,800	17,700			
27	g2,260	g1,910	g10,300	g22,700	g26,400	34,400	12,400	30,000	18,500			
28	g2,060	g2,030	g6,900	g18,300	g24,400	33,400	16,100	27,800	18,600			
29	g2,210	g2,260	g8,290	g20,200	-	31,300	19,200	27,800	11,600			
30	g1,870	g2,410	g10,900	g22,600	-	24,900	30,500	26,100	4,820			
31	g2,060	-	g14,900	g19,800	-	23,900	-	23,800	-			
Total	68,490	72,560	379,830	652,950	728,900	837,100	746,600	606,920	635,520			
Mean	2,209	2,419	12,250	21,060	26,030	27,000	24,890	19,580	21,180			

	Observed			Adjusted†			
Calendar year 1952:	Max 83,500	Min 1,370	Mean 20,310	Mean 15,900	Cfsm 1.36	In. 18.50
Water year 1952-53:	Max -	Min -	Mean -	Mean -	Cfsm -	In. -

* 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 twice-daily (4 times daily in October) upper lock 3 staff-gage readings (furnished by Corps of Engineers) and recorded range in stage.

East Fork Stones River near Lascassas, Tenn.

Location.--Lat 35°55'10", long. 86°20'00", at downstream end of right pier of highway 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 1953.

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, 11,600 cfs Feb. 21 (gage height, 22.64 ft); minimum, 0.3 cfs Aug. 31 (gage height, 2.24 ft); minimum daily, 0.4 cfs Aug. 31.
1951-53: Maximum discharge, 19,200 cfs Dec. 8, 1951 (gage height, 31.70 ft); minimum, that of Aug. 31, 1953; minimum daily, that of Aug. 31, 1953.

Remarks.--Records good. Diurnal fluctuations at low flow caused by small mill above station.

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

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 20

2.3	4.3	4.0	203
2.5	8.5	5.0	447
2.7	16	6.0	742
2.9	31	8.0	1,480
3.0	42	12.0	3,500
3.5	111	18.0	7,900

Feb. 21 to Sept. 30

2.2	0.1	3.0	46
2.3	1.3	3.5	117
2.4	5.2	4.0	212
2.6	13	5.0	447
2.8	25		

Note.--Same as preceding table above 5.0 ft.

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	5.2	8.3	20	348	297	228	565	1,080	77	35	55	9.6
2	6.0	9.6	26	205	234	306	331	541	68	36	32	5.8
3	*7.3	7.3	60	260	195	6,350	258	340	*62	61	28	11
4	13	14	62	205	169	4,120	218	269	56	106	21	*2.1
5	9.3	*12	702	152	*143	1,400	184	518	49	164	24	65
6	5.8	5.4	323	116	447	809	275	340	46	80	18	46
7	11	11	150	95	644	561	*665	284	46	51	26	27
8	9.3	12	96	1,950	411	419	427	291	60	52	20	14
9	5.6	6.3	*71	1,420	302	328	322	220	49	34	111	18
10	6.9	16	880	4,810	234	*275	498	177	41	34	51	17
11	14	14	430	1,090	3,090	240	331	150	*31	26	30	14
12	8.6	26	203	564	*7,440	218	2,140	*130	32	19	19	12
13	13	18	124	362	1,650	240	1,090	112	30	21	*22	6.9
14	12	12	90	376	854	340	623	233	24	23	23	7.5
15	9.5	12	72	195	841	1,070	441	416	27	18	19	9.8
16	6.5	12	57	156	689	602	345	1,720	*490	19	12	7.2
17	9.2	13	48	488	503	416	262	1,450	220	23	16	*9.2
18	14	12	42	2,140	376	780	256	780	103	202	15	9.7
19	8.9	12	37	729	311	590	328	5,840	68	200	11	12
20	9.0	22	40	762	2,910	416	236	2,060	50	90	14	7.2
21	11	29	28	3,260	7,630	324	198	886	193	58	16	6.2
22	7.5	29	31	1,020	1,570	280	175	544	838	*54	12	9.8
23	7.7	23	28	1,730	857	930	152	373	139	630	13	4.1
24	9.9	24	23	2,140	614	899	143	282	81	187	16	13
25	10	19	23	1,210	469	623	122	224	59	98	23	11
26	7.2	18	21	695	389	441	121	182	50	66	12	5.6
27	6.3	29	20	*483	319	348	105	152	42	49	11	9.6
28	10	27	19	1,210	265	286	92	126	105	38	10	7.3
29	9.0	30	19	758	-	240	90	107	73	28	6.4	9.2
30	9.5	21	16	503	-	206	4,330	94	50	32	1.3	11
31	5.8	-	104	365	-	190	-	85	-	41	.4	-
Total	278.0	503.9	3,865	29,797	33,853	24,475	15,323	20,006	3,259	2,575	688.1	397.8
Mean	8.97	16.8	125	961	1,209	790	511	645	109	83.1	22.2	13.3
Cfsm	0.034	0.064	0.473	3.64	4.58	2.99	1.94	2.44	0.413	0.315	0.084	0.050
In.	0.04	0.07	0.54	4.20	4.77	3.45	2.16	2.82	0.46	0.36	0.10	0.06

Calendar year 1952: Max 8,000 Min 5 Mean 276 Cfsm 1.05 In. 14.22
Water year 1952-53: Max 7,630 Min 0.4 Mean 370 Cfsm 1.40 In. 19.03

Peak discharge (base, 7,000 cfs).--Jan. 10 (6 a.m.) 7,860 cfs (17.95 ft); Feb. 12 (4 a.m.) 10,200 cfs (20.83 ft); Feb. 21 (4 a.m.) 11,600 cfs (22.64 ft); Mar. 3 (9:30 a.m.) 10,800 cfs (21.68 ft); Apr. 30 (9 a.m.) 8,300 cfs (18.50 ft); May 19 (12:30 p.m.) 9,270 cfs (19.71 ft).
* Discharge measurement made on this day.

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 1953.

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.--21 years, 215 cfs.

Extremes.--Maximum discharge during year, 10,500 cfs Mar. 3 (gage height, 14.85 ft); no flow for part of each day Oct. 27, 28, 30, 31, caused by diversion for irrigation; minimum gage height, 0.73 ft Oct. 27.
1932-53: 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; minimum, that of Oct. 27, 28, 30, 31, 1952; 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 for periods of no gage-height record and those below 5 cfs, which are poor. Some diversion for irrigation at and above station for short periods in October, November, August, and September.

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

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

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 25 to Dec. 28, Jan. 14-16, Jan. 31 to Feb. 5, Feb. 9, 10, 19, Apr. 7-9, 11, May 2-15, May 24 to June 4, July 18-31)

0.8	0.3	1.3	6.6	2.5	165
.9	.8	1.4	10	3.0	300
1.0	1.6	1.6	22	4.0	720
1.1	2.8	1.8	43	8.0	3,000
1.2	4.3	2.0	74	10.0	4,400

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	2.8	0.6	5.2	a150	153	151	313	458	48	9.7	604	3.0
2	2.4	.5	5.9	a100	130	360	149	237	40	7.4	169	3.1
3	*2.4	.6	6.4	a120	115	4,210	122	161	*34	67	113	3.0
4	2.1	.6	10	a80	103	2,320	106	143	29	32	82	*3.2
5	1.9	*.5	341	a60	*91	726	93	270	19	14	58	3.7
6	2.0	.4	147	a50	370	442	270	161	21	11	43	6.4
7	2.2	.4	79	a45	332	321	*314	130	26	10	30	5.0
8	2.2	.4	49	a1,500	202	255	176	113	20	8.2	46	3.6
9	3.0	.7	*34	a1,000	153	207	136	96	18	6.6	32	3.1
10	2.4	1.4	719	a700	128	*180	558	79	16	5.9	20	2.7
11	1.7	1.3	185	a600	2,210	161	210	68	*14	5.4	16	2.7
12	1.5	1.1	108	294	*3,270	151	1,210	*61	13	4.8	14	3.2
13	1.2	1.1	72	210	814	151	458	52	12	4.3	*12	3.2
14	1.0	1.1	50	159	450	289	267	86	12	4.2	10	3.2
15	1.0	1.2	38	128	539	654	200	121	10	4.2	8.9	3.2
16	.9	1.2	29	112	352	270	155	502	15	3.8	8.2	3.2
17	.8	1.2	19	442	252	200	128	580	11	18	7.8	*3.2
18	.8	1.1	19	1,230	202	360	176	366	9.7	330	200	3.2
19	.8	1.9	15	366	169	240	169	3,720	8.9	232	30	3.7
20	.8	1.4	13	544	2,500	183	122	984	7.8	54	14	3.6
21	.8	1.4	12	1,580	4,150	155	105	478	7.4	223	10	3.1
22	.8	1.5	10	498	608	145	91	318	34	*304	8.6	2.8
23	.8	1.7	9.3	1,300	474	582	79	237	20	742	7.0	2.8
24	.8	1.8	8.6	946	356	321	72	192	17	143	5.7	2.7
25	.8	2.2	7.8	506	300	226	66	161	14	77	4.8	3.0
26	.8	3.4	7.0	324	258	178	60	136	11	44	4.2	2.7
27	.4	3.0	6.4	*237	207	153	50	119	9.3	27	3.8	2.4
28	.4	3.0	5.9	627	176	136	*43	103	10	17	3.6	2.1
29	.5	5.4	a5.5	314	-	119	40	86	13	12	3.6	2.1
30	.3	5.4	a5	223	-	105	2,610	72	12	8.2	3.1	1.6
31	.3	-	a50	178	-	106	-	60	-	428	3.0	-
Total	40.6	57.5	2,072.0	14,623	19,264	14,057	8,548	10,350	532.1	2,857.7	1,575.3	94.5
Mean	1.31	1.92	66.8	472	688	453	285	334	17.7	92.2	50.8	3.15
Cfsm	0.011	0.016	0.561	3.97	5.78	3.81	2.39	2.81	0.149	0.775	0.427	0.026
In.	0.01	0.02	0.65	4.57	6.02	4.39	2.67	3.23	0.17	0.89	0.49	0.03

Calendar year 1952: Max 5,400 Min 0.3 Mean 140 Cfsm 1.18 In. 16.02
Water year 1952-53: Max 4,210 Min 0.3 Mean 203 Cfsm 1.71 In. 23.14

Peak discharge (base, 7,000 cfs).--Feb. 12 (2:30 a.m.) 7,260 cfs (12.87 ft); Feb. 21 (4:30 a.m.) 9,560 cfs (14.35 ft); Mar. 3 (9 a.m.) 10,500 cfs (14.85 ft); May 19 (12 m.) 7,990 cfs (13.37 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for East Fork near Lascassas.

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, 1¼ 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 1953.

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.--28 years, 947 cfs.

Extremes.--Maximum discharge during year, 23,900 cfs Feb. 21 (gage height, 24.05 ft); minimum, 9.2 cfs Oct. 22 (gage height, 1.00 ft).

1925-53: 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.

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

Revisions (water years).--WSP 853: 1929(M). WSP 953: 1928(M), 1929, 1934-37. Revised figures of discharge, in cubic feet per second, for a day in the water year 1942, superseding those published in WSP 953, are given herewith:

Aug. 9, 1942..... 1,500

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
August 1942.....	34,000	5,010	63	1,097	1.99	2.29
Water year 1941-42.....	227,914	8,560	10	624	1.13	15.36
Calendar year 1942.....	305,318	15,000	36	836	1.51	20.57

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	29	11	36	579	832	748	1,100	3,330	300	69	976	30
2	25	19	42	440	670	977	820	1,600	267	60	325	29
3	*25	11	53	581	551	11,700	593	1,080	*232	54	206	29
4	25	14	75	501	480	9,790	496	1,140	212	289	156	*27
5	25	*14	746	355	404	4,130	418	1,980	186	222	122	29
6	25	14	940	281	734	2,390	431	1,340	168	174	107	26
7	25	15	387	229	1,800	1,730	1,560	1,010	156	122	93	32
8	22	15	260	2,090	1,110	1,360	*1,040	935	156	95	112	39
9	32	22	*206	2,760	*806	1,090	787	742	153	75	125	37
10	30	27	1,350	9,000	624	*935	1,200	593	128	58	165	34
11	25	27	1,080	2,880	4,140	826	1,100	490	114	50	110	32
12	23	27	485	1,500	*15,300	735	4,160	*431	*102	45	*86	30
13	21	27	322	998	4,700	735	3,320	379	95	37	73	27
14	18	26	236	716	2,490	735	1,670	418	93	33	64	23
15	19	23	183	523	2,190	2,330	1,220	1,420	86	30	58	21
16	19	22	150	413	1,930	1,540	970	3,260	413	32	56	*19
17	18	22	133	496	1,460	1,080	742	4,080	546	32	48	19
18	17	21	110	5,070	1,120	1,560	670	2,500	222	80	348	17
19	15	29	90	1,950	935	1,550	935	11,600	144	971	232	21
20	13	29	84	1,300	4,540	1,080	670	6,560	110	325	122	25
21	13	33	79	6,560	18,300	858	540	2,870	97	260	86	22
22	11	34	67	2,740	4,770	742	470	1,880	1,100	*270	75	18
23	13	36	67	3,120	2,580	2,200	418	1,410	264	1,950	64	17
24	13	36	62	5,110	1,840	2,020	371	1,120	159	800	58	15
25	13	34	54	3,090	1,510	1,480	340	907	107	418	50	17
26	13	36	51	1,860	1,280	1,110	314	748	90	281	50	18
27	11	32	51	*1,360	1,070	879	296	618	79	212	45	18
28	11	42	49	2,540	872	735	*260	512	82	174	42	17
29	13	43	43	2,000	-	612	246	440	136	147	39	15
30	13	42	40	1,350	-	518	8,390	383	88	130	36	15
31	13	-	51	1,020	-	480	-	340	-	165	33	-
Total	588	783	7,581	63,402	79,038	58,655	35,547	56,316	6,085	7,660	4,162	718
Mean	19.0	26.1	245	2,045	2,823	1,892	1,185	1,817	203	247	134	23.9
Cfsm	0.034	0.047	0.444	3.70	5.11	3.43	2.15	3.29	0.368	0.447	0.243	0.043
In.	0.04	0.05	0.51	4.27	5.33	3.95	2.39	3.79	0.41	0.52	0.28	0.05

Calendar year 1952: Max 16,700 Min 11 Mean 649 Cfsm 1.18 In. 16.02
Water year 1952-53: Max 18,300 Min 11 Mean 878 Cfsm 1.59 In. 21.59

Peak discharge (base, 17,000 cfs).--Feb. 12 (11 a.m.) 19,800 cfs (21.28 ft); Feb. 21 (11:30 a.m.) 23,900 cfs (24.05 ft); Mar. 3 (11:30 a.m.) 21,000 cfs (22.16 ft); May 19 (7 p.m.) 19,200 cfs (20.82 ft).

* Discharge measurement made on this day.

Stones River above Donelson, Tenn.

Location.--Lat 36°04'25", long. 86°33'30", on left bank half a mile downstream from Hurricane Creek, 3.3 miles upstream from 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 1953. Published as "near Donelson" 1939-40. Records published for both sites April to September 1940.

Gage.--Water-stage recorder at present site and datum since Apr. 16, 1940. 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.--14 years (1939-53), 1,366 cfs.

Extremes.--Maximum discharge during year, 24,200 cfs Feb. 21 (gage height, 40.94 ft); minimum, 13 cfs Nov. 6, 7 (gage height, 10.73 ft).

1939-53: Maximum discharge, 68,700 cfs Feb. 14, 1948; maximum gage height, 58.46 ft Feb. 14, 1948; minimum discharge, 10 cfs Sept. 21, 22, 24, 1940; minimum gage height, 10.73 ft Sept. 21, 22, 1940, Nov. 6, 7, 1952, present site and datum.

Maximum stage known, about 59.6 ft in March 1902 (discharge, 73,000 cfs), from high-water profile by Corps of Engineers, present site and datum.

Remarks.--Records good.

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

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

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Rate of change in stage used as a factor Jan. 10, 11, 18, 21, 25, Feb. 11-13, 20-22, Mar. 3-5, Apr. 12, 13, 30, May 1, 16-20)

Oct. 1 to Mar. 23				Mar. 24 to Sept. 30			
10.7	10	13.0	540	10.7	14	13.0	455
11.0	42	15.0	1,540	10.8	19	14.0	910
11.4	91	20.0	4,750	11.0	38	18.0	3,320
12.0	210	30.0	13,300	11.5	106	25.0	8,800
12.5	340	40.0	23,100	12.0	200	30.0	13,300
				12.5	310		

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	38	17	79	374	1,290	1,150	1,480	6,910	372	117	712	32
2	35	17	104	760	1,090	1,390	1,330	2,390	330	96	471	28
3	*32	17	155	788	925	11,200	899	1,540	*300	86	246	28
4	30	20	*169	882	814	15,200	710	1,240	270	1,150	182	*28
5	29	*18	1,010	630	716	6,400	597	3,780	250	406	144	28
6	28	15	1,730	463	1,040	3,580	550	2,200	232	292	122	28
7	27	14	778	358	2,810	2,580	1,560	1,550	216	244	106	27
8	26	14	447	1,230	1,880	2,030	*1,420	1,720	206	530	111	24
9	32	18	305	4,450	*1,340	1,640	1,040	1,250	204	224	129	32
10	53	31	1,530	11,900	1,070	1,380	998	926	186	156	156	34
11	51	53	2,280	5,840	3,670	1,200	1,530	730	162	114	142	30
12	42	57	915	2,510	18,400	*1,080	4,780	597	146	93	*106	28
13	39	53	558	1,610	*8,580	1,060	5,420	510	136	79	89	25
14	34	45	375	*1,180	3,730	1,060	2,460	550	133	70	76	24
15	31	42	288	900	2,870	2,510	1,680	3,070	124	62	65	22
16	29	39	235	742	2,850	2,270	1,330	4,370	670	63	62	*20
17	28	34	196	891	2,160	1,520	1,020	7,110	943	96	58	18
18	26	31	172	6,390	1,680	2,060	888	5,120	350	100	85	18
19	24	52	147	3,290	1,390	2,490	1,320	12,400	230	644	312	19
20	22	94	133	2,130	2,850	1,640	992	*12,400	184	566	162	23
21	20	79	123	7,950	21,200	1,290	760	4,260	170	285	106	28
22	18	66	114	4,680	9,080	1,110	638	2,610	773	*678	84	23
23	19	61	101	3,630	3,760	3,150	550	1,890	441	1,660	73	18
24	17	60	99	7,300	2,690	3,020	476	1,470	230	1,230	68	18
25	18	60	91	4,850	2,190	2,140	434	1,190	168	542	59	17
26	20	72	85	2,870	1,880	1,570	390	965	166	340	49	17
27	20	105	78	2,060	1,590	1,250	360	785	127	250	49	18
28	20	82	74	3,040	1,330	1,020	330	660	127	200	47	18
29	18	86	70	3,280	-	845	310	550	154	166	40	17
30	16	85	65	2,090	-	705	9,680	480	158	144	38	16
31	16	-	86	1,580	-	696	-	420	-	158	34	-
Total	858	1,437	12,592	90,648	104,875	80,236	45,932	85,643	8,158	10,841	4,183	706
Mean	27.7	47.9	406	2,924	3,746	2,588	1,531	2,763	272	350	135	23.5
Cfsm	0.033	0.057	0.487	3.51	4.49	3.10	1.84	3.31	0.326	0.420	0.162	0.028
In.	0.04	0.06	0.56	4.04	4.68	3.58	2.05	3.82	0.36	0.48	0.19	0.03

Calendar year 1952: Max 24,100 Min 14 Mean 924 Cfsm 1.11 In. 15.07
Water year 1952-53: Max 21,200 Min 14 Mean 1,222 Cfsm 1.47 In. 19.89

Peak discharge (base, 16,000 cfs).--Feb. 12 (4 p.m.) 20,700 cfs (37.68 ft); Feb. 21 (4:30 p.m.) 24,200 cfs (40.94 ft); Mar. 3 (11 p.m.) 19,800 cfs (36.85 ft); Apr. 30 (9 p.m.) 16,200 cfs (33.18 ft); May 19 (12 p.m.) 20,100 cfs (37.12 ft).

* Discharge measurement made on this day.

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 1953 in reports of Geological Survey. 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.--66 years (1887-1953), 20,390 cfs (unadjusted).

Extremes.--Maximum discharge during year, 71,600 cfs Mar. 4; maximum gage height, 29.73 ft Mar. 4; minimum daily discharge, 1,670 cfs July 16; minimum gage height, 9.10 ft July 13.

1887-1953: 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 good except those for periods of crest-wicket manipulation at dam 1, which are fair. Some regulation by Wolf Creek, Dale Hollow, Great Falls, and Center Hill Reservoirs (see pp. 62, 63) and by navigation pools.

Cooperation.--Water-stage recorder graph, auxiliary gage readings, telemark-gage readings, record of wicket manipulation, and 4 discharge measurements furnished by Corps of Engineers.

Revisions.--Revised figures of discharge, in cubic feet per second, for a day in the water year 1909, superseding those published in Tennessee Division of Geology Bulletin 34, are given herewith:

Jan. 19, 1909..... 69,200

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
January 1909.....	71,600	11,100	26,000	2.02	2.33
Water year 1908-9.....	116,000	610	21,200	1.65	22.33

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	e2,170	e2,650	e2,090	21,300	g21,500	24,800	31,800	40,800	21,700	e3,950	16,000	e4,580
2	e1,930	e2,720	e2,690	21,400	18,700	24,900	27,400	29,000	18,600	e5,960	15,000	e5,900
3	e1,780	*e2,570	e5,340	15,800	16,600	41,000	25,700	17,500	22,100	e8,690	e10,000	e5,680
4	e2,430	e2,460	e7,470	10,200	14,500	70,500	27,800	e9,770	26,400	14,600	e6,470	e9,660
5	e2,590	e2,400	12,400	10,100	17,900	64,900	27,000	e12,300	28,900	12,300	e8,660	9,130
6	e2,480	e2,080	14,400	12,300	19,900	52,000	27,200	e11,400	31,900	e7,550	15,800	8,630
7	e2,170	e1,870	12,100	14,900	24,000	37,700	28,900	e10,000	31,900	e8,720	18,800	e6,390
8	e2,250	e2,300	e8,790	21,100	g24,800	30,200	31,500	e10,100	26,600	9,870	20,300	e4,630
9	e2,280	e2,620	e7,120	25,100	g18,000	27,200	29,500	e10,300	22,400	9,680	16,900	e3,290
10	e2,380	e2,840	e7,330	39,200	g13,400	24,500	27,200	e9,380	23,300	8,940	10,200	e2,340
11	e2,770	e2,480	e11,200	39,900	g14,400	21,700	27,800	e5,800	26,700	8,260	e6,610	e3,220
12	e2,750	e2,710	13,100	29,000	47,100	21,200	30,000	e8,560	27,200	e5,700	e5,870	e3,440
13	e2,560	e2,400	15,700	22,800	53,700	17,600	36,200	e10,300	25,800	e3,230	e8,070	e3,420
14	e2,420	e2,490	17,000	21,000	g41,400	13,400	35,300	e9,880	24,400	e2,400	8,110	e4,010
15	e2,360	e2,900	16,700	19,900	g34,000	14,000	34,000	e15,900	22,500	e1,690	9,610	e4,440
16	e2,070	e2,830	17,700	16,300	g30,300	*15,300	33,000	17,200	23,400	e1,670	12,100	e3,380
17	e2,250	e2,570	20,900	14,500	g25,300	19,000	29,900	35,800	24,800	e4,590	13,300	e2,130
18	e2,720	e2,340	23,500	23,900	g23,500	27,800	29,900	36,700	22,800	e7,670	11,200	e3,090
19	e2,620	e2,670	22,800	*27,900	g27,700	35,600	28,600	48,000	22,300	e7,780	e7,730	e4,280
20	e2,260	e2,240	21,100	22,700	g28,900	35,900	24,800	60,900	21,100	e7,180	e9,520	e3,220
21	e2,070	e2,250	14,800	27,900	g60,000	30,000	23,700	*46,900	17,300	e6,710	9,550	e2,630
22	e2,300	e3,550	10,800	34,700	g65,100	24,600	23,800	31,200	17,700	e7,400	8,470	e2,420
23	e2,090	e3,810	11,000	g31,200	g51,200	28,700	26,600	23,700	16,400	e10,500	8,540	e2,610
24	e2,220	e3,070	13,100	g43,000	38,000	29,400	22,400	23,900	12,800	13,600	e7,720	e2,140
25	e2,650	e2,630	19,100	g46,800	31,300	31,900	15,600	28,500	15,000	10,100	e6,680	e2,140
26	e2,780	e2,590	16,400	g36,100	30,900	36,600	13,000	31,700	18,000	e8,080	e7,820	e2,820
27	e2,560	e2,300	12,000	g28,400	28,800	36,300	13,200	31,300	18,900	e8,280	e6,970	e3,050
28	e2,190	e2,270	e7,840	g23,600	29,300	35,400	15,700	28,700	19,300	e4,910	e5,440	e2,490
29	e2,270	e2,540	e8,750	g24,200	-	33,500	18,400	28,000	14,600	e3,540	e3,790	e2,060
30	e2,180	e2,860	10,500	g24,800	-	28,300	36,600	26,700	e6,280	e6,050	e3,160	e2,350
31	e2,050	-	13,200	g22,900	-	25,200	-	25,000	-	12,600	e3,600	-
Total	72,580	78,010	396,920	772,900	848,700	959,100	802,500	733,196	651,080	232,200	301,990	119,570
Mean	2,341	2,600	12,800	24,930	30,290	30,940	26,750	23,650	21,700	7,490	9.742	3,986

	Observed			Adjusted†		
Calendar year 1952:	Max 91,300	Min 1,520	Mean 21,640	Mean 17,250	Cfsm 1.34	In. 18.23
Water year 1952-53:	Max 70,500	Min 1,670	Mean 16,350	Mean 16,670	Cfsm 1.30	In. 17.60

* Discharge measurement made on this day.

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

e Crest-wicket manipulation at dam 1; discharge computed from auxiliary gage record by weir formula plus leakage.

g Computed from graph based on daily telemark readings of base gage and thrice-daily readings of auxiliary gage.

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 1953.

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 Sept. 30, 1933, staff or chain gages at site 2½ miles downstream at datum 7.85 ft lower.

Average discharge.--30 years, 569 cfs.

Extremes.--Maximum discharge during year, 8,380 cfs Mar. 3 and Apr. 30 (gage height, 14.64 ft); minimum, 1.5 cfs Sept. 14-17 (gage height, 0.87 ft).
1920-29, 1932-53: 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 for several days in October 1922.

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

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

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

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to July 22				July 23 to Sept. 30			
1.0	2.5	3.0	712	0.85	0.9	1.6	122
1.1	12	4.0	1,340	.9	2.4	2.0	243
1.2	26	6.0	2,420	1.0	9.0	2.5	475
1.4	63	10.0	5,100	1.1	19	3.0	790
1.7	140	13.0	7,200	1.3	52	4.0	1,340
2.0	235						

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	6	9.0	41	94	666	537	1,000	*3,780	197	79	74	4.9
2	5	10	53	160	548	1,020	622	1,300	178	61	186	4.9
3	4	11	104	250	464	5,240	473	898	152	49	115	4.2
4	4	13	107	262	410	6,700	405	686	134	41	84	*4.2
5	3	12	409	204	363	2,590	351	1,530	120	40	*61	4.2
6	3	11	467	169	804	1,610	359	1,030	109	53	47	4.2
7	3	13	258	149	1,200	1,260	604	775	107	118	39	4.2
8	3	14	178	728	796	1,030	459	818	*96	102	36	4.2
9	4	17	140	1,200	604	825	*380	598	84	89	39	4.9
10	82	29	314	3,290	*502	*692	726	492	72	53	72	4.2
11	79	74	*378	1,750	2,560	604	570	423	63	40	43	3.7
12	40	49	239	1,040	*7,000	543	2,610	372	53	31	31	3.2
13	26	43	178	719	*3,100	570	1,810	331	47	24	25	2.4
14	21	34	146	*537	1,660	522	1,090	454	45	23	22	1.8
15	18	26	120	441	1,380	782	825	1,300	49	20	19	1.5
16	16	23	104	372	1,170	564	666	1,110	49	21	17	1.5
17	13	21	91	564	913	468	512	3,150	43	650	16	1.5
18	11	20	81	2,100	712	1,040	497	3,210	38	298	16	*1.8
19	9	21	77	1,210	610	876	628	5,810	31	254	18	2.8
20	7	60	74	1,160	898	592	436	3,950	51	149	34	4.9
21	6	81	72	3,680	5,940	507	376	1,870	66	188	28	9.0
22	5	66	70	1,830	3,220	581	331	1,320	*43	992	17	9.0
23	4	47	66	2,080	1,480	3,900	292	1,020	38	*998	13	6.5
24	3	38	61	3,910	1,200	1,660	265	789	28	396	11	4.9
25	3	33	57	1,940	1,040	1,180	269	628	114	226	9.0	4.2
26	3	*31	53	1,350	869	906	246	512	135	162	7.3	5.7
27	4	40	51	1,080	705	719	218	432	85	130	6.5	5.7
28	7	47	49	1,580	592	598	194	*355	147	105	6.5	4.9
29	8	49	45	1,250	-	502	229	296	225	88	5.7	4.2
30	*10	45	43	935	-	436	*6,680	258	197	79	4.9	3.7
31	9.0	-	53	754	-	480	-	224	-	65	4.2	-
Total	419.0	987.0	4,179	36,788	41,406	39,534	24,123	39,721	2,796	5,624	1,107.1	127.0
Mean	13.5	32.9	135	1,187	1,479	1,275	804	1,281	93.2	181	35.7	4.23
Cfsm	0.033	0.081	0.334	2.94	3.66	3.16	1.99	3.17	0.231	0.448	0.088	0.010
In.	0.04	0.09	0.38	3.39	3.81	3.64	2.22	3.66	0.26	0.52	0.10	0.01

Calendar year 1952: Max 10,500 Min 0.8 Mean 457 Cfsm 1.13 In. 15.39
Water year 1952-53: Max 7,000 Min 1.5 Mean 539 Cfsm 1.33 In. 18.12

Peak discharge (base, 7,500 cfs).--Feb. 12 (12 m.) 7,540 cfs (13.49 ft); Mar. 3 (11 p.m.) 8,380 cfs (14.64 ft); Apr. 30 (9 p.m.) 8,380 cfs (14.64 ft).
* Discharge measurement made on this day.
Note.--Doubtful gage-height record Oct. 1-9, 15-29 and no gage-height record Mar. 31, Apr. 1; discharge estimated on basis of weather records and records for station near Kingston Springs and, for periods in October, from shape of recorder record.

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, and 3 miles downstream from Turnbull Creek.

Drainage area.--687 sq mi.

Records available.--July 1925 to September 1953.

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.--28 years, 958 cfs.

Extremes.--Maximum discharge during year, 13,300 cfs Mar. 4 (gage height, 16.33 ft); minimum, 29 cfs Sept. 19 (gage height, 0.68 ft).
1925-53: 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 excellent.

Cooperation.--Six discharge measurements 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 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 19				May 20 to Sept. 30			
0.9	44	3.0	620	0.7	30	2.0	247
1.0	52	4.0	1,250	1.0	54	2.5	400
1.5	117	8.0	4,350	1.5	122		
2.0	240	15.0	11,400	Note.--Same as preceding table above 2.5 ft.			
2.5	400						

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	54	60	114	167	1,110	881	2,340	*7,610	373	253	136	38
2	51	60	155	210	952	1,440	1,420	2,420	334	168	152	38
3	47	60	172	333	819	6,910	1,040	1,580	304	134	247	38
4	46	60	202	407	711	11,300	843	1,340	281	144	185	*38
5	49	60	498	353	615	5,300	699	2,210	264	119	142	38
6	47	60	807	295	595	2,660	717	1,800	247	107	*119	38
7	50	60	525	264	1,510	1,970	966	1,310	236	224	101	36
8	54	61	363	620	1,120	1,610	920	1,220	225	310	99	35
9	87	68	289	1,540	894	1,320	*747	1,050	*209	196	99	35
10	228	133	314	3,690	*741	*1,130	843	843	193	161	91	34
11	207	137	*595	3,120	2,160	1,020	1,180	735	177	122	119	34
12	180	155	435	1,570	9,450	920	3,110	648	161	104	94	33
13	126	124	330	1,090	6,140	933	3,670	580	152	92	82	31
14	103	111	270	*831	2,660	1,220	1,800	580	185	90	74	31
15	93	101	231	675	1,980	1,220	1,380	1,250	169	98	68	32
16	86	93	199	570	1,700	1,090	1,170	1,680	156	132	64	32
17	79	88	177	575	1,360	862	928	4,280	144	372	66	31
18	75	86	162	2,290	1,120	2,450	849	6,360	128	861	72	*30
19	74	103	153	1,930	972	1,960	1,000	10,200	119	410	65	36
20	69	126	153	1,360	1,170	1,320	795	7,560	133	344	59	68
21	63	117	148	6,260	7,540	1,060	670	3,420	262	397	58	56
22	62	139	142	3,610	5,990	1,030	595	2,150	*161	2,420	76	43
23	62	124	139	2,810	2,380	*5,700	530	1,590	126	*1,410	66	39
24	61	111	133	9,000	1,800	3,400	502	1,280	105	907	56	43
25	60	104	126	4,120	1,550	2,000	631	1,060	94	484	54	46
26	60	*122	121	2,320	1,330	1,520	565	894	204	347	49	48
27	59	124	115	1,740	1,150	1,240	484	759	255	275	47	49
28	58	109	111	1,890	998	1,040	435	*626	234	231	44	47
29	59	114	104	2,160	-	881	447	525	304	198	40	44
30	*59	115	103	1,470	-	759	10,100	463	376	169	38	42
31	59	-	133	1,220	-	859	-	414	-	159	38	-
Total	2,467	2,985	7,519	58,490	60,517	67,005	41,374	68,437	6,311	11,436	2,700	1,183
Mean	79.6	99.5	243	1,887	2,161	2,161	1,379	2,208	210	369	87.1	39.4
Cfsm	0.116	0.145	0.354	2.75	3.15	3.15	2.01	3.21	0.306	0.537	0.127	0.057
In.	0.13	0.16	0.41	3.17	3.28	3.63	2.24	3.70	0.34	0.62	0.15	0.06

Calendar year 1952: Max 16,300 Min 32 Mean 822 Cfsm 1.20 In. 16.29
Water year 1952-53: Max 11,300 Min 30 Mean 905 Cfsm 1.32 In. 17.89

Peak discharge (base, 10,000 cfs).--Jan. 24 (12 m.) 11,000 cfs (14.64 ft); Feb. 12 (8 a.m.) 10,000 cfs (13.77 ft); Mar. 4 (9 a.m.) 13,300 cfs (16.33 ft); Apr. 30 (11:30 a.m.) 13,200 cfs (16.30 ft); May 19 (3 p.m.) 11,500 cfs (15.07 ft).
* Discharge measurement made on this day.

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 1953.

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.--33 years, 1,002 cfs.

Extremes.--Maximum discharge during year, 10,400 cfs Mar. 4 (gage height, 18.89 ft); minimum, 42 cfs Sept. 30; minimum gage height, 1.72 ft Oct. 5, 6.

1920-53: 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 Sept. 10, 1925 (gage height, 1.30 ft, site then in use).

Revisions.--Figures of maximum discharge for the water years 1932 and 1935 have been revised to 22,100 cfs Jan. 30, 1932 (gage height, 30.0 ft) and 20,800 cfs Jan. 21, 1935 (gage height, 28.87 ft), superseding those published in WSP 728 and 783, respectively.

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

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

Revisions (water years).--WSP 953: 1920-27. Revised figures of discharge, in cubic feet per second, for period in water year 1928, superseding those published in WSP 663, are given herewith:

Apr. 5, 1928	444
Apr. 6, 1928	434

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
April 1928	3,360	361	961	1.42	1.58
Water year 1927-28	15,900	115	1,121	1.65	22.53
Calendar year 1928	15,900	115	1,120	1.65	22.51

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 3 to Dec. 3, Dec. 6-10, Sept. 24-30; rate of change in stage used as a factor Mar. 3, 5, May 17, 18, 20)

Oct. 1 to Mar. 4				Mar. 5 to Sept. 30	
1.7	53	3.5	475	1.7	47
2.0	83	4.0	700	2.0	79
2.2	110	10.0	4,250	2.2	110
2.5	172	18.0	9,800	Note.--Same as preceding table above 2.2 ft.	
3.0	311				

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	*53	51	*58	95	985	725	2,350	2,820	*835	224	107	*59
2	51	52	64	102	855	1,910	a2,200	1,540	755	200	98	58
3	48	52	65	123	765	5,320	a1,600	1,120	690	192	95	57
4	47	52	a65	208	690	9,720	a1,300	980	625	636	93	57
5	47	55	a116	210	605	5,790	a1,150	1,440	573	317	92	57
6	50	57	351	180	640	3,470	1,030	1,380	543	241	90	56
7	52	55	281	165	790	2,730	1,040	1,140	543	200	89	55
8	51	52	172	252	670	2,280	965	1,260	487	184	114	55
9	62	53	140	620	564	1,940	855	1,110	447	170	95	55
10	107	62	*412	815	507	1,690	790	935	416	157	93	55
11	200	65	650	1,300	*731	1,490	715	825	392	146	89	55
12	142	61	376	890	2,690	1,330	650	740	370	135	79	56
13	93	69	281	655	2,260	*1,220	610	665	379	129	74	54
14	76	66	227	523	1,660	1,230	564	665	578	125	78	53
15	66	61	194	447	1,370	2,710	*527	965	507	110	68	54
16	61	59	172	402	1,170	2,350	507	2,300	419	152	71	53
17	56	58	154	399	990	*1,610	475	7,280	745	287	71	51
18	53	55	144	845	840	3,600	600	8,840	395	483	69	51
19	51	61	129	980	740	3,850	1,160	7,760	341	408	67	55
20	51	67	127	770	765	2,480	805	*6,280	314	317	67	60
21	49	74	120	725	2,120	2,010	625	4,070	290	227	67	*57
22	46	75	112	1,120	2,000	a1,800	551	3,070	272	197	67	50
23	47	72	110	1,010	1,370	a4,500	511	2,520	255	246	67	48
24	51	*67	107	2,720	1,150	a4,800	475	2,140	244	230	67	47
25	51	64	101	3,040	1,040	a2,600	464	1,850	230	174	66	46
26	51	66	98	1,930	955	a2,000	454	1,630	230	150	*64	46
27	51	63	95	1,490	*865	a1,600	422	1,440	238	133	62	46
28	51	61	93	1,650	765	1,410	389	1,280	335	127	62	45
29	49	58	90	1,770	-	1,260	389	1,140	311	120	62	43
30	50	58	89	*1,340	-	1,130	*2,680	1,010	*246	112	61	42
31	*50	-	*95	1,140	-	1,070	-	915	-	*108	60	-
Total	1,963	1,821	5,288	27,916	30,552	81,625	26,853	71,110	13,005	6,637	2,404	1,576
Mean	63.3	60.7	171	901	1,091	2,633	895	2,294	434	214	77.5	52.5
Cfsm	0.093	0.090	0.252	1.33	1.61	3.88	1.32	3.38	0.640	0.316	0.114	0.077
In.	0.11	0.10	0.29	1.53	1.68	4.48	1.47	3.90	0.71	0.36	0.13	0.09

Calendar year 1952: Max 20,300 Min 46 Mean 807 Cfsm 1.19 In. 16.19
Water year 1952-53: Max 9,720 Min 42 Mean 742 Cfsm 1.09 In. 14.85

Peak discharge (base, 8,000 cfs).--Mar. 4 (11 a.m.) 10,400 cfs (18.89 ft); May 18 (6:30 a.m.) 9,560 cfs (17.65 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of adjacent record, 1 gage reading, recorded range in stage when available, weather records, and records for Sulphur Fork Red River near Adams.

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 1953.

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.--14 years, 240 cfs.

Extremes.--Maximum discharge during year, 6,220 cfs May 19 (gage height, 14.68 ft); minimum, 5.1 cfs Sept. 1-4, 8-11, 15-19; minimum gage height, 3.83 ft Oct. 5.
1939-53: Maximum discharge, 13,200 cfs Mar. 22, 1952 (gage height, 22.75 ft); minimum, 1.8 cfs Sept. 27, 1948; minimum gage height, 3.67 ft Sept. 26-28, 1941, Oct. 21-23, 1951.
Maximum stage known, 25.1 ft in June 1934, from floodmarks.

Remarks.--Records good above 50 cfs and fair below.

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

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 17, July 22, July 24 to Sept. 30)

Oct. 1 to Jan. 23

3.8	6.3	4.2	45
3.9	11	4.3	71
4.0	17	5.0	330
4.1	27	6.0	715

Jan. 24 to Sept. 30

3.9	21	6.0	715
4.0	33	8.0	1,760
4.2	86	11.0	3,690
5.0	351		

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	*9.8	15	*22	27	239	209	771	663	*104	41	19	*5.1
2	9.4	17	48	32	198	683	413	388	95	41	19	5.1
3	8.5	16	40	53	179	3,280	300	242	86	39	18	5.1
4	8.1	16	38	55	166	2,550	232	225	83	39	18	5.1
5	8.1	24	152	50	149	1,050	202	420	80	39	18	5.5
6	8.9	21	134	43	159	691	202	256	80	39	18	5.5
7	10	16	78	41	159	514	205	292	80	39	16	5.5
8	11	15	58	134	142	406	175	307	74	39	21	5.1
9	62	17	70	208	126	320	162	208	68	39	20	5.1
10	289	34	*145	547	116	273	159	162	65	37	18	5.1
11	71	45	90	382	*306	249	149	142	60	35	16	5.5
12	43	36	66	223	1,020	229	142	126	57	35	14	5.5
13	34	29	53	164	578	215	139	116	54	33	14	5.9
14	26	24	45	130	416	504	129	126	98	33	13	5.5
15	23	21	40	104	331	680	*123	138	65	35	12	5.1
16	22	20	36	90	242	388	119	626	57	35	12	5.1
17	20	19	32	108	189	*314	116	2,610	52	175	11	5.1
18	20	18	31	341	162	1,520	142	1,810	49	161	11	5.1
19	18	27	29	238	149	759	142	3,350	46	129	10	6.7
20	15	34	27	182	272	511	123	*1,900	43	37	10	9.0
21	13	34	27	496	1,460	396	113	966	43	28	9.5	*8.5
22	12	25	27	389	578	454	95	659	41	25	9.0	8.5
23	13	22	27	494	406	1,740	89	480	41	29	9.0	7.5
24	14	*21	27	1,500	317	771	86	361	41	24	8.5	6.7
25	15	20	25	791	280	532	89	276	41	23	8.0	7.1
26	16	22	25	508	242	392	86	218	83	22	*7.1	7.1
27	18	25	24	392	*215	314	77	182	71	21	7.1	7.1
28	16	25	23	791	195	266	74	156	46	21	6.7	7.1
29	15	23	22	518	-	239	82	142	60	21	5.9	6.7
30	14	22	*388	-	-	218	*2,020	132	*46	21	5.9	6.3
31	*14	-	*26	297	-	*420	-	116	-	*21	5.5	-
Total	875.8	705	1,509	9,716	8,991	21,087	6,956	17,795	1,909	1,356	390.2	183.3
Mean	28.3	23.5	48.7	313	321	680	232	574	63.6	43.7	12.6	6.11
Cfsm	0.153	0.127	0.263	1.69	1.74	3.68	1.25	3.10	0.344	0.236	0.068	0.033
In.	0.18	0.14	0.30	1.95	1.81	4.24	1.40	3.58	0.38	0.27	0.08	0.04

Calendar year 1952: Max 8,260 Min 5.2 Mean 225 Cfsm 1.22 In. 16.58
Water year 1952-53: Max 3,350 Min 5.1 Mean 196 Cfsm 1.06 In. 14.37

Peak discharge (base, 3,400 cfs).--Mar. 3 (9:30 a.m.) 4,620 cfs (12.40 ft); May 17 (2 p.m.) 4,200 cfs (11.79 ft); May 19 (4:30 p.m.) 6,220 cfs (14.68 ft).
* Discharge measurement made on this day.

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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 1953.

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 (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.--16 years, 24,580 cfs (unadjusted).

Extremes.--Maximum discharge during year, 96,800 cfs Mar. 5; maximum gage height, 31.65 ft Mar. 6; minimum daily discharge, 1,920 cfs Nov. 8; minimum gage height, 9.85 ft Sept. 30.
1937-53: Maximum discharge, 188,000 cfs Feb. 15, 1950; maximum gage height, 48.13 ft Feb. 16, 1950; minimum daily discharge, 414 cfs Oct. 4, 1947; minimum gage height observed, 7.10 ft (upper lock D gage) Sept. 16, 1947.
1916-37: Maximum gage height observed, 56.8 ft Jan. 25, 1937, at lock D; minimum observed, 6.8 ft in September 1925, at lock D. Both extremes from unpublished records of Corps of Engineers.

Remarks.--Records good except those for periods of wicket manipulation, which are fair. Some regulation by navigation dams on Cumberland River and by Wolf Creek, Dale Hollow, Great Falls, and Center Hill Reservoirs (see pp. 62, 63).

Cooperation.--Lock gage readings, record of wicket manipulation, and 12 discharge measurements furnished by Corps of Engineers.

Revisions.--Revised figures of discharge, in cubic feet per second, for a day in the water year 1942, superseding those published in WSP 953, are given herewith:

Aug. 10, 1942..... 35,000

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
August 1942.....	666,960	35,000	4,310	21,510	1.30	1.50
Water year 1941-42.....	5,594,351	82,300	540	15,330	.927	12.59
Calendar year 1942.....	7,028,110	109,000	1,330	19,260	1.17	15.82

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	2,760	2,710	3,710	15,900	27,300	30,200	42,200	59,900	27,300	5,790	16,100	4,720
2	2,660	3,260	3,240	22,400	25,700	34,500	43,200	55,600	23,500	5,210	17,200	6,980
3	2,410	3,250	5,090	21,000	22,500	50,800	36,500	36,300	21,600	8,340	14,700	6,560
4	2,050	3,220	7,990	16,300	19,800	84,500	33,700	24,400	25,100	12,000	9,390	7,380
5	2,270	3,170	12,700	11,000	18,700	95,900	34,100	21,100	29,000	16,800	6,870	10,100
6	2,840	2,980	15,700	11,400	20,900	89,700	32,700	23,000	32,500	11,600	12,600	9,500
7	3,280	2,530	16,400	14,900	23,100	72,700	33,000	20,000	35,100	9,260	17,700	7,640
8	2,940	1,920	12,400	18,300	28,300	52,600	36,200	18,000	33,200	11,700	20,200	5,940
9	3,080	2,670	9,330	24,700	26,200	41,300	36,700	17,300	27,000	10,900	21,100	4,020
10	4,000	4,290	8,650	33,600	20,500	35,300	33,700	16,200	23,900	10,500	17,000	2,740
11	4,230	4,010	11,200	46,100	17,500	29,900	31,600	12,600	25,200	9,460	9,150	2,500
12	4,100	3,540	14,100	43,700	34,800	26,900	33,100	9,270	28,400	6,760	6,390	2,870
13	3,820	3,270	15,200	31,400	56,600	25,900	38,800	12,700	28,200	4,850	6,850	3,610
14	3,170	3,230	17,300	25,900	61,500	25,200	*41,900	14,800	26,600	3,170	8,790	4,120
15	2,760	3,040	18,000	23,600	50,900	27,800	39,900	14,100	25,600	2,820	9,240	4,980
16	2,630	3,120	17,700	22,100	41,400	27,500	38,700	24,000	23,600	*2,110	11,300	5,250
17	2,420	3,280	18,500	19,000	35,000	24,800	36,500	49,600	25,100	5,370	13,800	3,580
18	2,580	3,370	21,800	20,200	29,000	40,000	34,300	69,600	*25,500	12,800	13,800	3,010
19	3,550	3,360	23,700	21,000	28,400	*49,800	35,500	*74,300	23,700	12,300	10,400	4,880
20	3,430	3,280	22,900	32,000	32,000	49,500	32,600	85,600	23,100	9,660	8,720	5,460
21	2,740	3,110	20,800	33,300	43,000	45,200	27,600	86,700	21,500	12,200	8,830	3,100
22	2,060	3,310	15,000	42,000	62,500	38,600	26,300	68,800	19,000	11,000	9,460	*3,070
23	2,350	5,130	10,900	41,800	72,600	45,200	27,100	48,000	18,900	13,400	8,580	2,960
24	2,820	5,020	11,700	46,800	60,000	50,200	28,500	33,200	17,300	15,300	8,960	3,050
25	2,630	*3,650	15,000	59,000	44,600	45,900	24,000	33,100	14,100	15,500	*7,230	2,640
26	3,090	2,790	19,400	57,700	*38,000	43,500	19,200	36,800	16,600	10,200	7,750	2,460
27	3,790	2,500	16,700	*46,300	35,900	44,300	16,400	38,500	19,200	9,100	8,610	3,160
28	3,240	2,670	10,800	37,600	32,800	42,800	16,500	36,500	20,200	8,750	6,080	3,440
29	*2,230	2,790	7,640	32,800	-	41,200	19,100	33,400	20,300	5,300	4,620	3,290
30	2,120	3,400	*9,070	32,400	-	39,000	41,900	31,900	13,100	4,830	3,900	2,750
31	2,280	-	12,600	30,900	-	32,500	-	29,800	-	9,700	4,010	-
Total	90,130	97,870	425,220	945,100	‡1,009.5	‡1,383.2	971,500	‡1,135.07	713,400	286,680	329,330	135,760
Mean	2,907	3,262	13,720	30,490	36,050	44,620	32,380	36,620	23,780	9,248	10,620	4,525

	Observed				Adjusted†			
Calendar year 1952:	Max 126,000	Min 1,000	Mean 26,190		Mean 21,780	Cfsm 1.32	In. 17.93	
Water year 1952-53:	Max 95,900	Min 1,920	Mean 20,610		Mean 20,930	Cfsm 1.27	In. 17.19	

* 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 D Oct. 1 to Dec. 6, Dec. 8-12, 22-25, Dec. 28 to Jan. 1, Jan. 4-7, May 10-15, June 30 to July 4, July 6 to Aug. 6, Aug. 11 to Sept. 30; discharge computed by weir formula plus leakage. Lower lock C or upper lock D staff-gage readings were used to determine discharge on a few days.

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 1953.

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

Extremes.--Maximum discharge during year, 2,490 cfs May 17 (gage height, 13.55 ft); minimum, 0.2 cfs Aug. 20, 21 (gage height, 1.15 ft).
1949-53: 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 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.12	0.3	2.2	74
1.2	.9	4.0	368
1.3	2.6	6.0	748
1.4	5.2	8.0	1,200
1.6	12	11.0	1,890
1.8	28		

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	0.8	1.2	1.5	8.9	48	51	301	237	28	4.4	2.0	0.6
2	.7	1.0	1.6	14	44	332	115	91	25	3.8	1.6	.6
3	.8	.8	1.6	49	40	1,100	78	69	23	53	1.5	.6
4	.7	.8	56	33	37	1,160	65	210	18	35	1.2	.6
5	.6	.8	181	25	33	259	59	208	12	8.9	1.2	.6
6	1.3	.9	40	20	46	*181	61	113	10	6.8	1.0	.6
7	1.0	.9	24	18	41	138	69	90	15	6.2	1.0	.6
8	.8	.9	16	126	35	114	56	81	14	5.2	1.3	.5
9	2.3	1.3	28	69	31	96	48	70	10	4.9	1.2	.6
10	6.6	1.8	211	104	28	81	44	57	11	4.6	.9	.6
11	12	1.9	51	88	69	73	39	51	9.6	4.1	.8	.5
12	12	1.0	33	60	215	69	36	45	9.3	3.8	.6	.5
13	3.3	.8	24	50	99	69	33	45	37	3.8	.7	.6
14	.8	.8	18	42	80	241	30	57	36	3.6	.6	.6
15	.8	.7	15	36	69	1,140	30	*68	13	3.3	.5	.4
16	*.9	.7	13	57	59	240	33	454	9.6	3.6	.4	.4
17	.8	.7	11	157	49	165	26	1,880	9.6	12	2.2	.5
18	.9	2.8	10	149	44	843	192	736	*8.5	56	.7	.5
19	.8	27	9.6	91	39	232	*89	398	8.2	12	.4	.8
20	1.0	*14	9.3	73	40	162	57	243	7.5	7.1	.3	.8
21	1.6	7.1	8.5	61	98	125	46	168	6.8	6.5	.3	.5
22	1.8	5.2	8.5	51	56	150	40	130	6.8	7.5	.3	.4
23	1.3	4.4	8.2	102	47	436	35	104	6.2	*5.8	.4	.5
24	.7	3.8	7.5	261	44	162	35	88	6.2	4.6	.6	.4
25	.7	3.1	7.1	123	41	123	91	74	5.2	4.1	.7	.5
26	.7	3.1	6.5	94	38	99	48	62	5.2	3.6	.6	.6
27	.7	2.6	6.2	80	35	84	39	54	5.2	3.1	.6	.6
28	.8	2.2	5.8	93	31	74	35	46	4.9	2.8	*.8	.5
29	.9	5.1	*5.5	70	-	65	36	41	4.9	2.6	.6	.5
30	1.3	3.3	5.2	*62	-	59	512	35	4.6	2.4	.6	.5
31	1.3	-	6.5	55	-	61	-	33	-	2.0	.6	-
Total	60.7	99.8	830.1	2,321.9	1,536	8,184	2,378	6,038	370.3	287.1	26.2	16.5
Mean	1.96	3.33	26.8	74.9	54.9	264	79.3	195	12.3	9.26	0.85	0.55
Cfsm	0.042	0.072	0.580	1.62	1.19	5.71	1.72	4.22	0.266	0.200	0.018	0.012
In.	0.05	0.08	0.67	1.87	1.24	6.59	1.91	4.86	0.30	0.23	0.02	0.01

Calendar year 1952: Max 2,610 Min 0.2 Mean 48.8 Cfsm 1.06 In. 14.38
Water year 1952-53: Max 1,880 Min 0.3 Mean 60.7 Cfsm 1.31 In. 17.83

Peak discharge (base, 1,600 cfs).--Mar. 4 (8 a.m.) 2,020 cfs (11.59 ft); Mar. 15 (1:30 p.m.) 1,890 cfs (11.03 ft); May 17 (9:30 p.m.) 2,490 cfs (13.55 ft).
* Discharge measurement made on this day.

Little River near Cadiz, Ky.

Location.--Lat 36°47', long. 87°43', 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 1953.

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

Average discharge.--13 years, 356 cfs.

Extremes.--Maximum discharge during year, 8,330 cfs May 17 (gage height, 17.68 ft); minimum, 14 cfs Sept. 30 (gage height, 2.44 ft).
1940-53: 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, 1646(M), 1949.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 10				Dec. 11 to Sept. 30					
2.5	17	3.4	160	2.4	10	3.5	185	9.0	2,170
2.6	22	3.7	250	2.6	28	3.7	250	12.0	3,470
2.8	44	4.0	400	2.8	50	4.0	400	14.0	4,660
3.0	78			3.0	79	4.4	590	16.0	6,500
				3.3	138	6.0	1,190		

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	18	32	21	38	197	333	932	1,280	300	69	35	19
2	18	32	22	43	180	1,180	831	738	272	69	33	19
3	17	24	24	50	168	3,220	598	568	250	69	32	19
4	17	22	60	97	156	*5,390	518	942	232	101	35	19
5	17	22	380	97	149	2,420	455	1,710	215	157	34	19
6	18	23	382	79	153	1,250	420	966	200	92	32	18
7	18	23	153	73	172	998	465	857	191	74	32	18
8	18	22	114	149	168	846	465	750	185	66	77	18
9	20	25	102	400	149	730	*389	654	178	60	53	18
10	42	27	273	250	138	646	335	563	168	56	38	18
11	47	25	426	367	543	586	300	475	160	55	37	17
12	44	36	172	268	992	536	277	410	156	54	32	17
13	36	27	134	203	745	522	254	356	142	51	31	17
14	36	23	109	175	514	810	236	400	147	51	29	*16
15	28	22	93	156	415	2,780	226	*522	197	50	28	16
16	*24	21	83	149	345	1,790	226	1,210	156	48	27	15
17	22	19	74	335	282	1,070	229	5,910	138	51	27	15
18	21	20	69	818	236	2,660	455	5,670	*128	54	26	15
19	20	42	63	540	206	1,830	924	2,420	121	128	25	19
20	20	*78	60	367	194	1,130	500	1,580	115	115	24	21
21	20	84	56	286	250	938	362	1,190	109	93	24	19
22	20	47	54	232	350	939	295	984	103	68	24	21
23	21	34	51	330	236	1,720	259	838	97	*55	24	22
24	23	29	49	740	194	1,380	246	726	93	51	24	19
25	25	25	46	731	191	910	500	646	90	48	24	17
26	26	22	45	475	185	766	563	572	84	44	23	16
27	26	21	43	372	175	678	345	518	79	42	22	16
28	28	20	40	320	162	614	272	455	76	39	22	15
29	29	20	*39	315	-	558	276	405	74	38	21	15
30	31	21	38	*250	-	495	1,810	372	73	36	21	14
31	32	-	40	218	-	514	-	330	-	38	20	-
Total	782	888	3,315	8,923	7,845	40,239	13,963	35,017	4,529	2,022	936	527
Mean	25.2	29.6	107	288	280	1,298	465	1,130	151	65.2	30.2	17.6
Cfsm	0.101	0.119	0.430	1.16	1.12	5.21	1.87	4.54	0.606	0.262	0.121	0.071
In.	0.12	0.13	0.50	1.33	1.17	6.01	2.09	5.23	0.68	0.30	0.14	0.08

Calendar year 1952: Max 7,430 Min 17 Mean 291 Cfsm 1.17 In. 15.91
Water year 1952-53: Max 5,910 Min 14 Mean 326 Cfsm 1.31 In. 17.78

Peak discharge (base, 3,500 cfs).--Mar. 3 (10 p.m.) 7,740 cfs (17.20 ft); May 17 (10:30 a.m.) 8,330 cfs (17.68 ft).
* 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 1953 (fragmentary prior to October 1943).

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

Average discharge.--10 years (1943-53), 30,290 cfs (unadjusted).

Extremes.--Maximum discharge during year, 99,900 cfs Mar. 6; maximum gage height, 23.56 ft Mar. 8; minimum daily discharge, 1,820 cfs Oct. 22.
1939-53: Maximum discharge, 201,000 cfs Feb. 18, 1950; maximum gage height, 43.10 ft Feb. 13, 1950; minimum discharge not determined.
Maximum stage known, 51.1 ft January to February 1937.

Remarks.--Records good except those below 15,000 cfs or for periods of doubtful or no auxiliary gage-height record, which are fair. 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 Wolf Creek, Dale Hollow, Great Falls, and Center Hill Reservoirs (see p. 62). Records of water temperatures for the water year 1953 are given in WSP 1290.

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

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

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	2,730	2,540	3,740	15,100	32,500	a35,000	38,200	a50,000	31,700	7,000	15,600	4,370
2	2,730	3,310	3,310	19,800	31,400	a37,000	45,700	65,500	28,500	5,000	a19,000	6,660
3	2,610	3,480	4,900	23,100	28,800	a49,000	44,700	52,900	25,500	8,940	a18,000	7,130
4	2,260	3,480	8,600	20,800	25,600	a69,000	39,800	35,100	25,300	12,600	11,100	7,180
5	2,170	3,350	13,700	13,200	23,400	a87,000	39,200	30,700	27,600	a17,000	7,350	9,730
6	2,660	3,230	16,900	11,900	24,600	98,900	39,400	27,900	30,600	14,900	10,900	10,700
7	3,510	2,780	17,800	14,900	26,300	96,700	38,200	26,800	33,100	9,690	a16,000	8,330
8	*3,620	1,980	14,900	20,700	29,300	83,300	38,900	23,900	33,400	11,700	a20,000	6,300
9	3,230	2,360	10,900	23,500	31,400	*61,500	40,200	21,300	29,900	11,800	a22,000	4,120
10	3,980	*4,260	10,700	28,400	27,600	47,900	39,500	19,400	25,700	11,100	a20,000	*2,640
11	4,690	4,390	12,400	38,500	22,500	40,900	37,000	17,000	24,900	10,200	12,100	2,230
12	4,520	3,900	14,900	46,800	a26,200	36,000	35,800	11,800	27,200	7,400	6,320	2,230
13	4,220	3,310	16,800	38,100	a46,800	34,400	37,600	13,300	29,000	5,380	6,700	3,410
14	3,360	3,160	18,200	28,800	a61,200	36,900	*42,300	19,700	28,600	3,570	8,530	4,370
15	2,740	3,210	19,200	26,300	a58,000	42,900	41,800	17,500	26,900	2,810	9,160	4,860
16	2,620	3,210	19,200	26,800	48,400	40,600	40,500	24,100	25,800	2,450	10,600	5,610
17	2,460	3,210	*19,000	26,800	40,200	36,400	a39,000	51,400	24,300	4,280	13,400	4,130
18	2,540	3,400	20,100	25,100	34,500	41,500	a37,000	76,900	26,300	13,400	14,200	2,790
19	3,580	3,910	23,200	28,900	31,000	52,500	a37,000	88,800	25,000	12,600	11,900	4,860
20	3,750	3,530	24,200	34,400	33,100	55,900	a40,000	89,100	23,500	11,000	8,800	5,990
21	3,280	3,100	23,900	*33,000	38,300	52,200	a30,000	93,400	23,400	13,100	11,200	3,060
22	1,820	3,190	20,500	37,700	50,300	46,900	a30,000	92,100	19,700	11,000	10,100	2,830
23	2,040	5,230	12,700	43,600	60,200	48,600	a30,000	78,500	19,900	13,800	9,110	2,870
24	2,640	5,160	12,100	45,100	65,600	55,400	a31,000	53,400	19,900	14,800	8,990	2,980
25	2,710	4,160	14,800	55,500	*53,700	53,800	a32,000	38,100	18,300	a17,000	7,920	2,760
26	3,050	2,870	18,900	61,700	43,800	50,000	a22,000	37,300	*16,200	12,700	7,220	2,150
27	3,890	2,390	19,400	55,700	39,000	49,400	a20,000	*40,000	20,000	8,470	9,050	2,950
28	3,570	2,360	13,800	44,300	37,200	48,900	a19,000	40,800	20,900	9,780	6,530	3,580
29	2,590	2,750	7,520	36,700	-	42,800	a30,000	37,900	21,500	6,050	4,570	3,310
30	2,140	3,480	8,990	34,500	-	42,900	a40,000	36,800	20,100	*4,470	4,130	2,840
31	2,140	-	13,100	34,200	-	39,100	-	33,200	-	8,080	3,920	-
Total	93,850	100,690	458,360	993,900	‡1,070.9	‡1,613.3	‡1,075.8	‡1,344.6	752,700	302,070	344,400	136,970
Mean	3,027	3,356	14,790	32,060	38,250	52,040	35,860	43,370	25,090	9,744	11,110	4,566

	Observed				Adjusted†			
Calendar year 1952:	Max 120,000	Min 1,290	Mean 28,970		Mean 24,560	Cfsm 1.36	In. 18.49	
Water year 1952-53:	Max 98,900	Min 1,820	Mean 22,710		Mean 23,030	Cfsm 1.27	In. 17.29	

* Discharge measurement made on this day.

† Adjusted for change in contents in Wolf Creek, Dale Hollow, Great Falls, and Center Hill Reservoirs; furnished by Corps of Engineers and Tennessee Valley Authority.

‡ Expressed in thousands.

a Doubtful or no auxiliary gage-height record; discharge estimated on basis of recorder graph and records for station at Dover, Tenn.

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 1953 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, 2,044,400 cfs-days May 23 (elevation, 724.20 ft); minimum contents, 1,080,300 cfs-days Jan. 7 (elevation, 680.86 ft). Maximum contents during period, July 1950 to September 1953, 2,505,800 cfs-days Dec. 23, 1951 (elevation, 741.32 ft); minimum (after first filling), that of Jan. 7, 1953.

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 760.0 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 1953. 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, 695,200 cfs-days May 25 (elevation, 651.92 ft); minimum, 474,000 cfs-days Jan. 7 (elevation, 634.70 ft). Maximum contents observed during period 1943-53, 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 6 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 Reservoir.--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 1953. Remote indicator gage. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 28,700 cfs-days May 1 (elevation, 806.00 ft); minimum, 3,200 cfs-days Sept. 25 (elevation, 764.98 ft). Maximum 12 p.m. elevation during period 1916-53, 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 is 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 1953. 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, 681,800 cfs-days Feb. 23 (elevation, 649.25 ft); minimum, 433,500 cfs-days Jan. 7 (elevation, 619.51 ft). Maximum contents during period 1948-53, 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 8 taintor gates, 37 ft high and 50 ft wide. Closure of dam was made Nov. 27, 1948; water in reservoir first reached minimum pool elevation Jan. 11, 1949. Total capacity at elevation 685.0 ft (top of gates) is 1,055,000 cfs-days, of which 385,000 cfs-days between 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.

Reservoirs in Cumberland River basin--Continued

Monthly elevation and contents, water year October 1952 to September 1953

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	690.96	1,280,400	-	638.18	515,200	-
Oct. 31	687.87	1,217,700	-62,700	636.97	500,700	-14,500
Nov. 30	688.22	1,224,700	+7,000	636.38	493,700	-7,000
Dec. 31	682.48	1,111,500	-113,200	635.13	479,000	-14,700
Calendar year 1952	-	-	-1,239,200	-	-	-170,200
Jan. 31	698.05	1,429,500	+318,000	640.15	539,400	+60,400
Feb. 28	706.46	1,616,200	+186,700	645.60	609,000	+69,600
Mar. 31	713.61	1,782,900	+166,700	649.14	656,600	+47,600
Apr. 30	709.33	1,682,200	-100,700	648.55	648,600	-8,000
May 31	721.07	1,965,300	+283,100	650.43	674,400	+25,800
June 30	709.00	1,674,500	-290,800	644.93	600,200	-74,200
July 31	706.46	1,616,200	-58,300	643.04	575,800	-24,400
Aug. 31	699.74	1,466,200	-150,000	638.86	523,500	-52,300
Sept.30	696.05	1,386,700	-79,500	637.81	510,800	-12,700
Water year 1952-53	-	-	+106,300	-	-	-4,400

Date	Great Falls Reservoir			Center Hill Reservoir		
Sept.30	785.64	11,200	-	632.10	532,000	-
Oct. 31	785.38	11,000	-200	632.41	534,500	+2,500
Nov. 30	785.44	11,100	+100	632.81	537,900	+3,400
Dec. 31	785.24	11,000	-100	621.21	446,300	-91,600
Calendar year 1952	-	-	-17,000	-	-	-188,100
Jan. 31	805.59	28,200	+17,200	632.36	534,200	+87,900
Feb. 28	805.35	28,000	-200	646.30	654,800	+120,600
Mar. 31	802.71	25,100	-2,900	643.13	626,300	-28,500
Apr. 30	802.16	24,500	-600	640.41	602,400	-23,900
May 31	796.02	18,700	-5,800	646.42	655,900	+53,500
June 30	785.73	11,300	-7,400	640.10	599,700	-56,200
July 31	785.43	11,100	-200	640.95	607,100	+7,400
Aug. 31	765.10	3,200	-7,900	636.01	564,600	-42,500
Sept.30	768.58	4,100	+900	634.77	554,200	-10,400
Water year 1952-53	-	-	-7,100	-	-	+22,200

† 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 215.4.

Drainage area.--67.9 sq mi.

Records available.--May 1907 to June 1909, January 1936 to September 1953.

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.--18 years (1907-8, 1936-53), 238 cfs.

Extremes.--Maximum discharge during year, 4,380 cfs Feb. 21 (gage height, 10.11 ft); minimum, 54 cfs Oct. 19-21, Nov. 6; minimum gage height, 1.70 ft Oct. 19-21.
1907-9, 1936-53: Maximum discharge, 9,410 cfs Aug. 30, 1940 (gage height, 11.86 ft), from rating curve extended above 3,300 cfs on basis of slope-area determination of peak flow; minimum, 23 cfs Jan. 3, 1940 (gage height, 1.51 ft), result of freezeup; minimum daily, 55 cfs Dec. 15, 18, 1939, Jan. 7, 8, 1940.
Maximum stage known, 13.9 ft in July 1916, from floodmarks.

Remarks.--Records excellent.

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

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 19				Nov. 20 to Sept. 30			
1.6	42	3.7	321	1.7	60	4.0	792
1.7	59	3.0	414	1.9	103	5.0	1,250
1.9	100	3.5	593	2.1	156	6.0	1,780
2.0	124	4.0	792	2.4	242	7.0	2,270
2.3	205			2.8	365	8.0	2,820
				3.0	432		

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	63	56	119	167	245	352	296	290	*134	156	126	70
2	63	56	*137	*148	230	429	284	278	132	164	119	*74
3	61	56	129	145	222	*368	272	257	129	163	141	80
4	63	56	116	126	213	439	266	321	129	140	209	138
5	61	56	142	121	201	382	257	490	124	134	126	298
6	61	*56	126	119	213	349	275	480	173	*129	*113	178
7	*61	56	119	*124	278	333	272	484	372	155	124	119
8	70	56	111	304	251	318	248	368	213	134	162	98
9	122	56	111	462	*222	299	239	321	*207	124	126	92
10	78	63	444	705	207	293	236	290	204	111	108	87
11	68	74	311	408	257	321	228	266	210	108	103	85
12	63	65	222	308	336	321	242	*251	164	106	101	80
13	59	59	187	260	281	308	233	239	153	98	96	80
14	59	56	164	233	254	290	219	230	184	98	92	74
15	57	65	151	213	314	349	*219	222	181	119	89	74
16	57	59	142	198	272	302	222	213	164	254	87	74
17	57	57	134	193	272	290	210	207	151	137	96	72
18	57	56	129	405	*263	284	207	204	140	235	108	70
19	57	595	121	278	251	272	207	222	134	259	121	72
20	56	566	121	242	1,120	257	198	204	129	236	126	103
21	56	201	121	346	*2,550	254	196	190	148	187	101	80
22	56	151	116	269	880	495	193	184	134	293	96	72
23	56	134	113	438	636	1,220	190	176	137	245	94	70
24	56	119	108	726	554	668	187	170	137	181	89	70
25	56	111	106	442	490	501	184	164	129	159	85	124
26	56	257	103	355	442	425	187	159	153	145	80	176
27	56	193	101	314	405	391	176	151	202	137	78	213
28	56	159	98	336	375	362	173	148	213	126	76	113
29	56	137	96	299	-	339	170	145	183	124	74	94
30	57	129	101	272	-	321	439	142	184	126	74	87
31	57	-	263	257	-	308	-	137	-	145	72	-
Total	1,911	3,810	4,562	9,213	12,234	11,840	6,925	7,603	5,047	4,928	3,292	3,117
Mean	61.6	127	147	297	437	382	231	245	168	159	106	104
Cfsm	0.907	1.87	2.16	4.37	6.44	5.63	3.40	3.61	2.47	2.34	1.56	1.53
In.	1.05	2.09	2.50	5.05	6.70	6.48	3.79	4.16	2.76	2.70	1.80	1.71

Calendar year 1952: Max 2,160 Min 56 Mean 206 Cfsm 3.03 In. 41.34
Water year 1952-53: Max 2,550 Min 56 Mean 204 Cfsm 3.00 In. 40.79

Peak discharge (base, 2,000 cfs).--Feb. 21 (7 a.m.) 4,380 cfs (10.11 ft).
* Discharge measurement made on this day.

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 212.9.

Drainage area.--103 sq mi.

Records available.--October 1924 to September 1953.

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.--29 years, 348 cfs.

Extremes.--Maximum discharge during year, 6,070 cfs Feb. 21 (gage height, 9.36 ft), from rating curve extended above 3,600 cfs on basis of slope-area determination at gage height 11.66 ft; minimum, 85 cfs Nov. 8 (gage height, 0.42 ft).

1924-53: 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, 0.26 ft Dec. 17, 1943.

Maximum stage known, about 13½ ft (revised) in July 1916, from French Broad River profile by Tennessee Valley Authority.

Remarks.--Records excellent.

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 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

0.4	81	1.6	495	6.0	2,940
.5	99	2.0	710	7.0	3,600
.7	144	3.0	1,280	8.0	4,400
1.0	232	4.0	1,820		
1.3	353	5.0	2,380		

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	103	94	173	247	362	545	485	460	*216	247	202	118
2	101	94	*206	229	340	682	460	431	209	265	193	*118
3	97	92	196	225	327	584	440	403	206	258	212	137
4	97	90	179	202	310	722	426	510	202	229	290	223
5	97	88	209	193	298	*611	407	853	199	225	202	462
6	97	*86	190	190	327	550	440	842	277	*216	*182	262
7	*97	86	179	*193	445	515	440	836	719	301	193	187
8	114	86	170	426	384	485	398	616	353	254	266	160
9	220	86	170	686	*340	455	384	525	323	225	209	149
10	142	97	730	1,120	323	440	380	475	360	202	182	144
11	122	118	525	644	407	505	362	436	380	193	170	142
12	116	105	340	470	525	515	384	*412	298	184	165	139
13	110	94	285	398	440	480	366	389	277	179	160	130
14	105	94	250	353	398	460	344	366	298	176	154	127
15	105	105	232	323	500	540	*340	353	302	199	149	125
16	103	95	219	302	436	470	340	340	269	387	147	122
17	103	92	206	294	436	445	327	336	254	219	162	120
18	103	90	199	586	407	440	323	323	236	341	194	116
19	99	788	190	398	389	417	323	358	229	380	206	145
20	95	888	190	362	1,730	394	306	332	258	340	222	242
21	95	298	190	540	3,840	389	302	302	243	285	173	154
22	95	225	179	407	1,460	900	298	294	232	500	162	137
23	95	193	179	633	1,040	1,980	294	281	225	398	157	130
24	95	176	173	1,080	896	1,150	285	273	225	298	152	130
25	95	165	170	655	782	860	285	262	212	258	144	210
26	95	368	165	525	694	728	294	258	254	232	139	294
27	95	273	160	470	633	650	277	243	295	222	134	358
28	94	222	157	505	584	606	269	239	323	209	130	196
29	94	199	152	436	-	556	265	236	285	199	127	165
30	94	184	160	398	-	525	659	232	298	206	125	160
31	94	-	412	380	-	505	-	222	-	225	120	-
Total	3,267	5,671	7,135	13,870	19,053	19,104	10,903	12,438	8,457	8,052	5,423	5,302
Mean	105	189	230	447	680	616	363	401	282	260	175	177
Cfsm	1.02	1.83	2.23	4.34	6.60	5.98	3.52	3.89	2.74	2.52	1.70	1.72
In.	1.18	2.05	2.58	5.01	6.88	6.90	3.94	4.49	3.05	2.91	1.96	1.91

Calendar year 1952: Max 3,280 Min 86 Mean 333 Cfsm 3.23 In. 43.97
Water year 1952-53: Max 3,840 Min 86 Mean 325 Cfsm 3.16 In. 42.86

Peak discharge (base, 2,500 cfs).--Feb. 21 (8:30 a.m.) 6,070 cfs (9.36 ft); Mar. 23 (6:30 a.m.) 2,800 cfs (5.76 ft).

* Discharge measurement made on this day.

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 1953.

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 1 mile downstream at datum 57.79 ft lower. Oct. 2, 1946, to Jan. 9, 1947, at site 0.9 mile downstream from present site at datum 55.11 ft lower. Jan. 10, 1947, to Oct. 3, 1951, at site 40 ft upstream from present site at present datum.

Average discharge.--9 years, 37.8 cfs.

Extremes.--Maximum discharge during year, 720 cfs Feb. 21 (gage height, 3.02 ft); minimum, 9.5 cfs Nov. 1-5, 13, 14, 17, 18; minimum gage height, 0.29 ft Sept. 18, 19.
1944-53: 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, 8.9 cfs Feb. 1, 1945, result of freezeup.

Remarks.--Records good.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 16				Apr. 17 to Sept. 30			
0.4	9.5	1.6	187	0.2	6.0	0.6	32
.6	24	2.0	305	.3	11	.8	52
.8	44	2.5	495	.4	17	1.0	78
1.0	72	3.0	710				
1.3	124						

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	10	10	16	23	33	54	48	42	*23	20	15	12
2	10	10	*20	22	32	64	45	44	21	19	14	*12
3	10	10	18	20	31	*58	44	39	21	18	34	14
4	10	10	16	18	29	69	42	43	20	24	23	18
5	10	10	19	18	28	60	41	64	20	21	17	30
6	10	*10	17	17	31	54	44	71	31	*19	*16	23
7	*11	10	15	*17	44	52	44	67	49	18	22	16
8	14	10	15	36	36	49	40	53	35	18	26	15
9	23	10	15	70	*33	47	38	45	*27	17	20	14
10	15	11	56	105	32	45	38	42	33	16	18	13
11	13	14	38	60	41	50	36	40	30	15	16	13
12	12	11	28	42	50	49	40	*39	25	15	15	13
13	12	10	23	35	42	47	37	36	24	15	15	12
14	11	10	20	31	38	44	35	36	29	14	14	12
15	11	12	18	28	49	54	*34	35	26	22	13	12
16	11	11	18	27	42	47	34	34	24	34	13	11
17	11	10	18	26	42	44	34	33	23	19	15	11
18	11	10	17	48	40	43	34	32	21	28	23	10
19	11	76	16	34	38	41	34	*34	20	29	24	22
20	11	74	16	31	188	38	33	32	20	25	23	24
21	11	24	16	52	*387	38	33	30	21	22	18	15
22	11	19	15	38	146	75	32	29	20	37	17	13
23	11	16	15	64	102	157	31	28	19	28	16	12
24	11	15	15	100	88	96	31	28	18	22	15	12
25	11	15	15	64	77	75	31	26	19	20	15	21
26	11	35	14	50	69	66	31	26	25	18	14	25
27	11	24	14	44	63	60	30	25	30	17	13	34
28	11	21	13	47	57	56	30	24	24	16	13	19
29	11	19	13	40	-	53	30	24	27	15	13	16
30	11	17	13	36	-	50	67	24	23	15	13	15
31	10	-	41	35	-	49	-	23	-	15	12	-
Total	357	544	603	1,278	1,888	1,784	1,121	1,148	748	631	535	489
Mean	11.5	18.1	19.5	41.2	67.4	57.5	37.4	37.0	24.9	20.4	17.3	16.3
Cfsm	0.983	1.55	1.67	3.52	5.76	4.91	3.20	3.16	2.13	1.74	1.48	1.39
In.	1.13	1.73	1.92	4.06	6.00	5.67	3.56	3.65	2.38	2.01	1.70	1.55

Calendar year 1952: Max 400 Min 10 Mean 36.2 Cfsm 3.09 In. 42.08
Water year 1952-53: Max 387 Min 10 Mean 30.5 Cfsm 2.61 In. 35.36

Peak discharge (base, 250 cfs).--Feb. 21 (6:30 a.m.) 720 cfs (3.02 ft).
* Discharge measurement made on this day.

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 1953.

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.--32 years (1921-53), 128 cfs.

Extremes.--Maximum discharge during year, 2,620 cfs Feb. 21 (gage height, 5.39 ft); minimum, 21 cfs Sept. 18, 19 (gage height, 0.39 ft).
1920-53: Maximum discharge, 8,400 cfs Aug. 15, 1928 (gage height, 11.8 ft), from rating curve extended above 1,300 cfs; minimum, 15 cfs Sept. 19-21, 1925 (gage height, 0.34 ft).

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

Revisions.--WSP 823: Drainage area.

Rating tables, water year 1952-53, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21				Feb. 22 to Sept. 30			
0.4	22	2.0	400	0.4	22	1.5	249
.5	33	2.5	595	.6	46	2.0	405
.6	46	3.0	825	.8	80	2.5	595
.8	80	3.5	1,100	1.0	120	3.0	825
1.0	120	4.0	1,430				
1.5	245						

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	38	31	62	97	127	176	160	148	57	49	43	*25
2	37	31	75	88	120	221	153	158	57	48	42	25
3	36	30	*71	82	116	194	146	132	56	49	81	32
4	36	30	66	71	110	*241	141	146	54	48	83	40
5	36	30	80	69	103	205	134	181	54	48	49	72
6	36	*30	71	*66	112	184	143	219	68	43	42	52
7	*34	29	66	67	153	171	143	235	159	*45	*41	37
8	42	29	62	155	120	160	129	178	91	43	51	30
9	87	29	60	302	110	150	125	153	*80	41	42	29
10	51	33	239	449	*105	143	125	138	75	38	37	26
11	42	46	180	240	118	181	118	127	80	37	36	26
12	40	37	125	177	182	184	125	118	66	36	34	26
13	38	32	105	148	141	168	122	*112	62	34	33	29
14	37	32	91	132	129	156	112	107	71	33	32	24
15	36	36	b85	120	170	191	110	103	67	51	31	24
16	36	32	b80	110	143	163	112	99	64	126	31	23
17	34	31	b75	105	145	150	*103	95	60	51	34	22
18	34	30	71	254	134	148	105	93	54	115	41	22
19	33	277	67	162	129	141	107	101	52	122	52	34
20	32	322	71	141	526	132	101	95	52	91	64	75
21	32	112	69	213	1,380	127	99	88	56	66	42	33
22	32	86	64	157	479	277	97	84	56	107	41	28
23	32	73	62	260	339	745	95	82	48	88	37	25
24	32	66	60	404	290	395	93	78	49	62	34	24
25	32	60	57	251	255	293	93	76	49	52	32	53
26	32	138	56	202	227	249	93	73	64	49	31	75
27	32	103	54	180	205	221	90	67	84	45	30	106
28	31	84	52	182	186	205	88	66	82	43	29	46
29	31	75	51	160	-	186	86	66	66	42	29	37
30	31	67	54	143	-	176	232	64	59	42	28	34
31	31	-	160	136	-	168	-	60	-	43	26	-
Total	1,143	2,041	2,541	5,323	6,354	6,501	3,580	3,542	1,992	1,787	1,258	1,134
Mean	36.9	68.0	82.0	172	227	210	119	114	66.4	57.6	40.6	37.8
Cfsm	0.913	1.68	2.03	4.26	5.62	5.20	2.95	2.82	1.64	1.43	1.00	0.936
In.	1.05	1.88	2.34	4.90	5.85	5.98	3.30	3.26	1.83	1.65	1.16	1.04

Calendar year 1952: Max 1,380 Min 29 Mean 121 Cfsm 3.00 In. 40.68
Water year 1952-53: Max 1,380 Min 22 Mean 102 Cfsm 2.52 In. 34.24

Peak discharge (base, 1,000 cfs).--Jan. 9 (10 p.m.) 1,050 cfs (3.41 ft); Feb. 21 (4 a.m.) 2,620 cfs (5.39 ft); Mar. 23 (6:30 a.m.) 1,140 cfs (3.57 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 1953.

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.--11 years, 152 cfs.

Extremes.--Maximum discharge during year, 2,230 cfs Feb. 21 (gage height, 8.13 ft); minimum, 1.2 cfs Oct. 18 (gage height, 0.33 ft); minimum daily, 1.3 cfs Oct. 18, 19, 27.
1942-53: 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 powerplant on Cascade Lake (capacity, about 500 cfs-days).

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

0.3	0.9	1.5	102
.4	2.3	2.0	210
.5	4.6	3.0	509
.6	7.9	5.0	1,130
.8	18	8.0	2,180
1.0	35		

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	33	63	25	62	141	202	203	248	74	129	53	38
2	33	16	72	64	135	254	193	187	72	115	4.1	38
3	31	51	*72	64	135	231	181	170	69	70	49	*37
4	17	67	70	66	119	*270	174	188	60	70	61	54
5	7.6	67	72	104	110	256	163	317	62	72	57	212
6	55	67	73	*127	98	220	168	395	61	97	56	130
7	104	67	68	127	199	203	177	405	391	*93	*46	72
8	*110	63	67	127	163	191	159	296	299	90	50	62
9	127	3.7	108	127	145	177	150	228	203	109	35	48
10	86	*48	127	453	135	170	148	192	*160	108	70	42
11	64	66	217	319	137	191	141	174	309	67	69	55
12	8.8	51	163	213	163	242	141	161	165	7.2	63	62
13	50	43	139	172	154	223	141	*156	137	52	51	6.8
14	67	45	135	150	141	198	136	148	131	70	48	27
15	67	29	135	137	164	223	133	139	129	98	32	39
16	67	2.1	133	133	172	198	*133	137	133	87	5.6	38
17	25	27	131	131	165	184	133	135	131	69	44	50
18	1.3	41	129	133	159	174	109	135	131	78	43	51
19	*1.3	54	127	141	152	165	135	135	99	69	52	28
20	1.4	240	84	135	611	154	135	135	107	69	57	84
21	1.4	163	66	222	1,840	150	135	135	129	67	57	95
22	1.6	131	66	181	724	427	123	93	127	67	46	65
23	1.8	124	66	220	439	1,250	73	77	127	71	7.2	52
24	1.8	129	66	518	361	746	73	73	112	122	45	38
25	1.8	129	66	313	310	477	105	120	70	42	53	41
26	1.8	125	66	231	273	371	90	133	110	22	50	80
27	1.3	125	65	196	239	319	102	117	133	70	49	155
28	24	84	50	193	218	281	104	87	130	70	42	131
29	45	69	61	179	-	251	102	106	131	69	37	107
30	70	28	61	159	-	234	256	81	131	67	4.1	83
31	62	-	62	148	-	215	-	9.0	-	67	27	-
Total	1,168.9	2,217.8	2,842	5,545	7,802	8,847	4,216	5,112.0	4,123	2,353.2	1,363.0	2,020.6
Mean	37.7	73.9	91.7	179	279	285	141	165	137	75.9	44.0	67.4
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 2,310 Min 1.3 Mean 138 Cfsm 3.33 In. 45.49
Water year 1952-53: Max 1,840 Min 1.3 Mean 130 Cfsm 3.14 In. 42.77

Peak discharge (base, 800 cfs).--Feb. 21 (10:30 a.m.) 2,230 cfs (8.13 ft); Mar. 23 (3 p.m.) 1,490 cfs (6.09 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 1953.

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.--11 years, 30.1 cfs.

Extremes.--Maximum discharge during year, 523 cfs June 7 (gage height, 5.55 ft); minimum, 7.9 cfs Aug. 28 to Sept. 3 (gage height, 0.43 ft).
1942-53: 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, 6.9 cfs Sept. 9, 1944; minimum daily, 7.6 cfs Oct. 18, 19, 1951.
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 no gage-height record, which are fair. Small diversion for irrigation above station. Slight regulation by two small recreation ponds after October 1951 (combined capacity, 7.44 cfs-days).

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 10				Jan. 11 to Sept. 30			
0.4	7.0	1.0	38	0.4	7.0	1.5	89
.6	14	1.5	89	.6	14	2.0	153
.8	25	2.0	153	.8	26	3.0	265
				1.0	40		

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	13	21	23	32	33	36	16	18	10	7.9
2	11	10	16	20	22	39	31	43	16	17	9.7	7.9
3	11	10	*14	19	21	36	31	35	16	16	9.7	*29
4	11	9.7	14	18	20	*41	30	40	16	16	21	18
5	11	9.7	16	16	19	37	29	63	16	16	12	59
6	11	9.4	14	*14	22	35	31	62	26	16	10	21
7	11	*9.4	14	14	28	34	29	54	115	*16	*13	16
8	*11	9.4	13	25	24	31	27	44	34	15	18	13
9	24	9.4	13	50	23	30	27	38	26	14	13	11
10	14	9.7	36	120	*22	29	26	34	*24	14	11	11
11	13	11	29	60	23	34	26	32	23	13	10	10
12	12	10	23	40	24	34	27	30	21	13	9.7	9.7
13	12	9.7	20	30	22	31	26	*28	21	13	9.4	9.1
14	11	9.7	18	25	21	30	24	27	22	12	9.1	9.1
15	11	11	16	22	32	39	24	26	21	13	9.1	9.1
16	11	9.7	15	21	28	33	*24	25	20	14	8.8	8.8
17	11	9.4	15	20	29	31	24	24	19	13	9.4	8.8
18	11	9.4	14	35	26	31	24	24	18	16	13	8.8
19	11	45	14	26	26	29	24	26	28	15	12	17
20	10	42	14	24	108	27	24	24	25	13	10	19
21	10	21	14	50	218	28	24	22	20	12	9.7	12
22	10	18	13	35	86	79	23	21	18	19	9.7	9.7
23	10	15	13	60	59	156	22	24	18	14	9.4	9.7
24	10	14	13	90	50	94	22	22	18	12	9.1	9.4
25	10	13	13	55	44	64	24	21	19	11	9.1	16
26	10	18	13	40	40	51	23	20	23	11	8.8	22
27	10	15	12	30	37	46	22	19	28	11	8.2	29
28	10	14	12	32	34	42	21	18	25	10	8.2	16
29	9.7	13	12	27	-	38	21	18	21	10	8.2	14
30	10	13	13	25	-	36	64	18	20	10	8.2	13
31	10	-	36	24	-	34	-	17	-	10	7.9	-
Total	348.7	417.6	505	1,088	1,131	1,331	807	935	733	423	324.4	454.0
Mean	11.2	13.9	16.3	35.1	40.4	42.9	26.9	30.2	24.4	13.6	10.5	15.1
Cfsm	1.03	1.28	1.50	3.22	3.71	3.94	2.47	2.77	2.24	1.25	0.963	1.39
In.	1.19	1.42	1.72	3.71	3.86	4.54	2.75	3.19	2.50	1.44	1.11	1.55

Calendar year 1952: Max 404 Min 9.4 Mean 27.8 Cfsm 2.55 In. 34.66
Water year 1952-53: Max 218 Min 7.9 Mean 23.3 Cfsm 2.14 In. 28.98

Peak discharge (base, 300 cfs).--Feb. 21 (3 a.m.) 351 cfs (4.08 ft); June 7 (3:30 a.m.) 523 cfs (5.55 ft); Sept. 5 (4:30 a.m.) 306 cfs (3.47 ft).
* Discharge measurement made on this day.
Note.--No gage-height record Dec. 13-16, Jan. 5, Jan. 7 to Feb. 9; discharge estimated on basis of recorded range in stage, weather records, and records for Boylston Creek near Horseshoe and Clear Creek near Hendersonville.

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 1953.

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.--32 years (1921-53), 944 cfs.

Extremes.--Maximum discharge during year, 11,300 cfs Feb. 22; maximum gage height, 19.44 ft Feb. 22; minimum discharge, 209 cfs Nov. 9, 10 (gage height, 3.03 ft).
1920-53: Maximum discharge, 26,500 cfs Aug. 16, 1928 (gage height, 22.9 ft), from rating curve extended above 11,500 cfs; minimum, 143 cfs Sept. 21, 1925 (gage height, 1.83 ft).
Maximum stage known, 27.1 ft in July 1916, from floodmarks.

Remarks.--Records good. Considerable diurnal fluctuation at low flow caused by power-plant above station. Records of chemical analyses and water temperatures for the water year 1953 are given in WSP 1290.

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

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

3.1	219	6.0	797	16.0	4,360
3.5	284	8.0	1,350	17.0	4,980
4.0	374	10.0	2,020	18.0	6,290
4.5	472	12.0	2,700	19.0	9,640
5.0	575	14.0	3,460		

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	289	282	*414	792	911	1,420	1,280	1,630	529	657	484	*274
2	281	239	502	630	859	1,700	1,220	1,200	529	613	397	270
3	270	250	554	635	828	1,600	1,160	1,110	514	583	418	303
4	257	281	498	577	802	1,800	1,120	1,230	496	558	668	458
5	239	277	514	556	756	*1,730	1,070	2,060	391	548	504	958
6	262	276	552	573	730	1,490	1,070	2,180	516	558	440	749
7	321	272	496	573	1,170	1,370	1,190	2,480	2,170	529	416	539
8	*355	267	470	*761	1,080	1,290	1,050	1,840	1,280	*646	541	430
9	544	220	484	1,390	911	1,210	997	1,480	1,000	571	544	384
10	512	237	1,120	3,010	845	1,150	979	1,280	809	548	*460	348
11	370	315	1,680	2,130	*862	1,210	950	1,150	*1,310	472	424	333
12	299	317	1,010	1,390	1,200	1,420	950	1,070	862	408	408	357
13	292	270	809	1,110	1,160	1,330	989	997	769	406	380	292
14	321	258	716	955	855	1,220	901	*942	753	438	364	286
15	315	279	652	864	1,190	1,480	879	901	802	456	341	289
16	310	237	606	807	1,260	1,340	*881	867	728	799	305	286
17	286	232	602	767	1,200	1,210	852	847	701	613	337	281
18	239	258	575	1,190	1,110	1,170	811	828	661	541	406	284
19	*232	547	558	1,050	1,020	1,130	847	840	635	989	535	282
20	228	2,620	520	919	2,160	1,050	814	883	721	776	533	749
21	220	1,210	500	1,380	6,880	1,020	797	795	646	654	450	514
22	222	740	478	1,170	8,130	1,870	783	742	681	710	397	384
23	224	617	468	1,250	4,310	3,960	716	690	617	979	344	328
24	224	567	460	2,890	2,620	4,390	707	670	628	723	344	312
25	222	533	446	2,040	2,120	3,100	714	681	541	586	355	342
26	222	646	434	1,500	1,880	2,150	753	685	676	484	339	676
27	222	869	420	1,270	1,680	1,830	712	663	728	516	323	1,040
28	231	637	401	1,210	1,530	1,650	696	594	835	496	305	710
29	245	544	397	1,190	-	1,520	685	615	714	476	296	541
30	281	484	401	1,020	-	1,410	1,360	600	740	454	260	456
31	277	-	953	955	-	1,340	-	514	-	482	258	-
Total	8,812	14,781	18,690	36,554	50,059	51,560	27,933	33,064	22,982	18,269	12,576	13,455
Mean	284	493	603	1,179	1,788	1,663	931	1,067	766	589	406	448
Cfsm	0.959	1.67	2.04	3.98	6.04	5.62	3.15	3.60	2.59	1.99	1.37	1.51
In.	1.11	1.86	2.35	4.59	6.29	6.48	3.51	4.15	2.89	2.30	1.58	1.69

Calendar year 1952: Max 6,720 Min 220 Mean 909 Cfsm 3.07 In. 41.82
Water year 1952-53: Max 8,130 Min 220 Mean 846 Cfsm 2.86 In. 38.80

Peak discharge (base, 4,300 cfs).--Feb. 22 (1 a.m.) 11,300 cfs (19.41 ft); Mar. 24 (2 a.m.) 4,580 cfs (16.23 ft).

* Discharge measurement made on this day.

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 1953.

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.--10 years (1943-53), 34.2 cfs.

Extremes.--Maximum discharge during year, 432 cfs Feb. 21 (gage height, 4.00 ft); minimum, 7.3 cfs Sept. 16-19 (gage height, 0.50 ft).
1942-53: Maximum discharge, 805 cfs Dec. 7, 1950 (gage height, 5.67 ft); minimum, 6.8 cfs Dec. 17, 18, 1943, result of freezeup; minimum gage height, that of Sept. 16-19, 1953; minimum daily discharge, 7.9 cfs Sept. 16-18, 1953.

Remarks.--Records excellent.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21				Feb. 22 to Sept. 30			
0.5	7.3	1.6	102	0.5	7.3	1.0	37
.6	10	2.0	151	.6	10	1.3	68
.8	22	2.5	218	.8	22	1.6	102
1.0	38	3.0	288				
1.3	68	4.0	432				

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	*13	25	22	32	29	34	14	13	9.9	*8.2
2	11	10	15	21	21	43	28	29	14	13	12	8.2
3	10	10	15	21	21	37	28	26	14	13	11	8.5
4	10	10	14	19	20	*45	27	26	14	13	11	30
5	10	9.9	17	*18	19	38	26	61	13	13	10	21
6	10	9.5	15	16	21	34	28	56	17	13	9.9	16
7	10	*9.5	14	16	31	32	29	54	42	18	25	12
8	11	9.5	14	24	26	30	26	38	23	*15	20	10
9	20	9.5	13	49	23	28	26	33	21	12	14	9.8
10	*15	9.9	35	88	22	28	26	29	20	11	*12	9.3
11	13	12	30	42	*23	30	25	27	*18	10	11	9.3
12	13	11	22	31	31	32	26	26	17	9.9	10	9.0
13	12	10	19	26	26	29	26	24	17	9.6	9.6	8.5
14	12	10	17	23	24	28	24	*24	18	9.6	9.6	8.2
15	12	11	15	22	39	43	24	24	18	9.6	9.3	8.2
16	12	10	15	21	39	32	24	23	18	13	11	7.9
17	12	10	14	20	38	30	*23	22	17	11	11	7.9
18	12	10	14	31	31	29	23	22	16	29	13	7.9
19	12	36	14	24	29	28	24	23	16	34	21	11
20	11	82	14	22	146	26	23	22	17	18	18	29
21	11	25	14	44	358	26	22	21	16	15	13	11
22	11	20	13	28	104	44	22	20	14	18	12	9.6
23	11	17	13	54	64	95	22	20	15	16	12	9.3
24	11	15	13	74	53	60	22	19	15	13	11	9.0
25	11	15	12	42	46	47	21	18	14	12	10	12
26	11	19	12	33	41	40	21	18	14	12	9.9	19
27	11	18	12	29	36	36	20	17	18	12	9.6	31
28	11	15	12	29	34	34	20	16	17	11	9.3	17
29	10	15	12	26	-	33	20	16	14	11	8.8	13
30	10	14	12	24	-	31	69	16	14	10	8.5	12
31	10	-	47	23	-	30	-	15	-	9.9	8.5	-
Total	357	472.8	511	965	1,388	1,130	774	819	515	427.6	370.9	382.6
Mean	11.5	15.8	16.5	31.1	49.6	36.5	25.8	26.4	17.2	13.8	12.0	12.8
Cfsm	0.777	1.07	1.11	2.10	3.35	2.47	1.74	1.78	1.16	0.932	0.811	0.865
In.	0.90	1.19	1.28	2.42	3.49	2.84	1.94	2.06	1.29	1.07	0.93	0.96

Calendar year 1952: Max 445 Min 9.5 Mean 32.9 Cfsm 2.22 In. 30.28
Water year 1952-53: Max 358 Min 7.9 Mean 22.2 Cfsm 1.50 In. 20.37

Peak discharge (base, 250 cfs).--Feb. 21 (10 a.m.) 432 cfs (4.00 ft).
* Discharge measurement made on this day.

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 1953.
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.--21 years, 161 cfs.
Extremes.--Maximum discharge during year, 2,610 cfs Feb. 21 (gage height, 6.63 ft); minimum, 25 cfs Sept. 19 (gage height, 1.45 ft).
1924-26, 1934-53: 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). Revised figures of discharge, in cubic feet per second, for a day in water year 1926, superseding those published in WSP 623, are given herewith:

Jan. 18, 1926..... 1,370

Month	Maximum	Minimum	Mean
January 1926.....	1,370	48	144
Water year 1925-26.	1,370	21	92.1

Rating table, water year 1952-53, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.4	21	3.0	465
1.6	39	3.5	750
1.8	67	4.0	1,090
2.0	106	4.5	1,410
2.2	157	5.0	1,710
2.5	254		

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	54	44	72	130	169	233	219	200	80	61	40	27
2	54	44	80	113	157	277	209	169	78	61	42	27
3	49	44	*81	106	152	247	200	154	76	64	54	*29
4	48	43	74	93	144	296	193	160	74	62	51	112
5	48	43	85	87	135	*269	184	209	72	61	47	76
6	48	42	81	b83	138	247	190	213	80	61	46	67
7	49	*40	74	*91	178	230	197	247	163	75	68	49
8	54	39	72	144	146	216	178	206	100	*74	64	38
9	98	40	71	219	133	203	172	184	93	56	49	36
10	*76	42	184	532	128	193	169	172	*85	49	*40	33
11	61	49	197	312	*135	226	163	160	81	47	38	32
12	55	51	138	230	172	236	172	149	74	46	37	31
13	52	44	118	193	152	219	169	141	72	44	35	29
14	49	43	102	169	144	206	154	138	76	44	34	27
15	49	48	89	152	200	250	152	133	81	46	32	27
16	49	46	b87	141	169	219	149	130	78	113	38	27
17	49	43	b86	133	175	206	*144	125	74	66	56	27
18	49	42	85	228	166	200	141	123	67	70	56	26
19	48	152	80	181	163	190	146	*125	62	108	83	36
20	47	388	80	163	538	178	138	125	61	80	71	116
21	46	138	81	254	1,680	172	135	116	61	61	52	47
22	46	102	74	197	667	280	133	111	61	74	46	35
23	46	89	72	261	456	815	130	106	73	89	44	32
24	46	80	71	548	384	537	128	104	71	61	40	31
25	46	72	71	362	332	406	125	102	61	52	37	43
26	46	108	67	284	300	341	125	98	62	49	34	80
27	46	118	64	247	273	304	120	91	89	48	32	128
28	46	93	64	236	247	281	118	87	93	46	31	62
29	46	85	62	209	-	258	118	87	69	43	29	48
30	44	80	66	190	-	244	270	87	67	42	28	42
31	44	-	194	178	-	230	-	83	-	43	27	-
Total	1,588	2,292	2,822	6,466	7,833	8,409	4,841	4,335	2,334	1,896	1,381	1,420
Mean	51.2	76.4	91.0	209	280	271	161	140	77.8	61.2	44.5	47.3
Cfsm	0.768	1.15	1.36	3.13	4.20	4.06	2.41	2.10	1.17	0.918	0.667	0.709
In.	0.89	1.28	1.57	3.61	4.37	4.69	2.70	2.42	1.30	1.06	0.77	0.79

Calendar year 1952: Max 1,790 Min 39 Mean 165 Cfsm 2.47 In. 33.71
Water year 1952-53: Max 1,680 Min 26 Mean 125 Cfsm 1.87 In. 25.45

Peak discharge (base, 1,000 cfs).--Feb. 21 (9:30 a.m.) 2,610 cfs (6.63 ft); Mar. 23 (11 a.m.) 1,100 cfs (4.01 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 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 1953.

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.--8 years, 76.5 cfs.

Extremes.--Maximum discharge during year, 1,080 cfs Feb. 21 (gage height, 7.38 ft); minimum, 12 cfs Sept. 18 (gage height, 0.87 ft).

1945-53: 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. 18, 1953.

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

Remarks.--Records excellent. Occasional slight diurnal fluctuation at low flow caused by gristmill and three small stock ponds on tributaries above gage.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21						Feb. 22 to Sept. 30			
1.0	18	2.5	187	6.5	682	0.8	9.0	2.0	118
1.1	24	3.0	262	7.0	855	1.0	20	2.5	187
1.3	40	4.0	386	8.0	1,560	1.2	35	3.0	262
1.6	70	5.0	490			1.5	62		
2.0	118	6.0	603						

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	21	21	26	48	53	68	62	69	24	24	22	15
2	21	21	30	40	49	82	58	55	23	25	19	16
3	21	21	30	40	47	76	56	49	23	24	19	20
4	21	21	27	34	44	*92	54	52	23	22	74	23
5	21	21	34	33	43	81	52	72	22	20	33	29
6	21	21	31	30	46	73	55	85	34	21	23	23
7	20	20	29	30	81	68	54	87	174	63	38	21
8	21	20	27	38	64	64	50	66	61	38	45	19
9	46	21	28	83	55	60	49	56	45	27	35	19
10	30	21	45	357	51	58	48	50	42	24	25	18
11	26	24	48	123	61	62	47	47	37	23	23	17
12	25	22	38	*80	78	74	49	43	34	21	21	17
13	24	*21	34	66	*66	68	48	42	33	20	20	15
14	23	21	30	56	57	63	46	40	34	19	19	15
15	*24	22	29	50	108	105	44	39	*34	*20	18	*14
16	30	21	*28	46	99	75	44	38	33	23	32	14
17	25	21	28	44	95	68	43	38	31	21	38	13
18	23	21	28	61	79	65	43	37	29	36	36	12
19	23	66	27	51	70	61	44	41	29	37	37	18
20	22	92	27	46	252	57	41	*38	35	25	30	103
21	22	43	27	97	885	55	*41	35	33	23	26	32
22	23	36	27	66	252	76	40	34	30	26	24	25
23	23	33	27	114	141	176	39	32	28	25	23	23
24	23	30	26	198	116	159	38	32	27	20	*22	22
25	23	30	26	108	101	110	41	30	26	19	21	27
26	23	31	25	82	90	88	46	29	28	19	19	44
27	23	30	24	71	81	81	40	28	33	18	19	67
28	22	28	24	79	73	74	38	27	29	17	18	37
29	22	27	24	69	-	69	38	27	26	16	18	29
30	21	26	26	61	-	66	102	27	25	54	17	26
31	21	-	87	56	-	63	-	25	-	29	17	-
Total	734	853	967	2,357	3,237	2,437	1,450	1,370	1,085	799	831	773
Mean	23.7	28.4	31.2	76.0	116	78.6	48.3	44.2	36.2	25.8	26.8	25.8
Cfsm	0.562	0.673	0.739	1.80	2.75	1.86	1.14	1.05	0.858	0.611	0.635	0.611
In.	0.65	0.75	0.85	2.08	2.85	2.15	1.28	1.21	0.96	0.70	0.73	0.68

Calendar year 1952: Max 1,180 Min 17 Mean 62.6 Cfsm 1.48 In. 20.18
Water year 1952-53: Max 885 Min 12 Mean 46.3 Cfsm 1.10 In. 14.89

Peak discharge (base, 700 cfs).--Feb. 21 (4 p.m.) 1,080 (7.38 ft).
* Discharge measurement made on this day.

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 1953.

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.

Average discharge.--15 years (1938-53), 204 cfs.

Extremes.--Maximum discharge during year, 3,150 cfs Feb. 21 (gage height, 10.12 ft); minimum, 39 cfs Sept. 18 (gage height, -0.09 ft).
1907, 1938-53: Maximum discharge, 10,800 cfs Aug. 13, 1940 (gage height, 13.07 ft); minimum, 30 cfs Sept. 17, Oct. 15, 28, Dec. 6, 1907.
Floods 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 period of backwater, which are fair. Occasional regulation by many small reservoirs and recreational ponds. Mud Creek received 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 tables, water year 1952-53, except period of backwater from return of overbank storage (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 24				Jan. 25 to Sept. 30					
0.0	51	3.0	420	-0.10	38	2.0	274	8.0	1,280
.5	104	5.0	720	0.0	47	3.0	410	8.5	1,470
1.0	160	7.0	1,060	.5	96	5.0	720	9.0	1,800
2.0	285			1.0	151	7.0	1,060	10.0	2,970

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	64	64	80	166	151	205	193	244	74	81	68	50
2	63	64	95	136	142	262	182	189	73	83	62	50
3	61	64	94	135	138	243	176	167	73	82	61	60
4	60	63	88	117	131	*295	170	171	72	77	147	67
5	61	63	106	112	126	261	162	303	71	76	133	115
6	60	63	102	106	137	222	171	294	85	133	74	77
7	59	63	91	104	261	206	179	304	662	258	204	66
8	61	63	88	127	197	197	159	213	443	242	303	59
9	123	64	88	203	164	187	153	181	189	128	174	55
10	85	66	168	952	151	185	151	163	150	104	103	54
11	75	74	182	451	176	193	143	150	131	95	86	53
12	72	*72	132	*249	210	230	152	141	118	88	79	52
13	69	67	117	195	*183	211	151	134	119	83	74	49
14	69	67	106	171	163	189	139	130	127	80	69	*47
15	*68	71	100	156	308	300	144	125	*125	*82	65	45
16	75	71	*94	145	308	224	137	121	111	93	82	45
17	84	66	92	137	291	199	132	121	106	80	82	42
18	68	70	91	179	227	189	132	131	96	111	85	42
19	67	170	89	155	201	179	133	158	98	156	102	44
20	74	358	89	141	498	167	130	*124	120	95	84	239
21	69	147	89	318	c2,410	162	*126	109	102	79	72	87
22	63	119	85	206	c1,560	318	124	105	94	102	67	66
23	63	107	85	286	c563	841	122	99	87	97	66	59
24	63	97	84	707	c404	899	121	100	85	78	*62	55
25	67	92	83	372	316	533	125	96	86	72	59	73
26	66	102	82	240	275	329	144	91	85	70	58	143
27	65	98	81	204	242	266	121	85	115	68	55	216
28	64	91	80	218	219	242	120	83	107	65	54	125
29	63	85	78	195	-	223	119	83	88	65	53	102
30	64	84	80	171	-	209	296	82	86	91	52	95
31	64	-	280	159	-	200	-	81	-	94	51	-
Total	2,129	2,745	3,199	7,213	10,152	8,566	4,507	4,578	3,978	3,108	2,786	2,332
Mean	68.7	91.5	103	233	363	276	150	148	133	100	89.9	77.7
Cfsm	0.630	0.839	0.945	2.14	3.33	2.53	1.38	1.36	1.22	0.917	0.825	0.713
In.	0.73	0.94	1.09	2.46	3.46	2.92	1.54	1.56	1.36	1.06	0.95	0.80

Calendar year 1952: Max 3,590 Min 51 Mean 193 Cfsm 1.77 In. 24.08
Water year 1952-53: Max 2,410 Min 42 Mean 151 Cfsm 1.39 In. 18.87

Peak discharge (base, 1,500 cfs).--Feb. 21 (6 p.m.) 3,150 cfs (10.12 ft).
* Discharge measurement made on this day.
c Backwater from return of overbank storage.

Cane Creek at Fletcher, N. C.

Location.--Lat 35°26'08", long. 82°29'23", on right bank at downstream side of 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 1953.
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.--11 years, 79.3 cfs.
Extremes.--Maximum discharge during year, 1,620 cfs Feb. 21 (gage height, 6.77 ft); minimum, 10 cfs Sept. 17-19.
1942-53: Maximum discharge, 2,770 cfs (revised) Aug. 28, 1949 (gage height, 8.45 ft); minimum, that of Sept. 17-19, 1953.
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.
Revisions.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede those published in the water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
973	1943	Jan. 19, 1943	2,200	7.97
1053	1946	Feb. 10, 1946	2,410	8.20
1143	1949	Aug. 28, 1949	2,770	8.45
1206	1951	Dec. 7, 1950	2,240	8.02
1236	1952	Mar. 23, 1952	2,530	8.30

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair.
Revisions.--The figures of some peak discharges for water year 1949 have been revised to Aug. 16 (9 p.m.) 2,220 cfs and Aug. 28 (8:30 p.m.) 2,770 cfs, superseding those published in WSP 1143.

Rating tables, water year 1952-53, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to June 7				June 8 to Sept. 30			
0.5	22	2.0	352	0.3	10	1.0	120
.7	52	3.0	610	.4	16	1.5	236
.9	93	4.0	870	.6	41	2.0	360
1.2	160	5.0	1,130	.8	77		
1.6	254						

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	25	24	32	52	68	82	76	76	26	33	15	a13
2	25	24	37	47	64	100	72	77	25	27	15	a14
3	24	24	36	45	60	93	68	60	26	27	16	a17
4	24	24	33	39	58	*135	68	58	25	26	16	a21
5	24	22	42	37	52	111	64	120	25	25	14	a30
6	25	22	39	34	58	97	68	106	26	26	18	a21
7	25	22	33	36	87	91	70	122	145	30	69	a18
8	26	22	33	45	68	85	62	89	73	28	34	a16
9	45	22	33	163	60	78	62	76	46	26	26	a15
10	30	22	60	466	58	76	60	68	58	25	18	a14
11	29	26	58	137	68	80	58	60	43	24	17	a13
12	28	*24	45	*95	a105	85	68	a54	37	24	15	a12
13	28	22	40	76	*93	80	64	a52	38	22	15	a12
14	28	22	37	68	78	76	60	a50	43	a22	14	*11
15	*26	25	b35	62	163	91	58	a49	*38	*22	14	11
16	26	22	*b33	58	124	76	58	a47	37	30	14	11
17	26	22	32	52	119	72	54	a47	35	24	25	10
18	25	22	32	90	97	72	56	a46	31	23	39	10
19	25	106	32	68	89	70	54	a54	73	28	30	17
20	24	257	32	64	386	66	52	*47	108	23	24	146
21	24	58	32	181	1,010	64	*50	42	62	19	19	25
22	24	47	30	95	297	85	49	40	50	25	18	18
23	24	40	30	173	176	189	49	39	38	27	18	15
24	24	37	30	266	139	176	47	37	35	19	*17	15
25	24	34	29	139	119	130	47	34	31	18	a17	22
26	24	44	29	106	106	111	50	33	31	17	a16	34
27	24	39	28	91	95	100	45	32	35	16	a16	58
28	24	36	28	102	87	93	44	30	31	15	a16	27
29	24	33	28	87	-	87	42	30	30	15	a15	20
30	24	33	32	76	-	80	133	30	49	15	a14	a18
31	24	-	97	72	-	78	-	28	-	17	a13	-
Total	802	1,177	1,147	3,122	3,984	2,909	1,808	1,733	1,350	718	627	684
Mean	25.9	39.2	37.0	101	142	93.8	60.3	55.9	45.0	23.2	20.2	22.8
Cfsm	0.410	0.621	0.586	1.60	2.25	1.49	0.956	0.886	0.713	0.368	0.320	0.361
In.	0.47	0.69	0.68	1.84	2.35	1.71	1.07	1.02	0.80	0.42	0.37	0.40

Calendar year 1952: Max 1,230 Min 21 Mean 69.4 Cfsm 1.10 In. 14.98
Water year 1952-53: Max 1,010 Min 10 Mean 55.0 Cfsm 0.872 In. 11.82

Peak discharge (base, 800 cfs).--Jan. 10 (1 a.m.) 1,360 cfs (5.85 ft); Feb. 21 (12 m.) 1,620 cfs (6.77 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather 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 miles upstream from Hominy Creek, 7 miles south of Asheville, Buncombe County, and at mile 157.7.

Drainage area.--676 sq mi.

Records available.--May 1934 to September 1953.

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.--19 years, 1,653 cfs.

Extremes.--Maximum discharge during year, 12,000 cfs Feb. 22 (gage height, 8.98 ft); minimum, 378 cfs Aug. 31, Sept. 1 (gage height, 2.34 ft).
1934-53: Maximum discharge, 23,600 cfs Aug. 14, 1940 (gage height, 12.6 ft); minimum, 355 cfs Oct. 13, 1941; minimum gage height, 2.22 ft Oct. 13, 1941, Oct. 6, 7, 1947.
Maximum stage known, about 27.3 ft July 15, 1916, from floodmarks. Flood in August 1928 reached a stage of about 16.1 ft, from floodmarks.

Remarks.--Records excellent. Some diurnal fluctuation at low flow caused by powerplant above station.

Revisions.--WSP 823: Drainage area.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 22				Feb. 23 to Sept. 30			
2.3	420	5.0	3,970	2.3	350	3.5	1,650
2.5	550	6.0	5,760	2.5	500	4.0	2,370
2.7	720	7.0	7,710	2.7	680	5.0	3,970
3.0	1,050	8.0	9,800	3.0	990		
3.5	1,690	9.0	12,100				
4.0	2,380						

Note.--Same as preceding table above 5.0 ft.

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	543	515	730	1,610	1,530	2,190	2,070	2,800	790	1,060	700	399
2	529	508	740	1,150	1,440	2,420	1,960	1,900	820	957	680	399
3	515	474	864	1,090	1,380	2,540	1,860	1,800	800	924	635	406
4	501	501	820	1,000	1,330	2,620	1,790	1,720	780	880	770	599
5	494	508	810	897	1,260	2,790	1,710	2,720	760	870	1,030	1,180
6	480	508	908	897	1,200	2,360	1,660	3,160	790	902	700	1,230
7	508	501	831	908	1,690	2,140	1,850	3,650	2,570	1,040	770	880
8	582	501	780	1,000	1,790	2,010	1,720	2,950	2,820	1,280	1,200	644
9	790	494	750	1,780	1,550	1,870	1,590	2,320	1,780	979	1,040	563
10	986	462	1,090	5,040	1,400	1,780	1,540	1,990	1,400	891	770	500
11	711	529	2,440	4,120	1,390	1,780	1,500	1,780	1,520	810	671	476
12	622	590	1,780	2,530	1,760	2,070	1,470	1,640	1,470	750	626	484
13	543	543	1,350	1,920	1,920	2,040	1,570	1,540	1,190	653	599	476
14	566	515	1,150	1,650	1,650	1,870	1,440	1,440	1,150	680	*554	399
15	574	529	1,030	1,470	2,030	2,160	1,370	1,380	1,210	700	527	406
16	574	529	942	1,340	2,350	2,140	1,360	1,320	1,150	924	500	406
17	*574	480	919	1,260	2,200	1,900	1,330	1,280	1,090	1,150	536	406
18	522	487	*897	1,590	*1,930	1,820	1,290	1,270	1,030	830	608	406
19	487	644	864	1,880	1,760	*1,760	1,280	1,300	968	1,410	820	406
20	474	3,450	842	*1,520	3,050	1,650	1,270	1,360	1,190	1,250	830	1,170
21	468	2,560	810	2,210	8,950	1,580	1,230	1,230	1,100	*1,010	750	957
22	462	1,340	780	2,110	11,000	2,070	1,210	*1,160	*1,030	968	635	*626
23	462	1,050	750	1,950	9,410	5,100	1,160	1,060	979	1,360	590	536
24	468	*908	740	4,530	6,140	6,220	1,110	1,040	957	1,100	518	484
25	468	853	720	3,970	3,730	5,890	1,090	1,010	913	935	527	500
26	468	875	702	2,660	3,060	4,160	1,190	1,030	902	780	518	850
27	468	1,290	684	2,180	2,660	3,110	1,100	1,000	1,150	730	492	1,520
28	468	1,080	675	2,030	2,380	2,740	*1,090	946	1,190	730	468	1,300
29	468	886	639	2,020	-	2,500	1,060	913	1,150	700	436	870
30	494	810	657	1,760	-	2,310	1,900	924	1,070	671	428	730
31	515	-	1,480	1,610	-	2,160	-	870	-	750	392	-
Total	16,784	24,920	29,174	61,682	81,940	79,750	43,770	50,503	35,719	28,654	20,320	20,208
Mean	541	831	941	1,990	2,926	2,573	1,459	1,629	1,191	924	655	674
Cfsm	0.800	1.23	1.39	2.94	4.33	3.81	2.16	2.41	1.76	1.37	0.969	0.997
In.	0.92	1.37	1.61	3.39	4.51	4.39	2.41	2.78	1.97	1.58	1.12	1.11

Calendar year 1952: Max 10,700 Min 462 Mean 1,585 Cfsm 2.34 In. 31.92
Water year 1952-53: Max 11,000 Min 392 Mean 1,352 Cfsm 2.00 In. 27.16

Peak discharge (base, 6,000 cfs).--Feb. 22 (7 p.m.) 12,000 cfs (8.98 ft); Mar. 24 (11 a.m.) 6,310 cfs (6.29 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 1953.

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.--11 years, 92.4 cfs.

Extremes.--Maximum discharge during year, 1,250 cfs Feb. 21 (gage height, 4.07 ft); minimum, 13 cfs Sept. 2 (gage height, 0.80 ft).
1942-53: Maximum discharge, 6,800 cfs June 16, 1949 (gage height, 13.25 ft); minimum, that of Sept. 2, 1953.
Flood of Aug. 30, 1940, reached a stage of 18.0 ft, from floodmarks (discharge, 13,100 cfs, by conveyance method).

Remarks.--Records excellent.

Revisions.--WSP 1113: Drainage area.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21				Feb. 22 to Sept. 30	
1.0	26	2.3	336	0.8	13
1.2	51	2.6	463	1.0	27
1.4	86	3.0	660	1.2	51
1.6	129	3.5	935	Note.--Same as preceding table above 1.2 ft.	
1.8	178	4.0	1,210		
2.0	234				

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	32	35	41	73	80	105	99	94	41	*34	24	14
2	32	35	48	62	75	122	*92	103	39	39	44	14
3	*30	35	47	59	73	107	92	82	39	47	46	15
4	30	35	43	53	69	131	88	90	39	41	47	*22
5	30	34	64	51	*65	114	84	88	38	46	36	29
6	29	34	53	48	65	*107	86	120	41	38	26	35
7	31	32	47	46	75	103	88	127	56	53	26	25
8	37	32	45	56	65	99	82	103	44	44	28	20
9	53	34	43	105	62	94	80	92	*41	36	27	18
10	43	*34	92	306	61	92	80	84	41	29	23	18
11	37	36	*86	146	71	103	75	*78	42	28	21	18
12	36	35	64	111	128	103	86	73	37	26	*21	18
13	35	32	57	90	96	96	88	69	39	25	21	18
14	34	32	51	*80	86	92	76	69	44	25	19	16
15	34	34	48	73	148	103	75	75	39	37	18	16
16	34	32	47	69	125	92	73	71	39	52	22	15
17	34	32	45	64	125	88	71	65	38	36	29	15
18	34	32	45	96	109	88	71	62	35	49	35	15
19	34	97	44	78	101	84	71	88	32	50	39	31
20	34	127	44	71	226	80	69	69	30	41	29	47
21	34	64	44	129	753	78	67	62	93	32	27	24
22	34	56	43	92	340	118	65	59	46	35	25	20
23	35	48	41	166	225	329	64	56	36	37	25	19
24	35	45	41	268	181	220	64	54	34	29	21	19
25	35	44	41	170	156	170	62	53	34	26	20	29
26	35	56	40	131	136	146	62	50	35	25	18	42
27	35	54	40	111	122	129	61	47	68	25	17	62
28	35	48	38	120	111	120	61	46	46	25	17	30
29	34	45	37	101	-	111	59	46	37	23	16	25
30	34	44	40	90	-	105	154	44	38	23	15	23
31	35	-	132	84	-	101	-	42	-	24	15	-
Total	1,074	1,333	1,591	3,201	3,929	3,630	2,345	2,261	1,261	1,080	797	712
Mean	34.6	44.4	51.3	103	140	117	78.2	72.9	42.0	34.8	25.7	23.7
Cfsm	0.434	0.556	0.643	1.29	1.75	1.47	0.980	0.914	0.526	0.436	0.322	0.297
In.	0.50	0.62	0.74	1.49	1.83	1.69	1.09	1.05	0.59	0.50	0.37	0.33

Calendar year 1952: Max 896 Min 29 Mean 91.1 Cfsm 1.14 In. 15.55
Water year 1952-53: Max 753 Min 14 Mean 63.6 Cfsm 0.797 In. 10.80

Peak discharge (base, 900 cfs).--Feb. 21 (8:30 a.m.) 1,250 cfs (4.07 ft).
* Discharge measurement made on this day.

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 1953.

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.--27 years, 49.4 cfs (unadjusted).

Extremes.--Maximum discharge during year, 1,840 cfs Feb. 21 (gage height, 4.81 ft); minimum, 0.6 cfs Sept. 17 (gage height, 0.83 ft).

1926-53: 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, that of Sept. 17, 1953.

Remarks.--Records good except those for period of no gage-height record, which are fair. City of Asheville diverts part of its water supply from four main tributaries 2.0 to 4.0 miles upstream with a combined drainage area of 16.4 sq mi, and from North Fork at emergency pumping plant 1.2 miles upstream during periods of low flow. Intermittent regulation at Burnett Dam (under construction) and temporary storage in Burnett Reservoir during flood periods; peak flow regulated by bypass tunnel (capacity, about 1,800 cfs).

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).

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 9				Jan. 10 to Sept. 30					
0.9	1.1	1.7	22	0.8	0.4	1.4	9.9	2.8	294
1.0	2.0	1.9	36	.9	1.0	1.5	13	3.1	460
1.1	3.3	2.1	64	1.0	2.0	1.7	21	3.5	680
1.2	5.1	2.3	108	1.1	3.3	1.9	35	4.0	1,000
1.3	7.3	2.5	169	1.2	5.0	2.1	62		
1.4	10	3.0	400	1.3	7.2	2.3	108		
1.5	14								

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	2.3	1.9	14	32	62	60	49	57	16	5.2	3.5	0.9
2	2.0	1.9	13	27	54	62	45	45	12	4.8	3.8	1.1
3	2.0	1.9	13	24	48	*60	42	39	12	4.8	4.0	1.0
4	2.0	1.8	11	19	43	192	39	37	10	4.5	4.2	1.1
5	1.9	1.8	14	17	37	125	36	38	8.0	4.3	4.3	1.3
6	1.9	1.9	15	14	36	96	38	54	8.3	4.3	5.2	1.5
7	2.0	1.8	13	15	64	81	54	81	38	4.2	32	1.2
8	2.0	1.8	11	36	51	72	46	59	26	4.2	14	1.1
9	3.0	1.8	11	143	44	64	42	51	16	3.8	11	1.0
10	2.4	1.9	94	345	40	59	39	44	26	3.6	8.2	1.0
11	2.3	2.3	80	122	42	62	36	39	22	3.6	5.9	1.0
12	2.3	2.0	46	79	*155	77	37	35	17	3.6	3.5	1.0
13	2.1	2.0	35	*66	98	77	40	33	16	3.5	2.3	.9
14	2.0	1.9	27	59	72	68	37	32	14	*3.3	1.6	.9
15	2.0	2.0	22	56	77	98	36	33	13	3.3	1.3	.9
16	*1.9	2.0	21	52	*62	77	33	31	*12	3.8	1.3	.9
17	1.8	*1.9	*19	49	59	68	31	27	11	3.5	1.4	.8
18	1.8	1.9	19	115	54	62	29	25	10	3.5	2.9	1.0
19	1.8	37	17	77	49	59	28	37	9.1	3.8	3.8	47
20	1.8	152	16	60	286	52	26	49	8.6	5.1	3.5	219
21	1.8	39	14	114	999	48	25	*37	9.9	4.3	2.4	32
22	1.8	24	13	83	285	49	*24	33	10	3.0	2.0	*16
23	1.8	17	12	96	169	213	23	29	10	3.3	1.8	12
24	1.8	15	11	206	130	152	22	26	11	6.1	1.6	7.6
25	1.7	14	10	116	108	106	22	25	9.1	4.7	*1.4	7.3
26	1.8	50	9.5	88	93	83	29	22	7.7	2.9	1.3	9.4
27	1.8	39	9.0	81	77	72	25	19	7.0	2.3	1.2	29
28	1.8	24	8.1	136	68	66	22	17	6.5	1.8	1.3	22
29	1.8	19	8.1	108	-	59	20	16	6.3	1.6	1.2	14
30	1.9	15	7.9	83	-	54	61	21	5.7	1.6	1.2	11
31	1.9	-	35	70	-	52	-	18	-	2.4	1.0	-
Total	61.2	479.5	648.6	2,588	3,362	2,525	1,036	1,109	388.2	114.7	134.1	444.9
Mean	1.97	16.0	20.9	83.5	120	81.5	34.5	35.8	12.9	3.70	4.33	14.8
(†)	204.9	200.9	279.1	304.5	251.7	280.0	272.0	268.6	273.4	213.4	257.6	198.7
Adjusted for diversion												
Mean	8.58	23.3	29.9	93.3	129	90.5	43.6	44.4	22.1	10.6	12.6	21.5
Cfsm	0.361	0.979	1.26	3.92	5.42	3.80	1.83	1.87	0.929	0.445	0.529	0.903
In.	0.42	1.09	1.45	4.52	5.65	4.38	2.04	2.15	1.03	0.51	0.61	1.01

	Observed			Adjusted				
Calendar year 1952:	Max 668	Min 1.7	Mean 34.2	Mean 42.6	Cfsm 1.79	In. 24.34		
Water year 1952-53:	Max 999	Min 0.8	Mean 35.3	Mean 43.6	Cfsm 1.83	In. 24.86		

* Discharge measurement made on this day.

† Diversion by city of Asheville, equivalent in cfs-days. Records furnished by city of Asheville, Division of Watersheds.

Note.--No gage-height record Apr. 16-20; discharge estimated on basis of weather records and records for Beetree Creek near Swannanoa.

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 1953.
Gage.--Water-stage recorder and modified 4-foot 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.--27 years, 10.5 cfs.
Extremes.--Maximum discharge during year, 454 cfs Feb. 21 (gage height, 4.50 ft); minimum, 0.6 cfs Oct. 2-7, Nov. 8, Sept. 17, 18; minimum gage height, 0.29 ft Sept. 18. 1926-53: 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, 0.6 cfs Aug. 28, Oct. 2-7, Nov. 8, 1952, Sept. 17, 18, 1953; minimum gage height, that of Sept. 18, 1953.
Remarks.--Records good.
Revisions (water years).--WSP 823: Drainage area. WSP 893: 1928, 1936-37(M). WSP 953: 1929(M). Revised figures of discharge, in cubic feet per second, a period during water year 1932, superseding those published in WSP 728, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1931		1931-Con.		1931-Con.		1931-Con.	
Oct. 1	2.0	Oct. 8	1.7	Oct. 15	1.7	Oct. 22	1.8
2	1.9	9	1.7	16	1.6	23	1.8
3	1.8	10	1.6	17	1.6	24	1.8
4	1.7	11	1.7	18	1.7	25	1.8
5	1.7	12	1.8	19	1.8	26	1.8
6	1.6	13	1.9	20	1.8	27	1.8
7	1.6	14	1.8	21	1.8	28	2.0

Note.--Doubtful gage-height record Oct. 1-28; discharge estimated by hydrographic comparison with North Fork Swannanoa River near Black Mountain.

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October 1931	56.2	3.0	1.6	1.81	0.332	0.38
Calendar year 1931	2,880.83	84	1.37	7.89	1.45	19.61
Water year 1931-32	3,048.01	83	.92	8.33	1.53	20.75

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21

0.3	0.6	1.3	11	2.8	62
.4	1.0	1.6	17	3.2	116
.6	2.2	1.9	23	3.6	194
.8	4.2	2.2	31	4.0	295
1.0	6.7	2.5	42		

Feb. 22 to Sept. 30

0.3	0.6
.4	1.1
.6	2.4
.8	4.2

Note.--Same as preceding table above 0.8 ft.

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	0.7	1.8	5.3	13	15	11	15	4.2	2.2	3.4	0.9
2	.6	.7	2.0	4.6	12	14	9.7	13	4.0	2.2	2.6	.8
3	.6	.7	2.1	4.1	10	*13	9.2	12	3.6	2.2	1.6	.8
4	.6	.7	1.9	3.5	8.6	28	8.7	10	3.6	2.2	1.9	.9
5	.6	.7	2.5	3.3	8.3	22	8.1	11	3.4	2.0	1.8	1.1
6	.6	.7	2.4	3.2	8.3	19	8.9	16	4.0	1.9	1.7	1.5
7	.6	.7	2.0	3.6	12	17	11	21	9.0	2.1	3.1	1.2
8	.7	.6	1.9	5.7	9.5	15	9.4	18	5.4	1.9	2.2	1.0
9	1.7	.7	1.8	22	8.6	14	8.9	15	4.2	1.6	2.1	.9
10	1.1	.8	6.5	54	8.3	13	8.6	14	6.8	1.5	1.5	.8
11	.9	1.0	7.1	23	10	14	8.0	12	6.0	1.5	1.4	.8
12	.8	1.0	4.7	16	28	14	8.6	11	4.7	1.5	1.3	.8
13	.8	.8	4.0	*13	22	13	11	10	5.3	1.4	1.2	.9
14	.8	.8	3.4	12	18	12	9.4	9.9	4.8	*1.3	1.1	.8
15	.8	.8	2.9	12	19	15	9.1	9.9	4.2	1.4	1.0	.7
16	*.7	.8	2.7	10	*16	14	8.7	9.5	*4.2	1.7	1.5	.7
17	.7	*.8	*2.7	9.4	15	13	8.3	8.6	4.0	1.5	1.6	.6
18	.7	.8	2.6	14	13	12	8.1	8.0	3.6	1.4	4.4	.6
19	.7	5.9	2.5	12	13	12	7.8	12	3.2	1.5	3.0	11
20	.7	11	2.4	11	40	11	7.3	13	3.2	1.4	2.0	18
21	.7	2.7	2.5	21	193	11	7.0	*11	3.2	1.4	1.6	4.0
22	.7	2.1	2.4	17	64	11	*6.7	10	3.8	1.5	2.0	*2.7
23	.7	2.0	2.4	20	40	22	6.6	9.1	3.2	2.6	1.6	2.2
24	.7	2.0	2.2	36	32	23	6.4	8.1	3.0	1.5	1.4	2.0
25	.7	1.9	2.1	24	24	20	6.7	7.4	2.7	1.3	*1.3	2.2
26	.7	3.6	2.0	19	21	17	7.1	6.8	2.7	1.2	1.2	3.0
27	.7	3.4	1.9	18	18	15	6.4	6.2	3.0	1.2	1.1	5.9
28	.7	2.5	1.8	26	16	14	6.2	5.7	2.7	1.1	1.0	3.8
29	.7	2.2	1.7	22	-	13	5.9	5.2	2.5	1.0	1.0	2.8
30	.7	2.0	1.8	18	-	12	18	4.9	2.4	1.3	1.0	2.4
31	.7	-	9.1	15	-	11	-	4.6	-	3.8	.9	-
Total	23.1	55.1	89.8	477.7	700.6	469	256.8	327.9	120.6	52.3	54.5	75.8
Mean	0.74	1.84	2.90	15.4	25.0	15.1	8.56	10.6	4.02	1.69	1.76	2.53
Cfsm	0.136	0.337	0.531	2.82	4.58	2.77	1.57	1.94	0.736	0.310	0.322	0.463
In.	0.16	0.38	0.61	3.25	4.77	3.19	1.75	2.23	0.82	0.36	0.37	0.52

Calendar year 1952: Max 136 Min 0.6 Mean 7.28 Cfsm 1.33 In. 18.14
Water year 1952-53: Max 193 Min 0.6 Mean 7.41 Cfsm 1.36 In. 18.41

Peak discharge (base, 150 cfs).--Jan. 9 (11:30 p.m.) 156 cfs (3.42 ft); Feb. 21 (7 a.m.) 454 cfs (4.50 ft).
* Discharge measurement made on this day.

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 1953.

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.--24 years (1921-26, 1934-53), 157 cfs (unadjusted).

Extremes.--Maximum discharge during year, 3,560 cfs Feb. 21 (gage height, 8.10 ft); minimum, 3.3 cfs Sept. 18, 19 (gage height, 1.09 ft).

1920-26, 1934-53: 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. 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) and from North Fork Swannanoa River. 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 table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.1	3.6	1.9	119	4.0	1,010
1.2	9.5	2.2	202	5.0	1,580
1.3	18	2.6	345	6.0	2,200
1.5	41	3.0	515	7.0	2,850
1.7	76	3.5	755		

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	24	31	52	101	175	215	172	199	57	34	15	9.5
2	24	32	54	80	152	224	144	164	52	29	24	8.3
3	26	29	54	82	139	*212	136	142	51	32	19	12
4	25	25	47	70	126	381	132	132	46	32	23	14
5	25	25	61	65	115	345	124	142	44	31	15	16
6	26	24	63	61	112	276	126	221	51	32	17	21
7	22	23	55	57	178	244	150	302	188	28	102	21
8	26	28	47	65	152	228	139	218	150	28	78	14
9	54	29	44	147	132	199	124	187	84	26	47	12
10	41	*29	89	837	119	184	119	166	76	22	26	11
11	34	34	181	349	126	187	112	144	76	26	21	12
12	34	34	106	234	278	205	122	134	63	24	18	14
13	28	28	86	*181	273	215	129	124	61	19	15	13
14	27	28	78	158	218	196	117	117	68	*18	14	7.7
15	*25	34	74	147	329	238	108	122	55	17	16	*6.0
16	25	34	63	129	*252	212	108	129	*52	27	15	5.4
17	26	31	*63	124	234	187	101	110	49	26	17	5.4
18	27	28	57	194	199	175	99	104	44	22	53	4.8
19	27	87	54	166	184	178	101	129	41	28	46	8.6
20	24	431	55	144	416	161	95	155	72	28	28	502
21	23	134	57	302	2,550	150	91	*122	52	22	23	144
22	23	93	52	218	940	164	*89	108	84	21	22	63
23	24	74	46	246	551	406	84	99	52	25	23	41
24	25	59	46	466	414	414	82	93	46	21	19	33
25	29	54	49	326	349	310	82	84	44	19	*16	29
26	29	68	44	241	310	258	99	80	41	21	14	44
27	26	110	44	208	266	228	91	70	46	16	13	72
28	25	72	43	269	238	205	84	63	46	12	13	65
29	25	63	37	273	-	193	78	61	37	12	13	43
30	25	55	40	218	-	172	215	66	36	12	14	33
31	25	-	132	196	-	161	-	65	-	13	10	-
Total	849	1,826	1,973	6,354	9,527	7,123	3,453	4,052	1,864	723	789	1,284.7
Mean	27.4	60.9	63.6	205	340	230	115	131	62.1	23.3	25.5	42.8
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 2,320 Min 19 Mean 127 Cfsm - In. -
Water year 1952-53: Max 2,550 Min 4.8 Mean 109 Cfsm - In. -

* Discharge measurement made on this day.

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 1953 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.--56 years (1895-1901, 1903-53), 2,112 cfs.

Extremes.--Maximum discharge during year, 14,700 cfs Feb. 21 (gage height, 7.49 ft); minimum, 440 cfs Sept. 1, 15, 18 (gage height, 0.55 ft).
1895-1901, 1903-53: 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 except those for periods of no gage-height record, which are good. 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 table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

0.5	400	2.5	2,910
.7	565	3.0	3,730
1.0	855	4.0	5,630
1.3	1,200	5.0	7,880
1.6	1,590	6.0	10,400
2.0	2,150	7.0	13,200

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	637	610	888	1,980	1,840	2,560	2,320	3,230	888	1,120	740	440
2	619	601	866	1,410	1,740	2,720	2,200	2,300	888	965	722	456
3	592	574	1,000	1,300	1,630	2,890	2,090	2,120	877	a940	712	497
4	574	574	988	1,200	1,580	3,150	2,010	1,950	866	a930	782	583
5	565	592	988	1,080	1,510	3,330	1,930	2,700	844	a910	1,150	1,180
6	548	592	1,080	1,050	1,430	2,830	1,900	3,440	855	a940	792	1,420
7	565	592	1,000	1,060	1,900	2,580	2,050	4,040	2,220	a1,020	888	1,050
8	637	583	921	1,120	2,120	2,420	1,980	3,340	3,230	a1,360	1,340	771
9	910	583	899	1,920	a1,780	2,260	1,810	a2,660	1,970	a1,070	1,190	674
10	1,130	548	1,170	6,160	a1,620	2,150	1,770	2,300	1,560	a940	899	610
11	866	592	2,720	5,010	a1,600	2,120	1,720	2,080	1,540	a870	760	565
12	731	684	2,090	3,170	2,150	2,400	1,690	1,910	1,690	a780	712	548
13	655	664	1,590	2,390	2,450	2,460	1,790	1,790	1,330	a700	664	565
14	637	610	1,360	2,020	2,070	2,270	1,720	1,700	1,280	a710	*619	488
15	674	610	1,210	1,810	2,500	2,480	1,590	1,660	1,280	a740	592	464
16	664	619	1,100	*1,630	2,880	2,540	a1,570	1,600	1,250	a900	592	*472
17	*674	574	1,080	1,520	2,640	2,260	a1,550	1,500	1,180	a1,250	601	464
18	637	565	*1,060	1,840	2,380	2,120	a1,500	1,490	1,100	a900	702	456
19	583	722	1,020	2,240	*2,140	*2,070	a1,500	1,600	1,030	a1,360	899	472
20	565	3,830	1,000	1,840	3,080	1,950	a1,470	1,660	1,250	a1,380	965	1,660
21	565	3,090	965	2,680	12,600	1,860	a1,450	1,490	1,210	*1,100	877	1,260
22	565	1,630	932	2,570	12,700	2,090	a1,420	*1,370	*1,180	1,000	950	802
23	556	1,280	899	2,360	10,900	5,260	a1,390	1,320	1,070	1,330	693	646
24	548	*1,080	877	5,240	6,940	6,730	a1,350	1,200	1,030	1,230	628	583
25	540	1,000	855	4,770	4,290	6,290	a1,330	1,160	1,000	1,010	610	601
26	548	1,010	834	3,230	3,510	4,600	a1,450	1,160	954	844	601	910
27	548	1,450	813	2,630	3,070	3,370	a1,350	1,120	1,210	771	565	1,650
28	548	1,290	792	2,500	2,780	2,970	*1,260	1,050	1,250	a760	540	1,600
29	556	1,060	771	2,500	-	2,750	1,250	1,000	1,240	a750	522	1,060
30	574	976	771	2,150	-	2,540	2,120	1,010	1,070	731	497	855
31	592	-	1,610	1,980	-	2,390	-	965	-	802	472	-
Total	19,603	29,185	34,149	74,360	97,830	90,410	50,530	57,915	38,342	30,113	23,276	23,802
Mean	632	973	1,102	2,399	3,494	2,916	1,684	1,868	1,278	971	751	793
Cfsm	0.669	1.03	1.17	2.54	3.70	3.09	1.78	1.98	1.35	1.03	0.795	0.839
In.	0.77	1.15	1.34	2.93	3.85	3.56	1.99	2.28	1.51	1.19	0.92	0.94

Calendar year 1952: Max 14,400 Min 540 Mean 1,872 Cfsm 1.98 In. 26.96
Water year 1952-53: Max 12,700 Min 440 Mean 1,560 Cfsm 1.65 In. 22.43

Peak discharge (base, 9,000 cfs).--Feb. 21 (4:30 p.m.) 14,700 cfs (7.49 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 at Bent Creek and Marshall.

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 1953.

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.--10 years (1943-53), 60.0 cfs.

Extremes.--Maximum discharge during year, 2,120 cfs Feb. 21 (gage height, 6.55 ft); minimum daily, 4.7 cfs Sept. 2.

1942-53: 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, that of 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 doubtful or no gage-height record, which are fair.

Rating table, water year 1952-53, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.9	2.8	2.8	79
2.0	5.3	3.0	113
2.1	9.0	3.5	247
2.2	14	4.0	435
2.4	28	4.5	660
2.6	50	5.0	940

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	12	15	18	45	48	56	51	76	18	11	22	a4.8
2	12	15	19	34	42	72	46	60	17	11	15	a4.7
3	12	15	21	31	39	64	45	50	17	26	9.5	a5.4
4	12	16	19	26	36	176	42	49	16	18	10	a7.0
5	12	16	28	b24	33	130	40	45	16	14	9.0	16
6	12	16	26	b23	33	97	42	88	19	14	38	24
7	12	15	22	26	42	81	65	144	46	23	33	12
8	13	15	20	26	36	70	46	93	23	16	36	10
9	22	16	19	33	32	61	42	74	20	14	18	9.5
10	18	16	46	162	31	*56	44	61	19	10	12	8.3
11	16	19	58	79	39	60	40	53	28	10	11	7.9
12	15	19	31	54	154	58	48	46	19	10	10	7.5
13	14	16	26	44	113	54	67	43	22	10	9.5	7.2
14	14	16	24	39	79	50	57	39	32	9.5	*8.3	6.8
15	14	16	*b23	*35	116	110	50	39	20	10	7.9	6.4
16	14	16	b22	32	113	84	48	40	*19	16	7.2	6.0
17	14	*16	b21	30	128	73	44	36	20	14	10	*5.7
18	14	17	b21	49	*97	68	42	34	17	12	10	a5.4
19	14	50	b20	42	82	67	43	63	16	18	10	14
20	13	77	20	38	143	57	39	49	15	13	9.0	35
21	*13	26	20	139	868	53	38	*36	15	*10	8.3	12
22	14	24	19	82	264	53	36	32	19	10	7.9	11
23	15	22	19	86	148	106	*34	30	15	22	7.5	10
24	15	22	19	141	113	124	33	28	14	12	7.2	9.5
25	15	19	19	95	93	102	31	26	13	9.0	6.4	9.0
26	15	22	18	74	81	85	31	25	13	8.3	6.0	15
27	15	22	18	67	68	74	29	22	18	7.9	5.7	27
28	15	19	18	82	60	67	29	22	16	7.2	a5.5	14
29	14	19	b17	79	-	60	28	21	13	6.8	a5.3	12
30	14	19	b20	63	-	54	111	20	12	17	a5.2	11
31	15	-	91	54	-	53	-	19	-	19	a5.0	-
Total	439	631	782	1,833	3,131	2,375	1,341	1,463	567	408.7	365.4	334.1
Mean	14.2	21.0	25.2	59.1	112	76.6	44.7	47.2	18.9	13.2	11.8	11.1
Cfsm	0.179	0.264	0.317	0.743	1.41	0.964	0.562	0.594	0.238	0.166	0.148	0.140
In.	0.21	0.30	0.37	0.86	1.46	1.11	0.63	0.68	0.27	0.19	0.17	0.16

Calendar year 1952: Max 938 Min 11 Mean 48.4 Cfsm 0.609 In. 8.29
Water year 1952-53: Max 868 Min 4.7 Mean 37.5 Cfsm 0.472 In. 6.41

Peak discharge (base, 1,200 cfs).--Feb. 21 (9 a.m.) 2,120 cfs (6.55 ft).

* Discharge measurement made on this day.

a Doubtful or no gage-height record; discharge estimated on basis of weather records and records for Hominy Creek at Candler and Ivy River near Marshall.

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 highway 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 1953.

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.--19 years, 150 cfs.

Extremes.--Maximum discharge during year, 5,630 cfs Feb. 21 (gage height, 10.11 ft); minimum, 8.0 cfs Aug. 30, Sept. 2 (gage height, 1.51 ft).
1934-53: 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, that of Aug. 30, Sept. 2, 1953; minimum daily discharge, 8.5 cfs Sept. 2, 18, 1953.

Remarks.--Records excellent. Records of chemical analyses for the water year 1953 are given in WSP 1290.

Revisions (water years).--WSP 803: 1934(M), 1935.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21						Feb. 22 to Sept. 30			
1.6	14	2.7	156	5.0	990	1.5	7.5	2.3	87
1.7	21	3.0	219	6.0	1,630	1.6	12	2.6	135
1.9	39	3.5	345	7.0	2,430	1.8	27	3.0	216
2.1	62	4.0	505	8.0	3,370	2.0	47	3.5	345
2.4	105	4.5	720						

Note.--Same as preceding table above 3.5 ft.

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	15	23	39	115	149	163	120	232	44	23	27	9.0
2	20	22	42	86	128	181	108	175	38	21	29	8.5
3	15	23	46	79	115	169	102	146	36	103	21	10
4	14	23	40	67	105	432	98	130	34	47	19	15
5	15	22	52	58	92	393	92	130	33	32	20	64
6	15	22	62	56	89	292	94	243	34	37	35	43
7	15	21	48	58	144	237	148	474	93	112	97	29
8	17	22	43	63	126	201	128	316	62	100	70	20
9	25	22	40	100	111	*171	115	239	46	45	52	16
10	29	26	138	509	105	*153	115	190	53	32	31	14
11	23	34	228	235	111	153	107	159	88	27	23	14
12	20	32	113	156	674	151	110	137	52	25	20	13
13	20	26	85	*124	423	144	159	123	66	23	18	12
14	19	*24	67	111	276	133	148	108	69	21	*16	12
15	19	24	*58	105	342	266	135	100	48	19	15	11
16	19	24	56	99	320	207	132	96	*42	25	14	10
17	19	24	50	92	*345	175	121	87	45	28	14	*10
18	18	23	50	134	259	161	113	83	39	24	16	8.5
19	18	46	48	118	224	157	113	158	34	27	36	10
20	*18	244	47	103	423	133	104	*142	32	*25	26	279
21	18	76	48	407	2,880	121	98	105	34	27	21	65
22	19	63	47	249	1,040	116	92	90	45	48	23	36
23	20	58	46	201	541	191	*87	83	37	148	22	27
24	20	54	44	402	393	205	84	76	30	47	18	24
25	21	47	41	286	311	169	80	70	29	29	15	25
26	20	64	41	219	266	149	84	63	25	25	14	32
27	22	85	39	208	218	137	77	62	31	22	12	59
28	22	58	37	293	186	128	76	54	29	20	11	42
29	20	48	32	274	-	120	72	49	25	18	11	30
30	20	44	42	208	-	112	274	48	25	22	10	25
31	22	-	161	172	-	113	-	46	-	25	9.0	-
Total	597	1,324	1,930	5,387	10,396	5,633	3,386	4,214	1,298	1,227	765.0	973.0
Mean	19.3	44.1	62.3	174	371	182	113	136	43.3	39.6	24.7	32.4
Cfsm	0.122	0.279	0.394	1.10	2.35	1.15	0.715	0.861	0.274	0.251	0.156	0.205
In.	0.14	0.31	0.45	1.27	2.45	1.33	0.80	0.99	0.31	0.29	0.18	0.23

Calendar year 1952: Max 1,750 Min 14 Mean 107 Cfsm 0.677 In. 9.19
Water year 1952-53: Max 2,880 Min 8.5 Mean 102 Cfsm 0.646 In. 8.75

Peak discharge (base, 2,700 cfs).--Feb. 21 (11 a.m.) 5,630 cfs (10.11 ft).
* Discharge measurement made on this day.

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 1953.

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.--11 years, 2,358 cfs.

Extremes.--Maximum discharge during year, 22,800 cfs Feb. 21 (gage height, 7.98 ft); minimum, 317 cfs Sept. 1 (gage height, 0.57 ft); minimum daily, 460 cfs Sept. 1.
1942-53: Maximum discharge, 29,600 cfs Jan. 7, 1946 (gage height, 9.18 ft); minimum, 280 cfs Sept. 7, 1947 (gage height, 0.52 ft); minimum daily, that of Sept. 1, 1953.
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. Diurnal fluctuation at low flow caused by powerplants above station.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

0.7	400	3.0	3,710
1.0	645	3.5	4,870
1.3	960	4.0	6,200
1.6	1,320	5.0	9,380
2.0	1,880	6.0	13,200
2.5	2,710	7.0	17,800

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	695	705	1,040	2,310	2,190	2,980	2,640	3,840	1,130	1,280	927	460
2	725	685	982	1,690	2,060	3,090	2,500	2,800	1,040	1,190	883	468
3	675	665	1,090	1,490	1,940	3,350	2,390	2,500	1,070	1,260	818	491
4	636	636	1,130	1,410	1,850	3,910	2,280	2,260	1,040	1,150	872	564
5	627	665	1,130	1,270	1,780	4,310	2,190	2,820	1,020	1,040	1,200	1,140
6	618	665	1,230	1,220	1,690	3,630	2,160	3,950	993	1,080	982	1,530
7	600	665	1,170	1,230	2,000	3,210	2,390	5,120	1,890	1,510	1,200	1,220
8	735	665	1,090	1,260	2,410	2,960	2,340	4,240	3,650	1,560	1,490	938
9	916	655	1,030	1,820	2,130	*2,690	2,130	3,310	2,240	1,320	1,370	756
10	1,260	655	1,230	6,380	1,910	2,500	2,060	2,790	1,800	1,050	1,090	685
11	1,070	645	2,750	5,730	1,860	2,460	2,020	2,500	1,700	1,020	894	618
12	883	756	2,480	3,710	3,010	2,710	2,000	2,290	1,920	894	818	600
13	776	766	1,840	2,750	3,270	2,820	2,220	2,130	1,590	829	*745	618
14	735	705	1,550	*2,290	2,620	2,600	2,090	2,050	1,560	766	675	564
15	756	685	1,380	2,060	3,130	2,940	1,940	1,940	*1,450	808	655	483
16	756	705	*1,280	1,880	*3,670	3,070	1,920	1,920	1,450	916	645	*491
17	766	*675	1,230	1,760	3,440	2,670	1,880	1,790	1,370	1,320	675	499
18	756	627	1,200	1,940	3,010	2,500	1,840	1,760	1,300	1,090	745	483
19	675	760	1,170	2,510	2,730	2,440	1,820	2,020	1,200	1,270	938	499
20	627	3,700	1,150	2,130	3,280	2,290	1,790	2,030	1,300	1,580	1,080	1,730
21	*627	3,520	1,120	3,250	17,600	2,170	1,730	*1,840	1,370	*1,280	982	1,560
22	627	1,920	1,080	3,210	14,200	2,220	*1,690	1,630	1,400	1,140	883	1,000
23	627	1,480	1,050	2,690	12,400	5,180	1,670	1,560	1,260	1,420	787	766
24	627	1,280	1,020	5,650	8,450	7,330	1,590	1,480	1,190	1,460	715	636
25	618	1,170	993	5,700	5,380	6,930	1,550	1,420	1,150	1,150	645	645
26	618	1,170	982	3,930	4,200	5,460	1,620	1,400	1,050	1,020	655	872
27	618	1,480	938	3,150	3,650	3,890	1,600	1,380	1,270	850	609	1,590
28	618	1,490	927	3,010	3,270	3,400	1,530	1,310	1,410	850	573	1,800
29	618	1,240	905	3,070	-	3,130	1,510	1,220	1,410	840	555	1,260
30	636	1,140	905	2,620	-	2,880	2,480	1,220	1,260	818	515	993
31	655	-	1,700	2,380	-	2,730	-	1,230	-	850	507	-
Total	22,176	32,575	38,772	85,500	119,130	104,450	59,570	69,750	43,483	34,611	28,128	25,959
Mean	715	1,086	1,251	2,758	4,255	3,369	1,986	2,250	1,449	1,116	843	865
Cfsm	0.537	0.815	0.939	2.07	3.19	2.53	1.49	1.69	1.09	0.838	0.633	0.649
In.	0.62	0.91	1.08	2.39	3.33	2.92	1.66	1.95	1.21	0.97	0.73	0.72

Calendar year 1952: Max 18,800 Min 600 Mean 2,167 Cfsm 1.63 In. 22.15
Water year 1952-53: Max 17,600 Min 460 Mean 1,814 Cfsm 1.36 In. 18.49

Peak discharge (base, 10,000 cfs).--Feb. 21 (11 a.m.) 22,800 cfs (7.98 ft).
* Discharge measurement made on this day.

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 1953.

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.--19 years, 180 cfs.

Extremes.--Maximum discharge during year, 3,090 cfs Feb. 21 (gage height, 5.52 ft); minimum, 17 cfs Sept. 19 (gage height, 1.04 ft).
1934-53: 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 or no gage-height record, which are fair.

Revisions.--WSP 823: Drainage area.

Rating table, water year 1952-53, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.0	15	2.2	220
1.1	21	2.5	326
1.2	28	3.0	575
1.4	48	3.5	900
1.6	76	4.0	1,310
1.8	113	5.0	2,390
2.0	162		

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	26	a27	a50	217	196	182	193	356	81	53	50	a20
2	25	26	a55	162	162	220	179	259	76	56	68	a19
3	24	27	a60	141	146	217	165	211	73	74	45	a20
4	24	a26	a55	109	134	458	154	182	72	90	67	a30
5	24	a25	a70	99	115	487	141	190	68	66	57	a80
6	24	a25	a80	86	111	335	141	408	87	61	45	a60
7	25	a24	a60	99	146	262	168	960	184	136	a140	a40
8	a27	a24	a55	144	134	223	144	526	93	129	a95	a30
9	a35	a25	a50	170	120	*190	129	352	78	86	a75	a27
10	a40	a32	a200	482	113	*170	149	273	117	68	54	a23
11	a31	a45	a300	306	122	173	146	228	154	58	46	a21
12	a29	a40	a150	211	946	165	154	196	88	54	40	a20
13	28	*32	a115	*168	707	157	262	173	121	51	*38	a20
14	27	a29	a90	144	383	146	295	154	134	47	35	a20
15	27	a28	*76	124	378	653	262	146	*101	46	34	a20
16	27	28	b66	109	306	450	246	136	84	62	32	a19
17	27	27	b62	99	*365	322	211	127	90	57	33	*19
18	27	27	b60	118	287	270	202	122	78	56	36	19
19	26	95	58	103	262	236	256	327	70	62	46	20
20	*25	a210	64	97	499	196	226	*262	64	*54	42	86
21	24	a110	76	482	1,960	176	199	205	64	53	37	39
22	25	76	68	476	884	165	*179	170	170	76	a40	29
23	26	a68	67	303	465	199	165	146	93	195	a35	26
24	26	a64	64	310	335	249	152	136	79	79	30	25
25	26	a60	61	270	284	249	141	122	83	58	28	28
26	26	a90	58	223	256	223	139	111	67	52	26	37
27	26	a130	54	242	223	199	127	107	70	47	a24	52
28	25	a80	52	519	199	184	120	93	64	42	a23	35
29	24	a60	44	498	-	168	111	90	58	42	a22	28
30	a24	57	64	306	-	152	370	88	61	41	a22	26
31	a25	-	231	226	-	184	-	86	-	46	a21	-
Total	825	1,617	2,615	7,043	10,238	7,660	5,526	6,940	2,722	2,097	1,386	938
Mean	26.6	53.9	84.4	227	366	247	184	224	90.7	67.6	44.7	31.3
Cfsm	0.211	0.428	0.670	1.80	2.90	1.96	1.46	1.78	0.720	0.537	0.355	0.248
In.	0.24	0.48	0.77	2.08	3.02	2.26	1.63	2.05	0.80	0.62	0.41	0.28

Calendar year 1952: Max 1,290 Min 23 Mean 129 Cfsm 1.02 In. 13.93
Water year 1952-53: Max 1,960 Min 19 Mean 136 Cfsm 1.08 In. 14.64

Peak discharge (base, 1,500 cfs).--Feb. 21 (11 a.m.) 3,090 cfs (5.52 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 Ivy River near Marshall.
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 1953 in reports of Geological Survey. Records prior to October 1924 (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 different datum. November 1902 to December 1905, August to December 1907, wire-weight and chain gages 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 same datum.

Average discharge.--32 years (1921-53), 2,835 cfs.

Extremes.--Maximum discharge during year, 33,400 cfs Feb. 21 (gage height, 11.93 ft); minimum, 208 cfs Oct. 23 (gage height, 0.97 ft).
1900-1905, 1907, 1920-53: Maximum discharge, 76,300 cfs Aug. 30, 1940 (gage height, 19.25 ft); minimum, that of Oct. 23, 1952.
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.

Remarks.--Records good. Diurnal fluctuation during low flow caused by powerplants above station.

Revisions (water years).--WSP 783: 1933-34. WSP 823: Drainage area. WSP 893: 1928(M). See also Records available.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second

Oct. 1 to Feb. 20		Feb. 21 to Sept. 30			
1.2	460	1.1	460	4.0	6,000
1.5	830	1.3	630	5.0	8,600
2.0	1,500	1.5	820	7.0	14,100
3.0	3,370	2.0	1,480	9.0	20,700
4.0	5,960	3.0	3,440		
4.7	8,000				

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	688	700	*1,220	2,940	2,980	3,890	3,390	5,480	1,420	1,290	1,010	585
2	843	726	1,060	2,560	2,740	3,840	3,200	4,470	1,340	1,360	1,050	567
3	713	726	1,100	2,030	2,500	4,160	3,020	3,420	1,160	1,360	978	532
4	652	739	1,220	1,860	2,370	5,140	2,880	3,040	1,200	1,540	919	*549
5	652	*700	1,220	1,650	2,270	*6,470	2,750	2,880	1,180	1,270	954	657
6	676	676	1,350	1,590	2,110	5,300	2,640	4,420	1,160	1,160	1,330	1,330
7	713	726	1,350	1,540	2,160	4,440	*2,790	*8,820	1,300	1,770	1,290	1,510
8	*652	664	1,220	1,600	2,800	3,960	3,040	6,730	*3,500	2,230	1,330	1,160
9	791	713	1,160	1,830	2,760	3,590	2,710	5,010	2,950	1,800	1,830	908
10	1,050	752	1,280	6,560	*2,460	3,270	2,600	3,990	2,300	1,400	1,460	790
11	1,280	778	3,110	7,760	2,310	3,150	2,580	3,390	2,240	1,150	1,130	693
12	1,080	739	3,650	5,240	6,150	3,250	2,500	2,990	1,990	1,090	*930	675
13	921	869	2,580	3,620	6,810	3,490	3,490	2,730	1,970	1,010	886	630
14	804	843	2,030	2,940	4,530	3,370	3,920	2,520	1,940	942	820	639
15	739	726	1,780	2,580	4,400	4,700	3,150	2,420	1,700	886	790	621
16	791	752	1,580	2,370	5,210	4,960	2,900	2,340	1,610	954	711	549
17	765	765	1,470	2,180	5,320	4,120	2,670	2,230	1,610	1,130	770	540
18	576	752	1,460	2,110	4,580	3,640	2,540	2,100	1,510	1,460	760	540
19	790	676	1,420	2,640	3,950	3,440	2,600	3,200	1,400	1,250	886	532
20	688	2,140	1,370	*2,740	3,850	3,150	2,500	3,540	1,290	1,590	1,060	678
21	791	4,480	1,360	3,860	20,300	2,900	2,400	2,820	1,540	1,530	1,120	2,010
22	652	2,940	1,360	5,240	19,300	2,750	2,260	2,340	1,690	1,390	1,030	1,340
23	478	1,840	1,280	3,880	15,300	4,190	2,190	2,080	1,580	1,670	930	930
24	628	1,560	1,230	5,510	11,000	8,240	2,110	1,920	1,360	1,750	842	770
25	664	1,420	1,230	7,370	7,590	8,110	1,970	1,820	1,300	1,450	780	702
26	640	1,490	1,160	5,460	5,690	7,090	1,950	1,640	1,230	1,220	720	711
27	580	1,490	1,170	4,300	4,880	5,190	2,010	1,690	1,150	1,080	720	1,010
28	640	1,710	1,100	4,790	4,340	4,390	1,920	1,610	1,500	942	675	1,900
29	664	1,500	1,090	5,350	-	3,990	1,850	1,480	1,510	930	639	1,640
30	628	1,250	1,060	4,080	-	3,640	2,600	1,440	1,450	954	621	1,160
31	628	-	1,690	3,350	-	3,440	-	1,440	-	966	594	-
Total	22,857	35,842	46,360	111,530	160,660	135,260	79,130	96,000	49,080	40,524	29,585	26,858
Mean	737	1,195	1,495	3,598	5,738	4,363	2,638	3,097	1,636	1,307	954	895
Cfsm	0.397	0.643	0.805	1.94	3.09	2.35	1.42	1.67	0.881	0.703	0.513	0.482
In.	0.46	0.72	0.93	2.23	3.22	2.71	1.58	1.92	0.98	0.81	0.59	0.54

Calendar year 1952: Max 18,200 Min 478 Mean 2,572 Cfsm 1.38 In. 18.84
Water year 1952-53: Max 20,300 Min 478 Mean 2,284 Cfsm 1.23 In. 16.69

Peak discharge (base, 16,000 cfs).--Feb. 21 (5:30 p.m.) 33,400 cfs (11.93 ft).
* Discharge measurement made on this day.

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 1953 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 0.25 mile downstream at different datum.

Average discharge.--25 years (1907-8, 1929-53), 310 cfs.

Extremes.--Maximum discharge during year, 7,360 cfs Feb. 21 (gage height, 8.62 ft); minimum, 33 cfs Sept. 9 (gage height, 0.33 ft); minimum daily, 37 cfs Sept. 9.
1907-9, 1928-53: 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. 9, 1953.

Remarks.--Records excellent. 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 110 million gallons just above station for supplementary water supply, equivalent to a mean discharge of about 0.5 cfs at station.

Revisions (water years).--WSP 823: Drainage area. WSP 853: 1929-37(M).

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 19				Nov. 20 to Sept. 30			
0.6	58	1.0	132	0.3	31	3.0	1,070
.7	72	1.2	186	.5	49	4.0	1,820
.8	89	1.5	285	.7	75	5.0	2,740
				1.0	133	6.0	3,820
				1.5	285	7.0	5,080
				2.0	485		

Note.--Same as following table above 1.5 ft.

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	*80	74	178	282	359	508	*340	476	129	94	75	64
2	77	71	243	268	371	570	325	391	122	*89	84	67
3	72	71	195	243	379	513	314	332	120	92	84	64
4	71	68	169	189	363	636	340	375	118	92	105	67
5	71	66	180	180	*344	595	329	391	113	92	80	85
6	71	65	180	178	307	*556	329	463	118	100	67	72
7	74	64	180	186	359	508	336	551	282	87	65	53
8	77	65	156	366	310	459	310	416	180	98	72	*40
9	198	66	153	673	325	433	296	375	*172	96	71	*37
10	130	*69	*723	1,720	332	412	296	348	136	77	64	65
11	95	84	724	763	329	420	264	321	208	72	*59	62
12	87	80	605	580	467	476	260	*299	129	69	65	56
13	82	65	422	630	526	437	278	282	122	68	71	54
14	79	62	274	*580	513	416	247	271	146	65	67	57
15	77	66	250	463	485	459	240	260	158	78	57	59
16	75	68	274	355	428	416	217	264	124	290	74	57
17	75	64	260	344	383	399	166	237	120	129	123	60
18	74	62	208	801	317	387	164	227	109	107	75	60
19	72	571	202	630	317	363	178	257	103	178	65	60
20	69	810	198	459	977	344	161	247	100	136	67	78
21	66	247	192	503	4,340	332	156	211	96	129	65	60
22	66	189	161	459	1,630	490	150	198	126	139	61	54
23	68	172	158	621	1,220	1,570	148	186	98	196	64	54
24	68	183	153	1,210	1,040	1,180	153	180	96	109	62	57
25	68	169	150	1,140	870	1,010	192	175	105	94	64	69
26	66	341	158	739	625	844	208	164	105	85	68	98
27	66	359	156	641	575	575	180	153	150	80	65	129
28	65	264	150	620	531	531	180	146	164	77	64	61
29	62	186	136	560	-	472	178	140	120	74	64	49
30	66	250	140	463	-	445	868	140	109	82	62	56
31	75	-	345	371	-	407	-	136	-	89	65	-
Total	2,442	4,971	7,673	17,217	19,022	17,163	7,803	8,612	3,978	3,263	2,194	1,904
Mean	78.8	166	248	555	679	554	260	278	133	105	70.8	63.5
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 4,020 Min 58 Mean 297 Cfsm 2.23 In. 30.37
Water year 1952-53: Max 4,340 Min 37 Mean 264 Cfsm 1.98 In. 26.91

Peak discharge (base, 4,000 cfs).--Feb. 21 (10 a.m.) 7,360 cfs (8.62 ft).
* Discharge measurement made on this day.

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 1953.

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.

Extremes.--Maximum discharge during year, 951 cfs Feb. 21 (gage height, 3.43 ft); minimum, 6.0 cfs Sept. 1.
1949-53: Maximum discharge, that of Feb. 21, 1953; minimum, that of Sept. 1, 1953. Maximum stage known, 7.0 ft Aug. 30, 1940, from information by local residents.

Remarks.--Records good except those for period of no gage-height record, which are fair. Town of Waynesville diverted from tributaries above station about 3 cfs for water supply.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 10

0.9	5.2	1.8	125
1.0	9.8	2.0	172
1.1	16	2.2	235
1.2	26	2.4	320
1.4	57	2.6	420
1.6	87	3.0	650

Dec. 11 to Sept. 30

0.9	5.2	1.2	28
1.0	10	1.3	44
1.1	18	1.4	57

Note.--Same as preceding table above 1.4 ft.

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	9.2	7.3	12	23	48	63	36	52	19	a15	12	6.4
2	*8.6	7.3	22	22	45	76	*34	47	19	*15	11	6.8
3	8.2	7.3	15	21	42	65	34	42	19	14	12	8.8
4	8.2	7.3	14	18	39	109	33	47	18	14	13	13
5	8.2	7.3	23	18	*36	*77	31	44	17	17	10	31
6	8.2	7.3	16	19	45	67	38	65	29	19	9.4	13
7	8.6	*6.8	15	23	54	63	39	58	30	16	9.4	9.4
8	9.2	6.8	14	75	42	58	33	50	*22	20	12	*8.3
9	14	6.8	14	97	39	54	31	47	*19	17	11	8.3
10	9.8	11	*152	103	36	53	36	45	23	14	9.4	8.3
11	9.2	14	71	64	57	54	30	39	20	13	9.4	8.3
12	9.2	9.8	48	52	123	50	41	*36	16	13	*8.8	8.3
13	8.8	8.8	36	47	73	50	45	34	17	12	8.3	7.8
14	8.8	8.2	28	*42	61	47	36	31	33	12	8.3	7.3
15	8.8	8.2	24	39	61	47	33	30	21	12	7.8	6.8
16	8.8	8.2	23	36	54	44	33	28	18	31	8.3	6.8
17	8.8	8.2	22	38	52	41	31	28	17	16	12	6.8
18	8.2	8.2	21	82	48	44	36	27	16	18	11	6.8
19	8.2	58	20	50	48	45	36	41	16	21	10	7.3
20	8.2	40	21	48	134	39	31	28	15	16	12	8.8
21	8.2	17	20	60	*389	38	30	26	16	15	12	7.8
22	8.2	15	19	52	160	39	28	25	17	20	10	6.8
23	7.8	14	18	65	121	76	27	24	16	20	9.4	6.8
24	7.8	14	17	85	109	60	27	22	16	16	8.8	6.8
25	7.8	14	16	63	96	52	26	22	16	14	8.3	16
26	7.8	37	16	57	84	48	26	21	18	13	7.8	15
27	7.8	20	16	56	74	45	25	20	18	12	7.3	19
28	7.8	15	15	73	67	42	24	20	16	12	7.3	8.8
29	7.8	14	15	56	-	41	24	20	a16	12	7.3	6.8
30	7.8	14	16	52	-	38	100	21	a15	15	6.8	6.4
31	7.8	-	48	49	-	38	-	20	-	12	6.4	-
Total	266.2	420.8	827	1,585	2,237	1,663	1,034	1,060	568	486	296.5	288.5
Mean	8.59	14.0	26.7	51.1	79.9	53.6	34.5	34.2	18.9	15.7	9.56	9.62
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 274 Min 6.8 Mean 33.7 Cfsm - In. -
Water year 1952-53: Max 389 Min 6.4 Mean 29.4 Cfsm - In. -

Peak discharge (base, 400 cfs).--Feb. 21 (6:30 a.m.) 951 cfs (3.43 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of records for Jonathan Creek near Cove Creek, Pigeon River at Canton, and Scott Creek above Sylva.

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 1953.

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.--23 years, 125 cfs.

Extremes.--Maximum discharge during year, 2,750 cfs Feb. 21 (gage height, 6.90 ft); minimum, 22 cfs Sept. 18 (gage height, 0.62 ft).
1930-53: Maximum discharge, 3,200 cfs Aug. 30, 1940 (gage height, 7.51 ft); minimum, 18 cfs Jan. 2, 1940 (gage height, 0.54 ft), result of freezeup.

Remarks.--Records excellent. Slight diurnal fluctuation at low flow caused by small gristmill above station.

Revisions.--WSP 823: Drainage area.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21				Feb. 22 to Sept. 30			
0.7	25	2.5	304	0.6	21	2.1	222
.8	30	3.0	452	.8	30	2.5	320
1.0	44	3.5	640	1.0	45	3.0	475
1.2	62	4.0	880	1.2	65	3.5	660
1.5	97	4.5	1,160	1.5	109	4.0	880
1.8	146	5.0	1,460	1.8	162		
2.1	209	6.0	2,120				

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	31	30	45	106	154	220	*148	155	72	*52	56	25
2	*31	30	65	88	141	285	*139	168	69	55	46	25
3	30	30	58	82	130	240	135	146	68	75	51	29
4	29	29	50	71	123	336	131	142	64	57	63	*36
5	29	28	74	67	115	*270	124	158	64	62	50	47
6	29	28	61	65	126	240	139	278	73	55	42	40
7	30	*28	54	76	168	222	162	332	101	70	40	32
8	35	28	50	182	133	209	135	229	*74	67	40	28
9	48	28	*49	223	122	195	124	197	72	56	43	28
10	37	33	433	338	*117	185	133	177	81	47	37	27
11	34	43	236	205	150	197	123	*160	74	45	*36	26
12	32	35	133	158	456	179	148	*149	62	43	34	26
13	31	31	104	*133	296	177	175	140	72	42	33	25
14	31	30	85	120	239	166	140	131	99	41	31	25
15	30	30	76	109	248	257	133	131	72	43	30	24
16	31	30	70	104	216	189	131	124	64	91	31	24
17	31	30	67	102	207	175	123	114	62	52	39	23
18	30	30	65	201	187	183	126	112	56	63	43	23
19	30	177	62	132	183	172	130	210	54	86	43	24
20	30	141	66	120	415	158	119	146	52	69	40	27
21	29	60	67	215	1,650	153	114	123	58	54	57	26
22	30	56	60	152	728	153	111	114	100	63	39	24
23	30	52	59	205	492	239	107	108	72	77	37	23
24	30	48	57	269	401	229	106	103	63	51	34	24
25	30	46	55	209	338	199	104	96	65	45	31	30
26	30	111	53	181	300	183	109	93	73	43	30	40
27	30	74	51	166	262	173	99	87	65	42	28	64
28	30	57	50	252	238	166	96	82	60	39	28	34
29	29	51	48	198	-	158	93	80	72	46	27	28
30	29	48	50	176	-	151	237	78	61	53	26	26
31	30	-	195	162	-	148	-	74	-	48	26	-
Total	966	1,472	2,648	4,867	8,335	6,207	3,892	4,435	2,094	1,732	1,191	883
Mean	31.2	49.1	85.4	157	298	200	130	143	69.8	55.9	38.4	29.4
Cfsm	0.478	0.752	1.31	2.40	4.56	3.06	1.99	2.19	1.07	0.856	0.588	0.450
In.	0.55	0.84	1.51	2.77	4.75	3.54	2.22	2.53	1.19	0.99	0.68	0.50

Calendar year 1952: Max 1,150 Min 28 Mean 113 Cfsm 1.73 In. 23.51
Water year 1952-53: Max 1,650 Min 23 Mean 106 Cfsm 1.62 In. 22.07

Peak discharge (base, 1,100 cfs).--Feb. 21 (7 a.m.) 2,750 cfs (6.90 ft).
* Discharge measurement made on this day.

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 1953.

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.--26 years, 658 cfs.

Extremes.--Maximum discharge during year, 12,000 cfs Feb. 21 (gage height, 9.55 ft); minimum, 104 cfs Sept. 9 (gage height, 0.86 ft).
1927-53: 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 (gage height, 0.82 ft).
Maximum stage known, about 18 ft June 1876 and February 1902, from flood profiles by Tennessee Valley Authority.

Remarks.--Records excellent. 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 tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 19				Nov. 20 to Sept. 30			
1.0	125	0.9	110	2.0	455	6.0	4,440
1.2	178	1.0	128	2.5	715	7.0	6,190
1.4	240	1.2	170	3.0	1,040	8.0	8,200
1.7	348	1.4	223	4.0	1,900		
2.0	474	1.7	325	5.0	3,000		

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	172	150	329	550	693	951	*654	979	299	*223	219	128
2	*167	148	349	475	676	1,280	622	823	288	215	190	126
3	156	148	337	460	682	1,240	595	682	285	238	188	136
4	150	145	318	382	654	*1,870	605	688	278	226	229	*140
5	150	142	321	357	622	1,570	590	727	268	223	212	170
6	150	142	318	341	595	1,050	610	1,080	314	235	166	223
7	150	140	306	357	704	923	682	1,360	535	263	166	148
8	167	140	271	536	605	757	595	923	*382	245	166	124
9	260	142	*261	867	605	710	565	805	345	245	172	110
10	296	*153	1,030	2,530	616	682	575	721	337	198	155	115
11	199	178	1,300	1,410	*660	676	535	*866	413	180	*146	134
12	181	178	1,090	1,020	1,300	841	565	622	303	172	142	132
13	172	161	883	*1,010	1,100	829	671	590	295	170	142	123
14	164	148	627	944	1,080	763	560	560	369	166	144	117
15	161	148	565	805	1,030	1,000	525	560	374	170	138	119
16	158	148	555	632	937	811	525	560	295	433	136	115
17	158	148	525	600	883	757	446	505	285	314	177	114
18	156	145	450	1,110	763	763	446	485	261	248	224	117
19	150	366	395	1,000	739	715	470	715	251	345	168	123
20	148	1,600	365	763	1,480	671	432	600	238	314	161	140
21	145	632	365	979	7,580	644	417	495	235	274	190	148
22	145	535	314	805	3,220	733	404	460	321	245	163	124
23	148	422	295	951	2,300	1,910	395	432	261	400	155	117
24	228	288	295	1,820	1,950	1,770	391	417	238	271	150	115
25	372	278	285	1,650	1,680	1,480	417	399	245	226	142	134
26	187	413	281	1,240	1,310	1,300	441	382	278	209	140	215
27	184	616	278	1,060	1,140	958	408	357	310	195	140	299
28	175	500	268	1,140	1,010	871	399	341	303	178	134	190
29	145	314	251	1,010	-	799	386	329	281	182	132	136
30	142	321	248	883	-	751	1,410	329	254	182	130	124
31	145	-	677	727	-	721	-	318	-	201	128	-
Total	5,481	8,989	14,152	28,414	36,614	30,796	16,336	18,910	9,141	7,386	5,045	4,256
Mean	177	300	457	917	1,308	993	545	610	305	238	163	142
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 6,560 Min 140 Mean 593 Cfsm 1.69 In. 23.05
Water year 1952-53: Max 7,580 Min 110 Mean 508 Cfsm 1.45 In. 19.71

Peak discharge (base, 6,000 cfs).--Feb. 21 (10:30 a.m.) 12,000 cfs (9.55 ft).
* Discharge measurement made on this day.

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 1953 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.--26 years (1903-5, 1908-12, 1914-29, 1948-53), 1,213 cfs.

Extremes.--Maximum discharge during year, 18,100 cfs Feb. 21 (gage height, 10.03 ft); minimum daily, 48 cfs Sept. 21, 28.
1900-1901, 1902-5, 1906-29, 1945-46, 1948-53: Maximum discharge, 33,000 cfs Apr. 2, 1920 (gage height, 17.0 ft); minimum daily, that of Sept. 21, 28, 1953. Flood of Feb. 28, 1902, reached a stage of 21.4 ft.

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 (water years).--WSP 1143: Drainage area. See also Records available.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

-0.3	40	1.5	860
-.1	65	2.0	1,330
.1	102	2.5	1,910
.4	180	3.0	2,580
.7	304	4.0	4,130
1.0	480	6.4	8,780

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	271	201	*887	1,090	1,420	1,920	1,680	1,290	446	614	356	257
2	300	56	1,190	753	1,690	2,220	1,400	1,030	486	502	240	254
3	278	107	1,130	620	1,650	2,330	1,090	900	454	*712	286	256
4	229	324	628	453	1,400	2,890	830	1,090	538	615	494	*258
5	50	*377	643	554	1,210	*2,890	538	1,180	532	313	489	210
6	86	273	474	706	1,220	2,550	506	1,530	408	454	450	214
7	293	280	300	626	710	2,400	*1,040	*3,000	308	1,110	434	177
8	*328	233	438	869	628	1,940	1,130	2,340	*718	730	384	174
9	335	100	605	1,340	964	2,090	1,070	1,660	808	566	235	206
10	321	224	1,260	2,220	*1,270	1,730	1,100	1,000	878	489	132	226
11	246	350	1,860	1,640	1,200	1,750	881	1,530	845	374	259	228
12	56	338	1,420	1,470	3,780	1,720	540	1,450	942	258	*257	225
13	*84	333	1,130	1,670	2,950	1,710	1,690	1,160	816	316	252	216
14	272	324	602	1,600	2,140	1,330	1,890	1,140	478	502	250	147
15	281	300	992	1,540	2,050	1,170	1,520	1,080	604	453	278	192
16	260	235	1,150	1,550	2,290	1,830	1,360	726	775	514	215	166
17	264	192	1,310	1,450	2,220	1,890	1,220	418	754	472	161	76
18	216	316	1,210	1,380	2,040	1,720	771	741	519	380	282	69
19	50	341	1,240	1,540	1,950	1,610	520	2,190	434	334	278	74
20	91	790	988	*1,590	2,320	1,540	996	2,430	332	358	264	70
21	398	720	384	1,950	8,780	1,030	850	1,780	342	524	271	48
22	342	858	848	2,300	6,960	817	728	1,300	408	600	291	58
23	332	460	1,110	2,200	4,300	1,370	628	717	480	581	220	71
24	276	780	814	2,270	3,470	2,020	594	481	444	544	130	74
25	278	1,200	421	1,970	2,750	2,090	460	699	424	386	251	72
26	57	1,760	190	2,050	2,580	2,170	404	1,030	440	240	246	94
27	109	869	258	2,120	2,300	1,980	442	928	398	322	238	67
28	309	940	258	2,720	2,200	1,720	546	558	248	496	244	48
29	324	970	502	2,680	-	1,340	533	470	310	511	266	61
30	266	439	750	2,290	-	1,700	876	381	542	554	223	67
31	275	-	1,140	1,990	-	1,930	-	348	-	523	85	-
Total	7,277	14,690	26,132	49,201	68,442	57,397	27,833	36,577	16,111	15,347	8,461	4,355
Mean	235	490	843	1,587	2,444	1,852	928	1,180	537	495	273	145
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 8,700 Min 50 Mean 1,036 Cfsm 1.56 In. 21.18
Water year 1952-53: Max 8,780 Min 48 Mean 909 Cfsm 1.36 In. 18.53

Peak discharge (base, 7,500 cfs).--Feb. 21 (7:00 p.m.) 18,100 cfs (10.03 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 1953. 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, water-stage recorder at site 1.2 miles downstream at datum 13.90 ft lower.

Average discharge.--19 years, 202 cfs.

Extremes.--Maximum discharge during year, 2,760 cfs Feb. 21 (gage height, 7.63 ft); minimum, 30 cfs Nov. 6, 7, 8 (gage height, 1.06 ft); minimum daily, 34 cfs Sept. 18.
1934-53: Maximum discharge, 22,200 cfs Aug. 13, 1940 (gage height, 19.5 ft, from floodmark in gage well), from rating curve extended above 5,000 cfs on basis of slope-area determination of peak flow; minimum, 24 cfs Dec. 14, 15, 1939, result of freezeup; minimum daily, 34 cfs Sept. 28, 1952, Sept. 18, 1953.
Maximum stage known, about 24 ft in July 1916.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are fair. Slight diurnal fluctuation at low flow caused by gristmills above station.

Revisions.--WSP 973: Drainage area.

Rating table, water year 1952-53, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

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	7.0	2,410
2.5	395		

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	38	44	74	230	194	237	255	357	84	76	83	*37
2	44	42	80	170	178	295	228	237	80	*78	90	35
3	40	44	82	150	*170	347	214	200	*78	140	66	38
4	38	44	78	130	160	430	202	186	78	438	88	52
5	38	*43	91	115	148	370	189	*200	76	129	72	100
6	39	39	108	110	148	314	197	267	80	104	67	108
7	*62	38	80	115	222	283	*243	360	364	106	182	62
8	50	36	74	*140	176	258	*211	264	148	111	102	49
9	110	38	*74	195	153	234	186	228	111	88	82	43
10	99	44	183	979	146	222	189	202	115	78	68	42
11	61	59	300	440	153	*246	181	189	221	70	61	43
12	50	68	200	289	431	289	173	173	118	68	54	42
13	47	50	150	228	305	270	208	168	108	66	54	39
14	44	46	120	211	237	237	194	160	99	66	50	38
15	43	44	110	186	258	364	181	158	93	64	47	38
16	43	43	90	170	220	292	178	151	95	68	44	37
17	43	44	80	158	231	255	168	143	97	68	47	35
18	42	44	80	197	b190	255	166	141	88	73	54	34
19	39	96	85	170	b180	246	181	186	84	108	*86	41
20	39	346	82	151	391	217	163	189	88	86	80	225
21	39	131	86	381	1,920	202	158	141	84	92	62	105
22	42	106	84	273	952	225	153	131	224	75	62	61
23	43	88	82	254	584	897	148	124	118	301	62	50
24	43	93	78	728	462	876	146	118	99	122	54	47
25	42	93	76	448	395	566	143	113	99	80	50	49
26	42	167	74	314	340	440	166	104	86	76	46	66
27	43	160	70	276	286	367	143	102	93	72	42	108
28	43	108	66	317	258	334	143	97	93	66	42	76
29	43	88	64	273	-	298	131	91	82	62	39	54
30	43	80	70	228	-	270	445	91	91	66	37	49
31	44	-	250	208	-	255	-	88	-	66	36	-
Total	1,476	2,368	3,221	8,234	9,488	10,391	5,683	5,359	3,374	3,163	2,011	1,803
Mean	47.6	78.9	104	266	339	335	189	173	112	102	64.9	60.1
Cfsm	0.458	0.759	1.00	2.56	3.26	3.22	1.82	1.66	1.08	0.981	0.624	0.578
In.	0.53	0.85	1.15	2.94	3.39	3.72	2.03	1.92	1.21	1.13	0.72	0.64

Calendar year 1952: Max 1,220 Min 34 Mean 142 Cfsm 1.37 In. 18.59
Water year 1952-53: Max 1,920 Min 34 Mean 155 Cfsm 1.49 In. 20.23

Peak discharge (base, 1,500 cfs).--Jan. 10 (8 a.m.) 1,580 cfs (5.41 ft); Feb. 21 (11:30 a.m.) 2,760 cfs (7.63 ft).

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Dec. 11 to Jan. 8; discharge estimated on basis of recorded range in stage, weather records, and basin hydrographic comparison.

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 1953.

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.--19 years, 243 cfs.

Extremes.--Maximum discharge during year, 7,490 cfs Feb. 21 (gage height, 10.18 ft); minimum, 25 cfs Sept. 18; minimum daily, 27 cfs Sept. 14.
1934-53: 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 gage height 15.65 ft; minimum, 18 cfs Jan. 6, 1940 (gage height, 1.14 ft), result of freezeup; minimum daily, that of Sept. 14, 1953.

Remarks.--Records good. 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 tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 10				Jan. 11 to Sept. 30			
1.6	23	3.0	301	1.6	22	3.5	485
1.8	43	3.5	485	1.8	39	4.0	720
2.0	69	4.0	720	2.0	62	5.0	1,320
2.2	101	5.0	1,320	2.2	93	6.0	2,080
2.5	161			2.5	155	7.0	3,020
				3.0	298	8.0	4,150

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	45	44	76	225	256	274	222	341	88	*68	67	32
2	43	45	84	147	*238	376	206	243	*95	68	113	*30
3	38	38	91	138	207	373	183	181	82	91	73	29
4	40	54	78	121	186	717	183	203	83	83	99	44
5	42	*47	118	109	159	623	156	*210	82	77	74	76
6	*28	44	108	109	162	446	202	283	82	73	55	85
7	43	43	100	*108	253	382	237	470	233	110	276	52
8	49	43	*63	121	225	327	237	358	136	153	103	50
9	58	41	79	213	213	288	*203	290	97	93	96	40
10	74	38	342	1,110	177	267	186	232	140	69	66	36
11	70	72	545	429	192	271	198	236	211	63	57	38
12	60	70	249	305	*737	315	168	207	123	66	53	35
13	40	49	187	239	615	349	287	189	104	49	50	37
14	55	51	131	214	405	283	255	174	102	58	50	27
15	54	51	138	189	396	473	223	169	109	56	41	37
16	50	49	110	175	354	377	207	165	91	57	45	32
17	48	39	110	166	376	307	197	158	90	66	37	30
18	44	54	109	263	321	301	191	142	88	55	*48	29
19	48	94	96	257	294	279	178	264	81	66	86	41
20	33	525	102	202	481	256	196	249	76	54	64	678
21	46	192	100	597	*3,530	228	161	186	127	58	56	176
22	49	116	95	428	1,380	212	164	154	190	56	53	83
23	44	108	94	329	765	494	159	143	107	144	62	65
24	46	87	83	682	556	440	149	146	84	103	41	65
25	46	88	89	470	472	328	147	125	79	63	43	50
26	45	132	79	362	412	282	142	129	74	64	39	66
27	38	164	77	334	349	259	157	116	77	40	37	102
28	49	103	74	467	309	244	133	106	81	49	36	107
29	42	89	64	470	-	214	132	105	63	48	36	66
30	47	78	83	355	-	226	269	103	75	51	35	56
31	45	-	244	296	-	218	-	103	-	80	28	-
Total	1,459	2,648	3,998	9,630	14,020	10,429	5,728	6,180	3,150	2,231	2,019	2,294
Mean	47.1	88.3	129	311	501	336	191	199	105	72.0	65.1	76.5
Cfsm	0.300	0.562	0.822	1.98	3.19	2.14	1.22	1.27	0.669	0.459	0.415	0.487
In.	0.35	0.63	0.95	2.28	3.32	2.47	1.36	1.46	0.75	0.53	0.48	0.54

Calendar year 1952: Max 1,630 Min 28 Mean 179 Cfsm 1.14 In. 15.57
Water year 1952-53: Max 3,530 Min 27 Mean 175 Cfsm 1.11 In. 15.12

Peak discharge (base, 2,600 cfs).--Jan. 10 (5:30 a.m.) 2,650 cfs (6.63 ft); Feb. 21 (1 p.m.) 7,490 cfs (10.18 ft).
* Discharge measurement made on this day.

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 1953.

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 datums. Feb. 15, 1926, to Sept. 30, 1927, staff gage at present site at datum 1.00 ft higher. Oct. 1, 1927, to May 17, 1934, staff gage at present site and datum.

Average discharge.--28 years, 1,029 cfs.

Extremes.--Maximum discharge during year, 18,700 cfs Feb. 21 (gage height, 9.90 ft); minimum, 133 cfs Aug. 31, Sept. 4 (gage height, 1.02 ft).
1925-53: 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 no gage-height record, which are fair. Considerable diurnal fluctuation caused by many small mills and powerplants above station.

Revisions (water years).--WSP 823: Drainage area. WSP 923: 1928(M), 1937(M).

Rating table, water year 1952-53, 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	8.0	12,300

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	220	210	b350	1,010	1,020	1,190	1,170	1,680	372	*320	296	141
2	210	210	392	711	*936	1,500	1,090	1,090	*372	308	415	*141
3	196	215	400	621	841	1,640	1,000	894	352	392	340	141
4	196	230	400	549	800	2,540	947	841	352	799	385	161
5	196	*225	445	476	720	2,570	872	*883	340	558	400	250
6	*178	206	558	b450	684	1,820	904	1,220	340	400	296	422
7	210	196	468	*468	936	1,540	1,130	2,170	949	438	623	320
8	245	196	*359	500	1,000	1,350	1,100	1,510	862	549	567	240
9	284	196	385	820	830	1,210	*936	1,190	524	430	422	196
10	558	201	757	4,030	740	1,120	894	1,100	628	333	308	174
11	378	290	2,130	2,160	760	*1,120	894	914	1,060	302	255	174
12	290	302	1,060	1,400	*2,300	1,430	820	830	657	296	240	165
13	235	266	760	1,080	2,310	1,630	1,120	780	476	272	225	161
14	245	240	603	958	1,500	1,330	1,100	720	468	272	220	157
15	230	235	b470	862	1,540	1,890	958	693	430	272	201	161
16	225	230	b400	780	1,390	1,740	914	893	400	266	178	157
17	220	206	b420	730	1,450	1,430	852	666	415	296	220	149
18	210	235	b420	900	1,230	1,340	820	612	392	296	*230	145
19	205	260	430	1,060	1,120	1,290	841	914	346	326	336	149
20	200	1,970	415	810	1,540	1,160	830	991	340	326	308	1,980
21	190	1,010	445	2,130	11,500	1,050	750	770	359	302	302	947
22	200	630	422	1,910	5,420	1,010	720	648	657	314	260	422
23	205	532	415	1,350	2,900	3,210	711	594	540	902	266	314
24	205	468	385	3,060	2,220	3,480	693	585	378	730	225	255
25	210	468	378	3,010	1,930	2,330	675	508	340	392	220	220
26	210	603	359	1,630	1,680	1,870	702	500	326	314	192	225
27	205	841	346	1,430	1,460	1,600	693	460	320	290	183	352
28	205	576	326	1,600	1,320	1,450	639	430	346	290	170	549
29	210	460	b320	1,770	-	1,310	612	415	326	290	170	340
30	200	400	b350	1,330	-	1,220	955	408	326	290	161	284
31	210	-	808	1,140	-	1,160	-	415	-	320	149	-
Total	7,181	12,307	16,176	40,735	52,077	50,530	26,342	26,024	13,993	11,885	8,763	9,492
Mean	232	410	522	1,314	1,860	1,630	878	839	466	383	283	316
Cfsm	0.382	0.674	0.859	2.16	3.06	2.68	1.44	1.38	0.766	0.630	0.465	0.520
In.	0.44	0.75	0.99	2.49	3.19	3.09	1.61	1.59	0.86	0.73	0.54	0.58

Calendar year 1952: Max 5,310 Min 174 Mean 741 Cfsm 1.22 In. 16.58.
Water year 1952-53: Max 11,500 Min 141 Mean 755 Cfsm 1.24 In. 16.86

Peak discharge (base, 9,000 cfs).--Feb. 21 (2:30 p.m.) 18,700 cfs (9.90 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Oct. 18 to Nov. 4; discharge estimated on basis of weather records and records for station at Embreeville, Tenn.

North Indian Creek near Unicoi, Tenn.

Location.--Lat 36°10'35", long. 82°17'36", on left bank 100 ft upstream from unnamed tributary, 900 ft upstream from Rocky Branch, and 3.4 miles southeast of Unicoi, Unicoi County.

Drainage area.--15.9 sq mi.

Records available.--May 1944 to September 1953.

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.--9 years, 21.5 cfs.

Extremes.--Maximum discharge during year, 398 cfs July 22 (gage height, 3.98 ft), from rating curve extended above 280 cfs; minimum, 28 cfs Sept. 18, 19; minimum gage height, 0.94 ft Oct. 1.
1944-53: Maximum discharge, that of July 22, 1953; minimum, 2.0 cfs Sept. 22, 23, 24, 25, 26-28, 1944 (gage height, 0.79 ft).

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 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 20				Feb. 21 to Sept. 30			
0.9	2.7	1.3	18	1.1	1.5	1.8	41
1.0	4.0	1.6	39	1.2	3.3	2.2	93
1.1	8.0	1.9	76	1.3	6.0	2.6	161
1.2	12			1.5	16	2.8	199

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	*3.1	3.4	*6.0	23	24	29	18	22	*8.5	5.5	5.7	3.1
2	3.1	3.4	6.8	18	20	*32	17	28	7.6	8.7	5.2	3.1
3	3.1	3.6	6.4	15	18	31	16	23	7.2	25	5.7	3.1
4	3.1	*3.9	6.0	12	17	59	15	*21	6.8	14	7.2	*3.1
5	3.1	3.6	11	11	*16	52	15	22	7.2	10	*5.7	5.1
6	3.1	3.4	8.8	*10	16	40	14	a30	7.2	*8.9	5.5	4.4
7	3.3	3.4	7.2	12	23	34	18	a75	18	23	5.2	3.8
8	3.3	3.4	6.4	17	20	29	15	a55	8.0	17	6.8	3.6
9	3.4	3.4	6.0	19	18	26	14	a40	7.2	10	7.2	3.3
10	3.3	3.7	30	62	17	22	20	a30	23	8.5	5.5	3.3
11	3.3	4.4	37	34	20	22	16	a25	14	8.0	5.2	3.3
12	3.3	3.9	17	25	89	20	16	22	9.3	7.2	4.9	3.1
13	3.3	3.6	13	21	59	20	33	20	8.0	6.8	4.4	3.1
14	3.3	3.6	11	19	40	19	27	18	7.6	6.8	4.4	3.1
15	3.3	3.9	9.2	17	43	49	26	17	7.2	6.4	4.4	a3.1
16	3.3	4.0	8.8	15	35	32	26	16	7.2	6.8	4.1	a3.1
17	3.3	4.4	7.6	14	35	28	22	15	8.0	6.0	4.1	3.1
18	3.3	5.2	7.6	18	28	29	25	15	7.2	6.4	4.1	2.9
19	3.3	20	7.6	15	25	32	26	*30	6.8	6.0	4.9	2.9
20	3.3	16	8.8	14	66	26	23	21	6.4	5.7	4.1	16
21	3.3	10	10	71	199	24	22	16	13	5.5	4.1	4.9
22	3.3	8.0	9.2	46	103	23	a20	14	17	35	7.6	3.3
23	3.3	10	8.8	34	65	26	a18	14	8.0	75	5.5	2.9
24	3.3	11	8.4	46	51	32	16	13	7.2	20	4.1	3.1
25	3.3	24	8.0	35	41	29	16	12	6.4	12	3.8	3.1
26	3.3	26	7.6	30	40	27	15	11	6.0	8.9	3.8	3.1
27	3.4	12	7.2	29	33	26	15	10	6.0	7.2	3.6	3.3
28	3.4	8.4	6.8	50	33	24	14	9.7	6.0	6.0	3.6	3.1
29	3.4	6.8	6.0	43	-	22	13	9.3	6.0	8.2	3.6	a3.1
30	3.4	6.4	6.8	33	-	20	31	8.9	6.0	7.2	3.3	a3.0
31	3.4	-	31	26	-	*20	-	8.0	-	6.4	3.3	-
Total	101.7	226.8	332.0	834	1,194	904	582	670.9	264.0	388.1	150.6	112.5
Mean	3.28	7.56	10.7	26.9	42.6	29.2	19.4	21.6	8.80	12.5	4.86	3.75
Cfsm	0.206	0.475	0.673	1.69	2.68	1.84	1.22	1.36	0.553	0.786	0.306	0.236
In.	0.24	0.53	0.78	1.95	2.79	2.11	1.36	1.57	0.62	0.91	0.35	0.26

Calendar year 1952: Max 146 Min 2.8 Mean 15.5 Cfsm 0.975 In. 13.26
Water year 1952-53: Max 199 Min 2.9 Mean 15.8 Cfsm 0.994 In. 13.47

Peak discharge (base, 220 cfs).--Feb. 21 (7:30 a.m.) 358 cfs (3.55 ft); July 22 (11:30 p.m.) 398 cfs (3.72 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 nearby stations.

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.--July 1920 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 1,519.30 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Oct. 1, 1931, chain gage at bridge 2,000 ft downstream at datum 6.33 ft lower.

Average discharge.--33 years, 1,312 cfs.

Extremes.--Maximum discharge during year, 21,800 cfs Feb. 21 (gage height, 7.82 ft); minimum, 164 cfs Sept. 18 (gage height, 0.62 ft).
1920-53: 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).

Remarks.--Records good. Slight diurnal fluctuation at low flow caused by small mill above station.

Revisions (water years).--WSP 803: 1935(M). WSP 823: Drainage area.

Rating tables, water year 1952-53, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21, May 1 to Sept. 30				Feb. 21 to Apr. 30	
0.6	160	2.5	2,160	1.6	930
.8	210	3.0	3,200	2.0	1,435
1.3	520	4.0	5,580	2.5	2,230
1.6	810	5.0	8,850	3.0	3,330
2.0	1,310	7.0	17,600	3.7	5,100
				4.7	8,150

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	*238	238	*428	1,280	1,420	1,690	*1,510	2,600	*503	400	332	174
2	222	238	444	956	1,230	*1,910	1,430	1,760	486	393	407	189
3	226	242	452	789	1,100	2,090	1,340	1,480	460	513	393	176
4	214	*255	444	705	1,000	3,120	1,270	*1,240	444	865	428	*186
5	218	260	452	601	909	3,870	1,220	1,180	428	758	486	284
6	214	242	629	*b560	*832	2,640	1,200	1,600	421	*538	*372	444
7	204	238	565	592	1,020	2,180	1,590	3,350	898	705	545	386
8	250	234	435	648	1,180	1,900	1,430	2,500	1,000	898	696	300
9	300	230	444	898	1,000	1,720	1,270	1,840	667	676	565	242
10	522	246	627	4,590	932	1,570	1,250	1,510	648	494	407	214
11	494	300	2,730	3,200	887	1,510	1,250	1,300	1,090	414	339	204
12	352	358	1,460	1,990	2,970	1,740	1,210	1,160	854	372	295	201
13	290	315	968	1,480	3,680	1,980	1,440	1,080	620	352	280	192
14	275	290	778	1,240	2,260	1,750	1,600	1,000	592	332	270	189
15	265	280	b640	1,100	2,140	2,490	1,460	920	556	320	246	176
16	260	270	b570	980	1,950	2,560	1,420	898	503	320	234	186
17	255	250	b550	909	2,080	2,090	1,330	865	512	346	234	174
18	242	270	b540	956	1,770	1,910	1,260	778	503	339	290	168
19	242	450	520	1,280	1,520	1,830	1,350	1,310	452	352	320	174
20	234	2,070	503	980	1,900	1,680	1,270	1,400	421	379	386	1,520
21	218	1,300	520	2,360	14,000	1,530	1,220	1,100	444	346	352	1,230
22	234	832	503	3,180	7,960	1,440	1,150	909	1,050	532	313	601
23	238	667	503	2,010	4,320	3,110	1,120	810	789	1,480	339	372
24	238	629	469	3,340	3,160	4,370	1,090	768	556	1,000	290	300
25	242	610	452	3,290	2,710	3,020	1,050	676	512	610	255	265
26	242	778	428	2,220	2,350	2,450	1,060	667	435	444	242	295
27	234	932	407	1,900	2,070	2,090	1,040	601	435	379	226	352
28	234	758	395	2,420	1,860	1,880	1,000	565	444	339	204	583
29	238	574	b360	2,750	-	1,720	954	547	452	306	204	428
30	230	494	b365	2,030	-	1,580	1,320	547	444	306	192	326
31	238	-	949	1,620	-	1,530	-	529	-	372	189	-
Total	8,103	14,848	19,528	52,854	70,210	66,950	37,904	37,490	17,619	15,880	10,331	10,531
Mean	261	495	630	1,705	2,508	2,160	1,263	1,209	587	512	333	351
Cfsm	0.324	0.615	0.783	2.12	3.12	2.68	1.57	1.50	0.729	0.636	0.414	0.436
In.	0.37	0.69	0.90	2.44	3.24	3.09	1.75	1.73	0.81	0.73	0.48	0.49

Calendar year 1952: Max 6,780 Min 204 Mean 1,018 Cfsm 1.26 In. 17.23
Water year 1952-53: Max 14,000 Min 168 Mean 992 Cfsm 1.23 In. 16.72

Peak discharge (base, 9,500 cfs).--Feb. 21 (5 p.m.) 21,800 cfs (7.82 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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 46.3.

Drainage area.--1,184 sq mi.

Records available.--May 1903 to December 1908, April 1919 to October 1925 and October 1945 to September 1953 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 datum.

Average discharge.--19 years (1903-8, 1919-25, 1945-53), 1,794 cfs.

Extremes.--Maximum discharge during year, 22,900 cfs Feb. 21 (gage height, 13.10 ft); minimum daily, 24 cfs July 14.

1903-8, 1919-25, 1945-53: Maximum stage, 19.3 ft Jan. 23, 1906, site and datum then in use (discharge estimated, 73,500 cfs); minimum daily discharge, that of 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 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

0.9	23	2.8	280
1.0	28	3.1	460
1.2	40	3.5	880
1.4	54	4.0	1,580
1.6	70	5.0	3,290
1.9	98	6.0	5,150
2.2	134	7.0	7,200
2.5	188	10.0	14,400

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	372	330	684	1,280	2,590	2,680	1,440	2,570	736	732	548	336
2	376	318	665	1,010	1,830	2,610	2,150	2,640	907	840	562	338
3	*629	321	724	1,910	1,450	2,590	2,000	2,750	*802	838	620	234
4	214	274	*569	1,140	1,520	*2,910	1,140	2,610	945	538	564	231
5	338	313	558	1,010	1,630	5,210	2,040	2,520	958	578	558	344
6	220	415	627	*523	1,450	4,010	1,440	*2,140	650	1,020	*540	330
7	317	426	888	727	1,270	3,240	1,200	2,970	732	1,470	544	328
8	274	323	924	732	1,010	2,890	1,720	4,070	620	*1,800	530	325
9	323	335	721	1,150	*1,330	2,680	*1,760	3,060	792	1,980	529	620
10	434	323	550	1,970	1,770	2,610	1,490	2,620	1,260	974	422	*649
11	304	322	1,490	4,450	2,010	2,570	1,370	2,550	1,180	1,050	783	635
12	312	*319	2,660	2,970	2,520	2,500	1,370	1,740	2,360	481	818	226
13	204	317	2,030	2,660	4,550	2,480	1,090	2,450	1,420	626	906	222
14	387	423	1,210	1,830	3,900	2,480	1,590	2,200	604	24	770	223
15	498	527	1,500	1,510	3,420	2,150	1,940	1,250	966	440	238	309
16	482	536	841	1,510	3,420	2,730	2,450	886	423	665	242	270
17	497	558	744	1,460	3,090	2,840	2,210	957	429	887	354	274
18	508	536	734	1,100	3,000	2,790	1,680	1,150	542	544	330	426
19	513	549	740	1,020	2,700	2,710	1,480	1,780	652	650	438	228
20	319	236	835	1,660	2,620	2,640	1,160	2,440	646	644	436	226
21	310	1,290	865	1,680	10,500	2,370	1,680	2,070	519	433	633	1,470
22	215	1,660	754	3,090	14,000	2,220	1,680	2,160	822	442	736	888
23	216	690	621	2,910	6,280	1,800	1,690	2,020	1,630	1,090	555	784
24	403	1,160	641	2,640	4,480	3,510	1,460	1,590	1,300	1,460	441	622
25	320	1,030	630	3,880	3,760	4,200	958	1,490	1,040	1,140	441	830
26	214	1,010	651	2,980	3,330	3,400	1,030	1,350	1,060	1,160	339	338
27	212	1,060	652	2,620	2,980	2,800	940	938	660	1,150	334	308
28	310	1,100	693	2,610	2,790	2,790	1,180	878	614	547	342	324
29	413	1,130	654	3,090	-	2,680	1,320	963	665	432	324	518
30	422	739	554	2,970	-	2,570	1,640	900	718	506	322	618
31	642	-	813	2,620	-	2,480	-	856	-	434	327	-
Total	11,198	18,570	27,222	62,712	95,200	88,140	46,298	60,568	26,652	25,575	15,526	13,474
Mean	361	619	878	2,023	3,400	2,843	1,543	1,954	888	825	501	449
Cfsm	0.305	0.523	0.742	1.71	2.87	2.40	1.30	1.65	0.750	0.697	0.423	0.379
In.	0.35	0.58	0.86	1.97	2.99	2.77	1.45	1.90	0.84	0.80	0.49	0.42

Calendar year 1952: Max 7,680 Min 204 Mean 1,273 Cfsm 1.08 In. 14.63
Water year 1952-53: Max 14,000 Min 24 Mean 1,346 Cfsm 1.14 In. 15.42

Peak discharge (base, 11,500 cfs).--Feb. 21 (12 m.) 22,900 cfs (13.10 ft).
* Discharge measurement made on this day.

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 1953.

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.--7 years, 249 cfs.

Extremes.--Maximum discharge during year, 5,240 cfs May 24 (gage height, 14.45 ft); minimum, 11 cfs Nov. 4 (gage height, 2.40 ft).
1946-53: Maximum discharge, 10,700 cfs Jan. 31, 1950 (gage height, 16.24 ft), from rating curve extended above 5,000 cfs; minimum, that of Nov. 4, 1952.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Diurnal fluctuation caused by mills above station.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Dec. 10, Jan. 2-8, Feb. 6-11, July 3-19)

1.7	11	10.0	885
1.8	15	11.0	1,070
2.3	47	12.0	1,440
3.0	107	13.0	2,540
6.0	405	13.5	3,330
8.0	625		

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	16	15	44	632	179	219	172	*512	128	69	35	16
2	16	15	40	233	162	318	160	1,000	121	63	33	18
3	*15	15	39	163	140	807	145	1,800	*112	151	38	19
4	13	*13	*37	147	131	*1,570	137	1,020	105	76	38	40
5	14	18	101	114	119	*2,750	130	277	99	68	46	250
6	14	18	284	102	162	1,210	123	a800	107	56	*33	71
7	14	17	114	99	410	416	155	a2,300	261	83	30	41
8	16	14	65	*326	299	325	183	a1,000	117	*131	31	28
9	19	14	52	*647	*154	267	*131	a400	93	53	30	22
10	25	15	623	1,070	117	238	131	a250	96	40	30	*20
11	27	20	1,040	1,050	172	221	155	a200	222	38	28	21
12	23	*27	835	311	*1,710	218	120	a180	102	34	25	20
13	22	27	177	169	2,880	216	289	a160	91	32	25	21
14	21	20	114	137	1,120	221	248	a150	118	31	25	19
15	20	15	90	120	1,120	982	144	a200	159	30	25	18
16	20	14	76	110	1,730	928	185	209	81	31	23	20
17	20	13	69	102	1,110	341	162	153	77	36	28	18
18	20	13	64	257	402	334	127	139	74	36	31	19
19	18	14	60	264	301	464	152	830	67	60	27	18
20	17	38	57	150	333	283	137	1,310	64	89	25	20
21	16	74	58	418	1,650	222	118	1,650	195	66	24	20
22	24	95	65	585	2,760	200	109	494	738	65	24	20
23	19	185	63	246	1,190	209	104	253	145	94	25	20
24	16	249	57	323	424	641	101	2,050	135	69	21	*18
25	16	329	53	324	362	805	96	3,190	173	48	21	18
26	16	484	49	200	347	360	94	1,080	96	43	19	19
27	17	374	45	160	296	257	95	250	76	41	20	20
28	16	112	44	599	246	225	89	143	83	38	18	20
29	16	65	41	969	-	203	84	167	173	37	18	19
30	16	50	40	415	-	185	294	153	88	41	19	17
31	15	-	319	208	-	175	-	139	-	45	18	-
Total	557	2,372	4,815	10,650	19,826	15,810	4,370	22,459	4,196	1,794	833	910
Mean	18.0	79.1	155	344	708	510	146	724	140	57.9	26.9	30.3
Cfsm	0.082	0.360	0.705	1.56	3.22	2.32	0.664	3.29	0.636	0.263	0.122	0.138
In.	0.09	0.40	0.81	1.80	3.35	2.67	0.74	3.80	0.71	0.30	0.14	0.15

Calendar year 1952: Max 1,410 Min 13 Mean 148 Cfsm 0.673 In. 9.14
Water year 1952-53: Max 3,190 Min 13 Mean 243 Cfsm 1.10 In. 14.96

Peak discharge (base, 3,000 cfs).--Feb. 13 (6 a.m.) 3,230 cfs (13.44 ft); Feb. 22 (5 a.m.) 3,300 cfs (13.48 ft); Mar. 5 (8 a.m.) 3,260 cfs (13.46 ft); May 24 (10:30 p.m.) 5,240 cfs (14.45 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 nearby stations.

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 1953.

Gage.--Water-stage recorder. Datum of gage is 1,015.78 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Nov. 6, 1925, chain gage at bridge 3¾ 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.--32 years (1921-53), 2,197 cfs.

Extremes.--Maximum discharge during year, 24,500 cfs Feb. 22 (gage height, 15.27 ft); minimum daily, 256 cfs Sept. 14-15.
1920-53: 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, 1935, 1936-37(M).

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.9	250	6.0	5,050
2.5	690	8.0	8,350
3.0	1,150	10.0	12,100
4.0	2,250	12.0	16,600
5.0	3,600	14.0	21,300

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	406	410	856	2,280	3,070	3,310	2,240	3,630	1,060	906	587	372
2	425	366	792	1,720	2,260	3,400	2,370	4,480	1,070	904	831	377
3	*426	404	805	1,810	2,010	4,150	2,500	4,450	*1,210	1,170	442	377
4	598	381	*786	1,920	1,730	6,580	1,890	5,050	1,190	1,120	720	298
5	369	331	807	1,280	1,780	7,640	1,890	3,740	1,190	687	658	935
6	321	472	806	1,130	2,120	*7,430	1,920	*4,110	1,190	1,010	642	482
7	274	481	1,040	666	2,380	4,810	1,630	5,790	1,190	1,640	622	418
8	398	398	1,060	*1,530	1,700	3,780	2,180	6,440	1,050	2,300	654	391
9	338	379	1,120	2,340	*1,790	3,430	*2,130	5,750	846	*2,960	629	384
10	592	408	2,260	3,920	1,790	3,260	2,010	3,780	1,250	1,410	589	*702
11	340	444	2,340	5,910	2,310	3,210	1,820	3,250	1,690	960	*540	679
12	373	*371	3,990	4,330	7,890	3,120	1,650	2,540	2,370	1,100	886	662
13	*375	410	2,710	3,150	6,970	3,110	1,860	2,610	2,320	727	952	292
14	292	451	1,930	2,340	7,350	3,120	1,920	3,010	1,530	486	936	256
15	540	410	1,670	1,990	6,770	4,680	2,350	1,980	1,090	300	780	256
16	462	549	1,180	1,750	5,930	4,240	3,030	1,430	946	708	324	361
17	550	722	980	1,640	5,480	3,960	3,030	1,670	656	869	357	310
18	531	598	855	2,080	4,380	3,670	1,910	1,330	682	698	422	310
19	576	591	856	1,510	3,520	3,670	2,030	4,360	889	671	411	452
20	562	614	867	1,510	3,500	3,420	1,700	4,510	811	832	493	292
21	389	590	1,260	2,560	9,450	3,040	1,790	3,800	779	801	490	450
22	354	2,330	634	3,840	20,500	2,810	2,050	3,880	2,680	611	698	1,840
23	268	1,290	815	3,850	10,300	2,770	2,040	3,020	2,180	859	934	484
24	293	1,310	767	3,290	6,390	3,340	2,100	3,500	1,440	1,360	506	869
25	454	1,890	729	4,300	4,800	5,710	1,300	3,670	1,810	1,670	492	690
26	355	1,650	726	3,810	4,260	4,540	1,280	4,340	1,330	1,310	482	854
27	268	1,620	827	3,110	3,850	3,740	1,410	2,180	1,230	1,320	388	397
28	280	1,340	760	4,120	3,490	3,420	1,230	1,400	502	940	380	368
29	418	1,280	640	4,290	-	3,250	1,420	1,600	1,130	645	375	371
30	462	1,300	696	4,320	-	3,110	2,340	905	911	535	379	592
31	738	-	1,280	3,220	-	3,040	-	1,350	-	636	378	-
Total	13,027	23,790	36,844	85,516	137,770	122,760	59,020	103,555	38,222	32,165	17,977	15,521
Mean	420	793	1,189	2,759	4,920	3,960	1,967	3,340	1,274	1,038	580	517
Cfsm	0.250	0.472	0.708	1.64	2.93	2.36	1.17	1.99	0.759	0.618	0.345	0.308
In.	0.29	0.53	0.82	1.89	3.05	2.72	1.31	2.29	0.85	0.71	0.40	0.34

Calendar year 1952: Max 9,520 Min 268 Mean 1,582 Cfsm 0.942 In. 12.84
Water year 1952-53: Max 20,500 Min 256 Mean 1,880 Cfsm 1.12 In. 15.20

Peak discharge (base, 13,000 cfs).--Feb. 22 (8 a.m.) 24,500 cfs (15.27 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 1953. 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.--35 years, 6,555 cfs (unadjusted).

Extremes.--Maximum discharge during year, 25,500 cfs Feb. 26 (gage height, 10.67 ft); minimum daily, 25 cfs May 21.

1918-53: 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 excellent. Flow completely regulated by Douglas Reservoir (see p.228).

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.5	21	2.2	230	4.5	2,990
1.6	31	2.4	365	5.0	4,130
1.7	46	2.7	605	6.0	6,920
1.8	68	3.0	890	7.0	10,200
1.9	96	3.5	1,420	9.0	18,000
2.0	132	4.0	2,090	11.0	27,000

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	5,680	5,270	*7,500	381	11,400	17,800	9,040	2,560	6,280	*8,680	5,040	6,920
2	7,080	2,170	6,840	2,490	11,500	14,900	9,110	1,570	7,030	8,860	4,380	6,920
3	6,890	4,810	7,040	6,170	*11,500	12,700	8,940	1,590	*7,050	7,570	8,070	7,020
4	2,730	4,020	7,680	7,860	11,000	12,700	7,040	1,120	7,110	2,980	*7,870	7,220
5	2,330	4,190	7,330	8,150	11,200	12,800	5,140	2,250	7,700	2,180	8,330	1,020
6	*8,560	4,180	6,400	3,390	10,900	12,900	8,340	2,980	7,750	6,090	8,420	945
7	8,500	4,290	4,730	2,770	10,900	12,900	*8,700	580	8,220	3,720	8,300	1,510
8	6,560	3,510	7,910	*2,890	10,800	12,700	8,600	3,120	7,250	4,510	3,840	159
9	7,680	3,780	7,950	2,770	10,800	12,800	8,640	1,470	5,190	869	4,250	1,940
10	5,170	4,250	8,540	1,220	10,800	*12,800	8,770	1,480	5,650	1,360	8,340	718
11	1,400	3,880	8,230	190	9,650	13,000	6,280	5,010	8,380	2,590	8,310	1,910
12	1,240	4,580	7,410	1,410	6,500	9,240	3,980	3,190	3,620	2,500	8,360	1,080
13	4,680	*6,550	9,630	1,380	3,150	8,900	10,700	2,750	5,280	5,640	8,980	1,130
14	5,520	3,510	7,010	1,600	3,040	8,470	11,400	5,810	3,700	5,890	8,350	2,050
15	5,340	2,880	9,720	4,440	3,210	8,400	11,400	4,880	7,640	5,730	1,960	2,240
16	5,150	1,080	7,540	4,960	6,700	8,450	11,600	2,020	8,840	4,920	1,800	2,080
17	5,180	2,680	9,180	5,460	9,360	6,230	11,600	1,890	5,980	3,690	7,520	1,980
18	6,440	2,540	9,860	6,370	8,740	6,000	7,450	2,160	6,570	4,080	5,970	1,880
19	7,840	2,960	9,550	3,890	6,680	6,240	9,270	900	5,430	1,360	3,700	1,140
20	7,010	3,570	9,450	6,650	8,010	5,850	8,860	36	7,180	6,690	5,720	992
21	6,470	2,620	4,920	5,570	10,900	8,440	9,160	25	6,510	3,480	5,350	1,970
22	6,530	3,130	4,540	3,290	12,600	3,610	9,020	923	9,790	2,100	958	1,140
23	5,680	2,830	4,860	5,620	13,100	7,610	8,700	2,080	8,020	1,920	1,800	1,140
24	6,170	4,600	3,630	6,720	15,100	7,580	8,940	2,110	5,570	2,030	4,810	1,180
25	5,960	4,130	3,840	7,360	20,800	9,090	3,820	2,510	7,990	4,820	5,250	1,130
26	3,620	4,440	4,660	8,900	*24,200	9,400	3,160	2,470	7,870	7,390	3,730	1,100
27	4,540	1,480	4,080	10,800	*23,600	9,380	6,710	2,090	6,340	2,630	7,580	1,100
28	5,010	3,320	1,200	10,900	20,600	7,620	7,060	2,010	6,530	2,220	4,590	*2,920
29	5,630	1,600	6,160	11,000	-	4,510	6,810	5,700	6,650	2,410	1,140	3,240
30	5,500	4,040	2,540	11,400	-	8,810	4,660	7,700	8,880	1,940	1,010	1,500
31	5,520	-	3,270	11,700	-	9,130	-	4,430	-	3,180	6,550	-
Total	171,410	106,890	203,200	167,701	316,740	300,960	242,900	79,414	206,000	124,029	170,278	67,274
Mean	5,529	3,563	6,555	5,410	11,310	9,708	8,097	2,562	6,867	4,001	5,493	2,242

	Observed			Adjusted†					
Calendar year 1952:	Max 17,100	Min 752	Mean 5,595	Mean 5,481	Cfsm 1.21	In. 16.42
Water year 1952-53:	Max 24,200	Min 25	Mean 5,909	Mean 5,464	Cfsm 1.20	In. 16.32

* Discharge measurement made on this day.

† Adjusted for change in contents in Douglas Reservoir.

Little Pigeon River at Sevierville, Tenn.

Location.--Lat 35°52'34", long. 83°34'36", on left bank 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 1953.

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.--32 years (1921-53), 543 cfs.

Extremes.--Maximum discharge during year, 13,300 cfs Feb. 21 (gage height, 11.70 ft); minimum, 41 cfs Oct. 15, 16 (gage height, 0.56 ft); minimum gage height, 0.51 ft Sept 18, 19; minimum daily discharge, 44 cfs Oct. 31.
1920-53: 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.

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.

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	64	51	213	834	638	534	375	848	218	148	173	70
2	54	49	209	554	554	638	365	617	197	141	142	67
3	57	55	202	480	469	659	325	516	189	172	121	67
4	56	53	173	400	436	2,040	311	464	172	407	139	70
5	52	55	306	345	375	1,500	278	474	164	214	133	130
6	61	55	430	320	447	946	278	1,030	283	197	136	153
7	54	53	302	410	757	736	492	2,530	214	727	124	100
8	56	51	244	1,760	708	617	554	1,340	250	944	130	82
9	59	49	217	1,680	568	510	436	856	172	634	189	78
10	61	57	2,220	1,650	480	458	452	620	180	365	130	72
11	53	79	2,740	1,320	671	452	430	501	600	272	112	70
12	51	90	976	946	6,760	436	613	430	272	214	108	66
13	51	70	603	701	3,040	436	2,280	380	205	176	102	56
14	51	57	425	547	1,460	442	1,760	360	286	156	95	60
15	47	56	335	452	1,800	1,260	1,100	400	345	141	90	58
16	49	52	283	395	1,520	890	911	331	246	184	86	55
17	46	52	249	365	1,620	680	687	300	232	218	169	53
18	49	52	228	826	1,130	645	582	277	189	281	330	49
19	45	59	206	528	862	554	631	4,460	164	718	181	49
20	49	445	198	425	1,480	469	522	3,100	144	331	173	68
21	44	390	213	1,240	8,470	425	469	1,300	438	246	208	82
22	49	775	213	1,110	3,140	405	425	792	1,600	236	209	67
23	51	464	194	785	1,630	452	390	581	355	290	181	58
24	51	395	187	1,020	1,190	939	370	473	277	272	153	55
25	47	360	173	848	968	666	335	415	395	205	130	56
26	46	2,430	166	666	883	522	340	370	214	168	115	67
27	51	1,140	155	610	736	452	306	340	249	141	98	62
28	50	504	145	1,770	624	415	297	304	193	125	92	61
29	50	330	131	1,700	-	375	278	277	176	119	88	56
30	50	265	135	1,020	-	345	725	264	193	125	80	51
31	51	-	915	743	-	335	-	236	-	181	74	-
Total	1,605	8,593	13,386	26,450	43,416	20,233	17,317	25,186	8,812	8,748	4,291	2,088
Mean	51.8	286	432	853	1,551	653	577	812	294	282	138	69.6
Cfsm	0.147	0.810	1.22	2.42	4.39	1.85	1.63	2.30	0.833	0.799	0.391	0.197
In.	0.17	0.91	1.41	2.79	4.57	2.13	1.82	2.65	0.93	0.92	0.45	0.22

Calendar year 1952: Max 5,170 Min 44 Mean 412 Cfsm 1.17 In. 15.91
Water year 1952-53: Max 8,470 Min 44 Mean 493 Cfsm 1.40 In. 18.97

Peak discharge (base, 7,000 cfs).--Feb. 12 (3 p.m.) 9,420 cfs (9.94 ft); Feb. 21 (11 a.m.) 13,300 cfs (11.70 ft); May 19 (6:30 p.m.) 8,480 cfs (9.27 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 1953.
Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936.
Average discharge.--7 years, 7,516 cfs (unadjusted).
Extremes.--Maximum discharge during year, 26,600 cfs Feb. 21; maximum elevation, 824.20 ft Feb. 27; minimum, 272 cfs Sept. 11 (elevation, 814.19 ft).
1945-53: Maximum discharge, 38,600 cfs Feb. 7, 1950, from rating curve extended above 25,000 cfs; minimum, 265 cfs July 19, 1948 (elevation, 814.70 ft), but may have been less July 4, 1948.
Remarks.--Records good. Flow regulated by Douglas Reservoir (see p. 228), 24.6 miles upstream.

Rating tables, water year 1952-53 (elevation, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21				Feb. 22 to Sept. 30			
815.5	1,070	819.0	8,100	815.2	830	818.0	5,500
816.0	1,590	820.0	11,200	815.5	1,070	819.0	8,060
816.5	2,250	822.0	17,900	816.0	1,600	820.0	11,000
817.0	3,100	823.0	21,800	816.5	2,280	822.0	17,400
818.0	5,350			817.0	3,240	824.0	25,100

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	5,110	4,970	7,430	2,940	12,000	18,100	9,240	4,250	5,700	8,680	5,780	6,960
2	6,860	2,740	6,630	2,280	12,000	15,500	9,390	2,960	7,070	8,850	4,110	6,770
3	6,680	3,840	7,210	5,110	11,800	13,300	*9,320	2,720	7,380	8,210	6,530	6,910
4	4,860	4,880	7,110	8,460	11,500	16,000	7,770	1,280	6,800	5,600	7,970	7,070
5	1,640	3,780	7,890	8,460	11,400	14,600	6,400	2,270	7,760	1,630	8,150	3,730
6	6,050	4,020	7,600	4,760	11,400	13,600	7,310	3,380	8,200	5,600	8,460	1,030
7	9,090	3,840	5,300	3,300	11,900	13,400	8,930	5,050	8,490	*4,410	*8,200	1,510
8	7,040	3,240	6,430	4,270	11,600	13,000	9,040	3,670	8,170	6,060	5,720	864
9	6,360	3,670	8,030	*5,890	11,400	12,900	8,980	3,980	5,980	3,020	4,090	1,150
10	4,980	3,860	10,600	4,320	11,100	12,900	9,120	1,920	*6,070	1,590	6,880	*1,130
11	3,680	3,930	13,200	2,160	11,300	13,000	7,540	*4,060	8,320	1,890	8,360	1,870
12	1,710	4,050	8,630	2,100	14,900	*10,800	5,070	4,250	4,850	2,720	8,320	1,550
13	2,930	5,450	10,600	2,470	8,920	8,930	11,200	3,640	6,770	5,230	8,950	1,190
14	5,100	4,090	7,060	2,350	5,120	8,590	13,100	5,020	2,520	6,050	8,220	1,290
15	5,080	3,440	10,400	4,070	6,170	10,200	12,200	5,490	6,880	5,710	4,830	2,770
16	5,150	1,130	*7,990	5,200	*8,190	9,210	12,200	3,670	9,120	5,580	2,020	2,050
17	5,100	2,190	8,380	5,810	11,100	8,100	12,200	2,540	6,900	4,160	4,720	2,020
18	5,780	2,300	9,870	7,080	10,200	6,820	8,540	2,660	7,180	2,850	6,920	1,990
19	7,450	2,500	9,620	4,840	8,520	6,990	9,160	5,980	5,760	3,820	4,890	1,600
20	6,940	4,020	9,500	6,360	8,550	6,440	10,500	6,420	5,430	5,430	5,560	880
21	6,280	4,090	6,380	8,250	20,700	7,630	9,380	2,120	7,840	5,290	5,470	1,540
22	6,390	2,840	3,920	5,520	17,000	5,060	9,240	1,950	10,200	2,530	2,240	1,840
23	6,070	4,460	4,440	5,640	14,500	7,450	8,870	2,350	9,020	988	2,080	1,180
24	5,810	4,120	4,600	7,110	14,700	8,530	8,930	2,960	6,280	2,330	3,550	1,220
25	5,730	*4,640	3,960	8,280	20,500	9,350	5,630	2,740	8,170	4,820	5,120	1,180
26	4,200	6,780	4,100	9,530	24,300	9,730	4,350	3,060	8,200	6,530	4,930	1,110
27	3,790	4,440	5,100	11,400	*24,900	9,550	4,810	2,560	6,140	4,240	6,200	997
28	4,500	2,910	1,590	12,900	21,300	8,420	7,250	2,420	7,420	2,200	6,450	1,410
29	5,270	2,710	4,190	13,200	-	6,430	7,110	4,850	5,870	2,460	1,550	3,330
30	5,370	2,560	3,810	12,300	-	6,920	6,300	7,830	8,960	2,490	844	3,200
31	5,260	-	4,050	12,600	-	9,470	-	5,790	-	2,230	4,260	-
Total	166,260	111,490	215,620	198,960	366,970	320,920	259,080	113,840	213,450	133,198	171,374	71,341
Mean	5,363	3,716	6,955	6,418	13,110	10,350	8,636	3,672	7,115	4,297	5,528	2,378

	Observed						Adjusted†					
Calendar year 1952:	Max	18,400	Min	790	Mean	5,991	Mean	5,876	Cfsm	1.15	In.	15.68
Water year 1952-53:	Max	24,900	Min	844	Mean	6,418	Mean	5,972	Cfsm	1.17	In.	15.89

* Discharge measurement made on this day.
† Adjusted for change in contents in Douglas Reservoir.

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 1953 (discharge measurements only).
Extremes.--Maximum discharge measured during year, 3.13 cfs Feb. 3; minimum measured, 1.80 cfs Nov. 3.
1928, 1947-53: Maximum discharge measured, 3.79 cfs July 30, 1928; minimum measured, 1.74 cfs Sept. 2, 1952.
Remarks.--Discharge measurements made once a month 200 ft below spring.

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

Oct. 13	1.88	Feb. 3	3.13	June 8	2.43
Nov. 3	1.80	Mar. 16	2.47	July 6	2.87
Dec. 3	2.61	Apr. 20	2.87	Aug. 17	2.26
Jan. 15	2.71	May 11	2.87	Sept. 24	2.18

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 sq mi, approximately.

Records available.--November 1920 to November 1931, July 1942 to September 1953. 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.--21 years (1921-31, 1942-53), 107 cfs.

Extremes.--Maximum discharge during year, 1,450 cfs Feb. 21 (gage height, 5.25 ft); minimum, 19 cfs Sept. 19; minimum gage height, 1.16 ft Oct. 3, 4, Nov. 8, 9.

1920-31, 1942-53: Maximum discharge, 6,000 cfs (revised) 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 discharge recorded, 2 cfs Aug. 26, Oct. 15, 1943, Aug. 9, 11, 1944, Oct. 19, 1945; minimum daily, 8 cfs July 19, 1926.

Revisions.--The maximum discharge for water year 1923 has been revised to 6,000 cfs June 12, 1923 (gage height, 9.0 ft, from graph based on gage readings, site and datum then in use), superseding figure published in WSP 563.

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).

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21

1.1	15	2.0	168
1.2	24	3.0	460
1.4	51	4.0	810
1.7	100	5.0	1,300

Feb. 22 to Sept. 30

1.1	13	1.6	80
1.2	22	2.0	168
1.4	47		

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

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	22	24	41	106	148	118	116	110	56	56	38	23
2	22	23	38	89	122	132	110	108	52	52	37	23
3	*21	24	38	84	108	242	*102	98	50	82	35	22
4	21	*24	36	72	98	626	90	88	48	80	39	23
5	21	23	37	66	*89	541	90	*84	46	62	35	30
6	22	22	41	60	84	341	90	119	76	78	34	33
7	22	21	40	58	93	251	96	277	84	216	34	28
8	22	20	*38	71	93	205	90	240	59	136	42	27
9	25	20	37	114	89	168	86	190	53	108	43	24
10	28	22	51	174	86	143	86	156	71	88	36	24
11	27	25	174	202	82	132	84	132	88	76	*34	23
12	25	27	132	156	142	127	80	116	*62	69	32	23
13	24	24	98	125	222	120	118	102	142	62	30	24
14	23	23	80	*110	179	116	134	96	364	*59	30	22
15	23	22	69	106	174	168	127	88	179	58	30	22
16	22	21	62	96	146	219	134	80	125	54	28	*22
17	22	21	56	91	158	193	122	73	108	52	34	21
18	22	21	52	89	148	219	122	71	90	53	33	20
19	22	22	48	86	134	260	129	166	80	69	30	21
20	22	43	47	84	179	225	120	289	71	52	29	23
21	22	58	47	179	1,050	182	116	213	66	48	28	26
22	23	63	45	263	626	158	108	158	64	52	27	23
23	23	48	43	190	361	163	100	127	59	90	27	22
24	22	50	40	210	257	508	94	108	54	59	26	22
25	22	50	38	219	208	370	86	94	52	52	26	23
26	22	54	37	163	179	268	84	84	48	48	26	22
27	22	56	37	138	150	*205	78	76	47	46	24	22
28	22	52	36	266	132	168	75	69	53	44	24	22
29	22	48	34	367	-	146	69	64	78	43	24	21
30	22	45	34	254	-	127	84	62	71	42	23	20
31	23	-	56	182	-	114	-	59	-	40	23	-
Total	703	996	1,662	4,470	5,537	6,955	3,020	3,797	2,496	2,128	963	701
Mean	22.7	33.2	53.6	144	198	224	101	122	83.2	68.6	31.1	23.4
Cfsm	0.299	0.437	0.705	1.89	2.61	2.95	1.33	1.61	1.09	0.903	0.409	0.308
In.	0.34	0.49	0.81	2.18	2.72	3.40	1.48	1.86	1.22	1.04	0.47	0.34

Calendar year 1952: Max 460 Min 20 Mean 78.7 Cfsm 1.04 In. 14.08
Water year 1952-53: Max 1,050 Min 20 Mean 91.6 Cfsm 1.21 In. 16.35

Peak discharge (base, 800 cfs).--Feb. 21 (3:30 p.m.) 1,450 cfs (5.25 ft); Mar. 4 (6 p.m.) 790 cfs (3.97 ft); Mar. 24 (10 a.m.) 826 cfs (3.49 ft); June 14 (12:30 a.m.) 609 cfs (3.46 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 sq mi, approximately.

Records available.--August 1947 to September 1953.

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.--6 years, 95.8 cfs.

Extremes.--Maximum discharge during year, 1,590 cfs Feb. 21 (gage height, 3.80 ft); minimum, 4.8 cfs Sept. 2, 3, 18 (gage height, 0.25 ft).
1947-53: Maximum discharge, 1,870 cfs Jan. 30, 1950 (gage height, 4.04 ft); minimum, that of Sept. 2, 3, 18, 1953.

Remarks.--Records good. Plant diverts about 0.5 cfs 800 ft above station.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21

0.3	6.0	1.5	229
.4	14	2.0	405
.5	26	2.5	620
.7	54	3.0	895
1.0	109	3.5	1,280

Feb. 22 to Sept. 30

0.2	3.0
.3	7.0
.4	14

Note.--Same as preceding table above 0.4 ft.

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	7.3	6.0	27	169	136	113	99	140	42	20	12	5.2
2	7.3	6.0	26	127	109	158	93	123	39	16	12	4.8
3	*8.0	7.3	26	101	93	294	*89	103	35	29	22	5.2
4	8.0	*15	24	76	87	490	87	89	32	45	35	6.1
5	7.3	12	38	62	*73	441	82	84	31	24	21	36
6	7.3	9.8	52	56	71	264	82	123	31	26	18	32
7	6.6	8.0	39	64	107	182	99	329	45	103	14	14
8	6.6	8.0	*32	97	111	147	87	242	32	50	13	11
9	10	8.0	30	140	105	117	84	283	*31	34	42	8.5
10	13	9.8	107	226	93	105	93	212	87	26	30	8.0
11	10	18	290	209	85	103	89	160	84	21	16	7.5
12	8.9	22	153	147	322	101	87	127	46	20	15	7.0
13	7.3	12	93	113	429	93	188	107	58	*16	13	7.5
14	7.3	9.8	68	*99	255	84	223	93	142	16	12	7.0
15	7.3	9.8	52	91	200	174	167	99	75	15	12	7.0
16	7.3	8.9	45	82	162	206	169	84	52	15	11	*6.1
17	8.0	8.0	39	75	177	167	142	76	46	16	9.8	6.1
18	8.0	8.0	36	87	142	182	138	73	42	15	12	5.2
19	7.3	12	35	80	129	187	151	184	34	22	9.8	5.6
20	7.3	75	34	78	218	165	138	381	31	18	*9.1	29
21	7.3	42	39	208	1,200	138	127	245	27	13	8.5	16
22	7.3	36	39	277	690	121	113	160	34	26	8.5	9.8
23	8.0	36	34	195	325	109	101	133	26	113	12	8.5
24	8.0	42	32	172	212	121	89	129	24	42	9.8	8.0
25	8.0	61	31	147	169	117	82	99	21	26	8.0	7.5
26	7.3	129	30	127	158	113	80	84	19	21	7.0	9.1
27	7.3	89	29	133	133	107	69	71	19	15	6.5	9.1
28	7.3	51	27	519	125	105	64	61	18	15	6.1	8.5
29	7.3	38	26	508	-	97	59	54	22	14	6.1	7.0
30	6.6	32	27	261	-	89	105	48	27	13	5.6	6.5
31	6.6	-	119	169	-	84	-	46	-	12	5.6	-
Total	241.1	829.4	1,679	4,895	6,116	4,974	3,276	4,242	1,252	857	422.4	308.8
Mean	7.78	27.6	54.2	158	218	160	109	137	41.7	27.6	13.6	10.3
Cfsm	0.139	0.493	0.968	2.82	3.89	2.86	1.95	2.45	0.745	0.493	0.243	0.184
In.	0.16	0.55	1.12	3.25	4.05	3.30	2.18	2.82	0.83	0.57	0.28	0.21

Calendar year 1952: Max 530 Min 6.0 Mean 70.5 Cfsm 1.26 In. 17.14
Water year 1952-53: Max 1,200 Min 4.8 Mean 79.7 Cfsm 1.42 In. 19.32

Peak discharge (base, 600 cfs).--Jan. 28 (4 p.m.) 800 cfs (2.85 ft); Feb. 21 (2 p.m.) 1,590 cfs (3.80 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 1953.

Gage.--Water-stage recorder. Datum of gage is 1,792.30 ft above mean sea level, datum of of 1929, supplementary adjustment of 1936.

Average discharge.--21 years (1932-53), 452 cfs.

Extremes.--Maximum discharge during year, 5,470 cfs Feb. 21 (gage height, 9.62 ft); minimum, 47 cfs Oct. 23 (gage height, 2.32 ft); minimum daily, 68 cfs Oct. 1, 23.
1931-53: 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, 64 cfs Sept. 18, 1932.

Remarks.--Records good. Some diurnal fluctuation caused by powerplant above station.

Revisions.--WSP 823: Drainage area.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

2.3	45	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 1952 to September 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	68	76	157	580	655	516	512	620	244	191	140	73
2	70	76	154	467	526	655	472	545	220	174	130	73
3	*71	82	157	400	449	1,220	*444	462	208	256	134	75
4	73	*101	140	330	416	2,490	416	*400	194	330	172	94
5	71	92	164	283	362	2,260	393	372	185	229	144	160
6	76	80	217	256	340	1,410	382	578	260	301	130	177
7	71	73	185	274	454	1,050	449	1,790	394	565	122	117
8	73	73	*170	354	449	845	400	1,240	235	432	127	99
9	89	73	157	530	420	680	379	1,110	*229	351	220	90
10	99	85	348	1,050	390	580	390	872	545	277	162	87
11	90	110	1,110	1,020	376	530	382	680	508	238	127	83
12	82	134	708	735	864	526	365	560	313	214	115	82
13	82	98	454	565	1,520	480	680	476	640	*197	105	78
14	78	89	340	485	1,050	440	762	420	2,020	185	103	82
15	78	80	280	440	960	790	655	420	845	172	99	76
16	75	76	244	400	790	960	680	365	545	167	96	*75
17	76	75	214	368	845	845	585	334	449	162	98	75
18	75	75	202	396	708	930	555	316	376	193	115	73
19	71	85	185	376	630	1,020	610	842	323	265	103	73
20	76	277	177	354	851	900	545	1,410	289	191	*99	103
21	71	229	188	815	4,310	735	512	1,050	259	160	98	115
22	82	238	185	1,140	2,940	655	462	735	265	203	98	90
23	68	199	170	872	1,550	605	424	580	229	818	96	85
24	78	217	160	818	1,110	1,150	393	508	211	400	98	82
25	75	274	154	762	900	1,110	365	412	191	277	90	82
26	76	458	154	605	790	872	358	368	183	226	85	85
27	76	376	144	585	655	708	330	337	177	197	83	87
28	76	256	142	1,720	595	630	313	295	183	177	80	87
29	76	205	127	1,950	-	550	292	271	247	167	82	78
30	75	183	137	1,180	-	485	451	259	244	152	71	75
31	76	-	387	818	-	440	-	250	-	144	75	-
Total	2,373	4,545	7,711	20,928	25,905	27,067	13,956	18,877	11,211	8,011	3,497	2,711
Mean	76.5	152	249	675	925	873	465	609	374	258	113	90.4
Cfsm	0.254	0.505	0.827	2.24	3.07	2.90	1.54	2.02	1.24	0.857	0.375	0.300
In.	0.29	0.56	0.95	2.58	3.20	3.34	1.72	2.33	1.38	0.99	0.43	0.33

Calendar year 1952: Max 2,760 Min 68 Mean 354 Cfsm 1.18 In. 16.00
Water year 1952-53: Max 4,310 Min 68 Mean 402 Cfsm 1.34 In. 18.10

Peak discharge (base, 3,000 cfs).--Feb. 21 (3 p.m.) 5,470 cfs (9.62 ft); June 13 (12 p.m.) 3,530 cfs (7.94 ft).
* Discharge measurement made on this day.

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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 mile upstream from Rocky Spring Branch and 10 miles northeast of Marion.

Drainage area.--7.39 sq mi.

Records available.--November 1947 to September 1953.

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.--5 years (1948-53), 9.41 cfs.

Extremes.--Maximum discharge during year, 813 cfs July 6 (gage height, 7.42 ft); minimum, 2.9 cfs Oct. 30; minimum gage height, 1.64 ft Oct. 23, 30.
1947-53: Maximum discharge, that of July 6, 1953; 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 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1-31		Nov. 1 to July 6				July 7 to Sept. 30			
1.5	2.2	1.6	2.2	2.5	34	1.7	3.6	2.5	34
1.7	4.6	1.8	6.1	3.0	67	1.8	4.9	2.8	52
2.0	11	2.0	12	4.0	171	1.9	7.2	3.3	95
						2.1	15	4.0	171

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	3.7	3.0	3.6	5.4	10	11	12	9.8	6.6	5.2	5.2	4.0
2	3.8	3.0	3.6	5.4	9.4	12	11	9.8	6.4	6.4	5.2	4.0
3	*3.8	*3.4	*3.9	5.7	*8.8	20	11	9.1	6.1	6.9	5.8	4.0
4	3.7	3.4	3.9	5.0	8.5	71	10	8.5	6.1	6.1	5.6	4.0
5	3.7	3.2	4.6	5.0	7.7	33	9.8	8.3	5.9	5.9	5.3	7.4
6	3.6	3.0	4.3	4.6	8.5	23	11	20	15	*119	5.0	4.5
7	3.7	3.0	4.1	10	10	18	11	25	9.1	71	5.0	*4.1
8	3.7	3.0	3.9	14	8.5	17	9.8	18	7.2	22	8.0	4.0
9	4.0	3.0	3.9	12	7.7	14	9.1	14	6.6	15	5.0	3.9
10	3.8	3.2	11	11	7.7	13	9.1	12	12	12	*4.6	3.9
11	3.8	3.6	12	10	7.7	14	8.5	10	*8.5	10	4.6	3.9
12	3.6	3.4	7.7	9.5	17	13	8.5	9.4	7.4	8.7	4.5	3.9
13	3.6	3.2	6.4	9.0	15	12	11	8.8	11	8.0	4.5	3.9
14	3.4	3.0	5.9	8.8	13	11	9.4	*8.8	8.3	7.2	4.5	3.9
15	3.4	3.0	5.0	8.5	14	19	9.4	8.5	7.2	6.7	4.4	3.9
16	3.4	3.0	4.8	*8.0	14	16	11	8.3	6.9	6.5	4.4	3.7
17	3.2	3.0	4.6	7.7	16	14	*8.8	8.0	11	6.0	4.4	3.7
18	3.3	3.0	4.6	10	13	22	10	8.8	7.4	9.2	4.4	3.7
19	3.3	3.7	4.3	8.5	13	*20	11	20	6.6	6.7	4.2	3.7
20	3.2	4.3	4.6	8.3	22	16	11	17	6.1	5.8	4.9	4.0
21	3.2	12	4.8	30	66	14	9.8	13	6.1	5.6	4.8	3.9
22	3.1	6.9	4.6	21	32	14	8.8	11	6.1	6.5	4.2	3.7
23	3.0	7.2	4.3	16	22	20	8.8	10	5.9	7.6	4.2	3.6
24	3.1	6.4	4.1	18	18	50	8.5	8.8	5.7	7.2	4.2	3.6
25	3.1	5.4	3.9	14	16	28	8.3	8.5	5.7	7.0	4.1	3.7
26	3.1	5.0	3.7	13	15	21	8.0	8.3	5.7	6.5	4.1	3.7
27	3.0	4.3	3.6	11	13	18	8.0	7.7	5.9	6.0	4.1	3.6
28	3.0	3.9	3.6	20	11	16	7.4	7.2	6.1	5.8	4.1	3.6
29	3.0	3.7	3.6	17	-	15	7.2	7.2	6.1	5.6	4.1	3.6
30	2.9	3.7	3.4	14	-	13	10	7.4	5.9	5.4	4.1	3.6
31	3.0	-	4.6	12	-	12	-	7.2	-	5.3	4.1	-
Total	105.2	122.8	150.9	352.4	424.5	610	287.2	338.4	220.6	412.8	145.6	118.7
Mean	3.39	4.09	4.87	11.4	15.2	19.7	9.57	10.9	7.35	13.3	4.70	3.96
Cfsm	0.459	0.553	0.659	1.54	2.06	2.67	1.29	1.47	0.995	1.80	0.636	0.536
In.	0.53	0.62	0.76	1.78	2.14	3.08	1.44	1.70	1.11	2.08	0.73	0.60

Calendar year 1952: Max 39 Min 2.9 Mean 7.37 Cfsm 0.997 In. 13.58
Water year 1952-53: Max 119 Min 2.9 Mean 9.01 Cfsm 1.22 In. 16.57

Peak discharge (base, 90 cfs).--Feb. 21 (9:30 a.m.) 99 cfs (3.34 ft); Mar. 4 (8 a.m.) 127 cfs (3.62 ft); Mar. 24 (2 a.m.) 94 cfs (3.29 ft); July 6 (9 p.m.) 813 cfs (7.42 ft).
* Discharge measurement made on this day.
Note.--No gage-height record Jan. 10-16, July 25 to Aug. 9; discharge estimated on basis of weather records and records for Middle Fork Holston River at Sevenmile Ford and South Fork Holston River at Riverside, near Chilhowie.

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 1953.

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.--11 years, 161 cfs.

Extremes.--Maximum discharge during year, 2,540 cfs July 7 (gage height, 6.54 ft); minimum, 17 cfs Nov. 9 (gage height, 1.50 ft); minimum daily, 25 cfs Oct. 8, Nov. 9. 1942-53: 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 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 8-15)

Oct. 1 to June 2				June 3 to Sept. 14				Sept. 15-30	
1.5	17	2.5	223	1.8	24	3.0	362	2.1	19
1.7	44	3.0	394	2.0	47	4.0	866	2.2	30
2.0	96	4.0	866	2.2	82	5.0	1,450	2.4	66
2.2	139	6.0	2,140	2.5	162				

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	109	35	49	146	156	146	152	186	81	66	40	29
2	28	41	46	115	132	172	135	201	76	60	40	32
3	*30	35	47	100	117	429	126	223	72	76	39	30
4	27	44	44	83	111	1,510	117	178	66	78	47	26
5	27	36	49	72	96	839	111	152	65	61	48	50
6	29	*32	68	67	96	438	*109	644	144	121	44	50
7	27	38	60	74	159	311	144	*1,300	264	992	42	38
8	25	34	57	135	178	257	149	540	110	284	96	*36
9	36	25	49	198	146	208	135	347	*89	162	72	30
10	36	44	88	254	126	178	139	260	161	116	51	31
11	34	44	276	248	119	162	126	204	187	94	*43	34
12	29	52	128	184	432	154	119	172	116	80	39	32
13	35	42	92	152	562	152	189	152	408	72	38	31
14	32	41	72	*139	315	135	217	135	625	*63	37	*32
15	32	36	63	137	318	273	178	132	248	60	37	31
16	27	29	60	130	288	370	223	115	159	58	34	30
17	29	46	57	117	354	270	208	106	159	57	38	*29
18	29	35	54	128	285	414	217	117	124	54	35	30
19	30	41	52	135	238	536	354	1,340	103	57	34	30
20	40	77	49	126	287	340	288	948	91	54	37	30
21	27	134	49	404	1,760	242	226	422	100	48	34	35
22	35	121	55	410	866	217	181	279	108	51	34	32
23	38	90	50	260	446	201	156	214	82	63	33	32
24	36	104	44	220	315	792	139	170	72	48	35	33
25	36	94	41	181	*260	500	128	144	63	44	34	30
26	30	83	47	144	232	332	126	128	61	44	34	32
27	40	67	41	132	186	263	113	113	61	40	33	33
28	35	60	35	335	167	220	104	102	82	40	33	38
29	34	46	41	394	-	186	98	92	132	40	31	56
30	34	46	36	251	-	164	121	88	103	40	31	66
31	36	-	81	192	-	146	-	85	-	39	30	-
Total	1,074	1,652	1,980	5,663	8,747	10,557	4,828	9,289	4,210	3,162	1,253	1,048
Mean	34.6	55.1	63.9	183	312	341	161	300	140	102	40.4	34.9
Cfsm	0.262	0.417	0.484	1.39	2.36	2.58	1.22	2.27	1.06	0.773	0.306	0.264
In.	0.30	0.47	0.56	1.60	2.46	2.97	1.36	2.62	1.18	0.89	0.35	0.29

Calendar year 1952: Max 1,030 Min 22 Mean 112 Cfsm 0.848 In. 11.57
Water year 1952-53: Max 1,760 Min 25 Mean 146 Cfsm 1.11 In. 15.05

Peak discharge (base, 2,000 cfs).--Feb. 21 (3 p.m.) 2,220 cfs (6.14 ft); Mar. 4 (4 p.m.) 2,380 cfs (6.30 ft); May 19 (4 p.m.) 2,300 cfs (6.20 ft); July 7 (5 a.m.) 2,540 cfs (6.54 ft).
* Discharge measurement made on this day.

Middle Fork Holston River near Meadowview, Va.

Location.--Lat 36°42'47", long. 81°49'08", on left bank 100 ft downstream from bridge on State Highway 80, 0.9 mile upstream from Cedar Creek, 4.1 miles southeast of Meadowview, Washington County, and 12.9 miles upstream from mouth.

Drainage area.--211 sq mi.

Records available.--November 1931 to September 1953 (discontinued)

Gage.--Water-stage recorder. Datum of gage is 1,820.22 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--21 years (1932-53), 231 cfs.

Extremes.--Maximum discharge during year, 3,000 cfs Mar. 4 (gage height, 6.47 ft); minimum, 6.2 cfs Oct. 21 (gage height, 1.38 ft); minimum daily, 8 cfs Nov. 9.
1931-53: Maximum discharge, 6,650 cfs Feb. 18, 1944 (gage height, 9.80 ft); minimum, 6 cfs at times in 1933, 1936, 1940, 1942 and 1943; minimum daily, 7 cfs Nov. 19, 1950.

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)
728	1932	Feb. 3, 1932	5,010	8.40
743	1933	Dec. 28, 1932	3,500	7.00
758	1934	Aug. 24, 1934	3,100	6.55

Remarks.--Records good. Flow regulated by powerplant above station.

Revisions.--WSP 823: Drainage area. Revised figures of daily discharge, in cubic feet per second, for high-water periods in water years 1932-34, superseding those published in WSP 728, 743, and 758 are given herewith:

1932		1932-Con.		1933-Con.	
Jan. 30	1,710	Dec. 29	1,790	Feb. 21	1,420
Feb. 3	1,870				
4	2,800	1933		1934	
5	1,670	Feb. 8	1,670	Mar. 3	1,960
12	1,670	15	1,600	4	1,560
Dec. 28	2,700	20	1,670	5	1,520
				Aug. 24	1,670

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
January 1932	9,999	1,710	134	323	1.53	1.76
February	20,622	2,800	262	711	3.37	3.64
Water year 1931-32	86,098	2,800	32	235	1.11	15.18
December 1932	12,087	2,700	58	390	1.85	2.13
Calendar year 1932	93,785	2,800	32	256	1.21	16.54
February 1933	19,056	1,670	282	681	3.23	3.36
Water year 1932-33	90,966	2,700	23	249	1.18	16.02
Calendar year 1933	77,443	1,670	23	212	1.00	13.64
March 1934	19,155	1,960	137	618	2.93	3.38
August	7,787	1,670	80	251	1.19	1.37
Water year 1933-34	55,797	1,960	35	153	.725	9.85
Calendar year 1934	69,489	1,960	36	190	.900	12.25

Middle Fork Holston River near Meadowview, Va.--Continued

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second

Oct. 1 to Mar. 4				Mar. 5 to Sept. 30			
1.4	7	2.5	227	1.7	24	2.3	148
1.6	18	3.0	439	1.8	34	2.6	260
1.8	39	4.0	965	2.0	66	3.0	439
2.0	76	5.0	1,630				
2.2	126	6.0	2,500				

Note.--Same as preceding table above 3.0 ft.

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	173	54	122	110	274	250	209	228	165	155	51	57
2	90	83	38	197	254	278	209	273	162	193	27	55
3	*58	49	49	103	96	430	*228	317	126	151	101	55
4	36	8.5	28	83	205	1,590	236	295	70	209	117	55
5	22	60	110	171	187	1,630	145	260	151	197	61	57
6	54	100	87	13	135	762	170	651	168	162	55	57
7	64	38	24	121	141	542	228	*1,830	332	893	71	57
8	77	22	144	147	220	444	228	935	244	480	90	71
9	70	8	10	150	223	375	228	600	*80	300	151	76
10	68	33	160	239	201	322	224	453	189	216	136	62
11	56	50	289	286	194	291	224	366	347	175	*145	62
12	48	56	262	278	238	244	224	317	232	172	52	62
13	40	76	68	191	790	278	190	274	220	*136	85	62
14	62	64	101	*143	471	264	313	269	958	65	76	55
15	43	13	118	173	434	291	295	264	407	101	66	52
16	57	38	110	166	453	551	304	231	291	132	66	52
17	34	56	110	159	476	439	317	136	244	112	61	52
18	51	37	14	159	439	490	304	255	220	98	57	52
19	14	55	94	159	359	818	532	1,250	190	64	57	50
20	42	86	74	159	333	556	485	1,630	172	126	57	52
21	53	108	14	280	1,790	421	375	730	121	82	57	52
22	52	200	145	551	1,500	348	304	480	162	140	57	52
23	49	118	10	363	800	335	278	370	228	145	57	52
24	46	136	110	299	550	748	224	308	155	119	57	52
25	44	118	53	295	*426	735	205	269	114	79	57	55
26	44	173	62	208	381	508	212	256	90	48	59	57
27	38	80	86	180	324	398	252	220	78	120	57	27
28	*8.5	50	10	282	291	339	132	197	83	112	57	38
29	66	59	86	580	-	300	193	175	339	70	57	64
30	50	57	*79	394	-	278	193	165	201	102	57	64
31	12	-	60	262	-	273	-	165	-	70	57	-
Total	1,621.5	2,085.5	2,727	6,901	12,185	15,528	7,661	14,169	6,539	5,224	2,211	1,666
Mean	52.3	69.5	88.0	223	435	501	255	457	218	169	71.3	55.5
Cfsm	0.248	0.329	0.417	1.06	2.06	2.37	1.21	2.17	1.03	0.801	0.338	0.263
In.	0.29	0.37	0.48	1.22	2.14	2.73	1.35	2.50	1.15	0.92	0.39	0.29

Calendar year 1952: Max 1,490 Min 8 Mean 165 Cfsm 0.782 In. 10.67
Water year 1952-53: Max 1,830 Min 8 Mean 215 Cfsm 1.02 In. 13.83

Peak discharge (base, 2,000 cfs).--Feb. 21 (9:30 p.m.) 2,900 cfs (6.44 ft); Mar. 4 (11 p.m.) 3,000 cfs (6.47 ft); May 7 (10 a.m.) 2,560 cfs (5.85 ft); May 19 (11 p.m.) 2,900 cfs (6.35 ft); July 7 (12 m.) 2,230 cfs (5.71 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 1953.

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, 3,360 cfs Sept. 13 (gage height, 37.70 ft); minimum daily, 2.8 cfs Apr. 1.
1951-53: Maximum discharge, that of 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 Reservoir.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

32.4	1.8	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	37.2	2,680

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	*1,400	557	942	7.7	7.4	5.5	2.8	1,770	*1,520	1,990	2,140	2,030
2	1,380	6.9	897	525	290	6.0	*6.7	108	1,450	*1,990	1,770	2,050
3	2,140	544	*956	7.0	*429	*9.5	1,360	8.5	1,520	2,020	2,160	*2,100
4	1,460	541	587	124	552	15	8.1	972	1,530	1,260	*1,960	2,060
5	250	1,010	7.7	1,060	576	9.3	55	*1,460	1,630	1,140	2,510	1,970
6	1,420	1,470	7.4	735	570	7.7	1,430	1,430	1,630	1,960	2,400	1,830
7	1,650	*1,420	7.4	529	49	7.4	1,390	916	1,550	791	2,290	1,720
8	1,650	637	6.6	*498	7.0	7.4	1,500	1,400	1,610	1,930	2,090	2,080
9	1,500	1,060	6.6	1,090	608	7.0	1,420	2,390	1,610	2,030	1,590	2,040
10	1,030	35	11	11	582	6.6	1,510	2,390	1,600	2,060	2,300	2,200
11	1,130	7.7	10	598	594	6.6	7.8	2,410	1,600	746	2,360	2,150
12	332	215	7.7	905	1,170	6.6	• 7.4	2,360	1,560	607	2,430	2,120
13	5.8	400	7.4	431	1,090	6.6	1,460	1,750	1,610	2,230	2,430	1,870
14	210	210	6.6	612	7.4	6.6	1,510	1,190	422	2,240	2,410	2,250
15	898	704	11	336	12	10.4	1,540	539	2,040	2,200	2,150	2,190
16	1,430	7.4	1,360	338	673	8.5	1,650	618	2,190	2,180	1,920	1,880
17	270	128	1,500	7.0	1,120	7.7	409	323	2,230	1,800	2,100	2,040
18	1,410	41	1,480	7.4	460	8.1	74	716	2,220	764	1,940	2,170
19	296	194	286	342	545	8.1	1,080	703	2,280	13	1,960	2,410
20	1,850	640	592	321	322	7.4	358	1,580	2,370	2,110	2,070	720
21	1,840	694	• 7.4	321	311	7.0	25	1,600	2,180	2,170	2,000	2,220
22	1,730	585	1,200	397	116	7.0	38	1,620	2,600	2,060	2,170	2,250
23	575	16	8.9	328	381	7.0	6.6	1,600	2,590	2,120	370	2,220
24	1,360	361	6.6	9.6	395	7.7	6.6	1,570	2,580	2,140	1,890	2,280
25	490	8.1	6.3	195	39	7.7	6.6	1,450	1,580	124	1,960	2,220
26	1,410	8.1	6.0	522	6.6	42	7.4	1,560	2,100	7.7	1,960	2,140
27	63	6.6	41	314	6.0	7.4	7.4	1,570	2,210	1,870	1,960	1,790
28	1,270	7.0	29	320	5.8	7.0	7.4	1,520	1,940	1,770	2,030	2,250
29	1,950	6.6	1,660	316	-	7.0	7.4	1,420	1,980	1,820	2,020	2,240
30	1,700	446	1,160	332	-	1,010	903	1,500	1,870	1,720	1,670	2,240
31	612	-	820	7.4	-	9.8	-	15	-	2,020	2,040	-
Total	34,711.8	11,946.4	13,634.6	11,546.1	10,924.2	1,277.6	17,794.2	40,258.5	55,802	49,882.7	63,050	61,730
Mean	1,120	398	440	372	390	41.2	593	1,299	1,860	1,609	2,034	2,058

		Observed				Adjusted†			
Calendar year 1952:	Max	2,180	Min	1.3	Mean	727	Mean	665	Cfsm 0.946 In. 12.88
Water year 1952-53:	Max	2,600	Min	2.8	Mean	1,021	Mean	843	Cfsm 1.20 In. 16.29

* Discharge measurement made on this day.
† Adjusted for change in contents in South Holston Reservoir.

South Fork Holston River at Bluff City, Tenn.

Location.--Lat 36°28'38", long. 82°15'47", on right bank 100 ft upstream from bridge on U. S. Highways 11E and 19 at Bluff City, Sullivan County, 600 ft downstream from Southern Railway bridge, 0.8 mile downstream from Indian Creek, and 4.8 miles upstream from Beaver Creek.

Drainage area.--813 sq mi.

Records available.--July 1900 to May 1953 (discontinued) in reports of Geological Survey. July 1900 to October 1924 (prior to January 1907, revised) in Tennessee Division of Geology Bulletin 34. Gage-height records collected in this vicinity since March 1903 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 1,368.35 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. July 17, 1900, to Aug. 18, 1928, staff and chain gages 150 ft downstream at same datum.

Average discharge.--52 years (1900-1952), 1,157 cfs (unadjusted).

Extremes.--Maximum discharge during period October to May, 4,240 cfs Feb. 21 (gage height, 5.26 ft); minimum daily, 66 cfs Dec. 27.

1900-1953: Maximum discharge, 30,700 cfs (revised) May 22, 1901 (gage height, 16.0 ft, revised, site then in use), from rating curve extended above 19,000 cfs; minimum (prior to regulation commencing Nov. 20, 1950), 45 cfs Jan. 3, 1940; minimum daily, 35 cfs Nov. 22-30, 1950.

Flood of Apr. 11, 1896, reached a stage of 14.5 ft (discharge, 26,600 cfs) from reports of U. S. Weather Bureau.

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)
(a)	1901	May 22, 1901	30,700	†16.0
403	1902	Feb. 28, 1902	*24,500	13.7
-	1903	Feb. 17, 1903	‡14,000	9.4
-	1906	Jan. 23, 1906	††19,100	11.6
-	1908	Jan. 12, 1908	††17,700	†11.0
263	1909	May 1, 1909	‡8,730	6.4
-	1910	July 7, 1910	7,740	†6.3
-	1912	Apr. 2, 1912	††16,500	†10.5
-	1913	Mar. 27, 1913	††17,500	10.9
383	1914	Mar. 30, 1914	8,730	6.4
403, 771	1915	Feb. 2, 1915	8,280	†6.6
433, 771	1916	Jan. 7, 1916	15,300	10.0
453, 771	1917	Mar. 5, 1917	13,800	9.3
473	1918	Jan. 29, 1918	*13,300	9.1
503	1919	Oct. 26, 1918	‡10,400	7.7
503	1920	Apr. 2, 1920	11,400	8.2
563, 771	1923	Feb. 3, 1923	18,400	11.3
643, 771	1927	Feb. 23, 1927	18,700	11.4

* Maximum observed.
† From graph based on gage readings.
‡ Maximum daily.
†† Not previously published.
a Published in Bulletin 40, Tennessee Division of Geology.

Remarks.--Records good except those for period of backwater from Boone Dam, which are fair. Flow regulated by South Holston Reservoir 15 miles above station.

Revisions (water years).--WSP 783: 1934. WSP 823: Drainage area. See also Records available. Revised figures of discharge, in cubic feet per second, for periods in the water years 1901-3, 1913, 1916-20, superseding those published in WSP 65, 83, 98, 353, 433, 453, 473, 503, and Bulletin 34, Tennessee Division of Geology, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1901		1901-Con.		1902-Con.		1913-Con.		1917-Con.	
Apr. 2	4,100	May 30	6,240	Mar. 13	2,910	Mar. 29	5,180	Mar. 21	2,890
3	8,100	31	4,970	14	2,910	30	3,720	22	3,020
4	6,080	Dec. 15	7,200	16	3,300	31	3,020	24	5,660
5	3,690	16	5,600	17	3,300			25	7,200
7	3,040	17	4,240	18	2,910	1916		26	4,420
20	14,000	18	3,820	29	7,200	Jan. 8	14,400	27	3,580
21	11,000	27	8,460	30	5,600			28	3,020
22	10,400	28	5,600	31	3,820	1917			
23	9,000	29	21,700	June 27	6,560	Mar. 1	2,890	1918	
24	8,640	30	14,900	28	11,000	2	6,840	Jan. 27	5,820
25	5,600	31	6,240	29	4,670	3	6,660	28	11,000
26	5,280			30	4,380	4	7,740	29	13,300
27	4,970	1902				5	12,400	30	7,200
28	4,100	Mar. 1	11,400	1903		6	6,840	31	8,460
29	4,100	2	8,460	Feb. 17	14,000	7	4,720	Oct. 26	10,400
May 20	3,820	3	8,100			8	3,720	27	4,420
21	13,100	4	6,240	1913		9	3,300	30	5,020
22	20,400	5	5,120	Mar. 1	3,160	13	5,180	31	7,560
23	7,200	6	4,820	14	7,560	14	4,140		
24	5,600	7	4,240	15	9,800	15	3,720	1920	
25	3,430	8	3,300	16	8,100	16	3,020	Apr. 2	11,000
26	2,910	9	3,170	17	4,570	17	5,180	3	8,280
27	5,600	10	3,170	18	3,160	18	6,840	4	4,720
28	6,080	11	3,040	27	13,300	19	4,570	5	3,720
29	6,560	12	2,910	28	10,400	20	3,440	8	3,160

South Fork Holston River at Bluff City, Tenn.--Continued

Revised figures of monthly discharge, in cubic feet per second, 1901-3, 1913, 1916-20

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
April 1901	14,000	1,390	4,370	5.38	6.00
May	20,400	1,590	4,000	4.92	5.67
Water year 1900-1901	20,400	295	2,110	2.60	35.29
December 1901	21,700	540	3,320	4.08	4.70
Calendar year 1901	20,400	400	2,330	2.87	38.92
March 1902	11,400	1,390	3,800	4.67	5.39
June	11,000	400	1,510	1.86	2.07
Water year 1901-2	21,700	295	1,690	2.08	28.28
Calendar year 1902	21,000	295	1,410	1.73	23.60
February 1903	14,000	950	2,860	3.51	3.66
Water year 1902-3	14,000	212	1,170	1.44	19.58
Calendar year 1903	14,000	185	1,100	1.35	18.29
March 1913	13,300	860	3,320	4.08	4.70
Water year 1912-13	13,300	245	1,170	1.44	19.51
Calendar year 1913	13,300	245	1,180	1.45	19.67
January 1916	14,400	1,480	3,050	3.75	4.33
Water year 1915-16	14,400	285	1,590	1.96	26.68
Calendar year 1916	14,400	285	1,410	1.73	23.56
March 1917	12,400	2,010	4,450	5.47	6.31
Water year 1916-17	12,400	185	1,380	1.70	23.02
Calendar year 1917	12,400	185	1,310	1.61	21.86
January 1918	13,300	325	2,240	2.76	3.18
Water year 1917-18	13,300	185	1,010	1.24	16.81
October 1918	10,400	185	1,240	1.53	1.76
Calendar year 1918	13,300	185	1,220	1.50	20.36
Water year 1918-19	10,400	185	1,200	1.48	19.98
April 1920	11,000	785	2,210	2.72	3.03
Water year 1919-20	11,000	185	1,250	1.54	20.96
Calendar year 1920	11,000	284	1,260	1.55	21.06

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*1,560	514	781	297	175	170	141	1,800				
2	1,460	311	1,220	570	431	199	*126	767				
3	2,030	548	*1,040	222	582	*521	1,290	113				
4	1,750	594	738	201	*687	1,270	330	*778				
5	482	*936	131	900	713	630	148	1,550				
6	1,320	987	109	961	715	343	1,290	1,950				
7	1,490	1,400	89	*641	196	268	1,630	1,930				
8	1,900	958	77	626	229	230	1,650	1,400				
9	1,650	1,020	72	1,180	709	202	1,620	2,660				
10	1,420	200	295	565	793	184	1,670	2,660				
11	982	106	688	699	751	178	395	2,650				
12	809	225	250	1,100	1,970	172	109	2,590				
13	132	403	155	669	1,650	160	1,620	2,090				
14	180	271	118	781	405	155	1,830	e1,400				
15	469	679	102	453	504	455	1,790	e700				
16	1,560	140	1,200	430	1,140	386	1,840	e700				
17	704	144	1,590	113	1,340	240	917	e500				
18	1,120	82	1,610	104	1,030	247	237	e800				
19	608	229	669	410	822	272	1,220	e700				
20	1,590	667	512	411	587	226	405	e1,800				
21	1,960	878	251	722	1,630	193	347	e1,800				
22	1,880	324	953	702	681	170	158	e1,800				
23	1,090	509	417	595	744	170	128	e1,800				
24	1,060	488	77	236	695	226	111	e1,600				
25	939	250	72	402	307	230	103	e1,600				
26	1,130	319	70	711	236	218	102	e1,700				
27	478	170	66	484	199	184	96	e1,700				
28	897	108	96	793	184	160	92	e1,700				
29	2,080	84	1,320	696	-	150	87	e1,600				
30	1,940	385	1,520	575	-	991	704	e1,600				
31	730	-	1,080	212	-	320	-	e100				
Total	37,380	13,929	17,368	17,461	20,105	9,520	22,186	46,538				
Mean	1,206	464	560	563	718	307	740	1,501				

	Observed						Adjusted†					
Calendar year 1952:	Max	2,520	Min	45	Mean	875	Mean	814	Cfsm	1.00	In.	13.62
Water year 1952-53:	Max	-	Min	-	Mean	-	Mean	-	Cfsm	-	In.	-

* Discharge measurement made on this day.
† Adjusted for change in contents in South Holston Reservoir.
e Stage-discharge relation affected by backwater from Boone Dam; discharge estimated on basis of records for station below South Holston Dam.

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 1953.
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.--8 years, 14.9 cfs.
Extremes.--Maximum discharge during year, 170 cfs Mar. 4 (gage height, 4.04 ft); minimum, 3.9 cfs Oct. 17, Sept. 3, 10 (gage height, 1.42 ft).
1945-53: Maximum discharge, 383 cfs July 15, 1948 (gage height, 5.94 ft), from rating curve extended above 230 cfs on basis of velocity-area study; minimum, 3.7 cfs Dec. 1-12, 1946, Oct. 5, 6, 1947; minimum gage height, 1.05 ft Dec. 1-12, 1946.
Remarks.--Records good.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 28				Jan. 28 to Sept. 30			
1.4	3.4	1.7	12	1.4	3.4	1.7	14
1.5	5.8	2.0	30	1.5	6.0	2.0	33
1.6	8.4	3.0	94	1.6	9.4	3.0	94

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	4.4	4.8	5.6	7.9	21	24	24	15	18	10	7.7	5.5
2	4.4	4.8	5.6	7.9	19	28	22	14	17	10	7.7	5.2
3	4.4	4.8	5.3	7.9	18	39	*21	14	16	11	8.7	5.2
4	4.4	*4.8	5.3	7.6	17	76	19	13	16	11	8.4	5.7
5	4.4	4.8	6.6	7.6	*16	49	19	13	15	12	8.0	9.9
6	4.4	4.8	6.6	7.4	16	42	19	24	16	12	7.4	7.7
7	*4.6	4.6	6.1	7.4	18	37	20	*25	16	15	7.4	6.7
8	4.6	4.8	6.1	8.1	16	34	18	29	15	12	7.4	6.3
9	5.1	4.6	6.1	9.8	16	31	18	31	*14	11	7.4	6.0
10	5.1	4.8	16	15	15	29	17	24	15	10	7.0	5.5
11	4.8	5.1	20	12	15	27	16	22	14	9.9	*6.7	5.5
12	4.8	4.8	13	11	30	26	16	21	13	9.1	6.3	5.5
13	4.6	4.6	11	10	27	24	20	19	17	*9.1	6.3	5.5
14	4.6	4.6	9.5	*9.8	23	23	17	19	16	8.7	6.7	5.5
15	4.4	4.6	8.8	9.5	31	33	17	23	13	8.4	6.7	5.5
16	4.4	4.6	*8.1	9.1	30	27	18	19	13	8.4	6.3	*5.0
17	4.4	4.6	7.9	8.8	31	24	16	18	13	8.4	6.7	5.0
18	4.4	4.6	7.6	9.8	28	32	24	18	12	8.0	6.3	5.0
19	4.6	6.6	7.6	9.5	26	30	24	*59	11	8.0	6.3	5.2
20	4.6	7.4	7.6	9.5	29	27	21	43	11	7.7	6.3	6.0
21	4.8	6.6	7.4	14	57	25	19	35	12	16	6.0	5.5
22	4.8	6.8	7.1	14	43	25	18	32	12	14	6.7	5.2
23	4.6	6.8	6.9	13	36	26	18	29	11	18	7.0	5.2
24	4.6	7.6	6.8	19	34	27	17	27	11	11	6.0	5.2
25	4.6	7.9	6.6	19	32	25	16	25	10	9.9	6.0	5.2
26	4.6	7.6	6.6	17	30	24	16	24	10	9.1	6.0	5.2
27	4.8	6.8	6.6	16	27	*24	16	22	14	8.7	6.0	5.0
28	4.6	6.3	6.3	33	25	22	15	21	12	8.4	5.7	5.0
29	4.6	6.1	6.3	28	-	22	15	20	12	8.4	5.7	5.0
30	4.8	5.8	6.3	25	-	21	16	19	11	8.0	5.7	4.7
31	4.8	-	7.6	22	-	21	-	19	-	8.0	5.7	-
Total	143.0	167.4	244.8	405.6	726	924	552	736	406	319.2	208.2	168.6
Mean	4.61	5.58	7.90	13.1	25.9	29.8	18.4	23.7	13.5	10.3	6.72	5.62
Cfsm	0.336	0.407	0.577	0.956	1.89	2.18	1.34	1.73	0.985	0.752	0.491	0.410
In.	0.39	0.45	0.67	1.10	1.97	2.51	1.50	1.99	1.10	0.87	0.57	0.46

Calendar year 1952: Max 50 Min 4.4 Mean 11.7 Cfsm 0.854 In. 11.60
Water year 1952-53: Max 76 Min 4.4 Mean 13.7 Cfsm 1.00 In. 13.58

Peak discharge (base, 100 cfs).--Mar. 4 (9:30 a.m.) 170 cfs (4.04 ft); May 19 (11:30 a.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 3⅝ miles northeast of Bristol.
Records available.--August 1928, November 1947 to September 1953 (discharge measurements only).
Extremes.--Maximum discharge measured during year, 4.06 cfs Mar. 27; minimum measured, 0.400 cfs Oct. 7.
1928, 1947-53: Maximum discharge measured, 6.21 cfs Feb. 16, 1950; minimum measured, that of Oct. 7, 1952.
Remarks.--Discharge measurements made once a month 100 ft below spring.

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

Oct. 7..... 0.400	Feb. 5..... 3.09	June 9..... 2.64
Nov. 4..... .529	Mar. 27..... 4.06	July 13..... 1.65
Dec. 8..... .465	Apr. 3..... 3.01	Aug. 11..... .888
Jan. 14..... 1.44	May 7..... 2.09	Sept. 16..... .424

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 1953.

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.--13 years, 160 cfs.

Extremes.--Maximum discharge during year, 3,490 cfs Feb. 21 (gage height, 7.90 ft), from rating curve extended above 2,100 cfs as explained below; minimum, 15 cfs Sept. 18 (gage height, 1.28 ft); minimum daily, 16 cfs Sept. 18.

1940-53: Maximum discharge, 50,800 cfs Aug. 13, 1940 (gage height, 29.6 ft, from profile based on floodmarks), from rating curve extended above 2,100 cfs on basis of slope-area determination of peak flow; minimum, 12 cfs Feb. 20, 1941 (gage height, 1.21 ft), result of freezeup; minimum daily, that of Sept. 18, 1953.

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. Records of chemical analyses and water temperatures for the water year 1953 are given in WSP 1290.

Rating table, water year 1952-53, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.3	16	2.5	240	5.0	1,260
1.4	24	3.0	390	5.5	1,550
1.6	44	3.5	550	6.0	1,880
1.9	89	4.0	755	7.0	2,650
2.2	154	4.5	990		

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	31	24	77	173	184	190	204	375	62	56	37	18
2	65	24	77	135	*159	234	184	424	56	*60	40	*17
3	31	24	77	121	144	261	168	312	*54	112	36	17
4	26	25	68	b100	135	363	157	*324	53	154	36	27
5	24	*24	84	b90	121	333	147	238	50	75	36	74
6	24	24	91	b86	121	276	*147	294	53	69	34	53
7	*36	24	75	91	176	240	184	411	233	104	36	38
8	30	23	68	*110	140	216	149	315	127	79	45	28
9	58	24	*66	162	121	187	137	249	81	66	44	25
10	84	25	227	1,010	115	168	147	207	347	57	37	24
11	49	32	369	411	117	*198	132	178	178	52	32	23
12	39	36	213	291	246	372	126	159	106	50	31	22
13	35	29	157	231	237	363	173	142	207	48	30	21
14	32	26	123	201	198	288	142	130	176	45	27	20
15	31	25	b100	176	231	369	130	123	117	45	27	18
16	30	25	b95	154	b180	312	130	117	102	46	24	18
17	29	25	b90	140	b195	267	119	110	93	45	24	17
18	28	25	82	173	b170	261	119	106	84	69	26	16
19	27	131	79	144	178	261	130	149	89	77	*36	17
20	26	505	75	128	423	219	112	130	82	50	41	80
21	25	149	82	366	2,090	198	108	102	74	44	32	54
22	26	106	72	306	778	232	102	95	187	72	57	31
23	26	104	69	282	459	1,810	100	87	93	176	39	25
24	26	112	66	1,160	369	1,100	98	86	79	72	32	24
25	26	142	64	518	312	605	95	82	70	54	29	24
26	25	294	63	366	273	441	104	79	68	49	27	26
27	28	252	60	306	234	357	95	77	64	45	24	42
28	25	144	57	327	219	306	89	72	68	42	24	36
29	24	106	b55	288	-	270	84	69	63	40	22	27
30	24	93	b60	234	-	231	430	68	63	39	21	24
31	24	-	167	198	-	213	-	64	-	38	20	-
Total	1,012	2,602	3,109	8,478	8,325	11,141	4,242	5,284	3,179	2,030	1,006	886
Mean	32.8	86.7	100	273	297	359	141	170	106	65.5	32.5	29.5
Cfsm	0.359	0.955	1.10	3.01	3.27	3.95	1.55	1.87	1.17	0.721	0.358	0.325
In.	0.41	1.07	1.27	3.47	3.41	4.56	1.74	2.16	1.30	0.83	0.41	0.36

Calendar year 1952: Max 1,730 Min 21 Mean 114 Cfsm 1.26 In. 17.04
Water year 1952-53: Max 2,090 Min 16 Mean 141 Cfsm 1.55 In. 20.99

Peak discharge (base, 2,000 cfs).--Jan. 10 (3:30 a.m.) 2,260 cfs (6.52 ft); Feb. 21 (10:30 a.m.) 3,490 cfs (7.90 ft); Mar. 23 (1:30 p.m.) 2,500 cfs (6.82 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 1953.

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.--11 years, 263 cfs.

Extremes.--Maximum discharge during year, 4,510 cfs Feb. 21 (gage height, 4.43 ft); minimum, 7.6 cfs Sept. 3 (gage height, 1.09 ft); minimum daily, 15 cfs Aug. 31.
1942-53: Maximum discharge, 14,700 cfs Dec. 7, 1950 (gage height, 7.15 ft), from rating curve extended above 3,500 cfs; minimum, 7.2 cfs July 28, 1952 (gage height, 1.08 ft); minimum daily, 15 cfs Feb. 16, 1947 (result of ice jam upstream) and Aug. 31, 1953.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Some diurnal fluctuation at low flow caused by a small powerplant near Sugar Grove, N. C.

Rating tables, water year 1952-53, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 10, May 1 to Sept. 30				Dec. 11 to Apr. 30			
1.2	14	2.0	310	1.5	85	3.0	1,400
1.3	27	2.2	460	2.0	335	3.5	2,300
1.5	73	2.7	980	2.5	750	4.0	3,410
1.7	140	3.0	1,400				

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	18	31	107	328	322	316	*322	720	88	73	55	e21
2	*68	33	*110	242	276	384	276	856	*79	70	60	21
3	43	31	118	214	248	*442	259	670	76	122	57	16
4	27	31	97	172	231	623	242	452	73	233	55	18
5	24	33	122	161	*198	605	231	*444	60	110	*60	84
6	30	*29	145	144	193	488	220	550	70	94	45	a70
7	34	27	110	*152	283	412	296	968	285	*142	47	a60
8	33	27	100	188	248	356	253	a680	168	110	55	a50
9	45	29	94	250	214	302	231	a505	114	91	65	*a40
10	110	29	241	1,630	198	270	242	a390	362	76	52	31
11	68	43	632	772	198	276	231	331	235	63	41	29
12	50	55	363	512	434	488	214	278	129	63	38	27
13	43	43	264	405	472	528	341	245	307	60	34	26
14	39	37	203	356	384	405	296	222	232	52	36	23
15	37	33	172	302	420	528	259	204	149	52	28	23
16	35	33	b160	264	363	465	253	193	129	52	27	20
17	35	33	b140	242	420	405	231	178	122	50	22	18
18	35	33	135	270	335	391	225	168	103	72	30	16
19	35	41	127	248	309	398	259	258	97	114	34	16
20	33	683	127	220	536	335	220	233	110	65	55	98
21	31	210	135	670	2,940	302	209	173	91	52	39	106
22	31	154	131	587	1,450	316	198	149	220	71	65	50
23	31	133	122	465	805	1,900	188	145	118	431	57	37
24	31	154	115	1,460	614	1,560	188	140	97	145	43	33
25	31	194	108	860	512	932	177	129	88	94	39	33
26	33	407	105	587	442	680	188	118	79	79	29	33
27	31	358	98	496	377	544	172	114	82	70	28	55
28	33	204	95	560	363	465	161	107	85	63	25	63
29	31	149	85	528	-	405	152	97	88	60	29	35
30	31	125	98	428	-	356	705	97	82	57	24	35
31	31	-	286	356	-	322	-	94	-	55	15	-
Total	1,187	3,422	4,945	14,069	13,785	16,199	7,439	9,908	4,018	2,941	1,289	1,187
Mean	38.3	114	160	454	492	523	248	320	134	94.9	41.6	39.6
Cfsm	0.252	0.750	1.05	2.99	3.24	3.44	1.63	2.11	0.882	0.624	0.274	0.261
In.	0.29	0.84	1.21	3.44	3.37	3.96	1.82	2.42	0.98	0.72	0.32	0.29

Calendar year 1952: Max 2,080 Min 18 Mean 191 Cfsm 1.26 In. 17.14
Water year 1952-53: Max 2,940 Min 15 Mean 220 Cfsm 1.45 In. 19.66

Peak discharge (base, 2,800 cfs).--Jan. 10 (5 a.m.) 2,930 cfs (3.79 ft); Feb. 21 (12:30 p.m.) 4,510 cfs (4.43 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 1953. 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.--19 years, 82.8 cfs.

Extremes.--Maximum discharge during year, 2,060 cfs Feb. 21 (gage height, 5.87 ft), from rating curve extended above 900 cfs on basis of slope-area determination at gage height 17.8 ft; minimum, 7.2 cfs Sept. 18, 19 (gage height, 1.38 ft); minimum daily, 7.6 cfs Sept. 18.

1934-53: 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. 18, 1953.

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 tables, water year 1952-53, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21				Feb. 22 to Sept. 30			
1.4	9.5	3.0	271	1.3	4.0	2.4	136
1.6	24	3.5	415	1.4	8.0	2.7	199
1.8	44	4.0	600	1.6	22	3.0	271
2.1	86	4.5	840	1.8	42	3.5	415
2.4	137	5.0	1,180	2.1	83	4.0	600
2.7	199						

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	10	12	30	84	104	103	93	154	33	25	16	*12
2	41	13	31	55	91	160	82	132	30	*21	21	11
3	15	13	31	58	*83	154	77	110	*29	51	16	12
4	13	*13	27	50	78	226	71	*99	29	62	16	19
5	12	12	38	b48	71	192	67	123	29	30	16	30
6	13	11	36	b46	74	156	*70	157	31	26	18	26
7	*18	11	30	50	105	132	101	220	114	46	21	20
8	15	11	28	*71	82	117	78	162	40	36	22	15
9	29	12	*27	106	72	101	71	130	33	28	20	14
10	27	13	159	692	68	*94	76	112	109	24	16	15
11	19	17	173	244	72	99	68	96	77	22	14	22
12	17	18	88	162	156	106	67	86	43	21	14	11
13	15	14	68	132	128	99	104	78	79	20	13	9.2
14	15	13	58	112	107	88	89	72	52	19	13	8.6
15	14	13	b48	99	121	140	82	70	41	19	12	8.6
16	13	13	b45	89	b95	103	78	65	40	20	11	8.6
17	13	13	b43	83	102	97	71	61	40	19	11	8.0
18	13	13	b42	104	b84	101	71	58	35	22	11	7.6
19	13	41	41	84	86	113	74	91	32	25	*21	13
20	13	102	42	77	304	91	67	72	30	20	18	74
21	13	42	47	237	1,030	85	62	57	29	17	14	23
22	13	36	41	158	440	86	58	52	41	21	22	14
23	13	37	40	154	268	205	57	49	32	106	18	12
24	13	42	37	313	215	229	55	46	28	30	14	11
25	13	47	35	217	175	190	54	44	28	23	13	11
26	13	128	34	169	148	158	57	42	27	21	12	13
27	13	72	32	152	123	136	52	40	32	20	11	21
28	12	47	30	177	113	123	49	36	29	18	13	15
29	11	36	b28	145	-	112	47	34	27	17	13	11
30	11	33	b35	123	-	99	227	34	28	18	13	11
31	12	-	114	110	-	93	-	33	-	17	13	-
Total	475	898	1,558	4,411	4,595	3,988	2,275	2,615	1,247	864	476	486.6
Mean	15.3	29.9	50.3	142	164	129	75.8	84.4	41.6	27.9	15.4	16.2
Cfsm	0.364	0.712	1.20	3.38	3.90	3.07	1.80	2.01	0.990	0.664	0.367	0.386
In.	0.42	0.80	1.38	3.91	4.07	3.53	2.01	2.32	1.10	0.77	0.42	0.43

Calendar year 1952: Max 803 Min 9.0 Mean 57.2 Cfsm 1.36 In. 18.54
Water year 1952-53: Max 1,030 Min 7.6 Mean 65.4 Cfsm 1.56 In. 21.16

Peak discharge (base, 1,100 cfs).--Jan. 10 (1:30 a.m.) 2,050 cfs (5.86 ft); Feb. 21 (9 a.m.) 2,060 cfs (5.87 ft).

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

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 1953.

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.--11 years, 105 cfs.

Extremes.--Maximum discharge during year, 2,680 cfs June 10 (gage height, 4.91 ft); minimum, 8.5 cfs Sept. 2 (gage height, 0.95 ft).
1942-53: Maximum discharge, 4,840 cfs Jan. 20, 1947 (gage height, 5.62 ft); minimum, that of Sept. 2, 1953.

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

Revisions (water years).--WSP 1003: 1942-43. WSP 1206: Drainage area.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 20		Feb. 21 to July 22				July 23 to Sept. 30			
1.0	9.0	1.1	14	2.5	292	0.9	6.5	1.7	98
1.1	15	1.2	21	3.0	477	1.0	11	2.0	160
1.3	33	1.4	42	3.5	700	1.1	17	2.3	235
1.5	59	1.6	73	4.0	1,020	1.3	35	2.6	325
1.7	94	1.8	110	4.3	1,360	1.5	63		
2.0	157	2.0	152						
2.5	295								
2.7	358								

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	11	26	143	129	112	*100	a140	34	25	38	9.8
2	*12	11	*28	111	105	145	90	a230	*31	24	51	9.3
3	12	12	30	94	109	*309	85	a150	28	63	31	9.8
4	12	14	27	73	81	495	78	a110	27	75	34	11
5	12	13	40	62	*69	410	71	*104	25	39	*31	30
6	11	*11	46	55	66	270	71	133	25	34	28	35
7	12	11	37	*61	85	199	90	358	42	*74	24	22
8	13	10	32	78	74	164	78	263	28	48	25	17
9	16	11	30	104	66	132	71	224	25	40	40	*15
10	17	13	57	322	61	116	92	175	397	32	27	15
11	14	17	157	241	59	106	102	141	118	28	22	14
12	14	25	102	160	156	100	94	118	73	26	20	13
13	13	14	74	123	213	92	157	100	88	23	20	13
14	12	12	56	109	164	82	157	87	134	22	19	11
15	11	12	45	96	195	173	139	82	78	20	17	11
16	11	11	43	85	167	161	134	73	63	20	16	11
17	11	11	38	76	200	141	112	66	56	20	16	10
18	11	11	35	78	164	161	102	61	48	42	17	9.8
19	9.6	13	34	68	138	219	110	114	41	45	16	11
20	9.6	65	35	62	191	205	94	139	36	26	17	26
21	9.6	44	41	268	1,260	168	87	102	52	21	16	23
22	10	44	38	283	652	148	80	82	54	100	18	16
23	11	41	35	203	331	139	76	73	35	303	18	*14
24	11	48	34	190	233	173	71	68	31	111	15	13
25	11	61	33	160	183	175	66	56	27	66	14	13
26	11	90	32	133	161	159	68	50	26	51	13	16
27	11	66	30	131	134	139	a60	46	32	40	12	18
28	11	43	28	301	128	126	a55	41	28	34	11	16
29	11	35	24	332	-	112	a50	38	38	32	11	13
30	11	31	28	219	-	98	a130	36	30	30	10	12
31	11	-	125	162	-	88	-	35	-	31	10	-
Total	362.8	811	1,420	4,583	5,574	5,317	2,770	3,495	1,750	1,545	657	457.7
Mean	11.7	27.0	45.8	148	199	172	92.3	113	58.3	49.8	21.2	15.3
Cfsm	0.115	0.265	0.449	1.45	1.95	1.69	0.905	1.11	0.572	0.488	0.208	0.150
In.	0.13	0.30	0.52	1.67	2.03	1.94	1.01	1.27	0.64	0.56	0.24	0.17

Calendar year 1952: Max 601 Min 9.6 Mean 76.2 Cfsm 0.747 In. 10.16
Water year 1952-53: Max 1,260 Min 9.3 Mean 78.7 Cfsm 0.772 In. 10.48

Peak discharge (base, 2,300 cfs).--Feb. 21 (3 a.m.) 2,320 cfs (4.77 ft); June 10 (3 a.m.) 2,680 cfs (4.91 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 nearby station.

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 1953 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.--10 years, 722 cfs (unadjusted).

Extremes.--Maximum discharge during year, 3,020 cfs July 13 (gage height, 35.48 ft); minimum daily, 31 cfs July 19.
1903-8, 1948-53: Maximum discharge observed, 21,500 cfs (revised) 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.
Revisions.--The maximum discharge for water year 1906 has been revised to 21,500 cfs Jan. 22, 1906 (gage height, 13.6 ft, site and datum then in use), superseding figure published in WSP 1113.

Remarks.--Records good. Flow completely regulated by Watauga Reservoir (see p. 228).

Revisions.--See Records available.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

31.3	27	33.0	475
31.4	37	33.5	820
31.7	79	34.0	1,280
32.0	136	35.0	2,400
32.5	270		

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	*1,720	643	1,060	280	53	55	*45	44	*958	741	676	895
2	1,790	316	874	366	192	52	45	44	992	791	166	793
3	1,810	804	*772	451	*298	*53	45	44	991	*830	595	*877
4	1,940	720	1,000	629	53	52	45	160	928	63	*639	846
5	380	*689	936	426	53	50	45	*315	1,030	62	694	924
6	1,570	548	465	*412	52	52	45	245	1,050	354	676	99
7	2,110	346	658	232	52	48	45	237	63	408	764	32
8	2,010	1,080	454	159	50	47	47	56	1,160	760	757	763
9	1,970	905	376	432	49	48	47	237	1,020	671	35	883
10	1,290	732	347	52	48	61	45	141	665	740	602	887
11	1,210	661	500	52	48	52	45	938	437	186	692	1,030
12	648	871	75	797	312	49	45	984	475	157	740	1,070
13	473	668	50	337	484	49	47	984	801	656	668	249
14	398	655	50	380	62	50	47	1,000	60	637	820	990
15	978	1,350	245	264	62	50	45	399	1,040	712	714	1,060
16	1,880	523	1,220	284	422	49	47	435	1,010	744	35	1,040
17	883	438	1,300	52	1,110	49	48	177	921	739	773	1,020
18	1,620	348	1,090	50	316	49	47	456	559	35	871	1,010
19	691	465	384	233	228	48	47	521	63	31	882	973
20	1,930	866	495	252	57	48	48	909	129	807	928	237
21	1,820	1,030	491	289	120	48	48	1,390	60	869	928	865
22	1,850	913	1,170	478	99	47	47	1,060	963	869	973	1,100
23	849	999	74	243	62	47	47	796	940	570	182	1,110
24	1,330	1,000	56	49	65	47	47	68	1,040	590	790	1,110
25	635	792	55	49	57	47	45	1,010	1,790	37	1,750	1,120
26	409	684	53	429	57	47	45	992	1,030	34	1,890	1,050
27	619	814	53	299	56	47	45	838	157	672	1,780	194
28	1,420	1,060	56	297	56	47	45	1,010	71	575	2,080	886
29	2,040	741	2,000	294	-	47	44	1,010	1,110	610	1,180	1,100
30	1,820	710	600	251	-	47	44	68	702	748	186	1,090
31	623	-	899	53	-	47	-	65	-	653	1,910	-
Total	40,717	22,371	17,858	8,871	4,553	1,529	1,377	16,633	22,215	16,351	26,376	25,303
Mean	1,313	746	576	286	163	49.3	45.9	537	740	527	851	843

	Observed						Adjusted†					
Calendar year 1952:	Max	2,440	Min	41	Mean	744	Mean	505	Cfsm	1.07	In.	14.59
Water year 1952-53:	Max	2,110	Min	31	Mean	559	Mean	537	Cfsm	1.14	In.	15.49

* Discharge measurement made on this day.
† Adjusted for change in contents in Watauga Reservoir.

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), June 1932 to September 1953.

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. June to September 1932 staff gage at same site at datum 0.50 ft higher. September 1932 to January 1934 staff gage at same site and datum.

Average discharge.--20 years (1933-53), 207 cfs.

Extremes.--Maximum discharge during year, 4,150 cfs Feb. 21 (gage height, 5.12 ft); minimum, 33 cfs Oct. 4 (gage height, 0.44 ft).

1932-53: Maximum discharge, 7,300 cfs July 30, 1940 (gage height, 6.75 ft), from rating curve extended above 4,000 cfs; minimum, 27 cfs Jan. 11, 1942 (gage height, 0.32 ft), result of low temperature, but may have been less during period of ice effect.

Remarks.--Records good.

Revisions.--WSP 823: Drainage area.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 6				May 7 to Sept. 30	
0.4	28	2.0	500	0.4	34
.5	40	2.5	795	.5	43
.7	68	3.0	1,140	.7	73
1.0	129	3.5	1,680	1.0	133
1.5	275	4.0	2,340	1.5	275

Note.--Same as preceding table above 1.5 ft.

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	*34	39	70	234	256	259	198	278	*99	71	53	39
2	34	39	75	181	222	*303	184	479	91	77	89	38
3	34	41	*83	155	*201	314	175	478	87	*120	75	*38
4	34	45	71	127	190	525	167	*326	86	138	*63	44
5	35	*44	91	118	170	544	155	296	80	97	77	82
6	34	41	120	*106	161	405	155	359	82	95	63	80
7	34	40	87	118	228	330	198	712	151	133	58	66
8	38	40	78	134	210	289	178	511	107	147	61	52
9	43	40	73	178	190	253	158	377	89	101	91	46
10	49	43	215	602	178	231	181	303	212	84	63	43
11	45	58	516	395	178	225	175	259	273	73	53	42
12	44	65	240	282	582	225	161	231	131	68	50	41
13	41	52	172	231	616	216	345	207	126	63	46	39
14	40	45	134	210	410	204	359	196	109	61	44	38
15	40	44	108	190	450	377	300	184	97	59	42	38
16	40	44	100	172	364	314	282	173	89	61	41	37
17	40	43	89	161	400	272	246	162	93	61	40	36
18	40	41	89	184	326	272	228	152	87	63	40	35
19	39	46	87	172	289	292	286	256	82	68	46	36
20	38	235	89	150	478	259	256	249	77	59	53	77
21	38	137	118	599	2,320	237	240	184	75	55	44	70
22	39	120	113	599	1,160	225	222	162	204	78	54	51
23	40	111	100	377	640	253	207	150	103	482	118	46
24	40	118	96	522	467	326	196	145	84	145	64	44
25	40	137	89	425	395	292	181	135	77	95	52	44
26	40	278	87	322	350	269	175	126	70	77	48	48
27	40	196	83	150	306	246	167	122	70	66	46	51
28	40	120	80	489	289	234	158	111	71	61	44	50
29	39	89	65	511	-	222	145	105	75	56	42	44
30	39	82	78	350	-	204	260	103	93	59	40	43
31	38	-	234	282	-	*196	-	101	-	53	40	-
Total	1,209	2,473	3,730	8,726	12,026	8,813	6,338	7,632	3,170	2,926	1,740	1,438
Mean	39.0	82.4	120	281	430	284	211	246	106	94.4	56.1	47.9
Cfsm	0.285	0.601	0.876	2.05	3.14	2.07	1.54	1.80	0.774	0.689	0.409	0.350
In.	0.33	0.67	1.01	2.37	3.26	2.39	1.72	2.07	0.86	0.79	0.47	0.39

Calendar year 1952: Max 900 Min 34 Mean 154 Cfsm 1.12 In. 15.30
Water year 1952-53: Max 2,320 Min 34 Mean 165 Cfsm 1.20 In. 16.33

Peak discharge (base, 1,700 cfs).--Feb. 21 (12:30 p.m.) 4,150 cfs (5.12 ft).
* Discharge measurement made on this day.

South Fork Holston River at Kingsport, Tenn.

Location.--Lat 36°30'37", long. 82°32'10", on left bank 0.5 mile downstream from Clinchfield Railroad bridge, 1.1 mile upstream from bridge on State Highway 81, 3 miles southeast of Kingsport Post Office, Sullivan County, and 5¾ miles upstream from confluence with North Fork Holston River.

Drainage area.--1,931 sq mi.

Records available.--September 1925 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 1,184.31 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Sept. 27, 1938, at site 100 ft downstream at present datum.

Average discharge.--28 years, 2,520 cfs (unadjusted).

Extremes.--Maximum discharge during year, 7,040 cfs Sept. 4 (gage height, 4.63 ft); minimum daily, 422 cfs Dec. 21, 22.
1925-53: Maximum discharge, 68,800 cfs Aug. 14, 1940 (gage height, 18.80 ft); minimum daily, 396 cfs July 5, 1952.

Remarks.--Records good. Flow regulated by South Holston, Watauga, and Boone Reservoirs (see pp. 228,233). Boone Dam was closed Dec. 16, 1952. Diversion half a mile upstream for municipal supply of Kingsport.

Revisions (water years).--WSP 823: Drainage area. WSP 1033: 1930(M).

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 16 to Apr. 30)

Oct. 1 to Aug. 5				Aug. 5 to Sept. 30			
0.2	390	2.0	2,520	0.5	710	2.0	2,800
.4	550	2.5	3,270	.7	900	2.5	3,320
.7	830	3.0	4,070	1.0	1,250	3.0	4,070
1.0	1,140	3.5	4,980	1.5	1,900	3.5	4,890
1.5	1,800						

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	3,540	1,370	1,530	446	2,700	2,380	861	3,090	1,540	3,080	3,020	4,090
2	*3,200	1,380	*2,330	438	*1,910	*1,630	957	1,650	1,420	*3,090	3,040	*4,500
3	3,770	*661	2,190	430	1,630	1,980	950	1,230	1,470	3,100	*3,090	4,390
4	3,700	*1,590	2,060	430	*1,380	*3,480	920	*2,430	1,480	1,670	3,020	4,620
5	2,840	1,590	1,840	430	721	2,000	987	3,210	1,440	1,260	4,480	3,380
6	1,330	1,960	1,480	430	740	3,200	910	3,320	1,440	2,620	3,200	3,170
7	3,150	1,640	990	430	760	2,160	970	3,680	1,410	3,000	3,100	3,200
8	4,040	1,860	1,100	*438	750	2,150	910	3,220	1,420	3,800	3,110	3,200
9	3,640	1,710	860	660	750	1,810	890	1,320	2,040	3,380	3,080	3,200
10	3,320	2,050	980	1,660	750	895	940	1,270	3,160	3,060	3,100	3,180
11	2,650	1,060	3,160	1,590	1,140	1,760	920	1,230	3,090	1,700	3,080	3,010
12	2,140	1,020	1,990	1,320	2,200	813	920	1,220	3,870	1,140	3,120	3,220
13	1,100	1,300	1,070	1,220	2,550	676	950	1,200	4,930	2,670	3,100	2,790
14	780	1,300	870	2,060	3,180	649	940	1,220	3,970	3,060	3,110	3,200
15	800	1,310	740	*1,800	3,340	1,400	940	2,210	*3,440	3,060	3,100	3,830
16	2,940	1,890	702	1,950	2,580	2,230	940	1,740	4,560	3,080	3,100	3,600
17	3,180	820	761	2,160	2,110	2,730	930	1,450	*4,760	3,060	3,140	3,960
18	1,370	780	586	2,160	1,840	2,000	920	*2,070	4,710	1,540	3,110	3,860
19	2,860	676	502	1,470	2,880	1,580	1,710	3,220	4,770	1,150	3,140	3,220
20	1,760	1,590	470	970	2,520	1,750	1,780	3,530	2,870	2,730	3,110	3,220
21	3,950	2,200	422	1,050	3,690	1,590	1,060	3,450	2,760	3,080	3,180	3,590
22	3,680	1,960	422	1,110	3,470	1,380	900	3,400	4,430	3,080	3,120	4,860
23	3,250	2,160	430	1,420	2,980	1,630	880	2,070	3,710	2,720	1,610	3,860
24	1,660	1,790	438	2,940	3,380	1,420	860	1,620	4,370	3,030	2,640	3,640
25	2,580	1,810	438	2,910	3,340	1,510	1,880	1,530	3,740	1,530	*1,610	*2,900
26	1,270	1,800	438	1,930	2,530	1,260	2,820	1,520	3,090	1,150	4,450	3,410
27	1,920	1,690	438	1,220	2,260	1,040	*2,820	1,490	2,710	2,660	4,120	3,140
28	920	1,520	438	1,720	2,370	980	1,590	1,550	1,880	3,030	4,620	715
29	3,500	1,450	438	1,670	-	970	1,100	1,370	3,310	3,040	4,860	890
30	3,780	1,150	494	1,810	-	758	2,100	1,360	3,120	1,520	3,650	1,340
31	2,900	-	478	2,760	-	*601	-	1,330	-	3,070	4,450	-
Total	81,500	45,067	31,075	43,032	60,411	50,372	36,255	64,200	90,910	79,160	101,640	99,185
Mean	2,629	1,502	1,002	1,388	2,158	1,625	1,208	2,071	3,030	2,554	3,279	3,306

	Observed			Adjusted†		
Calendar year 1952:	Max 6,440	Min 396	Mean 2,111	Mean 1,862	Cfsm 0.964	In. 13.13
Water year 1952-53:	Max 4,930	Min 422	Mean 2,145	Mean 2,175	Cfsm 1.13	In. 15.29

* Discharge measurement made on this day.
† Adjusted for change in contents in South Holston, Watauga, and Boone 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 1953.

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.--32 years (1921-53), 287 cfs.

Extremes.--Maximum discharge during year, 5,680 cfs May 19 (gage height, 6.68 ft); minimum, 21 cfs Oct. 21; minimum gage height, 0.61 ft Sept. 18, 19.
1907-8, 1920-53: 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 discharge, 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 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21				Feb. 22 to Sept. 30			
0.6	16	2.0	396	0.6	24	2.5	775
.8	40	3.0	1,180	.8	54	3.0	1,180
1.0	67	5.0	3,340	1.0	101	5.0	3,340
1.3	126	6.0	4,640	1.4	222	7.0	6,160
1.6	218			2.0	490		

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	24	24	56	211	284	277	264	334	148	112	47	28
2	*24	24	57	187	229	343	243	713	134	94	47	26
3	23	26	56	165	191	686	215	1,050	120	131	45	26
4	23	30	53	142	171	2,500	198	566	114	222	70	28
5	23	30	57	116	147	2,280	187	424	109	137	79	52
6	24	32	73	107	136	1,040	178	801	114	286	56	70
7	23	29	89	109	201	680	251	2,450	312	1,840	54	61
8	24	27	77	191	284	530	326	1,320	178	817	94	41
9	32	27	70	396	248	424	308	782	128	471	101	34
10	36	30	184	424	208	352	290	540	120	317	84	31
11	33	35	1,070	402	194	308	260	424	175	222	63	30
12	34	40	435	320	560	290	230	348	137	175	50	29
13	30	41	245	248	1,130	264	308	286	175	148	47	28
14	29	39	168	222	646	243	428	251	317	131	43	26
15	27	34	129	211	602	378	387	277	198	114	41	26
16	26	32	95	201	545	603	401	235	148	106	40	26
17	26	30	85	184	631	515	396	208	148	96	38	26
18	24	29	80	201	490	704	365	251	251	94	36	26
19	23	38	78	237	380	1,120	396	3,020	166	94	36	26
20	22	112	75	222	452	736	365	3,600	137	89	36	30
21	21	152	75	392	3,960	535	339	1,360	114	82	34	30
22	22	288	75	719	2,390	437	286	762	292	79	34	30
23	23	149	73	484	1,080	396	256	540	166	101	34	29
24	24	139	72	523	698	1,010	235	424	123	91	32	28
25	24	126	69	490	*545	1,050	212	343	101	72	31	28
26	24	119	64	349	447	686	215	286	91	63	31	28
27	26	116	61	284	370	525	201	*239	89	59	30	28
28	26	*92	59	*528	330	433	*184	201	128	56	29	*28
29	26	75	45	871	-	365	172	178	131	*54	29	26
30	26	66	*45	538	-	312	184	166	134	52	28	26
31	26	-	87	370	-	273	-	157	-	49	*28	-
Total	798	2,031	3,957	10,044	17,549	20,295	8,280	22,536	4,698	6,454	1,447	951
Mean	25.7	67.7	128	324	627	655	276	727	157	208	46.7	31.7
Cfsm	0.116	0.305	0.577	1.46	2.82	2.95	1.24	3.27	0.707	0.937	0.210	0.143
In.	0.13	0.34	0.67	1.68	2.94	3.40	1.38	3.77	0.79	1.08	0.24	0.16

Calendar year 1952: Max 2,440 Min 19 Mean 215 Cfsm 0.968 In. 13.19
Water year 1952-53: Max 3,960 Min 21 Mean 271 Cfsm 1.22 In. 16.58

Peak discharge (base, 3,000 cfs).--Feb. 21 (4:30 p.m.) 5,520 cfs (6.60 ft); Mar. 4 (10 p.m.) 3,860 cfs (5.42 ft); May 19 (8 p.m.) 5,680 cfs (6.68 ft).
* Discharge measurement made on this day.

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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 1953.

Gage.--Water-stage recorder. Datum of gage is 1,437.11 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge during year, 8,090 cfs May 19 (gage height, 10.61 ft); minimum, 47 cfs Oct. 22 (gage height, 1.98 ft).
1951-53: Maximum discharge, that of May 19, 1953; minimum, that of Oct. 22, 1952.

Remarks.--Records good. Records of chemical analyses and water temperatures for the water year 1953 are given in WSP 1290.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 19 to Dec. 9, May 26 to June 18)

Oct. 1 to Dec. 11				Dec. 12 to May 23				May 24 to Sept. 30	
1.9	43	3.0	310	2.2	136	5.0	1,710	2.0	50
2.2	64	4.0	995	2.5	244	7.0	3,620	2.3	108
2.5	112	5.0	1,710	3.0	438	10.0	7,310	2.6	202
2.7	172			4.0	995	10.8	8,350	3.0	352
								4.0	995
								5.0	1,710

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	*49	48	105	378	610	463	480	530	282	256	88	58
2	49	49	103	406	498	585	451	608	252	202	86	57
3	49	52	105	370	434	1,280	*414	1,380	230	212	86	57
4	49	54	103	339	398	4,060	390	860	216	289	83	59
5	49	52	126	293	*354	3,620	366	636	202	248	105	76
6	49	*51	172	263	331	1,710	358	1,090	202	226	108	100
7	49	51	169	282	459	1,170	451	*3,290	392	1,520	88	102
8	49	52	*159	476	570	892	534	2,120	328	1,310	141	88
9	54	54	142	828	525	699	516	1,420	226	820	151	68
10	56	58	520	995	455	575	498	995	290	476	144	62
11	58	62	1,910	860	422	512	455	765	336	332	111	60
12	54	67	960	658	1,070	480	422	636	*263	263	91	59
13	54	64	534	525	1,830	451	631	543	282	*220	*88	56
14	53	62	390	463	1,240	414	860	489	778	189	74	55
15	52	64	312	434	1,240	653	717	670	386	170	72	55
16	52	62	259	410	1,200	1,030	735	556	278	157	70	54
17	50	60	233	390	1,170	892	664	494	267	144	70	53
18	49	59	218	442	995	1,200	670	525	297	138	70	53
19	50	67	203	516	765	1,830	828	*5,270	263	138	68	54
20	49	184	200	480	925	1,310	699	6,010	220	135	66	74
21	48	226	200	735	5,690	925	605	2,480	231	126	62	62
22	47	369	200	1,200	4,080	729	530	1,450	764	177	66	58
23	51	253	200	925	1,790	693	480	995	392	446	64	55
24	48	212	188	1,060	1,200	1,240	442	750	256	189	66	*55
25	48	217	185	1,170	925	1,630	410	603	202	141	64	57
26	49	300	174	828	735	1,140	410	493	176	123	62	57
27	49	284	167	675	605	860	390	432	164	108	62	56
28	49	180	160	1,310	525	693	358	379	186	100	64	55
29	49	136	146	1,710	-	590	339	336	348	94	59	55
30	49	120	139	1,140	-	512	390	312	361	88	59	53
31	49	-	207	795	-	459	-	293	-	91	60	-
Total	1,559	3,569	8,889	21,356	31,041	33,297	15,493	37,410	9,072	9,128	2,548	1,863
Mean	50.3	119	287	689	1,109	1,074	516	1,207	302	294	82.2	62.1
Cfsm	0.125	0.296	0.714	1.71	2.76	2.67	1.28	3.00	0.751	0.731	0.204	0.154
In.	0.14	0.33	0.82	1.97	2.87	3.08	1.43	3.46	0.84	0.84	0.24	0.17

Calendar year 1952: Max 4,000 Min 47 Mean 391 Cfsm 0.973 In. 13.23
Water year 1952-53: Max 6,010 Min 47 Mean 480 Cfsm 1.19 In. 16.19

Peak discharge (base, 4,000 cfs).--Feb. 21 (5 p.m.) 7,440 cfs (10.12 ft); Mar. 4 (12 p.m.) 5,160 cfs (8.32 ft); May 19 (12 p.m.) 8,090 cfs (10.61 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 1953.

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, 2,550 cfs May 19 (gage height, 7.67 ft); minimum, 7.2 cfs Nov. 18; minimum gage height, 1.12 ft Oct. 23.

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

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.1	7.7	2.5	213
1.2	15	3.0	375
1.5	44	4.0	790
2.0	113	6.0	1,700

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	13	15	50	118	127	130	120	122	75	85	22	13
2	13	19	48	101	108	200	120	101	70	61	20	*11
3	13	13	60	97	97	300	100	88	65	67	21	11
4	13	13	56	88	88	1,000	95	80	60	67	18	12
5	13	*13	83	73	78	900	86	70	58	70	20	26
6	16	15	127	67	78	400	90	113	56	80	20	35
7	*16	13	98	64	156	300	110	590	65	240	20	33
8	18	13	76	102	162	220	*134	308	60	146	18	23
9	20	13	*82	162	120	170	110	237	55	102	18	18
10	25	23	213	277	102	140	100	168	60	71	20	16
11	24	21	835	246	94	125	91	137	80	56	15	15
12	23	32	316	156	277	115	87	110	65	47	15	14
13	18	28	166	118	422	110	134	100	60	41	15	13
14	18	21	116	97	232	100	175	90	70	38	15	14
15	16	17	92	84	300	150	130	120	65	36	17	11
16	16	14	76	76	350	250	115	100	54	34	15	12
17	16	17	66	70	400	220	106	90	*42	33	17	12
18	16	10	57	132	300	300	113	100	62	32	20	13
19	20	19	52	*164	220	450	162	*1,200	45	31	17	12
20	17	87	49	127	230	300	135	1,460	39	*30	15	18
21	15	95	49	146	1,500	220	120	570	37	30	15	20
22	14	102	48	195	*900	180	106	322	54	30	13	20
23	13	116	45	154	482	170	95	226	66	39	12	18
24	19	122	41	154	294	300	87	179	44	36	16	15
25	16	210	40	175	221	400	81	144	38	33	13	15
26	16	305	37	148	190	280	77	130	35	27	14	15
27	19	175	36	134	160	*170	73	120	33	25	14	16
28	16	107	35	251	140	150	70	110	36	22	13	17
29	13	77	32	386	-	130	66	95	66	22	13	13
30	14	62	31	213	-	113	107	90	141	21	12	14
31	14	-	66	156	-	100	-	80	-	21	13	-
Total	513	1,787	3,158	4,531	7,828	8,093	3,195	7,450	1,756	1,673	506	495
Mean	16.5	59.6	102	146	280	261	106	240	58.5	54.0	16.3	16.5
Cfsm	0.207	0.749	1.28	1.83	3.52	3.28	1.33	3.02	0.735	0.678	0.205	0.207
In.	0.24	0.84	1.48	2.11	3.66	3.78	1.48	3.48	0.82	0.78	0.24	0.23

Calendar year 1952: Max - Min - Mean - Cfsm - In. -
Water year 1952-53: Max 1,500 Min 10 Mean 112 Cfsm 1.41 In. 19.14

Peak discharge (base, 1,200 cfs).--Feb. 21 (time unknown) 2,000 cfs (6.60 ft); Mar. 4 (time unknown) 1,460 cfs (5.47 ft); May 19 (12 p.m.) 2,550 cfs (7.67 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Feb. 15-22, Feb. 26 to Mar. 26, Mar. 31 to Apr. 7, May 12-19, May 26 to June 16; discharge estimated on basis of 1 discharge measurement, weather records, and records for North Fork Holston River at Holston, North Fork Holston River near Gate City, and Copper Creek near Gate City.

North Fork Holston River near Gate City, Va.

Location.--Lat 36°33'31", 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 1953.
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.--21 years (1932-53), 834 cfs.
Extremes.--Maximum discharge during year, 15,800 cfs May 20 (gage height, 11.64 ft); minimum, 56 cfs Oct. 25; minimum gage height 1.38 ft Oct. 5, 25.
1931-53: 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.
Revisions.--Figures of maximum discharge for the water years 1933 and 1934 have been revised to 12,600 cfs Dec. 29, 1932 (gage height, 10.24 ft) and 10,000 cfs Mar. 4, 1934 (gage height, 8.98 ft), superseding those published in WSP 743 and 758, respectively.
Remarks.--Records good. Prior to 1953 diurnal fluctuation at low flow caused by small dam above station.
Revisions (water years).--WSP 783: 1932(M). WSP 823: Drainage area. Revised figures of discharge, in cubic feet per second, for high-water periods in water years 1932-34, superseding those published in WSP 728, 743, and 758, are given herewith:

1932		1933	
Jan. 30	10,200	Feb. 16	7,380
31	8,150		
Feb. 4	12,000	1934	
5	7,570	Mar. 4	9,790
Dec. 28	7,570	5	7,570
29	10,400		

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
January 1932	45,983	10,200	368	1,483	2.21	2.55
February	76,350	12,000	794	2,633	3.92	4.23
December	45,325	10,400	162	1,462	2.18	2.51
Calendar year 1932	363,888	12,000	61	994	1.48	20.18
February 1933	69,926	7,380	946	2,497	3.72	3.87
Water year 1932-33	333,681	10,400	84	914	1.36	18.48
Calendar year 1933	279,030	7,380	76	764	1.14	15.54
March 1934	97,008	9,790	538	3,129	4.66	5.37
Water year 1933-34	226,219	9,790	76	620	.923	12.52
Calendar year 1934	263,783	9,790	100	723	1.08	14.61

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	84	61	256	466	1,120	839	804	892	410	540	134	71
2	82	65	229	640	898	1,040	876	924	376	385	131	*71
3	77	63	225	633	745	2,140	744	1,270	344	354	125	73
4	75	66	222	579	640	7,240	673	1,520	328	372	122	71
5	73	*72	314	546	546	8,740	618	1,010	304	425	125	119
6	75	75	509	405	509	3,930	582	1,020	296	420	116	164
7	*75	70	432	365	780	2,360	744	3,790	340	770	147	147
8	78	65	356	461	1,040	1,710	*892	4,400	524	2,570	134	141
9	85	66	*306	1,040	965	1,380	892	2,820	435	1,240	134	125
10	94	82	822	1,860	808	1,070	832	1,860	362	825	192	111
11	93	94	3,090	1,710	710	908	764	1,380	445	564	178	92
12	94	107	2,380	1,280	1,880	818	699	1,070	470	435	164	88
13	93	103	1,240	965	3,090	770	900	868	385	362	134	75
14	89	102	780	780	2,380	699	1,420	744	572	312	114	75
15	82	89	560	675	2,380	1,200	1,340	900	770	280	114	73
16	80	82	415	605	2,730	1,760	1,200	964	480	260	95	71
17	78	84	342	560	2,330	1,610	1,160	758	*380	240	97	69
18	77	80	297	724	1,960	1,760	1,060	692	376	220	103	69
19	75	87	264	*905	1,530	2,880	1,810	7,070	385	213	97	67
20	68	251	248	868	1,440	2,460	1,520	13,600	354	*206	90	88
21	66	415	244	950	8,140	1,760	1,200	*6,260	300	206	95	92
22	66	592	236	1,660	11,300	1,340	988	2,760	444	248	90	108
23	66	703	233	1,620	*4,240	1,340	846	1,920	758	332	92	92
24	68	675	218	1,400	2,460	2,360	758	1,470	475	435	97	84
25	63	724	210	1,810	1,810	2,760	692	1,080	340	276	92	79
26	70	920	200	1,480	1,470	2,240	660	860	280	213	86	82
27	65	752	186	1,160	1,200	1,610	624	725	252	182	82	82
28	66	546	177	1,480	972	1,290	582	612	260	164	79	82
29	63	385	167	3,030	-	1,080	529	534	380	150	77	79
30	61	306	161	2,160	-	900	648	480	680	141	77	77
31	61	-	233	1,480	-	777	-	440	-	134	75	-
Total	2,342	7,782	15,552	34,297	60,073	62,771	27,057	64,693	12,505	13,474	3,488	2,717
Mean	75.5	259	502	1,106	2,145	2,025	902	2,087	417	435	113	90.6
Cfsm	0.112	0.385	0.747	1.65	3.19	3.01	1.34	3.11	0.621	0.647	0.168	0.135
In.	0.13	0.43	0.86	1.90	3.32	3.47	1.50	3.58	0.69	0.75	0.19	0.15

Calendar year 1952: Max 6,900 Min 61 Mean 669 Cfsm 0.996 In. 13.55
Water year 1952-53: Max 13,600 Min 61 Mean 840 Cfsm 1.25 In. 16.97

Peak discharge (base, 6,000 cfs).--Feb. 22 (2:30 a.m.) 13,800 cfs (10.70 ft); Mar. 4 (12 p.m.) 10,200 cfs (9.00 ft); May 20 (2:30 a.m.) 15,800 cfs (11.64 ft).
* Discharge measurement made on this day.

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 (including that of Surgoinsville Creek).

Records available.--April 1941 to September 1953.

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.--12 years, 3,523 cfs (unadjusted).

Extremes.--Maximum discharge during year, 20,800 cfs May 20 (gage height, 8.70 ft); minimum, 700 cfs Dec. 30 (gage height, 1.47 ft).
1941-53: 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 excellent. Flow partly regulated by South Holston, Watauga, and Boone Reservoirs (see pp. 228,233).

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.5	730	5.0	8,550
2.0	1,400	7.0	14,700
3.0	3,350	9.0	22,000
4.0	5,840		

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	3,890	1,610	1,720	1,240	4,280	3,650	1,940	*4,380	1,920	3,770	3,310	4,680
2	*3,370	1,380	*2,380	*1,260	*3,720	3,720	*1,940	3,440	*1,880	*3,560	3,130	*4,410
3	3,310	*1,040	2,600	1,360	2,650	3,560	2,060	2,240	1,850	3,580	*3,130	4,510
4	4,060	1,330	2,380	1,300	2,520	11,700	1,880	3,070	1,880	3,000	3,110	4,780
5	3,650	1,530	2,300	1,220	1,690	*12,400	1,850	4,540	1,870	1,790	3,310	4,560
6	1,300	1,760	2,200	1,100	1,450	9,170	1,740	4,480	1,830	2,120	4,480	3,420
7	2,790	1,920	1,720	1,040	1,670	5,870	1,940	7,390	1,900	3,770	3,150	3,350
8	3,770	1,900	1,530	1,040	2,030	4,710	2,050	8,720	1,940	5,220	3,150	3,310
9	4,040	2,050	1,400	1,480	2,010	4,160	2,030	5,450	1,940	5,140	3,130	3,310
10	3,750	2,280	1,640	3,990	1,870	2,650	2,010	3,700	3,400	4,360	3,150	3,280
11	2,770	1,380	5,940	4,260	1,780	2,770	1,920	2,920	3,630	3,200	3,200	3,090
12	2,500	1,240	6,470	3,370	5,030	2,600	1,870	2,520	3,630	1,690	3,170	3,240
13	1,510	1,300	3,260	3,110	6,390	1,810	2,010	2,260	5,090	2,060	3,220	3,200
14	1,060	1,430	2,080	3,050	6,550	1,690	2,480	2,060	4,210	3,400	3,130	2,820
15	852	1,260	1,580	2,860	7,060	2,710	2,630	2,980	4,960	3,330	3,150	3,770
16	2,010	2,200	1,320	2,540	7,550	4,580	2,440	3,260	4,240	3,310	3,150	2,700
17	3,600	1,140	1,280	2,520	5,970	5,270	2,340	2,460	4,940	3,280	3,150	4,980
18	1,970	876	1,140	3,020	4,080	4,740	2,240	2,240	4,960	2,730	3,150	3,960
19	2,720	852	988	3,200	5,010	5,010	2,600	7,700	4,910	1,430	3,130	3,350
20	1,560	1,240	924	2,140	4,960	5,010	4,140	18,800	4,380	1,870	3,110	3,280
21	3,520	2,560	888	2,340	10,200	4,360	2,900	11,800	3,000	3,200	3,170	3,440
22	3,920	3,260	840	2,920	16,600	3,400	2,200	7,330	3,630	3,310	3,170	4,010
23	3,770	2,770	840	3,200	9,650	3,200	1,990	5,320	4,960	3,350	2,600	4,260
24	2,010	2,840	840	4,360	6,930	5,370	1,850	4,740	5,090	3,370	1,690	3,960
25	2,640	3,090	807	4,810	6,020	4,840	1,870	3,200	4,380	2,790	2,420	2,600
26	1,670	3,200	807	4,610	5,160	4,660	3,630	2,750	3,600	1,450	2,980	3,800
27	1,790	3,200	807	2,690	4,240	3,440	3,630	2,520	2,980	1,790	4,460	3,220
28	1,250	2,440	785	3,260	3,490	2,840	2,960	2,360	2,860	3,130	4,740	2,080
29	2,390	2,160	774	4,940	-	2,500	1,900	2,260	2,610	3,150	4,910	840
30	4,060	1,610	730	4,680	-	2,280	2,030	1,960	4,040	2,880	4,440	1,190
31	3,680	-	888	4,440	-	1,720	-	1,920	-	1,840	3,800	-
Total	85,182	56,848	53,858	87,350	140,560	136,390	69,070	140,750	102,510	92,870	102,970	103,400
Mean	2,748	1,895	1,737	2.818	5.020	4,400	2,302	4,540	3,417	2,996	3,322	3,447

	Observed			Adjusted†				
Calendar year 1952:	Max 14,400	Min 540	Mean 3,029	Mean 2,780	Cfsm 0.967	In. 13.17		
Water year 1952-53:	Max 18,800	Min 730	Mean 3,210	Mean 3,240	Cfsm 1.13	In. 15.30		

* Discharge measurement made on this day.
† Adjusted for change in contents in South Holston, Watauga, and Boone Reservoirs.

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 1953.

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.--16 years, 3,975 cfs (unadjusted).

Extremes.--Maximum discharge during year, 12,700 cfs Sept. 28 (gage height, 27.62 ft); minimum daily, 47 cfs Jan. 15, Feb. 7.
1937-53: Maximum discharge, 58,700 cfs Aug. 15, 1940 (gage height, 41.82 ft, present datum); minimum, 2.8 cfs Dec. 8, 1941, discharge measurement; minimum daily, 3.6 cfs Dec. 25, 1941; minimum gage height recorded, 19.75 ft, Dec. 25, 1941.

Remarks.--Records good. Flow regulated by Boone, South Holston, Watauga, and Cherokee Reservoirs (see pp. 228, 233, 234).

Revisions (water years).--WSP 923: 1939(m), 1940(m).

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 6-14)

Oct. 1 to Dec. 14				Dec. 15 to May 29				May 30 to Sept. 30	
20.2	50	22.0	1,310	20.3	42	22.5	1,680	21.1	505
20.3	70	22.5	1,900	20.4	67	23.0	2,250	21.5	850
20.5	135	23.0	2,610	20.6	140	24.0	3,670	22.0	1,370
20.7	235	24.0	4,350	21.0	350	25.0	5,500	22.5	1,980
21.0	430	26.0	8,700	21.5	730	26.0	7,550	23.0	2,710
21.5	830			22.0	1,170	27.0	9,790	24.0	4,410
								25.0	6,450
								26.0	8,700

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	4,820	5,780	*6,450	3,630	60	1,800	5,080	1,360	6,280	5,650	2,290	7,340
2	4,840	1,400	6,970	5,800	5,920	1,290	5,010	67	6,940	*6,060	2,380	7,140
3	5,770	5,630	6,280	5,830	*5,910	62	4,870	89	*7,300	6,030	6,220	5,570
4	2,800	5,890	6,260	5,120	6,020	165	2,240	442	7,380	2,330	6,760	6,350
5	5,170	5,560	6,370	4,810	6,090	4,640	71	84	7,240	2,000	*6,790	1,850
6	5,730	6,020	3,150	*5,530	2,720	5,220	*7,460	429	7,310	6,890	6,980	1,400
7	5,100	6,420	62	5,800	47	670	7,230	74	7,160	5,790	6,550	2,300
8	4,640	5,960	2,700	3,420	52	808	7,340	84	6,740	5,730	3,100	7,130
9	4,620	1,330	2,860	3,020	2,980	7,380	6,780	93	6,120	2,990	2,060	7,120
10	4,830	5,450	2,770	52	3,370	*7,470	7,240	100	6,760	2,980	7,120	7,350
11	1,550	4,940	2,660	199	1,940	7,410	2,500	*2,260	8,080	4,260	6,480	6,320
12	1,460	5,290	3,070	2,140	1,020	5,430	399	3,080	5,280	4,700	6,300	7,320
13	4,640	*5,370	1,940	1,880	62	5,390	7,110	2,860	4,250	6,440	6,740	5,990
14	*4,710	3,960	866	215	62	4,510	7,040	3,180	4,910	6,380	6,770	7,750
15	5,540	2,220	4,170	*47	84	287	7,450	54	5,090	6,140	3,420	*7,350
16	4,660	1,130	4,420	193	3,420	5,370	7,770	60	*5,330	4,720	2,850	7,280
17	4,000	2,890	4,670	4,150	2,570	3,690	7,460	64	3,390	4,200	7,070	7,640
18	2,840	2,290	5,230	2,050	808	3,620	4,060	238	2,580	5,020	7,260	7,380
19	4,920	3,280	7,240	1,850	302	3,590	4,290	522	2,430	2,870	7,280	1,470
20	6,400	4,910	7,400	1,880	64	*3,610	*6,660	70	3,890	5,190	7,300	1,180
21	6,940	5,270	6,060	1,560	97	3,590	7,420	70	3,870	*3,070	7,140	6,920
22	6,190	3,060	6,390	2,770	84	458	6,440	74	6,550	1,000	3,100	3,020
23	5,520	1,580	6,340	594	597	5,210	6,620	106	4,820	516	2,980	3,030
24	5,960	5,310	5,990	618	77	3,740	5,780	93	4,300	514	7,330	2,760
25	3,590	5,210	5,090	1,180	3,100	3,890	2,400	77	4,710	3,270	6,660	2,940
26	3,170	4,980	6,500	570	2,720	1,450	59	70	5,740	3,310	6,260	1,610
27	5,710	3,090	5,460	312	906	1,700	4,600	74	3,770	3,400	7,790	1,680
28	6,580	5,320	7,090	187	2,480	1,480	4,520	62	4,020	3,660	6,600	7,730
29	6,190	3,020	7,130	2,010	-	70	4,290	64	5,440	3,300	4,490	6,470
30	6,110	4,510	6,500	2,760	-	5,060	2,120	6,190	5,700	3,640	3,510	4,400
31	5,970	-	6,320	62	-	4,850	-	4,020	-	3,640	7,150	-
Total	150,970	127,070	154,408	70,239	53,562	103,910	152,309	26,110	163,380	125,690	174,730	153,790
Mean	4,870	4,236	4,981	2,266	1,913	3,352	5,077	842	5,446	4,055	5,636	5,126

	Observed			Adjusted†		
Calendar year 1952:	Max 8,650	Min 42	Mean 3,733	Mean 3,296	Cfsm 0.961	In. 13.08
Water year 1952-53:	Max 8,080	Min 47	Mean 3,990	Mean 3,817	Cfsm 1.11	In. 15.11

* Discharge measurement made on this day.
† Adjusted for change in contents in Cherokee, Boone, Watauga, and South Rolston Reservoirs.

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 1953. 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 12 miles upstream at datum 22.55 ft higher.

Average discharge.--23 years, 4,387 cfs (unadjusted).

Extremes.--Maximum discharge during year, 12,700 cfs Apr. 7 (gage height, 6.58 ft); minimum daily, 339 May 18.
1930-53: 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, and Cherokee Reservoirs (see pp. 228,233, 234).

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	4,750	7,070	5,570	5,620	686	2,870	5,830	2,490	4,280	5,410	3,470	7,850
2	4,410	3,810	6,980	4,630	1,280	2,360	5,930	2,770	7,040	5,700	2,600	7,360
3	5,360	*1,960	6,310	6,250	6,000	2,270	5,850	949	7,260	6,260	4,200	6,590
4	5,230	5,540	5,690	5,360	5,920	2,150	5,100	490	7,420	5,180	6,700	6,670
5	3,270	6,640	6,530	5,730	5,920	2,880	2,900	770	7,420	2,560	6,940	5,480
6	5,050	5,260	6,030	5,470	6,160	5,640	1,950	893	7,580	*3,390	7,170	1,620
7	5,340	6,340	2,850	5,810	2,190	4,590	8,830	1,260	7,360	7,080	6,830	1,780
8	4,580	6,070	619	6,160	686	1,410	8,500	842	*6,610	6,620	5,650	3,520
9	4,600	4,100	2,660	*3,230	531	3,100	8,530	584	6,760	5,440	3,100	7,380
10	4,760	2,170	4,040	3,990	3,920	*7,880	7,800	480	6,490	3,250	3,760	7,520
11	4,200	5,540	4,760	1,200	3,510	8,040	6,890	*440	7,780	3,590	7,410	6,900
12	1,710	5,590	3,570	937	3,490	7,170	3,110	2,170	6,580	5,380	6,510	7,210
13	2,340	5,090	3,780	2,260	2,520	5,930	2,510	3,350	5,270	4,920	*6,860	7,360
14	*4,530	4,830	2,180	2,170	1,150	6,040	*8,870	3,770	4,790	6,440	6,920	6,830
15	5,620	3,600	2,000	*606	1,570	4,210	8,160	3,010	4,810	6,270	5,970	*7,150
16	5,540	2,250	*4,860	500	*2,200	2,620	8,790	595	5,360	5,720	3,350	7,980
17	4,400	1,250	4,980	745	3,860	5,230	8,850	376	5,030	4,400	4,260	7,530
18	4,140	2,960	4,950	4,210	3,030	4,480	7,610	339	2,830	5,080	7,690	7,710
19	3,330	2,450	7,330	2,160	1,500	4,450	4,780	2,320	2,760	4,240	7,530	5,810
20	5,390	4,000	8,100	2,030	994	*4,380	5,550	2,060	3,320	3,560	7,600	1,750
21	7,230	5,200	6,500	2,690	4,330	4,350	7,630	1,030	3,680	6,750	7,340	2,820
22	6,250	5,000	7,520	2,340	2,520	3,660	8,900	758	4,870	3,340	6,390	5,990
23	5,780	3,190	6,790	3,050	1,450	*1,590	7,460	662	6,080	1,400	2,890	3,520
24	6,190	2,660	6,460	1,240	1,520	6,550	6,860	2,500	4,960	782	5,250	2,930
25	4,610	5,820	5,590	1,490	1,620	4,180	5,340	1,160	4,300	746	6,930	3,180
26	3,920	5,940	6,820	1,150	3,780	4,340	2,870	830	4,970	3,680	6,920	2,780
27	3,170	4,960	5,480	942	2,620	2,210	1,140	662	5,820	3,900	7,080	1,840
28	6,520	3,910	7,550	1,120	1,490	2,300	5,330	584	3,860	3,430	7,960	3,620
29	5,840	4,870	7,460	1,010	-	2,100	4,880	530	5,110	3,940	5,650	7,210
30	6,400	2,600	6,790	2,700	-	1,030	4,590	1,870	5,550	3,670	4,490	5,860
31	5,730	-	6,980	2,290	-	5,760	-	5,650	-	3,640	4,580	-
Total	150,190	130,470	167,729	89,090	76,447	125,770	181,340	46,194	165,950	135,768	180,000	161,750
Mean	4,845	4,349	5,411	2,874	2,730	4,057	6,045	1,490	5,532	4,380	5,806	5,392

	Observed			Adjusted†			
Calendar year 1952:	Max 9,480	Min 525	Mean 3,936	Mean 3,498	Cfsm 0.934	In. 12.71
Water year 1952-53:	Max 8,900	Min 339	Mean 4,413	Mean 4,240	Cfsm 1.13	In. 15.36

* Discharge measurement made on this day.
† Adjusted for change in contents in South Holston, Watauga, Boone, and Cherokee Reservoirs.

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 (revised), includes 3.8 sq mi without surface drainage.

Records available.--April 1945 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 940.87 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years, 23.9 cfs.

Extremes.--Maximum discharge during year, 366 cfs Feb. 21 (gage height, 6.12 ft); minimum, 2.7 cfs Nov. 15; minimum gage height, 1.75 ft Sept. 13, 14, 17, 18.
1945-53: 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. Discharge measurements generally made twice a month.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Jan. 8, Feb. 13-20)

Oct. 1 to Nov. 25		Nov. 26 to Sept. 30			
1.7	3.0	1.7	2.5	2.7	29
1.9	6.2	1.9	5.8	3.0	39
2.1	11	2.1	10	4.0	72
2.3	16	2.3	16	5.0	115
2.5	22	2.5	22	6.0	330
2.7	29				

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	3.6	3.0	8.6	18	25	35	23	21	14	7.7	5.4	4.0
2	3.3	3.0	11	15	22	41	20	26	13	8.4	5.4	3.8
3	3.3	3.3	9.3	16	21	82	19	17	13	7.7	5.6	4.0
4	3.3	3.4	8.1	14	20	136	18	15	12	7.5	5.4	4.0
5	3.3	3.4	54	13	19	65	18	14	12	7.3	5.1	6.6
6	3.3	3.4	21	12	36	50	19	23	15	7.1	4.4	4.9
7	3.1	3.4	15	12	44	44	22	25	22	18	4.5	4.5
8	3.6	3.3	12	50	28	38	17	22	13	37	4.7	4.2
9	3.8	3.6	11	44	24	33	16	18	12	15	4.4	3.8
10	3.7	5.5	154	71	22	31	17	16	69	9.8	4.2	3.7
11	3.3	4.9	111	41	40	29	15	15	25	8.9	5.1	3.8
12	3.3	3.6	38	31	174	28	20	14	15	8.6	4.7	3.6
13	3.3	3.3	29	26	68	28	18	13	13	9.1	4.7	3.4
14	3.3	3.1	23	24	54	32	16	14	14	8.4	4.5	3.4
15	3.3	3.0	20	22	114	54	16	15	12	8.9	3.8	3.6
16	3.1	3.0	17	20	80	35	15	13	16	14	3.8	3.7
17	3.3	3.0	15	20	56	31	14	12	15	8.1	4.7	3.4
18	3.3	3.1	14	39	47	44	15	12	11	16	4.7	3.4
19	3.3	7.6	13	24	42	34	14	96	10	11	4.5	4.2
20	3.1	4.9	13	23	66	30	13	53	10	8.4	4.0	4.0
21	3.1	6.5	13	51	241	29	13	29	11	8.6	4.7	3.8
22	3.0	26	12	32	83	27	12	25	13	11	5.6	3.4
23	3.1	20	11	33	63	30	12	28	9.8	8.4	5.2	3.4
24	3.0	17	11	54	54	37	12	48	10	7.5	4.9	3.2
25	3.0	20	9.8	36	50	28	12	27	9.6	7.3	4.5	8.8
26	3.1	81	9.3	31	47	25	12	23	8.9	6.6	4.5	4.2
27	3.3	28	9.3	28	41	24	11	20	8.4	6.4	4.2	4.2
28	3.3	15	8.9	48	38	23	11	17	8.1	6.2	4.4	3.8
29	3.1	12	8.6	33	-	22	11	16	8.1	5.6	4.4	3.7
30	3.1	9.8	9.1	29	-	21	44	16	8.1	5.6	4.2	3.6
31	3.1	-	27	26	-	22	-	15	-	5.6	4.2	-
Total	101.1	310.1	726.0	936	1,619	1,188	495	718	431.0	305.7	144.4	122.1
Mean	3.26	10.3	23.4	30.2	57.8	38.3	16.5	23.2	14.4	9.86	4.66	4.07
Cfsm	0.208	0.656	1.49	1.92	3.68	2.44	1.05	1.48	0.917	0.628	0.297	0.259
In.	0.24	0.73	1.72	2.22	3.84	2.81	1.17	1.70	1.02	0.72	0.34	0.29

Calendar year 1952: Max 164 Min 3.0 Mean 17.4 Cfsm 1.11 In. 15.12
Water year 1952-53: Max 241 Min 3.0 Mean 19.4 Cfsm 1.24 In. 16.80

Peak discharge (base, 600 cfs).--No peak above base.

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 (revised), includes 4.5 sq mi without surface drainage.

Records available.--June 1932 to March 1934, April 1945 to September 1953. 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.--9 years (1933, 1945-53), 30.0 cfs.

Extremes.--Maximum discharge during year, 495 cfs Feb. 21 (gage height, 6.20 ft); minimum, 2.9 cfs Nov. 1 (gage height, 0.57 ft).
1932-34, 1945-53: Maximum discharge, 1,230 cfs Feb. 13, 1948 (gage height, 8.92 ft); minimum, 2.8 cfs Oct. 17, 24, 1948; minimum gage height, 0.52 ft Sept. 1, 21, Oct. 4, 1947.

Remarks.--Records good. Discharge measurements generally made twice each month.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 5-9, Feb. 17-20)

0.5	2.2	2.0	42
.7	4.4	3.0	88
.9	7.8	4.0	165
1.1	12	5.0	279
1.5	24	6.0	442

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	4.4	3.4	10	21	27	41	26	25	15	9.2	6.7	4.6
2	4.0	3.6	15	18	25	51	22	42	14	9.6	6.2	6.3
3	3.9	3.8	11	18	24	115	21	19	14	10	6.9	5.4
4	3.7	3.7	9.6	15	22	192	20	18	14	8.8	6.4	5.0
5	3.4	3.8	67	14	20	80	19	18	13	9.2	8.5	16
6	4.2	3.8	22	14	52	60	24	35	22	8.8	5.8	5.7
7	3.9	3.8	14	14	54	52	32	32	26	30	5.5	5.0
8	4.3	3.4	12	57	33	46	22	26	14	59	5.7	4.9
9	5.8	3.7	10	50	28	42	20	21	14	21	5.2	4.7
10	4.9	8.9	165	79	25	39	25	18	80	12	5.5	4.7
11	3.7	8.8	135	43	54	37	17	17	48	10	5.7	4.3
12	3.4	4.4	44	33	223	34	29	17	18	9.2	5.8	3.9
13	4.2	3.8	33	28	76	33	22	15	15	9.4	5.7	3.7
14	4.2	3.7	27	25	58	39	18	19	19	8.8	5.2	4.6
15	4.3	3.1	23	23	125	68	19	19	14	10	4.7	4.3
16	4.2	3.2	21	20	98	39	19	14	23	22	3.9	4.4
17	4.2	3.6	19	22	65	34	17	14	17	9.2	6.0	4.3
18	3.7	3.4	18	44	54	51	18	16	12	16	5.8	4.2
19	3.6	13	16	26	48	38	16	127	12	14	5.5	7.6
20	3.7	5.5	16	29	81	33	16	68	11	9.2	5.8	4.9
21	3.7	7.4	15	58	371	30	15	33	17	9.2	6.0	4.4
22	3.8	31	14	35	110	29	14	28	17	15	7.5	3.9
23	4.0	26	14	38	77	38	14	31	10	9.8	6.3	4.0
24	3.9	22	12	62	62	44	14	65	12	8.6	6.5	3.9
25	3.6	23	12	39	59	31	14	30	12	8.2	5.8	18
26	3.4	74	11	33	55	29	14	26	12	7.4	5.7	5.2
27	3.8	31	10	30	49	27	12	22	9.4	7.8	5.4	4.2
28	3.8	17	10	61	44	25	12	20	8.6	7.4	5.2	4.7
29	3.7	13	10	38	-	24	12	18	8.8	7.6	4.7	4.4
30	3.8	11	13	32	-	24	67	17	9.6	7.8	4.2	4.7
31	3.9	-	34	28	-	26	-	15	-	7.6	4.9	-
Total	123.1	349.8	842.6	1,047	2,019	1,451	610	885	531.4	391.8	178.7	165.9
Mean	3.97	11.7	27.2	33.8	72.1	46.8	20.3	28.5	17.7	12.6	5.76	5.53
Cfsm	0.188	0.555	1.29	1.60	3.42	2.22	0.962	1.35	0.839	0.597	0.273	0.262
In.	0.22	0.62	1.49	1.85	3.56	2.56	1.08	1.56	0.94	0.69	0.31	0.29

Calendar year 1952: Max 215 Min 3.1 Mean 21.6 Cfsm 1.02 In. 13.91
Water year 1952-53: Max 371 Min 3.1 Mean 23.5 Cfsm 1.11 In. 15.17

Peak discharge (base, 600 cfs).--No peak above base.

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 (including that of First Creek).

Records available.--January 1899 to December 1912 (1899 and 1910-12, gage heights only) and October 1918 to September 1953 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 (corrected) 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 Aug. 4, 1943, staff or recording gages at several sites within 4 miles of present site at various datums. Since Aug. 4, 1943, auxiliary water-stage recorder 6.3 miles downstream from base gage.

Average discharge.--54 years (1899-1953), 12,820 cfs (unadjusted).

Extremes.--Maximum discharge during year, 33,000 cfs Feb. 26; maximum gage height, 17.83 ft May 19; minimum daily discharge, 2,060 cfs May 5; minimum gage height, 9.50 ft • Jan. 14.

1899-1953: Maximum discharge observed, 195,000 cfs Mar. 1, 1902, corrected (gage height, 36.0 ft, site and datum then in use), from rating curve extended above 130,000 cfs; minimum daily discharge, 1,110 cfs May 26, 1952; 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, Boone, Cherokee, and Watauga Reservoirs (see pp. 228,233, 234).

Revisions (water years).--WSP 583: 1902(M). WSP 823: Drainage area. See also Records available.

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	10,700	12,600	12,700	10,000	12,800	22,100	15,100	7,030	11,500	15,100	9,690	15,100
2	12,200	7,510	13,800	7,440	12,900	19,200	15,100	4,780	14,700	15,800	7,560	14,800
3	12,500	6,530	13,600	12,300	17,800	17,000	*15,000	2,160	15,400	15,600	11,800	13,800
4	12,000	11,400	12,900	14,500	17,700	19,900	13,300	3,750	14,800	12,200	14,900	13,600
5	4,860	11,700	14,600	14,300	17,400	18,200	9,500	2,080	15,800	3,930	15,900	8,790
6	11,200	10,200	13,800	11,100	17,600	*20,300	9,270	3,790	16,500	10,400	16,000	2,780
7	14,400	11,200	8,910	9,960	14,800	19,400	16,700	6,450	16,700	*12,100	15,600	2,860
8	12,000	10,100	8,360	11,000	12,500	15,200	16,700	4,830	*15,300	12,700	12,100	3,720
9	12,000	9,290	*11,100	9,780	12,000	16,200	16,800	3,090	13,100	9,150	6,880	8,690
10	10,900	6,770	15,000	9,200	14,500	21,400	16,300	2,160	13,100	2,860	11,200	9,180
11	9,450	10,800	18,000	4,380	14,900	21,500	14,800	5,560	16,700	5,170	16,000	8,760
12	4,090	10,800	13,400	3,740	18,600	18,600	8,030	6,930	12,100	8,860	15,100	9,850
13	6,960	11,300	14,500	5,340	12,400	14,400	14,000	*7,650	12,500	11,100	*16,000	8,720
14	10,300	*9,900	10,300	*4,720	6,340	15,300	21,500	10,400	8,600	13,400	15,300	8,760
15	*11,700	7,100	12,500	4,790	9,110	15,100	19,700	8,820	13,000	12,300	11,500	9,470
16	11,300	3,350	13,300	5,770	10,500	12,100	20,500	3,890	14,000	11,700	5,530	10,100
17	10,700	2,760	13,800	6,640	14,700	14,200	20,300	3,070	12,600	9,430	10,200	9,680
18	11,000	4,890	15,000	11,500	13,400	11,900	17,000	3,890	10,600	7,860	14,900	9,210
19	11,700	4,790	16,900	7,820	*10,700	11,900	14,500	10,600	9,180	8,400	12,800	7,790
20	12,900	7,750	17,700	8,720	10,200	11,200	16,300	8,850	9,360	9,930	13,500	2,740
21	13,900	10,200	13,400	11,300	24,300	12,100	17,400	2,980	13,400	11,500	12,900	5,540
22	13,600	8,320	12,200	8,220	20,600	9,850	17,900	3,820	15,600	6,160	8,380	8,130
23	12,500	7,640	12,000	9,370	16,800	9,610	16,600	3,850	15,200	3,650	3,860	4,250
24	12,600	6,730	11,700	9,640	17,200	15,000	16,000	4,830	11,500	2,800	9,440	2,730
25	11,100	10,400	10,300	10,200	23,000	13,900	11,800	4,850	12,400	5,210	11,900	2,750
26	8,890	13,400	11,700	11,100	29,300	14,300	8,040	4,850	13,600	10,600	12,200	2,710
27	7,880	11,200	11,100	12,100	29,500	12,000	7,310	3,960	12,800	8,030	11,500	2,650
28	12,500	6,230	10,000	14,000	24,500	11,400	12,400	3,080	12,600	7,030	15,000	6,730
29	11,800	8,590	12,300	13,900	-	9,030	11,500	6,380	10,900	6,830	6,000	10,600
30	12,300	5,370	11,500	14,700	-	9,130	11,000	9,820	14,800	5,910	4,640	8,940
31	11,800	-	11,300	14,900	-	14,900	-	11,700	-	6,430	9,580	-
Total	341,730	258,820	397,670	302,430	456,050	486,320	440,350	169,880	398,340	282,140	357,460	233,230
Mean	11,020	8,627	12,830	9,756	16,290	15,040	14,680	5,480	13,280	9,101	11,530	7,774
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 28,100 Min 1,110 Mean 10,630 Cfsm 1.19 In. 16.20
Water year 1952-53: Max 29,500 Min 2,060 Mean 11,240 Cfsm 1.26 In. 17.09

* 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 17.3.

Drainage area.--269 sq mi.

Records available.--July 1951 to September 1953.

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, 11,500 cfs Feb. 21 (gage height, 17.96 ft); minimum, 40 cfs Sept. 18 (gage height, 6.79 ft).
1951-53: Maximum discharge, that of Feb. 21, 1953; minimum, that of Sept. 18, 1953. 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 table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21

6.8	44	8.0	530
6.9	54	9.0	1,260
7.0	74	11.0	3,100
7.3	170	13.0	5,500
7.6	300	15.0	7,900

Feb. 22 to Sept. 30

6.8	41	7.3	182
6.9	57	7.6	315
7.0	79	8.2	660

Note.--Same as preceding table above 8.2 ft.

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	54	50	222	919	737	634	447	*940	270	134	163	59
2	*56	52	238	*646	*604	*779	*392	1,050	*248	*124	167	*55
3	53	*58	250	597	530	765	360	1,010	239	155	*137	57
4	50	52	214	494	488	2,220	345	828	226	202	155	66
5	52	56	458	416	434	1,640	325	779	214	214	137	163
6	58	52	530	380	524	1,080	325	1,280	222	190	134	148
7	51	54	368	566	863	856	475	2,320	231	214	113	98
8	54	50	300	1,880	716	730	464	1,400	239	541	107	76
9	62	53	265	2,440	590	621	414	988	206	360	222	66
10	74	66	2,040	2,000	530	559	608	765	206	244	134	64
11	62	80	2,700	1,540	732	535	583	634	231	202	113	64
12	58	98	1,070	1,110	*5,770	511	716	541	194	174	104	55
13	62	77	674	842	2,860	487	1,880	475	262	159	98	55
14	54	66	506	674	1,540	470	1,560	442	523	144	88	59
15	52	56	404	572	1,790	1,120	1,060	464	409	148	88	52
16	53	56	335	494	1,550	800	919	387	265	206	82	54
17	50	62	295	446	1,440	674	695	350	239	190	98	52
18	52	54	260	730	1,100	688	608	330	202	233	113	51
19	53	58	238	604	884	621	608	3,730	186	480	113	52
20	56	278	226	530	1,440	547	511	2,530	171	231	101	120
21	51	230	250	1,390	7,370	505	464	1,090	163	206	107	101
22	*51	422	238	1,120	3,220	475	431	765	265	280	107	72
23	51	315	218	870	1,720	565	404	608	206	290	94	59
24	50	290	206	1,000	1,290	1,400	382	517	182	265	91	54
25	50	368	194	956	1,080	948	360	458	239	206	85	61
26	51	2,220	186	779	964	709	365	414	214	174	79	75
27	58	1,090	178	744	814	608	330	382	174	155	72	77
28	53	500	170	1,640	709	547	310	345	163	141	68	70
29	50	335	156	1,650	-	493	300	320	155	130	64	66
30	49	270	163	1,110	-	447	878	305	148	178	64	59
31	50	-	938	842	-	426	-	285	-	186	64	-
Total	1,680	7,468	14,490	29,981	42,289	23,460	17,519	26,732	6,892	6,756	3,362	2,160
Mean	54.2	249	467	967	1,510	757	584	862	230	218	108	72.0
Cfsm	0.201	0.926	1.74	3.59	5.61	2.81	2.17	3.20	0.855	0.810	0.401	0.268
In.	0.23	1.03	2.00	4.14	5.85	3.24	2.42	3.70	0.95	0.93	0.46	0.30

Calendar year 1952 : Max 3,830 Min 49 Mean 385 Cfsm 1.43 In. 19.50
Water year 1952-53: Max 7,370 Min 49 Mean 501 Cfsm 1.86 In. 25.25

Peak discharge (base, 4,800 cfs).--Feb. 12 (2 p.m.) 8,080 cfs (15.15 ft); Feb. 21 (12 m.) 11,500 cfs (17.96 ft); May 19 (5 p.m.) 6,930 cfs (14.19 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 1953.

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.--9 years, 388 cfs.

Extremes.--Maximum discharge during year, 4,060 cfs Feb. 21 (gage height, 9.64 ft); minimum, 86 cfs Sept. 19 (gage height, 1.29 ft).
1944-53: Maximum discharge, 5,900 cfs June 16, 1949 (gage height, 12.85 ft); minimum, 81 cfs Oct. 7, 1947; minimum gage height, that of Sept. 19, 1953.
Flood in October 1898 reached a stage of about 15 ft, from profiles by Tennessee Valley Authority.

Remarks.--Records excellent except those above 2,000 cfs, which are good. Records of chemical analyses and water temperatures for the water year 1953 are given in WSP 1290.

Revisions (water years).--WSP 1236: 1949(M).

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second) (Shifting-control method used Feb. 15 to Mar. 19).

1.3	87	4.0	1,130
1.6	132	5.0	1,700
2.0	220	7.0	2,680
2.5	377	9.0	3,700
3.0	587		

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	104	99	151	314	400	592	468	587	210	195	172	97
2	103	99	184	362	373	775	447	459	200	174	177	97
3	99	99	200	273	359	685	431	404	198	234	151	99
4	97	97	172	239	341	765	415	519	195	188	162	106
5	99	97	193	218	324	725	400	497	193	181	143	132
6	99	96	208	205	321	635	407	625	198	172	136	136
7	100	95	174	202	381	587	439	862	262	177	130	118
8	104	95	164	532	338	546	392	640	220	179	169	106
9	176	96	155	944	310	510	377	537	215	162	184	102
10	147	112	646	1,400	301	489	373	476	215	*149	140	100
11	120	132	670	922	439	*523	359	435	208	147	132	99
12	112	120	392	630	*812	559	411	407	193	142	129	97
13	109	*108	301	506	645	523	407	385	186	140	127	97
14	106	103	256	435	515	497	366	366	344	136	122	94
15	104	102	225	388	621	606	352	352	220	140	118	92
16	104	102	205	355	573	537	355	338	205	318	120	91
17	*103	99	195	334	537	493	334	327	205	210	140	88
18	102	99	184	537	476	*489	331	321	184	174	155	87
19	102	321	177	455	439	480	334	331	177	200	184	87
20	99	650	174	392	772	451	317	334	195	188	208	127
21	97	253	181	*555	3,230	439	310	304	188	177	157	106
22	99	195	*168	472	2,570	559	304	292	208	259	142	94
23	100	168	168	544	1,260	978	298	279	172	459	140	92
24	100	151	166	1,030	992	1,000	*292	270	188	270	134	92
25	100	142	157	735	890	770	285	262	267	210	127	146
26	100	252	153	582	785	665	292	256	*225	186	124	*262
27	100	285	149	515	700	606	276	*242	223	172	118	321
28	99	205	145	541	640	564	270	231	295	164	*112	179
29	97	174	143	515	-	528	264	228	223	157	103	134
30	97	162	143	451	-	501	650	225	205	172	102	120
31	97	-	437	423	-	480	-	218	-	200	99	-
Total	3,275	4,809	7,036	15,906	20,344	18,557	10,956	12,009	6,417	6,032	4,357	3,598
Mean	106	160	227	513	727	599	365	387	214	195	141	120
Cfsm	0.757	1.14	1.62	3.66	5.19	4.28	2.61	2.76	1.53	1.39	1.01	0.857
In.	0.87	1.28	1.87	4.23	5.40	4.93	2.91	3.19	1.70	1.60	1.16	0.96

Calendar year 1952: Max 4,160 Min 95 Mean 371 Cfsm 2.65 In. 36.04
Water year 1952-53: Max 3,230 Min 87 Mean 310 Cfsm 2.21 In. 30.10

Peak discharge (base, 1,500 cfs).--Jan. 10 (5 p.m.) 1,510 cfs (4.67 ft); Feb. 21 (2 p.m.) 4,060 cfs (9.64 ft).
* Discharge measurement made on this day.

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 1953.

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.--25 years (1928-53), 57.5 cfs.

Extremes.--Maximum discharge during year, 1,290 cfs Feb. 21 (gage height, 3.91 ft), from rating curve extended above 800 cfs on basis of computation of flow over dam at gage heights 5.06 and 9.35 ft; minimum, 1.1 cfs Oct. 22-25 (gage height, 0.08 ft); minimum daily, 1.1 cfs Oct. 23, 24.
1927-53: 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 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

0.0	0.7	0.6	16	1.7	133
.1	1.2	.8	27	2.0	203
.2	2.2	1.0	40	2.4	346
.3	3.8	1.2	58	2.7	502
.4	6.3	1.4	82	3.2	815

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	17	17	32	53	84	99	73	73	22	36	39	17
2	17	17	40	45	78	129	67	52	21	43	41	17
3	17	17	38	40	74	104	62	51	21	46	25	11
4	17	17	32	36	69	*148	58	90	20	29	22	9.3
5	17	17	41	34	65	111	54	68	20	25	22	31
6	17	11	38	36	67	97	62	118	25	28	20	17
7	17	1.3	32	38	91	91	66	111	40	28	19	18
8	18	1.3	29	208	73	86	52	79	23	27	19	19
9	16	1.3	30	214	62	81	47	61	24	22	21	17
10	17	1.5	216	265	59	79	49	55	26	*22	15	17
11	17	1.4	126	154	106	94	44	49	29	19	19	17
12	17	1.3	82	112	135	91	56	45	21	19	18	13
13	17	1.2	69	96	97	79	50	43	19	17	17	8.3
14	17	6.1	59	86	85	74	43	43	27	17	17	13
15	17	17	51	81	90	109	41	*42	24	17	17	15
16	17	16	47	76	77	82	43	40	21	63	15	17
17	17	16	45	73	74	72	39	39	19	27	23	17
18	17	16	42	151	*69	76	39	38	19	25	20	16
19	12	97	40	92	67	67	38	40	15	36	39	12
20	1.8	149	40	82	350	61	35	39	20	39	62	2.5
21	1.5	*55	40	137	780	60	34	34	15	28	*27	5.8
22	1.2	44	35	99	276	114	33	32	21	78	22	11
23	*1.1	35	34	163	200	390	32	31	18	58	20	*11
24	1.1	30	32	239	180	190	32	29	16	36	22	10
25	8.6	28	31	144	152	135	32	29	45	29	24	21
26	17	103	29	118	131	114	33	27	*46	26	19	34
27	17	64	28	106	116	102	*30	25	36	24	18	72
28	17	45	27	*139	106	94	29	25	51	22	18	32
29	11	40	*26	109	-	86	29	24	36	21	18	38
30	16	36	29	96	-	81	146	24	38	35	17	19
31	16	-	94	90	-	77	-	24	-	33	17	-
Total	429.3	902.4	1,534	3,412	3,813	3,273	1,448	1,480	778	975	712	557.9
Mean	13.8	30.1	49.5	110	136	106	48.3	47.7	25.9	31.5	23.0	18.6
Cfsm	0.926	2.02	3.32	7.38	9.13	7.11	3.24	3.20	1.74	2.11	1.54	1.25
In.	1.07	2.25	3.83	8.52	9.52	8.17	3.61	3.69	1.94	2.43	1.78	1.39

Calendar year 1952: Max 700 Min 1.1 Mean 50.9 Cfsm 3.42 In. 46.46
Water year 1952-53: Max 780 Min 1.1 Mean 52.9 Cfsm 3.55 In. 48.20

Peak discharge (base, 550 cfs).--Feb. 21 (6:30 a.m.) 1,290 cfs (3.91 ft).
* Discharge measurement made on this day.

Cullasaja River at Cullasaja, N. C.

Location.--Lat 35°09'59", long. 85°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 1953.

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 gage at same site and datum.

Average discharge.--34 years, 225 cfs.

Extremes.--Maximum discharge during year, 4,000 cfs Feb. 21 (gage height, 12.40 ft, from floodmark in gage well); minimum, 36 cfs Nov. 7-9; minimum gage height, 0.61 ft Nov. 7.

1907-9, 1921-53: 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 no gage-height record, which are good. Slight regulation at low flow by Sequoyah Lake.

Revisions (water years).--WSP 832: Drainage area. WSP 1143: 1907-10, 1921-44, 1946-47 (maximum only, 1932, 1939, 1944, 1947).

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 9				Jan. 10 to Sept. 30			
0.6	35	1.5	134	1.5	134	5.0	1,080
.7	42	2.0	224	2.0	226	7.0	1,780
.8	50	2.5	339	3.0	487	9.0	2,500
1.0	69	3.0	469				
1.2	92	4.0	760				

Note.--Same as preceding table below 1.5 ft.

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	56	53	92	176	278	354	253	349	108	116	177	55
2	55	53	116	152	255	455	237	308	102	102	155	55
3	54	53	118	142	239	381	226	266	101	139	104	57
4	54	52	98	a125	224	*449	213	362	98	102	93	49
5	54	52	124	a112	209	390	203	308	97	95	85	95
6	54	51	116	a115	213	346	216	460	104	93	81	72
7	54	41	100	120	266	323	226	560	157	111	74	61
8	57	36	93	473	220	302	197	404	116	106	86	56
9	85	36	92	568	197	281	183	330	105	86	86	58
10	65	46	499	804	189	269	185	290	106	*79	72	54
11	59	50	382	484	345	290	174	262	122	77	67	54
12	57	43	239	354	510	288	218	241	98	73	70	54
13	56	39	191	298	381	264	211	226	96	70	66	46
14	55	38	a155	262	318	246	181	213	126	69	64	44
15	54	46	a140	239	362	320	172	*205	105	73	61	47
16	54	53	a125	222	302	266	180	195	98	210	71	52
17	54	52	a115	213	298	244	165	187	93	104	80	50
18	54	52	a110	412	*266	248	162	181	84	91	109	a47
19	54	227	a105	293	a250	235	164	191	86	108	97	a45
20	43	374	a110	255	a1,100	216	152	178	86	111	145	a50
21	38	*145	a105	444	a2,500	211	148	165	121	106	87	a45
22	38	118	a103	336	a1,000	305	145	157	105	216	79	a44
23	*38	101	a100	471	729	920	144	150	92	189	74	*44
24	38	92	a96	816	632	618	139	145	90	120	70	43
25	38	86	a94	525	551	458	136	139	140	101	74	83
26	49	193	a90	421	484	387	139	134	*190	91	65	111
27	53	165	a85	373	426	346	*131	126	148	85	61	178
28	53	120	a82	*432	384	320	128	120	147	82	59	86
29	51	108	*a80	376	-	295	125	119	119	78	*58	85
30	46	98	88	325	-	276	557	116	124	94	56	63
31	53	-	291	298	-	264	-	112	-	130	56	-
Total	1,623	2,673	4,334	10,636	13,128	10,567	5,710	7,199	3,364	3,307	2,582	1,881
Mean	52.4	89.1	140	343	469	341	190	232	112	107	83.3	62.7
Cfsm	0.606	1.03	1.62	3.97	5.42	3.94	2.20	2.68	1.29	1.24	0.963	0.725
In.	0.70	1.15	1.86	4.57	5.64	4.54	2.45	3.10	1.45	1.42	1.11	0.81

Calendar year 1952: Max 2,300 Min 36 Mean 196 Cfsm 2.27 In. 30.87
Water year 1952-53: Max 2,500 Min 36 Mean 184 Cfsm 2.13 In. 28.80

Peak discharge (base, 2,000 cfs).--Feb. 21 (10 a.m.) 4,000 cfs (12.40 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 Highlands and Little Tennessee River near Prentiss.

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 1953.

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.--9 years, 1,050 cfs.

Extremes.--Maximum discharge during year, 11,500 cfs Feb. 21 (gage height, 8.33 ft); minimum, 77 cfs Nov. 1, 2 (gage height, 1.23 ft); minimum daily, 79 cfs Nov. 2.
1944-53: 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 Nov. 1, 2, 1952; minimum daily, that of 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. Considerable diurnal fluctuation caused by Porters Bend powerplant at Lake Emory.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.2	70	3.5	1,710
1.4	120	4.0	2,360
1.7	223	5.0	3,960
2.0	362	6.0	5,880
2.3	551	7.0	8,120
2.6	781	8.0	10,600
3.0	1,150		

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	293	119	425	1,050	1,140	1,570	1,190	1,990	593	339	480	258
2	288	79	468	798	1,020	1,990	1,140	1,620	568	497	547	254
3	274	570	545	798	985	1,850	1,090	1,380	544	604	464	300
4	270	270	486	670	948	2,010	1,050	1,600	550	536	419	272
5	283	261	507	603	885	2,040	1,000	1,640	517	542	413	410
6	270	261	582	587	876	1,750	1,000	1,980	537	483	373	438
7	*270	257	497	599	1,040	1,580	1,120	*3,110	643	510	352	336
8	297	240	477	1,080	994	1,470	1,020	2,180	704	538	352	306
9	344	244	438	2,380	867	1,370	966	1,720	568	470	482	274
10	467	274	1,490	3,330	833	1,290	939	1,460	658	425	*373	279
11	342	164	2,200	2,540	1,160	1,340	921	1,320	585	408	336	265
12	304	*186	1,150	1,610	2,830	1,440	966	1,200	526	390	326	268
13	306	288	885	1,260	2,360	1,330	1,170	1,130	517	390	321	254
14	302	285	732	1,110	1,690	1,250	1,000	1,050	784	379	306	246
15	298	261	606	976	1,790	1,450	921	1,000	634	379	293	246
16	262	270	586	939	1,710	1,380	930	966	520	893	302	223
17	279	270	562	876	1,610	1,250	903	903	534	707	402	248
18	278	279	528	1,370	1,460	1,240	876	894	518	542	419	232
19	276	522	*482	1,280	1,320	1,250	939	985	477	571	494	245
20	274	1,890	496	1,080	1,960	1,170	858	985	470	526	568	320
21	442	770	530	1,570	8,930	1,110	833	894	516	520	457	300
22	350	553	510	1,460	6,930	1,250	815	824	835	590	373	248
23	270	494	461	1,350	3,780	2,270	807	815	501	1,080	368	240
24	265	446	464	2,740	2,800	2,800	781	770	516	752	342	236
25	265	402	457	2,130	2,430	*2,020	773	728	712	546	342	300
26	261	484	438	1,650	2,090	1,730	773	734	608	470	321	*657
27	279	850	425	1,460	*1,870	1,570	749	684	724	464	297	777
28	279	545	413	1,480	1,700	1,450	*724	638	658	432	288	564
29	270	474	402	1,560	-	1,340	708	652	*883	*438	283	373
30	265	451	402	*1,330	-	1,240	1,620	626	488	408	274	352
31	270	-	1,200	1,210	-	1,210	-	620	-	531	257	-
Total	9,193	12,439	19,844	42,876	58,008	48,010	28,582	37,098	17,888	16,360	11,624	9,721
Mean	297	415	640	1,383	2,072	1,549	953	1,197	596	528	375	324
Cfsm	0.681	0.952	1.47	3.17	4.75	3.55	2.19	2.75	1.37	1.21	0.860	0.743
In.	0.78	1.06	1.69	3.66	4.95	4.10	2.44	3.16	1.53	1.40	0.99	0.83

Calendar year 1952: Max 9,050 Min 79 Mean 937 Cfsm 2.15 In. 29.25
Water year 1952-53: Max 8,930 Min 79 Mean 854 Cfsm 1.96 In. 26.59

Peak discharge (base, 5,000 cfs).--Feb. 21 (8 p.m.) 11,500 cfs (8.33 ft).
* Discharge measurement made on this day.

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 1953.

Gage.--Water-stage recorder. Datum of gage is 3,072.97 ft above mean sea level, datum of 1929.

Average discharge.--13 years, 196 cfs.

Extremes.--Maximum discharge during year, 2,970 cfs Feb. 21 (gage height, 5.92 ft); minimum, 38 cfs Nov. 6-9, Sept. 19 (gage height, 0.83 ft).
1940-53: 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. 6-9, 1952, Sept. 19, 1953.

Remarks.--Records good.

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

Rating tables. water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 9, Feb. 21 to Sept. 30				Dec. 10 to Feb. 20			
0.6	34	2.0	436	0.8	68	2.0	418
.7	49	2.5	680	1.0	108	2.5	641
.8	66	3.5	1,250	1.2	154	3.0	910
1.0	106	4.5	1,900	1.5	238		
1.2	154	5.0	2,250				
1.5	243						

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	48	42	81	154	244	343	224	240	113	87	120	48
2	46	42	118	144	229	459	208	211	108	83	98	46
3	43	42	98	140	220	380	202	193	104	79	96	51
4	43	40	87	126	208	473	193	243	104	85	91	54
5	43	40	122	121	200	396	184	246	102	79	79	111
6	43	40	104	121	226	359	202	401	108	76	74	64
7	43	38	93	142	241	336	208	414	142	74	70	56
8	44	38	89	347	205	313	184	321	124	74	107	49
9	91	38	*85	545	197	291	176	277	*122	68	85	49
10	58	93	785	695	191	277	184	250	115	66	70	48
11	51	79	370	398	376	309	170	230	104	64	68	46
12	49	59	244	301	*844	284	217	217	96	63	64	46
13	46	*48	200	260	489	281	224	205	102	61	64	49
14	44	46	172	235	386	263	190	196	151	59	61	43
15	44	46	159	220	367	274	181	190	102	61	59	42
16	44	44	144	205	304	250	184	181	100	201	92	42
17	*43	43	135	202	284	243	170	176	96	85	74	40
18	43	43	128	372	264	*263	176	168	89	91	77	40
19	43	362	121	251	257	250	170	205	85	113	79	53
20	43	184	130	238	535	233	162	170	87	100	116	97
21	42	108	128	*301	1,980	230	157	159	118	85	72	51
22	42	93	117	251	950	260	154	152	122	189	66	44
23	43	85	117	311	695	436	152	146	91	205	64	43
24	42	81	110	367	605	367	*146	142	85	124	64	42
25	42	77	106	304	525	321	149	136	91	102	58	129
26	42	156	100	280	473	291	146	132	106	91	56	124
27	42	111	98	301	410	274	142	*124	102	85	54	*136
28	42	98	95	351	372	257	139	122	113	81	*52	74
29	42	89	95	290	-	248	136	120	100	*77	51	61
30	42	87	100	267	-	233	416	120	102	91	49	56
31	42	-	244	254	-	227	-	115	-	110	48	-
Total	1,415	2,392	4,775	8,494	12,277	9,419	5,546	6,202	3,184	2,909	2,278	1,834
Mean	45.6	79.7	154	274	438	304	185	200	106	93.8	73.5	61.1
Cfsm	0.879	1.54	2.97	5.28	8.44	5.86	3.56	3.85	2.04	1.81	1.42	1.18
In.	1.01	1.71	3.42	6.09	8.80	6.75	3.97	4.44	2.28	2.08	1.63	1.31

Calendar year 1952: Max 1,660 Min 38 Mean 177 Cfsm 3.41 In. 46.29
Water year 1952-53: Max 1,980 Min 38 Mean 166 Cfsm 3.20 In. 43.49

Peak discharge (base, 1,500 cfs).--Feb. 21 (6 a.m.) 2,970 cfs (5.92 ft).
* Discharge measurement made on this day.

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 1953.

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.--11 years, 493 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 2,730 cfs Feb. 21 (gage height, 5.32 ft); minimum, 17 cfs Nov. 8, 9, 16-19 (gage height, 1.20 ft); minimum daily, 17 cfs Nov. 8, 16. 1942-53: Maximum discharge, 7,510 cfs Feb. 10, 1946 (gage height, 8.15 ft); minimum, that of Nov. 8, 9, 16-19, 1952; minimum daily, that of Nov. 8, 16, 1952.

Remarks.--Records excellent. Flow regulated by Nantahala Reservoir (see p. 229) and Queens Creek Reservoir (capacity, about 300 cfs-days).

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.2	17	2.6	330
1.4	33	3.0	540
1.6	59	3.5	865
1.8	93	4.0	1,250
2.0	135	5.0	2,320
2.3	217		

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	626	444	378	450	340	133	86	684	585	457	52	102
2	632	400	442	380	304	179	79	743	626	402	44	120
3	632	400	452	386	269	148	75	691	620	472	398	245
4	626	369	462	360	196	223	65	698	620	197	433	260
5	417	432	346	626	292	298	62	691	620	605	404	34
6	594	239	243	639	338	212	77	762	626	157	144	40
7	*632	316	28	646	307	140	82	*830	325	35	345	52
8	632	17	258	756	284	131	72	725	546	33	38	135
9	632	300	316	764	72	122	70	158	600	29	37	240
10	444	179	678	682	73	109	70	140	600	31	76	366
11	446	188	380	483	384	111	61	636	600	39	23	498
12	76	368	334	522	879	107	82	672	600	34	70	586
13	368	96	255	514	673	105	105	658	556	370	121	377
14	382	*18	310	613	586	101	93	658	196	399	111	564
15	365	18	464	543	482	113	89	652	544	414	116	446
16	371	17	380	468	604	101	230	140	600	419	181	532
17	404	50	372	370	518	99	409	80	600	37	254	538
18	173	20	352	558	392	*107	402	570	594	62	28	582
19	208	78	212	482	486	105	482	717	594	51	32	498
20	484	247	335	476	253	97	626	665	606	33	37	162
21	*534	366	331	562	1,830	97	639	646	87	30	92	528
22	576	421	*522	455	660	97	632	639	541	69	404	582
23	372	35	608	444	*541	105	632	632	588	422	181	582
24	474	373	606	430	388	103	*626	626	594	316	157	*582
25	446	401	86	280	254	99	626	632	*594	*398	*202	620
26	335	416	527	362	174	93	620	632	600	73	44	530
27	27	210	386	338	155	88	620	632	141	26	393	548
28	359	397	406	396	142	75	613	626	78	130	23	594
29	241	358	613	*308	-	72	613	626	406	386	110	594
30	252	334	626	330	-	79	769	116	436	472	58	594
31	106	-	710	318	-	80	-	70	-	406	189	-
Total	12,866	7,507	12,418	14,941	11,876	3,729	9,707	17,447	15,323	7,004	4,797	12,131
Mean	415	250	401	482	424	120	324	563	511	226	155	404
(†)	-9,100	-2,100	-2,300	+5,500	+17,300	+17,400	+3,900	+500	-7,300	-500	-100	-7,900
Adjusted for change in reservoir contents												
Mean	121	180	326	659	1,042	682	454	579	267	210	152	141
Cfsm	0.840	1.25	2.26	4.58	7.24	4.74	3.15	4.02	1.35	1.46	1.06	0.979
In.	0.97	1.40	2.61	5.28	7.54	5.46	3.51	4.64	2.07	1.68	1.21	1.09

	Observed			Adjusted			
Calendar year 1952:	Max 3,290	Min 17	Mean 532	Mean 424	Cfsm 2.94	In. 40.10	
Water year 1952-53:	Max 1,830	Min 17	Mean 355	Mean 397	Cfsm 2.76	In. 37.46	

* Discharge measurement made on this day.
† Change in contents, in cfs-days, in Nantahala Reservoir; furnished by Tennessee Valley Authority.

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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 1953.

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.--19 years, 394 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 5,260 cfs Feb. 21 (gage height, 7.83 ft); minimum, 9.0 cfs Nov. 17 (gage height, 0.66 ft); minimum daily, 10 cfs Nov. 16.
1934-53: 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, 7.0 cfs July 28, 1952 (gage height, 0.62 ft); minimum daily, 8.0 cfs Sept. 6, 1952.

Remarks.--Records excellent. Flow regulated by Thorpe Reservoir beginning Feb. 12, 1941 (see p. 229) and Cedar Cliff Reservoir beginning Apr. 26, 1952 (see p. 233).

Revisions (water years).--WSP 823: Drainage area. WSP 1053: 1943.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

0.6	6.0	2.5	595
.8	18	3.0	935
1.0	38	3.5	1,310
1.3	89	4.0	1,710
1.6	170	5.0	2,550
2.0	327	6.0	3,450

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	476	12	172	200	534	317	190	770	328	364	178	169
2	258	21	206	470	303	540	488	790	384	324	148	60
3	258	240	306	138	332	510	200	344	408	343	273	55
4	258	201	234	177	203	*393	272	697	344	111	343	230
5	222	215	162	368	264	584	342	574	392	125	309	172
6	248	56	102	198	304	318	200	809	282	338	164	172
7	345	*296	16	450	415	500	262	838	481	*337	234	130
8	371	68	31	604	340	239	264	732	482	308	194	13
9	267	87	123	814	171	277	248	255	405	147	82	149
10	368	267	760	1,110	328	426	234	542	488	130	116	132
11	220	175	620	744	487	398	244	196	742	106	*106	336
12	47	125	154	652	528	248	280	554	332	97	84	270
13	260	66	339	404	784	426	316	374	416	234	110	166
14	178	20	92	513	378	274	138	516	336	265	32	251
15	164	22	418	380	727	345	338	414	356	262	224	192
16	136	10	136	340	347	442	62	286	440	566	281	280
17	228	245	361	488	640	*153	356	316	346	150	128	18
18	370	250	131	608	284	370	118	297	408	228	233	88
19	132	202	282	510	592	288	267	545	354	208	138	138
20	125	553	151	714	807	169	236	208	466	248	136	19
21	64	454	283	732	3,210	390	177	550	130	192	123	218
22	102	54	150	716	1,120	382	216	218	348	320	81	314
23	326	294	300	436	*890	1,520	142	524	403	443	230	*289
24	244	258	*185	614	808	868	281	102	392	312	87	215
25	50	113	196	475	711	592	60	*426	*334	268	151	411
26	26	54	173	692	631	534	304	256	432	148	97	488
27	210	38	146	174	294	522	*51	470	298	142	264	323
28	180	185	400	*636	558	326	290	288	50	131	93	178
29	*268	218	172	243	-	421	176	447	378	141	96	205
30	234	216	195	603	-	320	837	72	408	258	18	197
31	210	-	742	210	-	402	-	178	-	342	136	-
Total	6,843	5,015	7,738	15,413	16,990	13,494	7,589	13,568	11,363	7,588	4,889	5,878
Mean	221	167	250	497	607	435	253	438	379	245	158	196
(†)	-4,079	-191	-296	+2,478	+4,994	+5,605	+2,868	-79	-3,936	-276	+200	-2,188
Adjusted for change in reservoir contents												
Mean	89.2	161	240	577	785	616	349	435	248	236	164	123
Cfsm	0.624	1.13	1.68	4.03	5.49	4.31	2.44	3.04	1.73	1.65	1.15	0.860
In.	0.72	1.25	1.94	4.65	5.72	4.97	2.72	3.51	1.93	1.90	1.32	0.96

	Observed			Adjusted			
Calendar year 1952:	Max 3,160	Min 8.0	Mean 365	Mean 345	Cfsm 2.41	In. 32.88
Water year 1952-53:	Max 3,210	Min 10	Mean 319	Mean 333	Cfsm 2.33	In. 31.59

* Discharge measurement made on this day.
† Change in contents, in cfs-days, in Thorpe and Cedar Cliff Reservoirs; furnished by Tennessee Valley Authority and Nantahala Power & 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 1953.

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.--12 years, 106 cfs.

Extremes.--Maximum discharge during year, 1,960 cfs Feb. 21 (gage height, 6.77 ft); minimum, 23 cfs Sept. 17, 18 (gage height, 1.65 ft).
1941-53: Maximum discharge, 1,990 cfs Feb. 10, 1946; maximum gage height, that of Feb. 21, 1953; minimum discharge, 8.0 cfs Sept. 22, 23, 1941 (gage height, 1.30 ft); minimum daily, 25 cfs Oct. 14, 15, 22-26, Nov. 16-18, 1941, Sept. 17, 1953.
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 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21, June 9 to Sept. 30				Feb. 22 to June 8	
1.6	18	2.7	236	2.0	62
1.7	28	3.0	340	2.2	97
1.8	40	3.5	528	2.4	143
2.0	69	4.0	723	2.7	227
2.2	106	5.0	1,120	3.0	329
2.4	152	6.0	1,570	3.5	520

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	30	30	35	71	121	180	112	121	70	51	48	29
2	29	30	50	68	110	230	108	119	68	57	43	30
3	29	30	44	63	106	186	104	106	67	54	41	35
4	29	29	38	54	98	*266	101	129	67	53	40	35
5	29	29	62	51	92	206	97	159	65	58	39	58
6	29	28	48	53	106	189	106	331	78	58	38	41
7	29	*28	41	64	130	175	126	307	136	*51	38	33
8	33	28	39	162	102	164	104	221	135	54	70	30
9	40	29	39	155	94	153	97	183	100	48	50	29
10	33	41	332	189	94	146	115	161	94	44	39	29
11	32	44	168	133	155	156	99	143	81	43	*38	29
12	30	35	98	108	326	146	117	136	71	43	38	28
13	30	30	76	96	203	148	141	126	76	41	36	27
14	30	30	63	88	165	136	115	121	90	41	35	26
15	29	30	53	83	184	164	106	129	74	46	34	26
16	29	29	51	78	152	141	108	117	71	99	35	26
17	29	29	49	76	147	133	99	110	68	51	51	25
18	29	29	48	152	135	136	108	106	63	58	47	26
19	29	180	46	96	130	136	106	184	62	63	44	27
20	29	91	47	92	311	121	97	129	58	60	47	34
21	29	44	48	155	1,150	117	93	115	62	66	64	28
22	30	41	44	108	*467	117	91	106	79	86	54	*26
23	30	40	46	154	340	186	89	101	60	79	44	26
24	30	39	*48	181	293	172	88	95	63	56	39	26
25	30	36	50	145	253	148	88	*89	*57	48	36	58
26	30	79	48	128	227	138	88	88	63	46	35	57
27	*30	51	47	126	209	131	*84	82	69	44	33	71
28	30	41	47	*178	191	126	84	80	63	43	32	34
29	29	38	46	147	-	121	82	76	58	41	32	30
30	29	38	48	138	-	115	215	76	54	44	30	28
31	30	-	149	126	-	112	-	73	-	58	29	-
Total	933	1,276	2,048	3,518	6,091	4,795	3,168	4,119	2,222	1,684	1,279	1,007
Mean	30.1	42.5	66.1	113	218	155	106	133	74.1	54.3	41.3	33.6
Cfsm	0.594	0.838	1.30	2.23	4.30	3.06	2.09	2.62	1.46	1.07	0.815	0.663
In.	0.68	0.94	1.50	2.58	4.47	3.52	2.32	3.02	1.63	1.24	0.94	0.74

Calendar year 1952: Max 775 Min 28 Mean 92.2 Cfsm 1.82 In. 24.75
Water year 1952-53: Max 1,150 Min 25 Mean 88.1 Cfsm 1.74 In. 23.58

Peak discharge (base, 900 cfs).--Feb. 21 (7 a.m.) 1,960 cfs (6.77 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 1953.

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.--25 years, 765 cfs (unadjusted).

Extremes.--Maximum discharge during year, 8,940 cfs Feb. 21 (gage height, 9.67 ft); minimum, 35 cfs Sept. 17 (gage height, 1.60 ft); minimum daily, 134 cfs Aug. 31.
1928-53: 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, that of Sept. 17, 1953; minimum daily, 120 cfs Sept. 7, 1952.

Remarks.--Records excellent except those below 300 cfs, which are good. Considerable diurnal fluctuation caused by Dillsboro powerplant 0.7 mile above station. Flow regulated by Thorpe Reservoir (see p. 229), and Cedar Cliff Reservoir (see p. 233).

Revisions (water years).--WSP 823: Drainage area. WSP 923: 1940(M).

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

2.0	104	4.0	1,130
2.2	153	5.0	2,000
2.4	212	6.0	3,050
2.6	286	7.0	4,340
3.0	479	9.0	7,610
3.5	780		

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	701	208	315	578	774	894	714	1,300	490	469	410	232
2	367	135	414	634	645	1,190	713	1,250	598	549	402	263
3	362	248	479	488	825	1,170	526	842	617	561	344	174
4	362	327	405	350	406	1,200	740	1,140	562	448	501	240
5	348	305	401	613	736	1,140	524	1,050	592	312	463	375
6	355	218	322	405	459	1,030	591	1,630	518	555	279	377
7	359	*293	251	675	915	900	731	1,780	893	*542	389	284
8	564	302	196	927	531	796	564	1,410	703	503	354	166
9	421	159	219	1,310	685	829	572	945	647	391	352	136
10	380	269	1,310	1,730	526	856	600	999	733	259	275	247
11	450	471	1,230	1,250	821	767	406	730	1,130	293	*209	428
12	266	213	538	1,010	1,590	*711	782	964	591	301	211	310
13	167	261	493	718	1,340	947	566	718	591	281	217	324
14	413	159	452	902	1,050	606	645	1,010	731	426	248	318
15	271	140	475	556	1,210	927	533	700	569	393	246	284
16	252	143	448	711	1,010	711	536	870	652	970	320	351
17	340	253	416	638	1,020	*606	641	517	608	495	361	275
18	412	356	443	1,040	902	834	388	724	660	322	426	136
19	328	578	336	809	938	575	690	895	521	470	448	156
20	239	937	460	993	1,440	684	389	724	670	498	230	246
21	194	721	345	1,210	6,430	665	623	852	418	437	314	220
22	172	326	471	1,080	*2,850	668	348	586	612	499	293	*392
23	327	328	352	1,000	1,970	1,900	585	823	493	695	276	314
24	452	454	*510	1,180	1,650	1,470	402	457	618	528	338	321
25	201	326	323	1,010	1,490	1,100	494	*669	*581	451	275	519
26	172	313	404	1,110	1,310	968	454	500	678	394	263	670
27	261	264	319	757	913	951	*443	757	483	312	234	760
28	263	254	557	*1,040	1,100	849	445	466	440	285	342	218
29	*324	374	333	822	-	700	476	698	496	218	199	319
30	349	399	385	868	-	821	1,340	471	621	383	212	307
31	345	-	1,170	724	-	627	-	391	-	520	134	-
Total	10,417	9,734	14,772	27,138	35,536	28,092	17,461	26,868	18,516	13,760	9,565	9,362
Mean	336	324	477	875	1,269	906	582	867	617	444	309	312
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 5,990 Min 120 Mean 711 Cfsm 2.05 In. 27.87
Water year 1952-53: Max 6,430 Min 134 Mean 606 Cfsm 1.75 In. 23.71

Peak discharge (base, 4,500 cfs).--Feb. 21 (2:30 p.m.) 8,940 cfs (9.67 ft).
* Discharge measurement made on this day.

Oconaluftee River at Birdtown, N. C.

Location.--Lat 35°27'42", long. 83°21'13", on right bank 200 ft upstream from highway 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 1953.

Gage.--Water-stage recorder. Datum of gage is 1,843.30 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. July 10, 1945, to Sept. 30, 1946, staff gage at same site and datum.

Average discharge.--6 years, 523 cfs.

Extremes.--Maximum discharge during year, 11,300 cfs Feb. 21 (gage height, 9.90 ft); minimum, 86 cfs Nov. 8 (gage height, 0.71 ft).
1945-46, 1948-53: 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. 8, 1952.

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

Rating tables, water year 1952-53, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21						Feb. 22 to Sept. 30			
0.7	84	1.7	456	5.0	3,580	0.7	89	1.7	470
.8	105	2.0	634	6.0	4,950	.8	114	2.0	640
1.0	158	2.5	990	7.0	6,450	1.0	173	2.5	990
1.2	226	3.0	1,400			1.2	244	3.0	1,400
1.4	308	4.0	2,400			1.4	326	4.0	2,400

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	105	97	174	424	559	586	439	574	284	193	260	142
2	103	97	194	354	506	840	424	604	272	300	248	136
3	99	97	187	336	462	707	400	536	268	597	218	145
4	97	94	*164	286	430	1,760	385	525	260	531	211	173
5	97	94	238	261	393	1,180	371	542	252	376	222	294
6	97	92	226	253	424	930	409	958	272	313	190	204
7	97	90	187	336	565	805	574	*1,320	390	344	*197	161
8	*125	88	177	1,480	478	714	481	945	288	414	337	145
9	128	90	171	1,170	430	634	429	770	272	395	324	139
10	120	110	1,480	1,260	403	*586	439	670	536	305	226	136
11	108	144	938	848	584	598	409	604	615	268	200	*134
12	105	*133	530	660	2,450	552	465	558	313	244	187	128
13	103	103	403	553	1,380	586	574	520	280	222	180	*128
14	101	97	326	478	998	536	498	486	395	211	170	117
15	97	94	b270	430	930	862	465	476	326	204	161	117
16	97	92	b250	393	742	670	450	450	280	380	158	114
17	94	92	b230	378	674	598	424	424	280	268	237	109
18	94	92	222	1,030	596	604	429	405	252	408	244	120
19	94	469	212	602	565	569	455	767	233	470	214	120
20	92	470	219	518	*1,510	525	405	682	222	335	237	158
21	92	190	238	862	*6,360	492	385	514	233	313	438	128
22	94	177	215	707	2,330	481	371	465	496	390	276	112
23	97	158	208	687	1,490	634	362	429	288	520	237	106
24	97	161	197	892	1,170	694	*358	405	256	385	218	106
25	97	171	187	721	968	598	362	385	252	322	193	134
26	97	1,260	177	609	855	547	371	366	*233	292	176	173
27	97	524	171	577	728	514	348	348	237	260	170	204
28	97	299	168	*981	640	498	335	330	237	240	161	142
29	97	230	155	791	-	470	326	322	218	226	158	117
30	97	201	164	660	-	444	750	309	211	*233	151	112
31	97	-	587	596	-	434	-	297	-	240	148	-
Total	3,112	6,106	9,265	20,133	29,620	20,648	12,893	16,986	8,951	10,199	6,747	4,254
Mean	100	204	299	649	1,058	666	430	548	298	329	218	142
Cfsm	0.543	1.11	1.62	3.53	5.75	3.62	2.34	2.98	1.62	1.79	1.18	0.772
In.	0.63	1.23	1.87	4.07	5.99	4.17	2.61	3.43	1.81	2.06	1.36	0.86

Calendar year 1952: Max 3,350 Min 88 Mean 386 Cfsm 2.10 In. 28.58
Water year 1952-53: Max 6,360 Min 88 Mean 408 Cfsm 2.22 In. 30.09

Peak discharge (base, 4,000 cfs).--Feb. 21 (8 a.m.) 11,300 cfs (9.90 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Tuckasegee River at Bryson City, N. C.

Location.--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 1953 in reports of Geological Survey. Records for November 1897 to September 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.--55 years (1898-1953), 1,580 cfs (unadjusted).
Extremes.--Maximum discharge during year, 22,500 cfs Feb. 21 (gage height, 9.38 ft); minimum, 145 cfs Oct. 26 (gage height, 0.47 ft); minimum daily, 268 cfs Nov. 3.
1897-1953: 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, that of Oct. 26, 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.
Remarks.--Records excellent. Considerable diurnal fluctuation caused by powerplants above station. Flow regulated by Thorpe Reservoir beginning Feb. 12, 1941 (see p. 229), Cedar Cliff Reservoir beginning Apr. 26, 1952 (see p. 233), and two small reservoirs with combined capacity of about 250 cfs-days.
Revisions (water years).--WSP 523: 1916, 1918-20. WSP 758: 1899(M). WSP 803: 1906(M). WSP 823: Drainage area. See also Records available.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

0.6	220	3.0	3,590
.7	290	3.5	4,610
.9	455	4.0	5,710
1.2	740	5.0	8,180
1.6	1,220	6.0	11,000
2.0	1,810	8.0	17,500
2.5	2,660		

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	877	476	*632	1,400	1,450	1,970	1,500	2,410	925	866	896	441
2	536	272	685	946	1,440	2,620	1,260	2,220	1,010	893	722	456
3	527	268	720	1,160	1,470	2,280	1,260	1,870	1,010	1,260	652	384
4	518	484	738	770	1,070	3,870	1,300	1,870	994	1,300	824	438
5	518	466	774	906	1,230	3,060	1,030	2,020	958	810	796	787
6	482	470	731	795	986	2,680	1,320	2,890	982	824	727	649
7	527	323	596	980	1,720	2,160	1,580	3,970	1,460	1,010	578	533
8	*744	532	473	2,740	1,190	2,090	1,320	2,930	1,060	1,050	802	452
9	621	340	473	3,060	1,330	1,910	1,220	2,340	1,170	*1,030	910	330
10	583	391	3,060	3,490	980	1,710	1,250	1,970	1,270	722	564	442
11	680	688	2,720	2,610	1,590	1,760	1,010	1,790	2,020	672	554	494
12	473	*504	1,430	1,970	*5,050	*1,730	1,490	1,670	1,170	654	527	594
13	314	446	1,020	1,530	3,430	1,830	1,430	*1,580	987	592	*482	550
14	560	322	1,050	1,610	2,660	1,520	1,500	1,760	1,320	708	509	445
15	430	330	724	1,150	2,570	2,360	1,170	1,400	1,130	*740	404	524
16	421	277	981	1,320	2,270	1,790	1,360	1,680	1,060	1,480	592	468
17	421	294	697	1,080	1,990	1,700	1,220	1,100	1,100	1,030	782	535
18	491	505	905	2,410	1,920	1,750	1,140	1,400	970	902	701	302
19	610	985	648	1,660	1,710	1,530	1,390	2,070	958	1,200	795	358
20	384	1,800	812	1,710	3,320	1,650	1,050	1,870	958	990	726	490
21	361	1,030	702	2,460	*15,200	1,350	1,250	1,560	946	846	958	*346
22	322	773	805	2,120	6,840	1,430	964	1,390	1,230	957	666	544
23	368	455	652	2,000	4,440	2,800	*1,180	1,420	945	1,420	592	545
24	606	746	804	2,400	3,550	2,750	898	1,190	1,020	1,090	686	525
25	498	634	615	2,110	3,140	2,110	1,140	1,170	*988	926	545	549
26	294	1,830	654	1,990	2,750	1,870	914	1,090	*910	841	564	972
27	296	1,070	594	1,750	2,140	1,780	1,080	1,250	972	680	482	1,160
28	466	620	606	2,240	2,170	1,750	855	1,010	891	653	623	465
29	440	694	732	*2,080	-	1,370	1,010	1,060	669	630	438	502
30	522	666	611	1,710	-	1,590	2,270	1,120	987	632	438	488
31	486	-	1,880	1,640	-	1,260	-	752	-	822	354	-
Total	15,376	18,691	28,524	55,797	79,606	62,030	37,361	53,822	32,050	28,230	19,889	15,768
Mean	496	623	920	1,800	2,843	2,001	1,245	1,736	1,068	911	642	526
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 10,200 Min 268 Mean 1,313 Cfsm 2.00 In. 27.28
Water year 1952-53: Max 15,200 Min 268 Mean 1,225 Cfsm 1.87 In. 25.39

Peak discharge (base, 9,000 cfs).--Feb. 21 (10 a.m.) 22,500 cfs (9.38 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 Reservoir, and 5 miles northwest of Bryson City, Swain County.

Drainage area.--13.8 sq mi.

Records available.--October 1935 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 2,280 ft (from topographic map).

Average discharge.--18 years, 44.2 cfs.

Extremes.--Maximum discharge during year, 827 cfs Feb. 21 (gage height, 3.98 ft); minimum, 6.0 cfs Oct. 29, 30, Nov. 4-9, 18, 19 (gage height, 0.80 ft).
1935-53: Maximum discharge, 1,580 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 no gage-height record, which are poor.

Revisions (water years).--WSP 823: Drainage area. WSP 893: 1936, 1937-39(M).

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21

0.8	6.0	1.6	41	2.6	189
1.0	11	1.8	59	3.0	313
1.2	19	2.0	81	3.5	545
1.4	28	2.3	126	4.0	840

Feb. 22 to Sept. 30

0.9	8.2
1.0	11

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

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	7.5	6.2	14	31	49	56	38	55	27	*18	27	12
2	7.2	6.2	16	27	44	90	37	102	26	18	23	12
3	7.0	6.2	15	25	41	77	35	79	26	22	21	14
4	7.0	*6.0	13	22	*38	192	34	72	25	20	20	14
5	7.0	6.0	22	21	35	119	32	65	24	18	20	21
6	7.0	6.0	18	21	40	96	36	123	28	16	18	14
7	7.2	6.0	16	30	51	82	44	137	45	18	16	12
8	8.5	6.0	15	167	41	74	35	*103	28	20	21	11
9	9.1	6.0	15	114	38	64	33	84	27	17	19	11
10	8.2	10	143	121	36	58	35	72	30	15	16	11
11	7.8	15	54	81	74	62	32	63	28	14	15	11
12	7.2	9.4	38	61	328	57	38	57	23	14	14	10
13	7.2	7.0	29	51	145	64	46	51	27	13	14	9.7
14	7.2	6.8	25	45	104	57	37	49	37	12	13	9.4
15	7.0	6.5	23	40	89	73	36	48	27	12	13	9.4
16	7.0	6.2	21	37	73	61	34	42	24	33	12	9.1
17	6.8	6.2	20	40	64	55	33	40	23	18	22	8.8
18	6.8	6.0	18	100	56	58	35	38	20	107	16	8.5
19	6.8	35	18	49	53	53	37	90	19	51	16	10
20	6.5	22	19	47	154	*49	32	63	18	35	37	16
21	6.5	11	19	82	409	46	31	42	20	40	40	10
22	6.5	12	*17	60	182	45	30	48	35	60	27	9.4
23	6.5	11	18	62	126	69	29	44	25	63	22	8.8
24	6.5	12	17	72	106	64	29	41	21	41	21	8.8
25	6.5	14	16	57	90	52	28	38	22	34	19	13
26	6.5	123	15	52	81	48	30	36	25	30	17	15
27	6.2	31	15	50	68	46	28	33	22	26	16	18
28	6.2	21	14	90	61	44	28	31	20	*23	15	12
29	6.0	17	14	65	-	41	27	30	24	22	14	10
30	6.0	15	15	58	-	40	85	29	21	22	13	9.4
31	6.2	-	49	52	-	38	-	28	-	26	*13	-
Total	215.6	451.7	759	1,830	2,676	2,030	1,064	1,843	767	878	590	348.3
Mean	6.95	15.1	24.5	59.0	95.6	65.5	35.5	59.5	25.6	28.3	19.0	11.6
Cfsm	0.504	1.09	1.78	4.28	6.93	4.75	2.57	4.31	1.86	2.05	1.38	0.841
In.	0.58	1.22	2.05	4.93	7.21	5.47	2.87	4.97	2.07	2.37	1.59	0.94

Calendar year 1952: Max 253 Min 6.0 Mean 33.9 Cfsm 2.46 In. 33.45
Water year 1952-53: Max 409 Min 6.0 Mean 36.9 Cfsm 2.67 In. 36.27

Peak discharge (base, 600 cfs).--Feb. 21 (4:30 a.m.) 827 cfs (3.98 ft).
* Discharge measurement made on this day.
Note.--No gage-height record Mar. 26 to Apr. 16, Apr. 19-29, May 29 to June 30; discharge estimated on basis of recorded range in stage, weather records, and records for Oconaluftee River at Birdtown and Jonathan Creek near Cove Creek.

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, and 5.3 miles upstream from Twenty Mile Creek.

Drainage area.--1,571 sq mi.

Records available.--August 1938 to September 1953. 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.--15 years, 3,622 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, about 5,600 cfs for many days (capacity of two turbines); maximum gage height, 7.98 ft July 31; minimum discharge, 40 cfs at times; minimum gage height, 3.14 ft Dec. 10; minimum daily discharge, 460 cfs Dec. 7.

1938-53: 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 Reservoir 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, and Fontana Reservoirs (see p. 229).

Revisions.--WSP 973: Drainage area.

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	4,340	2,380	2,360	1,170	1,750	2,050	3,230	4,530	2,800	3,890	4,440	2,660
2	4,720	1,980	2,260	3,670	3,000	2,400	3,790	4,470	3,660	3,850	3,860	2,440
3	4,840	3,070	2,030	3,680	2,290	2,510	3,390	2,520	3,140	3,990	2,690	2,680
4	4,180	2,090	2,090	677	2,600	3,110	2,810	3,310	3,700	3,040	2,680	2,370
5	3,640	1,910	1,360	3,520	3,290	2,940	1,760	3,830	3,700	3,150	2,550	1,530
6	4,480	1,870	831	3,020	3,080	2,080	2,800	4,190	1,590	4,540	2,670	2,370
7	4,420	1,690	460	2,510	3,220	2,140	2,770	3,770	1,420	3,980	2,660	2,560
8	4,280	1,830	595	1,430	3,520	1,390	2,560	4,190	2,980	3,400	2,620	2,340
9	3,810	2,920	588	2,260	4,130	2,810	*2,270	4,170	3,330	3,330	2,630	2,000
10	2,910	1,970	777	1,540	4,180	2,620	2,520	2,330	3,370	3,210	2,640	1,220
11	2,500	1,860	1,160	1,990	4,360	2,190	2,640	2,290	3,180	3,330	2,660	1,600
12	2,850	2,120	953	2,560	3,980	3,150	1,790	3,200	2,950	2,560	2,670	2,180
13	2,380	1,630	1,030	2,550	3,840	2,630	2,660	2,790	2,890	3,920	2,570	2,070
14	2,310	1,900	811	*2,730	3,440	3,000	2,760	3,510	2,880	*3,620	*2,600	2,490
15	2,190	1,200	4,120	2,700	3,050	2,000	3,100	3,000	3,030	4,390	2,610	2,440
16	2,150	2,000	3,330	2,590	3,900	*2,770	3,020	3,410	2,700	4,430	2,500	2,400
17	2,150	1,790	1,850	3,080	3,980	2,820	2,830	2,850	2,830	3,570	2,640	2,680
18	2,180	1,650	2,130	2,710	4,200	3,030	1,950	3,380	2,580	4,320	2,660	3,240
19	3,040	2,010	2,090	2,950	4,720	2,920	2,540	3,520	2,950	4,090	2,620	*2,490
20	3,390	1,740	1,980	3,110	*3,490	2,820	3,790	*3,290	3,770	4,250	2,700	1,600
21	3,340	631	754	3,280	1,310	1,940	3,600	3,570	2,270	3,920	2,730	3,840
22	*2,510	570	3,850	2,370	1,210	1,660	3,780	3,570	1,910	4,210	2,790	3,760
23	2,460	2,320	2,160	2,700	2,740	1,920	3,590	2,030	2,740	4,340	2,750	3,770
24	2,250	*1,060	3,990	2,560	3,030	2,080	3,460	2,030	3,640	4,340	2,540	4,350
25	2,080	631	818	2,950	2,370	2,910	2,210	3,470	*3,680	3,710	2,690	4,530
26	2,620	598	3,380	3,200	2,720	3,000	2,640	3,710	3,340	3,170	2,820	2,800
27	2,290	748	3,300	2,870	2,150	3,070	4,160	3,600	2,130	4,560	2,750	3,130
28	2,450	728	4,020	2,680	1,650	2,320	4,000	3,380	2,050	4,560	2,740	3,420
29	2,570	792	*4,240	2,640	-	2,550	4,170	2,540	2,760	4,720	2,630	3,840
30	2,410	838	3,970	2,370	-	3,720	4,300	1,750	3,370	4,550	2,500	3,680
31	2,270	-	4,260	2,460	-	3,600	-	1,260	-	4,240	2,570	-
Total	94,010	48,726	67,547	80,527	87,200	80,150	90,890	99,460	87,340	121,180	85,180	83,480
Mean	3,033	1,624	2,179	2,598	3,114	2,585	3,030	3,208	2,911	3,909	2,748	2,783

	Observed			Adjusted†				
Calendar year 1952:	Max 9,790	Min 460	Mean 3,848	Mean 3,316	Cfsm 2.11	In. 28.73		
Water year 1952-53:	Max 4,840	Min 460	Mean 2,810	Mean 3,096	Cfsm 1.97	In. 26.75		

* Discharge measurement made on this day.

† Adjusted for change in contents in Thorpe, Nantahala, and Fontana Reservoirs.

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 1953.

Gage.--Water-stage recorder. Datum of gage is 861.41 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Oct. 1, 1927, staff gages and water-stage recorders at several sites within 1 mile of present site at various datums.

Average discharge.--37 years (1912-18, 1922-53), 4,315 cfs (unadjusted).

Extremes.--Maximum discharge during year, 8,330 cfs Feb. 21 (gage height, 2.96 ft); minimum daily, 1,070 cfs Nov. 26.
1912-18, 1921-53: Maximum discharge, 82,000 cfs Mar. 4, 1917; maximum gage height observed, 11.75 ft Mar. 4, 1917, before breaking of levee near gage; minimum discharge observed, 16 cfs May 28, 1950; minimum daily discharge, 102 cfs Aug. 31, 1947.

Remarks.--Records excellent. Flow regulated by many reservoirs above station.

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.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

0.7	1,070
1.0	1,590
1.5	2,830
2.0	4,430
3.0	8,510

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	5,080	2,580	2,960	1,880	2,940	2,310	4,260	6,020	3,880	4,330	4,310	2,040
2	5,420	1,850	2,410	3,660	3,520	3,460	4,640	6,250	4,310	4,570	3,860	2,260
3	5,500	2,460	*2,700	4,540	*3,200	2,940	4,480	3,880	4,530	5,090	3,350	3,170
4	5,430	2,610	2,510	1,480	3,570	3,830	3,430	6,030	*4,280	3,760	3,130	3,170
5	3,100	1,740	1,870	3,870	3,590	4,120	2,770	5,340	3,760	3,130	2,920	2,630
6	4,650	1,610	1,260	3,300	3,490	3,370	4,020	5,690	1,850	5,390	3,040	2,280
7	4,570	1,550	1,200	2,670	3,890	2,020	3,600	6,360	1,740	4,000	2,980	2,630
8	*5,230	1,890	1,330	3,860	4,500	2,350	3,790	5,500	3,760	4,470	2,570	2,550
9	4,620	3,060	1,260	3,300	4,720	3,540	3,660	5,520	3,700	4,720	2,500	2,830
10	2,470	2,140	1,850	2,640	5,010	2,680	*3,440	3,880	3,920	*2,970	2,550	1,760
11	2,420	1,740	1,390	2,470	5,010	2,870	4,160	4,330	3,820	4,470	2,760	2,080
12	3,060	2,340	1,310	3,500	6,480	3,270	3,070	3,970	3,890	3,470	2,640	2,750
13	2,360	1,920	1,810	3,030	4,860	3,520	4,500	3,640	3,920	4,390	2,710	3,330
14	2,420	1,670	1,590	3,500	4,990	2,780	4,680	4,950	3,470	4,240	*2,520	3,320
15	2,280	1,320	4,490	3,400	3,820	3,250	4,330	4,180	3,640	5,080	2,450	2,770
16	1,800	2,040	3,450	3,350	5,100	3,810	4,430	4,680	3,920	5,040	2,540	3,090
17	1,870	1,720	2,200	3,540	6,020	3,600	4,160	3,990	3,980	4,050	2,790	3,850
18	2,500	1,770	2,400	3,040	4,140	3,010	4,790	4,090	3,600	4,430	2,630	4,090
19	2,960	1,730	2,590	4,440	5,490	3,350	*1,730	5,400	4,020	3,430	2,670	3,440
20	2,950	1,640	2,420	3,480	4,620	3,350	4,260	3,350	4,540	4,360	2,620	2,800
21	3,390	1,280	1,480	4,150	6,250	2,680	4,610	4,160	3,630	3,890	2,550	4,190
22	2,610	1,150	3,980	3,390	2,260	1,710	5,240	4,470	2,820	4,150	2,660	4,490
23	2,230	1,960	2,560	3,990	3,970	3,440	4,900	5,220	3,800	4,930	2,630	4,810
24	2,140	1,990	4,260	3,150	3,750	3,230	4,420	2,400	4,650	4,900	2,480	5,610
25	2,270	1,200	1,580	3,790	3,300	3,770	3,190	3,990	4,610	3,890	2,750	5,180
26	2,670	1,070	3,730	4,150	3,330	3,990	3,910	4,560	4,290	3,270	2,640	3,700
27	2,050	1,130	3,820	2,960	3,200	4,150	5,460	4,600	2,530	4,670	3,240	4,020
28	2,510	1,130	4,000	4,040	1,700	2,860	5,240	3,600	2,180	4,440	2,920	4,380
29	2,730	1,400	4,360	3,730	-	2,340	5,160	2,950	3,470	4,400	2,880	4,280
30	2,410	1,350	4,970	3,600	-	5,050	6,210	1,740	3,830	4,810	2,080	4,430
31	2,010	-	4,890	2,690	-	5,000	-	1,370	-	5,530	2,900	-
Total	97,710	53,040	82,630	104,590	116,720	101,650	126,540	134,110	110,340	134,270	87,270	101,930
Mean	3,152	1,768	2,665	3,374	4,169	3,279	4,218	4,326	3,678	4,331	2,815	3,398

	Observed			Adjusted†			
Calendar year 1952:	Max 10,300	Min 1,070	Mean 4,445	Mean 3,829	Cfsm 2.06	In. 27.99
Water year 1952-53:	Max 6,480	Min 1,070	Mean 3,427	Mean 3,729	Cfsm 2.00	In. 27.19

* Discharge measurement made on this day.
† Adjusted for change in contents in Fontana, Cheoah, Calderwood, Nantahela, Thorpe, and Santeetlah Reservoirs.

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 1953. 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 present site and datum. Oct. 1, 1927, to Sept. 30, 1930, staff gage at site half a mile upstream at datum 8.29 ft higher.

Average discharge.--28 years, 282 cfs.

Extremes.--Maximum discharge during year, 10,400 cfs Feb. 21 (gage height, 11.24 ft); minimum, 29 cfs Sept. 19 (gage height, 0.99 ft).

1925-53: 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 ft).

Remarks.--Records good.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

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

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	36	33	94	373	388	380	266	*690	174	78	172	33
2	*34	33	*110	*276	*334	*483	*247	585	*163	*72	126	*32
3	33	*33	110	279	307	452	231	488	155	92	*84	33
4	32	33	92	231	286	1,160	222	528	150	171	76	62
5	32	32	160	203	257	745	212	635	144	121	72	367
6	32	32	166	191	312	546	218	1,180	142	88	68	99
7	32	32	131	263	456	465	313	1,240	155	125	64	59
8	37	31	116	1,780	376	412	263	780	144	165	59	47
9	47	31	107	1,460	324	369	238	605	131	97	90	44
10	52	43	1,060	1,790	290	344	270	501	136	78	66	43
11	46	80	710	844	594	362	244	434	177	72	57	40
12	39	72	337	560	*1,650	327	653	388	128	68	56	40
13	37	44	238	438	937	351	844	355	144	66	54	39
14	36	37	191	362	625	337	570	327	267	64	50	34
15	36	36	160	317	680	750	429	327	142	64	49	33
16	34	34	136	283	585	438	373	293	158	88	59	32
17	34	33	128	260	640	404	324	273	152	78	66	31
18	34	32	121	646	506	420	324	276	126	176	76	31
19	33	169	114	438	460	376	400	1,250	114	198	56	33
20	32	197	110	362	1,020	341	327	635	110	97	54	160
21	32	114	131	780	4,210	320	307	412	110	151	66	56
22	*31	119	119	575	1,430	310	290	341	116	195	56	41
23	33	101	110	524	888	418	273	300	99	323	61	37
24	33	105	103	680	710	645	260	273	121	158	59	36
25	33	308	101	580	605	452	279	254	97	110	50	72
26	33	924	94	465	537	376	279	238	90	94	44	111
27	33	331	90	478	465	341	247	225	105	86	41	66
28	33	177	88	730	412	317	234	206	90	78	39	56
29	32	128	84	645	-	293	225	197	86	76	36	46
30	32	112	90	496	-	273	1,260	188	84	90	34	41
31	32	-	589	412	-	263	-	182	-	84	33	-
Total	1,085	3,486	5,990	17,721	20,284	13,470	10,622	14,606	4,010	3,503	1,973	1,854
Mean	35.0	116	193	572	724	435	354	471	134	113	63.6	61.8
Cfsm	0.297	0.983	1.64	4.85	6.14	3.69	3.00	3.99	1.14	0.958	0.539	0.524
In.	0.34	1.10	1.89	5.59	6.39	4.25	3.35	4.60	1.26	1.10	0.62	0.58

Calendar year 1952: Max 2,600 Min 31 Mean 210 Cfsm 1.78 In. 24.27
Water year 1952-53: Max 4,210 Min 31 Mean 270 Cfsm 2.29 In. 31.07

Peak discharge (base, 2,800 cfs).--Jan. 8 (4 p.m.) 3,750 cfs (7.83 ft); Feb. 21 (6:30 a.m.) 10,400 cfs (11.24 ft).

* Discharge measurement made on this day.

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 1953 in reports of Geological Survey. November 1904 to September 1924 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.--48 years (1905-53), 5,711 cfs (unadjusted).

Extremes.--Maximum discharge during year, 23,000 cfs Feb. 21 (gage height, 12.39 ft); minimum daily, 1,520 cfs Nov. 15.

1904-53: Maximum discharge observed, 92,000 cfs Apr. 2, 1920 (gage height, 30.5 ft, site and datum then in use), from rating curve extended above 66,000 cfs; minimum daily, 500 cfs Sept. 13, 14, 1925.

Maximum stage known, 39.0 ft, original site and datum, in March 1867.

Remarks.--Records excellent. Flow regulated by many reservoirs above station.

Revisions (water years).--WSP 803: 1933-35. WSP 823: Drainage area.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 8 to Aug. 17)

Oct. 1 to Jan. 21		Jan. 22 to Sept. 30	
3.5	1,490	3.7	1,810
5.0	4,250	5.0	4,380
7.0	8,950	7.0	9,150
		10.0	16,800

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	5,070	2,560	2,700	4,710	4,200	3,290	5,570	9,900	3,440	4,450	5,290	2,340
2	5,280	2,250	2,810	4,010	4,610	4,700	5,070	10,300	4,560	4,770	4,770	2,350
3	5,550	2,080	2,720	5,090	*4,080	4,680	5,450	8,480	4,890	5,170	4,240	3,060
4	5,420	2,700	2,920	3,430	4,200	7,230	4,330	6,920	*4,470	4,590	3,540	3,160
5	3,850	2,130	2,440	3,530	4,360	8,650	3,730	7,830	4,330	3,400	3,480	3,580
6	4,400	1,780	2,290	4,110	4,330	5,330	4,260	8,810	2,830	5,070	3,290	2,820
7	4,520	*1,680	1,880	3,670	5,670	4,170	4,590	11,200	2,080	4,840	3,400	2,780
8	*4,920	1,810	1,620	4,980	5,980	3,730	4,680	*8,910	3,230	4,860	3,480	2,600
9	4,560	2,590	1,630	8,320	6,150	4,170	4,360	7,520	4,110	5,190	2,590	*3,040
10	3,470	2,570	3,500	8,900	5,810	3,890	*4,400	6,170	4,260	*3,920	2,800	2,440
11	2,370	2,150	6,700	6,340	6,460	*3,600	4,840	5,020	4,040	4,150	3,303	2,140
12	3,020	2,280	3,210	*5,260	13,700	4,170	4,860	5,500	4,200	4,150	2,910	2,450
13	2,800	2,310	2,600	4,460	12,100	4,240	7,690	4,500	4,170	4,770	3,010	3,200
14	2,440	1,900	2,560	4,650	8,430	4,220	7,660	5,380	4,330	4,660	*2,970	3,380
15	2,380	1,520	4,060	4,440	7,640	7,230	6,080	5,360	3,890	5,000	2,850	3,130
16	2,130	1,790	4,230	4,380	8,650	5,790	5,770	5,210	4,200	5,480	2,920	3,210
17	2,030	1,950	2,960	4,050	9,030	5,430	5,410	5,140	4,200	4,680	3,130	3,520
18	2,220	1,900	2,650	4,250	7,300	4,750	5,500	4,540	4,110	5,070	2,740	4,260
19	3,040	1,930	2,910	5,220	7,040	4,750	4,050	12,500	3,950	4,660	2,820	3,730
20	2,710	2,010	2,600	4,710	7,330	4,790	3,760	10,100	4,790	4,500	2,780	3,500
21	3,630	1,880	2,310	6,680	16,000	4,040	5,330	6,290	4,560	4,500	2,640	4,040
22	3,160	1,840	3,140	6,390	13,700	2,660	5,790	5,930	3,110	4,770	2,830	4,110
23	2,290	2,060	3,580	5,550	7,470	4,130	5,530	4,610	3,460	5,500	2,780	4,910
24	2,280	2,510	3,660	5,410	6,530	5,860	5,210	3,400	4,840	6,030	2,660	5,840
25	2,050	2,200	3,200	5,910	5,600	5,530	4,380	4,220	5,090	4,450	2,740	5,360
26	2,650	2,760	2,810	5,740	5,120	5,550	4,200	4,960	4,380	4,020	2,660	4,520
27	2,240	2,870	3,860	4,790	4,890	5,430	5,380	5,480	3,520	4,630	2,070	3,890
28	2,220	1,790	4,290	5,670	3,400	4,520	5,770	4,400	2,400	4,960	3,170	4,680
29	3,020	1,620	4,380	7,010	-	3,400	5,770	3,710	3,080	5,070	3,150	4,200
30	2,620	1,830	4,980	6,250	-	5,070	8,190	2,510	3,950	5,120	2,360	4,770
31	2,120	-	6,800	4,020	-	5,840	-	1,950	-	6,100	2,730	-
Total	100,440	63,250	102,000	161,930	199,780	150,840	157,610	196,750	118,470	148,530	96,830	107,010
Mean	3,240	2,108	3,290	5,224	7,135	4,866	5,254	6,347	3,949	4,791	3,124	3,567

	Observed						Adjusted†					
Calendar year 1952:	Max	15,300	Min	1,520	Mean	5,143	Mean	4,527	Cfsm	1.85	In.	25.22
Water year 1952-53:	Max	16,000	Min	1,520	Mean	4,393	Mean	4,695	Cfsm	1.92	In.	26.09

* Discharge measurement made on this day.
† Adjusted for change in contents in Santeetlah, Fontana, Thorpe, Cheoah, Calderwood, and Nantahala Reservoirs.

Tennessee River at Loudon, Tenn.

Location.--Lat 35°44'33", long. 84°19'56", in second pier from left bank at bridge on U. S. Highway 11, at Loudon, Loudon County, 9¾ miles downstream from Little Tennessee River, 10¾ miles downstream from Fort Loudon Dam, 61 miles upstream from Watts Bar Dam, and at mile 591.6.

Drainage area.--12,220 sq mi, approximately.

Records available.--October 1922 to September 1953. 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 or recording gages at several sites within 4 miles of present site at various datums. Since Feb. 17, 1942, auxiliary water-stage recorder at Lenoir City, 8¾ miles upstream from base gage.

Average discharge.--31 years, 18,920 cfs.

Extremes.--Maximum discharge during year, 56,400 cfs Feb. 21; maximum gage height, 18.70 ft May 4; minimum daily discharge, 2,690 cfs Sept. 7; minimum gage height, 8.65 ft Jan. 7.

1922-53: Maximum discharge, 169,000 cfs Mar. 28, 1936 (gage height, 25.75 ft); minimum daily discharge, 1,820 cfs Apr. 30, 1950; minimum gage height, 0.82 ft Sept. 12, 1925, site and datum then in use.

Flood of Mar. 5, 1917, reached a stage of 32.9 ft, present site and datum (discharge, 225,000 cfs, from rating curve extended above 151,000 cfs). U. S. Weather Bureau reports stages of 49.7 ft Mar. 10 or 11, 1867, 42.7 ft Feb. 27, 1875, and 34.9 ft Mar. 31, 1886, present site and datum. Flood of Mar. 31, 1886, may have reached a higher stage; no readings obtained that year after Mar. 31.

Remarks.--Records good. Flow regulated by many reservoirs above station.

Revisions.--WSP 823: Drainage area.

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	16,200	15,500	17,500	14,300	17,400	25,300	20,300	20,700	18,400	19,400	3,500	17,400
2	15,900	9,890	17,700	14,400	21,500	23,300	19,700	15,800	19,300	20,400	6,910	18,300
3	16,800	8,970	17,800	22,400	23,400	24,000	20,000	14,900	20,400	21,900	16,500	21,500
4	17,900	14,200	16,900	19,400	22,800	30,000	16,100	15,000	18,700	9,140	19,800	20,200
5	4,020	14,500	16,700	18,400	21,200	34,000	13,600	10,100	19,000	8,760	20,700	13,800
6	12,000	14,100	18,000	14,600	20,700	31,100	14,800	11,400	19,200	12,500	22,600	3,950
7	17,300	14,600	9,130	14,400	20,600	28,400	20,300	16,000	17,700	19,600	23,000	2,690
8	17,300	10,300	15,000	13,600	18,400	21,500	20,600	15,100	20,200	*16,800	12,200	8,420
9	15,700	13,200	17,100	18,300	22,400	21,900	21,100	12,700	*19,500	16,000	5,840	13,100
10	15,200	14,200	16,600	19,500	19,400	21,700	20,500	9,540	19,000	13,000	10,100	15,900
11	10,800	13,500	21,800	15,100	22,800	24,600	14,800	12,700	22,000	4,680	20,500	14,900
12	6,040	15,900	23,100	*16,600	22,900	24,600	13,900	*11,000	20,500	5,100	21,200	12,500
13	11,600	13,600	24,200	15,800	26,800	22,800	21,100	11,300	15,600	17,700	21,900	3,780
14	*12,800	9,940	16,400	15,600	26,500	21,300	26,900	22,100	12,600	18,400	21,700	13,300
15	16,200	6,630	19,000	10,600	27,200	23,100	25,800	9,380	21,800	16,000	7,720	13,300
16	15,300	3,570	21,200	9,690	26,800	*19,500	*26,400	6,600	18,200	17,600	4,920	14,600
17	16,700	7,260	20,700	13,800	*27,700	19,000	24,500	6,980	18,200	17,800	16,600	14,800
18	13,600	9,420	20,100	17,900	25,100	18,900	22,600	8,480	16,600	7,300	17,900	16,000
19	14,500	10,100	20,100	14,300	22,400	18,900	18,900	21,900	16,100	8,790	*16,600	8,650
20	16,400	12,200	19,600	14,500	20,800	18,200	20,600	32,400	11,200	16,000	19,300	6,550
21	15,500	15,100	17,100	17,700	37,600	17,400	23,900	12,400	8,060	15,400	19,900	9,400
22	17,300	12,200	16,000	16,300	42,600	14,300	22,200	8,050	19,200	13,200	7,700	9,180
23	17,900	11,500	16,700	16,400	34,900	13,400	20,500	6,310	22,900	6,670	6,600	8,570
24	17,500	17,300	15,700	19,400	33,500	17,600	18,000	5,620	20,300	7,300	12,600	8,730
25	16,500	17,300	15,500	16,600	35,900	20,200	12,000	8,020	19,500	5,940	15,800	8,800
26	11,900	*15,700	16,500	18,100	33,600	18,700	11,100	7,980	17,700	5,150	18,500	13,200
27	12,100	11,900	15,500	19,800	34,600	18,400	12,600	7,920	14,600	10,700	18,200	3,580
28	15,200	11,100	14,200	19,500	32,100	16,200	15,700	7,490	7,620	12,500	21,200	12,600
29	15,300	15,800	18,800	24,800	-	13,700	15,700	7,340	16,500	13,800	7,120	13,200
30	15,200	12,000	14,900	24,800	-	16,800	20,000	11,500	19,600	12,000	6,580	13,200
31	13,600	-	16,800	18,700	-	20,200	-	13,600	-	13,000	14,400	-
Total	450,460	371,480	546,330	525,290	741,600	659,000	574,200	382,310	530,180	402,530	458,090	354,100
Mean	14,530	12,380	17,620	16,940	26,490	21,260	19,140	12,330	17,670	12,980	14,780	11,800
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 41,000 Min 3,570 Mean 16,280 Cfsm 1.33 In. 18.14
Water year 1952-53: Max 42,600 Min 2,690 Mean 16,430 Cfsm 1.34 In. 18.25

* Discharge measurement made on this day.

Taylor Spring at Cedar Bluff, Va.

Location.--Lat 37°04'17", long. 81°45'20", 0.9 mile south of Cedar Bluff, Tazewell County, and 3 miles southeast of Richlands.
Records available.--October 1952 to September 1953 (discharge measurements only), discontinued.
Extremes.--Maximum discharge measured during year, 0.500 cfs Feb. 26; minimum measured, 0.182 cfs Jan. 20.
Remarks.--Discharge measurements made about once a month 10 ft below spring.

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

Oct. 15	0.312	Jan. 20	0.182	July 16	0.342
Nov. 7	.259	Feb. 26	.500	Aug. 13	.293
Dec. 10	.278	Apr. 2	.454	Sept. 1	.307

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 1953.
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.--7 years, 180 cfs.
Extremes.--Maximum discharge during year, 5,080 cfs May 19 (gage height, 13.23 ft); minimum, 4.0 cfs Oct. 8, 9, Nov. 4 (gage height, 0.48 ft); minimum daily, 16 cfs Nov. 3, Aug. 31.
1946-53: Maximum discharge, that of May 19, 1953; minimum, that of Oct. 8, 9, Nov. 4, 1952; minimum gage height, 0.45 ft July 2, 3, 1951; minimum daily discharge, 14 cfs Oct. 7, 1946.
Remarks.--Records good. Diurnal fluctuation at low flow caused by mill above station.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

0.6	10	3.0	490
.7	18	4.0	780
1.0	52	6.0	1,550
1.5	140	8.0	2,450
2.0	245	11.0	3,900

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	28	22	46	114	243	176	156	156	96	93	46	*28
2	20	21	46	112	196	259	*144	245	86	84	48	26
3	22	16	51	132	172	535	130	292	80	96	59	19
4	20	24	48	136	158	1,150	124	209	74	91	74	26
5	22	28	60	118	134	920	114	180	69	76	52	34
6	18	30	100	106	126	530	116	494	91	766	47	41
7	26	29	86	324	204	376	168	1,390	188	2,590	59	35
8	20	28	69	438	236	316	196	690	95	908	63	29
9	*27	23	60	316	200	250	184	438	74	451	66	26
10	31	20	352	263	172	211	178	316	122	292	52	26
11	28	34	*990	231	164	190	160	243	184	220	45	24
12	22	33	376	207	556	176	160	200	98	176	40	26
13	22	30	231	188	735	166	421	170	209	152	*38	25
14	24	30	166	194	438	146	477	154	336	132	36	22
15	24	27	126	184	464	261	316	240	162	108	33	24
16	20	27	102	170	425	340	270	188	*116	*98	32	21
17	22	19	86	156	530	270	211	160	216	89	34	22
18	20	27	77	156	400	400	182	481	213	84	40	22
19	19	24	71	146	340	530	182	*3,840	146	82	34	20
20	18	114	71	*134	388	376	160	2,580	110	74	32	26
21	27	224	74	275	1,960	285	148	1,030	231	65	32	25
22	18	352	79	400	1,310	234	130	572	823	100	31	25
23	23	168	77	304	645	227	120	400	340	126	29	24
24	21	184	72	504	451	316	118	304	211	76	28	23
25	20	124	68	558	364	340	108	240	154	58	30	27
26	18	89	63	388	*292	290	114	200	124	56	32	20
27	20	74	60	328	236	245	110	172	118	53	32	22
28	24	60	53	460	204	215	100	146	136	56	28	22
29	25	53	52	586	-	192	91	126	124	45	30	23
30	28	48	50	400	-	170	110	116	118	47	27	24
31	25	-	69	292	-	148	-	106	-	46	16	-
Total	700	1,982	3,931	8,320	11,743	10,240	5,196	16,078	5,144	7,390	1,245	757
Mean	22.6	66.1	127	268	419	330	173	519	171	238	40.2	25.2
Cfsm	0.163	0.476	0.914	1.93	3.01	2.37	1.24	3.73	1.23	1.71	0.289	0.181
In.	0.19	0.53	1.05	2.22	3.13	2.73	1.38	4.30	1.37	1.97	0.33	0.20

Calendar year 1952: Max 1,840 Min 16 Mean 166 Cfsm 1.19 In. 16.32
Water year 1952-53: Max 3,840 Min 16 Mean 199 Cfsm 1.43 In. 19.40

Peak discharge (base, 1,300 cfs).--Dec. 11 (2 a.m.) 1,390 cfs (5.62 ft); Feb. 21 (5 p.m.) 2,760 cfs (8.74 ft); Mar. 4 (7 p.m.) 1,470 cfs (5.84 ft); May 7 (10:30 a.m.) 1,640 cfs (6.18 ft); May 19 (5 p.m.) 5,080 cfs (13.23 ft); July 7 (8:30 a.m.) 3,600 cfs (10.40 ft).
* Discharge measurement made on this day.

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 1953.

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.--31 years (1921-23, 1924-53), 686 cfs.

Extremes.--Maximum discharge during year, 16,000 cfs May 20 (gage height, 16.66 ft); minimum, 48 cfs Oct. 20; minimum gage height, 1.24 ft Oct. 4, 20.
1920-53: Maximum discharge, 26,500 cfs (revised) Dec. 22, 1926 (gage height, 23.0 ft, from graph based on gage readings, site and datum then in use), from rating curve extended above 13,000 cfs by logarithmic plotting; minimum, 39 cfs Feb. 10, 1934 (gage height, 0.96 ft).
Revisions.--The maximum discharge and gage height for water year 1926 have been revised to 36,500 cfs Dec. 22, 1926 (gage height, 23.0 ft, from graph based on gage readings, site and datum then in use), superseding figures published in WSP 623.

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

Revisions.--WSP 823: Drainage area.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 21		Nov. 22 to Sept. 30			
1.2	52	1.3	58	4.0	1,160
1.4	88	1.5	102	5.0	1,930
1.7	155	2.0	225	7.0	3,530
2.0	245	2.5	390	11.0	7,590
3.0	620	3.0	610	15.0	13,400

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	63	63	198	390	a1,000	685	588	685	402	660	165	*87
2	68	63	182	466	a800	815	*565	1,620	350	475	168	69
3	68	63	188	452	a700	1,570	498	1,850	322	422	190	87
4	59	66	185	493	a600	3,780	466	1,070	301	439	225	91
5	59	68	218	452	*520	4,050	434	815	280	414	250	160
6	57	70	366	398	462	2,410	406	*842	318	374	192	200
7	56	*72	382	466	710	1,610	506	3,210	635	2,720	165	168
8	56	65	308	1,200	925	1,230	610	2,970	484	3,370	280	138
9	*81	61	250	1,230	815	980	635	1,770	329	1,490	250	114
10	84	77	820	1,230	685	815	588	1,230	718	898	212	102
11	92	94	4,140	1,070	610	735	565	952	1,570	660	182	91
12	88	121	2,090	898	1,460	660	520	760	685	542	160	89
13	83	117	1,070	760	2,890	610	925	660	653	444	*145	80
14	70	98	635	710	1,930	565	1,850	565	1,340	386	138	78
15	68	84	542	685	1,690	710	1,300	685	898	343	130	80
16	70	79	*422	610	1,690	1,070	1,010	685	*542	*308	123	78
17	65	74	350	565	2,170	952	842	542	484	287	120	78
18	59	70	301	588	1,770	1,130	710	588	565	265	120	71
19	63	66	271	635	1,340	1,810	685	9,120	475	253	125	73
20	56	158	253	588	1,410	1,410	610	12,400	374	242	120	93
21	54	523	253	*635	6,000	1,070	565	4,410	401	225	118	100
22	54	1,040	253	1,340	6,660	870	502	2,410	1,230	232	125	91
23	61	788	250	1,200	3,050	815	452	1,610	1,130	898	128	84
24	59	788	245	1,410	1,930	1,530	430	1,200	665	448	104	78
25	61	710	238	2,250	1,410	1,570	402	952	565	280	104	78
26	61	565	225	1,200	1,130	1,260	402	788	398	225	102	76
27	61	430	212	1,230	925	1,040	398	685	382	208	102	87
28	56	332	202	1,530	815	898	370	565	565	195	100	73
29	56	259	188	2,410	-	788	343	498	1,220	188	98	71
30	59	225	175	a1,700	-	685	398	452	1,230	178	93	69
31	65	-	215	a1,300	-	610	-	418	-	168	91	-
Total	2,012	7,289	15,627	30,091	46,097	38,733	18,575	57,007	19,511	18,237	4,625	2,834
Mean	64.9	243	504	971	1,646	1,249	619	1,839	650	588	149	94.5
Cfsm	0.123	0.460	0.955	1.84	3.12	2.37	1.17	3.48	1.23	1.11	0.282	0.179
In.	0.14	0.51	1.10	2.12	3.25	2.73	1.30	4.01	1.37	1.28	0.33	0.20

Calendar year 1952: Max 5,720 Min 54 Mean 620 Cfsm 1.17 In. 15.99
Water year 1952-53: Max 12,400 Min 54 Mean 714 Cfsm 1.35 In. 18.34

Peak discharge (base, 5,000 cfs).--Feb. 21 (10 p.m.) 8,800 cfs (11.94 ft); May 20 (1 a.m.) 16,000 cfs (16.66 ft); July 8 (12:30 a.m.) 5,130 cfs (8.76 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for stations at Richlands and Speers Ferry.

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 1953.

Gage.--Water-stage recorder. Datum of gage is 1,925.00 ft above mean sea level (Interstate Railway benchmark).

Extremes.--Maximum discharge during year, 2,550 cfs Feb. 21 (gage height, 9.30 ft); minimum, 1.8 cfs Sept. 2 (gage height, 1.28 ft).
1949-53: Maximum discharge, 2,850 cfs Jan. 31, 1950 (gage height, 9.93 ft); minimum, that of Sept. 2, 1953.

Remarks.--Records good.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Jan. 13-20, 26-28)

Oct. 1 to Feb. 21						Feb. 22 to Sept. 30			
1.3	2	2.0	83	4.0	524	1.2	1	1.7	36
1.4	5	2.5	162	5.0	875	1.3	2	2.0	78
1.5	12	3.0	252	7.0	1,570	1.4	5	2.5	155
1.6	23	3.5	368	9.0	2,400	1.5	12	3.0	252

Note.--Same as preceding table above 3.0 ft.

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	3.9	2.4	44	64	160	110	102	285	54	50	6.4	2.0
2	3.9	2.4	42	65	128	248	98	465	47	36	7.0	*1.9
3	3.9	2.2	46	80	111	488	86	368	42	33	6.4	2.0
4	3.6	2.4	42	86	101	1,020	*78	225	39	47	7.0	2.0
5	3.6	2.7	60	80	88	822	72	175	33	50	5.9	16
6	3.3	*3.0	106	72	100	394	71	649	49	63	5.4	21
7	3.3	3.0	90	119	227	261	152	1,120	118	78	5.0	9.2
8	3.6	2.4	72	306	220	207	181	632	64	58	4.2	4.6
9	*7.0	2.4	60	578	176	160	160	344	47	88	3.9	3.6
10	10	3.3	*450	578	146	135	145	237	288	54	3.6	3.3
11	7.6	7.0	910	408	130	119	124	181	357	40	3.3	3.3
12	5.9	8.3	332	229	380	108	114	143	127	32	3.0	3.0
13	5.9	8.3	181	151	488	106	166	124	108	27	*3.0	3.0
14	5.4	6.4	125	116	308	101	188	108	116	22	3.3	2.4
15	5.0	5.0	96	98	248	244	181	100	75	21	3.0	2.2
16	4.2	4.8	80	84	203	320	168	92	65	18	3.0	2.2
17	4.2	4.2	66	74	237	242	138	82	75	16	3.3	2.2
18	3.6	3.9	59	130	208	359	122	94	*56	15	3.6	2.0
19	3.3	4.8	53	154	191	454	122	1,120	42	15	3.0	2.0
20	3.0	10	52	*140	457	308	107	1,750	35	14	3.0	3.6
21	2.7	22	50	201	2,090	227	100	632	84	14	2.7	3.6
22	2.7	54	47	242	1,280	179	92	285	160	13	2.7	3.3
23	2.4	66	44	207	454	169	86	194	68	*32	7.6	2.7
24	3.0	88	42	222	285	308	79	227	49	27	4.6	2.7
25	3.9	114	36	220	213	308	74	160	39	18	3.3	2.4
26	3.3	344	35	165	*171	248	75	128	32	12	3.0	2.4
27	2.4	239	34	152	141	196	74	107	32	9.2	2.7	2.7
28	3.3	117	34	345	125	162	70	89	49	7.6	2.4	2.4
29	2.7	74	32	488	-	138	63	75	50	7.6	2.2	2.0
30	2.7	56	35	285	-	118	139	63	75	6.4	2.2	2.0
31	2.7	-	42	199	-	106	-	58	-	5.9	2.0	-
Total	126.0	1,262.5	3,397	6,338	9,066	8,365	3,427	10,312	2,475	929.7	121.7	117.7
Mean	4.06	42.1	110	204	324	270	114	333	82.5	30.0	3.93	3.92
Cfsm	0.047	0.482	1.26	2.34	3.71	3.09	1.31	3.81	0.945	0.344	0.045	0.045
In.	0.05	0.54	1.45	2.70	3.86	3.56	1.46	4.39	1.05	0.40	0.05	0.05

Calendar year 1952: Max 1,910 Min 2.2 Mean 128 Cfsm 1.47 In. 19.87
Water year 1952-53: Max 2,090 Min 1.9 Mean 126 Cfsm 1.44 In. 19.56

Peak discharge (base, 1,500 cfs).--Feb. 21 (1:30 p.m.) 2,550 cfs (9.30 ft); May 20 (4 a.m.) 2,030 cfs (8.20 ft).

* Discharge measurement made on this day.

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 1953.

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.--6 years, 153 cfs.

Extremes.--Maximum discharge observed during year, 3,040 cfs May 19 (gage height, 9.76 ft); minimum discharge, 21 cfs Aug. 28, Sept. 29, 30; minimum gage height observed, 2.16 ft Nov. 8.

1947-53: Maximum discharge, 6,800 cfs (revised) Jan. 30, 1950 (gage height, 13.0 ft, from graph based on gage readings), from rating curve extended above 3,200 cfs by logarithmic plotting; minimum, that of Aug. 28, Sept. 29, 30, 1953; minimum gage height observed, that of Nov. 8, 1952.

Revisions.--The maximum discharge and gage height for water year 1950 have been revised to 6,800 cfs Jan. 30, 1950 (gage height, 13.0 ft, from graph based on gage readings), superseding figures published in WSP 1173.

Remarks.--Records fair.

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

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21				Feb. 22 to Sept. 30	
2.1	18	5.0	488	2.2	19
2.5	55	6.0	716	2.6	63
3.0	112	7.0	1,040	3.0	117
3.5	186	8.0	1,590	4.0	283
4.0	280	9.0	2,380	5.0	488

Note.--Same as preceding table above 5.0ft.

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	28	24	66	125	146	156	172	180	110	61	33	22
2	28	24	62	106	125	230	172	140	102	55	31	*22
3	27	24	66	106	118	401	140	117	95	83	31	24
4	26	25	66	100	106	1,190	132	102	88	67	30	24
5	26	*26	72	94	100	925	117	95	83	61	30	46
6	26	24	186	82	88	444	117	124	82	56	29	44
7	*26	24	118	82	170	321	180	422	95	180	28	37
8	28	23	94	125	186	265	*188	247	247	180	27	27
9	32	24	*77	203	139	213	164	283	76	95	27	24
10	34	30	300	444	118	188	148	213	84	63	27	24
11	31	37	890	320	112	172	148	164	110	53	27	24
12	28	57	380	194	360	156	132	140	88	49	26	24
13	27	35	194	146	488	156	213	124	82	47	27	22
14	26	30	139	125	300	132	230	110	102	44	26	22
15	26	26	118	106	360	321	172	156	87	43	25	22
16	25	24	94	100	422	283	156	124	74	43	25	23
17	24	25	82	88	488	213	140	110	*70	42	25	23
18	24	24	77	154	360	302	140	*110	80	42	29	23
19	24	29	72	*170	260	466	172	1,740	65	42	26	22
20	25	112	66	139	280	302	148	1,740	61	41	25	29
21	24	106	66	170	1,900	230	132	620	58	*41	24	30
22	24	118	62	221	*960	196	117	422	67	53	29	27
23	24	132	60	170	554	188	110	321	83	57	28	24
24	25	178	56	178	360	576	102	265	63	46	25	23
25	26	178	53	212	302	422	102	204	58	40	24	23
26	26	488	51	178	247	302	102	180	55	36	23	25
27	25	260	49	154	204	*247	102	164	53	36	23	25
28	24	146	47	186	180	213	88	148	58	34	21	23
29	25	94	45	340	-	188	83	132	62	33	22	22
30	24	77	43	221	-	164	88	124	61	31	23	22
31	24	-	58	178	-	148	-	117	-	32	22	-
Total	812	2,424	3,809	5,217	9,433	9,710	4,207	9,138	2,499	1,786	818	772
Mean	26.2	80.8	123	168	337	313	140	295	83.3	57.6	26.4	25.7
Cfsm	0.247	0.762	1.16	1.58	3.18	2.95	1.32	2.78	0.786	0.543	0.249	0.242
In.	0.28	0.85	1.34	1.82	3.31	3.40	1.47	3.20	0.88	0.63	0.29	0.27

Calendar year 1952: Max 1,290 Min 24 Mean 135 Cfsm 1.27 In. 17.38
Water year 1952-53: Max 1,900 Min 21 Mean 139 Cfsm 1.31 In. 17.74

* Discharge measurement made on this day.

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 1953. 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.--33 years, 1,580 cfs.

Extremes.--Maximum discharge during year, 23,700 cfs May 20 (gage height, 19.76 ft); minimum, 107 cfs Nov. 1; minimum gage height, 1.33 ft Sept. 4, 19, 30.

1920-53: Maximum discharge, 37,200 cfs Feb. 3, 1923 (gage height, 25.85 ft, present datum, from graph based on gage readings), from rating curve extended above 11,000 cfs on basis of logarithmic plotting; minimum, 42 cfs Sept. 29, Oct. 23, 1939; minimum daily, 77 cfs Oct. 7, 8, 14, 15, 22, 1930.

Maximum stage observed since at least February 1895, 26.6 ft Feb. 28, 1902, at site 400 ft downstream and at datum about 1 ft higher (discharge not determined).

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)
603	1925	Dec. 9, 1924	25,400	†18.0
643	1927	Dec. 22, 1926	35,000	†24.7
663	1928	May 1, 1928	9,560	†10.6
683	1929	Mar. 24, 1929	25,400	†20.6
698	1930	Nov. 18, 1929	13,600	†14.0
713	1931	Apr. 5, 1931	11,500	†12.3
728	1932	Jan. 30, 1932	30,500	23.10
738	1935	Apr. 2, 1935	20,500	17.80

† From graph based on gage readings.

Remarks.--Records good. Prior to May 1951, diurnal fluctuation at low flow caused by mill above station.

Revisions.--WSP 823: Drainage area. Revised figures of discharge, in cubic feet per second, for high-water periods in the water years 1927 and 1932, superseding those published in WSP 643 and 728, are given herewith:

1926
Dec. 22..... 32,500
23..... 20,500
24..... 22,300

1932
Jan. 30..... 26,200

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
December 1926.....	224,530	32,500	1,110	7,240	6.43	7.41
Calendar year 1926..	684,118	32,500	105	1,870	1.66	22.58
Water year 1926-27..	924,877	32,500	178	2,530	2.25	30.55
January 1932.....	105,733	26,200	756	3,410	3.03	3.49
Water year 1931-32..	586,979	26,200	90	1,600	1.42	19.42
Calendar year 1932..	623,372	26,200	90	1,700	1.51	20.60

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Clinch River at Speers Ferry, Va.--Continued

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 11				Dec. 12 to Sept. 30			
1.3	105	4.0	1,160	1.3	108	4.0	1,260
1.6	162	6.0	3,100	1.6	168	6.0	3,100
2.0	260	9.0	6,560	2.0	268	9.0	6,560
3.0	620			2.5	431	14.0	13,000
				3.0	645	20.0	24,100

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	167	107	520	772	2,110	1,620	1,500	1,980	855	1,750	262	127
2	156	108	460	940	1,750	1,840	1,460	2,110	800	1,110	268	*123
3	150	112	450	1,110	1,500	3,210	1,300	3,540	720	882	251	121
4	142	114	446	1,140	1,300	7,880	1,180	2,600	645	800	282	119
5	144	*115	540	1,110	1,180	9,200	1,110	1,930	595	828	265	258
6	142	117	875	970	1,080	5,960	1,040	1,880	572	874	348	230
7	134	114	960	910	1,500	3,760	1,800	3,650	910	1,880	307	274
8	136	114	850	1,460	1,980	2,800	*2,160	5,600	1,140	3,870	254	248
9	158	114	*710	3,430	1,930	2,350	1,930	3,980	910	3,320	280	202
10	*171	134	1,720	3,870	1,660	1,980	1,750	2,700	772	1,800	355	177
11	183	164	5,960	3,540	1,500	1,700	1,580	2,160	3,000	1,260	295	158
12	180	197	5,840	2,500	3,430	1,540	1,460	1,800	2,160	940	*282	147
13	178	199	2,800	1,930	5,000	1,460	1,620	1,540	1,380	772	227	133
14	169	223	1,880	1,620	4,310	1,340	2,400	1,340	1,500	570	209	127
15	160	185	1,380	1,460	3,540	2,450	2,600	1,260	1,930	572	192	121
16	148	164	1,080	1,340	3,870	3,100	2,160	1,340	1,380	530	181	119
17	138	150	855	1,220	3,760	2,700	1,840	1,220	1,040	474	179	118
18	132	142	720	1,420	3,540	3,000	1,660	1,110	910	443	179	118
19	130	150	645	*1,750	2,900	4,200	1,620	6,580	882	427	175	118
20	126	252	572	1,660	2,800	3,650	1,500	*22,200	772	406	166	141
21	119	414	550	1,800	12,200	2,800	1,380	13,900	645	*381	166	139
22	117	1,060	530	2,350	15,400	2,200	1,260	5,480	2,000	439	172	143
23	115	1,680	510	2,600	*8,240	2,020	1,140	3,430	2,110	395	170	141
24	112	1,540	498	2,400	4,420	3,210	1,080	3,000	1,500	1,000	177	133
25	112	1,500	478	2,800	3,210	4,090	1,000	2,300	1,080	645	175	133
26	117	2,220	454	2,900	2,700	3,210	1,000	1,930	882	439	149	137
27	115	2,020	427	2,400	2,200	2,600	970	1,620	695	355	143	133
28	117	1,160	402	2,500	1,880	2,160	910	1,380	772	310	139	127
29	115	800	381	3,760	-	1,930	855	1,180	970	292	139	127
30	112	642	358	3,540	-	1,660	1,040	1,040	2,400	277	133	123
31	108	-	482	2,700	-	1,500	-	940	-	265	133	-
Total	4,303	16,011	34,333	63,902	100,890	93,120	44,305	106,720	35,927	28,306	6,613	4,513
Mean	139	534	1,108	2,061	3,603	3,004	1,477	3,443	1,198	913	213	150
Cfsm	0.123	0.474	0.984	1.83	3.20	2.67	1.31	3.06	1.06	0.811	0.189	0.133
In.	0.14	0.53	1.13	2.11	3.33	3.08	1.46	3.53	1.18	0.94	0.22	0.15

Calendar year 1952: Max 12,400 Min 107 Mean 1,412 Cfsm 1.25 In. 17.05
Water year 1952-53: Max 22,200 Min 107 Mean 1,477 Cfsm 1.31 In. 17.80

Peak discharge (base, 10,000 cfs).--Feb. 22 (3 a.m.) 17,700 cfs (16.80 ft); Mar. 5 (4:30 a.m.) 10,100 cfs (11.92 ft); May 20 (1:30 p.m.) 23,700 cfs (19.76 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 1953.

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, 782 cfs Feb. 21 (gage height, 7.32 ft); minimum, 1.4 cfs Aug. 15-17, Sept. 30; minimum gage height, 1.33 ft Oct. 1-3.

Remarks.--Records good except those for period of backwater from leaves on control, which are fair.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.3	1.0	2.2	51
1.4	2.4	2.6	88
1.5	5.4	3.0	137
1.6	8.8	4.0	280
1.7	14	6.0	580
1.9	27		

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	1.6	1.9	5.7	19	37	32	45	71	18	7.1	2.6	1.9
2	1.5	1.9	5.7	18	29	47	51	55	16	6.8	2.6	*1.9
3	1.5	1.9	5.4	22	26	105	46	41	14	9.3	2.6	2.1
4	1.5	1.9	5.0	22	23	370	41	32	13	14	2.6	4.9
5	1.5	*1.9	11	18	20	213	35	29	12	9.8	2.9	16
6	1.5	1.9	16	15	29	116	35	35	29	22	2.6	7.1
7	1.5	1.9	11	13	64	75	93	88	27	41	2.4	4.4
8	*1.5	1.9	8.1	57	62	60	*80	101	17	22	2.1	3.2
9	1.9	2.1	*7.8	96	48	47	65	74	13	16	1.9	4.4
10	2.1	3.4	72	150	40	41	55	56	20	11	1.9	2.4
11	2.4	3.7	79	83	40	36	44	44	20	9.3	1.8	2.4
12	1.9	3.4	39	51	318	32	41	34	15	8.1	*1.6	2.4
13	1.8	2.9	24	37	192	32	38	28	12	7.1	1.5	2.4
14	1.6	2.6	18	30	106	29	33	24	11	6.4	1.5	2.4
15	1.6	2.1	14	26	128	110	33	24	9.8	5.7	1.5	2.4
16	1.8	2.1	12	23	96	108	32	20	8.8	5.4	1.4	2.4
17	1.8	2.1	9.8	21	82	77	28	18	*15	4.7	1.5	2.4
18	1.8	2.1	8.1	41	86	134	29	21	10	4.7	1.6	2.4
19	1.8	2.6	7.4	*45	57	140	31	*484	8.5	8.3	1.5	2.6
20	1.8	4.4	7.1	40	110	93	29	332	7.8	7.1	1.5	3.2
21	1.8	5.4	7.1	60	565	70	27	154	7.4	*4.4	1.5	3.2
22	1.8	7.8	6.8	64	*265	56	26	81	8.5	5.7	2.1	2.9
23	1.8	8.1	6.4	53	140	49	24	98	7.1	7.1	3.2	2.6
24	1.8	8.8	5.7	58	86	57	21	112	6.4	5.4	2.9	2.4
25	1.9	15	5.4	57	64	58	20	70	6.1	4.1	2.4	2.4
26	1.9	52	5.4	48	52	53	20	51	5.7	3.7	2.4	1.9
27	1.9	24	5.0	45	43	*45	19	40	7.4	3.4	2.1	1.8
28	1.9	11	4.7	63	37	41	17	31	8.5	3.2	2.1	1.8
29	1.9	8.5	4.4	69	-	36	16	26	8.1	2.9	2.1	1.5
30	1.9	6.4	4.4	55	-	30	47	23	8.8	2.9	2.1	1.4
31	1.9	-	8.8	45	-	27	-	20	-	2.9	1.9	-
Total	54.9	195.7	430.2	1,444	2,825	2,419	1,121	2,317	370.9	271.5	64.4	95.2
Mean	1.77	6.52	13.9	46.6	101	78.0	37.4	74.7	12.4	8.76	2.08	3.17
Cfsm	0.077	0.282	0.602	2.02	4.37	3.38	1.62	3.23	0.537	0.379	0.090	0.137
In.	0.09	0.31	0.69	2.33	4.55	3.90	1.81	3.72	0.60	0.44	0.10	0.15

Calendar year 1952: Max - Min - Mean - Cfsm - In. -
Water year 1952-53: Max 565 Min 1.4 Mean 31.8 Cfsm 1.38 In. 18.69

Peak discharge (base, 500 cfs).--Feb. 21 (7:30 a.m.) 782 cfs (7.32 ft); Mar. 4 (9:30 a.m.) 520 cfs (5.55 ft); May 19 (1 p.m.) 734 cfs (7.00 ft).

* Discharge measurement made on this day.

Note.--Backwater from leaves on control Oct. 19 to Nov. 7.

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 1953.

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.--34 years, 2,092 cfs.

Extremes.--Maximum discharge during year, 25,500 cfs May 21 (gage height, 13.69 ft); minimum, 160 cfs Sept. 19, 20 (gage height, 0.53 ft).
1919-53: 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, present site and datum, in 1862 from information by local resident.

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

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21				Feb. 22 to Sept. 30			
0.5	160	3.0	2,010	0.5	151	4.0	3,350
.7	230	4.0	3,220	.7	220	6.0	6,450
1.0	377	6.0	6,330	1.0	355	8.0	10,400
1.5	684	8.0	10,100	1.5	675	11.0	17,700
2.0	1,070			2.0	1,070	13.0	23,400
				3.0	2,100		

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	214	166	824	1,010	2,820	2,200	1,800	1,860	1,120	2,700	350	176
2	199	163	706	*1,160	2,250	2,240	1,880	2,540	1,000	*1,640	335	*173
3	191	163	655	1,350	1,870	3,440	1,730	3,000	*945	1,180	330	170
4	182	166	626	1,450	1,630	8,150	1,570	3,760	865	994	315	170
5	176	*169	764	1,410	*1,460	*12,700	1,430	2,680	802	921	*305	197
6	*172	169	1,030	1,320	1,460	9,640	1,360	2,340	772	953	320	305
7	172	169	1,210	1,200	2,170	6,060	1,600	*4,960	937	1,620	366	310
8	169	169	*1,180	1,460	2,530	4,160	2,740	6,280	1,170	2,310	372	315
9	172	169	1,030	3,560	2,600	3,260	*2,600	6,080	1,230	4,580	315	320
10	188	185	2,180	5,650	2,300	2,700	2,350	4,160	1,040	2,820	296	274
11	214	226	5,700	5,450	1,990	2,300	2,090	3,090	1,670	1,720	399	240
12	210	261	7,430	3,800	4,250	2,030	1,910	2,460	3,430	1,260	355	216
13	214	274	4,930	2,710	6,670	1,900	1,900	2,030	1,970	1,010	325	197
14	214	279	2,640	2,120	6,300	1,750	2,120	1,740	1,360	865	287	186
15	210	270	1,830	1,800	5,120	2,660	3,080	1,600	1,940	758	264	176
16	203	265	1,440	1,630	5,580	4,420	2,920	1,520	1,940	690	244	173
17	191	248	1,180	1,510	5,120	3,970	2,420	1,530	1,370	647	244	166
18	179	226	1,010	1,650	4,770	3,940	2,110	1,380	1,140	612	244	173
19	172	218	878	2,000	4,080	5,420	1,980	3,990	1,010	584	236	163
20	169	335	794	2,060	3,440	5,440	1,900	17,300	969	549	228	163
21	169	742	757	2,320	8,730	4,220	1,750	23,100	873	535	220	186
22	166	a1,350	728	2,770	19,900	3,280	1,580	11,000	1,000	570	216	190
23	163	a1,950	699	3,170	15,300	2,730	1,470	5,260	2,530	720	232	182
24	163	a2,200	670	3,120	7,540	2,780	1,370	4,160	2,160	570	236	186
25	163	2,080	648	2,940	4,830	4,560	1,280	3,420	1,420	1,060	220	186
26	163	2,990	619	3,430	3,790	4,380	1,220	2,600	1,120	735	224	190
27	163	3,260	592	3,120	3,060	3,500	1,200	2,120	969	542	209	193
28	163	2,060	565	2,990	2,570	2,910	1,140	1,780	825	452	190	190
29	163	1,330	533	3,820	-	2,500	1,090	1,520	905	388	182	179
30	166	1,010	515	4,560	-	2,160	1,190	1,330	1,180	366	182	173
31	166	-	592	3,700	-	1,920	-	1,200	-	350	179	-
Total	5,519	23,262	44,955	80,240	134,120	123,320	54,760	131,790	39,662	34,701	8,420	6,118
Mean	181	775	1,450	2,588	4,790	3,978	1,825	4,251	1,322	1,119	272	204
Cfsm	0.123	0.526	0.984	1.76	3.25	2.70	1.24	2.88	0.897	0.759	0.185	0.138
In.	0.14	0.59	1.13	2.02	3.38	3.11	1.38	3.33	1.00	0.88	0.21	0.15

Calendar year 1952: Max 19,600 Min 163 Mean 1,856 Cfsm 1.26 In. 17.13
Water year 1952-53: Max 23,100 Min 163 Mean 1,882 Cfsm 1.28 In. 17.32

Peak discharge (base, 14,000 cfs).--Feb. 22 (2 p.m.) 21,400 cfs (12.32 ft); May 21 (5:30 a.m.) 25,500 cfs (13.69 ft).

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of records for Powell River near Arthur.

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 1953.
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.--8 years (1945-53), 217 cfs.
Extremes.--Maximum discharge during year, 7,320 cfs Feb. 21 (gage height, 7.04 ft); minimum, 5.3 cfs Sept. 18 (gage height, 0.59 ft).
1944-53: Maximum discharge, 16,500 cfs Jan. 7, 1946 (gage height, 9.8 ft, from floodmark); minimum, that of Sept. 18, 1953.
Remarks.--Records good except those for period of no gage-height record, which are fair.
Revisions.--WSP 1053: Drainage area. Revised figures of discharge, in cubic feet per second, for the water year 1948, superseding those published in WSP 1113, are given herewith:

Feb. 14, 1948..... 7,160

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
February 1948.....	28,467	7,860	85	982	8.77	9.46
Water year 1947-48.....	68,223.8	7,860	7.2	186	1.66	22.68
Calendar year 1948.....	78,487.9	7,860	7.2	214	1.91	26.06

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

0.5	2.0	1.3	102	4.0	1,780
.6	6.0	1.6	175	5.0	3,020
.7	14	2.0	310	6.0	4,900
.8	24	2.5	555		
1.0	48	3.0	870		

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	12	11	42	61	214	175	136	254	80	38	28	7.6
2	12	9.2	43	58	175	318	124	310	73	35	100	*7.6
3	12	9.2	42	78	151	566	111	291	68	124	43	7.6
4	12	11	39	82	136	1,360	104	223	61	96	27	10
5	11	9.2	58	75	120	849	98	387	56	129	25	32
6	12	*10	86	69	148	478	102	1,320	157	146	23	26
7	12	10	77	153	236	338	192	1,510	159	100	20	14
8	*11	8.4	64	544	250	276	*217	716	88	70	19	11
9	17	8.4	*53	683	210	220	204	445	69	55	18	10
10	30	19	707	577	178	187	184	326	84	45	17	8.4
11	22	24	800	420	175	167	156	254	115	36	16	7.6
12	18	25	295	261	533	151	159	226	77	32	*14	7.6
13	15	19	170	195	566	143	184	175	66	30	13	7.6
14	13	15	124	162	382	134	201	153	59	27	12	6.0
15	12	14	96	143	346	276	204	159	53	26	13	6.8
16	11	12	77	131	276	326	195	131	50	25	12	7.6
17	12	12	66	120	299	276	162	120	80	25	15	6.0
18	12	12	64	272	272	395	156	131	*53	35	16	5.3
19	12	17	56	291	247	478	148	2,580	45	55	12	6.0
20	12	28	54	*243	625	359	129	*1,840	40	45	11	18
21	12	34	54	372	3,590	280	120	664	47	30	11	13
22	12	64	51	456	*1,100	226	113	386	54	*51	11	10
23	12	64	47	330	577	207	109	318	40	50	24	7.6
24	12	77	45	318	405	295	102	322	34	32	14	6.8
25	13	78	45	283	334	314	100	243	32	26	12	8.4
26	12	360	43	243	268	268	100	195	30	23	11	11
27	13	210	39	233	217	223	94	159	30	22	10	9.2
28	12	98	39	659	195	192	86	131	35	19	10	7.6
29	13	62	33	610	-	172	80	113	45	18	8.4	6.8
30	14	51	36	364	-	148	177	102	51	19	8.4	7.6
31	13	-	53	272	-	136	-	92	-	17	9.2	-
Total	418	1,381.4	3,498	8,758	12,225	9,933	4,247	14,276	1,931	1,481	583.0	300.7
Mean	13.5	46.0	113	283	437	320	142	461	64.4	47.8	18.8	10.0
Cfsm	0.121	0.411	1.01	2.53	3.90	2.86	1.27	4.12	0.575	0.427	0.168	0.089
In.	0.14	0.46	1.16	2.92	4.06	3.30	1.42	4.75	0.64	0.49	0.19	0.10

Calendar year 1952: Max 2,740 Min 8.4 Mean 179 Cfsm 1.60 In. 21.82
Water year 1952-53: Max 3,590 Min 5.3 Mean 162 Cfsm 1.45 In. 19.63

Peak discharge (base, 1,600 cfs).--Dec. 10 (8:30 p.m.) 1,720 cfs (3.97 ft); Feb. 21 (8:30 a.m.) 7,320 cfs (7.04 ft); Mar. 4 (1:30 p.m.) 1,670 cfs (3.91 ft); May 7 (5 a.m.) 1,890 cfs (4.10 ft); May 19 (2 p.m.) 3,940 cfs (5.53 ft).
* Discharge measurement made on this day.
Note.--No gage-height record July 7-21; discharge estimated on basis of recorded range in stage, weather records, and records for Powell River near Jonesville, North Fork Clinch River at Duffield, and Guest River at Coeburn.

Powell River near Pennington Gap, Va.

Location.--Lat 36°44'04", long. 82°59'56", at highway bridge 1,000 ft downstream from North Fork and 3 miles southeast of Pennington Gap, Lee County.

Drainage area.--290 sq mi (revised).

Records available.--October 1920 to November 1931 (discontinued). Prior to 1925, published as "near Pennington."

Gage.--Chain gage. Altitude of gage is 1,315 ft (from topographic map).

Average discharge.--11 years, 553 cfs.

Extremes.--1920-31: Maximum discharge, 28,900 cfs Mar. 23, 1929 (gage height, 27.66 ft, from graph based on gage readings), from rating curve extended above 4,300 cfs by logarithmic plotting; minimum observed, 11 cfs several times in October 1930 (gage height, 1.48 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)
563	1923	Feb. 3, 1923	18,000	†19.5
603	1925	Feb. 15, 1925	14,700	†17.0
713	1931	Apr. 22, 1931	7,740	†11.2

† From graph based on gage readings.

Remarks.--Two small gristmills on the main stream above gage cause considerable diurnal fluctuations and a large steam plant on North Fork uses practically the entire low-water flow of that stream.

Revisions.--Revised figures of discharge, in cubic feet per second, for high-water periods in the water year 1921, superseding those published in WSP 523, are given herewith:

1920
Dec. 14..... 9,520

1921
Feb. 21..... 5,670
July 16..... 4,800
Aug. 18..... 4,220

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
December 1920.....	28,669	9,520	254	925	3.19	3.68
February 1921.....	27,801	5,670	331	993	3.42	3.56
July.....	15,541	4,800	34	501	1.73	1.99
August.....	17,481	4,220	110	564	1.94	2.24
Water year 1920-21.....	166,610	9,520	28	456	1.57	21.37
Calendar year 1921.....	166,491	5,670	30	456	1.57	21.35

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 1953.

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.--21 years (1932-53), 511 cfs.

Extremes.--Maximum discharge during year, 11,400 cfs Feb. 21 (gage height, 19.45 ft); minimum, 26 cfs numerous days in October, November, September; minimum gage height, 0.93 ft Oct. 4, 5, 8, 9.
1931-53: 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, 18 cfs Oct. 2, 3, 1933.

Remarks.--Records good.

Revisions (water years).--WSP 823: Drainage area. WSP 1033: 1932-44.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21				Feb. 22 to Sept. 30	
0.9	23	3.0	540	0.9	22
1.0	32	4.0	1,040	1.0	30
1.4	79	6.0	2,220	1.3	64
1.7	126	14.0	7,470	1.7	126
2.0	192			Note.--Same as preceding table above 1.7 ft.	

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	30	26	123	229	560	484	410	740	229	136	63	26
2	29	27	104	253	452	580	410	692	200	101	99	*26
3	28	29	104	294	385	1,260	354	692	177	109	146	28
4	27	30	106	382	346	3,460	326	540	160	304	118	32
5	26	28	130	326	298	3,260	284	472	149	220	87	35
6	27	*27	304	268	298	1,560	274	1,660	145	256	67	58
7	28	27	274	235	692	1,040	468	3,910	580	492	58	74
8	*26	26	203	703	765	790	648	2,160	315	312	52	52
9	30	26	*163	2,350	625	625	*602	1,260	212	209	48	40
10	46	32	796	2,040	500	520	540	898	198	170	45	34
11	65	50	3,000	1,500	452	460	476	670	304	128	42	32
12	66	69	1,040	898	2,100	413	413	540	271	109	*41	30
13	50	66	560	602	2,350	396	460	452	198	96	40	28
14	44	56	385	480	1,290	368	460	385	165	87	39	28
15	40	46	284	402	1,090	880	460	385	145	78	37	27
16	34	40	223	354	1,140	1,380	468	350	132	75	36	26
17	32	36	180	318	980	952	420	298	*177	72	36	26
18	29	33	156	560	842	1,140	374	277	187	74	37	26
19	28	33	143	870	715	1,680	392	3,490	134	99	36	26
20	28	55	130	*692	692	1,170	343	*6,180	114	88	35	28
21	26	85	134	925	7,070	870	315	2,160	124	82	34	30
22	27	177	123	1,230	5,140	670	290	1,140	172	*96	33	37
23	27	232	123	952	*1,800	580	271	765	143	238	37	35
24	28	253	114	815	1,140	670	259	1,430	109	145	35	31
25	28	262	109	815	870	790	250	815	103	104	42	30
26	28	569	106	670	692	715	247	602	95	80	35	30
27	29	925	99	602	580	602	244	480	86	70	31	31
28	28	385	95	925	500	520	220	385	90	63	29	30
29	27	217	89	1,500	-	464	200	322	90	58	28	29
30	27	154	82	980	-	399	274	287	109	54	27	28
31	26	-	104	692	-	360	-	256	-	54	27	-
Total	1,014	4,021	9,586	23,862	34,364	29,058	11,152	34,693	5,313	4,259	1,520	993
Mean	32.7	134	309	770	1,227	937	372	1,119	177	137	49.0	33.1
Cfsm	0.103	0.420	0.969	2.41	3.85	2.94	1.17	3.51	0.555	0.429	0.154	0.104
In.	0.12	0.47	1.12	2.78	4.01	3.39	1.30	4.05	0.62	0.49	0.18	0.12

Calendar year 1952: Max 6,980 Min 26 Mean 469 Cfsm 1.47 In. 20.00
Water year 1952-53: Max 7,070 Min 26 Mean 438 Cfsm 1.37 In. 18.65

Peak discharge (base, 5,000 cfs).--Feb. 21 (8:30 p.m.) 11,400 cfs (19.45 ft); Mar. 4 (9 p.m.) 5,020 cfs (10.26 ft); May 20 (12:30 a.m.) 8,450 cfs (15.44 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 1953 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.--34 years, 1,150 cfs.

Extremes.--Maximum discharge during year, 13,300 cfs Feb. 22 (gage height, 15.44 ft); minimum, 82 cfs Oct. 8, 22; minimum gage height, 0.00 ft Sept. 18.
1919-53: 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, 68 cfs Oct. 3, 1948.
Maximum stage known, 27.2 ft Jan. 29, 1918 (discharge, 33,000 cfs).

Remarks.--Records good.

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	90	89	316	404	1,390	1,140	834	934	598	325	208	92
2	89	89	262	*533	1,140	1,150	928	1,230	548	*370	159	*91
3	89	89	239	579	949	1,700	910	1,140	*495	630	159	91
4	88	89	212	626	834	3,860	800	1,100	460	495	189	91
5	87	*89	404	718	*734	*6,420	724	940	425	416	*250	108
6	*88	89	631	636	795	5,420	690	1,010	415	500	212	128
7	87	90	564	538	1,450	2,960	817	*4,300	614	460	173	116
8	84	89	*533	1,110	1,740	2,070	1,010	5,630	812	778	153	108
9	89	90	422	2,370	1,590	1,670	*1,220	3,470	686	614	140	132
10	95	102	1,320	4,060	1,330	1,350	1,150	2,210	515	440	133	120
11	97	112	3,390	3,600	1,170	1,130	1,040	1,620	475	362	128	108
12	95	116	3,940	2,510	2,840	1,010	982	1,260	515	317	122	100
13	102	116	1,850	1,670	4,730	946	910	1,040	570	266	118	96
14	110	121	1,130	1,250	3,960	880	904	880	485	236	116	92
15	105	121	790	1,020	2,910	1,380	868	839	410	215	114	91
16	100	116	595	856	3,010	2,330	862	768	402	208	108	90
17	95	107	482	756	2,710	2,360	839	707	397	195	108	88
18	92	102	404	1,050	2,220	2,290	812	614	374	226	108	88
19	89	103	338	1,330	1,880	2,910	762	3,180	397	258	108	88
20	89	121	312	1,570	1,720	3,070	740	7,270	370	226	106	90
21	89	143	294	2,030	5,710	2,300	685	8,210	442	218	105	90
22	85	298	278	2,160	11,200	1,760	619	3,920	954	298	105	88
23	88	460	274	2,220	8,100	1,440	580	2,310	691	515	108	88
24	88	530	254	2,090	3,730	1,420	560	1,680	465	550	105	90
25	88	475	246	1,850	2,560	1,430	535	2,200	374	412	118	96
26	89	649	227	1,640	1,980	1,470	530	1,580	317	299	112	98
27	89	910	216	1,430	1,620	1,330	520	1,240	309	240	104	96
28	89	1,110	212	1,450	1,330	1,160	500	1,000	325	205	104	96
29	89	685	201	1,740	-	1,020	470	840	338	182	100	94
30	89	437	194	2,300	-	934	641	730	384	170	96	90
31	89	-	220	1,780	-	862	-	658	-	176	94	-
Total	2,832	7,737	20,750	47,876	75,332	61,172	23,442	64,510	14,562	10,802	4,063	2,934
Mean	91.4	258	669	1,544	2,690	1,973	781	2,081	485	348	131	97.8
Cfsm	0.133	0.377	0.977	2.25	3.93	2.88	1.14	3.04	0.708	0.508	0.191	0.143
In.	0.15	0.42	1.13	2.60	4.09	3.32	1.27	3.50	0.79	0.59	0.22	0.16

Calendar year 1952: Max 12,500 Min 84 Mean 1,024 Cfsm 1.49 In. 20.35
Water year 1952-53: Max 11,200 Min 84 Mean 921 Cfsm 1.34 In. 18.24

Peak discharge (base, 9,000 cfs).--Feb. 22 (7 p.m.) 13,300 cfs (15.44 ft); May 21 (1:00 a.m.) 10,000 cfs (12.55 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, 0.9 mile 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 1953 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 the vicinity of Clinton from 1884 to 1943 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder at present site and datum since Jan. 28, 1937. Datum of gage is 819.11 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Oct. 1, 1903, to June 30, 1920, staff gage at railroad bridge 19 miles downstream at datum 42.47 ft lower. July 1, 1920, to Sept. 30, 1927, chain gage at highway bridge 19 miles downstream (1,000 ft downstream from previous site) at datum 42.57 ft lower. May 27 to Sept. 9, 1927, staff gage and Sept. 9, 1927, to Sept. 30, 1935, water-stage recorder at site 2.7 miles downstream at datum 10.51 ft lower. Oct. 1, 1935, to Sept. 30, 1937, water-stage recorder at site 2.7 miles downstream at datum 13.51 ft lower. Apr. 16, 1935, to Jan. 27, 1936, staff gage at present site and datum.

Average discharge.--50 years, 4,363 cfs (unadjusted).

Extremes.--Maximum discharge during year, 12,500 cfs Feb. 24 (gage height, 6.94 ft); minimum, 38 cfs May 23 (gage height, 1.13 ft); minimum daily, 64 cfs May 21.
1903-53: Maximum discharge, 70,000 cfs Mar. 23, 1929 (gage height, 33.7 ft, site and datum then in use); minimum, 1.3 cfs May 17, 18, 24-26, May 29 to June 5, 1936 (gage height, 0.62 ft).
Flood of Mar. 31, 1886, reached a stage of 45 ft at Clinton.

Remarks.--Records excellent except those for periods of no gage-height record, which are fair. Flow completely regulated by Norris Reservoir (see p. 230).

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.2	56	2.5	1,610
1.3	97	3.0	2,450
1.4	160	4.0	4,490
1.6	360	5.0	6,890
2.0	880	7.0	12,700

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	6,500	2,520	5,170	2,670	4,070	8,110	3,000	2,260	2,190	6,630	1,300	6,500
2	6,720	1,860	3,890	4,310	6,300	8,140	3,380	895	2,680	6,250	720	6,600
3	6,560	3,800	2,240	6,560	6,330	8,170	3,360	76	2,820	7,310	6,900	5,340
4	4,620	3,120	2,210	7,450	6,330	8,170	3,500	204	3,040	4,880	*7,300	3,210
5	4,020	4,350	*2,760	6,600	6,330	8,030	2,220	84	3,660	4,740	7,040	3,210
6	6,100	4,450	3,230	6,600	6,380	8,080	6,070	88	3,720	7,090	6,540	3,210
7	6,080	4,540	1,680	*7,150	4,140	8,050	5,630	906	*3,720	6,450	6,240	3,210
8	4,980	5,260	2,940	4,780	3,530	8,170	*5,700	80	3,720	7,400	6,480	6,680
9	*4,940	4,410	3,490	3,620	5,180	8,360	5,360	76	3,720	7,100	725	5,680
10	4,860	4,650	3,310	84	5,110	*8,330	5,580	76	3,750	4,700	5,930	7,020
11	832	3,280	2,760	284	3,700	8,390	4,240	76	3,560	3,200	7,120	7,100
12	875	3,090	1,900	2,370	3,280	5,610	4,440	141	3,720	3,100	6,890	7,420
13	5,560	2,590	1,520	2,180	2,040	4,300	2,710	350	3,700	7,200	6,850	5,170
14	2,710	1,300	568	2,790	765	4,290	2,550	5,260	3,720	7,700	7,140	6,520
15	4,520	1,520	2,790	364	97	3,910	2,710	4,070	3,680	7,200	6,360	*6,480
16	5,110	1,240	3,090	314	1,740	4,310	2,790	103	3,770	6,900	5,400	6,380
17	3,450	1,880	2,700	5,140	*3,160	4,520	2,730	103	3,770	4,000	7,430	6,100
18	1,340	961	4,770	3,290	1,750	3,930	2,980	2,760	3,770	2,200	8,000	6,000
19	1,540	2,020	5,380	1,980	1,800	3,770	3,550	398	3,770	400	7,530	5,520
20	6,120	1,830	5,320	3,420	952	3,980	2,740	68	3,770	3,500	8,110	5,610
21	5,340	1,950	5,610	2,820	757	4,600	3,200	64	3,770	6,800	7,260	4,370
22	2,820	1,570	6,500	2,480	1,550	1,900	2,800	68	3,350	6,700	7,260	5,850
23	2,280	368	6,380	568	4,850	2,780	3,020	66	3,810	750	3,340	5,220
24	2,410	2,690	6,680	88	8,450	2,480	2,760	68	3,870	400	7,180	5,280
25	1,960	1,300	4,020	88	12,500	4,460	2,440	636	6,120	1,050	7,160	4,710
26	909	1,280	5,840	1,780	12,500	2,570	2,700	372	6,360	80	7,040	5,140
27	1,520	573	6,810	1,470	9,730	2,460	3,470	288	5,720	6,700	3,120	2,620
28	4,240	3,030	7,500	1,240	8,170	2,430	4,400	286	3,380	7,400	7,230	6,130
29	5,000	2,420	6,460	2,540	-	2,530	4,400	2,060	5,560	7,700	6,880	6,380
30	4,320	3,680	6,840	4,100	-	3,530	3,540	2,210	6,060	7,800	4,280	5,820
31	3,210	-	6,890	3,870	-	3,130	-	2,390	-	7,900	6,260	-
Total	121,446	77,532	131,248	92,980	131,491	161,490	107,970	26,582	118,250	161,230	187,015	164,480
Mean	3,918	2,584	4,234	2,999	4,696	5,209	3,599	857	3,942	5,201	6,033	5,483

	Observed			Adjusted†		
Calendar year 1952:	Max 21,300	Min 84	Mean 4,146	Mean 3,799	Cfsm 1.30	In. 17.75
Water year 1952-53:	Max 12,500	Min 64	Mean 4,059	Mean 3,661	Cfsm 1.26	In. 17.06

* Discharge measurement made on this day.
† Adjusted for change in contents in Norris Reservoir.
Note.--No gage-height record July 8 to Aug. 4; discharge estimated on basis of records for station at Scarboro and releases from Norris Reservoir.

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 downstream from Solway Bridge, and 17 miles west of Knoxville.

Drainage area.--3,300 sq mi.

Records available.--September 1936 to September 1953. 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, water-stage recorder at site 24 miles downstream at datum 35.99 ft lower.

Average discharge.--17 years, 4,577 cfs (unadjusted).

Extremes.--Maximum discharge during year, 14,200 cfs Mar. 4 (gage height, 8.71 ft); minimum daily, 405 cfs May 13.
1936-53: 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 Reservoir, 41 miles upstream (see p. 230). The town of Oak Ridge diverts an average of about 15 cfs for municipal supply 2½ miles upstream.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.2	236	3.0	2,970
1.4	405	5.0	6,870
1.7	740	8.4	13,600
2.0	1,150		

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	5,390	3,090	4,960	4,780	3,960	8,620	3,330	*3,060	*2,500	*6,640	5,370	*6,300
2	*6,810	2,410	4,300	*3,210	*5,660	*8,860	3,360	3,360	2,460	6,250	1,220	6,460
3	6,340	2,140	3,730	6,090	6,380	9,980	*3,610	1,740	2,930	7,220	*2,350	6,520
4	5,740	*4,690	*2,240	7,570	6,360	12,800	3,420	740	3,110	6,440	7,220	4,160
5	3,870	3,290	3,010	6,810	6,320	11,900	3,340	628	3,610	4,820	6,990	3,240
6	4,900	3,910	3,540	6,770	6,500	9,840	3,730	569	3,730	5,520	6,500	3,130
7	5,820	4,430	3,070	7,340	5,660	9,260	5,900	1,310	3,870	6,460	6,340	3,110
8	5,500	4,570	2,280	7,220	4,490	8,960	5,970	1,820	3,850	7,860	6,030	4,120
9	5,040	4,650	3,010	5,660	4,740	9,040	5,970	844	3,730	7,960	4,960	6,870
10	5,120	4,670	4,430	5,040	5,660	8,920	5,450	615	3,770	5,560	1,900	5,470
11	3,810	4,180	5,520	2,170	5,410	8,900	5,370	512	3,850	4,860	6,810	6,930
12	1,020	3,800	3,790	1,790	5,910	7,490	4,630	453	3,790	3,480	6,680	7,220
13	1,820	2,850	2,330	2,850	5,540	4,940	4,470	405	3,750	4,470	6,830	6,400
14	5,040	2,180	1,980	2,720	3,420	5,350	3,100	1,650	3,810	7,220	6,790	5,170
15	2,760	1,340	1,330	3,030	2,480	4,900	2,890	4,860	3,690	7,610	6,320	6,950
16	5,350	1,570	3,630	690	2,400	4,920	3,080	3,660	3,790	7,590	6,540	5,640
17	4,800	1,490	2,600	1,650	3,580	4,510	3,000	487	3,810	6,710	5,760	6,110
18	2,150	1,640	3,850	6,070	3,850	5,040	3,400	739	3,750	2,350	7,830	6,030
19	1,530	1,110	4,520	2,670	2,630	4,690	3,380	3,830	3,710	2,790	7,530	5,560
20	2,640	2,320	5,720	2,920	2,670	4,510	3,340	2,840	3,710	1,490	8,060	5,490
21	6,280	2,690	5,720	4,390	7,350	4,430	3,050	1,540	3,710	4,650	7,380	5,330
22	4,300	1,740	6,750	3,690	5,970	4,630	3,030	940	3,630	6,890	7,010	4,410
23	2,920	1,820	6,250	3,010	4,180	2,790	3,030	715	3,520	5,250	6,150	5,820
24	2,400	1,110	6,690	1,720	7,580	2,950	2,810	1,050	3,710	985	4,390	5,000
25	2,250	2,520	5,230	1,280	13,200	3,570	2,920	1,180	4,300	610	7,140	4,960
26	1,870	2,910	4,720	1,090	13,500	4,170	2,480	1,150	6,070	934	6,680	4,570
27	1,120	2,100	6,540	2,330	12,500	2,790	2,930	678	6,030	1,930	5,880	4,650
28	1,890	1,230	7,570	2,450	8,780	2,780	4,080	640	5,820	7,420	4,280	3,480
29	5,350	2,960	6,790	2,950	-	2,890	4,140	558	2,620	7,710	7,080	6,230
30	4,630	2,610	6,730	3,510	-	2,920	4,550	2,290	6,280	7,750	5,660	6,270
31	3,660	-	7,060	4,570	-	3,670	-	2,370	-	7,790	4,940	-
Total	122,120	82,020	139,890	118,040	166,680	191,020	113,760	47,233	116,910	165,219	184,620	161,600
Mean	3,939	2,734	4,513	3,808	5,953	6,162	3,792	1,524	3,897	5,330	5,955	5,387

		Observed			Adjusted†			
Calendar year 1952:	Max 22,400	Min 302	Mean 4,486	Mean 4,139	Cfsm 1.25	In. 17.07
Water year 1952-53:	Max 13,500	Min 405	Mean 4,409	Mean 4,010	Cfsm 1.22	In. 16.50

* Discharge measurement made on this day.
† Adjusted for change in contents in Norris Reservoir.

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 1953.

Gage.--Water-stage recorder. Datum of gage is 775.64 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum and minimum discharges for the water years 1950-53 are contained in the following table.

Water year	Maximum			Minimum daily	
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)
1950†	Aug. 2, 1950	616	4.31	(a)	1.0
1951	Feb. 1, 1951	312	b3.03	(c)	.7
1952	July 1, 1952	391	3.39	Oct. 14, 1951	.7
1953	Feb. 21, 1953	163	2.26	July 25, 26, 1953	.7

† Period June to September.
a Occurred June 25-27, July 1, 2, 9, 10, 1950.
b From outside the gage well.
c Occurred Nov. 2, 1950, Aug. 2, 8, 12, 13, 21, 26-28, 30, 31, Sept. 8, 9, 1951.

1950-53: 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, and July 25, 26, 1953.

Remarks.--Records fair. Natural flow affected by operations of Oak Ridge National Laboratory upstream.

Rating table, June 1, 1950, to Sept. 30, 1953 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 31 to July 1, July 8 to Aug. 24, 1953)

0.0	0.4	0.7	22
.1	1.6	1.5	70
.2	3.9	2.0	130
.4	10		

Discharge, in cubic feet per second, June to September 1950

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									*2.3	1.0	5.7	31
2									3.4	1.0	41	16
3									3.6	3.3	28	13
4									5.7	1.2	8.0	11
5									3.4	1.2	5.5	6.6
6									2.8	*2.1	4.0	*5.1
7									2.3	1.2	*3.1	13
8									2.1	1.1	2.8	6.3
9									2.6	1.0	2.3	5.4
10									2.5	1.0	2.3	5.4
11									2.1	2.4	3.1	4.2
12									1.7	4.7	2.5	3.4
13									1.7	7.1	2.1	2.8
14									1.6	4.4	4.7	2.3
15									1.6	4.8	3.1	2.1
16									1.6	4.9	8.3	1.9
17									1.6	2.8	3.1	1.7
18									1.4	2.1	3.6	1.6
19									1.4	1.9	2.8	1.6
20									1.4	3.5	2.3	1.6
21									5.3	2.5	2.1	1.7
22									4.6	2.3	1.9	2.1
23									1.7	15	1.7	1.4
24									1.2	6.0	1.6	1.4
25									1.0	4.5	5.2	1.4
26									1.0	24	1.9	1.2
27									1.0	15	4.4	1.2
28									*1.1	8.8	2.0	1.1
29									1.1	6.3	9.4	1.2
30									1.1	5.7	53	1.2
31									-	7.7	14	-
Total									65.9	150.5	235.5	149.9
Mean									2.20	4.85	7.60	5.00
Cfsm									-	-	-	-
In.									-	-	-	-

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

Peak discharge (base, 170 cfs).--July 23 (4 p.m.) 195 cfs (2.42 ft); July 26 (4 p.m.) 320 cfs (3.07 ft); Aug. 2 (11 p.m.) 616 cfs (4.31 ft); Aug. 16 (3:30 p.m.) 178 cfs (2.32 ft); Aug. 30 (4 a.m.) 397 cfs (3.42 ft).
* Discharge measurement made on this day.

Whiteoak Creek at Oak Ridge National Laboratory, near Oak Ridge, Tenn.--Continued

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	1.1	*1.1	3.1	1.9	*124	4.2	8.8	*3.6	1.2	1.2	*0.8	1.2
2	*1.1	.7	3.1	1.9	18	*3.9	*16	4.3	1.2	1.2	.7	.8
3	1.2	3.8	27	6.6	10	4.6	10	5.5	1.2	3.9	.8	.8
4	1.2	1.9	*16	*6.9	7.5	11	8.1	3.6	*1.2	2.1	1.1	*1.0
5	1.1	1.2	7.8	4.8	*6.3	11	6.6	3.4	1.1	*1.2	1.0	.8
6	1.1	1.1	16	3.9	6.3	25	6.0	3.1	1.2	1.1	.8	1.8
7	1.1	1.0	*44	3.9	18	29	10	3.4	1.6	1.1	.8	1.0
8	2.5	1.0	13	3.4	8.4	12	9.1	3.4	2.5	1.1	.7	.7
9	1.2	1.1	7.8	2.5	6.9	7.8	7.8	3.4	3.3	1.1	1.0	.7
10	1.1	1.0	6.0	2.5	6.0	6.3	8.1	3.4	1.4	1.1	.8	.8
11	1.0	1.0	4.8	3.1	5.1	11	9.2	3.5	1.4	1.1	.8	.8
12	1.0	1.0	4.2	2.3	4.8	11	11	2.5	2.5	1.2	.7	.8
13	.8	1.0	3.6	22	3.9	15	8.1	2.3	1.6	1.4	.7	8.6
14	.8	1.0	3.1	25	3.4	11	6.6	2.3	1.2	3.3	2.4	7.2
15	.8	1.1	3.1	18	3.1	8.1	7.7	2.3	3.9	1.6	1.1	1.2
16	.8	1.0	2.5	9.4	5.6	6.6	19	2.3	1.2	1.9	1.0	1.1
17	.8	1.0	2.3	6.9	4.2	6.0	10	2.3	1.2	1.9	.8	1.1
18	.8	.8	2.3	6.0	3.6	5.7	7.8	2.3	1.2	1.6	1.5	1.1
19	1.0	.8	2.1	4.8	17	8.1	8.4	2.1	1.1	1.4	.8	1.2
20	1.4	14	2.1	4.2	24	7.2	6.6	2.1	1.2	1.1	.8	1.2
21	1.0	4.2	2.1	3.6	19	6.3	6.3	2.1	1.2	.8	.7	1.2
22	.8	3.1	2.1	3.4	10	5.7	8.4	2.1	1.5	.8	1.0	4.8
23	1.6	2.5	2.1	3.4	7.5	5.1	6.3	1.9	1.1	1.1	.7	1.6
24	1.0	2.5	1.9	3.6	5.7	5.1	6.0	1.7	1.0	1.1	.8	10
25	1.1	2.5	1.9	2.8	5.1	4.5	6.0	1.6	1.0	1.2	1.0	2.5
26	1.1	2.5	1.9	2.8	4.8	3.9	5.7	1.6	1.1	1.4	.7	1.7
27	1.0	2.8	2.1	2.5	5.7	3.6	5.1	1.6	1.0	1.6	.7	1.7
28	1.0	2.5	2.1	2.3	4.5	30	4.0	1.4	1.1	1.1	.7	1.4
29	.8	*2.8	2.8	4.5	-	68	3.5	1.4	2.3	1.0	1.0	1.4
30	1.0	3.4	2.1	3.6	-	22	3.5	1.6	1.6	1.0	.7	1.2
31	1.0	-	1.9	*39	-	12	-	1.4	-	1.0	.7	-
Total	33.3	65.4	196.9	211.5	348.4	370.7	239.7	79.5	45.3	43.7	27.8	61.4
Mean	1.07	2.18	6.35	6.82	12.4	12.0	7.99	2.56	1.51	1.41	0.897	2.05
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1950: Max - Min - Mean - Cfsm - In. -
Water year 1950-51: Max 124 Min 0.7 Mean 4.72 Cfsm - In. -

Peak discharge (base, 170 cfs).--Nov. 20 (9 a.m.) 197 cfs (2.43 ft); Feb. 1 (7 a.m.) 312 cfs (3.03 ft, outside gage); Mar. 6 (11 p.m.) 177 cfs (2.32 ft). * Discharge measurement made on this day.

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	*1.2	*14	2.1	3.1	*5.1	2.3	3.9	*1.6	1.7	15	*1.2	1.6
2	1.0	3.4	1.9	2.8	4.5	2.3	*2.8	1.7	*1.6	*3.5	1.2	*2.8
3	1.0	2.5	*1.7	*2.8	6.3	*33	2.5	1.7	1.6	2.5	1.4	1.2
4	1.2	1.9	14	4.5	12	17	2.8	1.7	6.2	2.1	1.2	1.4
5	1.4	1.7	5.1	4.5	8.1	9.1	2.8	1.7	2.8	2.1	1.2	1.4
6	1.4	15	3.9	3.6	6.9	7.5	2.5	1.4	2.1	3.0	2.1	1.4
7	1.1	8.6	3.4	3.6	6.0	6.0	2.3	1.2	2.1	2.1	2.1	1.6
8	1.2	3.9	3.1	3.4	5.4	5.1	2.3	1.2	2.1	2.1	1.9	1.4
9	1.4	3.1	6.3	10	4.5	4.8	2.3	1.7	1.9	2.1	2.3	1.2
10	1.0	2.5	4.2	13	4.2	52	2.3	2.3	1.7	2.1	5.0	1.6
11	1.0	2.1	3.6	7.8	3.9	33	2.3	1.9	2.1	2.1	2.1	1.4
12	1.1	1.9	3.1	6.3	3.1	14	2.3	1.9	5.2	2.1	2.1	1.4
13	.8	1.6	2.8	5.1	2.5	9.4	2.3	1.6	2.5	2.1	1.9	1.4
14	.7	18	46	4.8	3.4	7.5	2.3	1.7	2.3	2.1	1.9	2.8
15	1.0	4.8	*24	4.2	2.3	6.6	1.9	1.9	6.8	2.1	1.9	1.7
16	.8	11	9.1	3.9	3.1	5.7	1.9	1.7	3.0	2.5	16	1.2
17	1.2	4.2	6.6	3.4	3.4	4.5	1.9	1.7	2.5	2.5	2.5	1.6
18	1.2	3.4	10	3.1	3.1	6.6	1.9	1.7	2.3	2.3	1.7	1.7
19	1.1	2.5	6.9	2.8	2.8	6.9	1.9	1.6	2.3	2.8	1.6	4.4
20	1.1	2.1	47	3.1	2.8	5.7	1.7	1.7	2.3	2.3	1.6	1.6
21	1.6	1.9	*28	2.8	2.8	5.7	1.6	1.9	2.3	2.3	1.7	1.7
22	1.2	1.7	10	11	2.5	13	1.4	1.9	2.3	2.3	1.7	1.7
23	1.1	1.7	7.5	6.3	2.8	23	1.7	1.9	2.3	2.3	1.6	1.1
24	2.8	4.9	6.0	5.4	3.1	10	2.1	1.9	2.1	2.3	1.6	1.4
25	1.2	3.6	6.0	4.5	2.5	7.8	1.9	2.1	2.1	1.9	1.6	1.4
26	1.2	3.9	6.9	5.1	2.5	6.6	1.9	1.9	2.3	1.2	1.2	1.4
27	1.7	2.8	5.1	9.6	2.3	5.7	2.3	1.4	2.3	1.1	1.4	1.2
28	2.1	2.5	4.5	15	2.3	4.5	1.9	1.9	1.9	1.0	1.6	1.2
29	1.2	2.3	4.5	8.8	2.8	3.9	1.7	7.9	1.9	1.1	1.6	1.2
30	1.1	2.3	3.9	6.6	-	3.6	1.7	2.1	2.1	1.1	1.6	1.0
31	4.7	-	3.6	5.4	-	3.6	-	1.9	-	1.1	1.6	-
Total	41.8	135.8	290.8	176.3	117.0	326.4	65.1	60.4	76.7	77.2	70.1	48.1
Mean	1.35	4.53	9.38	5.69	4.03	10.5	2.17	1.95	2.56	2.49	2.26	1.60
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1951: Max 124 Min 0.7 Mean 5.20 Cfsm - In. -
Water year 1951-52: Max 52 Min 0.7 Mean 4.06 Cfsm - In. -

Peak discharge (base, 170 cfs).--Dec. 14 (8:30 p.m.) 187 cfs (2.37 ft); Dec. 20 (8 p.m.) 178 cfs (2.32 ft); Mar. 10 (9:30 p.m.) 221 cfs (2.57 ft); July 1 (9 p.m.) 391 cfs (3.39 ft); Aug. 16 (10:30 p.m.) 230 cfs (2.62 ft). * Discharge measurement made on this day.

Note.--No gage-height record June 16 to July 22; discharge estimated on basis of weather records and records for station below Oak Ridge National Laboratory.

Whiteoak Creek at Oak Ridge National Laboratory, near Oak Ridge, 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	1.4	1.6	2.1	3.1	2.3	3.4	2.3	*3.1	*1.9	*2.0	1.7	*1.6
2	*1.4	1.6	2.3	*3.7	*1.9	*6.0	2.1	2.8	1.7	1.7	1.1	1.7
3	1.4	1.6	1.6	3.1	1.9	17	*1.9	1.9	1.7	2.4	*1.2	2.3
4	1.4	*1.2	*1.8	2.3	1.7	22	1.7	1.7	1.7	1.9	1.4	2.4
5	1.2	1.6	12	2.3	1.6	9.7	1.7	1.6	2.3	2.1	1.4	3.3
6	1.2	1.6	2.3	1.9	6.0	6.9	4.0	4.9	2.8	2.8	1.4	1.6
7	1.2	1.4	1.7	1.9	6.6	5.1	5.4	4.8	3.1	3.4	1.4	1.2
8	1.4	1.6	1.6	12	4.8	4.2	4.2	5.1	2.8	5.2	1.2	1.2
9	2.7	1.7	1.4	8.5	4.5	3.6	4.2	3.6	3.4	1.6	1.0	1.1
10	1.7	2.8	12	8.2	3.9	3.4	5.5	3.1	2.8	1.1	1.0	1.1
11	1.7	1.6	*3.1	4.8	21	3.6	3.6	3.1	1.4	1.1	1.2	1.1
12	1.7	1.7	2.3	3.4	39	3.9	8.0	2.3	1.2	1.1	1.4	1.2
13	1.7	1.7	1.7	2.5	10	3.4	5.1	2.1	2.8	*1.2	1.1	1.0
14	1.4	1.7	1.4	2.1	8.2	6.7	4.2	*2.3	1.6	1.0	1.4	2.3
15	1.6	1.7	1.2	1.9	17	6.6	4.2	2.1	1.7	1.2	1.1	1.2
16	1.4	1.7	1.2	1.7	9.4	5.7	3.1	3.6	5.0	2.6	1.1	1.4
17	1.6	1.7	1.1	3.6	6.3	4.8	2.8	3.1	1.1	1.9	1.2	1.4
18	1.6	1.2	1.1	3.8	4.8	7.2	2.5	2.6	1.1	6.3	1.4	1.4
19	1.4	7.2	1.1	2.5	4.2	6.3	2.1	19	1.1	1.4	1.4	2.2
20	1.4	2.1	1.4	3.6	22	5.4	1.9	8.1	1.1	1.4	*1.2	1.2
21	1.4	6.4	1.1	4.6	43	5.1	1.9	6.0	2.0	1.2	1.4	1.2
22	1.4	4.2	1.1	3.4	12	5.1	*1.8	4.8	*1.4	1.8	1.4	1.1
23	1.4	2.3	1.1	7.1	7.5	5.4	1.9	4.5	1.5	1.8	1.2	1.1
24	1.4	2.1	1.1	5.4	6.0	4.8	1.9	4.2	1.8	.8	*1.4	1.4
25	1.4	1.4	1.0	4.2	5.1	3.6	1.9	3.4	2.8	.7	1.4	3.0
26	1.4	4.3	1.0	3.4	4.5	3.1	1.9	2.8	2.4	.7	1.6	1.2
27	1.6	1.4	1.1	2.8	4.2	2.8	1.6	*1.9	2.3	.8	1.6	1.4
28	1.4	1.9	1.1	9.9	3.9	2.8	1.6	1.9	2.1	.8	1.6	1.6
29	1.6	1.9	1.1	4.5	-	2.5	1.1	1.9	2.3	.8	1.4	1.4
30	1.6	1.9	1.4	3.4	-	2.5	8.1	1.9	2.3	1.0	1.6	1.7
31	1.6	-	7.0	2.8	-	3.4	-	1.6	-	1.0	1.9	-
Total	46.7	66.8	72.5	128.4	263.3	176.0	94.2	115.8	63.2	54.8	41.8	47.0
Mean	1.51	2.23	2.34	4.14	9.40	5.68	3.14	3.74	2.11	1.77	1.35	1.57
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 52 Min 1.0 Mean 3.29 Cfsm - In. -
Water year 1952-53: Max 43 Min 0.7 Mean 3.21 Cfsm - In. -

Peak discharge (base, 170 cfs).--No peak above base.
* Discharge measurement made on this day.

Whiteoak Creek below Oak Ridge National Laboratory near Oak Ridge, Tenn.

Location.--Lat 35°54'44", long. 84°18'59", on right bank 0.1 mile upstream from Melton Branch, 1 mile south of Oak Ridge National Laboratory, Roane County, and 7 miles south of Oak Ridge, Tenn.
Drainage area.--3.62 sq mi.
Records available.--June 1950 to July 1953 (discontinued).
Gage.--Water-stage recorder. Datum of gage is 750.37 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.
Extremes.--Maximum and minimum discharges for the water years 1950-53 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1950†	Aug. 30, 1950	ab642	5.18	Sept.30, 1950	2.2	c0.64
1951	Feb. 1, 1951	a594	5.05	Oct. 2, 1950	1.9	.66
1952	Mar. 10, 1952	a437	4.61	Sept.30, 1952	2.8	.65
1953d	Feb. 21, 1953	303	4.17	Oct. 28, Nov. 4, 1952	2.6	.64

† Period June to September.
a From rating table extended above 230 cfs.
b But may have been higher Aug. 2, 1950.
c Occurred July 2, 9, 10, 11, 1950.
d Period October 1952 to September 1953.

1950-53: Maximum discharge recorded, 642 cfs Aug. 30, 1950 (gage height, 5.18 ft), from rating curve extended above 230 cfs, but may have been higher Aug. 2, 1950; minimum, 1.9 cfs Oct. 2, 1950; minimum gage height, 0.64 ft July 2, 9, 10, 11, 1950, Oct. 28, Nov. 4, 1952.
Remarks.--Records fair. Natural flow of stream affected by operations of Oak Ridge National Laboratory.

Rating table, June 1, 1950, to July 10, 1953, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.6	1.7	2.0	65
.7	3.5	2.5	83
.8	6.3	3.0	101
.9	10	3.5	154
1.0	15	4.0	259
1.5	40		

Discharge, in cubic feet per second, June to September 1950

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									*3.8	3.0	10	72
2									6.5	2.8	90	32
3									5.5	6.2	50	18
4									9.2	3.5	15	19
5									5.2	3.8	9.0	11
6									4.3	*5.3	7.0	*8.4
7									4.1	3.5	*6.3	24
8									3.8	3.1	6.0	11
9									5.1	2.8	5.5	8.8
10									4.6	2.8	5.2	10
11									3.5	6.4	7.5	6.7
12									3.5	8.9	4.6	5.7
13									3.3	13	4.1	4.9
14									3.1	8.0	8.2	4.3
15									3.0	9.0	4.6	4.3
16									3.0	9.0	15	3.5
17									2.8	5.0	6.8	3.1
18									2.8	4.0	9.0	3.3
19									2.6	4.0	6.7	3.3
20									2.8	6.0	4.9	3.1
21									10	4.5	4.1	3.3
22									8.0	4.5	3.8	4.3
23									4.5	30	3.3	3.0
24									4.0	12	3.0	2.6
25									3.5	8.0	9.5	2.8
26									3.5	50	3.8	3.0
27									3.5	30	7.8	3.0
28									*3.3	20	4.3	2.8
29									3.3	12	20	2.8
30									3.1	10	120	2.4
31									-	15	30	-
Total									129.2	306.1	485.0	286.4
Mean									4.31	9.87	15.6	9.55
Cfsm									-	-	-	-
In.									-	-	-	-

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

Peak discharge (base, 280 cfs).--July 26 (time and discharge unknown); Aug. 2 (time and discharge unknown); Aug. 30 (5 a.m.) 642 cfs (5.18 ft); Sept. 1 (1:30 p.m.) 284 cfs (4.10 ft).
* Discharge measurement made on this day.
Note.--No gage-height record June 21-27, July 14 to Aug. 6; discharge estimated on basis of weather records and records for station at Oak Ridge National Laboratory.

Whiteoak Creek below Oak Ridge National Laboratory near Oak Ridge, Tenn.--Continued

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	2.4	*3.3	5.7	4.1	221	8.4	16	*6.0	3.8	3.3	*3.3	3.9
2	*2.4	3.1	6.0	4.3	41	*7.6	*33	6.3	3.8	3.5	3.1	3.0
3	2.6	10	48	7.8	24	8.0	22	8.8	3.5	8.0	3.3	3.0
4	2.8	5.9	*30	*20	18	21	16	6.7	*3.8	6.0	3.3	3.0
5	2.8	3.3	14	10	*14	20	13	5.7	3.5	*3.5	3.3	2.8
6	3.0	3.1	18	8.4	9.7	49	11	5.2	3.5	3.3	3.3	4.9
7	2.8	3.1	*98	8.0	37	62	18	5.5	4.8	3.3	3.3	*3.3
8	6.4	3.1	25	6.7	16	26	20	5.5	6.6	3.3	3.3	3.0
9	4.3	3.3	16	5.7	11	16	16	5.2	8.5	3.3	3.3	3.0
10	*3.5	3.1	13	5.7	9.2	13	17	5.5	4.1	3.8	3.1	3.3
11	*3.1	3.0	10	8.0	8.0	25	17	6.1	4.1	3.8	3.1	3.3
12	*3.1	3.0	9.2	6.0	7.1	24	22	4.6	6.7	3.8	3.0	3.5
13	3.1	3.1	7.6	44	6.7	34	17	4.3	4.3	4.1	3.1	12
14	3.0	3.0	*6.3	45	5.7	24	13	4.6	3.5	8.0	5.6	18
15	3.0	3.1	6.0	35	5.5	17	14	4.3	5.0	3.8	*3.5	4.3
16	3.3	3.0	5.5	20	11	*13	37	4.6	3.7	4.1	3.1	3.5
17	3.3	2.8	5.2	14	7.6	11	18	4.3	3.3	4.1	3.0	3.8
18	3.3	2.8	4.9	12	6.3	10	14	4.3	3.1	3.8	4.7	4.1
19	3.8	2.8	4.9	10	31	16	16	4.3	3.1	3.8	3.0	4.3
20	4.1	30	4.6	8.8	38	*13	11	4.3	3.3	3.8	3.1	4.3
21	3.0	8.4	4.3	8.0	40	11	10	4.3	3.5	3.1	*3.3	4.3
22	3.0	6.0	4.3	6.7	18	9.7	16	4.3	4.1	3.1	3.8	13
23	4.7	4.9	4.1	7.1	14	8.8	11	4.3	3.3	3.3	3.0	4.9
24	3.5	b4.9	4.1	8.0	10	8.8	10	4.3	3.1	3.3	3.0	19
25	3.5	b4.9	4.1	6.3	9.2	6.7	10	4.1	3.1	3.7	3.0	7.1
26	3.5	4.9	4.1	6.0	9.4	6.7	10	4.1	4.1	3.8	2.8	5.2
27	3.3	5.7	4.3	5.7	13	6.3	8.4	3.8	3.1	3.5	2.8	4.9
28	3.3	5.5	4.3	5.7	8.8	60	8.0	3.8	3.8	3.4	2.8	4.6
29	3.3	*5.5	6.7	10	-	130	7.1	4.1	5.8	3.3	3.4	4.1
30	3.3	6.0	4.6	8.0	-	42	6.7	4.1	4.1	3.3	3.1	4.1
31	3.3	-	4.1	*68	-	23	-	4.1	-	3.1	3.1	-
Total	103.8	154.6	386.9	423.0	650.2	731.0	458.2	151.4	124.0	121.3	101.9	165.5
Mean	3.35	5.15	12.5	13.6	23.2	23.6	15.3	4.88	4.13	3.91	3.29	5.52
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1950: Max - Min - Mean - Cfsm - In. -
Water year 1950-51: Max 221 Min 2.4 Mean 9.79 Cfsm - In. -

Peak discharge (base, 280 cfs).--Feb. 1 (8 a.m.) 594 cfs (5.05 ft); Mar. 6 (1:30 p.m.) 343 cfs (4.31 ft); Mar. 29 (1 a.m.) 290 cfs (4.15 ft).

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

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	*4.1	*31	4.3	6.0	*10	4.9	7.1	*4.6	4.3	21	*3.5	3.8
2	3.8	8.0	4.3	5.7	9.7	4.9	*6.3	4.6	*4.3	*7.4	3.5	*7.2
3	3.5	6.0	*4.1	*6.3	14	*55	6.0	4.3	4.3	4.9	3.5	3.8
4	4.1	4.9	28	9.5	23	33	6.3	4.1	10	4.3	3.5	4.1
5	4.3	4.3	11	10	18	18	5.7	4.3	6.5	4.6	3.5	4.1
6	4.6	24	8.4	8.0	14	14	5.5	4.1	4.6	7.8	4.8	3.8
7	4.3	18	7.1	7.6	12	11	5.5	3.8	4.3	4.9	4.3	3.8
8	4.1	8.0	6.7	7.1	10	9.7	5.5	3.8	4.1	3.8	4.1	3.8
9	4.3	6.0	12	17	8.8	8.4	5.5	4.8	4.1	4.3	3.8	3.8
10	3.5	5.2	8.8	34	8.0	87	5.2	5.9	3.8	4.1	7.5	3.8
11	3.5	4.3	8.0	16	7.1	76	5.2	4.1	4.6	4.1	4.1	3.8
12	4.1	4.6	7.1	12	6.0	25	5.2	3.8	11	4.1	5.4	3.8
13	3.5	4.1	6.3	10	6.0	18	5.2	3.5	6.7	3.8	4.3	3.8
14	3.3	34	91	9.2	7.0	13	5.2	3.8	4.3	4.1	4.1	6.3
15	3.5	9.2	*46	8.0	5.7	11	4.9	3.8	9.1	4.1	4.1	4.6
16	3.3	21	18	7.6	6.7	9.7	4.6	3.8	5.2	6.0	16	3.5
17	3.8	8.4	13	6.7	9.2	8.8	4.6	4.1	4.1	6.8	8.0	3.8
18	4.1	6.3	24	6.3	7.1	12	4.6	3.8	4.3	4.6	4.3	4.3
19	4.1	5.7	15	5.7	5.7	15	4.6	3.8	4.1	5.3	4.8	7.2
20	4.1	5.5	96	6.0	5.7	11	4.3	4.2	4.3	4.6	4.3	3.8
21	5.7	4.9	52	5.7	5.5	12	4.6	4.3	4.3	4.9	4.3	3.8
22	4.1	4.6	21	25	5.2	27	4.3	4.3	4.1	4.3	4.3	4.1
23	4.1	4.6	14	14	4.9	49	4.6	4.1	4.3	4.3	3.8	3.8
24	7.9	13	10	11	5.7	22	6.0	4.3	3.8	4.3	3.8	4.1
25	4.1	8.8	11	9.7	5.5	16	5.2	4.3	3.8	4.1	4.1	4.3
26	4.1	8.4	15	10	5.5	13	4.6	3.8	4.6	3.3	3.5	4.1
27	5.5	6.7	9.7	21	4.6	10	5.5	3.3	4.6	3.1	3.8	3.5
28	6.6	5.7	8.8	32	4.9	9.2	4.9	4.1	3.8	3.3	3.8	3.3
29	4.6	5.5	8.4	20	5.7	8.0	4.6	18	3.8	3.3	3.8	3.3
30	4.3	5.2	7.6	14	-	7.1	4.9	5.2	4.3	3.3	3.8	3.0
31	11	-	6.7	11	-	7.1	-	4.3	-	3.5	3.8	-
Total	139.9	285.9	583.3	372.1	241.2	625.8	156.2	143.0	149.4	156.3	144.2	124.2
Mean	4.51	9.53	18.8	12.0	8.32	20.2	5.21	4.61	4.98	5.04	4.65	4.14
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1951: Max 221 Min 2.8 Mean 10.8 Cfsm - In. -
Water year 1951-52: Max 96 Min 3.0 Mean 8.53 Cfsm - In. -

Peak discharge (base, 280 cfs).--Dec. 14 (9:30 p.m.) 343 cfs (4.31 ft); Dec. 20 (8:30 p.m.) 358 cfs (4.36 ft); Mar. 10 (11:30 p.m.) 437 cfs (4.61 ft); July 1 (10 p.m.) 308 cfs (4.19 ft).

* Discharge measurement made on this day.

Whiteoak Creek below Oak Ridge National Laboratory near Oak Ridge, Tenn.--Continued

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.3	3.3	3.8	7.1	5.5	5.7	5.9	*8.0	*4.3	*3.8		
2	*3.5	3.1	4.6	*7.6	*4.6	*12	4.9	6.7	4.3	3.8		
3	3.5	3.1	3.8	7.1	4.3	34	*4.3	5.5	4.1	4.9		
4	3.3	*3.1	*3.3	5.5	4.1	45	3.8	5.5	4.9	3.8		
5	3.1	3.1	24	5.5	3.5	19	3.8	5.2	4.9	3.8		
6	3.5	3.1	5.7	4.9	12	13	7.0	9.7	5.2	4.9		
7	3.3	3.1	4.1	4.9	12	10	8.1	7.4	5.5	6.4		
8	3.8	3.0	4.1	24	7.6	8.4	6.0	8.1	5.2	8.6		
9	6.1	3.1	3.8	16	6.3	7.1	6.0	6.0	5.5	4.3		
10	4.3	4.9	25	19	5.7	6.7	11	5.5	5.2	3.8		
11	3.8	3.3	7.6	9.7	38	6.7	6.7	5.2	4.1	-		
12	3.5	3.5	5.2	6.7	81	7.1	18	4.9	4.1	-		
13	3.8	3.5	4.3	5.5	20	7.1	11	4.3	5.7	-		
14	3.3	3.1	3.5	4.9	15	13	9.7	4.9	4.7	-		
15	3.5	3.3	3.3	4.3	34	15	8.9	4.6	4.3	-		
16	3.5	3.3	3.5	4.1	18	11	7.6	5.5	8.9	-		
17	3.5	3.5	3.3	6.9	12	9.7	6.0	5.2	4.3	-		
18	3.3	3.1	3.5	9.3	9.7	12	6.0	5.6	4.1	-		
19	3.1	14	3.3	5.7	8.4	10	5.5	43	3.8	-		
20	3.1	4.3	3.8	8.0	37	8.4	5.5	14	3.8	-		
21	3.0	12	3.3	11	104	8.0	5.2	10	4.8	-		
22	3.1	8.6	3.3	7.1	22	7.1	4.6	8.0	4.2	-		
23	3.3	4.1	3.3	15	15	7.6	4.6	7.1	4.1	-		
24	3.1	4.1	3.3	12	12	6.3	4.6	6.7	4.1	-		
25	3.1	3.5	3.0	9.2	10	6.0	4.3	6.3	7.1	-		
26	3.1	8.9	3.1	7.1	8.8	4.9	4.3	6.0	4.3	-		
27	3.3	3.5	3.1	6.0	7.6	4.9	4.3	5.2	4.3	-		
28	3.1	3.8	3.0	21	6.3	4.6	4.3	4.6	3.8	-		
29	3.3	4.1	3.0	9.2	-	4.3	4.1	4.3	3.8	-		
30	3.3	3.8	3.5	7.1	-	4.3	21	4.3	3.8	-		
31	3.3	-	14	6.0	-	5.1	-	4.3	-	-		
Total	107.1	134.2	169.4	277.4	524.4	324.0	207.0	231.6	141.2	-		
Mean	3.45	4.47	5.46	8.95	18.7	10.5	6.90	7.47	4.71	-		
Cfsm	-	-	-	-	-	-	-	-	-	-		
In.	-	-	-	-	-	-	-	-	-	-		

Calendar year 1952: Max 87 Min 30 Mean 6.89 Cfsm - In. -
Water year 1952-53: Max - Min - Mean - Cfsm - In. -

Peak discharge (base, 280 cfs).--Feb. 21 (3 a.m.) 303 cfs (4.17 ft).
* Discharge measurement made on this day.

Emory River near Wartburg, Tenn.

Location.--Lat 36°06'46", long. 84°36'54", on right bank 50 ft downstream from highway bridge on Wartburg-Lancing road, 1¼ miles northwest of Wartburg, Morgan County, 1¼ miles downstream from Rock Creek, and 5⅝ miles upstream from Obed River.

Drainage area.--83.2 sq mi.

Records available.--May 1934 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 1,002.14 ft above mean sea level, datum of 1929.

Average discharge.--19 years, 144 cfs.

Extremes.--Maximum discharge during year, 3,780 cfs Feb. 21 (gage height, 11.41 ft); no flow Oct. 1 to Nov. 18, Sept. 17-18, 24, 30.
1934-53: 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.

Remarks.--Records good except those below 1 cfs, which are poor.

Revisions.--WSP 823: Drainage area.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 21				Jan. 22 to Sept. 30			
1.1	0	2.0	83	2.0	83	6.0	1,210
1.2	.8	2.5	182	2.5	179	8.0	2,030
1.3	2.8	3.0	300	3.0	281	8.2	2,120
1.4	6.6	4.0	580	4.0	526		
1.6	24	5.0	890	Note.--Same as preceding table below 2.0 ft.			
1.8	49	6.0	1,240				

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	0	5.4	70	148	83	121	612	13	*37	13	*0.3
2	0	0	5.0	85	172	134	127	320	*9.9	20	11	.3
3	0	0	4.6	161	91	840	125	211	8.1	312	12	.2
4	0	*0	3.8	145	76	*1,030	115	153	7.1	433	13	.1
5	0	0	165	104	62	553	98	*123	6.2	175	9.3	.4
6	*0	0	117	*76	114	315	102	445	5.8	104	*8.1	.4
7	0	0	51	60	328	225	205	444	24	91	6.6	.3
8	0	0	*29	216	264	173	209	279	30	83	5.4	.3
9	0	0	20	332	191	132	179	203	17	132	5.0	.3
10	0	0	664	700	*146	108	159	150	11	74	4.2	.3
11	0	0	308	370	216	92	129	115	11	46	3.8	.3
12	0	0	121	207	*2,050	85	234	92	9.3	34	3.5	.3
13	0	0	70	141	660	100	335	74	8.7	26	2.8	.2
14	0	0	46	104	342	92	*245	60	17	20	2.2	.1
15	0	0	32	81	342	201	193	59	18	15	2.0	.1
16	0	0	24	67	370	197	183	59	28	13	1.8	.1
17	0	0	18	62	289	165	138	52	79	13	2.2	0
18	0	0	14	347	225	241	136	44	45	152	10	0
19	0	.1	12	295	179	281	177	675	29	279	6.6	.1
20	0	.3	9.9	221	201	225	169	666	20	138	4.6	.3
21	0	.5	9.9	1,010	2,110	179	150	309	85	89	3.8	.3
22	0	2.2	9.3	*526	640	146	127	195	161	70	3.8	.1
23	0	7.0	8.7	384	337	132	108	132	72	151	4.6	.1
24	0	9.9	8.7	550	241	169	92	96	42	102	4.2	0
25	0	7.6	7.6	368	191	173	79	72	28	65	3.5	.2
26	0	22	7.1	258	153	155	70	54	18	46	2.5	.3
27	0	38	6.6	207	121	134	60	42	14	32	1.8	.2
28	0	16	6.2	382	98	115	54	32	25	25	1.2	.2
29	0	9.3	5.8	421	-	98	46	25	34	18	.9	.1
30	0	7.6	5.8	275	-	81	1,110	21	116	14	.6	0
31	0	-	16	197	-	83	-	16	-	12	.4	-
Total	0	120.5	1,811.4	8,422	10,357	6,737	5,275	5,830	992.1	2,821	154.4	5.9
Mean	0	4.02	58.4	272	370	217	176	188	33.1	91.0	4.98	0.197
Cfsm	0	0.048	0.702	3.27	4.45	2.61	2.12	2.26	0.398	1.09	0.060	0.0024
In.	0	0.05	0.81	3.76	4.63	3.01	2.36	2.61	0.44	1.26	0.07	0.003

Calendar year 1952 : Max 2,490 Min 0 Mean 92.1 Cfsm 1.11 In. 15.06
Water year 1952-53: Max 2,110 Min 0 Mean 117 Cfsm 1.41 In. 19.00

Peak discharge (base, 3,600 cfs).--Feb. 21 (9 a.m.) 3,780 cfs (11.41 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 1953.

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.--23 years, 168 cfs.

Extremes.--Maximum discharge during year, 3,600 cfs Feb. 21 (gage height, 11.15 ft); minimum, 0.02 cfs Oct. 6-9; minimum gage height, 0.39 ft Oct. 8, 9.
1930-53: Maximum discharge, 11,600 cfs Feb. 13, 1948 (gage height, 21.30 ft); no flow Sept. 23, 24, 1936.

Remarks.--Records good.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

0.40	0.02	1.2	20
.45	.05	1.5	40
.48	.1	2.0	85
.53	.2	2.8	200
.60	.5	3.5	338
.65	.9	6.0	1,040
.7	1.8	8.0	1,880
.9	7.2	10.0	2,930

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	*0.06	0.04	2.6	116	190	142	149	883	16	2.6	6.6	0.1
2	.05	2.8	2.8	120	156	202	169	1,100	13	1.8	23	.08
3	.04	9.5	2.8	186	133	710	148	615	11	6.0	12	.1
4	.04	5.2	2.6	190	118	1,220	130	362	9.1	44	8.0	.3
5	.03	3.9	16	142	104	898	113	258	7.2	18	5.8	1.6
6	.03	3.6	18	113	131	486	123	233	6.4	11	4.4	2.8
7	.02	1.6	30	96	348	326	262	215	35	12	3.9	1.2
8	.02	.7	29	132	326	246	258	203	22	28	2.8	.8
9	.03	.6	21	276	239	192	221	178	15	16	2.6	.6
10	.04	.6	152	992	190	158	192	144	11	10	2.1	.5
11	.04	.6	271	674	319	137	162	118	12	6.4	1.2	.4
12	.04	.6	150	*357	2,460	124	289	96	8.7	4.7	.8	.3
13	.04	.5	91	233	1,230	142	465	80	8.0	3.4	.7	.2
14	.04	.4	66	164	*548	152	336	69	15	2.3	.5	.2
15	.05	.4	50	140	442	563	258	70	11	1.6	.5	.1
16	.08	.4	39	118	438	540	212	83	81	1.4	.4	.1
17	.08	.4	31	116	381	329	*175	97	61	3.9	.4	.08
18	.08	.4	*28	384	302	326	155	82	33	20	.5	.06
19	.08	.4	25	338	241	329	143	395	22	65	.8	.08
20	.08	.5	23	271	339	258	124	700	15	59	.7	.2
21	.08	.6	23	738	2,660	207	109	393	12	36	*.6	*.2
22	.06	.9	23	508	1,260	173	96	235	20	*51	.6	.1
23	.06	.9	25	468	554	193	85	160	14	116	1.0	.2
24	*.05	.8	27	814	362	289	78	116	9.5	100	1.4	.2
25	.05	*.7	30	556	279	*297	69	*85	6.9	54	.9	.3
26	.05	2.6	29	372	237	250	63	65	*5.0	33	.6	.4
27	.05	6.6	27	277	197	219	57	50	4.1	22	.4	.4
28	.04	5.0	24	410	164	175	50	39	3.6	16	.4	.4
29	.04	3.4	22	455	-	148	46	31	3.4	12	.2	.4
30	.04	2.8	21	317	-	118	970	25	3.1	9.1	.2	.4
31	.04	-	41	237	-	107	-	20	-	7.2	.1	-
Total	1.53	57.44	1,342.8	10,321	14,348	9,656	5,707	7,200	494.0	753.4	84.1	12.80
Mean	0.049	1.91	43.3	333	512	311	190	232	16.5	24.3	2.71	0.427
Cfsm	0.00052	0.020	0.463	3.56	5.48	3.33	2.03	2.48	0.176	0.260	0.029	0.0046
In.	0.0006	0.02	0.53	4.11	5.71	3.84	2.27	2.86	0.20	0.30	0.03	0.005

Calendar year 1952: Max 3,820 Min 0.02 Mean 106 Cfsm 1.13 In. 15.38
Water year 1952-53: Max 2,660 Min 0.02 Mean 137 Cfsm 1.47 In. 19.88

Peak discharge (base, 1,700 cfs).--Feb. 12 (7:30 a.m.) 2,900 cfs (9.95 ft); Feb. 21 (7:30 a.m.) 3,600 cfs (11.15 ft).
* Discharge measurement 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 1953.

Gage.--Water-stage recorder. Datum of gage is 763.38 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--24 years, 1,318 cfs.

Extremes.--Maximum discharge during year, 27,000 cfs Feb. 21 (gage height, 16.32 ft); no flow Nov. 7-9.
1929-53: Maximum discharge, 101,000 cfs Feb. 13, 1948 (gage height, 31.00 ft); no flow Aug. 13-15, 1944, Nov. 7-9, 1952.
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 923: 1940.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

0.7	0.0	3.0	490
0.8	0.8	3.5	840
0.9	1.6	4.0	1,250
1.0	3.6	5.0	2,200
1.2	11	7.0	4,450
1.4	26	10.0	9,350
1.7	55	13.0	15,900
2.0	119	13.8	18,200
2.5	250		

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	2.6	0.2	37	308	1,730	1,220	1,190	7,190	191	*141	84	*6.7
2	2.2	.2	37	578	1,410	1,590	1,360	5,330	*163	95	81	5.6
3	1.6	.2	37	816	1,190	6,190	1,230	3,490	138	237	65	5.0
4	1.5	*.2	36	1,090	1,040	*10,600	1,140	2,430	117	1,170	74	4.6
5	1.4	.1	204	936	904	7,210	1,010	*1,960	97	490	90	5.0
6	*1.4	.1	452	746	1,070	4,190	968	4,000	86	370	*74	4.6
7	1.3	0	268	620	2,650	2,950	1,660	3,990	86	356	57	4.3
8	1.2	0	*208	1,400	2,560	2,300	2,080	2,800	97	776	47	3.9
9	1.4	0	173	3,190	1,960	1,810	1,840	2,110	184	984	41	3.6
10	1.5	.6	2,150	6,190	*1,560	1,510	1,680	1,630	163	544	38	3.4
11	1.6	.8	2,170	4,630	1,710	1,300	1,740	1,300	124	312	32	3.2
12	1.6	1.0	1,200	2,740	13,800	1,150	2,190	1,060	95	224	28	2.6
13	1.6	1.2	704	1,850	9,070	1,210	4,330	856	93	176	24	2.2
14	1.6	1.4	462	1,400	4,500	1,250	*3,130	704	126	138	20	1.6
15	1.5	1.4	330	1,120	3,600	2,200	2,340	634	109	112	17	1.5
16	1.6	1.4	257	936	3,730	2,720	2,100	704	142	90	14	1.4
17	.1	1.3	216	832	3,150	2,150	1,750	768	573	81	12	1.4
18	1.1	1.2	189	1,910	2,560	2,260	1,520	718	490	130	22	*1.2
19	1.1	2.4	168	2,580	2,090	2,980	1,730	3,130	274	920	36	1.2
20	1.0	3.4	156	2,000	2,190	2,410	1,560	6,610	202	711	34	1.5
21	1.0	4.0	146	4,690	18,000	2,020	1,390	3,820	206	446	29	1.5
22	.9	9.8	138	*4,360	9,200	1,680	1,210	2,400	725	321	27	1.4
23	.9	16	136	3,310	4,550	1,560	1,080	1,630	648	430	30	1.3
24	.8	23	133	5,280	3,140	2,140	944	1,480	340	474	20	1.2
25	.8	23	129	4,230	2,470	2,290	832	1,120	224	386	17	1.4
26	.8	41	126	3,020	2,040	2,000	746	792	168	260	17	1.5
27	.7	60	124	2,340	1,710	1,710	655	585	129	199	14	1.5
28	.6	81	119	2,960	1,440	1,480	564	430	112	160	12	1.5
29	.4	53	112	4,060	-	1,270	496	330	121	129	10	1.5
30	.3	42	107	2,940	-	1,090	6,310	264	146	105	8.0	1.5
31	.2	-	150	2,190	-	984	-	224	-	88	8.2	-
Total	37.0	370.9	10,874	75,252	105,024	77,424	50,775	64,489	6,369	11,055	1,083.2	78.8
Mean	1.19	12.4	351	2,427	3,751	2,498	1,692	2,080	212	357	34.9	2.63
Cfsm	0.0016	0.016	0.459	3.18	4.91	3.27	2.21	2.72	0.277	0.467	0.046	0.0034
In.	0.002	0.02	0.53	3.66	5.11	3.77	2.47	3.14	0.31	0.54	0.05	0.004

Calendar year 1952: Max 26,600 Min 0 Mean 931 Cfsm 1.22 In. 16.60
Water year 1952-53: Max 18,000 Min 0 Mean 1,104 Cfsm 1.45 In. 19.61

Peak discharge (base, 19,000 cfs).--Feb. 12 (12 m.) 19,100 cfs (14.06 ft); Feb. 21 (10:30 a.m.) 27,000 cfs (16.32 ft).

* Discharge measurement made on this day.

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 1953.

Gage.--Water-stage recorder. Datum of gage is 758.62 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--19 years, 217 cfs.

Extremes.--Maximum discharge during year, 8,460 cfs Feb. 21 (gage height, 14.02 ft); minimum, 0.1 cfs Oct. 5-9, 20, Sept. 17-19.

1934-53: Maximum discharge, 19,000 cfs Jan. 5, 1949 (gage height, 19.45 ft); minimum, 0.1 cfs Oct. 3-5, 1936, Oct. 6, 7, 1947, Aug. 4, Oct. 5-9, 20, 1952, Sept. 17-19, 1953; 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 tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21

0.6	0.1	2.4	89
.7	.4	3.0	158
.8	1.2	4.0	320
.9	2.7	5.0	590
1.1	6.9	6.0	1,010
1.4	18	8.0	2,210
1.8	39	10.4	4,210

Feb. 22 to Sept. 30

0.9	2.7	3.0	158
1.1	7.3	4.0	340
1.4	19	5.0	620
1.8	39	6.0	1,010
2.4	89		

Note.--Same as preceding table below 0.9 ft and above 6.0 ft.

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	0.2	0.2	5.1	155	217	180	146	822	24	5.6	16	0.4
2	.2	.2	5.1	*141	179	523	*129	857	19	*5.6	23	.4
3	.2	*.3	*4.8	241	*154	*1,160	120	704	*16	11	*21	*.3
4	.2	.4	5.1	214	133	2,560	112	*404	13	63	16	.2
5	.1	.4	68	159	113	1,100	102	309	12	42	12	.7
6	.1	.4	71	123	214	662	141	976	10	26	9.1	.4
7	.1	.4	35	104	626	467	458	983	34	22	7.0	.8
8	.1	.4	24	804	475	340	383	684	34	67	7.0	.9
9	.2	.4	18	960	338	256	300	491	21	46	7.3	.7
10	.4	.8	380	1,800	266	210	258	342	15	30	7.3	.6
11	.3	.9	270	830	689	180	213	251	12	22	5.8	.4
12	.2	1.0	126	437	3,440	162	402	186	10	16	4.4	.4
13	.2	1.2	79	295	1,120	178	587	145	8.8	13	3.5	.3
14	.2	1.1	55	223	646	172	427	119	12	9.7	2.9	.2
15	.4	1.2	41	178	662	772	331	108	16	8.2	2.3	.2
16	.4	1.0	33	150	694	632	288	94	29	9.4	2.0	.2
17	.4	.9	28	138	505	449	222	80	42	32	1.7	.2
18	.3	1.0	24	208	384	524	205	75	26	83	9.1	.1
19	.2	1.7	22	220	306	506	200	450	18	143	7.9	.2
20	.3	1.6	21	209	564	388	170	629	13	78	5.3	.4
21	.2	2.3	21	444	4,210	307	153	409	10	55	4.0	.3
22	.2	2.7	21	442	1,170	258	135	276	65	52	3.1	.2
23	.2	2.7	22	502	680	243	120	196	40	193	4.8	.2
24	.2	2.7	23	870	497	243	108	148	26	117	2.7	.4
25	.2	2.3	24	594	381	236	98	114	19	68	1.8	.8
26	.2	5.5	23	403	309	215	89	87	13	45	1.4	.8
27	.2	9.6	22	308	252	189	75	66	10	33	1.2	.8
28	.2	7.5	20	380	210	166	67	50	8.5	26	.9	1.0
29	.2	6.9	19	411	-	143	60	40	7.0	20	.8	.8
30	.2	6.2	18	328	-	123	979	33	6.0	17	.6	.7
31	.2	-	68	264	-	114	-	28	-	15	.5	-
Total	6.8	63.9	1,596.1	12,535	19,434	13,658	7,076	10,156	589.3	1,373.5	192.4	14.0
Mean	0.22	2.13	51.5	404	694	441	236	328	19.6	44.3	6.21	0.47
Cfsm	0.0018	0.017	0.419	3.28	5.64	3.59	1.92	2.67	0.159	0.360	0.050	0.0038
In.	0.002	0.02	0.48	3.79	5.88	4.13	2.14	3.07	0.18	0.42	0.06	0.004

Calendar year 1952: Max 4,720 Min 0.1 Mean 132 Cfsm 1.07 In. 14.57
Water year 1952-53: Max 4,210 Min 0.1 Mean 183 Cfsm 1.49 In. 20.18

Peak discharge (base, 4,800 cfs).--Feb. 21 (5 a.m.) 5,370 cfs (11.57 ft); Feb. 21 (6 a.m.) 8,460 cfs (14.02 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 1953. 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.--19 years, 193 cfs.

Extremes.--Maximum discharge during year, 5,420 cfs Feb. 21 (gage height, 11.53 ft); minimum, 16 cfs Sept. 23-25; minimum gage height, 0.21 ft Sept. 13-15.
1934-53: 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, 0.16 ft Sept. 23, 1940.

Remarks.--Records good.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

0.2	16	1.0	360
.3	35	2.0	650
.4	66	4.0	1,280
.6	152	7.0	2,670
.8	275	10.0	4,290

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	21	19	35	143	164	204	130	169	66	31	27	21
2	21	19	42	117	143	559	108	621	62	31	27	21
3	19	*19	42	143	130	473	95	236	62	33	27	21
4	19	19	62	134	120	1,240	91	139	58	77	27	21
5	19	19	368	117	108	698	87	284	55	40	27	29
6	19	19	134	104	112	452	100	480	55	35	27	27
7	19	19	91	91	262	360	117	384	55	33	25	25
8	19	19	74	279	198	298	*95	*288	58	37	84	21
9	23	19	62	394	152	242	91	223	52	*102	76	19
10	27	31	248	1,130	121	216	198	181	*48	40	31	19
11	25	33	*204	488	559	193	130	152	48	35	29	19
12	23	31	126	316	3,070	181	504	139	45	33	27	19
13	21	27	100	242	998	181	452	126	45	31	25	18
14	21	27	87	193	569	169	275	117	48	29	*25	18
15	*21	27	74	*158	620	495	193	112	48	29	25	*19
16	19	25	62	143	*746	293	181	104	58	29	47	19
17	18	25	58	143	524	249	148	95	55	31	52	19
18	18	27	52	397	390	*293	134	95	42	67	31	19
19	18	65	48	223	320	256	130	1,010	40	75	29	21
20	18	63	45	181	877	204	117	422	40	35	27	25
21	18	31	45	288	*3,920	175	108	288	45	40	25	23
22	19	40	42	193	1,110	158	100	210	180	33	27	19
23	19	33	40	426	632	152	95	169	45	76	27	18
24	21	27	37	550	479	158	91	143	40	37	25	16
25	21	25	37	328	405	143	87	122	45	33	23	19
26	19	152	37	275	340	134	87	112	37	31	23	21
27	19	76	35	223	280	126	79	100	35	29	23	19
28	19	45	31	308	236	117	74	91	35	29	23	18
29	19	37	29	249	-	112	70	83	33	29	21	18
30	19	35	31	204	-	108	426	79	33	27	21	18
31	19	-	163	181	-	104	-	70	-	29	21	-
Total	620	1,053	2,541	8,361	17,585	8,743	4,593	6,844	1,568	1,246	954	609
Mean	20.0	35.1	82.0	270	628	282	153	221	52.3	40.2	30.8	20.3
Cfsm	0.171	0.300	0.701	2.31	5.37	2.41	1.31	1.89	0.447	0.344	0.263	0.174
In.	0.20	0.33	0.81	2.66	5.59	2.78	1.46	2.18	0.50	0.40	0.30	0.19

Calendar year 1952: Max 3,740 Min 18 Mean 134 Cfsm 1.15 In. 15.57
Water year 1952-53: Max 3,920 Min 16 Mean 150 Cfsm 1.28 In. 17.40

Peak discharge (base, 2,000 cfs).--Feb. 12 (12 m.) 4,100 cfs (9.69 ft); Feb. 21 (2 p.m.) 5,420 cfs (11.53 ft).
* Discharge measurement made on this day.

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 1¾ 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 1953. 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.--23 years, 109 cfs.

Extremes.--Maximum discharge during year, 3,170 cfs Feb. 21 (gage height, 5.90 ft); minimum, 0.03 cfs Sept. 16-19 (gage height, 0.28 ft).
1927-31, 1934-53: 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 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

0.25	0.03	1.0	56
.3	.3	1.3	103
.4	2.9	2.0	270
.5	8.0	2.8	560
.6	14	3.6	970
.7	23	4.7	1,790

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	0.3	0.2	3.3	119	103	103	89	226	7.4	0.6	18	0.2
2	*.3	.2	4.2	*115	85	206	*79	203	5.1	*.6	13	*.2
3	.3	*.2	*6.2	183	*76	*241	74	159	*3.7	.4	*9.2	.2
4	.3	.2	6.8	141	67	674	66	*127	3.3	1.2	6.8	.2
5	.3	.2	82	103	57	423	57	113	2.5	8.0	5.1	.4
6	.3	.2	73	82	84	285	64	136	1.2	5.6	3.7	.3
7	.3	.2	46	73	181	208	87	167	1.0	3.7	2.9	.3
8	.3	.2	32	366	162	162	76	174	1.2	2.1	12	.3
9	.3	.2	27	479	127	125	72	141	.8	1.4	34	.2
10	.4	.4	85	959	105	103	90	111	.8	1.2	16	.2
11	.3	.3	125	450	608	92	79	85	.6	1.0	10	.2
12	.3	.3	74	270	1,770	84	224	70	.6	.8	6.8	.2
13	.3	.3	53	196	575	94	265	56	.6	.6	5.1	.2
14	.3	.3	42	143	342	108	191	47	1.0	.6	3.3	.2
15	.3	.3	34	111	318	351	147	48	1.0	.4	2.1	.1
16	.3	.3	28	92	285	257	125	44	1.2	.8	1.7	.06
17	.3	.3	25	84	279	193	98	39	1.0	27	1.4	.03
18	.2	.3	22	121	228	179	85	33	1.4	238	1.2	.03
19	.2	.6	19	109	188	141	80	140	1.2	138	1.2	.2
20	.2	.4	20	98	373	113	67	203	1.0	89	1.2	.1
21	.2	.4	23	183	*1,740	96	59	138	4.1	66	1.2	.06
22	.2	1.2	23	167	580	85	52	101	21	67	1.2	.06
23	.2	1.4	23	246	342	98	47	74	6.0	103	1.0	.06
24	.2	1.2	23	406	260	121	42	57	4.2	70	1.0	.1
25	.2	1.2	23	291	216	115	39	43	2.1	43	.8	.3
26	.2	3.7	22	223	183	101	36	32	1.7	29	.6	.2
27	.2	8.0	21	181	150	87	31	25	1.4	22	.6	.2
28	.2	6.2	19	210	121	76	28	19	1.2	16	.4	.2
29	.2	5.1	18	193	-	64	25	15	1.0	12	.3	.2
30	.2	4.2	18	155	-	56	221	12	.8	12	.3	.2
31	.2	-	92	123	-	55	-	9.7	-	11	.3	-
Total	8.0	38.2	1,112.5	6,672	9,605	5,096	2,695	2,847.7	82.1	952.0	162.4	5.40
Mean	0.26	1.27	35.9	215	343	164	89.8	91.9	2.74	30.7	5.24	0.180
Cfsm	0.0052	0.025	0.715	4.28	6.83	3.27	1.79	1.83	0.055	0.612	0.104	0.0036
In.	0.006	0.03	0.82	4.94	7.12	3.78	2.00	2.11	0.06	0.71	0.12	0.004

Calendar year 1952: Max 2,140 Min 0.2 Mean 61.8 Cfsm 1.23 In. 16.75
Water year 1952-53: Max 1,770 Min 0.03 Mean 80.2 Cfsm 1.60 In. 21.70

Peak discharge (base, 1,300 cfs).--Feb. 12 (3 a.m.) 3,140 cfs (5.88 ft); Feb. 21 (4:30 a.m.) 3,170 cfs (5.90 ft).
* Discharge measurement made on this day.
Note.--No gage-height record Oct. 8-23; discharge estimated on basis of recorded range in stage, weather records, and records for stations on nearby streams.

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 1953.

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.--11 years (1942-53), 133 cfs.

Extremes.--Maximum discharge during year, 2,720 cfs Feb. 21 (gage height, 10.74 ft); minimum, 29 cfs Sept. 15, 18, 19 (gage height, 1.70 ft).
1941-53: 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, 26 cfs Oct. 18, 1951; minimum gage height, 1.60 ft Oct. 6, 7, 1947.

Remarks.--Records excellent.

Revisions (water years).--WSP 973: 1942.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.7	29	4.0	464
1.9	49	6.0	990
2.1	74	8.0	1,600
2.5	136	9.0	1,960
3.0	233		

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	37	33	54	100	154	220	177	190	81	65	80	34
2	35	33	71	98	143	241	165	169	80	61	73	34
3	33	32	64	98	138	218	158	156	75	62	65	38
4	34	32	59	87	131	*250	152	233	74	69	62	51
5	34	31	74	82	124	231	145	200	74	68	60	161
6	33	31	69	78	128	210	147	285	84	73	58	60
7	34	30	64	78	131	200	145	337	90	68	55	49
8	36	31	60	290	119	190	136	256	*78	69	56	44
9	74	31	*59	637	113	179	131	214	78	61	55	42
10	45	44	223	858	109	171	131	188	96	58	51	40
11	41	44	173	389	243	184	124	171	88	55	50	38
12	38	38	124	261	326	182	156	160	75	51	49	38
13	38	35	103	210	250	177	143	150	74	51	47	36
14	38	34	90	179	208	173	131	141	81	49	47	34
15	37	33	81	160	241	171	129	136	73	53	45	34
16	*35	32	75	145	202	162	*129	131	78	98	44	*33
17	34	32	73	138	196	156	124	126	74	65	49	32
18	34	*31	70	182	179	158	131	122	68	74	66	32
19	33	196	66	158	171	158	129	134	65	68	64	69
20	32	135	69	*150	376	147	121	121	64	89	59	84
21	32	80	68	169	*1,700	152	117	114	77	*133	49	47
22	33	64	64	150	667	300	116	109	69	391	46	41
23	33	56	64	222	442	549	114	106	65	326	45	38
24	33	51	61	298	369	386	111	102	62	162	44	38
25	33	48	59	235	323	296	111	98	71	119	43	97
26	32	100	58	200	289	254	109	*97	68	102	41	108
27	32	84	55	181	258	227	106	92	81	88	*38	178
28	32	70	55	214	237	210	103	90	135	81	37	91
29	32	64	53	196	-	196	102	88	81	77	37	69
30	33	59	59	179	-	184	260	87	70	74	36	60
31	33	-	133	165	-	177	-	84	-	71	34	-
Total	1,113	1,614	2,450	6,587	7,967	6,709	4,053	4,687	2,329	2,931	1,585	1,770
Mean	35.9	53.8	79.0	212	285	216	135	151	77.6	94.5	51.1	59.0
Cfsm	0.789	1.18	1.74	4.66	6.26	4.75	2.97	3.32	1.71	2.08	1.12	1.30
In.	0.91	1.32	2.00	5.38	6.51	5.48	3.31	3.83	1.90	2.40	1.30	1.45

Calendar year 1952: Max 2,340 Min 30 Mean 120 Cfsm 2.64 In. 36.00
Water year 1952-53: Max 1,700 Min 30 Mean 120 Cfsm 2.64 In. 35.79

Peak discharge (base, 800 cfs).--Jan. 9 (12 p.m.) 1,520 cfs (7.75 ft); Feb. 21 (8:30 a.m.) 2,720 cfs (10.74 ft); July 22 (7 p.m.) 1,210 cfs (6.75 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 Reservoir, 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 1953.

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.--11 years (1922-23, 1942-45, 1946-53), 90.8 cfs.

Extremes.--Maximum discharge during year, 1,140 cfs Feb. 21 (gage height, 5.20 ft); minimum, 14 cfs Sept. 18 (gage height, 1.49 ft).
1922-24, 1942-45, 1946-53: Maximum discharge, 6,820 cfs June 16, 1949 (gage height, 9.20 ft), from rating curve extended above 1,300 cfs on basis of slope-area determination of peak flow; minimum, 11 cfs Oct. 4, 1947 (gage height, 1.32 ft).

Remarks.--Records excellent. Slight diurnal fluctuation caused by small mill above station.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 30				May 1 to Sept. 30			
1.6	16	2.6	143	1.5	14	2.3	87
1.8	29	3.0	254	1.6	20	2.6	143
2.0	47	4.0	620	1.8	32	3.1	286
2.3	86	5.0	1,050	2.0	50		

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	20	19	30	71	100	130	93	170	47	43	45	17
2	20	19	46	68	88	176	86	126	46	38	39	17
3	20	19	37	68	83	160	82	109	43	38	41	19
4	20	19	34	58	77	*189	77	112	43	42	37	21
5	19	18	52	55	71	167	76	107	42	38	32	63
6	19	18	45	51	82	148	80	222	47	34	30	28
7	20	18	39	55	89	137	82	267	66	34	29	24
8	20	18	36	124	77	124	74	194	58	35	31	21
9	26	18	*36	255	71	114	71	155	*49	32	30	20
10	22	33	310	319	68	109	78	135	47	30	27	20
11	20	32	160	189	195	112	70	118	45	28	26	19
12	20	25	98	132	370	109	111	107	43	27	25	21
13	*20	21	76	109	248	109	107	98	86	26	24	21
14	19	20	63	94	183	101	91	92	68	26	23	18
15	20	20	55	84	220	105	86	90	50	26	22	18
16	20	20	49	77	165	98	86	84	53	63	47	*18
17	19	19	46	74	148	93	77	81	50	33	31	16
18	19	*19	43	116	132	101	77	77	44	52	35	16
19	18	131	41	93	124	98	76	93	41	49	32	29
20	18	76	44	88	203	91	71	81	39	46	38	36
21	18	45	46	*114	751	89	68	73	95	*38	28	22
22	19	40	41	94	402	103	66	69	76	131	26	19
23	19	35	41	134	276	183	64	67	73	122	25	18
24	19	33	38	167	232	162	*63	65	56	66	24	18
25	19	31	36	141	*200	139	64	61	48	50	22	64
26	19	44	35	120	180	122	62	59	46	44	21	52
27	19	40	34	109	157	112	59	*58	49	39	*20	62
28	19	35	33	148	141	103	58	54	50	38	18	36
29	18	32	32	132	-	98	56	52	44	34	18	28
30	19	31	35	114	-	93	307	52	47	59	18	25
31	19	-	111	103	-	91	-	50	-	53	18	-
Total	606	948	1,822	3,556	5,133	3,766	2,518	3,178	1,591	1,414	882	806
Mean	19.5	31.6	58.8	115	183	121	83.9	103	53.0	45.6	28.5	26.9
Cfsm	0.519	0.840	1.56	3.06	4.87	3.22	2.23	2.74	1.41	1.21	0.758	0.715
In.	0.60	0.94	1.80	3.52	5.08	3.72	2.49	3.14	1.57	1.40	0.87	0.80

Calendar year 1952: Max 814 Min 18 Mean 79.8 Cfsm 2.12 In. 28.90
Water year 1952-53: Max 751 Min 16 Mean 71.8 Cfsm 1.91 In. 25.93

Peak discharge (base, 700 cfs).--Feb. 21 (6:30 a.m.) 1,140 cfs (5.20 ft); Apr. 30 (8 a.m.) 798 cfs (4.44 ft).
* Discharge measurement made on this day.

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 1953 (gage heights only), April 1942 to September 1953. 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.--11 years (1942-53), 447 cfs (adjusted for storage).
Extremes.--Maximum discharge during year, 2,220 cfs Apr. 17 (gage height, 6.63 ft); minimum, 0.6 cfs Oct. 21 (gage height, 0.30 ft).
1907-9, 1922-23, 1942-53: Maximum stage recorded, 11.9 ft Mar. 13, 1909, site and datum then in use (discharge not determined); minimum discharge, that of 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 Reservoir since 1942 (see p. 230).
Revisions (water years).--WSP 973: 1948.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 9 to May 4)

Oct. 1 to Jan. 9				Jan. 10 to Sept. 30			
0.3	0.6	1.4	78	1.2	38	3.0	515
.4	1.6	1.7	150	1.4	75	4.0	895
.6	4.1	2.0	229	1.7	138	5.0	1,360
.8	8.4	2.5	372	2.0	211	6.0	1,920
1.0	16	3.0	530	2.5	355	6.5	2,220
1.1	24	4.0	930				
1.2	38			Note.--Same as preceding table below 1.2 ft.			

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	1.4	1.0	1.1	307	2.8	3.5	197	2,090	370	1.9	2.4	1.9
2	1.2	1.0	1.9	304	203	5.8	650	2,080	3.8	2.0	2.4	1.9
3	1.1	1.0	1.3	307	484	4.3	1,110	2,070	3.5	1.9	2.3	2.1
4	1.2	1.0	1.2	304	484	4.8	1,530	1,890	2.9	3.4	2.3	2.4
5	1.2	1.0	1.9	304	480	3.8	1,520	1,310	2.2	2.1	2.3	3.1
6	1.2	1.0	1.4	304	256	3.6	1,520	919	2.1	2.0	2.2	2.1
7	1.1	1.0	1.3	304	3.8	3.5	1,510	876	2.4	2.2	2.2	2.0
8	1.2	1.0	1.2	307	2.9	3.3	1,510	906	2.3	2.1	2.3	2.0
9	1.5	1.0	*1.2	166	2.7	3.2	1,780	759	*2.2	2.2	2.2	1.9
10	1.2	1.8	9.3	6.6	2.6	3.2	2,030	759	3.5	1.9	2.1	1.3
11	1.2	1.4	2.8	3.8	8.6	3.6	2,020	*759	2.7	1.8	2.0	1.1
12	1.1	1.1	2.0	3.1	8.6	3.3	2,010	759	2.0	1.9	2.1	1.2
13	*1.1	1.1	1.7	2.8	4.6	3.5	2,000	759	3.6	1.9	2.0	1.3
14	1.0	1.0	1.6	2.7	4.1	3.2	1,990	878	2.9	1.9	2.0	1.1
15	1.0	1.1	1.5	2.6	8.7	3.6	*1,980	1,510	2.0	1.9	2.1	1.1
16	1.0	1.0	1.5	2.4	5.0	3.3	*1,980	2,080	2.2	2.9	2.5	*1.0
17	1.0	1.0	1.5	2.4	4.3	3.1	2,080	2,060	1.9	2.2	2.2	1.0
18	1.0	1.0	1.5	3.5	3.8	3.2	2,210	2,040	1.8	8.1	2.1	1.0
19	1.0	4.5	1.5	120	3.6	3.3	2,210	2,040	1.6	3.6	2.1	1.7
20	.9	1.9	1.7	*295	4.8	2.9	2,200	2,020	1.6	3.2	2.0	2.1
21	.8	1.4	1.6	295	13	2.8	2,180	2,000	5.6	*3.3	2.0	1.3
22	.9	1.5	1.5	295	5.6	2.9	2,170	1,980	2.7	7.9	2.0	1.0
23	.9	1.2	1.6	194	4.6	3.3	2,160	1,960	2.0	5.2	2.0	1.0
24	1.0	1.2	119	4.3	4.8	*3.2	2,150	1,940	1.9	3.3	2.0	1.0
25	1.0	1.1	307	3.6	4.4	2.8	2,140	*1,910	1.7	2.8	2.0	4.6
26	1.0	1.5	307	3.2	4.1	2.7	2,130	*1,890	5.3	2.8	2.0	2.4
27	1.0	1.2	307	3.1	3.8	2.7	2,110	1,860	2.7	2.7	2.0	2.6
28	1.0	*1.1	307	4.5	3.5	2.7	2,100	1,840	4.4	2.8	2.0	1.6
29	.9	1.2	488	3.2	-	2.7	2,100	1,680	2.3	2.7	2.0	1.4
30	1.0	1.2	745	2.9	-	2.6	2,110	1,410	2.0	2.6	2.0	1.3
31	1.0	-	469	2.9	-	2.6	-	1,160	-	2.6	2.0	-
Total	33.1	38.5	3,092.8	3,863.6	2,021.7	103.0	55,387	48,194	447.8	89.8	65.8	51.5
Mean	1.07	1.28	99.8	125	72.2	3.32	1,846	1,555	14.9	2.90	2.12	1.72
(†)	+3,200	+4,900	+4,900	+14,300	+21,900	+18,100	-39,600	-29,200	+7,900	+8,100	+3,900	+5,200
Adjusted for change in reservoir contents												
Mean	104	165	258	586	854	587	526	613	278	264	128	175
Cfsm	0.547	0.868	1.36	3.08	4.49	3.09	2.77	3.23	1.46	1.39	0.674	0.921
In.	0.63	0.97	1.56	3.56	4.68	3.56	3.09	3.72	1.63	1.60	0.78	1.03

	Observed			Adjusted			
Calendar year 1952:	Max 1,560	Min 0.8	Mean 529	Mean 424	Cfsm 2.23	In. 30.35	
Water year 1952-53:	Max 2,210	Min 0.8	Mean 311	Mean 375	Cfsm 1.97	In. 26.81	

* Discharge measurement made on this day.
† Change in contents, in cfs-days, in Chatuge Reservoir, 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 1953 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 28.30 ft lower.

Average discharge.--55 years (1898-1953), 919 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 5,700 cfs Feb. 21 (gage height, 7.64 ft); minimum, 50 cfs Sept. 3 (gage height, 1.82 ft); minimum daily, 62 cfs Oct. 19.

1896-1917, 1918-53: 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 freezeup and filling of Andrews Reservoir; minimum daily during normal regulation, that of 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 Reservoir beginning Feb. 12, 1942 (see p. 230).

Revisions (water years).--WSP 583: 1899(M). WSP 973: Drainage area. WSP 1003: 1943. See also Records available.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 20				Feb. 21 to Sept. 30			
1.8	52	3.0	534	1.9	64	3.5	875
1.9	69	3.5	865	2.1	113	4.0	1,260
2.1	116	4.0	1,250	2.3	182	5.0	2,250
2.3	183	5.0	2,250	2.6	320	6.0	3,440
2.6	317	6.0	3,440	3.0	545	7.0	4,780

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	*106	90	136	701	442	536	435	2,830	925	166	180	78
2	92	95	183	658	448	797	864	2,850	*249	153	156	82
3	108	106	174	666	823	677	1,220	2,720	230	192	144	80
4	114	84	153	608	809	826	1,730	2,780	220	224	144	182
5	89	92	220	577	781	798	1,730	2,070	211	203	136	326
6	98	98	210	552	719	702	1,750	1,920	210	165	128	145
7	94	91	180	546	454	631	1,790	2,130	226	176	124	109
8	113	86	*166	802	372	572	1,740	1,870	228	194	133	101
9	109	90	152	1,480	344	533	1,890	1,470	252	162	160	96
10	118	200	1,550	2,210	327	492	2,280	1,360	240	144	123	96
11	110	95	882	1,000	974	533	2,260	1,280	255	136	120	97
12	100	106	482	647	2,330	497	2,440	1,220	204	130	112	92
13	206	118	357	522	1,470	515	2,450	1,190	205	128	108	95
14	103	98	288	442	920	485	2,370	1,220	318	126	109	*88
15	100	100	241	388	1,180	551	*2,360	1,620	213	130	128	90
16	100	92	230	357	939	497	2,340	2,390	220	224	146	89
17	95	98	207	327	809	*473	2,370	2,370	228	164	142	84
18	73	88	196	536	692	497	2,560	2,340	300	309	122	84
19	62	296	182	*490	618	509	2,570	2,550	172	372	133	105
20	64	415	198	708	840	456	2,520	2,380	119	207	118	330
21	73	163	201	1,060	3,780	439	2,490	2,320	143	485	114	130
22	101	166	184	886	1,900	444	2,480	2,250	268	559	107	100
23	95	165	184	889	1,200	557	2,450	2,220	178	741	112	102
24	90	131	176	699	965	527	2,440	2,180	194	301	107	100
25	92	132	461	634	*833	497	2,440	*2,150	164	*232	*103	264
26	87	175	454	546	742	473	2,420	2,120	162	198	94	310
27	96	202	448	493	650	444	2,380	2,080	209	178	94	327
28	102	*170	448	628	593	422	2,360	2,040	224	172	86	188
29	102	156	492	602	-	400	2,360	1,960	186	170	86	144
30	80	146	866	522	-	383	3,170	1,640	172	159	82	129
31	92	-	1,310	482	-	372	-	1,490	-	160	84	-
Total	3,064	4,144	11,611	21,658	26,954	16,535	64,659	63,010	7,125	7,080	3,735	4,243
Mean	98.8	138	375	699	963	533	2,155	2,033	238	228	120	141

	Observed			Adjusted†		
Calendar year 1952:	Max 4,630	Min 62	Mean 859	Mean 754	Cfsm 1.86	In. 25.27
Water year 1952-53:	Max 3,780	Min 62	Mean 641	Mean 705	Cfsm 1.74	In. 23.58

* Discharge measurement made on this day.

† Adjusted for change in contents in Chatuge Reservoir.

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 1953.

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.--41 years (1904-9, 1914-16, 1919-53), 254 cfs.

Extremes.--Maximum discharge during year, 3,820 cfs Feb. 21 (gage height, 11.35 ft); minimum, 25 cfs Sept. 2 (gage height, 1.60 ft).
1904-9, 1914-17, 1918-53: Maximum discharge observed, 9,030 cfs Nov. 19, 1906 (gage height, 17.3 ft), from rating curve extended above 5,300 cfs; minimum discharge, 12 cfs several times in August and September 1925 (gage height, 0.52 ft).

Remarks.--Records excellent. Records of chemical analyses and water temperatures for the water year 1953 are given in WSP 1290.

Revisions (water years).--WSP 503: 1905-9, 1915-17. WSP 783: 1906(M). WSP 823: Drainage area.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.6	25	3.5	598
1.7	36	4.0	793
1.9	64	5.0	1,140
2.1	102	6.0	1,490
2.5	208	8.0	2,290
3.0	388	9.0	2,700

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	*60	48	86	274	274	337	240	458	130	69	73	27
2	56	48	128	234	250	518	211	518	*125	68	71	28
3	55	48	114	234	237	433	202	471	123	71	61	34
4	55	46	102	202	221	681	196	556	118	109	60	49
5	55	46	160	181	208	594	187	463	114	82	56	185
6	54	46	142	170	237	480	205	660	120	73	52	58
7	54	45	123	167	281	421	224	828	138	69	49	44
8	58	45	*111	549	240	376	202	627	120	80	60	40
9	68	46	104	924	221	340	190	492	114	69	64	37
10	61	82	854	1,290	208	318	196	408	125	62	52	36
11	58	84	527	656	609	333	184	356	116	60	49	35
12	56	66	292	433	1,860	310	261	318	104	56	46	34
13	55	56	218	333	1,030	329	*310	285	114	56	45	33
14	54	54	178	281	652	296	274	260	135	55	44	*32
15	54	52	158	250	746	321	254	250	109	54	42	30
16	52	50	142	224	602	292	254	230	114	87	41	30
17	50	49	130	211	543	*278	224	221	114	68	46	28
18	49	*49	123	380	463	310	267	211	98	142	48	27
19	48	184	118	*292	417	296	306	416	92	114	46	48
20	48	156	125	278	689	271	267	299	88	82	45	104
21	46	92	128	720	2,700	264	247	247	86	92	42	46
22	48	96	116	497	1,270	267	230	224	88	142	41	39
23	49	88	114	437	810	310	221	208	82	134	44	36
24	49	86	107	488	*644	306	208	196	78	84	44	35
25	48	84	104	437	543	285	227	*184	80	*71	*39	129
26	48	208	100	376	480	264	218	172	82	66	36	107
27	48	161	98	340	417	250	199	161	92	62	34	92
28	48	116	96	400	368	237	190	153	86	68	30	62
29	46	102	92	372	-	230	184	145	80	79	29	54
30	48	94	94	329	-	218	585	140	75	73	29	48
31	48	-	425	296	-	214	-	135	-	66	28	-
Total	1,626	2,427	5,409	12,255	17,220	10,379	7,163	10,292	3,140	2,463	1,446	1,587
Mean	52.5	80.9	174	395	615	335	239	332	105	79.5	46.6	52.9
Cfsm	0.505	0.778	1.67	3.80	5.91	3.22	2.30	3.19	1.01	0.764	0.448	0.509
In.	0.58	0.87	1.93	4.38	6.16	3.71	2.56	3.68	1.12	0.88	0.52	0.57

Calendar year 1952: Max 1,920 Min 44 Mean 211 Cfsm 2.03 In. 27.55
Water year 1952-53: Max 2,700 Min 27 Mean 207 Cfsm 1.99 In. 26.96

Peak discharge (base, 1,700 cfs).--Jan. 10 (2 a.m.) 1,820 cfs (6.82 ft); Feb. 12 (2 p.m.) 2,610 cfs (8.79 ft); Feb. 21 (1 p.m.) 3,820 cfs (11.35 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 highway 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 1953.

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.--11 years, 175 cfs.

Extremes.--Maximum discharge during year, 3,460 cfs Feb. 21 (gage height, 10.00 ft); minimum, 33 cfs Sept. 18, 19 (gage height, 1.88 ft).
1942-53: 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 table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.8	30	4.0	665
1.9	38	5.0	1,250
2.0	48	6.0	1,690
2.3	86	7.0	2,070
2.6	140	8.0	2,460
3.0	240	9.0	2,920
3.5	420		

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	54	49	76	155	199	278	218	262	100	78	158	36
2	50	49	107	155	186	340	196	223	99	89	113	38
3	49	49	92	158	176	294	186	207	96	89	89	42
4	49	49	83	134	167	*368	179	354	94	94	79	60
5	49	48	115	122	158	333	172	281	92	82	73	146
6	49	48	100	115	169	297	181	454	100	75	69	62
7	49	48	91	113	174	278	179	506	104	78	66	51
8	54	48	*86	551	155	262	169	364	*97	86	68	47
9	86	48	83	996	147	245	160	291	94	75	68	45
10	63	68	614	1,240	142	232	162	252	92	68	62	42
11	57	63	344	555	420	243	155	226	94	66	59	42
12	55	56	212	372	535	229	212	207	86	63	57	42
13	52	51	164	291	376	223	194	194	88	62	56	38
14	*51	50	138	243	291	218	174	181	107	59	52	37
15	51	49	120	215	420	220	169	174	89	60	51	*37
16	51	49	109	196	329	212	169	167	106	*191	50	37
17	51	48	104	186	311	204	*158	160	96	83	59	36
18	50	*47	99	304	268	199	169	155	85	99	90	36
19	49	343	94	234	246	223	169	176	80	91	76	153
20	49	197	97	*215	707	202	153	155	78	80	58	134
21	48	109	96	246	*2,510	202	149	144	88	89	56	62
22	49	91	89	207	985	288	147	138	82	598	54	50
23	50	79	88	347	616	456	142	134	89	310	52	47
24	49	72	85	424	501	376	140	130	80	153	50	45
25	49	69	82	326	424	311	142	124	96	116	48	145
26	49	150	79	268	372	274	138	*120	88	99	*46	145
27	49	118	78	240	333	252	134	116	100	92	*43	256
28	49	97	76	297	297	237	130	111	140	85	41	111
29	48	88	73	262	-	220	128	109	91	79	40	86
30	49	82	78	232	-	209	434	107	82	78	39	72
31	49	-	237	212	-	202	-	106	-	130	37	-
Total	1,606	2,412	3,989	9,611	11,614	8,125	5,208	6,328	2,813	3,497	1,959	2,180
Mean	51.8	80.4	129	310	415	262	174	204	93.8	113	63.2	72.7
Cfsm	0.693	1.07	1.72	4.14	5.55	3.50	2.33	2.73	1.25	1.51	0.845	0.972
In.	0.80	1.20	1.98	4.78	5.77	4.04	2.59	3.15	1.40	1.74	0.97	1.08

Calendar year 1952: Max 3,560 Min 39 Mean 173 Cfsm 2.31 In. 31.48
Water year 1952-53: Max 2,510 Min 36 Mean 163 Cfsm 2.18 In. 29.50

Peak discharge (base, 1,500 cfs).--Jan. 9 (11:30 p.m.) 2,200 cfs (7.38 ft); Feb. 21 (8:30 a.m.) 3,460 cfs (10.00 ft); July 22 (5 p.m.) 1,980 cfs (6.75 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 1953.

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.--11 years, 411 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 1,800 cfs Aug. 19 (gage height, 4.95 ft); minimum, 0.4 Oct. 1-4; minimum gage height, 0.22 ft Oct. 2.
1942-53: Maximum discharge, 2,830 cfs May 25, 1944 (gage height, 6.34 ft); minimum, 0.3 cfs Feb. 8, 1951 (gage height, 0.20 ft).

Remarks.--Records excellent except those below 20 cfs, which are fair. Flow completely regulated by Nottely Reservoir (see p. 230).

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

0.2	0.3	1.2	64
.3	1.0	1.5	120
.4	2.2	2.0	248
.5	4.2	2.5	418
.6	7.2	3.0	630
.8	18	4.0	1,170
1.0	36	5.0	1,830

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	0.4	1.0	0.6	515	0.6	0.8	1,430	1.0	0.7	1,010	511	957
2	.4	1.0	.9	515	307	1.3	1,430	1.0	.6	1,000	511	886
3	.4	1.1	.6	515	785	1.0	1,420	1.0	.6	1,000	733	800
4	.4	1.0	.6	515	785	1.0	1,420	1.0	.6	996	1,010	681
5	.5	1.0	1.0	515	785	.9	1,420	1.0	.6	996	1,010	558
6	.5	1.0	.7	511	413	.9	1,410	1.1	*.6	788	1,010	544
7	.6	1.0	.6	511	.7	.8	1,400	1.0	1.0	523	1,010	536
8	.6	1.0	*.6	511	.6	.8	1,400	1.0	.8	523	1,010	519
9	1.0	1.0	.9	239	.5	.8	1,160	.9	.7	523	1,000	502
10	1.0	1.2	2.1	1.6	.5	.8	527	.8	.8	523	996	482
11	.9	1.1	.8	.8	2.0	.9	.8	.8	.8	523	996	418
12	.9	1.0	.6	.6	1.6	.9	1.3	.7	199	523	990	356
13	.9	1.0	.6	.6	1.0	340	1.1	.7	486	523	1,220	342
14	1.0	1.0	.6	.5	.9	750	1.0	.7	486	523	1,500	*321
15	1.0	1.0	.5	.5	1.5	750	*1.0	.7	596	523	1,490	241
16	*.7	1.0	.5	.5	1.0	1,060	1.0	.7	765	523	1,480	159
17	.6	1.0	.5	.5	1.0	*1,500	.9	.7	945	519	1,470	156
18	.7	1.0	.5	.8	.9	1,490	1.0	.7	1,240	519	1,450	154
19	.8	1.6	.5	*203	.8	1,490	1.0	1.3	1,240	519	1,560	154
20	.8	.7	.6	502	1.0	1,490	.9	.9	1,240	523	1,780	176
21	.9	.7	.5	502	2.4	1,480	.9	.8	1,240	519	1,660	182
22	.9	.7	.5	281	1.0	1,470	.9	.8	1,240	*523	1,480	182
23	.9	.6	.5	.8	1.0	1,470	.8	.8	1,240	408	1,460	179
24	.9	.6	.5	.7	1.0	1,470	.8	.8	1,230	185	1,440	179
25	1.0	.6	.5	.6	1.0	1,470	.9	.8	1,230	1.0	1,420	182
26	1.0	.6	.5	.6	.9	1,470	.9	*.8	1,140	.9	*1,400	192
27	1.0	.6	.5	.6	.8	1,450	.8	.7	1,020	.9	1,380	203
28	1.0	*.6	.5	.8	.8	1,450	.8	.7	1,010	.8	1,220	256
29	1.0	.6	380	.6	-	1,440	.8	.7	1,010	.7	1,020	311
30	1.0	.6	1,130	.6	-	1,440	2.3	.7	1,010	.9	1,000	308
31	1.0	-	956	.5	-	1,440	-	.7	-	219	979	-
Total	24.7	26.9	2,484.3	5,847.2	3,098.5	24,930.9	13,036.9	26.0	18,574.8	14,959.2	37,196	11,116
Mean	0.80	0.90	80.1	189	111	804	435	0.84	619	483	1,200	371
(†)	+4,300	+5,600	+6,800	+12,300	+19,700	-9,000	-600	+13,300	-12,300	-5,000	-31,400	-4,400

Adjusted for change in reservoir contents

Mean	140	188	299	565	814	514	415	430	209	321	187	224
Cfsm	0.651	0.874	1.39	2.72	3.79	2.39	1.93	2.00	0.972	1.49	0.870	1.04
In.	0.75	0.97	1.61	3.14	3.94	2.76	2.15	2.31	1.09	1.72	1.00	1.16

	Observed			Adjusted		
Calendar year 1952:	Max 1,520	Min 0.4	Mean 473	Mean 411	Cfsm 1.91	In. 26.00
Water year 1952-53:	Max 1,780	Min 0.4	Mean 360	Mean 356	Cfsm 1.67	In. 22.60

* Discharge measurement made on this day.
† Change in contents, in cfs-days, in Nottely Reservoir; 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 1953.

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.--19 years, 49.3 cfs.

Extremes.--Maximum discharge during year, 525 cfs Feb. 21 (gage height, 4.70 ft); minimum, 15 cfs Nov. 6-9, 18; minimum gage height, 0.97 ft Sept. 2, 3.
1934-53: 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 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Rate of change in stage used as a factor Jan. 10, Feb. 21, Apr. 30, July 21)

0.96	15	2.5	262
1.2	37	3.0	330
1.5	69	4.0	435
2.0	149		

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	19	17	27	54	52	69	67	89	49	34	42	17
2	19	17	40	46	49	111	58	92	47	33	36	17
3	18	17	33	46	47	80	57	74	47	33	31	17
4	18	17	29	41	47	105	55	84	46	41	30	29
5	18	16	53	38	44	85	53	134	46	38	29	72
6	19	16	41	37	56	77	55	156	46	35	28	35
7	19	15	34	36	62	74	*61	135	46	42	26	27
8	22	15	32	102	53	70	56	*106	46	*44	31	24
9	*26	16	30	133	48	69	54	88	*45	45	33	23
10	23	23	*92	210	47	62	59	80	43	34	28	22
11	22	*23	61	88	*128	76	54	75	46	32	26	22
12	21	21	43	66	151	70	95	71	43	30	*26	21
13	21	17	38	57	101	71	94	68	45	31	24	20
14	20	16	34	*50	81	68	74	67	52	29	23	19
15	20	16	32	47	100	67	68	67	45	30	23	18
16	19	16	29	44	92	63	74	63	58	45	24	18
17	18	16	28	44	94	*61	63	62	50	35	26	*18
18	18	16	27	64	80	64	67	63	44	98	26	17
19	18	55	27	48	76	62	68	154	41	66	24	30
20	17	42	31	52	132	59	62	82	40	60	25	41
21	17	35	32	139	390	59	60	68	40	200	35	26
22	17	47	29	70	164	62	58	64	40	75	27	22
23	17	43	29	77	113	76	56	61	40	64	26	22
24	17	40	27	89	100	70	56	59	39	46	25	21
25	17	35	27	74	89	64	61	56	37	39	22	37
26	18	50	26	64	82	61	58	55	41	36	22	34
27	18	38	25	60	76	60	55	55	42	35	21	35
28	18	32	25	69	71	59	54	53	38	34	21	26
29	17	29	23	60	-	57	52	52	36	33	20	24
30	17	29	25	55	-	56	199	50	35	32	19	22
31	17	-	98	53	-	56	-	50	-	33	18	-
Total	585	785	1,127	2,113	2,625	2,143	2,003	2,433	1,313	1,462	817	776
Mean	18.9	26.2	36.4	68.2	93.8	69.1	66.8	78.5	43.8	47.2	26.4	25.9
Cfsm	0.703	0.974	1.35	2.54	3.49	2.57	2.48	2.92	1.63	1.75	0.981	0.963
In.	0.81	1.09	1.56	2.92	3.63	2.96	2.77	3.36	1.82	2.02	1.13	1.07

Calendar year 1952: Max 666 Min 15 Mean 54.8 Cfsm 2.04 In. 27.74
Water year 1952-53: Max 390 Min 15 Mean 49.8 Cfsm 1.85 In. 25.14

Peak discharge (base, 300 cfs).--Jan. 10 (3 a.m.) 342 cfs (3.10 ft); Feb. 21 (11 a.m.) 525 cfs (4.70 ft); Apr. 30 (2 p.m.) 369 cfs (3.36 ft); July 21 (5 a.m.) 428 cfs (3.94 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 1953.

Gage.--Water-stage recorder. Datum of gage is 830.56 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--11 years, 2,433 cfs (unadjusted).

Extremes.--Maximum discharge during year, 8,610 cfs Feb. 21 (gage height, 6.27 ft); minimum daily, 92 cfs Nov. 16.
1942-53: 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, which are fair. Flow regulated by Chatuge, Nottely, Hiwassee, and Apalachia Reservoirs (see pp. 230,231).

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.3	90	3.0	1,170
1.6	165	4.0	2,900
1.9	290	5.3	5,860
2.4	620		

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	2,710	1,840	2,650	2,100	1,860	3,080	*1,210	2,310	*1,280	1,340	1,370	2,740
2	2,780	126	2,390	1,810	*2,820	3,200	1,890	2,710	1,060	1,320	1,400	2,780
3	2,820	2,020	2,260	2,370	3,000	3,440	1,200	1,680	1,080	1,340	1,350	2,780
4	2,780	1,890	2,220	1,560	2,330	3,890	1,820	2,200	1,110	1,370	1,340	2,640
5	1,540	2,220	1,710	2,290	2,250	3,780	1,580	2,520	1,220	1,350	1,340	2,610
6	2,070	1,530	876	2,220	2,250	3,640	2,190	3,000	230	1,340	1,340	2,040
7	2,820	1,370	460	2,160	1,260	3,600	2,080	3,070	165	1,350	1,320	2,710
8	2,790	1,520	970	1,930	1,030	3,540	649	2,140	162	1,380	1,320	2,840
9	2,710	1,700	858	2,170	2,420	3,520	1,520	2,460	1,300	1,320	1,200	2,820
10	*2,090	1,830	2,110	1,830	1,750	3,500	929	1,610	1,380	1,320	1,300	2,570
11	2,240	1,930	*1,540	750	2,190	3,200	1,530	2,490	1,380	1,320	1,320	2,360
12	1,300	1,270	1,120	1,430	3,290	3,140	2,040	2,760	1,350	1,310	1,310	2,210
13	1,950	1,220	1,270	1,570	2,810	3,160	2,410	3,080	1,040	1,320	*1,330	2,260
14	1,710	1,960	630	2,210	2,060	2,860	1,320	3,100	370	1,180	2,100	2,840
15	2,380	246	1,880	1,460	1,820	1,830	1,160	3,100	2,330	1,310	2,600	2,570
16	2,590	92	2,320	1,480	2,620	2,610	1,100	3,060	2,660	1,370	2,740	2,460
17	2,410	1,500	1,950	1,980	2,830	2,610	2,280	2,540	2,800	1,350	2,860	2,220
18	1,470	1,270	2,060	2,260	2,860	2,530	1,750	2,950	1,920	1,380	2,860	2,280
19	1,910	1,800	1,890	2,050	2,750	2,600	2,180	3,760	2,110	1,470	2,860	2,000
20	2,660	1,980	1,420	2,460	3,200	2,570	2,220	2,810	2,510	1,370	2,860	1,910
21	2,840	1,500	943	2,700	5,860	2,600	2,120	3,140	1,890	1,620	2,840	2,000
22	2,800	519	2,120	2,210	3,320	1,880	2,240	3,060	1,830	1,550	2,720	2,760
23	2,130	263	1,080	1,560	3,400	1,600	2,330	3,060	1,460	1,600	2,840	2,920
24	2,120	1,930	754	1,780	3,500	2,410	2,160	3,000	2,070	1,400	2,880	2,460
25	1,620	1,080	704	599	3,620	2,280	1,480	3,000	1,190	1,380	2,900	2,130
26	1,290	901	891	2,460	3,580	1,980	785	2,980	1,250	1,370	2,880	2,930
27	2,210	348	1,120	2,320	3,160	1,400	1,990	3,000	1,370	1,350	2,690	2,170
28	2,630	1,760	2,010	1,640	3,100	1,770	1,690	2,980	1,370	1,340	2,880	2,580
29	2,650	2,500	2,880	1,910	-	1,510	1,380	2,960	1,350	1,350	2,840	1,900
30	2,310	1,290	2,580	1,400	-	1,990	2,510	2,960	1,350	1,350	2,680	2,430
31	2,440	-	2,790	1,900	-	1,340	-	2,960	-	1,350	2,820	-
Total	70,770	41,405	50,456	58,569	76,940	83,060	51,743	86,450	42,587	42,470	67,090	73,920
Mean	2,283	1,380	1,628	1,889	2,748	2,679	1,725	2,789	1,420	1,370	2,164	2,464

	Observed			Adjusted†		
Calendar year 1952:	Max 10,700	Min 92	Mean 2,485	Mean 2,245	Cfsm 1.98	In. 26.90
Water year 1952-53:	Max 5,860	Min 92	Mean 2,042	Mean 2,085	Cfsm 1.84	In. 24.92

* Discharge measurement made on this day.
† Adjusted for change in contents in Chatuge, Nottely, Hiwassee, and Apalachia Reservoirs.

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 1953.

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.--40 years, 488 cfs.

Extremes.--Maximum discharge during year, 4,850 cfs Feb. 21 (gage height, 7.03 ft); minimum, 122 cfs Sept. 19 (gage height, 0.74 ft).
1913-53: 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 of 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 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21				Feb. 22 to Sept. 30			
0.7	125	3.2	1,200	0.7	116	2.5	770
1.0	182	5.0	2,650	1.0	171	3.2	1,200
1.5	330	6.0	3,660	1.6	357		
2.0	540						

Note.--Same as preceding table above 3.2 ft.

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	164	145	180	386	513	754	606	685	329	242	321	132
2	160	147	251	362	486	1,060	552	584	321	236	286	134
3	154	147	231	414	472	873	530	539	314	329	234	141
4	152	145	202	342	454	1,010	516	710	310	333	211	149
5	152	143	257	312	434	903	503	620	303	300	206	418
6	152	143	240	292	477	814	*521	770	317	245	195	203
7	152	141	212	295	522	764	534	*849	325	*242	190	163
8	*154	139	*202	893	454	726	498	705	*314	292	214	150
9	220	139	197	1,490	426	690	490	638	310	266	228	146
10	194	*200	1,370	2,160	*410	665	490	588	321	231	190	143
11	171	207	778	1,140	762	690	458	562	337	214	*185	141
12	164	173	464	817	1,150	660	606	534	292	211	176	139
13	160	156	370	*880	839	642	566	516	286	206	175	137
14	156	152	316	595	685	620	508	498	321	200	169	130
15	156	150	289	536	800	629	485	490	282	203	167	130
16	154	149	263	500	690	*593	476	476	349	273	163	*130
17	150	147	254	490	695	575	462	462	325	231	167	129
18	150	145	246	784	630	616	516	454	282	317	178	126
19	149	457	240	605	605	665	530	534	266	321	188	180
20	147	454	243	545	1,220	588	480	490	260	236	171	361
21	145	243	246	565	3,610	580	467	444	257	239	167	171
22	145	212	229	500	1,770	720	449	427	270	912	160	148
23	145	197	229	670	1,280	915	440	414	289	616	160	141
24	147	182	226	872	1,120	825	431	401	282	337	154	137
25	149	173	218	715	1,020	715	472	389	248	273	152	392
26	149	282	215	620	933	656	449	381	251	248	146	349
27	147	257	210	565	849	624	427	369	263	236	143	472
28	147	212	207	695	786	606	414	357	314	225	141	251
29	143	194	202	625	-	584	406	353	260	217	137	195
30	143	190	215	565	-	566	997	349	254	219	136	173
31	145	-	640	531	-	580	-	341	-	217	134	-
Total	4,816	5,821	9,642	20,561	24,092	21,908	15,279	15,929	8,852	8,867	5,642	5,811
Mean	155	194	311	663	860	707	509	514	295	286	182	194
Cfsm	0.876	1.10	1.76	3.75	4.86	3.99	2.88	2.90	1.67	1.62	1.03	1.10
In.	1.01	1.22	2.03	4.32	5.06	4.60	3.21	3.35	1.86	1.86	1.19	1.22

Calendar year 1952: Max 6,200 Min 139 Mean 491 Cfsm 2.77 In. 37.75
Water year 1952-53: Max 3,610 Min 126 Mean 403 Cfsm 2.28 In. 30.93

Peak discharge (base, 2,400 cfs).--Dec. 10 (11:30 a.m.) 2,460 cfs (4.79 ft); Jan. 10 (5 a.m.) 2,720 cfs (5.08 ft); Feb. 21 (9 a.m.) 4,850 cfs (7.03 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 1953 in reports of Geological Survey. November 1898 to March 1903 and April 1913 to September 1924 (prior to April 1913, revised) in Tennessee Divsion 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.--40 years (1913-53), 588 cfs (unadjusted).
Extremes.--Maximum discharge during year, 1,970 cfs May 25 (gage height, 5.29 ft); minimum, 11 cfs Sept. 24 (gage height, 0.96 ft); minimum daily, 12 cfs Nov. 30, Dec. 11-14, 31, Jan. 10, 12, 13, Feb. 13, 14.
1913-53: 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 and those for periods of no gage-height record, which are good. Flow regulated by Blue Ridge Reservoir beginning Dec. 6, 1930 (see pp. 231,235).
Revisions.--See Records available.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

0.9	8.4	1.6	90
1.0	14	2.0	217
1.1	21	3.0	635
1.2	29	4.2	1,260
1.4	52		

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	913	706	642	339	278	16	1,110	17	815	734	860	815
2	914	725	757	350	439	40	1,040	17	860	933	410	829
3	905	874	634	740	382	16	664	18	777	646	487	851
4	974	813	504	650	499	16	761	18	809	824	564	764
5	1,020	793	660	760	428	16	730	19	855	829	682	70
6	940	828	236	720	70	386	*384	19	268	771	628	783
7	1,140	814	630	780	194	350	464	*302	318	*440	661	838
8	*829	802	292	100	492	660	656	19	302	742	686	768
9	814	842	*380	30	463	551	682	19	690	215	749	845
10	880	789	200	12	*599	718	295	19	730	16	748	857
11	786	729	12	14	122	722	14	200	436	816	748	834
12	746	748	12	12	15	1,090	502	516	426	818	697	785
13	754	567	12	12	12	1,020	45	738	640	811	727	903
14	753	654	12	545	12	1,040	496	905	564	880	810	785
15	1,000	374	780	366	14	1,120	16	988	682	1,130	856	670
16	1,020	418	432	142	14	996	212	484	885	903	708	*640
17	1,140	529	400	542	22	879	15	688	745	508	793	796
18	1,150	626	547	529	111	779	14	777	764	109	854	743
19	1,030	620	450	645	13	708	15	96	714	16	794	774
20	881	779	451	330	14	660	15	18	723	16	783	774
21	881	636	500	13	16	976	14	19	724	332	808	765
22	919	233	600	13	15	896	16	342	736	606	722	732
23	904	254	390	13	14	856	16	438	144	196	645	807
24	930	528	450	162	14	724	17	422	286	357	808	682
25	1,060	257	586	14	14	642	17	1,220	978	1,070	726	588
26	1,190	342	640	400	14	519	17	1,180	1,040	854	816	329
27	926	392	781	608	16	827	630	640	692	580	830	586
28	1,040	356	800	501	16	915	758	594	726	260	745	750
29	1,010	78	810	16	-	884	968	501	832	15	815	811
30	990	12	810	560	-	1,000	46	626	727	696	636	793
31	934	-	12	206	-	1,140	-	596	-	692	787	-
Total	29,373	17,118	14,422	10,104	4,312	21,162	10,629	12,455	19,890	17,815	22,583	21,967
Mean	948	571	465	326	154	683	354	402	663	575	728	732

	Observed			Adjusted†			
Calendar year 1952:	Max 4,110	Min 12	Mean 680	Mean 603	Cfsm 2.59	In. 35.24
Water year 1952-53:	Max 1,220	Min 12	Mean 553	Mean 502	Cfsm 2.15	In. 29.26

* Discharge measurement made on this day.
† Adjusted for change in contents in Blue Ridge Reservoir.
Note.--No gage-height record Dec. 10, 15, 17, 19, 21, 22, 24, 26, 28-31, Jan. 2-12; discharge estimated on basis of powerplant records.

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 1953 in reports of Geological Survey. March 1903 to September 1924 (March 1903 to December 1911, revised, gage heights only after December 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.--18 years (1903-6, 1907-10, 1911-13, 1943-53), 849 cfs (unadjusted).

Extremes.--Maximum discharge during year, 2,420 cfs July 22 (gage height, 3.97 ft); minimum daily, 127 cfs Nov. 30.
1903-13, 1918-25, 1942-53: 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. Sixty-six percent of drainage area regulated by Blue Ridge Reservoir beginning Dec. 6, 1930 (see p. 231). The Tennessee Copper Co. diverts approximately 13,000 gpm just below station to Mill Creek, Potato Creek, or Ocoee River below the control.

Revisions.--See Records available.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Sept. 5				Sept. 6-30	
1.2	127	3.0	1,220	2.0	294
1.6	190	4.0	2,470	2.5	600
2.0	380			3.0	1,050

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	1,070	889	678	556	488	300	1,420	305	946	1,120	874	866
2	986	740	890	254	624	592	1,330	280	914	894	656	866
3	1,010	846	788	1,020	582	401	940	252	926	973	562	882
4	983	939	620	605	674	506	886	290	959	930	690	860
5	1,020	883	870	964	597	408	1,170	275	912	962	736	267
6	1,200	884	439	784	253	650	667	*358	281	868	731	599
7	*967	893	702	788	407	743	665	692	396	611	736	834
8	988	873	480	501	670	987	*885	325	728	*854	760	905
9	816	855	600	587	651	833	890	285	*807	372	614	798
10	948	963	*750	903	630	976	528	262	844	135	1,010	859
11	1,120	*890	330	422	*816	923	210	422	609	844	780	805
12	844	826	194	295	770	1,350	838	668	538	902	*773	799
13	859	544	168	234	450	1,360	415	830	584	919	780	833
14	838	688	154	*673	320	1,290	660	1,100	558	903	862	839
15	901	660	768	638	415	1,390	366	1,190	1,100	1,030	907	672
16	1,100	470	594	334	408	1,340	445	877	943	1,060	596	697
17	1,110	452	464	693	443	*1,240	230	610	1,000	915	1,050	*738
18	1,230	699	630	803	459	960	226	1,180	862	434	900	725
19	1,220	908	522	845	305	1,030	244	512	849	170	904	780
20	1,130	707	560	600	443	960	214	275	842	142	856	803
21	954	890	566	300	1,580	1,250	210	222	814	434	906	782
22	966	615	669	266	682	1,200	206	543	645	1,160	849	765
23	1,000	388	536	275	474	1,260	206	600	602	866	544	754
24	1,020	633	512	482	422	900	202	603	394	548	1,030	686
25	1,070	373	550	280	387	948	214	1,100	978	951	712	662
26	1,270	534	802	656	352	1,010	210	1,440	1,130	1,140	1,020	444
27	1,060	550	720	855	330	1,030	804	996	959	744	890	558
28	1,050	468	856	706	310	1,050	929	717	823	393	844	758
29	1,080	219	810	360	-	1,210	1,010	657	919	142	857	818
30	1,120	127	858	664	-	1,240	720	744	650	764	600	806
31	1,080	-	618	518	-	1,250	-	741	-	798	994	-
Total	32,010	20,406	18,698	17,861	14,942	30,587	17,940	19,351	23,512	22,978	25,023	22,460
Mean	1,033	680	603	576	534	987	598	624	784	741	807	749

	Observed			Adjusted†		
Calendar year 1952:	Max 5,720	Min 127	Mean 924	Mean 847	Cfsm 2.41	In. 32.75
Water year 1952-53:	Max 1,580	Min 127	Mean 728	Mean 677	Cfsm 1.92	In. 26.12

* Discharge measurement made on this day.
† Adjusted for change in contents in Blue Ridge Reservoir.

Fightingtown Creek at McCaysville, Ga.

Location.--Lat 34°58'53", long. 84°23'12", on right bank 0.2 mile upstream from 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 1953.

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.--10 years (1943-53), 204 cfs.

Extremes.--Maximum discharge during year, 1,940 cfs Feb. 21 (gage height, 6.86 ft); minimum, 43 cfs Sept. 18, 19 (gage height, 1.43 ft).
1942-53: Maximum discharge, 5,420 cfs Mar. 29, 1951 (gage height, 11.92 ft); minimum, 39 cfs Oct. 5, 6, 1947 (gage height, 1.36 ft).

Remarks.--Records good. Some diurnal fluctuation at low flow caused by small mills above station.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 10				Jan. 11 to Sept. 30			
1.4	48	2.5	280	1.4	39	3.0	445
1.5	58	3.0	440	1.6	67	4.0	905
1.7	84	3.5	660	1.8	101	6.0	1,620
2.0	146	4.0	905	2.2	188		

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	62	57	75	191	220	330	232	241	133	85	94	44
2	61	57	112	168	204	484	214	229	129	85	134	46
3	59	57	95	175	201	392	206	204	127	83	108	49
4	60	57	84	153	191	538	201	226	125	92	92	56
5	60	56	130	141	183	434	196	241	123	96	83	212
6	60	55	115	134	198	382	201	386	123	*83	80	88
7	59	55	100	132	223	354	*211	*372	125	78	77	67
8	61	55	91	542	196	333	193	310	119	90	83	59
9	*80	56	*88	732	*180	314	185	268	*117	88	97	54
10	70	64	437	874	172	304	185	241	133	78	77	53
11	67	*72	322	459	396	320	175	223	137	73	73	51
12	65	66	201	354	675	300	244	209	117	72	*70	50
13	64	60	160	*297	445	290	274	198	115	72	69	47
14	64	59	139	262	344	277	217	191	125	69	67	46
15	62	58	125	235	364	277	209	191	115	69	64	45
16	64	58	115	217	330	259	201	183	139	87	62	45
17	61	58	110	206	337	*250	191	175	131	77	62	*44
18	61	57	106	354	297	274	191	172	112	214	67	44
19	60	125	102	265	281	310	204	324	108	137	65	51
20	59	134	104	271	492	262	185	244	106	106	62	97
21	59	82	106	452	1,500	256	180	201	103	110	64	59
22	60	91	100	297	824	290	175	183	110	329	60	50
23	60	86	100	330	560	314	172	172	108	277	60	47
24	60	76	97	378	496	294	172	167	105	131	57	46
25	59	72	93	333	445	271	188	162	96	110	54	73
26	58	132	91	287	406	256	183	155	97	97	53	90
27	58	117	88	259	372	244	172	150	97	90	51	101
28	57	91	86	294	347	238	165	144	99	90	49	72
29	56	81	84	265	-	229	162	141	94	97	47	60
30	57	78	88	241	-	223	347	139	90	94	47	54
31	57	-	302	232	-	220	-	137	-	99	45	-
Total	1,900	2,222	4,048	9,530	10,879	9,519	6,031	6,579	3,456	3,358	2,173	1,900
Mean	61.3	74.1	131	307	388	307	201	212	115	108	70.1	63.3
Cfsm	0.865	1.05	1.85	4.33	5.47	4.33	2.83	2.99	1.62	1.52	0.989	0.893
In.	1.00	1.17	2.12	5.00	5.71	4.99	3.16	3.45	1.81	1.76	1.14	1.00

Calendar year 1952: Max 1,570 Min 55 Mean 199 Cfsm 2.81 In. 38.16
Water year 1952-53: Max 1,500 Min 44 Mean 168 Cfsm 2.37 In. 32.31

Peak discharge (base, 1,200 cfs).--Feb. 21 (12 m.) 1,940 cfs (6.86 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 (revised) 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 1953.

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.

Extremes.--Maximum discharge during year, 1,890 cfs Feb. 21 (gage height, 4.61 ft); minimum daily, 23 cfs Dec. 22, 24, 27-29.
1940-41, 1948-53: Maximum discharge, 3,950 cfs Oct. 6, 1949; minimum daily, 3.1 cfs July 30, 1940.

Remarks.--Records fair. Flow includes an unknown amount of diversion from other drainage 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 tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 13-30)

Oct. 1 to Dec. 16		Dec. 16 to Sept. 30			
1.5	24	1.3	21	2.5	98
1.7	37	1.6	32	2.9	143
2.0	62	2.0	58	3.1	190

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	27	24	26	28	32	29	31	36	32	31	52	32
2	26	26	32	30	31	46	28	37	32	31	36	32
3	24	27	28	26	31	30	29	36	32	31	35	32
4	26	26	27	27	30	44	28	39	32	52	34	66
5	26	26	35	28	29	32	28	43	31	31	34	43
6	27	24	30	27	34	34	31	*53	34	30	32	34
7	26	26	28	27	32	34	*35	46	33	*30	33	34
8	28	26	26	48	29	32	32	40	*32	32	46	35
9	29	26	27	92	*29	32	32	37	32	30	29	36
10	*29	29	*60	46	30	34	44	34	35	29	29	36
11	29	28	40	34	*60	37	36	35	31	29	29	36
12	29	*26	33	*31	47	34	50	34	31	28	29	35
13	28	26	30	*31	35	33	40	35	33	29	*28	32
14	27	26	28	30	38	32	37	32	31	30	29	35
15	27	26	27	30	50	33	37	36	28	36	29	35
16	29	26	26	31	41	33	35	35	43	37	29	34
17	28	26	27	33	37	*32	36	36	32	32	34	*33
18	27	26	26	33	35	37	39	37	30	182	32	37
19	27	50	26	30	32	33	34	85	30	37	33	46
20	25	30	26	88	65	33	33	39	32	35	32	39
21	26	31	24	43	149	35	34	39	32	34	32	37
22	27	33	23	31	43	34	33	37	32	58	30	37
23	26	30	24	41	40	39	32	37	32	36	31	37
24	26	29	23	38	43	31	34	36	32	34	30	36
25	26	27	24	31	40	28	37	36	29	31	30	45
26	26	34	24	30	38	28	34	35	32	30	30	42
27	26	30	23	31	35	28	32	34	32	31	29	41
28	24	27	23	34	30	28	32	33	31	54	31	39
29	24	26	23	29	-	28	32	33	32	36	31	38
30	25	25	26	30	-	29	82	32	31	34	32	38
31	27	-	48	32	-	30	-	31	-	31	32	-
Total	827	842	893	1,120	1,165	1,022	1,077	1,188	961	1,211	1,002	1,132
Mean	26.7	28.1	28.8	36.1	41.6	33.0	35.9	38.3	32.0	39.1	32.3	37.7
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 170 Min 18 Mean 33.8 Cfsm - In. -
Water year 1952-53: Max 182 Min 23 Mean 34.1 Cfsm - In. -

* Discharge measurement made on this day.
Note.--No gage-height record Nov. 16 to Dec. 16; discharge estimated on basis of weather records and records for nearby stations.

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 1953. Prior to October 1950, published as Potato Creek near Ducktown.

Gage.--Water-stage recorder and 4-foot 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. 15, 1935, water-stage recorder and wooden weir and Oct. 15, 1935, to Aug. 25, 1948, water-stage recorder and a wooden Parshall flume, at same site and datum.

Average discharge.--19 years, 28.1 cfs.

Extremes.--Maximum discharge during year, 1,310 cfs July 18 (gage height, 5.55 ft); minimum, 12 cfs Oct. 20 (gage height, 0.92 ft).
1934-53: 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. 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 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.0	14	3.0	143
1.5	32	3.5	227
2.0	51	3.7	290
2.5	87		

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	19	18	22	28	28	37	37	42	26	19	40	16
2	18	18	34	27	26	77	31	43	24	24	23	16
3	17	18	23	27	26	44	30	36	25	22	21	17
4	18	16	23	24	25	71	28	43	24	59	20	61
5	17	18	38	24	24	44	29	55	24	25	19	50
6	17	17	26	22	34	39	34	*72	25	23	20	23
7	18	16	24	22	32	39	*38	54	26	24	18	20
8	20	17	23	73	26	37	30	43	*25	*42	38	19
9	26	18	*24	106	*26	36	27	36	24	28	23	17
10	*22	24	84	73	25	35	41	34	31	21	20	17
11	20	22	36	43	87	43	29	33	26	20	18	17
12	19	*19	29	*35	63	41	72	31	24	20	19	17
13	19	20	26	32	42	39	46	29	31	20	*19	16
14	18	19	24	29	44	37	35	29	29	19	18	16
15	19	19	24	28	66	37	34	31	25	24	18	16
16	18	19	23	26	45	*34	34	31	52	37	18	16
17	17	19	23	28	39	32	30	31	27	24	28	*15
18	18	18	22	34	36	39	53	32	23	264	20	15
19	17	66	22	28	34	35	32	132	22	48	18	59
20	17	28	26	91	85	35	31	41	22	45	31	29
21	16	31	24	65	212	36	28	35	24	34	22	22
22	17	35	23	38	64	36	28	32	23	52	19	17
23	17	26	24	50	52	46	28	31	21	34	19	17
24	18	25	21	47	47	38	28	31	21	26	19	17
25	18	22	19	37	42	34	38	30	21	23	18	34
26	18	36	18	34	38	31	29	29	22	23	17	27
27	19	24	17	31	37	31	28	27	22	22	17	27
28	17	22	16	40	35	30	26	26	22	29	16	21
29	17	22	16	31	-	28	26	27	22	26	16	19
30	18	21	23	28	-	29	157	26	19	23	16	19
31	18	-	72	28	-	31	-	25	-	22	17	-
Total	567	693	849	1,229	1,340	1,201	1,137	1,197	752	1,122	645	692
Mean	18.3	23.1	27.4	39.6	47.9	38.7	37.9	38.6	25.1	36.2	20.8	23.1
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 294 Min 16 Mean 36.0 Cfsm - In. -
Water year 1952-53: Max 264 Min 15 Mean 31.3 Cfsm - In. -

* Discharge measurement made on this day.

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 Emf, Polk County, and 2 miles downstream from Goforth Creek.

Drainage area.--524 sq mi.

Records available.--January 1913 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 837.88 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--40 years, 1,232 cfs (unadjusted).

Extremes.--Maximum discharge during year, 8,140 cfs Feb. 21 (gage height, 8.03 ft); minimum daily, 49 cfs Apr. 23.
1913-53: 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 Reservoirs (see p. 231) and by powerplant above station.

Cooperation.--Water-stage recorder inspected by employee of Tennessee Valley Authority.

Revisions (water years).--WSP 783: 1913-34.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

2.5	38	4.0	760
2.6	54	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

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	1,140	1,120	870	1,060	972	972	1,560	861	1,070	*1,020	998	947
2	1,160	1,020	870	*1,020	972	1,310	1,560	1,360	1,070	1,040	1,010	956
3	1,140	*990	870	1,020	964	*1,590	1,550	1,160	1,100	1,040	630	964
4	1,140	990	820	1,020	972	1,530	1,540	797	1,070	1,060	794	981
5	1,120	981	879	1,030	990	1,350	1,120	*1,060	1,030	1,050	972	1,030
6	1,120	972	670	1,010	1,020	1,600	1,060	1,140	820	1,040	972	998
7	1,100	972	631	981	1,020	1,560	1,050	1,180	811	1,030	981	998
8	1,120	981	786	1,120	1,010	1,160	1,050	1,090	1,060	1,040	990	998
9	1,120	888	811	1,710	998	1,470	981	1,040	554	1,030	981	981
10	1,120	930	1,250	3,180	981	1,530	1,060	1,060	904	1,040	981	956
11	1,120	1,120	1,440	1,650	1,330	1,550	1,060	1,020	1,070	669	981	947
12	1,120	972	879	1,450	1,850	1,540	703	1,200	1,030	537	972	947
13	1,120	960	678	1,060	1,720	1,550	1,600	1,250	1,040	862	981	956
14	1,120	930	631	998	1,120	1,550	1,330	1,230	1,050	1,040	981	956
15	1,140	700	820	972	1,710	1,580	1,390	1,250	1,040	1,050	981	*938
16	1,160	700	828	990	1,100	1,550	1,390	1,230	1,060	1,020	981	938
17	1,160	860	854	972	1,100	1,540	998	1,220	1,060	981	981	938
18	1,140	860	845	1,020	1,040	1,540	1,020	1,220	1,050	1,450	964	930
19	1,120	850	828	1,010	1,030	1,540	1,020	1,500	1,060	1,280	947	947
20	1,140	860	647	1,020	1,540	1,600	459	1,380	1,040	678	930	972
21	1,120	860	639	1,580	5,030	1,560	58	1,030	1,040	413	938	956
22	1,120	700	811	1,620	2,140	1,560	51	1,020	794	950	938	956
23	1,140	700	845	1,610	1,900	1,600	49	1,020	572	1,300	938	956
24	1,140	870	854	1,200	1,620	1,640	303	998	811	1,050	938	947
25	1,120	870	964	1,100	1,590	1,610	1,200	990	1,040	1,040	964	964
26	1,120	870	964	1,040	1,050	1,580	1,050	1,010	1,070	1,020	947	947
27	1,120	700	956	1,030	990	1,560	1,050	990	1,050	1,010	956	956
28	1,120	700	956	1,080	981	1,550	1,050	1,050	1,040	740	956	947
29	1,140	700	956	1,080	-	1,550	1,040	1,080	1,030	608	956	947
30	1,100	700	964	1,010	-	1,600	1,220	1,080	1,030	802	956	956
31	1,030	-	1,480	981	-	1,550	-	1,080	-	998	947	-
Total	34,890	26,326	27,296	37,624	38,740	46,972	30,572	34,596	29,466	29,888	29,442	28,810
Mean	1,125	878	881	1,214	1,384	1,515	1,019	1,116	982	964	950	960

	Observed			Adjusted†		
Calendar year 1952:	Max 7,140	Min 30	Mean 1,295	Mean 1,216	Cfsm 2.32	In. 31.58
Water year 1952-53:	Max 5,030	Min 49	Mean 1,081	Mean 1,029	Cfsm 1.96	In. 26.64

* Discharge measurement made on this day.
† Adjusted for change in contents in Blue Ridge and Ocoee No. 3 Reservoirs.
Note.--No gage-height record Nov. 13 to Dec. 3; discharge estimated on basis of recorded range in stage and records for Ocoee No. 3 powerplant.

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 1953.

Gage.--Water-stage recorder. Datum of gage is 716.96 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--37 years, 1,285 cfs (unadjusted).

Extremes.--Maximum discharge during year, 3,140 cfs Feb. 25 (gage height, 6.43 ft); minimum, 134 cfs Jan. 25 (gage height, 3.01 ft).
1911-16, 1921-53: 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 Reservoirs (see p. 231).

Cooperation.--Water-stage recorder inspected by employees of Tennessee Valley Authority.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 17		Feb. 18 to Sept. 30	
3.1	175	3.2	225
3.7	535	3.8	605
5.0	1,690	5.0	1,640
5.6	2,340	6.2	2,880

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	1,560	292	1,390	1,550	269	298	2,010	269	1,340	1,230	292	1,200
2	1,560	358	1,340	*1,560	1,540	2,240	2,040	292	1,490	1,430	292	1,230
3	1,540	*1,360	1,350	200	1,480	*2,260	2,120	280	1,500	1,400	1,290	1,220
4	264	1,530	1,390	200	1,440	2,600	320	1,170	1,530	280	1,110	1,190
5	252	1,370	1,420	1,540	1,410	1,750	274	*1,180	1,610	286	1,090	1,040
6	1,510	1,290	264	1,470	1,360	1,810	1,920	1,650	349	*1,580	1,040	298
7	*1,470	1,300	252	1,400	252	544	1,790	1,490	280	1,340	1,130	304
8	1,490	292	1,420	1,420	252	289	1,710	1,420	1,320	1,420	286	1,190
9	1,450	280	1,440	1,800	1,380	1,990	1,640	292	1,180	1,400	280	1,270
10	1,500	1,380	1,670	941	1,380	2,000	1,680	292	1,110	1,520	1,260	1,340
11	798	1,240	1,790	1,040	1,510	1,770	370	1,550	972	274	1,260	1,360
12	247	1,240	1,660	1,660	1,690	2,010	274	1,660	1,680	274	1,290	296
13	1,470	1,370	227	1,920	1,650	1,910	1,630	2,180	316	1,150	1,340	298
14	1,400	1,330	195	1,800	292	2,050	1,370	2,120	310	1,130	1,480	1,270
15	1,560	298	1,770	1,820	280	1,990	2,170	1,920	1,280	1,050	286	*1,130
16	1,510	286	1,690	1,860	1,820	1,700	1,880	294	1,240	1,110	274	1,160
17	1,840	1,080	1,570	1,870	2,250	1,630	1,840	286	1,280	1,480	1,290	1,160
18	276	952	1,640	1,740	2,180	1,660	312	1,680	1,310	304	1,100	1,430
19	247	972	1,890	1,730	2,180	1,940	280	1,530	1,290	304	1,230	242
20	1,500	1,020	1,080	1,540	2,160	1,940	818	2,120	286	1,250	1,380	225
21	1,500	1,390	210	1,410	1,800	286	814	1,980	304	1,480	1,360	1,200
22	1,500	264	1,790	2,020	2,070	304	1,190	1,960	1,230	1,220	280	1,270
23	1,400	252	1,590	1,760	2,730	2,030	1,210	274	1,260	1,200	286	1,230
24	1,820	1,310	1,720	1,600	2,760	2,100	1,190	286	1,350	2,000	1,310	1,200
25	310	1,120	200	252	2,810	2,100	258	1,460	1,390	1,240	1,240	1,290
26	292	1,160	1,750	1,750	2,830	2,110	258	1,260	1,360	280	1,140	247
27	1,610	372	200	1,680	2,820	2,110	1,020	1,290	312	1,260	1,160	242
28	1,640	928	200	1,600	397	2,170	1,080	1,220	298	1,210	1,290	1,260
29	1,590	264	1,660	1,800	-	2,150	1,080	1,280	1,370	1,060	280	1,300
30	1,540	252	1,610	1,800	-	2,070	702	286	1,370	792	286	1,250
31	1,580	-	1,550	264	-	2,010	-	274	-	788	1,220	-
Total	38,026	26,550	37,928	44,997	44,992	53,801	35,250	35,245	31,917	32,742	28,852	29,342
Mean	1,227	885	1,223	1,452	1,607	1,736	1,175	1,137	1,064	1,056	931	978

	Observed			Adjusted†				
Calendar year 1952:	Max 7,020	Min 195	Mean 1,435	Mean 1,334	Cfsm 2.24	In. 30.51
Water year 1952-53:	Max 2,830	Min 195	Mean 1,204	Mean 1,142	Cfsm 1.92	In. 26.05

* Discharge measurement made on this day.
† Adjusted for change in contents in Blue Ridge, Ocoee No. 3, and Parksville Reservoirs.

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 below Georgia-Tennessee State line, and 16.3 miles upstream from mouth.
Drainage area.--249 sq mi.
Records available.--July 1952 to September 1953.
Gage.--Water-stage recorder. Datum of gage is 659.11 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.
Extremes.--1952: Maximum discharge during period July to September, 815 cfs Aug. 9 (gage height, 5.50 ft); minimum, 74 cfs July 29 (gage height, 1.80 ft).
1952-53: Maximum discharge during water year, 8,130 cfs Feb. 21 (gage height, 16.72 ft); minimum, 59 cfs Sept. 19 (gage height, 1.67 ft).
Remarks.--Records good. Some diurnal fluctuation caused by small mills above station.

Rating tables, July 12, 1952, to Sept. 30, 1953 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Jan. 11, 12, 1953)

July 12, 1952, to Feb. 21, 1953				Feb. 22 to Sept. 30, 1953			
1.7	62	7.0	1,320	1.6	51	5.0	665
2.0	100	11.0	2,720	2.0	104	8.0	1,680
2.5	174	13.0	3,740	2.5	184	11.0	2,920
4.0	435	15.4	6,280	4.0	435	14.0	4,750
5.0	665						

Discharge, in cubic feet per second, 1952

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1	-	84	336	9	-	737	80	17	89	126	103	25	86	82	81
2	-	172	192	10	-	372	80	18	89	96	96	26	78	80	80
3	-	94	154	11	-	166	78	19	85	90	147	27	76	79	79
4	-	84	108	12	104	*118	*79	20	84	141	141	28	75	78	79
5	-	79	93	13	99	116	80	21	82	94	101	29	75	76	82
6	-	94	89	14	*94	124	86	22	81	96	92	30	84	84	79
7	-	107	85	15	90	103	184	23	79	93	86	31	81	234	-
8	-	318	82	16	87	198	171	24	80	86	84				
Total													-	4,501	3,307
Mean													-	145	110
Cubic feet per second per square mile													-	0.582	0.442
Runoff in inches													-	0.67	0.49

Peak discharge (base, 4,000 cfs).--No peak above base.
* 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	76	75	108	872	299	422	235	1,020	133	88	238	*63
2	74	75	*168	465	277	1,210	*248	479	*125	*87	147	63
3	73	75	245	540	256	1,290	218	364	122	90	139	63
4	72	74	165	391	*240	*2,540	205	*467	118	107	*142	62
5	73	73	*536	312	222	2,120	194	692	115	96	115	67
6	*73	74	418	269	259	944	190	803	114	102	104	123
7	73	73	248	241	459	650	229	848	112	101	99	77
8	75	73	200	*1,080	333	528	213	830	109	173	109	67
9	97	74	177	*2,230	272	447	190	511	106	266	136	63
10	135	84	917	*3,970	246	397	190	394	110	155	138	62
11	103	90	1,070	*2,400	1,280	428	246	330	126	96	99	64
12	87	87	414	*922	*2,400	511	550	290	110	88	93	64
13	82	80	293	*610	1,560	443	690	258	104	87	91	62
14	80	76	241	*487	854	390	367	240	102	84	88	60
15	79	75	208	*413	2,000	401	301	250	102	81	85	60
16	79	75	184	*355	2,440	342	278	232	155	82	84	62
17	76	74	168	322	1,400	310	248	208	216	139	106	61
18	76	74	156	419	875	310	229	198	131	745	96	60
19	76	92	147	353	642	333	234	919	107	834	106	64
20	74	188	141	296	1,290	291	210	1,600	101	381	84	91
21	73	134	142	957	*6,190	269	194	515	99	234	78	93
22	73	94	140	670	4,750	286	186	325	277	1,110	77	70
23	74	85	130	826	1,540	412	178	269	142	1,800	75	66
24	75	81	129	1,550	958	435	173	237	107	558	74	66
25	76	79	123	818	878	347	168	208	99	261	73	73
26	75	311	117	520	692	303	168	189	96	206	70	84
27	75	397	111	439	562	282	160	173	96	173	69	82
28	76	178	108	465	483	267	150	160	118	155	68	74
29	74	134	104	467	-	251	146	154	104	141	67	73
30	73	118	107	359	-	237	1,450	149	93	130	64	69
31	*74	-	*1,040	319	-	230	-	141	-	123	64	-
Total	2,451	3,272	8,455	24,337	33,657	17,626	8,438	13,453	3,649	8,773	3,078	2,108
Mean	79.1	109	273	785	1,202	569	281	434	122	283	99.3	70.3
Cfsm	0.318	0.438	1.10	3.15	4.83	2.29	1.13	1.74	0.490	1.14	0.399	0.282
In.	0.37	0.49	1.26	3.63	5.03	2.63	1.26	2.01	0.54	1.31	0.46	0.31

Calendar year 1952: Max - Min - Mean - Cfsm - In. -
Water year 1952-53: Max 6,190 Min 60 Mean 354 Cfsm 1.42 In. 19.30

Peak discharge (base, 4,000 cfs).--Jan. 10 (6:30 p.m.) 4,590 cfs (13.89 ft); Feb. 21 (11 p.m.) 8,130 cfs (16.72 ft).
* Discharge measurement made on this day.

South Chickamauga Creek near Chickamauga, 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 1953. 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.--25 years, 707 cfs.

Extremes.--Maximum discharge during year, 10,800 cfs Feb. 22 (gage height, 14.60 ft); minimum, 93 cfs Aug. 29 (gage height, 0.65 ft).
1928-53: Maximum discharge, 27,600 cfs Mar. 30, 1951 (gage height, 20.73 ft); minimum, 61 cfs Oct. 8, 1941; minimum gage height, 0.48 ft Sept. 10, 1931.

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 table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 20 to Nov. 19, Nov. 22-25, 30, Dec. 1)

0.7	100	8.0	2,990
1.0	157	10.0	3,970
2.0	460	11.5	5,130
4.0	1,260	13.0	7,520
6.0	2,090	14.0	9,520

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	135	114	169	1,910	552	767	404	2,000	218	139	312	*113
2	131	116	*261	951	513	1,770	*414	895	*206	*133	235	108
3	129	120	536	1,120	482	2,520	376	683	198	133	224	113
4	127	122	346	847	*438	*3,620	352	*817	192	150	*221	108
5	126	118	920	*851	400	4,010	330	1,620	184	153	187	118
6	*127	120	1,260	552	456	2,540	327	2,020	179	159	169	164
7	127	120	619	482	807	1,300	364	2,140	179	150	159	129
8	129	122	438	1,450	655	1,030	355	1,790	176	244	189	118
9	169	120	371	3,450	501	859	318	1,060	169	380	203	113
10	294	148	1,190	5,790	438	751	315	779	169	284	221	110
11	235	169	2,120	5,680	1,740	755	374	627	189	162	162	111
12	181	162	959	3,050	3,920	895	755	528	174	144	148	110
13	157	148	607	1,250	3,300	807	1,280	460	159	139	139	106
14	146	137	478	939	1,760	703	655	414	162	133	139	106
15	133	133	407	783	2,860	727	513	424	164	129	135	108
16	129	127	358	675	4,010	619	460	407	209	135	133	110
17	127	127	324	607	2,900	552	407	358	327	174	150	105
18	126	124	303	735	1,650	536	374	336	232	1,300	148	103
19	124	157	285	663	1,220	567	371	1,130	174	1,280	159	114
20	114	279	270	559	1,950	497	339	2,350	162	599	131	146
21	114	270	264	1,180	*7,230	453	318	915	164	456	127	146
22	111	176	261	1,080	9,440	501	303	556	324	1,440	126	122
23	113	148	250	1,210	4,720	807	291	449	206	3,230	124	114
24	116	142	244	2,690	2,250	1,020	279	393	162	1,300	124	113
25	114	133	235	1,900	1,820	759	276	352	148	520	122	129
26	118	478	224	1,040	1,300	623	273	321	146	384	118	139
27	122	859	215	859	1,050	544	261	294	148	318	113	142
28	126	380	209	811	883	501	247	276	162	279	122	133
29	129	252	201	859	-	460	238	258	159	252	103	124
30	116	195	206	675	-	424	1,900	247	146	226	103	120
31	*116	-	1,550	591	-	404	-	232	-	215	110	-
Total	4,261	5,816	16,080	45,019	59,045	32,321	13,469	25,131	5,587	14,720	4,856	3,595
Mean	137	194	519	1,452	2,109	1,043	449	811	186	475	157	120
Cfsm	0.320	0.453	1.21	3.39	4.93	2.44	1.05	1.89	0.435	1.11	0.367	0.280
In.	0.37	0.51	1.40	3.91	5.13	2.81	1.17	2.18	0.49	1.28	0.42	0.31

Calendar year 1952: Max 11,000 Min 111 Mean 591 Cfsm 1.38 In. 18.79
Water year 1952-53: Max 9,440 Min 103 Mean 630 Cfsm 1.47 In. 19.98

Peak discharge (base, 5,500 cfs).--Jan. 11 (1 a.m.) 7,050 cfs (12.74 ft); Feb. 22 (6 a.m.) 10,800 cfs (14.60 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 1953 in reports of Geological Survey. April 1874 to September 1924 in Tennessee Division of Geology Bulletin 34. July 1930 to September 1953 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, and 33 miles downstream at or within 0.2 ft of present datum; except staff gage at Bridgeport, Ala., 49.9 miles downstream at different datum Oct. 22, 1913, to Feb. 28, 1915, and Oct. 1, 1918, to Jan. 5, 1921. Auxiliary gages at several sites parts of period since Feb. 28, 1915. Present auxiliary gage at site 2¼ miles downstream from base gage.

Average discharge.--79 years (1874-1953), using records at Hales Bar July 1930 to December 1935, 37,320 cfs.

Extremes.--Maximum discharge during year, 107,000 cfs Feb. 22; maximum gage height, 23.08 ft Feb. 22; minimum daily discharge, 7,000 cfs Nov. 16; minimum gage height, 9.83 ft Apr. 10.

1874-1953: 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 discharge, 3,300 cfs (estimated) Sept. 7, 13, 1925; minimum gage height, 0.0 ft Sept. 11-14, 1881, Sept. 19, 1883 (before filling of Hales Bar pool).

Maximum stage known, 57.9 ft, present datum at Walnut Street, Mar. 11, 1867 (discharge, about 459,000 cfs).

Remarks.--Records excellent except those for periods of no gage-height record, which are good. Since 1936, flow regulated by increasing numbers of reservoirs above station (see pp. 228-235).

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 1952 to September 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21,700	a17,500	28,700	25,600	31,800	48,300	32,900	12,000	32,500	*30,400	29,400	25,900
2	20,300	a14,000	27,100	30,200	40,500	*54,000	32,700	13,400	27,400	29,900	21,500	27,200
3	21,400	a20,000	24,800	34,300	38,200	63,100	31,800	24,800	27,600	30,500	26,200	27,800
4	21,100	a25,000	26,300	34,700	39,300	65,000	30,800	41,300	25,100	22,700	25,400	28,900
5	21,500	26,100	30,800	34,500	35,700	77,000	20,100	47,600	26,700	21,000	27,900	27,200
6	19,800	24,800	29,000	33,200	34,900	78,500	20,600	40,700	26,000	27,900	28,200	15,200
7	20,900	24,100	22,300	33,800	38,900	60,800	20,800	48,000	24,500	28,400	28,400	18,100
8	20,900	7,800	27,100	31,200	33,900	62,900	23,200	46,400	30,900	28,700	28,900	21,600
9	18,100	7,500	26,600	30,100	40,300	56,700	24,800	37,900	31,200	28,700	22,100	23,700
10	17,600	24,200	27,000	46,000	36,900	47,700	22,200	37,700	30,100	31,300	25,700	23,600
11	20,000	25,100	30,400	51,300	44,600	43,700	16,300	22,900	28,100	29,100	26,900	27,800
12	20,000	27,800	27,200	52,800	65,500	41,400	15,400	*27,500	31,100	17,200	28,600	29,200
13	23,300	22,900	29,200	42,500	78,900	41,100	24,700	32,200	23,700	26,000	28,400	15,500
14	27,800	23,000	32,200	32,300	62,500	42,000	21,600	24,100	19,500	23,900	27,800	18,500
15	25,200	10,600	32,100	37,500	63,100	42,000	22,600	21,000	27,700	26,800	29,200	22,700
16	28,300	7,000	35,700	41,100	64,400	34,300	23,000	23,300	27,600	28,200	23,500	25,400
17	31,300	22,900	38,100	24,800	61,100	33,900	31,500	15,500	28,100	32,300	27,000	26,200
18	26,500	21,900	37,500	27,400	52,400	42,900	29,200	19,500	28,900	27,200	28,300	25,200
19	28,500	24,400	37,400	31,300	53,800	41,400	24,700	35,300	29,200	15,300	27,700	24,200
20	25,000	21,300	30,800	33,200	57,300	40,700	32,800	59,900	26,400	29,700	28,700	14,300
21	26,300	24,900	26,100	30,200	84,100	31,200	31,500	45,000	17,800	31,500	28,400	19,700
22	29,600	19,200	*26,100	34,500	105,000	31,000	30,300	39,300	27,800	26,800	29,400	21,000
23	30,900	15,200	31,400	38,300	103,000	a35,000	32,000	24,400	32,000	24,800	18,900	19,900
24	26,600	17,600	31,100	41,800	91,000	a27,000	26,800	19,900	32,500	20,200	24,600	20,300
25	26,100	20,900	22,300	39,900	80,400	a31,000	23,700	23,600	32,300	13,400	28,000	21,900
26	18,800	24,000	22,000	31,500	70,500	a29,000	19,800	22,000	32,200	14,800	28,800	20,900
27	21,700	17,700	26,400	41,400	60,900	a29,000	24,600	23,300	27,400	25,700	28,500	18,700
28	*22,000	22,200	25,000	40,100	52,200	a26,000	26,500	24,800	19,700	27,300	26,400	22,900
29	25,200	23,400	29,200	38,000	-	a26,000	25,500	25,500	28,100	27,000	26,900	23,400
30	28,400	23,700	35,100	41,100	-	a34,000	8,500	16,900	29,200	26,600	20,700	*22,300
31	28,400	-	29,700	31,200	-	a34,000	-	16,000	-	28,700	25,100	-
Total	743,200	606,700	904,700	‡1,115.8	‡1,621.1	‡1,350.6	750,900	911,700	831,300	802,000	825,500	679,200
Mean	23,970	20,220	29,180	35,990	57,900	43,570	25,030	29,410	27,710	25,870	26,630	22,640
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 123,000 Min 7,000 Mean 30,690 Cfsm 1.43 In. 19.52
Water year 1952-53: Max 105,000 Min 7,000 Mean 30,530 Cfsm 1.43 In. 19.36

* Discharge measurement made on this day.
‡ Expressed in thousands.
a No gage-height record at base gage; discharge estimated on basis of records at Chickamauga Dam.

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 1953.

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, 2,360 cfs Feb. 21 (gage height, 9.36 ft); minimum, 3.9 cfs Sept. 18; minimum gage height, 0.20 ft Oct. 3.
1950-53: Maximum discharge, 6,140 cfs Mar. 29, 1951 (gage height, 12.90 ft, from high-water mark in well); minimum, that of Sept. 18, 1953.

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

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 14 to Nov. 26, Jan. 1-8, Aug. 26 to Sept. 30)

Oct. 1 to Mar. 4

0.2	5.4	4.0	199
.5	12	6.0	374
1.0	26	7.0	550
1.5	44	7.5	650
2.0	70	8.6	1,720

Mar. 5 to Sept. 30

0.18	4.1	1.5	47
.4	9.0	2.0	74
1.0	29	4.0	199

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

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	6.1	5.8	21	134	82	108	51	150	a21	10	21	*5.1
2	5.6	5.4	*41	125	a70	206	*46	138	*19	*9.6	19	5.1
3	5.4	6.1	43	144	a60	187	43	111	17	9.3	16	5.1
4	5.4	6.5	34	110	*56	*594	41	*123	16	11	*14	4.9
5	5.4	6.5	271	*86	50	415	38	274	16	18	14	5.7
6	*5.6	6.7	170	70	60	258	38	315	15	12	14	5.5
7	5.6	6.3	95	64	92	191	39	384	14	11	12	5.3
8	6.9	6.1	65	210	82	154	35	242	14	22	12	4.9
9	22	6.7	50	*387	71	127	35	165	13	20	17	4.7
10	22	8.9	126	*1,350	64	111	33	127	26	13	14	4.5
11	17	12	112	408	*247	106	31	102	16	10	11	4.7
12	14	9.8	81	240	518	98	95	82	14	9.6	10	4.9
13	12	8.5	60	174	363	99	107	67	13	9.0	9.6	4.5
14	10	7.6	48	135	230	90	78	58	14	8.5	9.0	4.5
15	9.4	7.2	40	113	337	91	66	62	14	8.0	8.5	4.5
16	8.7	6.9	34	96	352	81	60	52	25	11	8.5	4.3
17	7.8	6.7	31	86	304	75	50	46	25	34	9.3	4.3
18	7.2	6.5	29	104	233	76	48	42	16	56	9.0	4.1
19	6.5	13	28	a90	184	70	48	114	14	35	7.8	5.5
20	6.9	22	27	a80	341	60	42	99	12	32	7.0	9.3
21	7.2	15	27	a95	1,650	57	40	69	12	39	6.3	7.0
22	7.6	11	25	a80	660	70	38	56	45	275	6.1	5.1
23	7.4	9.8	24	166	350	100	36	47	20	338	6.3	4.7
24	7.2	8.7	24	a230	254	116	35	42	14	121	6.1	4.9
25	6.7	7.8	23	179	209	108	34	36	13	70	5.7	7.0
26	6.3	75	22	142	173	91	33	32	20	45	5.3	8.8
27	6.3	59	21	121	144	84	31	29	17	36	5.1	7.5
28	5.8	35	20	a140	123	72	29	a27	15	30	5.1	6.5
29	5.8	27	20	a125	-	63	28	a25	14	27	4.9	5.3
30	5.6	24	22	a110	-	56	168	a23	11	24	5.3	5.1
31	*5.6	-	204	a95	-	53	-	a22	-	23	5.1	-
Total	261.0	437.5	1,838	5,689	7,359	4,067	1,496	3,161	515	1,377.0	304.0	163.3
Mean	8.42	14.6	59.3	184	263	131	49.9	102	17.2	44.4	9.81	5.44
Cfsm	0.166	0.289	1.17	3.64	5.20	2.59	0.986	2.02	0.340	0.877	0.194	0.108
In.	0.19	0.32	1.35	4.18	5.41	2.99	1.10	2.32	0.38	1.01	0.22	0.12

Calendar year 1952: Max 2,380 Min 4.9 Mean 88.3 Cfsm 1.35 In. 18.35
Water year 1952-53: Max 1,650 Min 4.1 Mean 73.1 Cfsm 1.44 In. 19.59

Peak discharge (base, 800 cfs).--Jan. 10 (6 a.m.) 1,880 cfs (8.80 ft); Feb. 21 (11 a.m.) 2,360 cfs (9.36 ft); Mar. 4 (5 p.m.) 1,010 cfs (7.71 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for stations on nearby streams.

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 1953.

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. 12, 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.--23 years, 34,310 cfs.

Extremes.--Maximum discharge during year, 120,000 cfs Feb. 22; maximum gage height, 19.66 ft Feb. 22; minimum daily, 6,500 cfs Nov. 16; minimum gage height, 3.95 ft Sept. 14.
1930-53: 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, 5,350 cfs Oct. 27, 1931; minimum gage height, 1.21 ft Oct. 27, 1931, site and datum then in use.
Maximum stage known, 44.6 ft 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 pp. 228-235).

Revisions (water years).--WSP 973: 1942.

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	20,500	17,700	27,400	29,800	35,000	53,000	36,400	e10,600	33,200	31,300	32,000	27,400
2	20,700	14,500	*27,500	31,200	41,700	54,500	34,900	16,900	28,400	31,600	25,100	28,900
3	20,600	21,500	28,700	35,000	40,600	65,400	33,700	25,500	27,200	30,500	28,600	28,200
4	21,200	24,700	28,800	36,600	41,000	70,900	33,900	40,500	24,200	26,100	27,100	29,500
5	22,000	27,700	32,600	37,400	39,400	81,700	24,000	51,700	27,200	23,200	29,500	32,300
6	21,000	26,700	30,000	35,800	39,200	84,400	22,700	42,400	26,300	26,300	28,900	17,800
7	20,200	26,100	26,200	32,200	43,200	64,500	22,000	50,000	25,000	28,800	31,100	19,400
8	21,100	e9,900	29,200	34,900	38,900	66,000	27,100	49,800	28,500	30,900	32,800	24,200
9	16,600	e9,500	26,400	35,900	41,600	60,700	27,900	40,200	30,700	30,500	28,800	22,800
10	16,700	27,700	27,400	52,400	39,600	51,900	21,800	38,600	29,100	33,500	27,100	24,000
11	17,500	27,200	32,400	58,600	45,600	48,000	14,100	27,500	29,300	31,700	29,400	27,000
12	18,400	24,600	32,400	57,800	70,900	44,600	13,900	29,400	30,700	18,400	30,400	29,000
13	21,500	22,300	31,100	45,000	88,400	43,900	28,200	33,300	27,100	27,300	31,400	17,000
14	25,200	23,200	33,000	38,100	70,200	44,400	25,100	25,800	20,400	24,700	28,900	17,000
15	25,400	12,900	32,800	41,100	68,800	45,600	24,800	23,100	26,000	27,600	33,600	22,000
16	30,200	e6,500	35,700	43,000	69,500	39,800	25,400	24,700	27,400	28,600	28,200	26,000
17	30,500	21,100	39,600	29,500	65,400	38,000	33,700	17,400	28,300	32,800	29,800	28,000
18	23,900	22,700	39,700	29,300	56,400	43,600	28,200	21,600	30,400	33,000	30,600	27,000
19	27,000	25,000	37,300	33,400	56,800	44,800	26,800	36,100	*29,200	14,000	29,300	24,000
20	28,400	22,900	33,600	34,100	59,300	45,100	31,800	58,400	27,900	29,600	28,400	12,000
21	29,000	24,600	29,800	35,100	92,500	34,900	34,400	46,700	19,100	32,600	29,900	20,000
22	30,000	17,000	26,900	36,400	115,000	33,600	29,300	40,100	27,600	29,300	30,500	17,000
23	28,500	13,300	32,800	*41,300	107,000	38,100	31,400	27,100	32,800	28,900	20,000	17,000
24	28,700	19,700	31,500	44,800	94,000	32,800	28,900	21,400	30,400	23,500	27,700	21,000
25	26,400	23,400	23,100	39,300	83,200	34,900	24,200	25,500	32,400	e10,600	30,000	22,000
26	18,500	23,800	24,500	35,900	73,400	34,700	20,600	22,200	32,600	14,400	28,700	25,000
27	24,500	18,300	26,800	42,700	63,600	31,100	25,200	25,700	29,200	26,500	29,400	19,000
28	22,800	24,600	26,400	43,700	55,800	30,300	*25,600	24,700	23,200	29,800	30,400	22,000
29	30,000	23,600	29,500	41,700	-	29,600	26,300	24,300	26,700	29,800	31,500	25,000
30	31,800	23,900	33,800	42,300	-	33,600	e7,600	e11,500	29,300	32,100	21,500	20,000
31	29,800	-	31,200	36,200	-	35,200	-	e11,800	-	28,700	*29,800	-
Total	748,600	626,600	948,100	‡1,210.5	‡1,736	‡1,459.6	789,900	944,500	839,800	846,600	900,400	691,500
Mean	24,150	20,890	30,580	39,050	62,000	47,080	26,330	30,470	27,990	27,310	29,050	23,050
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 133,000 Min 6,500 Mean 30,980 Cfsm 1.42 In. 19.34
Water year 1952-53: Max 115,000 Min 6,500 Mean 32,170 Cfsm 1.48 In. 20.03

* Discharge measurement made on this day.
‡ Expressed in thousands.
e Discharge computed on basis of records at Hales Bar Dam.
Note.--No gage-height record at auxiliary gage July 19, Sept. 10-30; discharge estimated on basis of records at Hales Bar Dam.

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 1953.

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 same datum.

Average discharge.--32 years (1921-53), 726 cfs.

Extremes.--Maximum discharge during year, 10,100 cfs Feb. 12 (gage height, 14.74 ft); minimum, 35 cfs Oct. 8, 22, 28-30; minimum gage height, 0.59 ft Oct. 8, 22.
1920-53: Maximum discharge, 21,400 cfs Jan. 5, 1949 (gage height, 16.55 ft); minimum, 19 cfs Sept. 6-21, 27, 28, 1925; minimum gage height, 0.56 ft Oct. 31, Nov. 1, 1948.

Remarks.--Records excellent. 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 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 12				Feb. 13 to Sept. 30			
0.58	35	2.0	211	0.64	42	5.0	1,160
.7	42	3.0	500	1.0	69	8.0	2,240
1.0	65	5.0	1,160	1.5	125	11.0	3,420
1.5	121			2.0	209	13.0	5,200
Note.--Same as following table above 5.0 ft.				3.0	482	14.2	7,840

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	40	37	52	294	756	874	*562	2,020	209	*82	137	55
2	39	37	56	316	666	1,070	670	2,260	195	82	137	*54
3	38	37	55	446	596	1,230	605	2,300	*184	87	138	53
4	38	37	55	522	542	3,190	556	1,350	171	94	124	55
5	38	37	156	481	*487	4,360	508	1,000	161	136	112	57
6	36	37	258	412	494	*3,350	479	826	155	110	104	55
7	36	37	230	346	963	2,150	498	*782	150	102	*96	52
8	38	37	198	430	1,150	1,490	536	792	146	160	150	51
9	46	37	160	1,300	1,020	1,170	575	745	142	103	152	50
10	46	43	153	3,280	820	989	588	653	138	91	176	49
11	43	41	280	3,190	1,670	867	649	568	134	85	150	48
12	42	41	388	1,890	6,630	785	1,120	501	131	82	118	47
13	39	40	313	1,170	*7,710	751	1,980	444	125	78	103	46
14	41	41	230	871	5,260	748	1,490	398	122	71	92	45
15	41	40	189	718	3,240	1,440	1,120	380	120	69	87	44
16	40	39	160	612	2,330	1,830	898	392	130	70	82	43
17	39	38	141	545	1,930	1,550	813	372	169	85	96	42
18	39	38	*128	545	1,590	1,240	694	340	136	933	85	42
19	38	46	118	570	1,300	1,090	629	575	128	463	193	47
20	37	49	115	602	1,480	959	565	1,140	122	282	124	54
21	36	45	108	762	5,350	843	508	1,010	113	236	96	55
22	35	43	103	1,070	6,350	765	460	799	110	217	85	50
23	36	41	103	1,130	4,490	779	424	622	126	288	79	46
24	37	41	101	2,060	2,770	802	395	514	106	299	74	47
25	37	40	97	2,010	1,920	823	372	434	102	293	71	54
26	37	*55	94	1,520	1,460	792	348	374	96	223	68	52
27	37	63	90	1,150	1,220	728	326	331	96	180	65	51
28	36	62	86	1,020	1,000	670	301	290	91	157	63	49
29	35	53	83	1,080	-	612	285	257	87	143	60	47
30	35	51	83	1,000	-	556	1,050	238	86	131	59	46
31	*36	-	*165	868	-	520	-	223	-	128	56	-
Total	1,187	1,283	4,548	32,210	65,194	39,023	20,004	22,930	3,981	5,560	3,232	1,486
Mean	38.3	42.8	147	1,039	2,328	1,259	667	740	133	179	104	49.5
Cfsm	0.100	0.111	0.383	2.71	6.06	3.28	1.74	1.93	0.346	0.466	0.271	0.129
In.	0.11	0.12	0.44	3.12	6.31	3.78	1.94	2.22	0.39	0.54	0.31	0.14

Calendar year 1952: Max 10,700 Min 35 Mean 520 Cfsm 1.35 In. 18.45
Water year 1952-53: Max 7,710 Min 35 Mean 550 Cfsm 1.43 In. 19.42

Peak discharge (base, 5,500 cfs).--Feb. 12 (9:30 p.m.) 10,100 cfs (14.74 ft); Feb. 21 (12 p.m.) 7,490 cfs (14.09 ft).
* Discharge measurement made on this day.

Short Creek near Albertville, Ala.

Location.--Lat 34°18'05", long. 86°10'53", in NE¼ sec. 35, T. 8 S., R. 4 E., on left bank 325 ft downstream from highway bridge, 800 ft downstream from Turkey Creek, 3 miles northeast of Albertville, and 4.4 miles upstream from Scarham Creek.

Drainage area.--91.6 sq mi.

Records available.--May 1945 to September 1953 (discontinued).

Gage.--Water-stage recorder. Datum of gage is 865.80 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--8 years, 194 cfs.

Extremes.--Maximum discharge during year, 4,890 cfs June 16 (gage height, 10.23 ft); minimum, 0.01 cfs Sept. 1-4 (gage height, 0.52 ft).
1945-53: Maximum discharge, 14,800 cfs Jan. 5, 1949 (gage height, 16.37 ft); minimum, 0.01 cfs Aug. 22, 1947, Sept. 1-4, 1953.
Flood of December 1942 reached a stage of 21.2 ft, from floodmark.

Remarks.--Records good except those below 5 cfs, which are fair. City of Albertville diverts water for municipal supply 3½ miles upstream.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 3-26)

0.52	0.01	2.0	48
.6	.05	2.5	94
.7	.3	3.0	185
.8	.7	3.5	335
.9	1.5	4.0	530
1.1	4.1	6.0	1,500
1.3	8.5	7.3	2,300
1.5	18		

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	3.2	3.6	33	a550	253	304	94	198	20	38	3.7	*0.01
2	2.6	3.5	*47	a750	*210	922	83	319	*16	75	8.0	.01
3	2.2	3.8	67	a1,000	185	*534	76	192	12	256	4.9	.01
4	1.8	3.8	72	a450	167	985	71	648	10	244	3.5	1.3
5	1.5	3.6	558	*272	148	518	66	635	8.5	147	2.6	2.4
6	*1.3	3.4	310	225	162	390	*64	478	8.0	*65	1.8	1.2
7	.9	3.2	208	202	228	324	72	335	7.2	103	1.6	.6
8	19	3.0	164	400	169	272	64	241	6.8	154	4.2	.4
9	110	2.9	142	1,840	142	228	56	185	5.6	84	21	.3
10	54	*4.5	708	2,080	131	202	120	144	4.7	54	*15	.2
11	35	6.2	378	822	328	222	82	*118	5.0	36	5.8	.1
12	27	8.0	256	570	890	205	599	118	4.0	27	3.6	.08
13	22	7.0	202	450	522	195	276	90	2.9	22	2.4	.07
14	17	6.0	167	370	442	171	150	80	3.0	18	1.6	.05
15	14	5.2	142	314	1,010	176	119	229	2.0	16	1.3	.04
16	12	4.9	122	265	772	156	105	142	2,240	16	.9	.04
17	10	4.5	113	241	510	135	87	94	274	35	.8	.03
18	8.5	4.0	102	290	394	203	78	80	79	33	.7	.02
19	7.8	6.8	93	222	338	202	82	1,870	50	26	.5	.03
20	6.8	22	93	234	706	144	69	390	35	19	.3	.06
21	5.8	14	93	398	*2,180	137	61	235	193	74	.2	.06
22	5.6	7.8	82	250	862	176	56	169	894	37	.2	.06
23	5.6	5.8	82	925	590	332	51	126	106	47	.2	.07
24	5.6	4.9	82	754	628	253	47	98	61	30	.1	.1
25	5.0	4.3	74	458	562	212	45	78	42	18	.1	.3
26	4.9	68	69	356	530	176	49	64	50	12	.08	.3
27	4.5	73	66	304	426	158	42	53	306	8.9	.06	.3
28	4.0	46	62	346	352	142	34	42	194	7.0	.04	.3
29	3.6	37	59	286	-	122	31	34	76	5.6	.03	.2
30	3.5	34	a65	232	-	108	888	29	51	4.7	.02	.1
31	3.5	-	a1,200	212	-	101	-	25	-	3.8	.02	-
Total	408.2	404.7	5,911	16,068	13,837	8,405	3,717	7,539	4,766.7	1,716.0	85.25	8.74
Mean	13.2	13.5	191	518	494	271	124	243	159	55.4	2.75	0.291
Cfsm	0.144	0.147	2.09	5.66	5.39	2.96	1.35	2.65	1.74	0.605	0.030	0.0032
In.	0.17	0.16	2.40	6.52	5.62	3.41	1.51	3.06	1.94	0.70	0.03	0.004

Calendar year 1952: Max 2,510 Min 0.02 Mean 119 Cfsm 1.30 In. 17.67
Water year 1952-53: Max 2,240 Min 0.01 Mean 172 Cfsm 1.88 In. 25.52

Peak discharge (base, 3,000 cfs).--Jan. 10 (4:30 a.m.) 3,010 cfs (8.30 ft); May 19 (4 p.m.) 3,920 cfs (9.26 ft); June 16 (10 a.m.) 4,890 cfs (10.23 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 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 1953.

Gage.--Water-stage recorder. Datum of gage is 570.95 ft above mean sea level, datum of 1929. Dec. 23, 1935, to Jan. 16, 1938, staff gage and Jan. 17, 1938, to July 24, 1940, water-stage recorder, at site 20 ft upstream from present site at present datum.

Average discharge.--17 years (1936-53), 632 cfs.

Extremes.--Maximum discharge during year, 7,990 cfs Feb. 22 (gage height, 17.48 ft); minimum, 5.6 cfs Oct. 8 (gage height, 0.22 ft).
1935-53: Maximum discharge, 31,300 cfs Dec. 28, 1942; maximum gage height, 20.84 ft Jan. 5, 1949; minimum discharge, 3.4 cfs Nov. 7, 1944.

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

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(*Shifting-control method* used Nov. 10 to Dec. 5, May 2-11; rate of change in stage used as a factor Jan. 9-13, 24-27, Feb. 11-15, 17, 21-24, Mar. 4-7, Apr. 13-14, Apr. 30 to May 2, May 6-7, 19-21, Sept. 20-21)

0.2	5.0	7.0	1,060
.4	11	10.0	1,910
.8	28	14.0	3,620
1.5	70	16.0	5,050
2.0	112	17.2	7,150
4.0	397		

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	9.5	9.5	66	1,640	562	592	392	3,070	131	30	125	16
2	8.8	9.5	93	*930	476	955	*389	2,100	115	*31	129	*15
3	*8.0	*9.5	*116	1,360	*416	*1,300	348	1,100	*101	31	*100	15
4	8.0	9.5	168	1,160	371	2,600	320	*1,280	91	32	83	20
5	7.4	10	744	662	330	4,540	292	1,540	83	31	74	58
6	6.8	10	1,420	470	424	3,960	278	2,400	76	31	67	50
7	6.2	10	576	386	1,740	1,920	296	2,170	71	31	62	53
8	26	10	320	389	1,420	1,040	294	1,560	67	35	57	47
9	153	10	230	1,590	845	740	269	1,410	63	80	53	41
10	124	13	239	3,530	620	606	256	885	59	40	49	33
11	148	27	299	4,810	1,510	528	284	666	55	35	46	28
12	93	103	378	3,440	4,110	470	650	542	52	34	44	24
13	63	74	263	1,480	6,400	445	2,590	444	48	33	41	21
14	45	54	198	738	4,360	445	1,810	381	48	32	36	19
15	33	43	156	564	2,970	606	685	384	47	32	36	18
16	27	36	125	462	2,970	648	664	416	45	32	33	17
17	23	32	104	400	2,230	528	538	464	50	32	32	15
18	19	29	90	558	1,260	490	453	417	50	35	30	14
19	17	32	79	758	890	532	429	1,060	59	50	32	449
20	14	47	75	580	1,140	500	391	2,630	58	88	29	2,110
21	12	106	76	929	3,770	440	342	1,840	54	130	27	1,230
22	12	93	94	1,490	7,090	414	311	860	68	250	24	258
23	12	65	101	1,270	4,440	782	288	608	85	1,600	24	152
24	12	52	101	3,140	2,380	1,560	268	464	74	2,500	24	111
25	10	45	99	4,390	1,460	1,350	252	379	54	1,600	23	586
26	10	82	94	3,380	1,030	920	244	322	45	500	21	1,720
27	10	391	88	1,600	830	705	224	274	39	350	20	660
28	10	245	81	945	690	594	205	232	36	227	19	320
29	10	121	75	1,010	-	506	192	196	33	185	18	213
30	10	82	74	845	-	431	1,330	171	31	151	17	156
31	10	-	657	658	-	389	-	149	-	128	17	-
Total	957.5	1,860.0	7,279	45,564	56,734	31,536	15,884	30,414	1,888	8,366	1,394	8,489
Mean	30.9	62.0	235	1,470	2,026	1,017	529	981	62.9	270	45.0	282
Cfsm	0.097	0.194	0.734	4.59	6.33	3.18	1.65	3.07	0.197	0.844	0.141	0.881
In.	0.11	0.22	0.85	5.30	6.59	3.67	1.85	3.53	0.22	0.97	0.16	0.98

Calendar year 1952: Max 9,620 Min 5.9 Mean 460 Cfsm 1.44 In. 19.59
Water year 1952-53: Max 7,090 Min 6.2 Mean 576 Cfsm 1.80 In. 24.45

Peak discharge (base, 6,000 cfs).--Feb. 13 (11:30 a.m.) 6,900 cfs (17.10 ft); Feb. 22 (10:30 a.m.) 7,990 cfs (17.48 ft).
* Discharge measurement made on this day.
Note.--No gage-height record July 3-27; discharge estimated on basis of high-water mark, weather records, and records for Flint River near Chase.

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 new 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 1953.

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.--23 years, 522 cfs.

Extremes.--Maximum discharge during year, 10,200 cfs Feb. 21 (gage height, 13.79 ft); minimum, 66 cfs Sept. 19 (gage height, 0.96 ft).

1930-53: Maximum discharge, 37,700 cfs Jan. 5, 1949 (gage height, 23.61 ft); minimum, 44 cfs Sept. 20, 27, 30, 1931; minimum gage height, 0.85 ft Sept. 20, 1941, July 25, 1942.

Flood of September 1929 reached a stage of 25.0 ft (revised), from floodmarks (discharge, 42,000 cfs, revised, from rating curve extended above 27,000 cfs).

Remarks.--Records good. Some diurnal fluctuation caused by small mills above station.

Revisions (water years).--WSP 823: Drainage area. WSP 853: 1936(M).

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

0.96	70	5.0	2,120
1.0	79	7.0	3,340
1.5	230	9.0	5,050
2.0	420	12.0	8,050
3.0	930		

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	92	108	174	580	510	610	590	1,500	174	108	162	79
2	92	108	195	575	470	1,840	*447	670	*168	*105	156	*75
3	87	*108	*237	952	*429	*1,300	376	456	159	117	138	75
4	84	108	223	595	388	5,230	348	424	156	108	129	77
5	84	105	848	*474	364	2,310	328	660	150	108	123	105
6	84	105	605	412	1,390	1,180	348	496	150	105	117	108
7	*82	108	384	384	1,800	886	474	438	147	114	117	89
8	164	111	312	501	930	743	384	590	144	321	114	82
9	930	117	282	1,440	645	640	332	442	138	156	108	82
10	530	244	550	3,500	530	590	320	348	135	117	105	79
11	251	240	506	1,870	3,300	550	340	*296	135	111	102	79
12	192	183	356	1,010	7,930	525	1,680	265	129	108	100	79
13	168	159	296	748	3,200	630	1,320	248	126	100	97	75
14	153	150	272	615	1,540	580	630	253	126	102	97	75
15	147	144	248	530	2,260	690	478	1,480	129	102	97	75
16	138	138	230	465	1,660	560	412	1,580	132	102	92	72
17	132	135	220	556	1,070	470	356	1,170	129	105	105	72
18	129	132	212	2,000	831	520	332	941	123	207	209	70
19	126	156	206	1,110	726	580	336	2,840	120	244	97	576
20	117	212	209	1,080	1,300	460	308	1,120	123	378	92	528
21	111	186	220	1,480	7,700	412	286	660	120	186	89	159
22	108	165	212	842	3,220	408	272	488	117	2,420	87	120
23	108	156	206	2,400	1,410	1,480	258	400	114	2,280	84	105
24	111	150	206	2,740	1,140	1,260	248	340	114	456	84	105
25	114	150	195	1,390	1,090	770	251	296	111	268	84	141
26	111	244	189	897	936	575	254	258	108	209	84	153
27	108	272	183	721	776	488	240	237	108	186	84	129
28	108	209	180	914	670	438	226	216	108	171	82	129
29	105	183	174	919	-	396	223	198	111	159	79	105
30	105	177	180	655	-	368	2,920	192	108	*150	77	97
31	108	-	628	555	-	364	-	183	-	159	79	-
Total	4,979	4,763	9,138	32,910	48,215	27,853	15,317	19,685	3,912	9,562	3,270	3,795
Mean	161	159	295	1,062	1,722	898	511	635	130	308	105	126
Cfsm	0.471	0.465	0.863	3.11	5.04	2.63	1.49	1.86	0.380	0.901	0.307	0.368
In.	0.54	0.52	0.99	3.58	5.24	3.03	1.67	2.14	0.43	1.04	0.36	0.41

Calendar year 1952: Max 6,990 Min 77 Mean 419 Cfsm 1.23 In. 16.69
Water year 1952-53: Max 7,930 Min 70 Mean 502 Cfsm 1.47 In. 19.95

Peak discharge (base, 5,000 cfs).--Feb. 12 (12 m.) 8,860 cfs (12.73 ft); Feb. 21 (2:30 p.m.) 10,200 cfs (13.79 ft); Mar. 4 (2 p.m.) 7,260 cfs (11.25 ft); July 22 (11:30 p.m.) 5,190 cfs (9.15 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 1953. 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.--28 years (1924-36, 1937-53), 42,360 cfs.

Extremes.--Maximum discharge during year, 157,000 cfs Feb. 24 (gage height, 14.81 ft); minimum daily, 800 cfs Nov. 9.
1924-36, 1937-53: 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.
Maximum stage known, 31.4 ft, present site and datum, in March 1867, 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. 228-235).

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	26,500	21,300	32,800	46,300	41,200	71,500	38,100	23,200	31,300	41,300	29,000	*29,000
2	28,700	e6,600	*33,300	44,500	*49,100	73,100	36,500	37,200	23,700	35,200	17,100	30,100
3	25,000	24,400	30,200	42,800	44,300	77,400	36,700	42,500	20,000	31,100	33,200	33,000
4	17,400	24,400	31,900	39,800	45,600	94,600	37,300	62,700	23,100	e8,200	26,800	36,600
5	e4,800	28,100	34,200	41,800	48,700	101,000	21,200	69,400	33,900	e1,300	30,300	29,900
6	*26,400	33,200	37,600	41,200	42,300	111,000	22,400	68,200	20,400	40,600	33,500	17,600
7	27,300	32,400	27,000	39,800	51,900	105,000	22,600	65,700	e17,400	43,400	36,300	16,700
8	28,700	19,300	39,700	40,800	48,900	88,600	18,600	59,600	33,900	39,400	33,600	32,100
9	29,500	e800	37,000	56,700	48,600	75,600	27,400	57,600	35,000	42,500	26,200	21,400
10	26,700	25,400	41,800	87,400	45,000	65,400	28,100	56,300	33,300	42,900	29,300	23,600
11	17,200	30,100	47,400	91,500	49,800	57,200	19,400	*30,300	29,000	29,400	29,100	32,800
12	e8,800	29,500	40,200	89,500	89,100	52,600	20,000	36,200	35,300	e2,200	29,000	e17,100
13	31,400	26,700	44,900	73,600	114,000	51,300	37,800	41,100	e16,500	29,300	28,100	16,200
14	34,700	26,500	41,400	64,500	117,000	52,400	26,200	33,200	e11,000	27,300	29,500	24,100
15	36,900	21,300	34,600	51,300	113,000	51,800	25,700	27,200	29,800	35,900	32,000	23,600
16	33,700	e2,000	37,400	47,500	100,000	35,000	36,300	39,100	33,500	39,300	22,000	25,400
17	38,500	22,000	40,500	35,500	93,300	48,100	38,400	33,500	39,800	33,500	28,800	24,200
18	26,300	23,900	36,700	38,500	80,600	53,200	28,000	28,600	41,100	21,100	31,000	25,400
19	e8,000	27,500	36,500	42,800	72,900	53,400	33,300	43,000	44,300	e8,400	35,700	18,600
20	30,600	26,400	33,800	39,800	76,200	46,900	39,800	61,500	e6,800	38,000	31,500	18,600
21	36,000	35,500	28,400	41,200	108,000	34,900	35,300	61,900	e1,100	*41,300	29,500	27,300
22	33,100	20,100	36,100	42,500	140,000	35,400	32,500	55,900	31,800	42,000	33,300	24,000
23	33,200	e5,500	41,500	55,200	149,000	45,000	30,400	28,800	40,300	42,400	18,300	21,900
24	32,100	25,400	34,700	61,100	153,000	44,900	26,000	21,900	44,700	43,100	28,800	14,400
25	22,700	24,500	22,100	66,000	133,000	40,300	32,700	30,000	39,900	26,500	33,400	22,200
26	18,000	30,800	28,300	58,300	106,000	45,800	24,800	27,900	36,600	e14,100	28,400	26,200
27	28,500	18,100	30,800	57,200	81,800	45,100	30,100	32,400	20,200	28,100	26,100	19,300
28	23,800	35,400	23,800	56,100	72,900	32,800	31,000	32,800	e1,300	36,200	35,000	24,100
29	25,900	32,200	34,900	52,900	-	32,600	28,900	26,300	41,800	39,200	30,700	31,800
30	26,400	23,200	39,900	51,900	-	36,200	33,200	22,900	41,500	29,200	19,400	20,800
31	32,300	-	36,400	41,000	-	37,200	-	18,500	-	36,000	32,400	-
Total	819,100	702,500	‡1,095.8	‡1,637	‡2,315.2	‡1,795.3	898,700	‡1,275.4	858,300	974,400	907,300	728,000
Mean	26,420	23,420	35,350	52,810	82,690	57,910	29,960	41,140	28,610	31,430	29,270	24,270
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 175,000 Min 700 Mean 37,070 Cfsm 1.45 In. 19.70
Water year 1952-53: Max 153,000 Min 800 Mean 38,380 Cfsm 1.50 In. 20.34

* Discharge measurement made on this day.
‡ Expressed in thousands.
e Extremely low fall; discharge computed on basis of Guntersville Dam releases, adjusted for inflow and storage.

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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, 1½ miles west of Falkville, and 2.8 miles upstream from Cedar Creek.

Drainage area.--86.3 sq mi.

Records available.--July 1952 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 580 ft (from topographic map).

Extremes.--1952: Maximum discharge during period July to September, 528 cfs Aug. 10 (gage height, 8.8 ft); minimum, no flow July 30 to Aug. 4.
1952-53: Maximum discharge during water year, 2,460 cfs Feb. 21 (gage height, 12.2 ft); minimum, no flow for many days.

Remarks.--Records good above 10 cfs and fair below except those for periods Oct. 11 to Nov. 18, 1952, and June 3 to Sept. 30, 1953, which are poor.

Rating table, July 30, 1952, to Sept. 30, 1953 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 11 to Nov. 18, 1952

0.6	0	1.6	9.1	8.0	415
.7	.2	2.2	22	10.0	770
.8	.7	3.0	47	10.5	960
.9	1.3	4.0	94	11.0	1,270
1.2	4.0	6.0	225	12.0	2,230

Discharge, in cubic feet per second, 1952

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1	-	0	13.5	9	-	190	2.8	17	-	10.5	3.8	25	-	3.5	1.3
2	-	0	13	10	-	342	2.4	18	-	*7.6	14.0	26	-	2.9	1.2
3	-	0	18	11	-	43	2.1	19	-	22	10.5	27	-	2.4	1.0
4	-	0	9.4	12	-	22	1.8	20	-	24	3.5	28	-	2.0	.9
5	-	15	6.3	13	-	16	1.7	21	-	10	2.6	29	-	1.8	.7
6	-	20	4.9	14	-	*12.5	2.0	22	-	6.3	2.2	30	*0	40.0	.7
7	-	49	4.0	15	-	48	2.7	23	-	4.9	1.8	31	0	50.0	-
8	-	21	*3.4	16	-	18	3.2	24	-	4.1	1.5				
Total													-	988.5	136.9
Mean													-	31.9	4.56
Cubic feet per second per square mile													-	0.370	0.053
Runoff in inches													-	0.43	0.06

Peak discharge (base, 2,000 cfs).--No peak above base.
* Discharge measurement or observation of no flow 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	0.6	0.5	16	195	144	249	99	650	21	8.2	2.7	0
2	.5	.6	47	209	123	526	79	371	18	5.5	2.7	0
3	.3	.8	53	265	111	512	64	283	15	4.7	2.8	0
4	.2	.9	44	188	99	964	59	936	14	170	3.8	0
5	.2	.7	300	*150	86	838	53	1,350	12	35	2.6	0
6	.1	.7	209	117	111	544	*55	770	10.5	*15	1.8	0
7	*0	.8	114	99	170	340	62	544	9.3	10.5	1.5	0
8	5.5	.9	*79	174	120	249	53	330	8.5	10.5	1.1	*0
9	60	1.2	64	626	*99	*202	46	217	7.5	128	.9	1.2
10	24	*2.0	92	1,200	89	170	228	164	6.6	25	*.7	.8
11	9.0	4.0	102	830	*398	164	174	129	5.8	14	.6	.5
12	5.7	4.0	76	578	*1,390	153	404	*114	5.2	9.3	.5	.3
13	4.0	3.1	62	350	1,010	147	614	92	4.8	7.1	.4	.2
14	2.9	2.6	51	241	*650	132	310	84	4.7	5.9	.3	0
15	2.2	2.3	45	195	770	135	188	170	*4.8	4.9	.3	0
16	1.6	2.5	39	164	770	105	153	202	4.7	4.6	.3	0
17	1.4	2.5	35	199	596	92	117	178	4.3	4.6	.4	0
18	1.3	2.6	32	496	382	120	102	123	3.8	8.8	.5	0
19	1.2	14	29	310	274	135	120	332	3.4	29	.5	2.0
20	.9	25	34	241	455	96	84	274	2.8	29	.6	11
21	.6	21	40	292	*1,740	89	69	156	2.6	41	.5	8.6
22	.4	16	35	217	*1,160	94	62	117	89	33	.4	3.7
23	.4	13.5	35	492	670	435	55	89	24	86	.3	2.0
24	.5	12.5	32	960	596	320	51	72	10.5	27	.2	1.2
25	.7	12	29	614	614	217	57	57	7.1	15	.1	1.0
26	.9	26	27	360	528	167	62	46	5.7	9.6	.1	.9
27	.9	38	26	249	415	138	46	39	7.1	6.8	0	.9
28	.7	25	25	257	310	120	39	33	7.9	5.2	0	.9
29	.6	19	24	209	-	102	38	28	5.5	4.3	0	.6
30	.8	17	31	167	-	89	572	25	4.2	3.5	0.	.5
31	.7	-	249	147	-	84	-	22	-	2.9	0	-
Total	128.6	271.7	2,076	10,791	13,880	7,728	4,115	7,997	330.3	763.9	26.6	36.3
Mean	4.15	9.06	67.0	348	496	249	137	258	11.0	24.6	0.86	1.21
Cfsm	0.048	0.105	0.776	4.03	5.75	2.89	1.59	2.99	0.127	0.285	0.010	0.014
In.	0.06	0.12	0.89	4.65	5.98	3.33	1.77	3.45	0.14	0.33	0.01	0.02

Calendar year 1952: Max - Min - Mean - Cfsm - In. -
Water year 1952-53: Max 1,740 Min 0 Mean 132 Cfsm 1.53 In. 20.75

Peak discharge (base, 2,000 cfs).--Feb. 21 (2 p.m.) 2,460 cfs (12.2 ft).
* Discharge measurement or observation of no flow made on this day.

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 road, 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 1953.
Gage.--Water-stage recorder. Datum of gage is 576.59 ft above mean sea level, datum of 1929.
Extremes.--1952: Maximum discharge during period August to September, 110 cfs Sept. 19 (gage height, 1.65 ft); minimum, 0.1 cfs Sept. 13, 14.
1952-53: Maximum discharge during water year, 2,100 cfs Feb. 21 (gage height, 16.0 ft); no flow for many days.
Remarks.--Records good above and fair below 10 cfs.

Rating table, Aug. 15, 1952, to Sept. 30, 1953 (gage height, in feet, and discharge, in cubic feet per second)

0.0	0	1.0	36
.1	.2	1.5	91
.2	.5	3.0	278
.3	1.3	6.0	538
.4	3.6	11.0	1,090
.5	6.5	16.0	2,100
.7	15		

Discharge, in cubic feet per second, 1952

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	-	0.9	9	-	0.5	17	9.2	0.2	25	2.6	1.3
2	-	1.5	10	-	.4	18	*7.3	39	26	2.2	1.0
3	-	1.5	11	-	.3	19	5.9	51	27	1.7	.9
4	-	1.7	12	-	.2	20	5.0	9.5	28	1.3	.8
5	-	1.0	13	-	.1	21	4.5	4.7	29	1.2	.7
6	-	.8	14	-	.1	22	3.6	3.1	30	1.0	.6
7	-	.7	15	*45	.3	23	3.4	1.9	31	1.0	-
8	-	*.5	16	15	.3	24	3.1	1.5			

Total	-	127.0
Mean	-	4.23
Cubic feet per second per square mile	-	0.048
Runoff in inches	-	0.05

Peak discharge (base, 2,000 cfs).--No peak above base.
* 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	0.5	0.7	8.8	127	113	195	99	675	26	2.9	58	0
2	.5	.7	41	176	103	438	84	366	22	1.9	50	0
3	.5	.7	37	220	95	423	75	208	20	1.3	12	0
4	.4	.8	27	127	86	665	71	411	18	1.3	9.2	0
5	.4	.8	90	91	79	547	66	423	16	1.5	8.4	0
6	.3	.8	62	*72	252	348	*133	256	15	*1.7	5.6	0
7	*.2	.8	42	62	330	238	176	188	14	1.5	4.5	0
8	1.9	.8	*35	68	182	195	113	156	13	1.0	3.6	*0
9	9.9	1.0	30	275	*138	*157	96	127	12	.8	2.9	0
10	6.9	*34	41	556	116	139	480	104	11	.8	*2.2	0
11	3.6	22	41	431	*673	130	272	91	9.2	.7	1.3	0
12	2.6	11	32	226	*1,300	129	531	*102	7.6	.6	1.2	0
13	1.9	6.5	28	156	*938	131	503	77	7.3	.5	.9	0
14	1.3	4.7	25	126	*538	117	278	79	6.9	.5	.7	0
15	1.0	3.9	23	107	646	134	182	238	*7.3	.5	.6	0
16	.9	3.6	21	96	503	106	150	272	6.5	.5	.5	0
17	.8	3.4	19	194	330	95	120	238	5.6	.5	.4	0
18	.9	3.1	18	556	238	135	106	182	5.0	.5	.4	0
19	.9	4.2	18	391	202	133	98	357	4.2	.7	.4	0
20	1.0	5.0	20	267	531	103	84	220	3.6	1.0	.2	.6
21	1.2	6.2	24	348	*1,950	97	75	150	3.1	6.6	0	.7
22	1.0	5.3	22	182	*1,610	130	68	116	3.1	15	0	.3
23	1.0	5.0	24	598	*728	655	60	93	2.9	14	0	0
24	1.0	3.9	23	725	529	423	55	79	2.9	7.6	0	0
25	.9	4.2	20	399	547	232	58	66	2.4	5.9	0	0
26	.9	9.5	19	226	383	176	57	56	1.9	3.1	0	0
27	.9	14	18	182	289	146	49	48	5.2	2.4	0	0
28	.8	12	17	188	226	127	44	41	8.8	1.9	0	0
29	.7	9.9	15	162	-	110	83	36	4.7	1.3	0	0
30	.7	8.8	20	130	-	98	1,110	32	3.6	1	0	0
31	.7	-	157	119	-	92	-	28	-	.8	0	-
Total	46.2	187.3	1,017.8	7,583	13,655	6,844	5,376	5,515	268.8	80.3	161.0	1.6
Mean	1.49	6.24	32.8	245	488	221	179	178	8.96	2.59	5.19	0.05
Cfsm	0.017	0.071	0.374	2.80	5.57	2.52	2.04	2.03	0.102	0.030	0.059	0.00057
In.	0.02	0.08	0.43	3.22	5.80	2.91	2.28	2.34	0.11	0.03	0.07	0.0007

Calendar year 1952: Max - Min - Mean - Cfsm - In. -
Water year 1952-53: Max 1,950 Min 0 Mean 112 Cfsm 1.28 In. 17.29

Peak discharge (base, 2,000 cfs).--Feb. 21 (1 p.m.) 2,100 cfs (16.0 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.--65.8 sq mi.

Records available.--November 1951 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 981.82 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge during year, 3,130 cfs Feb. 12 (gage height, 10.93 ft); minimum daily, 1.1 cfs Oct. 30; minimum gage height, 2.14 ft July 16.
1951-53: Maximum discharge, that of Feb. 12, 1953; minimum daily, that of Oct. 30, 1952; minimum gage height, 2.09 ft Aug. 18, 1952.

Remarks.--Records good except those below 3 cfs, which are fair.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Dec. 5, Aug. 27 to Sept. 30)

Oct. 1 to Feb. 12

1.95	1.1	2.8	28	9.0	1,040
2.0	1.5	3.3	61	10.0	1,940
2.1	2.8	4.0	138	10.5	2,570
2.2	4.6	6.0	420		
2.4	10	8.0	750		

Feb. 13 to Sept. 30

3.3	61	8.0	774
3.8	119	9.0	1,010
6.0	454	9.6	1,420

Note.--Same as preceding table below 3.3 ft.

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	2.5	1.3	5.6	164	144	124	179	796	19	4.8	6.3	3.5
2	2.5	1.5	5.3	140	122	390	146	1,180	17	4.6	5.8	3.5
3	2.4	1.6	9.1	274	104	390	125	706	16	4.6	5.1	3.3
4	3.2	1.6	11	221	90	981	106	326	14	5.1	4.6	4.8
5	3.2	2.0	83	154	*75	762	88	250	12	5.1	4.4	7.3
6	3.3	2.2	155	120	125	393	87	411	12	4.6	4.2	5.8
7	3.3	2.3	85	100	246	252	130	*328	11	5.8	4.1	4.2
8	3.5	2.3	55	126	188	192	108	256	10	5.6	4.2	4.6
9	3.2	2.8	*44	300	148	155	96	191	9.4	4.8	4.4	4.4
10	2.8	4.4	108	702	121	131	*475	148	8.8	4.6	6.5	4.4
11	2.4	3.7	209	534	*586	112	512	118	8.2	4.4	6.0	4.4
12	2.4	2.8	126	256	2,460	105	598	93	7.9	4.2	5.3	3.7
13	2.4	2.7	79	172	1,030	161	728	74	7.6	4.1	4.6	3.5
14	2.4	3.2	56	132	513	168	377	64	8.5	3.9	4.6	3.3
15	2.3	3.2	44	107	462	539	244	91	8.2	3.9	4.4	3.2
16	2.4	3.7	35	87	370	359	184	98	27	3.9	4.4	3.2
17	2.5	3.2	30	78	302	239	142	86	37	5.6	*4.6	2.8
18	2.5	2.8	28	167	242	212	119	80	22	6.3	5.8	2.5
19	2.0	*4.1	26	167	197	192	108	209	16	7.0	6.3	4.1
20	*1.8	4.4	24	142	234	154	85	263	12	8.5	6.5	5.3
21	1.8	4.8	30	228	1,380	132	72	173	9.7	8.2	7.6	3.2
22	2.2	3.7	38	210	869	116	64	124	*8.5	20	7.6	2.8
23	1.9	3.3	34	328	448	186	57	92	7.6	*78	6.3	*2.5
24	1.9	2.8	35	872	280	248	52	69	6.8	45	4.8	2.5
25	2.0	2.7	32	728	227	*210	49	53	6.0	25	4.6	3.9
26	1.9	4.8	30	369	200	173	52	43	6.0	17	4.4	3.7
27	1.9	16	27	234	167	144	47	36	5.8	12	3.9	3.5
28	1.5	15	25	295	143	122	41	31	5.6	9.7	3.7	3.5
29	1.6	8.2	23	305	-	101	38	26	6.0	8.2	3.7	3.3
30	1.1	6.3	22	213	-	82	956	23	4.8	7.3	3.9	3.0
31	1.2	-	*96	166	-	78	-	21	-	6.5	4.1	-
Total	72.0	123.4	1,610.0	8,091	11,473	7,603	6,065	6,459	350.4	338.3	156.7	113.7
Mean	2.32	4.11	51.9	261	410	245	202	208	11.7	10.9	5.05	3.79
Cfsm	0.035	0.063	0.791	3.98	6.25	3.73	3.08	3.17	0.178	0.166	0.077	0.058
In.	0.04	0.07	0.91	4.59	6.50	4.31	3.44	3.66	0.20	0.19	0.09	0.06

Calendar year 1952: Max 1,740 Min 1.1 Mean 90.5 Cfsm 1.38 In. 18.78
Water year 1952-53: Max 2,460 Min 1.1 Mean 116 Cfsm 1.77 In. 24.06

Peak discharge (base, 1,000 cfs).--Feb. 12 (8:30 a.m.) 3,130 cfs (10.93 ft); Feb. 21 (2 p.m.) 1,960 cfs (10.03 ft); Mar. 4 (3:30 p.m.) 1,240 cfs (9.42 ft); May 2 (12 m.) 2,140 cfs (10.17 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 1953.

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, 1,640 cfs Feb. 12 (gage height, 9.32 ft); minimum, 3.3 cfs Nov. 17, 18 (gage height, 1.01 ft).
1951-53: Maximum discharge, 2,500 cfs Jan. 27, 1952 (gage height, 11.68 ft); minimum, that of Nov. 17, 18, 1952.

Remarks.--Records excellent.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

1.0	3.1	3.0	171
1.1	6.7	4.0	320
1.3	18	6.0	680
2.0	70	8.0	1,210

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	4.9	3.9	3.6	9.1	74	88	144	138	24	11	17	6.2
2	5.3	4.2	3.6	9.1	66	225	78	131	23	11	16	5.7
3	5.3	4.5	3.6	16	60	169	64	86	22	11	14	5.7
4	4.9	4.5	3.9	14	53	573	56	68	21	12	13	22
5	4.9	4.2	5.3	12	*48	244	50	89	20	22	12	43
6	4.5	4.2	8.1	11	61	163	68	143	19	11	12	12
7	4.5	4.2	6.7	10	75	129	87	*90	19	11	11	9.6
8	4.9	4.2	5.7	11	58	111	63	83	17	11	18	8.6
9	4.9	4.2	*5.3	21	48	96	53	65	17	9.6	14	7.6
10	4.5	4.2	5.7	90	44	86	*52	55	16	9.1	11	7.6
11	4.2	4.2	8.6	45	*366	78	46	48	16	8.6	9.6	7.1
12	4.2	4.2	7.6	35	*1,140	74	231	43	15	8.1	9.6	7.1
13	4.2	4.2	6.7	31	368	77	142	40	14	8.1	9.1	6.7
14	4.2	3.9	5.7	27	230	125	90	38	14	7.6	8.6	6.2
15	3.9	3.9	5.3	25	307	398	74	52	14	7.6	8.6	6.2
16	3.9	3.6	5.3	24	213	152	64	52	43	7.6	17	5.7
17	3.9	3.6	5.3	26	154	114	56	58	22	8.1	*24	5.7
18	3.6	3.3	5.3	69	127	138	51	50	18	9.6	19	5.3
19	3.6	*3.9	4.9	43	112	111	47	86	17	15	10	17
20	*3.9	3.6	4.5	43	181	88	42	80	16	10	9.1	15
21	4.2	3.6	4.5	109	986	77	39	56	15	9.6	8.6	8.1
22	4.2	3.6	4.5	65	323	70	37	47	*14	121	8.6	7.1
23	4.2	3.6	4.2	172	201	102	34	42	14	*63	8.1	*6.7
24	3.9	3.6	4.2	452	164	132	33	39	13	33	8.1	6.2
25	3.9	3.6	4.2	219	144	*96	31	36	12	27	7.6	24
26	3.9	4.2	4.2	145	128	77	30	33	12	24	7.6	18
27	4.2	3.9	4.2	116	108	68	28	31	12	21	7.1	11
28	4.2	3.6	3.9	147	94	62	27	29	12	19	6.7	9.1
29	3.9	3.9	3.9	117	-	56	26	28	12	17	6.2	8.1
30	3.9	3.6	4.2	95	-	51	442	26	11	16	6.2	7.6
31	*3.9	-	*4.9	83	-	59	-	25	-	20	6.2	-
Total	132.6	117.9	157.6	2,291.2	5,933	4,089	2,285	1,887	514	579.6	343.6	315.9
Mean	4.28	3.93	5.08	73.9	212	132	76.2	60.9	17.1	18.7	11.1	10.5
Cfsm	0.104	0.095	0.123	1.79	5.13	3.20	1.85	1.47	0.414	0.453	0.269	0.254
In.	0.12	0.11	0.14	2.06	5.34	3.68	2.06	1.70	0.46	0.52	0.31	0.28

Calendar year 1952: Max 1,530 Min 3.3 Mean 48.8 Cfsm 1.18 In. 16.12
Water year 1952-53: Max 1,140 Min 3.3 Mean 51.1 Cfsm 1.24 In. 16.78

Peak discharge (base, 600 cfs).--Feb. 12 (8 a.m.) 1,640 cfs (9.32 ft); Feb. 21 (10 a.m.) 1,620 cfs (9.25 ft); Mar. 4 (10:30 a.m.) 945 cfs (7.10 ft); Mar. 15 (4:30 a.m.) 648 cfs (5.84 ft); Apr. 30 (2 p.m.) 692 cfs (6.06 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 1953.

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.--32 years (1921-53), 477 cfs (unadjusted).

Extremes.--Maximum discharge during year, 5,180 cfs Feb. 12 (gage height, 9.80 ft); minimum daily, 26 cfs Nov. 23.

1920-53: 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. Flow regulated by Woods Reservoir since 1952 (see pp.232,235).

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 5, May 21 to Sept. 30				Feb. 6 to May 20			
1.2	20	3.0	445	1.7	99	5.0	1,650
1.4	36	4.0	980	2.0	168	7.0	3,000
1.7	85	5.0	1,610	2.5	315	9.0	4,500
2.5	275			3.4	715		

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	49	34	36	30	46	488	448	2,330	76	83	558	59
2	46	34	39	31	42	1,380	444	2,460	76	89	180	59
3	48	35	37	34	41	1,610	439	2,390	76	169	97	59
4	49	36	37	33	40	2,360	434	1,020	74	314	83	73
5	51	35	40	33	39	2,430	430	556	76	329	83	317
6	51	35	39	32	*293	2,040	444	538	76	79	70	66
7	46	36	39	32	720	1,080	448	524	76	105	137	59
8	45	36	37	33	660	896	439	*675	74	243	974	59
9	45	37	*36	35	488	550	*370	444	74	139	992	52
10	42	41	36	48	398	352	258	430	72	76	992	35
11	40	40	35	45	1,210	636	216	430	72	52	992	34
12	37	39	34	41	4,110	943	969	343	72	51	992	35
13	37	41	33	40	3,830	493	1,590	258	72	49	722	34
14	36	44	33	*40	3,840	434	1,090	292	74	49	79	34
15	35	45	32	40	2,250	1,040	1,070	685	72	48	68	34
16	35	45	32	40	1,340	1,040	1,060	600	76	36	64	34
17	34	46	32	41	1,020	1,040	913	276	72	36	*68	34
18	34	46	31	42	1,010	1,040	448	418	70	42	367	34
19	32	51	31	44	1,000	891	439	957	70	35	968	64
20	31	56	31	48	1,090	439	426	1,170	72	34	974	366
21	*32	31	32	61	2,810	430	340	940	72	34	974	81
22	30	27	32	70	3,190	430	184	234	*72	351	968	*39
23	30	26	32	97	2,890	439	114	225	74	*866	962	37
24	31	29	32	128	1,240	444	112	223	74	146	962	39
25	31	31	31	99	979	*448	112	202	74	49	568	263
26	32	34	31	85	847	444	110	133	74	51	290	512
27	33	35	31	54	484	444	110	87	74	52	290	136
28	33	35	30	59	480	439	108	87	76	51	290	42
29	34	35	30	63	-	439	106	85	74	56	187	72
30	34	36	29	52	-	434	1,460	79	81	89	63	122
31	*34	-	30	49	-	439	-	77	-	251	61	-
Total	1,177	1,111	1,040	1,579	36,387	26,012	15,131	19,168	2,217	4,054	15,075	2,884
Mean	38.0	37.0	33.5	50.9	1,300	839	504	618	73.9	131	486	96.1

	Observed			Adjusted †		
Calendar year 1952:	Max 1,790	Min 26	Mean 321	Mean 356	Cfsm 1.26	In. 17.16
Water year 1952-53:	Max 4,110	Min 26	Mean 345	Mean 393	Cfsm 1.39	In. 18.93

Peak discharge (base, 2,600 cfs).--Feb. 12 (8 a.m.) 5,180 cfs (9.80 ft); Feb. 21 (3 p.m.) 3,810 cfs (8.14 ft); May 1 (12:30 p.m.) 4,300 cfs (8.75 ft).

* Discharge measurement made on this day.

† Adjusted for change in contents in Woods Reservoir.

Elk River above Fayetteville, Tenn.

Location.--Lat 35°08'04", long. 86°32'23", on right bank 100 ft downstream from highway bridge, 1½ 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 1953.

Gage.--Water-stage recorder. Datum of gage is 650.58 ft above mean sea level, datum of 1929.

Average discharge.--19 years, 1,377 cfs (unadjusted).

Extremes.--Maximum discharge during year, 11,500 cfs Feb. 12 (gage height, 17.98 ft); minimum, 137 cfs Sept. 19 (gage height, 1.31 ft).
1934-53: Maximum discharge, 35,500 cfs Jan. 5, 1949 (gage height, 27.14 ft); minimum, 128 cfs Oct. 14, 1935; minimum gage height, 1.02 ft Oct. 27, 1941.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Flow regulated by Woods Reservoir since 1952 (see pp. 232, 235).

Rating tables, water year 1952-53 (gage height, in feet, and discharge in cubic feet per second)

Oct. 1 to Feb. 13				Feb. 14 to Sept. 30			
1.4	150	8.0	3,800	1.3	135	7.0	3,150
1.8	245	13.0	7,100	1.8	255	10.0	5,100
2.5	520	16.0	9,200	2.5	520	15.5	8,680
4.0	1,270	18.0	11,500	4.0	1,350		
6.0	2,500						

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	172	154	188	680	960	1,650	1,510	4,010	417	243	336	167
2	170	153	287	905	845	3,550	1,370	4,520	393	243	956	159
3	172	154	273	985	760	4,160	1,210	4,030	374	360	475	157
4	190	154	242	760	690	7,600	1,130	3,760	360	309	322	157
5	166	154	1,090	590	620	7,510	1,060	2,310	350	340	267	240
6	166	153	670	452	995	5,060	1,410	1,720	343	560	246	461
7	170	154	485	385	1,640	3,880	1,490	1,780	336	368	234	312
8	212	154	346	393	1,850	2,690	1,380	1,960	329	*635	218	192
9	1,210	156	298	*709	1,570	2,320	*1,220	1,870	312	625	726	173
10	*456	198	1,210	3,420	1,290	1,830	1,460	1,360	300	421	1,090	*169
11	284	215	*690	2,380	4,590	1,520	1,260	1,200	291	291	1,100	165
12	221	190	560	1,320	10,600	*1,640	2,760	1,100	279	246	1,100	153
13	198	178	393	990	*11,100	1,990	3,650	968	273	218	*1,100	147
14	186	172	318	805	8,640	1,860	3,150	978	276	210	1,020	143
15	186	*168	273	680	6,960	3,110	2,350	*1,420	288	205	350	143
16	178	168	245	595	5,370	2,820	2,140	2,260	282	202	215	143
17	172	166	224	774	3,430	2,300	1,970	2,610	417	205	205	141
18	166	166	210	a3,000	2,630	2,320	1,780	1,850	*315	258	202	139
19	164	287	205	a2,000	2,410	2,230	1,230	2,830	276	326	198	192
20	158	308	205	a2,500	3,550	1,990	1,110	2,990	267	322	902	984
21	154	239	202	a5,000	9,300	1,420	1,050	2,620	264	261	1,040	675
22	150	200	195	a2,500	9,170	1,330	956	2,090	273	1,420	1,050	409
23	152	182	200	a3,000	6,870	1,900	758	1,190	261	1,550	1,050	237
24	154	176	198	a3,500	5,370	2,070	605	995	249	1,790	1,040	205
25	154	172	190	a2,500	3,100	1,890	580	890	243	680	1,040	237
26	154	301	188	a2,100	2,610	1,610	560	792	264	397	863	343
27	154	266	186	a1,900	2,300	1,460	520	660	261	315	389	808
28	152	224	182	a2,100	1,780	1,350	490	560	252	288	350	540
29	152	208	180	a1,500	-	1,270	505	500	246	270	343	261
30	150	195	186	1,310	-	1,200	4,180	475	240	258	336	212
31	152	-	710	1,100	-	1,170	-	443	-	255	225	-
Total	6,675	5,767	11,029	50,833	111,000	78,700	44,844	56,741	9,031	14,071	18,988	8,464
Mean	215	192	356	1,640	3,964	2,539	1,495	1,830	301	454	613	282

	Observed			Adjusted †			
Calendar year 1952:	Max 10,000	Min 150	Mean 1,046	Mean 1,080	Cfsm 1.31	In. 17.78	
Water year 1952-53:	Max 11,100	Min 139	Mean 1,140	Mean 1,189	Cfsm 1.44	In. 19.51	

Peak discharge (base, 8,000 cfs).--Jan. 21 (time unknown) 8,960 cfs (15.65 ft); Feb. 12 (5 p.m.) 11,500 cfs (17.98 ft); Feb. 21 (12 to 1 p.m.) 9,820 cfs (17.02 ft); Mar. 4 (10 to 11 a.m.) 8,040 cfs (14.53 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 records for Elk River near 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 Weakly Creek, and 4 miles west of Pulaski, Giles County.

Drainage area.--366 sq mi.

Records available.--April 1934 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 642.54 ft above mean sea level, datum of 1929.

Average discharge.--19 years, 605 cfs.

Extremes.--Maximum discharge during year, 15,700 cfs Feb. 12 (gage height, 19.08 ft); minimum, 15 cfs Sept. 18 (gage height, 0.63 ft).
1934-53: 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, 14 cfs (estimated) Sept. 17-19, 1936.

Remarks.--Records good.

Revisions (water years).--WSP 823: 1935-36(M). WSP 1113: 1945-46(M).

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Aug. 16				Aug. 17 to Sept. 30	
0.7	24	7.0	2,080	0.63	16
.9	48	12.0	4,180	.8	32
1.1	80	15.0	6,900	1.0	62
1.5	166	17.0	10,100	1.3	119
2.5	442	19.0	15,400	1.6	189

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	31	44	91	432	515	670	946	3,620	191	78	388	24
2	30	45	136	410	436	2,250	624	1,410	175	65	148	23
3	27	47	164	539	392	2,650	515	932	166	62	107	22
4	26	44	157	442	350	5,950	458	851	154	70	93	22
5	26	44	685	368	308	3,240	404	2,320	141	68	80	22
6	27	44	549	305	1,070	1,740	2,210	1,370	134	54	72	24
7	28	44	336	263	1,230	1,240	2,460	1,330	129	*52	62	24
8	48	43	247	*344	910	957	*1,420	1,250	120	56	57	22
9	302	50	211	728	691	766	1,040	979	112	62	54	20
10	*203	134	*1,140	2,680	562	655	1,470	777	105	54	52	*20
11	129	234	684	1,930	4,110	*576	986	641	97	50	47	19
12	97	*90	426	1,070	*12,700	573	2,520	539	91	44	45	18
13	82	77	322	756	4,580	578	1,990	474	88	42	*45	19
14	72	70	247	576	2,050	2,270	1,290	*474	103	38	43	19
15	66	66	201	464	1,650	5,410	1,010	556	114	38	40	19
16	60	62	178	389	1,220	2,080	806	518	101	51	243	19
17	58	58	159	841	968	1,360	637	946	*93	188	107	17
18	57	58	150	2,440	781	1,410	573	835	86	532	99	16
19	54	114	136	1,430	680	1,040	501	1,660	78	236	66	184
20	51	161	150	1,710	3,010	835	423	1,780	75	616	50	88
21	48	122	141	3,240	9,660	723	380	1,150	104	774	44	50
22	47	95	129	1,310	3,930	877	347	831	324	983	41	37
23	48	82	122	1,960	1,910	3,320	328	637	97	1,560	40	32
24	48	75	118	2,280	1,400	1,900	311	511	78	491	37	31
25	50	75	114	1,560	1,130	1,290	328	426	70	286	34	31
26	50	125	105	1,130	918	972	294	365	75	208	32	32
27	50	148	101	874	752	799	263	316	166	161	30	32
28	44	118	95	1,050	637	684	244	280	101	136	29	32
29	44	99	91	824	-	579	456	252	107	118	27	30
30	43	99	93	691	-	501	7,440	231	97	103	26	30
31	43	-	316	593	-	488	-	211	-	93	25	-
Total	1,989	2,567	7,794	33,629	58,550	48,384	32,674	28,472	3,572	7,369	2,263	978
Mean	64.2	85.6	251	1,085	2,091	1,561	1,089	918	119	238	73.0	32.6
Cfsm	0.175	0.234	0.686	2.96	5.71	4.27	2.98	2.51	0.325	0.650	0.199	0.089
In.	0.20	0.26	0.79	3.42	5.95	4.92	3.32	2.89	0.36	0.75	0.23	0.10

Calendar year 1952: Max 15,400 Min 17 Mean 545 Cfsm 1.49 In. 20.27
Water year 1952-53: Max 12,700 Min 16 Mean 625 Cfsm 1.71 In. 23.19

Peak discharge (base, 6,000 cfs).--Feb. 12 (9 a.m.) 15,700 cfs (19.08 ft); Feb. 21 (12 m.) 12,000 cfs (17.85 ft); Mar. 4 (5:30 p.m.) 6,780 cfs (14.90 ft); Mar. 14 (12 p.m.) 7,450 cfs (15.39 ft); Apr. 30 (7 p.m.) 8,690 cfs (16.18 ft).
* Discharge measurement made on this day.

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 and January 1919 to September 1953 in reports of Geological Survey. July 1904 to February 1908 and January 1919 to September 1924 (January to September 1924, revised) in Tennessee Division of Geology Bulletin 34. 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 11¾ miles downstream at datum 13.52 ft lower.

Average discharge.--37 years (1904-7, 1919-53), 3,005 cfs (unadjusted).

Extremes.--Maximum discharge during year, 32,000 cfs Feb. 13 (gage height, 28.67 ft); minimum, 158 cfs Sept. 19 (gage height, 0.81 ft).
1904-8, 1919-53: 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.232).

Revisions (water years).--WSP 523: 1904-8, 1919-20. WSP 823: Drainage area. WSP 1003: 1929(M). See also Records available.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 13				Feb. 14 to Sept. 30			
1.0	180	10.0	7,000	0.8	155	5.0	2,760
1.5	350	15.0	12,000	1.4	335	10.0	7,040
2.0	580	20.0	18,200	2.0	610	15.0	12,000
3.0	1,200	25.0	25,100	3.0	1,220		
5.0	2,680	28.0	30,300				

Note.--Same as preceding table above 15.0 ft.

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	219	207	490	2,430	2,490	3,190	3,170	14,300	942	391	1,930	347
2	210	213	718	2,370	2,180	9,670	2,700	7,930	870	379	936	259
3	201	216	1,020	3,300	1,970	8,930	2,360	6,320	810	375	1,120	217
4	195	210	944	2,560	1,790	17,800	2,120	5,900	762	482	714	205
5	231	210	3,440	2,080	1,620	19,400	1,970	6,670	720	530	*545	214
6	198	210	3,510	1,680	3,010	13,100	4,280	4,740	692	480	446	232
7	189	210	1,960	1,410	4,580	7,980	6,940	3,880	665	660	399	479
8	388	210	1,440	*1,330	3,960	5,820	4,360	4,400	643	*555	371	428
9	*2,520	225	1,420	2,200	3,430	4,420	*3,400	3,820	610	1,050	339	290
10	2,200	490	5,100	8,480	2,920	3,690	4,010	3,200	575	738	839	*232
11	1,080	560	*4,160	8,840	11,400	3,130	3,920	2,600	545	550	1,110	211
12	680	500	2,330	4,760	24,800	*2,760	7,550	2,300	510	403	1,120	200
13	510	*408	1,780	3,200	*30,900	3,280	9,120	2,080	485	343	1,120	188
14	422	362	1,380	2,520	24,700	4,720	6,720	2,210	475	304	1,120	172
15	370	326	1,120	2,120	17,100	15,400	5,080	*3,190	485	282	996	165
16	342	306	944	1,840	11,000	10,400	4,040	4,500	490	300	490	162
17	306	296	824	2,660	7,460	5,760	3,450	5,450	485	456	692	160
18	286	289	740	8,650	5,070	5,520	3,130	5,360	*575	582	395	160
19	268	616	680	5,540	4,260	4,850	2,700	6,130	545	1,320	387	215
20	258	1,220	674	4,080	10,300	4,060	2,160	7,800	460	1,800	321	491
21	234	873	685	9,070	24,500	3,390	1,970	5,670	519	2,320	929	973
22	222	630	641	5,710	27,700	3,030	1,840	4,410	738	3,250	1,070	804
23	213	505	636	6,600	21,700	6,800	1,660	3,290	540	7,320	1,070	575
24	216	426	610	10,500	11,500	5,930	1,470	2,400	433	3,300	1,070	347
25	219	399	585	7,850	7,510	4,630	1,360	2,040	387	2,230	1,070	300
26	225	662	550	5,190	5,200	3,770	1,290	1,760	451	1,230	1,070	296
27	225	899	520	3,790	4,330	3,220	1,190	1,550	500	864	894	371
28	225	718	500	4,110	3,660	2,870	1,100	1,340	510	682	500	822
29	216	590	476	3,990	-	2,550	1,150	1,180	442	600	438	704
30	204	540	485	3,360	-	2,330	13,100	1,080	420	535	415	399
31	204	-	1,540	2,840	-	2,220	-	1,010	-	515	407	-
Total	13,476	13,526	41,902	135,060	281,040	194,620	109,310	128,510	17,284	34,826	24,323	10,618
Mean	435	451	1,352	4,357	10,040	6,278	3,644	4,145	576	1,123	785	354

	Observed			Adjusted†		
Calendar year 1952:	Max 33,800	Min 156	Mean 2,440	Mean 2,474	Cfsm 1.39	In. 18.87
Water year 1952-53:	Max 30,900	Min 160	Mean 2,752	Mean 2,801	Cfsm 1.57	In. 21.31

Peak discharge (base, 17,000 cfs).--Feb. 13 (8 to 9 a.m.) 32,000 cfs (28.67 ft); Feb. 22 (12 m.) 28,400 cfs (27.10 ft); Mar. 5 (1 p.m.) 19,700 cfs (21.12 ft).

* Discharge measurement made on this day.

† Adjusted for change in contents in Woods Reservoir.

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 1953.

Gage.--Water-stage recorder. Datum of gage is 537.60 ft above mean sea level, datum of 1929. July 25, 1935, to Sept. 30, 1940, staff gage at same site and datum.

Average discharge.--13 years, 288 cfs.

Extremes.--Maximum discharge during year, 4,520 cfs Feb. 22 (gage height, 17.99 ft); minimum daily, 2.0 cfs Sept. 18.
1935-40, 1945-53: Maximum discharge, 12,300 cfs Jan. 7, 1950 (gage height, 22.60 ft); minimum, 0.7 cfs Sept. 24, 1935, Oct. 22, 1945, Sept. 17-20, 1947; minimum gage height observed, 1.19 ft Sept. 28, 29, 1947.

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

Revisions (water years).--WSP 1033: 1939, 1940(M). WSP 1053: 1939(M).

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 4 to Dec. 2)

1.3	0.4	5.0	550
1.4	6.0	9.0	1,480
1.6	20	12.0	2,340
2.0	58	15.0	3,240
2.5	116	17.0	4,020
3.0	185		

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	6.0	4.9	16	284	178	317	146	3,140	58	20	36	3.8
2	5.4	4.9	30	185	173	448	152	1,240	53	18	116	3.8
3	4.9	4.9	136	297	149	430	121	366	48	49	45	3.6
4	4.3	4.3	79	215	134	828	107	588	46	21	20	4.0
5	3.8	4.9	263	134	120	682	99	947	44	18	19	4.5
6	3.2	4.9	362	*107	500	386	*323	690	41	*16	18	6.0
7	*2.6	4.9	157	89	1,200	289	736	418	39	16	16	4.5
8	4.9	4.9	*95	86	600	248	320	328	37	175	14	*3.2
9	10	7.3	101	324	*268	*216	198	244	36	84	12	3.0
10	15	*73	291	1,170	203	194	630	186	35	39	*10	2.9
11	9.4	68	320	1,290	976	180	638	159	32	24	8.7	2.8
12	6.6	34	157	549	2,640	176	616	*215	31	20	8.0	2.7
13	6.0	18	108	297	3,050	206	810	169	29	19	7.2	2.6
14	5.4	11	83	236	1,370	212	346	258	29	18	6.5	2.5
15	5.4	8.0	68	194	890	257	228	1,320	*28	18	6.2	2.4
16	4.9	6.6	58	169	1,010	240	190	1,720	28	18	6.0	2.3
17	4.9	6.0	52	288	522	166	153	1,240	26	17	31	2.2
18	4.9	6.6	48	1,200	350	194	132	752	25	18	32	2.0
19	4.3	20	44	1,140	294	301	130	1,010	24	30	14	5.4
20	4.3	29	43	450	879	198	122	903	23	19	10	53
21	4.3	24	47	410	2,870	149	103	364	24	36	8.0	29
22	4.3	19	48	372	4,070	212	91	344	27	144	7.0	9.4
23	4.3	15	47	630	1,860	1,420	84	192	31	396	6.2	7.5
24	4.3	11	45	1,520	832	1,700	78	156	186	125	5.6	7.0
25	4.3	9.4	41	946	1,440	549	83	132	104	45	5.0	6.5
26	4.3	31	36	390	859	302	95	111	143	27	4.7	6.0
27	4.3	69	34	287	522	233	83	94	59	21	4.5	5.5
28	4.9	46	31	267	384	200	68	83	51	19	4.2	5.0
29	4.9	26	28	280	-	170	148	74	30	18	4.0	4.5
30	4.9	20	30	222	-	149	2,160	68	22	18	3.8	4.0
31	4.9	-	168	188	-	137	-	62	-	17	3.8	-
Total	165.9	596.5	3,066	14,216	28,343	11,389	9,190	17,473	1,389	1,523	492.4	201.6
Mean	5.35	19.9	98.9	459	1,012	367	306	564	46.3	49.1	15.9	6.72
Cfsm	0.032	0.120	0.596	2.77	6.10	2.21	1.84	3.40	0.279	0.296	0.096	0.040
In.	0.04	0.13	0.69	3.18	6.35	2.55	2.06	3.91	0.31	0.34	0.11	0.05

Calendar year 1952: Max 2,900 Min 2.6 Mean 180 Cfsm 1.08 In. 14.78
Water year 1952-53: Max 4,070 Min 2.0 Mean 241 Cfsm 1.45 In. 19.72

Peak discharge (base, 3,800 cfs).--Feb. 22 (5:30 a.m.) 4,520 cfs (17.99 ft).
* Discharge measurement made on this day.
Note.--No gage-height record Feb. 6-8, July 31, Aug. 7-9, 12-16, Aug. 20 to Sept. 7, Sept. 9-18, 23-30; discharge estimated on basis of weather records and records for Short Creek near Albertville.

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 1953.

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 railraod 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.--28 years, 637 cfs.

Extremes.--Maximum discharge during year, 20,600 cfs Feb. 12 (gage height, 16.55 ft); minimum, 94 cfs Sept. 3 (gage height, 0.49 ft).
1925-53: Maximum discharge, 65,000 cfs Mar. 13, 1927 (gage height, 23.4 ft, present site and datum), from rating curve extended above 20,000 cfs on basis of contracted-opening determination of peak flow; minimum, 38 cfs Aug. 31, 1943 (gage height, -0.02 ft).

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 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 30				May 1 to Sept. 30			
0.5	107	5.0	2,430	0.5	96	3.0	1,170
1.0	229	7.0	3,850	1.0	206	5.0	2,430
1.5	390	9.0	5,580	1.5	356	7.0	3,850
2.0	615	12.0	9,720	2.0	580		
3.0	1,200	14.4	14,800				

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	117	138	174	250	518	664	747	3,330	312	201	182	114
2	114	138	232	300	469	2,470	600	1,630	290	194	227	120
3	112	138	249	313	406	3,000	536	1,130	281	199	187	100
4	112	138	219	284	372	6,480	509	960	269	211	170	108
5	112	136	410	257	336	2,850	478	1,690	260	222	161	131
6	109	136	386	237	1,270	1,690	2,400	1,220	254	192	155	131
7	117	136	275	224	1,780	1,250	3,710	1,080	252	*182	148	116
8	150	136	232	*229	1,170	1,000	*1,750	1,150	243	227	144	112
9	*243	150	216	399	852	834	1,250	936	235	201	141	*110
10	249	275	*522	1,210	g681	720	1,020	780	224	189	137	110
11	191	249	482	1,010	g4,140	*648	864	674	219	178	135	108
12	165	*189	313	708	14,800	615	1,530	596	211	173	*135	106
13	150	165	257	546	3,440	642	1,480	540	204	170	133	102
14	145	157	224	452	1,850	1,780	1,070	*618	238	182	131	100
15	141	153	203	390	1,430	4,550	918	1,130	269	184	129	102
16	138	150	189	350	1,130	1,920	810	1,150	260	178	124	98
17	136	148	179	585	924	1,330	688	2,140	*227	216	325	100
18	136	148	174	1,630	752	1,420	637	1,950	209	240	342	98
19	136	270	169	1,130	676	1,270	595	2,240	201	260	238	514
20	136	287	g191	816	1,510	1,030	532	2,140	199	227	170	990
21	131	208	g196	798	9,410	882	491	1,420	206	364	150	224
22	133	181	g169	654	3,130	959	469	1,050	243	449	146	161
23	143	172	g169	1,040	1,710	4,200	447	822	209	662	141	141
24	138	162	g165	2,250	1,270	2,420	452	674	194	322	137	135
25	138	165	g160	1,500	1,070	1,540	681	591	187	229	137	135
26	138	249	g155	1,000	900	1,150	595	535	206	201	131	137
27	138	235	g150	828	764	930	551	480	219	187	126	133
28	138	196	g148	870	676	792	514	428	252	180	122	129
29	136	181	g148	798	-	681	685	367	232	173	120	116
30	133	181	g150	648	-	605	9,050	346	229	168	118	122
31	136	-	200	575	-	590	-	325	-	164	116	-
Total	4,411	5,367	7,106	22,281	57,436	50,912	36,057	34,122	7,034	7,125	4,958	4,903
Mean	142	179	229	719	2,051	1,642	1,202	1,101	234	230	160	163
Cfsm	0.408	0.514	0.658	2.07	5.89	4.72	3.45	3.16	0.672	0.661	0.460	0.468
In.	0.47	0.57	0.76	2.38	6.14	5.44	3.85	3.65	0.75	0.76	0.53	0.52

Calendar year 1952: Max 9,210 Min 107 Mean 563 Cfsm 1.62 In. 22.01
Water year 1952-53: Max 14,800 Min 98 Mean 662 Cfsm 1.90 In. 25.82

Peak discharge (base, 6,000 cfs).--Feb. 12 (7 a.m.) 20,600 cfs (16.55 ft); Feb. 21 (1 p.m.) 13,400 cfs (13.83 ft); Mar. 4 (2:30 p.m.) 8,310 cfs (11.16 ft); Apr. 30 (3:30 p.m.) 13,200 cfs (13.74 ft).
* Discharge measurement made on this day.
g Computed from numerous radio-gage readings.

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 1953.

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 15¼ miles downstream.

Average discharge.--59 years (1894-1953), 51,010 cfs.

Extremes.--Maximum discharge during year, 202,000 cfs Feb. 23 (computed on basis of Wilson Dam records); maximum gage height, 18.24 ft Feb. 24; minimum daily discharge, 250 cfs Sept. 13; minimum gage height, 6.62 ft Dec. 24.
1871-1953: Maximum discharge observed, 444,000 cfs Mar. 19, 1897 (gage height, 32.5 ft), from rating curve extended above 320,000 cfs; minimum daily, that of Sept. 13, 1953; minimum gage height, -3.0 ft Oct. 8, 1925, caused by filling of Wilson Reservoir.

Remarks.--Records good. Flow regulated by many reservoirs above station (see p. 228-235).

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 1952 to September 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23,300	18,500	38,800	47,600	47,200	85,800	41,700	68,300	28,100	32,200	45,200	28,800
2	25,000	8,900	33,500	52,000	49,800	102,000	41,300	62,800	a26,700	34,100	26,600	32,400
3	25,900	22,100	30,000	50,700	49,600	118,000	33,600	42,200	a20,100	31,100	31,200	28,200
4	14,500	22,200	31,500	38,500	59,100	134,000	30,600	78,500	a24,200	16,200	29,800	25,600
5	10,700	27,200	32,500	48,000	50,400	130,000	25,300	84,000	a26,800	13,400	29,000	21,700
6	28,200	27,000	34,600	*43,600	64,500	132,000	42,900	78,600	a27,100	40,800	25,400	15,700
7	28,300	29,000	22,900	45,000	67,800	131,000	32,700	71,600	a21,800	37,100	22,300	14,200
8	25,400	24,300	44,000	51,400	53,800	116,000	34,600	67,700	a33,000	33,500	26,400	26,400
9	24,600	12,400	48,400	58,100	63,500	89,700	31,900	63,600	a36,300	33,300	14,800	28,900
10	28,600	26,700	60,900	82,300	61,900	*76,200	28,900	60,700	a36,500	42,000	25,400	28,000
11	18,600	23,300	59,600	105,000	81,800	76,300	24,700	47,500	a34,400	28,000	36,000	31,400
12	10,400	24,900	55,600	111,000	a168,000	67,600	20,500	42,000	a36,200	23,900	*33,500	31,100
13	31,000	*24,800	55,400	74,700	a170,000	63,900	38,400	32,500	a21,500	30,000	32,800	e250
14	32,100	25,400	32,000	74,500	a163,000	51,300	33,600	37,700	a16,600	24,200	32,800	24,900
15	33,200	20,200	45,900	75,000	a157,000	74,700	32,200	44,200	a36,600	26,500	27,300	23,100
16	32,200	11,800	44,200	78,900	148,000	55,500	43,000	54,300	*35,200	34,500	21,000	26,000
17	35,200	19,000	46,100	59,100	114,000	55,300	30,200	51,700	33,700	40,800	32,400	25,500
18	22,500	21,200	39,600	44,100	101,000	64,300	33,100	45,700	36,100	26,100	28,300	27,900
19	11,200	23,900	35,100	67,900	101,000	63,100	39,600	58,800	38,100	23,500	30,100	22,400
20	31,200	25,100	36,400	56,100	114,000	56,000	46,500	69,600	26,200	30,200	27,200	9,000
21	33,900	28,400	29,600	57,200	163,000	47,700	39,100	69,300	19,100	37,100	32,900	23,600
22	32,100	23,600	38,100	62,900	176,000	44,500	39,400	58,900	35,000	39,800	19,100	28,300
23	33,600	11,300	44,200	70,300	a191,000	a55,300	41,000	43,200	35,000	47,600	13,900	32,500
24	30,200	21,800	31,600	77,200	a192,000	a53,000	31,200	32,700	33,700	55,500	28,700	32,700
25	19,600	20,600	24,400	77,200	a180,000	a55,600	29,100	39,000	33,000	45,200	30,700	30,500
26	11,100	31,600	25,900	76,300	152,000	a58,300	30,900	36,700	24,400	a24,000	29,800	20,500
27	28,200	21,100	31,700	77,000	107,000	55,600	36,500	32,300	27,800	35,700	25,700	11,700
28	34,100	36,300	26,900	76,300	77,600	43,900	30,900	26,500	24,500	33,700	32,000	21,800
29	38,200	26,600	36,800	70,300	-	30,900	32,500	30,100	40,700	35,200	26,700	26,200
30	31,600	23,100	40,900	66,600	-	40,700	61,600	31,900	35,800	33,100	14,700	28,000
31	23,900	-	37,300	44,500	-	41,800	-	26,800	-	33,200	31,400	-
Total	808,600	682,300	‡1,194.4	‡2,019.3	‡3,124	‡2,270	‡1,057.5	‡1,589.4	904,200	‡1,021.5	863,100	727,250
Mean	26,080	22,740	38,530	65,140	111,600	73,230	35,250	51,270	30,140	32,950	27,840	24,240
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 191,000 Min 8,900 Mean 43,410 Cfsm 1.41 In. 19.18
Water year 1952-53: Max 192,000 Min 250 Mean 44,550 Cfsm 1.45 In. 19.63

* Discharge measurement made on this day.
‡ Expressed in thousands.
a No gage-height record at base or auxiliary gage; discharge estimated on basis of records at Wilson Dam.
e Discharge computed on basis of records at Wilson Dam.

Cypress Creek near Florence, Ala.

Location.--Lat 34°48'27", long. 87°42'02", in NE¼ sec. 9, T. 3 S., R. 11 W., on left bank 100 ft downstream from bridge on State Highway 2, 2 miles west of Florence, 4 miles downstream from Cox Creek, and 4 miles upstream from mouth.

Drainage area.--209 sq mi.

Records available.--May 1934 to September 1953 (discontinued).

Gage.--Water-stage recorder. Datum of gage is 423.78 ft above mean sea level, datum of 1929.

Average discharge.--19 years, 381 cfs.

Extremes.--Maximum discharge during year, 11,900 cfs Feb. 12 (gage height, 12.17 ft); minimum, 58 cfs Sept. 17 (gage height, 0.45 ft).
1934-53: Maximum discharge, 25,100 cfs Mar. 28, 1951 (gage height, 19.20 ft); minimum, 42 cfs Aug. 27, 1936 (gage height, 0.35 ft).

Remarks.--Records good.

Revisions (water years).--WSP 803: 1935.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 30				May 1 to Sept. 30			
0.48	65	3.0	1,850	0.47	59	1.0	240
.6	88	5.0	3,450	.6	77	1.5	570
.8	155	7.0	5,100	.8	138	2.2	1,130
1.0	270	9.0	7,400				
1.5	650	11.0	10,100				

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	68	69	108	160	385	538	554	1,120	278	134	113	62
2	68	69	147	165	348	2,080	438	682	268	127	109	61
3	67	69	151	195	326	1,130	408	538	256	127	106	61
4	65	69	143	175	312	3,790	385	546	251	278	100	65
5	67	68	305	160	291	1,250	362	1,050	240	176	97	70
6	67	68	244	155	1,000	874	2,200	594	202	138	94	68
7	67	68	190	*147	650	722	*1,350	594	218	*131	92	65
8	*78	68	165	151	468	634	762	570	212	134	87	*62
9	128	80	*165	244	415	562	618	462	207	127	84	61
10	116	100	270	430	*370	522	546	420	196	116	84	60
11	100	200	238	362	*5,020	*490	490	394	185	113	*80	60
12	95	*120	200	305	8,860	506	1,150	388	180	109	80	60
13	90	108	175	264	1,790	530	706	*362	171	109	77	59
14	88	102	165	244	1,030	1,470	562	950	176	106	76	59
15	86	96	155	224	938	4,630	514	970	202	106	74	59
16	83	94	147	218	738	986	475	1,130	207	109	72	59
17	80	88	147	440	618	746	430	1,010	*171	157	72	59
18	78	88	143	722	546	1,360	422	714	162	176	74	59
19	77	218	136	445	506	826	400	858	152	157	72	347
20	76	195	143	546	2,170	650	378	706	147	273	70	136
21	74	143	132	674	5,650	586	362	570	171	196	68	76
22	73	120	136	430	1,510	780	348	498	207	741	68	70
23	72	113	128	1,670	954	3,060	333	455	157	642	68	68
24	71	105	124	1,310	866	1,030	355	427	143	268	68	66
25	70	99	116	714	826	762	722	400	131	202	66	68
26	70	147	116	554	690	642	445	374	138	166	66	70
27	70	136	113	468	594	578	385	374	162	147	66	70
28	70	113	113	506	538	522	355	337	147	138	65	68
29	70	110	110	452	-	475	787	319	176	131	64	66
30	70	110	110	392	-	445	4,930	307	157	124	65	65
31	70	-	155	385	-	468	-	290	-	116	64	-
Total	2,424	3,233	4,890	13,307	38,409	33,644	22,172	18,409	5,670	5,774	2,441	2,279
Mean	78.2	108	158	429	1,372	1,085	739	594	189	186	78.7	76.0
Cfsm	0.374	0.517	0.756	2.05	6.56	5.19	3.54	2.84	0.904	0.890	0.377	0.364
In.	0.43	0.58	0.87	2.37	6.83	5.99	3.95	3.28	1.01	1.03	0.43	0.41

Calendar year 1952: Max 6,380 Min 65 Mean 358 Cfsm 1.71 In. 23.30
Water year 1952-53: Max 8,860 Min 59 Mean 418 Cfsm 2.00 In. 27.18

Peak discharge (base, 3,000 cfs).--Feb. 12 (3 a.m.) 11,900 cfs (12.17 ft); Feb. 21 (11 a.m.) 7,620 cfs (9.17 ft); Mar. 4 (11:30 a.m.) 5,510 cfs (7.41 ft); Mar. 15 (5 a.m.) 9,360 cfs (10.47 ft); Mar. 23 (8:30 a.m.) 4,200 cfs (5.94 ft); Apr. 6 (7 p.m.) 3,740 cfs (5.36 ft); Apr. 30 (9:30 a.m.) 6,570 cfs (8.35 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Oct. 11 to Nov. 11; discharge estimated on basis of recorded range in stage, weather records, and records for stations on nearby streams.

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.--867 sq mi.

Records available.--August 1926 to March 1932, June 1933 to September 1953.

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.--23 years (1926-27, 1929-31, 1933-53), 1,079 cfs.

Extremes.--Maximum discharge during year, 14,100 cfs Feb. 21 (gage height, 16.83 ft); minimum, 36 cfs Sept. 18, 19 (gage height, 0.74 ft).
1926-53: Maximum discharge, 32,000 cfs Dec. 26, 1926 (gage height, 22.0 ft, present datum, from floodmarks); minimum observed, 13 cfs Sept. 1, 1943 (gage height, -0.15 ft).

Remarks.--Records good.

Revisions (water years).--WSP 698: 1929. WSP 853: 1927, 1928(M), 1929, 1930(M), 1932(M).

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 21

0.9	45	8.0	2,500
1.5	97	10.0	3,500
2.0	164	12.0	5,000
2.5	260	14.0	7,500
3.0	390	16.4	12,700
5.0	1,130		

Feb. 22 to Sept. 30

0.75	37	3.0	450
1.0	63	5.0	1,140
2.0	207	8.0	2,500
2.5	310		

Note.--Same as preceding table above 8.0 ft.

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	54	69	190	572	926	1,890	1,100	9,640	378	160	156	48
2	51	69	285	678	846	2,450	933	6,440	340	150	473	49
3	48	73	295	838	766	2,160	846	4,880	308	135	396	47
4	47	73	387	858	694	4,120	772	3,190	283	149	188	53
5	45	74	730	750	630	3,210	712	4,080	263	146	150	54
6	45	75	934	578	2,810	2,230	1,920	3,700	247	132	150	56
7	45	77	794	*486	2,700	1,780	*2,170	3,850	239	*119	131	82
8	*51	78	547	480	1,930	1,530	1,750	3,100	225	115	117	82
9	69	93	*426	1,100	1,520	1,310	1,380	1,990	211	115	104	*64
10	87	256	1,150	2,280	*1,200	*1,170	1,160	1,510	200	121	96	54
11	134	*254	1,260	2,250	3,770	1,100	977	1,290	188	139	*90	51
12	100	387	734	1,850	9,480	1,060	1,540	1,130	188	112	80	49
13	89	250	528	1,430	7,220	1,070	1,910	*973	175	101	77	47
14	80	164	420	1,030	5,080	1,230	1,840	1,380	172	94	72	43
15	76	131	348	834	5,220	1,500	1,430	2,260	178	86	70	41
16	69	118	298	722	3,670	1,230	1,160	3,010	*249	86	67	41
17	67	107	260	1,270	2,790	1,110	993	2,680	231	493	66	40
18	66	111	242	3,520	2,220	1,430	1,020	2,210	269	436	98	37
19	64	358	224	2,990	1,760	1,480	981	2,190	187	1,010	97	148
20	62	252	228	2,520	4,020	1,300	866	2,360	154	776	97	366
21	61	312	230	2,120	12,500	1,140	765	2,310	143	765	115	292
22	61	268	236	1,490	9,880	1,990	668	1,740	142	1,970	101	231
23	61	196	244	2,380	7,500	5,960	645	1,290	132	1,760	80	146
24	61	160	242	3,880	6,490	3,610	849	1,060	135	880	70	105
25	61	156	218	2,880	4,580	2,860	2,090	884	135	597	63	86
26	63	228	204	2,740	3,340	2,170	1,240	758	223	390	59	76
27	66	204	194	1,860	2,900	1,620	957	657	315	285	53	72
28	67	305	185	1,440	2,250	1,350	800	579	348	229	51	70
29	67	260	178	1,190	-	1,170	1,220	516	202	200	51	67
30	67	206	181	1,040	-	1,040	9,500	465	175	181	49	67
31	67	-	352	1,000	-	1,080	-	423	-	168	48	-
Total	2,051	5,364	12,744	49,056	108,692	58,330	44,194	72,545	6,635	12,100	3,515	2,664
Mean	66.2	179	411	1,582	3,882	1,882	1,473	2,340	221	390	113	88.8
Cfsm	0.099	0.268	0.616	2.37	5.82	2.82	2.21	3.51	0.331	0.585	0.169	0.133
In.	0.11	0.30	0.71	2.74	6.06	3.25	2.46	4.04	0.37	0.67	0.20	0.15

Calendar year 1952: Max 6,970 Min 43 Mean 719 Cfsm 1.08 In. 14.68
Water year 1952-53: Max 12,500 Min 37 Mean 1,035 Cfsm 1.55 In. 21.06

Peak discharge (base, 7,500 cfs).--Feb. 12 (11 a.m. to 12 m.) 9,900 cfs (15.29 ft); Feb. 21 (3 p.m.) 14,100 cfs (16.83 ft); Apr. 30 (11 p.m.) 12,900 cfs (16.44 ft).
* Discharge measurement made on this day.

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 1953.

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.--23 years, 52,450 cfs.

Extremes.--Maximum discharge during year, 200,000 cfs Feb. 25; maximum gage height, 76.55 ft Feb. 26; minimum daily discharge, 6,300 cfs Sept. 6; minimum gage height, 53.67 ft Nov. 3.

1930-53: 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 (present datum) Mar. 21, 1897, from floodmarks (discharge, 450,000 cfs, from rating curve extended above 320,000 cfs). Flood of Jan. 2, 1927, reached a stage of 92.7 ft, present datum (discharge, 349,000 cfs). Minimum stage known, 38.8 ft, present datum, Sept. 8, 1925.

Remarks.--Records good. Flow regulated by many reservoirs above station (see p.228-235).

Revisions (water years).--WSP 853: 1937.

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	23,900	21,200	41,500	48,500	50,000	87,400	42,000	71,600	33,100	31,200	36,000	30,400
2	28,800	9,800	34,200	50,000	52,000	95,000	40,000	70,300	33,600	33,200	19,200	33,200
3	31,400	24,700	31,400	46,000	61,000	125,000	39,000	70,400	28,600	24,400	36,600	35,200
4	19,100	24,000	33,700	38,100	55,000	141,000	36,000	76,700	28,200	33,100	35,100	33,200
5	11,100	26,200	38,900	45,600	57,300	142,000	25,500	97,200	30,900	27,300	33,000	16,800
6	25,100	27,500	40,500	47,900	62,400	142,000	44,300	103,000	34,100	33,800	34,700	6,300
7	27,700	30,200	33,800	*45,100	75,700	135,000	56,400	97,300	27,200	33,900	35,400	20,800
8	23,800	16,200	45,300	48,600	66,500	116,000	41,100	77,800	36,300	33,900	31,800	32,500
9	27,400	9,500	45,600	62,600	61,800	96,100	43,600	73,200	36,600	36,500	8,000	29,600
10	32,600	21,800	47,200	68,700	68,900	86,000	39,900	73,600	33,100	41,600	27,700	32,400
11	28,200	27,500	51,700	88,700	76,300	83,700	33,800	70,100	29,000	43,700	36,300	37,000
12	18,600	28,500	49,500	101,000	157,000	73,500	22,600	60,900	33,700	37,300	40,800	11,100
13	37,300	34,300	49,300	95,100	189,000	67,500	42,100	73,300	35,900	26,400	41,800	6,600
14	37,500	29,900	44,200	83,900	182,000	49,900	45,900	39,400	17,800	23,800	38,100	28,300
15	31,400	17,100	48,200	82,500	172,000	63,000	37,400	51,700	31,400	25,500	20,500	27,700
16	35,700	10,000	49,800	82,700	168,000	58,200	40,800	79,500	35,000	31,000	16,400	29,200
17	26,600	22,300	48,400	65,200	154,000	*82,900	43,300	59,100	35,000	28,900	37,000	28,000
18	24,900	24,700	42,500	37,800	121,000	69,000	39,200	47,300	40,200	54,600	35,000	26,600
19	10,100	29,400	35,000	61,800	105,000	77,200	49,000	61,400	35,700	26,300	33,800	18,000
20	35,400	29,200	43,600	64,400	114,000	62,300	50,000	79,500	33,500	*34,000	34,200	6,500
21	34,600	31,100	29,400	74,200	168,000	53,200	37,700	77,700	32,900	34,700	35,000	25,100
22	32,000	14,900	36,700	67,500	185,000	48,800	37,600	76,800	32,000	41,700	11,400	32,500
23	34,100	14,800	48,300	83,500	190,000	51,400	35,200	58,100	36,800	52,900	11,800	35,600
24	27,500	25,800	25,400	86,200	198,000	59,400	40,900	49,300	35,600	62,900	34,500	30,700
25	19,200	*27,100	22,600	81,600	198,000	65,700	30,900	*45,700	30,500	51,400	34,900	27,200
26	17,300	27,600	25,800	75,200	161,000	65,300	36,800	38,700	30,300	24,800	36,000	21,200
27	24,500	24,400	30,100	74,500	136,000	61,000	41,400	36,400	43,600	43,800	33,500	12,100
28	27,000	32,700	25,100	73,100	106,000	50,500	40,900	36,600	42,800	37,600	36,100	*22,500
29	31,000	26,300	36,700	71,800	-	39,800	43,000	31,000	36,700	37,000	11,500	25,900
30	31,000	17,500	39,700	71,800	-	41,000	55,900	38,700	30,800	37,600	11,700	28,700
31	24,700	-	40,600	56,000	-	42,000	-	32,800	-	45,800	37,400	-
Total	837,100	706,200	‡1,214.7	‡2,079.6	‡3,390.9	‡2,410.8	‡1,212.2	‡1,955.1	‡1,000.9	‡1,130.6	925,200	750,700
Mean	27,000	23,540	39,180	67,080	121,100	77,770	40,410	63,070	33,360	36,470	29,850	25,020
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 197,000 Min 9,500 Mean 45,570 Cfsm 1.38 In. 18.72
Water year 1952-53: Max 198,000 Min 6,300 Mean 48,260 Cfsm 1.46 In. 19.77

* 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 on highway, 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 1953.

Gage.--Water-stage recorder. Datum of gage is 878.23 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--19 years, 176 cfs.

Extremes.--Maximum discharge during year, 6,470 cfs Feb. 12 (gage height, 11.70 ft); minimum, 16 cfs Oct. 3, 4, 5, 6, 20, 21; minimum gage height, 0.91 ft Oct. 5.
1934-53: 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 except those for periods of no gage-height record, which are fair. Occasional regulation for short periods during low flow by small reservoir above station.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 20				May 21 to Sept. 30			
0.9	16	3.0	490	1.1	19	2.0	107
1.2	38	5.0	1,340	1.3	29	2.3	170
1.5	77	7.0	2,480	1.6	57	2.6	263
2.0	190	9.6	4,360				

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	18	18	a20	39	145	170	413	712	42	28	31	19
2	18	18	a35	44	126	392	307	322	39	28	29	19
3	17	18	a30	54	111	639	202	215	37	35	29	19
4	17	18	a25	49	98	1,510	165	175	36	41	28	36
5	16	18	a120	44	88	643	135	319	34	48	28	47
6	16	18	a100	40	111	358	190	255	34	34	28	24
7	18	18	a60	38	185	268	430	222	34	52	28	22
8	19	18	a40	45	152	222	274	235	33	42	33	21
9	23	20	a30	64	117	185	200	190	30	36	32	21
10	21	26	a250	240	96	165	235	145	28	32	28	21
11	19	22	a150	185	959	150	250	119	28	30	27	21
12	19	20	a90	117	*4,350	148	633	104	27	30	27	20
13	18	19	a70	a95	*994	195	675	94	28	29	27	19
14	18	19	a55	*77	466	232	301	100	28	29	26	19
15	18	19	a45	66	514	850	*222	175	29	28	25	19
16	18	19	*34	60	444	424	188	232	114	28	25	19
17	18	19	32	67	295	265	152	325	72	74	28	19
18	18	20	31	188	225	301	135	286	42	60	27	19
19	18	*36	30	155	190	316	155	733	35	55	*24	23
20	*17	30	30	140	599	220	133	*782	32	67	23	24
21	16	24	29	399	3,450	178	113	225	30	76	22	21
22	17	22	28	271	886	155	102	131	29	223	22	20
23	18	21	28	432	427	322	94	100	*28	256	22	*20
24	18	20	26	926	322	*500	88	85	28	*92	21	21
25	18	20	26	480	286	319	86	74	28	57	21	58
26	18	27	25	283	271	228	90	66	28	44	21	34
27	18	24	24	210	232	182	84	59	29	39	21	26
28	18	22	24	274	192	155	86	53	29	35	20	24
29	18	21	24	283	-	133	71	51	29	33	20	23
30	18	22	24	202	-	117	1,300	48	28	31	20	23
31	*18	-	44	162	-	131	-	45	-	31	19	-
Total	559	636	1,579	5,729	16,331	10,073	7,509	6,677	1,068	1,723	782	721
Mean	18.0	21.2	50.9	185	583	325	250	215	35.6	55.6	25.2	2.40
Cfsm	0.168	0.198	0.476	1.73	5.45	3.04	2.34	2.01	0.333	0.520	0.236	0.224
In.	0.19	0.22	0.55	1.99	5.68	3.50	2.61	2.32	0.37	0.60	0.27	0.25

Calendar year 1952: Max 4,740 Min 12 Mean 142 Cfsm 1.33 In. 18.04
Water year 1952-53: Max 4,350 Min 16 Mean 146 Cfsm 1.36 In. 18.55

Peak discharge (base, 2,500 cfs).--Feb. 12 (7 a.m.) 6,470 cfs (11.70 ft); Feb. 21 (10 a.m.) 4,620 cfs (9.90 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 on nearby streams.

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 1953.

Gage.--Water-stage recorder. Datum of gage is 685.51 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--19 years, 800 cfs.

Extremes.--Maximum discharge during year, 14,700 cfs Feb. 12 (gage height, 21.31 ft); minimum, 67 cfs Oct. 4, 5, Sept. 19.
1934-53: 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.

Revisions (water years).--WSP 783: 1934. WSP 853: Drainage area.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

0.7	65	7.0	3,850
1.0	106	12.0	6,350
1.5	223	16.0	9,500
2.0	378	20.4	13,600
3.5	925		

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	76	76	104	401	638	652	1,560	3,270	255	106	1,050	72
2	73	77	160	368	553	1,480	1,140	1,610	232	104	526	72
3	72	76	178	530	497	2,950	835	961	209	102	246	72
4	70	76	163	470	451	5,780	676	755	195	138	182	73
5	69	75	850	378	404	4,000	587	1,000	182	229	151	96
6	70	76	550	307	*477	2,020	866	1,140	178	185	133	195
7	71	76	326	261	635	1,340	1,200	848	195	146	121	110
8	76	75	232	388	584	1,010	1,140	803	175	206	114	91
9	182	80	222	820	513	803	862	687	165	182	112	84
10	144	102	2,620	3,670	451	694	1,460	591	153	148	110	83
11	108	133	1,080	1,710	4,000	628	985	507	144	116	108	80
12	94	116	597	956	*13,600	594	2,930	451	136	104	100	76
13	85	97	411	676	9,710	642	2,730	404	129	102	97	75
14	83	90	310	536	2,880	1,060	*1,770	375	129	100	94	73
15	80	85	*246	*451	2,270	3,730	1,120	441	133	98	92	71
16	77	83	209	385	1,920	2,400	853	1,390	131	100	90	72
17	76	83	182	584	1,460	1,440	698	1,120	282	129	94	71
18	76	*83	168	2,050	1,070	1,250	618	1,100	212	666	103	70
19	75	158	156	1,140	866	1,130	614	*4,300	158	520	*114	80
20	75	226	153	1,230	4,240	925	540	3,450	133	270	94	94
21	*72	178	148	3,480	11,300	747	490	1,990	133	464	88	102
22	72	129	142	1,800	7,400	666	454	1,100	125	690	87	*88
23	72	103	136	2,890	2,540	*1,060	424	783	*125	1,650	85	83
24	75	96	129	3,320	1,610	1,260	401	642	116	*735	84	81
25	76	94	123	2,620	1,250	1,280	388	550	112	441	83	102
26	77	129	117	1,580	1,040	943	381	480	136	291	81	131
27	76	142	114	1,070	880	759	342	424	136	226	77	153
28	76	129	110	1,320	739	666	326	368	123	188	76	106
29	75	108	108	1,140	-	597	313	329	117	163	75	94
30	75	103	108	934	-	543	4,910	298	112	151	73	88
31	*75	-	264	743	-	588	-	273	-	146	73	-
Total	2,553	3,154	10,416	38,208	73,978	43,637	31,613	32,440	4,761	8,896	4,613	2,738
Mean	82.4	105	336	1,233	2,642	1,408	1,054	1,046	159	287	149	91.3
Cfsm	0.171	0.218	0.699	2.56	5.49	2.93	2.19	2.17	0.331	0.597	0.310	0.190
In.	0.20	0.24	0.81	2.95	5.72	3.37	2.44	2.51	0.37	0.69	0.36	0.21

Calendar year 1952: Max 15,800 Min 65 Mean 640 Cfsm 1.33 In. 18.13
Water year 1952-53: Max 13,600 Min 69 Mean 704 Cfsm 1.46 In. 19.87

Peak discharge (base, 8,000 cfs).--Feb. 12 (4:30 p.m.) 14,700 cfs (21.31 ft); Feb. 21 (1:30 p.m.) 11,800 cfs (18.51 ft).
* Discharge measurement made on this day.

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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, 2¼ 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 1953 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.--37 years (1904-8, 1920-53), 1,925 cfs.

Extremes.--Maximum discharge during year, 21,700 cfs Feb. 13 (gage height, 30.53 ft); minimum, 15 cfs Aug. 11; minimum daily, 63 cfs Sept. 22.
1904-8, 1920-53: 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 except those for Aug. 12-21, which are poor. Low flow regulated by powerplants above station.

Revisions (water years).--WSP 783: 1929(M). See also Records available.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 6-30, Apr. 3-29, July 2-6, Aug. 12-21)

Oct. 1-9, June 23 to Sept. 30				Oct. 10 to June 22			
2.0	45	3.5	681	2.0	47	10.0	4,620
2.2	90	6.0	2,180	2.2	110	20.0	12,100
2.6	234	9.0	3,980	2.8	414	31.0	22,200
				5.0	1,620		

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	99	86	320	1,190	1,870	1,940	1,910	12,800	468	226	663	*65
2	96	82	410	1,460	1,560	2,340	2,880	6,170	*414	*178	1,700	70
3	90	*78	*581	1,510	*1,320	11,000	2,250	3,360	376	163	956	80
4	88	72	803	1,670	1,150	*16,000	1,850	*2,330	328	193	634	93
5	82	72	1,480	1,370	1,030	12,700	1,490	3,520	311	174	*408	80
6	80	78	3,270	*1,110	2,210	7,020	*2,130	3,310	285	159	243	75
7	*68	78	2,050	900	3,000	3,990	3,930	2,550	275	902	269	85
8	88	78	1,220	1,680	2,420	2,930	3,310	2,380	249	421	238	99
9	318	100	911	3,850	1,810	2,360	2,610	2,100	238	331	214	189
10	1,280	228	1,170	8,870	1,430	1,940	2,530	1,640	238	300	360	182
11	1,140	306	4,410	9,900	5,960	1,660	3,940	1,340	223	278	157	148
12	738	409	2,760	4,920	18,200	1,480	4,760	1,110	202	269	226	117
13	409	392	1,580	2,980	*21,400	1,420	7,370	900	192	243	646	96
14	376	333	1,090	2,150	17,500	1,520	*5,170	1,190	188	197	247	82
15	301	270	*830	*1,680	7,510	4,150	3,620	1,520	168	182	185	78
16	249	218	662	1,320	4,860	5,540	2,660	1,340	164	480	141	68
17	192	183	533	1,540	3,730	3,520	2,080	4,220	154	1,300	350	68
18	173	*154	338	5,180	3,020	2,730	1,990	3,640	164	1,660	*182	68
19	150	223	376	5,470	2,440	2,480	2,000	*8,860	192	2,740	182	90
20	119	371	311	3,440	3,320	2,140	1,660	12,100	317	2,060	193	93
21	*92	727	306	6,260	17,600	1,800	1,340	7,300	270	1,820	269	75
22	92	409	296	7,700	21,500	1,680	1,110	4,020	228	2,360	282	*63
23	92	425	285	5,550	13,900	*4,560	1,010	2,620	*331	3,470	130	72
24	92	322	254	8,510	5,700	3,650	927	1,920	238	*3,370	111	99
25	86	264	228	7,200	3,670	2,720	857	1,480	185	1,880	90	108
26	75	280	202	4,990	3,100	2,420	776	1,200	159	1,120	88	90
27	72	398	188	3,470	2,680	2,040	727	965	141	781	88	85
28	67	473	168	3,220	2,270	1,680	668	727	256	483	85	78
29	64	414	154	3,620	-	1,430	831	754	287	430	80	108
30	78	360	154	2,790	-	1,250	12,700	603	278	360	70	170
31	89	-	376	2,280	-	1,180	-	436	-	440	68	-
Total	7,035	7,883	27,716	117,770	175,160	113,270	81,086	98,405	7,519	28,970	9,557	2,874
Mean	227	263	894	3,799	6,256	3,654	2,703	3,174	251	935	308	95.8
Cfsm	0.188	0.218	0.740	3.14	5.18	3.02	2.24	2.63	0.208	0.774	0.255	0.079
In.	0.22	0.24	0.85	3.63	5.39	3.49	2.50	3.03	0.23	0.89	0.29	0.09

Calendar year 1952 : Max 24,100 Min 38 Mean 1,531 Cfsm 1.27 In. 17.24
Water year 1952-53 : Max 21,400 Min 63 Mean 1,855 Cfsm 1.54 In. 20.85

Peak discharge (base, 16,000 cfs).--Feb. 13 (11 a.m.) 21,700 cfs (30.53 ft); Feb. 22 (8 a.m.) 21,200 cfs (29.98 ft); Mar. 4 (7 a.m.) 17,000 cfs (25.66 ft).
* Discharge measurement made on this day.

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, 1¾ 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 1953.

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 same datum.

Average discharge.--33 years (1920-53), 3,127 cfs.

Extremes.--Maximum discharge during year, 28,100 cfs Feb. 14 (gage height, 21.19 ft); minimum, 187 cfs Sept. 9 (gage height, 0.49 ft).
1919-53: Maximum discharge, 97,700 cfs Feb. 14, 1948 (gage height, 37.58 ft); minimum, 68 cfs Aug. 30, 1925; minimum gage height, 0.35 ft Sept. 26, 27, 1948.

Remarks.--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.

Revisions (water years).--WSP 543: 1921(m). WSP 803: 1935. WSP 823: Drainage area. WSP 853: 1920(M).

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 19		Nov. 20 to Feb. 13				Feb. 14 to Sept. 30			
0.6	220	1.1	405	6.0	4,800	0.4	160	4.0	2,950
1.0	390	1.5	655	10.0	10,100	.8	295	8.0	7,670
1.5	700	2.0	1,020	15.0	17,500	1.4	625	16.0	19,000
2.0	1,100	4.0	2,740	22.0	30,000	2.0	1,080	22.0	30,000
2.5	1,520								

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	275	295	a640	669	3,400	3,610	3,710	24,700	1,140	632	984	211
2	255	295	a700	1,600	2,860	4,040	4,230	17,500	1,090	531	1,080	208
3	244	295	a800	1,920	2,480	13,900	4,440	8,780	1,000	451	1,710	208
4	238	295	a1,000	2,010	2,200	25,400	3,420	6,480	920	430	1,200	205
5	238	287	a1,300	2,010	1,950	25,600	2,860	6,510	845	440	*920	211
6	234	279	a2,000	1,690	2,740	17,600	2,590	7,180	822	425	667	220
7	244	275	a3,600	1,420	5,510	10,600	4,470	5,660	770	440	513	220
8	255	279	*2,310	1,790	5,000	7,080	5,790	4,860	740	*1,460	456	205
9	326	304	1,590	3,580	3,790	5,320	4,510	4,360	681	960	435	187
10	604	410	1,460	9,140	3,010	4,300	3,780	3,630	625	653	395	196
11	1,420	569	2,490	13,900	5,870	3,620	4,040	2,980	604	519	390	234
12	1,360	590	4,890	11,100	*22,500	3,170	6,340	2,560	555	473	495	248
13	935	625	2,870	5,670	27,800	2,940	9,080	2,260	525	440	304	230
14	648	597	1,900	3,720	28,000	2,870	10,100	2,220	549	425	238	214
15	519	562	1,440	2,820	23,000	3,690	7,030	3,760	590	415	244	*205
16	484	490	1,170	2,320	10,100	8,010	5,200	4,160	543	473	275	199
17	440	456	998	2,060	7,240	7,250	3,930	7,560	*495	1,390	283	196
18	400	425	870	4,520	5,570	*5,400	3,260	10,300	468	3,040	287	193
19	375	440	718	8,120	4,470	4,620	3,710	13,600	440	2,490	365	220
20	355	*496	718	*6,480	4,250	4,100	3,240	20,200	435	3,500	318	259
21	340	585	592	6,610	16,600	3,480	2,770	17,600	590	2,300	275	271
22	*318	760	620	11,100	25,600	3,160	2,390	10,100	555	2,690	267	263
23	308	732	599	10,300	26,500	10,000	2,120	6,330	473	4,030	275	241
24	308	655	578	13,600	17,900	10,600	1,880	4,460	495	4,950	283	227
25	318	578	559	14,400	8,090	7,380	2,040	3,470	525	3,710	263	220
26	322	546	526	10,200	5,920	5,620	2,150	*2,790	430	2,180	252	238
27	318	572	502	7,010	4,890	4,680	1,880	2,360	451	1,490	244	255
28	300	572	472	5,570	4,100	3,830	1,720	1,980	456	1,160	230	255
29	295	669	454	5,470	-	3,240	*1,620	1,660	576	882	220	241
30	291	690	449	5,160	-	2,790	15,400	1,530	770	800	220	234
31	287	-	502	4,010	-	2,630	-	1,320	-	646	217	-
Total	13,254	14,623	39,317	179,969	281,340	220,530	129,700	212,860	19,158	44,425	14,305	6,714
Mean	428	487	1,268	5,805	10,050	7,114	4,323	6,866	639	1,433	461	224
Cfsm	0.209	0.238	0.619	2.83	4.91	3.47	2.11	3.35	0.312	0.700	0.225	0.109
In.	0.24	0.27	0.71	3.27	5.11	4.00	2.36	3.87	0.35	0.81	0.26	0.12

Calendar year 1952: Max 31,000 Min 220 Mean 2,687 Cfsm 1.31 In. 17.86
Water year 1952-53: Max 28,000 Min 187 Mean 3,222 Cfsm 1.57 In. 21.37

Peak discharge (base, 20,000 cfs).--Feb. 14 (10 a.m.) 28,100 cfs (21.19 ft); Feb. 23 (9 a.m.) 26,900 cfs (20.62 ft); Mar. 5 (1 a.m.) 27,200 cfs (20.73 ft); May 1 (3:30 a.m.) 26,100 cfs (20.18 ft); May 20 (9 a.m.) 20,500 cfs (16.98 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 at Columbia and above Hurricane Mills.

Piney River at Vernon, Tenn.

Location.--Lat 35°52'17", long. 87°30'00", on left bank 30 ft downstream from 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 1953.

Gage.--Water-stage recorder. Datum of gage is 464.89 ft above mean sea level, datum of 1929. Prior to Aug. 30, 1927, tape gage and Aug. 30, 1927, to Feb. 8, 1931, chain gage, 30 ft upstream at same datum. Feb. 9, 1931, to May 11, 1934, staff gage half a mile downstream at datum 2.77 ft lower.

Average discharge.--28 years, 303 cfs.

Extremes.--Maximum discharge during year, 6,110 cfs Apr. 30 (gage height, 9.88 ft); minimum, 68 cfs several days in October and December; minimum gage height, 0.07 ft several days in October.
1925-53: 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 good.

Revisions (water years).--WSP 758: 1927(M). WSP 823: Drainage area.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Jan. 11, June 10-12, Aug. 11 to Sept. 30)

Oct. 1 to Jan. 16		Jan. 17 to Mar. 3, June 10 to Sept. 30				Mar. 4 to June 9			
0.1	66	0.0	63	2.0	625	0.4	188	4.0	1,510
.3	120	.3	117	4.0	1,390	1.0	348	7.0	2,980
.7	251	1.0	297	5.0	1,860	2.0	690	8.0	3,700

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	71	71	78	74	243	240	930	1,370	247	115	89	74
2	71	71	97	86	217	305	579	822	237	a111	87	74
3	71	71	91	94	201	1,490	473	568	227	a106	85	75
4	74	71	94	88	186	3,120	402	526	220	a102	85	76
5	76	74	155	86	174	1,230	357	690	210	a98	*83	80
6	78	74	126	81	166	786	369	590	210	96	85	75
7	78	71	103	81	154	582	354	540	202	100	85	75
8	81	71	*91	155	148	473	324	490	198	*131	87	74
9	117	81	86	175	136	396	310	421	190	104	83	72
10	136	111	91	241	129	357	456	378	186	94	80	74
11	91	106	86	244	527	324	378	348	176	89	80	75
12	78	94	84	198	*1,760	304	870	333	178	89	78	72
13	76	86	a81	168	852	285	690	327	171	89	78	70
14	74	84	a81	149	567	418	530	304	176	91	78	74
15	71	78	a78	136	432	424	456	296	158	91	76	*75
16	71	78	a78	126	347	348	393	443	156	139	74	75
17	71	78	a78	144	292	321	348	1,460	*148	233	74	74
18	71	78	a78	207	254	*762	348	2,560	141	174	75	72
19	71	88	a76	201	230	658	310	3,220	139	154	78	100
20	71	*84	76	*199	345	509	285	1,730	139	134	75	91
21	71	81	74	399	1,480	430	274	1,050	136	151	75	74
22	*76	78	74	336	791	514	263	726	131	181	75	70
23	74	78	71	462	546	1,950	255	554	131	151	75	70
24	76	76	71	1,390	435	1,110	253	460	129	124	74	72
25	76	78	71	866	374	738	298	399	134	111	75	72
26	76	91	68	542	325	554	276	*363	131	104	75	74
27	74	86	68	402	286	456	271	333	141	100	78	74
28	71	81	68	415	254	393	263	304	144	*96	76	*70
29	71	81	68	339	-	348	*319	290	161	94	78	72
30	68	81	68	297	-	318	3,400	276	131	92	76	70
31	71	-	78	270	-	424	-	260	-	92	75	-
Total	2,402	2,431	2,585	8,651	11,851	20,567	15,034	22,431	5,078	3,636	2,447	2,245
Mean	77.5	81.0	83.4	279	423	663	501	724	169	117	78.9	74.8
Cfsm	0.402	0.420	0.432	1.45	2.19	3.44	2.60	3.75	0.876	0.606	0.409	0.388
In.	0.46	0.47	0.50	1.67	2.28	3.96	2.90	4.32	0.98	0.70	0.47	0.43

Calendar year 1952: Max 5,320 Min 68 Mean 287 Cfsm 1.49 In. 20.29
Water year 1952-53: Max 3,400 Min 68 Mean 272 Cfsm 1.41 In. 19.14

Peak discharge (base, 4,000 cfs).--Mar. 4 (6:30 a.m.) 5,490 cfs (9.48 ft); Apr. 30 (8:30 a.m.) 6,110 cfs (9.88 ft); May 18 (8 p.m.) 5,720 cfs (9.63 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.

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 1953. 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.--28 years, 3,966 cfs.

Extremes.--Maximum discharge during year, 30,000 cfs Mar. 5 (gage height, 18.79 ft); minimum daily, 370 cfs Sept. 18.
1925-53: 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, site then in use; 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.

Cooperation.--Radio-gage readings furnished by Tennessee Valley Authority.

Revisions (water years).--WSP 803: 1935. WSP 823: 1927(M). WSP 853: Drainage area.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 10 to Dec. 5, Dec. 17 to Jan. 2)

0.9	365	4.0	2,980
1.0	435	6.0	5,260
1.2	575	8.0	8,000
1.5	785	12.0	15,000
2.0	1,150	16.0	22,600
3.0	1,980	19.0	30,600

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	505	526	876	708	4,900	4,680	4,980	25,200	1,940	1,090	978	*414
2	491	526	883	948	4,190	4,640	5,620	25,500	1,740	970	1,390	407
3	470	526	911	2,010	3,640	9,930	5,970	15,500	1,640	862	1,410	a400
4	463	526	1,000	2,200	3,210	26,100	5,040	9,360	1,520	799	1,910	a390
5	449	526	1,280	2,400	2,840	29,900	4,260	8,270	1,430	771	1,440	a380
6	456	519	1,840	2,250	2,600	26,700	3,790	9,170	1,410	757	1,160	a400
7	456	512	3,710	1,900	4,780	16,800	4,340	8,430	1,330	750	932	a420
8	463	505	3,660	*1,920	5,940	10,400	6,200	6,760	1,250	1,040	792	a420
9	540	526	2,420	2,900	5,240	7,440	5,960	6,040	1,190	1,760	736	a410
10	694	610	1,830	6,070	4,170	5,960	5,200	5,330	1,110	1,220	715	a400
11	925	694	1,880	11,900	4,400	5,020	4,780	4,490	1,060	948	659	a390
12	1,650	785	4,010	14,200	17,000	4,360	6,900	3,900	1,020	841	659	a380
13	1,480	785	4,650	9,120	26,800	4,070	9,960	3,420	978	813	736	a420
14	1,150	820	2,960	5,560	*29,400	4,080	11,600	3,100	1,020	765	582	a410
15	911	799	2,110	4,190	29,000	4,340	9,520	3,400	1,020	738	491	a400
16	806	764	1,650	3,350	19,800	6,420	4,040	5,160	1,020	771	470	*393
17	757	694	1,390	2,910	*9,640	9,310	5,500	7,660	948	1,010	512	379
18	715	652	1,210	3,260	7,360	*7,550	4,560	15,100	897	2,820	*519	a370
19	666	652	1,080	7,070	5,940	6,700	4,460	19,000	862	2,920	512	a390
20	631	652	925	8,640	5,200	5,760	4,300	21,800	834	3,230	575	a420
21	610	*694	925	7,020	10,900	5,030	3,770	22,600	827	3,840	547	a480
22	596	792	827	9,310	22,800	4,620	3,280	17,000	955	2,730	512	a500
23	*575	992	*827	12,500	27,100	10,200	2,900	10,100	911	3,760	498	477
24	568	897	806	13,400	26,700	15,800	2,640	6,980	*834	4,900	505	a460
25	561	848	785	16,800	14,500	11,600	2,950	5,400	848	5,190	512	a450
26	561	827	750	14,600	8,160	8,290	3,130	*4,400	876	3,610	498	a460
27	561	785	722	10,200	6,440	6,660	2,830	3,720	841	2,410	470	a470
28	547	785	687	7,680	5,440	5,570	2,610	3,140	848	1,810	449	a470
29	533	785	666	6,970	-	4,710	2,520	2,740	869	1,470	435	a460
30	526	869	645	*6,690	-	4,050	*11,600	2,330	978	*1,170	428	a450
31	526	-	673	5,800	-	*3,780	-	2,170	-	1,090	421	-
Total	20,842	20,873	48,588	204,476	318,090	280,470	158,210	287,190	33,006	56,873	22,453	12,670
Mean	672	696	1,567	6,596	11,360	9,047	5,274	9,264	1,100	1,835	724	422
Cfsm	0.263	0.272	0.613	2.58	4.44	3.54	2.06	3.62	0.430	0.718	0.283	0.165
In.	0.30	0.30	0.71	2.97	4.63	4.08	2.30	4.18	0.48	0.83	0.33	0.18

Calendar year 1952: Max 32,700 Min 440 Mean 3,472 Cfsm 1.36 In. 18.50
Water year 1952-53: Max 29,900 Min 370 Mean 4,010 Cfsm 1.57 In. 21.29

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of adjacent record, recorded range in stage, twice-daily radio-gage readings, and by comparison with records for station at Centerville.

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 1930 to September 1953.

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.--33 years, 732 cfs.

Extremes.--Maximum discharge during year, 13,400 cfs Feb. 12 (gage height, 17.52 ft); minimum, 145 cfs Sept. 14-18 (gage height, 1.90 ft).

1930-53: 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, 1921.

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

Revisions (water years).--WSP 758: 1933. WSP 803: 1935. WSP 823: Drainage area.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 12				Feb. 13 to Sept. 30			
1.9	142	10.0	4,870	1.9	145	5.0	1,410
3.0	536	13.0	7,770	2.5	335	10.0	4,820
4.0	925	16.0	11,300	3.0	525	14.0	8,650
6.0	2,000						

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	169	207	252	327	797	745	829	7,700	413	270	230	156
2	169	210	302	327	721	901	917	2,660	391	340	230	153
3	162	210	366	356	657	4,030	729	1,600	370	350	227	153
4	162	210	334	359	607	8,430	665	1,280	363	280	218	153
5	162	207	399	327	554	5,630	613	1,540	346	275	206	158
6	166	207	495	309	940	2,490	729	1,620	346	265	200	165
7	173	203	418	294	2,400	1,620	2,190	1,320	338	300	197	160
8	179	203	345	*462	1,830	1,230	1,770	1,160	332	270	194	160
9	220	238	316	825	1,240	1,020	1,260	992	307	300	186	155
10	316	359	341	1,550	966	873	1,020	857	300	320	183	155
11	309	399	499	1,740	2,580	781	865	769	290	300	180	150
12	248	320	425	1,200	10,800	717	1,120	713	276	290	180	150
13	220	266	356	873	*7,660	685	1,800	653	268	280	180	150
14	210	242	323	714	2,750	685	1,220	629	300	235	175	145
15	200	231	302	657	1,740	801	1,020	905	335	240	172	*145
16	200	228	284	547	1,340	881	917	1,260	310	265	172	145
17	200	220	270	551	1,060	773	809	2,550	290	300	186	145
18	196	220	266	869	889	*805	873	2,730	268	285	227	145
19	196	256	259	1,080	781	861	1,020	2,600	265	340	*332	150
20	196	*338	259	885	885	793	877	3,520	258	550	248	190
21	196	302	259	1,160	5,760	729	773	2,210	335	520	203	280
22	*196	259	256	1,110	6,090	805	717	1,470	366	400	192	260
23	200	234	252	1,140	2,450	3,890	661	1,120	*304	580	186	230
24	200	228	248	3,200	1,580	3,980	685	913	268	500	180	210
25	203	228	245	3,590	1,260	2,140	1,250	789	258	420	178	200
26	207	266	238	1,960	1,080	1,420	1,250	*893	244	350	172	189
27	207	302	231	1,300	909	1,120	1,080	825	260	300	169	186
28	207	270	231	1,120	805	954	885	565	260	*265	167	183
29	203	252	*228	1,080	-	813	908	517	265	251	164	175
30	203	248	231	901	-	729	*6,760	477	265	240	158	169
31	206	-	273	817	-	685	-	445	-	230	158	-
Total	6,278	7,563	9,505	31,630	61,111	51,996	35,962	46,882	9,191	10,091	6,050	5,165
Mean	203	252	307	1,020	2,183	1,677	1,199	1,512	306	326	195	172
Cfsm	0.454	0.564	0.687	2.28	4.88	3.75	2.68	3.38	0.685	0.729	0.436	0.385
In.	0.52	0.63	0.79	2.63	5.08	4.33	2.99	3.90	0.76	0.84	0.50	0.43

Calendar year 1952: Max 13,500 Min 159 Mean 676 Cfsm 1.51 In. 20.57
Water year 1952-53: Max 10,800 Min 145 Mean 771 Cfsm 1.72 In. 23.40

Peak discharge (base, 4,500 cfs).--Jan. 24 (11:30 p.m.) 4,580 cfs (9.68 ft); Feb. 12 (5 p.m.) 13,400 cfs (17.52 ft); Feb. 21 (10:30 p.m.) 9,330 cfs (14.56 ft); Mar. 4 (2 p.m.) 8,910 cfs (14.22 ft); Mar. 23 (8:30 p.m.) 5,210 cfs (10.49 ft); Apr. 30 (11:30 p.m.) 11,600 cfs (16.20 ft).

* Discharge measurement made on this day.

Note.--No gage-height record June 27 to July 27, Sept. 6-14, 18-25; discharge estimated on basis of weather records, recorded range in stage, and records for station near Lobelville.

Buffalo River near Lobelville, Tenn.

Location.--Lat 35°48'46", long. 87°47'51", on right bank 30 ft upstream from Standing Rock Bridge (formerly on State Highway 13), 1.4 miles downstream from State Highway 13 (relocated), 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 1953.

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.--25 years (1928-53), 1,180 cfs.

Extremes.--Maximum discharge during year, 13,400 cfs Feb. 14 (gage height, 14.10 ft); minimum, 135 cfs Aug. 18 (gage height, 0.76 ft), caused by regulation upstream at unknown location; minimum discharge unaffected by regulation, 228 cfs Sept. 16-18 (gage height, 1.20 ft);
1927-53: 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, that of Aug. 18, 1953; 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 1952-53 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 11		Dec. 12 to May 1				May 2 to Sept. 30			
1.3	274	1.6	334	10.0	5,370	1.2	222	10.0	5,370
1.7	364	2.0	423	12.0	8,000	2.0	444	12.0	8,000
2.0	448	2.5	577	13.0	9,950	3.0	806	13.0	9,950
3.0	806	3.0	790	14.0	13,000	7.0	2,950		
		7.0	2,950						

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	286	345	407	377	1,400	1,340	1,560	8,210	762	479	376	246
2	284	347	421	407	1,320	1,500	1,640	9,600	713	493	364	246
3	282	350	463	448	1,210	3,550	1,620	4,050	671	576	355	246
4	284	352	481	462	1,100	7,700	1,390	2,660	634	479	349	246
5	282	352	548	470	1,020	10,400	1,240	2,720	605	473	338	246
6	284	350	609	462	970	*7,700	1,180	2,750	609	460	324	246
7	g286	350	634	438	1,360	3,580	1,360	2,590	605	466	316	246
8	g286	350	627	*524	2,400	2,520	2,330	2,210	573	496	304	246
9	g292	354	551	709	2,200	2,010	2,230	1,910	551	510	296	246
10	g347	415	497	1,280	1,750	1,670	1,830	1,680	524	580	291	244
11	g390	472	472	1,900	2,220	1,460	1,560	1,480	500	507	286	236
12	g430	530	507	2,110	6,740	1,320	1,720	1,340	483	450	280	236
13	g418	527	566	1,720	10,900	1,210	1,970	1,220	466	415	278	234
14	g364	472	514	1,380	*11,000	1,160	2,230	1,130	479	397	273	229
15	g350	430	468	1,140	4,220	1,130	1,930	1,140	513	385	270	227
16	g340	404	436	975	2,630	1,180	1,670	1,560	513	394	268	*224
17	g338	385	418	900	*2,060	1,260	1,500	3,500	496	524	265	222
18	g335	377	400	1,030	1,680	*1,240	1,400	5,690	470	517	*234	222
19	g335	385	391	1,260	1,440	1,260	1,500	5,840	447	555	304	229
20	g333	412	388	1,460	1,340	1,280	1,560	*5,170	428	758	352	251
21	g333	*430	384	1,400	3,310	1,220	1,430	4,840	415	806	376	278
22	g330	460	377	1,530	6,360	1,220	1,310	3,340	438	705	332	330
23	*g330	433	*377	1,700	7,620	2,610	1,200	2,400	496	848	304	324
24	335	404	373	2,240	3,470	5,040	g1,180	1,910	*473	921	291	296
25	335	390	368	3,730	2,430	4,990	g1,560	1,580	428	879	280	280
26	338	401	366	4,260	1,980	3,010	g2,140	1,380	444	728	270	278
27	338	418	362	2,760	1,680	2,250	g2,080	1,210	431	587	268	278
28	335	433	355	2,140	1,470	1,820	g1,700	1,080	431	496	263	280
29	340	442	353	1,880	-	1,560	g1,590	975	463	*450	256	278
30	340	418	351	1,700	-	1,370	*4,760	883	473	415	251	273
31	342	-	355	1,510	-	1,260	-	819	-	391	248	-
Total	10,242	12,188	13,819	44,302	87,280	80,820	52,370	86,867	15,534	17,140	9,262	7,663
Mean	330	406	446	1,429	3,117	2,607	1,746	2,802	518	553	299	255
Cfsm	0.467	0.574	0.631	2.02	4.41	3.69	2.47	3.96	0.733	0.782	0.423	0.361
In.	0.54	0.64	0.73	2.33	4.59	4.25	2.75	4.57	0.82	0.90	0.49	0.40

Calendar year 1952: Max 14,900 Min 278 Mean 1,060 Cfsm 1.50 In. 20.43
Water year 1952-53: Max 11,000 Min 222 Mean 1,199 Cfsm 1.70 In. 23.01

Peak discharge (base, 5,200 cfs).--Feb. 14 (1 a.m.) 13,400 cfs (14.10 ft); Feb. 23 (4:30 a.m.) 9,030 cfs)12.59 ft); Mar. 5 (1 p.m.) 10,600 cfs (13.23 ft); Mar. 25 (1 a.m.) 5,970 cfs (10.54 ft); May 2 (5:30 a.m.) 11,000 cfs (13.41 ft); May 18 (10 p.m.) 6,790 cfs (11.19 ft);
* Discharge measurement made on this day.
g Computed from twice-daily radio-gage readings (furnished by Tennessee Valley Authority).

Big Sandy River at Bruceton, Tenn.

Location.--Lat 36°02'19", long. 88°13'42", on downstream end of right abutment of highway bridge, 700 ft downstream from bridge on U. S. Highway 70, 0.6 mile upstream from Cherry Creek, and 0.9 mile east of Bruceton, Carroll County.

Drainage area.--205 sq mi.

Records available.--July 1929 to September 1953.

Average discharge.--24 years, 303 cfs.

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.

Extremes.--Maximum discharge during year, 5,000 cfs May 19 (gage height, 12.95 ft); minimum, 47 cfs Sept. 13 (gage height, 2.33 ft).
1929-53: 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 good.

Revisions (water years).--WSP 853: Drainage area. WSP 923: 1929-35.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 11 to Nov. 9, May 9-13)

Oct. 1 to Feb. 11		Feb. 12 to Sept. 30			
2.5	71	2.3	44	11.0	1,600
3.0	118	3.0	110	11.5	1,970
4.0	252	7.0	632	12.0	2,700
8.0	870	9.0	980	13.0	5,150
9.0	1,060				

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	79	98	143	163	207	255	1,700	891	107	71	64	51
2	*77	98	367	176	184	752	1,280	805	100	68	67	50
3	75	97	215	172	172	1,440	*728	317	96	103	60	*50
4	77	94	207	142	164	1,570	280	954	94	96	58	50
5	77	*96	670	136	154	1,250	222	1,900	92	74	58	55
6	85	97	424	131	321	736	352	1,700	89	69	59	54
7	108	95	215	132	225	282	385	1,560	90	76	58	52
8	92	95	174	548	170	220	250	600	*88	85	57	50
9	128	123	163	433	152	*193	208	252	84	74	56	50
10	222	344	228	307	146	184	191	190	81	70	55	50
11	115	204	186	237	1,030	196	167	*181	79	66	54	50
12	97	149	154	175	1,520	215	224	245	76	65	54	48
13	90	130	142	160	*1,580	417	*219	180	77	73	53	48
14	86	124	137	150	1,570	431	165	474	413	73	53	*48
15	84	122	134	147	542	942	172	676	207	76	52	49
16	84	120	132	152	256	1,190	172	1,150	111	*75	52	49
17	84	*119	131	180	201	1,100	144	1,800	89	92	*51	49
18	84	171	131	218	175	1,680	184	2,080	82	175	52	49
19	85	894	132	*168	172	1,120	207	3,550	78	85	53	60
20	84	716	142	176	364	812	155	4,000	76	74	53	66
21	82	460	141	387	1,020	325	141	2,590	75	75	53	55
22	85	184	134	369	792	699	135	1,460	73	100	53	49
23	88	144	136	488	620	1,640	130	391	*69	103	54	49
24	91	134	*128	694	269	1,400	196	248	69	76	53	51
25	92	138	124	649	260	1,270	581	199	68	68	53	53
26	92	236	123	319	222	449	399	171	71	65	53	56
27	92	157	123	219	191	264	196	157	73	*64	52	58
28	92	132	120	422	171	226	156	140	73	62	52	56
29	90	*131	120	307	-	202	233	130	76	61	51	52
30	92	144	126	205	-	190	1,360	123	76	60	51	51
31	96	-	186	188	-	552	-	113	-	62	51	-
Total	2,905	5,846	5,688	8,350	12,850	22,202	10,932	29,227	2,932	2,436	1,695	1,558
Mean	93.7	195	183	269	459	716	364	943	97.7	78.6	54.7	51.9
Cfsm	0.457	0.951	0.893	1.31	2.24	3.49	1.78	4.60	0.477	0.383	0.267	0.253
In.	0.53	1.06	1.03	1.51	2.33	4.03	1.98	5.30	0.53	0.44	0.31	0.28

Calendar year 1952: Max 1,770 Min 66 Mean 269 Cfsm 1.31 In. 17.87
Water year 1952-53: Max 4,000 Min 48 Mean 292 Cfsm 1.42 In. 19.33

Peak discharge (base, 2,000 cfs).--May 5 (1:30 a.m.) 2,090 cfs (11.60 ft); May 19 (7 p.m.) 5,000 cfs (12.95 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 1953. Prior to September 1889 (gage heights only) and October 1889 to September 1931, published as "at Johnsonville, Tenn." October 1931 to August 1944, published as "near Johnsonville, Tenn." July 1930 to September 1931, published as "at Aurora Landing, Ky." October 1931 to September 1935, published as "at Shannon dam site near Murray, Ky." October 1935 to December 1942, published as "near Buchanan, Tenn." Since February 1939, at present site.

Gage.--Water-stage recorder. Datum of gage is 286.35 ft above mean sea level, datum of 1929. Feb. 8, 1939, to Sept. 30, 1942, water-stage recorder 16.3 miles downstream at same datum (prior to July 30, 1940, at datum 3.65 ft higher); Oct. 1, 1942, to Jan. 1, 1946, water-stage recorder 500 ft upstream from present location 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. Datum of gage in use Oct. 21, 1926, to Oct. 7, 1931, was 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 (published as "near Johnsonville, Tenn.") 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.--64 years (1889-1953), 64,050 cfs.

Extremes.--Maximum discharge during year, 254,000 cfs Feb. 13; maximum gage height, 37.62 ft Mar. 7; minimum daily discharge, 17,700 cfs Sept. 20; minimum gage height, 14.17 ft June 14.

1889-1953: Maximum discharge, 500,000 cfs Feb. 17, 1948; maximum gage height, 62.43 ft (at Gilbertsville, present datum) Feb. 2, 1937; minimum daily discharge, 500 cfs Sept. 7, 1944.

Remarks.--Records good. Backwater from Ohio River and dam 52. Discharge for days of extremely low fall (below 0.40 ft) computed on basis of records for Kentucky Dam. Flow regulated by many reservoirs above station (see p. 228). Records of chemical analyses and water temperatures for the water year 1953 are given in WSP 1290.

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	26,900	25,400	a37,600	55,700	76,700	150,000	55,900	121,000	e38,400	40,400	42,500	29,400
2	27,800	25,500	40,200	54,200	68,900	136,000	55,600	125,000	e37,200	41,400	36,400	29,600
3	26,500	25,300	42,700	52,100	60,800	145,000	56,000	126,000	36,200	40,600	41,600	26,100
4	26,300	25,700	45,600	41,000	60,100	182,000	56,000	126,000	34,200	27,000	42,400	27,000
5	26,800	26,000	54,500	49,300	60,600	215,000	e38,500	145,000	34,600	27,600	42,000	27,000
6	27,600	25,900	54,000	52,800	70,900	216,000	e42,500	152,000	31,300	35,400	42,700	e18,600
7	*26,100	25,300	54,200	52,000	82,800	193,000	52,900	132,000	24,200	42,200	42,700	e18,400
8	26,600	24,800	54,500	55,700	83,900	171,000	48,400	105,000	38,100	43,600	40,100	26,200
9	25,900	25,000	54,200	59,700	83,700	159,000	48,200	90,000	38,800	45,800	34,500	26,500
10	27,800	25,300	61,100	70,100	70,100	*122,000	50,000	72,800	42,400	46,200	40,000	26,200
11	25,700	25,900	67,300	91,900	87,100	100,000	41,900	74,000	43,000	34,700	39,900	*27,000
12	26,100	*25,400	65,600	102,000	153,000	90,900	e26,900	84,700	45,800	26,700	40,600	30,100
13	38,800	26,000	56,400	123,000	213,000	76,400	e32,300	73,700	37,900	40,200	39,900	e22,800
14	38,600	27,900	55,300	121,000	248,000	66,100	42,100	54,600	34,000	37,200	40,100	26,600
15	38,300	27,000	54,400	117,000	242,000	68,800	45,300	64,000	37,000	36,200	40,700	26,300
16	37,300	27,000	54,000	103,000	245,000	79,100	48,300	73,400	44,600	36,200	31,000	26,400
17	36,200	27,600	54,100	76,700	218,000	90,600	53,200	96,000	49,900	36,400	38,000	26,400
18	30,600	27,800	53,000	55,700	194,000	102,000	54,300	148,000	41,800	36,500	38,500	26,200
19	24,700	28,600	52,400	*65,400	170,000	97,400	55,100	160,000	42,200	33,200	38,800	26,200
20	31,200	28,500	54,400	77,000	143,000	72,600	54,800	159,000	36,400	36,900	38,200	e17,700
21	31,900	28,700	38,400	87,400	158,000	63,400	*47,700	127,000	26,900	41,500	37,600	27,200
22	33,400	29,600	40,600	a93,900	185,000	54,200	48,200	101,000	*33,100	45,800	33,100	26,400
23	29,600	28,100	*55,500	a107,000	207,000	78,300	41,700	83,500	35,600	48,900	28,900	25,900
24	30,900	29,300	38,000	a116,000	223,000	99,700	46,900	61,600	38,900	44,100	33,100	25,100
25	24,500	30,000	26,600	121,000	226,000	91,900	53,500	e55,600	40,100	41,200	33,500	25,700
26	23,600	31,900	29,900	117,000	*228,000	75,600	58,500	*e55,800	40,500	32,900	33,000	26,600
27	25,100	a26,800	36,400	108,000	217,000	63,700	57,200	e55,800	40,300	39,500	33,300	e18,200
28	33,700	a29,600	26,400	99,500	184,000	59,100	48,900	e55,800	36,700	42,400	29,100	26,000
29	34,800	a29,700	31,700	99,100	-	55,600	46,600	e54,800	40,400	41,900	29,000	26,000
30	33,600	a27,100	36,400	87,200	-	54,200	87,600	e39,600	40,800	42,500	e21,900	26,000
31	34,300	-	45,900	74,600	-	56,100	-	e39,700	-	*41,700	28,300	-
Total	931,000	816,700	‡1,467.3	‡2,582	‡4,259.6	‡3,283.7	‡1,495	‡2,912.4	‡1,141.3	‡1,206.8	‡1,131.4	763,800
Mean	30,030	27,220	47,330	83,290	152,100	105,900	49,830	93,950	38,040	38,930	36,500	25,460
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 254,000 Min 9,200 Mean 56,750 Cfsm 1.41 In. 19.21
Water year 1952-53: Max 248,000 Min 17,700 Mean 60,250 Cfsm 1.50 In. 20.34

* Discharge measurement made on this day.
‡ Expressed in thousands.
a No gage-height record at auxiliary gage; discharge estimated on basis of records for Kentucky Dam.
e Extremely low fall; discharge computed on basis of Kentucky Dam releases.

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 Railroad 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 1953.

Gage.--Water-stage recorder. Datum of gage is 459.88 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 7,960 cfs May 17 (gage height, 12.62 ft); no flow for many days.
1951-53: Maximum discharge, 23,700 cfs Mar. 22, 1952 (gage height, 16.3 ft, from floodmark), from rating curve extended above 10,000 cfs; no flow for many days.

Remarks.--Records good above 10 cfs and poor below.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 15 to Nov. 6 and Nov. 9-18; indefinite stage-discharge relation Nov. 7, 8)

1.14	0	2.0	38	7.0	1,010
1.2	.2	2.5	84	8.0	1,360
1.3	1.8	3.0	141	9.0	1,780
1.4	4.3	4.0	285	9.5	2,040
1.5	7.7	5.0	464	10.0	2,540
1.7	18	6.0	711	11.3	4,700

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	0.7	4.0	5.5	14	234	428	98	3.5	6.6	0	
2	.6	1.0	9.5	6.2	12	997	*84	41	*3.2	.4	0	
3	.6	1.6	9.0	7.7	11	*2,580	46	24	2.5	0	0	
4	.7	1.2	88	7.7	10	1,620	31	344	2.5	0	0	
5	.7	1.2	138	6.6	10	140	24	283	1.8	0	*0	
6	.9	2.7	25	*5.9	28	72	36	76	1.4	0	0	
7	1.0	.8	12	6.6	23	46	60	40	1.6	0	0	
8	.9	.4	9.0	539	14	34	34	33	1.8	0	5.6	
9	1.0	2.0	40	60	11	26	25	21	2.5	0	.2	
10	1.0	4.6	344	44	10	22	19	15	2.7	0	0	
11	.7	3.0	34	44	896	20	15	15	2.3	0	0	
12	.6	*.9	16	22	819	*19	13	20	1.8	0	0	
13	.4	.9	11	16	105	90	12	*15	1.8	0	0	
14	.3	.9	8.6	13	55	1,340	11	680	4.3	*.1	0	
15	.3	.9	6.9	11	38	2,520	13	281	4.0	1.8	0	
16	.3	.9	6.6	74	27	159	13	925	2.7	.1	0	
17	.4	1.4	5.9	190	*20	112	10	4,540	1.8	.1	0	
18	.3	4.9	5.2	115	16	2,680	374	2,380	1.2	0	0	
19	.3	8.2	5.9	42	15	188	104	585	1.0	0	0	
20	.3	4.0	6.2	28	275	79	40	145	.9	0	*0	
21	.3	2.5	6.2	38	656	48	*26	74	.6	23	0	
22	.2	1.6	*6.2	30	78	546	19	47	.2	2.3	0	
23	.2	1.6	5.9	293	43	1,320	15	35	*.1	.6	0	
24	*.3	*1.4	5.5	163	31	128	32	29	0	.2	0	
25	.3	1.6	5.2	62	28	64	205	22	0	0	0	
26	.3	2.5	4.9	32	24	40	44	17	0	0	0	
27	.4	2.5	4.9	26	20	30	24	13	0	0	0	
28	1.0	2.0	4.9	40	16	24	16	10	0	0	0	
29	.6	2.5	4.6	26	-	20	115	8.2	0	0	0	
30	.4	3.0	4.9	*19	-	18	908	6.6	0	0	0	
31	.7	-	6.2	16	-	49	-	4.6	-	0	0	
Total	16.7	62.4	844.2	1,989.2	3,305	15,265	2,796	10,827.4	46.2	35.2	5.8	0
Mean	0.54	2.08	27.2	64.2	118	492	93.2	349	1.54	1.14	0.19	0
Cfsm	0.0060	0.023	0.303	0.716	1.32	5.48	1.04	3.89	0.017	0.013	0.0021	0
In.	0.01	0.03	0.35	0.82	1.37	6.33	1.16	4.49	0.02	0.01	0.002	0

Calendar year 1952: Max 10,000 Min 0 Mean 112 Cfsm 1.25 In. 16.93
Water year 1952-53: Max 4,540 Min 0 Mean 96.4 Cfsm 1.07 In. 14.59

Peak discharge (base, 3,000 cfs).--Mar. 4 (4 a.m.) 3,490 cfs (10.63 ft); Mar. 15 (9 a.m.) 4,250 cfs (11.06 ft); Mar. 18 (10 a.m.) 3,920 cfs (10.88 ft); May 17 (2 p.m.) 7,960 cfs (12.62 ft).
* 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 1953.

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.--15 years, 290 cfs.

Extremes.--Maximum discharge during year, about 12,000 cfs May 17 or 18 (gage height, about 15.0 ft); minimum, 2.6 cfs Sept. 24, 25.
1938-53: 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 except those for periods of no gage-height record, which are poor.

Revisions (water years).--WSP 923: Drainage area. WSP 1143: 1938-47. WSP 1206: 1949(M).

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	a6.0	6.1	13	38	82	a350	854	1,170	31	6.6	5.1	2.8
2	*5.4	5.8	15	38	74	a800	*577	321	27	6.4	4.7	2.8
3	5.1	5.6	16	47	68	a2,000	231	159	25	26	4.7	2.8
4	5.1	5.8	611	45	62	*a6,000	159	235	*23	184	4.6	2.8
5	4.8	5.1	588	40	57	4,520	121	959	21	21	*4.4	2.9
6	5.8	5.4	272	*37	168	941	117	492	23	12	4.4	2.8
7	5.1	5.8	101	39	122	314	170	244	20	9.0	4.7	2.7
8	5.4	6.4	63	942	98	218	162	189	17	8.2	7.7	2.7
9	5.6	7.8	203	848	75	160	116	139	16	10	5.4	2.7
10	5.6	8.4	1,410	286	63	130	96	103	15	7.4	4.7	2.7
11	5.6	9.0	656	257	503	113	81	90	13	6.8	4.6	2.8
12	5.8	*8.1	167	172	1,670	*107	86	98	13	6.4	4.6	2.8
13	5.4	7.6	102	118	1,480	142	71	*86	14	6.2	5.1	2.8
14	4.8	8.4	78	98	454	1,350	60	324	29	*6.0	4.7	2.8
15	4.6	8.4	62	86	246	2,720	152	a1,500	25	6.2	4.2	2.8
16	4.4	7.8	54	368	174	4,110	120	a1,300	17	6.2	4.0	2.8
17	4.4	7.6	47	569	*128	1,240	73	a7,000	13	7.4	3.6	*2.8
18	4.4	11	44	753	105	1,300	377	a11,000	11	6.8	3.6	2.8
19	4.4	92	40	360	94	3,730	704	5,200	10	7.2	3.5	3.2
20	*4.8	39	43	202	a250	1,760	234	2,320	10	7.2	*3.5	3.0
21	4.1	20	43	184	a700	355	*139	490	9.5	21	3.5	2.9
22	4.1	15	*40	159	a1,300	481	105	228	8.7	27	4.0	2.9
23	4.1	13	39	370	a800	1,720	86	155	*8.2	20	3.3	2.8
24	4.6	*12	37	846	a350	2,720	84	114	7.9	12	2.9	2.6
25	4.8	13	34	441	a200	663	382	87	7.4	8.7	2.9	2.7
26	4.8	14	32	227	a140	273	290	68	7.2	7.2	2.9	2.8
27	5.1	12	31	155	a105	193	121	56	7.2	6.4	2.8	2.8
28	6.1	12	29	132	a90	147	90	47	9.2	6.0	2.9	2.8
29	6.1	13	29	136	-	119	102	42	8.2	5.4	2.9	2.8
30	6.1	13	29	*110	-	102	1,070	40	6.8	5.4	2.9	2.7
31	6.4	-	35	93	-	110	-	42	-	5.2	2.8	-
Total	158.8	397.9	4,963	8,198	9,658	38,888	7,030	34,298	453.3	481.3	125.6	84.1
Mean	5.12	13.3	160	264	345	1,254	234	1,106	15.1	15.5	4.05	2.80
Cfsm	0.023	0.059	0.705	1.16	1.52	5.52	1.03	4.87	0.067	0.068	0.018	0.012
In.	0.03	0.07	0.81	1.34	1.58	6.37	1.15	5.62	0.07	0.08	0.02	0.01

Calendar year 1952: Max 10,900 Min 2.0 Mean 253 Cfsm 1.11 In. 15.18
Water year 1952-53: Max 11,000 Min 2.6 Mean 287 Cfsm 1.26 In. 17.15

Peak discharge (base, 4,400 cfs).--Mar. 4 (3:30 p.m.) 8,550 cfs (13.95 ft); Mar. 16 (4 p.m.) 4,810 cfs (13.42 ft); Mar. 19 (6 p.m.) 4,860 cfs (13.37 ft); May 17 or 18 (time unknown) about 12,000 cfs (about 15.0 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for station at Murray.

Reservoirs in Tennessee River basin

Douglas Reservoir.--Lat 35°57'40", long. 83°32'20", at Douglas Dam on French Broad River, 3½ miles north of Sevierville, Sevier County, Tenn., and at mile 32.3. Drainage area, 4,541 sq mi. Records available, February 1943 to September 1953. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 401,700 cfs-days May 29 (elevation, 974.29 ft); minimum, 60,800 cfs-days Dec. 29 (elevation, 924.46 ft); maximum contents during period 1943-53, 760,000 cfs-days July 25, 1949 (elevation, 1,001.79 ft); minimum (after first filling), 50,600 cfs-days Jan. 27, 1948 (elevation, 921.08 ft).

Reservoir formed by concrete main dam and 10 saddle dams. Spillway equipped with 11 tainter 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.--The figure of contents for Dec. 31, 1947, has been corrected to 158,300 acre-ft and the change in contents for December and for the calendar year 1947 to -267,500 and -29,700 acre-ft, respectively.

South Holston Reservoir.--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 1953. Gage, water-stage recorder. Prior to May 11, 1951, staff gage at same site and datum. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 288,200 cfs-days May 23 (elevation, 1,719.80 ft); minimum, 119,400 cfs-days Sept. 30 (elevation, 1,655.08 ft); maximum contents during period 1950-53, 293,800 cfs-days Apr. 14, 1952 (elevation, 1,721.40 ft); minimum (after first filling), that of Sept. 30, 1953.

Reservoir is formed by rock and rolled earth-fill dam. Spillway is uncontrolled morning-glory type 128 ft in diameter with 6 piers 3 ft wide to guide flow spilling into a concrete-lined shaft and tunnel 34 ft in diameter. Closure of dam was 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 315,300 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 Reservoir.--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 1953. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 210,500 cfs-days May 11 (elevation, 1,933.07 ft); minimum, 96,600 cfs-days Dec. 31 (elevation, 1,881.49 ft). Maximum contents during period 1948-53, 285,900 cfs-days June 24, 1950 (elevation, 1,958.58 ft); minimum (after first filling), that of Dec. 31, 1952.

Reservoir is formed by rock and rolled earth-fill dam. Spillway is uncontrolled morning-glory type 128 ft in diameter with 6 piers 3 ft wide to guide flow spilling into a concrete-lined shaft and tunnel 34 ft in diameter. Closure of dam was 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 Reservoir.--Lat 36°26'26", long. 82°26'16", at Boone Dam on South Fork of 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 1953. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during period, 98,100 cfs-days June 10 (elevation, 1,384.52 ft); minimum (after first filling), 75,900 cfs-days Sept. 24 (elevation, 1,373.30 ft).

Reservoir is formed by gravity nonoverflow type concrete dam. Spillway equipped with 5 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.

Cherokee Reservoir.--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 1953. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 494,000 cfs-days May 30 (elevation, 1,052.84 ft); minimum, 114,700 cfs-days Jan. 8 (elevation, 1,001.12 ft); Maximum contents during period 1941-53, 779,400 cfs-days May 11, 1944 (elevation, 1,074.37 ft); minimum (after first filling) 48,800 cfs-days Jan. 30, 1948 (elevation, 980.94 ft).

Reservoir is formed by concrete dam with riprapped earth embankments. Spillway equipped with 9 radial gates 32 ft high by 40 ft wide. Storage began Dec. 5, 1941; water in reservoir first reached minimum pool elevation Jan. 6, 1942. Total capacity at elevation 1,075.0 ft (top of gates) is 789,200 cfs-days, of which 742,700 cfs-days is controlled storage above elevation 980.0 ft (minimum pool). Reservoir is used for navigation, flood control, and power. Records furnished by Tennessee Valley Authority.

Reservoirs in Tennessee River basin--Continued

Fort Loudoun Reservoir.--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 1953. 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, 191,000 cfs-days May 19; maximum elevation, 814.71 ft June 26; minimum 12 p.m. contents, 139,000 cfs-days Dec. 29; minimum elevation, 806.63 ft Dec. 29. Maximum elevation during period 1943-53, 815.00 ft Sept. 11, 1943, May 14, 1945; minimum (after first filling), 805.72 ft Jan. 20, 1944. Contents based on backwater profile.

Reservoir formed by concrete dam with earth embankment. Spillway equipped with 14 taintor gates 38 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 Reservoir.--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 1953. 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, 57,700 cfs-days May 17 (elevation, 2,874.00 ft); minimum, 9,900 cfs-days Jan. 8 (elevation, 2,773.56 ft). Maximum contents during period 1944-53, 70,200 cfs-days Jan. 19, 1950, Mar. 14, 1952 (elevation, 2,890.29 ft); minimum, that of Jan. 8, 1953.

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 2,760.0 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 Reservoir.--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 1953. 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, 24,600 cfs-days May 12 (elevation, 3,083.49 ft); minimum, 7,400 cfs-days Jan. 7 (elevation, 3,047.27 ft). Maximum contents during period 1944-53, 35,700 cfs-days Mar. 13, 1950 (elevation, 3,100.01 ft); minimum, that of Jan. 7, 1953.

Reservoir is formed by earth and rock dam and six 40-foot fuse-plug dams. Side channel spillway equipped with 2 taintor gates 12 ft high by 25 ft wide. Dam completed and storage began Feb. 12, 1941. Water in 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 Reservoir.--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 1953. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 496,200 cfs-days May 25 (elevation, 1,660.08 ft); minimum, 190,800 cfs-days Nov. 19 (elevation, 1,552.39 ft). Maximum contents during period 1944-53, 722,300 cfs-days July 23, 1949 (elevation, 1,708.91 ft); minimum (after first filling), 185,300 cfs-days Jan. 30, 1948 (elevation, 1,549.42 ft).

Reservoir is formed by gravity nonoverflow type concrete dam. Spillway equipped with 4 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 Reservoir.--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 1953. 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, 65,600 cfs-days Mar. 27 (elevation, 1,806.58 ft); minimum, 16,400 cfs-days Dec. 30 (elevation, 1,748.56 ft). Maximum contents during period 1946-53, 80,100 cfs-days Feb. 4, 1949 (elevation, 1,817.19 ft); minimum, that of Dec. 30, 1952.

Reservoir is formed by concrete gravity and arch dam with concrete spillway controlled by 6 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.

Reservoirs in Tennessee River basin--Continued

Norris Reservoir.--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 1953. 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 herein are referred to adjustment of 1912. Maximum contents during year, 889,200 cfs-days May 31 (elevation, 1,011.25 ft); minimum, 356,300 cfs-days Jan. 8 (elevation, 965.36 ft). Maximum contents during period 1935-53, 1,238,700 cfs-days Feb. 11, 1937 (elevation, 1,031.10 ft); minimum (after first filling), 164,900 cfs-days Jan. 14, 1940 (elevation, 934.78 ft).

Reservoir is formed by concrete gravity dam with 3 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 Reservoir.--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 1953. Gage, water-stage recorder. Datum of gage is mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum 12 p.m. contents during year, 554,000 cfs-days May 2; maximum elevation, 744.19 ft May 2; minimum 12 p.m. contents, 381,000 cfs-days Jan. 8; minimum elevation, 734.89 ft Jan. 8. Maximum elevation during period 1941-53, 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 Reservoir.--Lat 35°01'01", long. 83°47'38", 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 1953. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 78,800 cfs-days Apr. 1 (elevation, 1,912.88 ft); minimum, 9,500 cfs-days June 1 (elevation, 1,860.38 ft). Maximum contents during period 1942-53, 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 Reservoir.--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 1953. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 57,800 cfs-days Mar. 13 (elevation, 1,760.11 ft); minimum, 300 cfs-days Sept. 13 (elevation, 1,642.4 ft, estimated). Maximum contents during period 1942-53, 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 Reservoir.--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. Subtract 0.63 ft from all elevations to reduce to datum of 1929, supplementary adjustment of 1936. Drainage area, 968 sq mi. Records available, October 1939 to September 1953. Gage, water-stage recorder. Datum of gage is at mean sea level, preliminary adjustment of 1929. Maximum contents during year, 306,800 cfs-days June 8 (elevation, 1,521.95 ft); minimum, 58,300 cfs-days Dec. 30 (elevation, 1,438.62 ft). Maximum contents during period 1939-53, 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).

Reservoir is formed by gravity overflow concrete dam with 7 taintor gates 23 ft high by 32 ft long. Slight storage began Apr. 13, 1939, during construction; systematic storage operation began Jan. 14, 1940; dam completed February 1940; water in reservoir first reached minimum pool elevation Feb. 23, 1940. Total capacity at elevation 1,520.5 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.

Reservoirs in Tennessee River basin--Continued

Apalachia Reservoir.--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 1953. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 29,600 cfs-days July 14 (elevation, 1,280.05 ft); minimum, 24,500 cfs-days June 6 (elevation, 1,270.76 ft). Maximum contents during period 1943-53, 30,300 cfs-days June 13, 1952 (elevation, 1,281.40 ft); minimum (after first filling), 19,900 cfs-days July 27, 1943 (elevation, 1,261.45 ft).

Reservoir is formed by concrete gravity dam. Spillway equipped with 10 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 Reservoir.--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, 332 sq mi. Records available, December 1930 to September 1953. 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, 95,600 cfs-days May 25 (elevation, 1,687.52 ft); minimum, 31,600 cfs-days Dec. 30 (elevation, 1,633.95 ft). Maximum 12 p.m. contents during period 1930-53, 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 5 taintor gates 15 ft high by 32 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 Reservoir.--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 1953. 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, 5,100 cfs-days July 18 (elevation, 1,435.34 ft); minimum, 1,800 cfs-days Apr. 20 (elevation, 1,414.57 ft); maximum contents during period 1943-53, 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 7 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 table used after Sept. 30, 1946. Total capacity at elevation, 1,435.00 ft (top of gates) is 5,900 cfs-days, of which 3,700 cfs-days is controlled storage above elevation 1,413.00 ft (minimum pool). Reservoir is used for power. Records furnished by Tennessee Valley Authority.

Parksville (Ocoee No. 1) Reservoir.--Lat 35°05'44", long. 84°38'51", at Parksville Dam on Ocoee River at Parksville, Polk County, Tenn., 13½ miles east of Cleveland, and at mile 11.9. Drainage area, 595 sq mi. Records available, June 1914 to September 1953. 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, 45,500 cfs-days Oct. 3 (elevation, 837.2 ft); minimum, 32,100 cfs-days Apr. 24 (elevation, 824.5 ft). Maximum 12 p.m. contents during period 1914-53, 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 4 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. Total capacity at elevation 837.66 ft (about top of flashboards) is 45,900 cfs-days, of which 16,600 cfs-days is controlled storage above elevation 817.0 ft (minimum pool). Reservoir is used for power. Records furnished by Tennessee Valley Authority.

Chickamauga Reservoir.--Lat 35°06'07", long. 85°13'42", at Chickamauga Dam on Tennessee River, 5½ miles northeast of Chattanooga, Hamilton County, Tenn., 58.9 miles downstream from Watts Bar Dam, and at mile 471.0. Drainage area, 30,790 sq mi. Records available, October 1939 to September 1953. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Maximum 12 p.m. contents during year, 348,000 cfs-days May 3; maximum elevation, 685.18 ft May 3; minimum 12 p.m. contents, 191,000 cfs-days Dec. 24; minimum elevation, 674.50 ft Jan. 17. Maximum elevation during period 1939-53, 685.37 ft May 20, 1950; minimum (after first filling), 673.27 ft Jan. 21, 1942. Contents based on backwater profile.

Reservoir is formed by concrete dam with riprapped earth embankments. Spillway equipped with 18 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.

Reservoirs in Tennessee River basin--Continued

Hales Bar Reservoir.--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 1953. 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, 88,000 cfs-days Feb. 21; maximum elevation, 634.95 ft May 1; minimum 12 p.m. contents, 68,000 cfs-days Mar. 29; minimum elevation, 630.98 Nov. 12. Maximum elevation during period 1914-53, 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 Reservoir.--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 1953. Gage, water-stage recorder. Datum of gage is mean sea level, datum of 1929. Maximum 12 p.m. contents during year, 524,000 cfs-days Feb. 22; maximum elevation, 595.49 ft May 2; minimum 12 p.m. contents, 402,000 cfs-days Sept. 23; minimum elevation, 591.65 ft Sept. 8. Maximum elevation during period 1939-53, 596.29 ft Mar. 2, 1944; minimum (after start of operation plan in April 1940), that of Sept. 8, 1953. Contents based on backwater profile.

Reservoir is formed by concrete dam with riprapped earth embankments. Spillway equipped with 18 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 1953. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Maximum contents during year, 39,600 cfs-days May 14 (elevation, 959.67 ft); minimum, 8,700 cfs-days Oct. 8 (elevation, 935.33 ft). Maximum contents during period 1952-53, that of May 14, 1953; minimum (after first filling), 26,400 cfs-days several days in August and September 1953 (elevation, 952.00 ft).

Reservoir is formed by concrete gravity and earth-fill type dam with riprapped embankments. Spillway equipped with 3 taintor gates, 25 ft high by 50 ft wide and 2 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 Reservoir.--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 1953. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Maximum 12 p.m. contents during year, 586,000 cfs-days May 22; maximum elevation, 556.45 ft May 4; minimum 12 p.m. contents, 415,000 cfs-days Dec. 18; minimum elevation, 549.74 ft Dec. 17. Maximum elevation during period 1936-53, 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.

Wilson Reservoir.--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 1953. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Maximum contents during year, 283,800 cfs-days May 4 (elevation, 507.91 ft); minimum, 251,900 cfs-days Jan. 24 (elevation, 503.81 ft). Maximum contents during period 1926-53, 287,400 cfs-days Feb. 11, 1948 (elevation, 508.35 ft); minimum, 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 (18.77 prior to June 1941) ft high by 38 ft wide. Storage began Apr. 14, 1924. Total capacity at elevation 507.88 ft (top of gates) is 283,600 cfs-days of which 26,500 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.

Reservoirs in Tennessee River basin--Continued

Pickwick Landing Reservoir.--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 1953. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Maximum 12 p.m. contents during year, 554,000 cfs-days May 5; maximum elevation, 418.00 ft May 6; minimum 12 p.m. contents 335,000 cfs-days Dec. 23; minimum elevation, 407.44 ft Dec. 23. Maximum elevation during period 1937-53, 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 22 2-section lift gates 40 ft high by 40 ft wide, 1 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 310,900 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 Reservoir.--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 1953. Gage, water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Maximum 12 p.m. contents during year, 1,490,000 cfs-days May 17; maximum elevation, 360.37 ft May 17; minimum 12 p.m. contents, 983,000 cfs-days Dec. 27; minimum elevation, 353.35 ft Feb. 16. Maximum elevation during period 1944-53, 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:

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.

Lake Davy Crockett on Nolichucky River at Nolichucky Dam, Tenn., with total capacity of 8,070 cfs-days of which 4,060 cfs-days is controlled storage.

Cedar Cliff Reservoir on Tuckasegee River near Tuckasegee, N. C., with total capacity of 3,200 cfs-days (revised), of which 400 cfs-days is controlled storage.

Cheoah Reservoir 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 Reservoir on Little Tennessee River at Calderwood, Tenn., with total capacity of 20,800 cfs-days of which 2,060 cfs-days is controlled storage.

Monthly elevation and contents, water year October 1952 to September 1953

Date	Douglas Reservoir			South Holston Reservoir			Watauga 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)	Elevation (feet)†	Contents (cfs-days)	Change in contents during month (cfs-days)
Sept.30.....	963.30	294,400	-	1,684.90	184,100	-	1,909.49	152,300	-
Oct. 31.....	946.66	166,800	-127,600	1,672.27	154,400	-29,700	1,892.06	115,900	-36,400
Nov. 30.....	942.91	143,800	-23,000	1,671.44	152,500	-1,900	1,884.77	102,300	-13,600
Dec. 31.....	924.74	61,800	-82,000	1,671.83	153,400	+900	1,881.72	97,000	-5,300
Calendar year 1952.	-	-	-41,800	-	-	-22,600	-	-	-87,400
Jan. 31.....	945.80	161,300	+99,500	1,681.98	176,900	+23,500	1,893.75	119,200	+22,200
Feb. 28.....	958.27	251,400	+90,100	1,696.65	215,300	+38,400	1,908.11	149,200	+30,000
Mar. 31.....	962.52	287,500	+36,100	1,713.81	267,800	+52,500	1,922.09	182,100	+32,900
Apr. 30.....	954.55	222,100	-65,400	1,717.17	279,100	+11,300	1,928.75	199,100	+17,000
May 31.....	973.42	392,500	+170,400	1,718.32	283,000	+3,900	1,931.34	205,900	+6,800
June 30.....	964.01	300,800	-91,700	1,709.16	252,700	-30,300	1,927.09	194,800	-11,100
July 31.....	960.26	268,000	-32,800	1,699.47	223,400	-29,300	1,924.33	187,700	-7,100
Aug. 31.....	944.40	152,700	-115,300	1,679.72	171,400	-52,000	1,915.29	165,700	-22,000
Sept.30.....	940.79	131,800	-20,900	1,655.08	119,400	-52,000	1,905.87	144,300	-21,400
Water year 1952-53.....	-	-	-162,600	-	-	-64,700	-	-	-8,000

† Elevation at 12 p.m.

Monthly elevation and contents, of reservoirs in Tennessee River basin, water year October 1952 to September 1953--Continued

Date	Boone Reservoir			Cherokee Reservoir			Fort Loudoun 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)	Elevation (feet)†	Contents (cfs-days)	Change in contents during month (cfs-days)
Sept.30.....	-	-	-	1,039.82	362,100	-	810.59	163,000	-
Oct. 31.....	-	-	-	1,031.83	294,400	-67,700	810.08	160,000	-3,000
Nov. 30.....	-	-	-	1,024.25	239,000	-55,400	808.43	149,000	-11,000
Dec. 31.....	1,323.95	19,100	+19,100	1,007.59	143,800	-95,200	807.66	144,000	-5,000
Calendar year 1952.....	-	-	-	-	-	-69,300	-	-	0
Jan. 31.....	1,336.99	29,400	+10,300	1,016.33	189,600	+45,800	807.66	144,000	0
Feb. 28.....	1,345.93	38,100	+8,700	1,036.04	328,800	+139,200	807.64	144,000	0
Mar. 31.....	1,349.49	41,900	+3,800	1,044.19	403,300	+74,500	807.59	144,000	0
Apr. 30.....	1,357.61	51,700	+9,800	1,036.43	332,200	-71,100	814.10	188,000	+44,000
May 31.....	1,378.52	85,600	+33.900	1,052.37	488,700	+156,500	814.22	189,000	+1,000
June 30.....	1,380.43	89,400	+3,800	1,047.88	440,400	-48,300	813.67	185,000	-4,000
July 31.....	1,380.44	89,400	0	1,045.20	413,200	-27,200	812.68	178,000	-7,000
Aug. 31.....	1,378.64	85,800	-3,600	1,037.27	339,400	-73,800	813.28	182,000	+4,000
Sept.30.....	1,377.57	83,700	-2,100	1,031.01	288,000	-51,400	812.57	177,000	-5,000
Water year 1952-53.....	-	-	-	-	-	-74,100	-	-	+14,000

Date	Nantahala Reservoir**			Thorpe Reservoir**			Fontana Reservoir		
Sept.30.....	2,815.75	24,600	-	3,060.52	12,400	-	1,585.64	260,800	-
Oct. 31.....	2,792.34	15,500	-9,100	3,052.07	9,000	-3,400	1,561.59	208,500	-52,300
Nov. 30.....	2,795.94	13,400	-2,100	3,051.79	8,900	-100	1,561.15	207,600	-900
Dec. 31.....	2,778.14	11,100	-2,300	3,048.79	7,900	-1,000	1,564.24	213,800	+6,200
Calendar year 1952.....	-	-	-39,400	-	-	-10,400	-	-	-144,900
Jan. 31.....	2,795.53	16,600	+5,500	3,055.20	10,200	+2,300	1,592.20	276,900	+63,100
Feb. 28.....	2,835.27	33,900	+17,300	3,066.58	15,300	+5,100	1,629.00	383,100	+106,200
Mar. 31.....	2,864.70	51,300	+17,400	3,077.24	20,900	+5,600	1,647.71	448,400	+65,300
Apr. 30.....	2,870.42	55,200	+3,900	3,081.89	23,600	+2,700	1,649.06	453,500	+5,100
May 31.....	2,871.09	55,700	+500	3,081.79	23,600	0	1,659.86	495,400	+41,900
June 30.....	2,860.23	48,400	-7,300	3,074.99	19,700	-3,900	1,657.04	484,200	-11,200
July 31.....	2,859.44	47,900	-500	3,074.57	19,400	-300	1,642.13	428,100	-56,100
Aug. 31.....	2,859.31	47,800	-100	3,074.88	19,600	+200	1,630.32	387,400	-40,700
Sept.30.....	2,846.20	39,900	-7,900	3,070.72	17,400	-2,200	1,616.85	344,900	-42,500
Water year 1952-53.....	-	-	+15,300	-	-	+5,000	-	-	+84,100

Date	Santeetlah Reservoir**			Norris Reservoir			Watts Bar Reservoir‡		
Sept.30.....	1,758.07	21,500	-	987.25	568,300	-	738.59	443,000	-
Oct. 31.....	1,751.71	18,000	-3,500	976.86	459,000	-109,300	737.84	430,000	-13,000
Nov. 30.....	1,754.38	19,400	+1,400	973.24	424,700	-34,300	736.70	409,000	-21,000
Dec. 31.....	*1,749.80	17,000	-2,400	968.45	382,000	-42,700	735.47	390,000	-19,000
Calendar year 1952.....	-	-	-31,200	-	-	-126,900	-	-	+6,000
Jan. 31.....	1,770.34	29,700	+12,700	977.32	463,400	+81,400	735.85	397,000	+7,000
Feb. 28.....	1,794.07	51,100	+21,400	990.79	609,300	+145,900	735.41	391,000	-6,000
Mar. 31.....	1,805.94	64,800	+13,700	996.86	684,800	+75,500	736.54	410,000	+19,000
Apr. 30.....	1,798.79	56,300	-8,500	996.71	682,900	-1,900	742.14	512,000	+102,000
May 31.....	1,799.66	57,300	+1,000	1,011.23	888,900	+206,000	741.48	498,000	-14,000
June 30.....	1,789.74	46,800	-10,700	1,008.10	841,000	-47,900	739.93	470,000	-28,000
July 31.....	1,785.48	42,500	-4,100	1,001.00	739,600	-101,400	741.19	493,000	+23,000
Aug. 31.....	1,784.54	41,600	-900	987.52	571,300	-168,300	739.03	451,000	-42,000
Sept.30.....	1,767.15	27,400	-14,200	973.06	423,000	-148,300	739.06	451,000	0
Water year 1952-53	-	-	+5,900	-	-	-145,300	-	-	+8,000

Date	Chatuge Reservoir			Nottely Reservoir			Hiwassee Reservoir		
Sept.30.....	1,863.47	11,200	-	1,686.38	2,100	-	1,499.19	147,800	-
Oct. 31.....	1,868.77	14,400	+3,200	1,689.15	6,400	+4,300	1,488.79	92,500	-55,300
Nov. 30.....	1,875.19	19,300	+4,900	1,705.35	12,000	+5,600	1,450.75	69,100	-23,400
Dec. 31.....	1,880.58	24,200	+4,900	1,718.67	18,800	+6,800	1,441.20	58,900	-10,200
Calendar year 1952.....	-	-	-38,600	-	-	-22,700	-	-	-27,400
Jan. 31.....	1,892.28	38,500	+14,300	1,735.98	31,100	+12,300	1,460.14	80,600	+21,700
Feb. 28.....	1,904.83	60,400	+21,900	1,754.90	50,800	+19,700	1,475.45	102,700	+22,100
Mar. 31.....	1,912.75	78,500	+18,100	1,747.20	41,800	-9,000	1,480.09	110,400	+7,700
Apr. 30.....	1,892.54	38,900	-39,600	1,746.64	41,200	-600	1,509.87	173,300	+62,900
May 31.....	1,860.79	9,700	-29,200	1,757.72	54,500	+13,300	1,520.43	202,300	+29,000
June 30.....	1,873.09	17,600	+7,900	1,747.60	42,200	-12,300	1,520.24	201,700	-600
July 31.....	1,881.99	25,700	+8,100	1,742.65	37,200	-5,000	1,520.02	201,100	-600
Aug. 31.....	1,885.43	29,600	+3,900	1,686.95	5,800	-31,400	1,514.47	185,400	-15,700
Sept.30.....	1,889.55	34,800	+5,200	1,659.58	1,400	-4,400	1,495.95	140,700	-44,700
Water year 1952-53.....	-	-	+23,600	-	-	-700	-	-	-7,100

* Estimated.
† Elevation at 12 p.m.
‡ Contents based on backwater profile.
** Elevation is above a local datum; see text for adjustment to datum of 1929, supplementary adjustment of 1936.

Monthly elevation and contents, of reservoirs in Tennessee River basin, water year October 1952 to September 1953--Continued

Date	Apalachia Reservoir			Blue Ridge Reservoir			Ocoee No. 3 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)	Elevation (feet)†	Contents (cfs-days)	Change in contents during month (cfs-days)
Sept.30.....	1,278.18	28,500	-	1,668.23	67,300	-	1,431.62	4,900	-
Oct. 31.....	1,277.43	28,100	-400	1,647.38	43,600	-23,700	1,432.53	5,200	+300
Nov. 30.....	1,278.27	28,600	+500	1,636.68	33,800	-9,800	1,430.48	3,700	-500
Dec. 31.....	1,273.52	26,000	-2,600	1,635.15	32,600	-1,200	1,429.44	3,500	-200
Calendar year 1952.....	-	-	+1,000	-	-	-28,200	-	-	-700
Jan. 31.....	1,276.62	27,600	+1,600	1,652.09	48,300	+15,700	1,430.11	3,700	+200
Feb. 28.....	1,277.39	28,100	+500	1,672.31	73,600	+25,300	1,429.45	3,500	-200
Mar. 31.....	1,278.18	28,500	+400	1,676.44	78,600	+5,000	1,430.29	3,700	+200
Apr. 30.....	1,278.24	28,500	0	1,681.77	86,500	+7,900	1,432.99	4,300	+600
May 31.....	1,277.48	28,100	-400	1,686.05	93,200	+6,700	1,430.44	3,700	-600
June 30.....	1,278.61	28,800	+700	1,680.45	84,500	-8,700	1,432.34	4,200	+500
July 31.....	1,275.05	26,800	-2,000	1,676.44	78,600	-5,900	1,433.80	4,600	+400
Aug. 31.....	1,276.61	27,600	+800	1,664.88	63,100	-15,500	1,433.24	4,400	-200
Sept.30.....	1,278.02	28,400	+800	1,652.50	48,800	-14,300	1,432.46	4,200	-200
Water year 1952-53.....	-	-	-100	-	-	-18,500	-	-	-700

Date	Parksville (Ocoee No. 1) Reservoir			Chickamauga Reservoir‡			Hales Bar Reservoir‡		
Sept.30.....	836.0	44,400	-	680.34	265,000	-	633.98	75,000	-
Oct. 31.....	835.0	43,400	-1,000	678.15	232,000	-33,000	633.50	74,000	-1,000
Nov. 30.....	836.0	‡‡42,100	+1,000	676.78	213,000	-19,000	633.35	73,000	-1,000
Dec. 31.....	827.7	34,600	-7,500	676.00	204,000	-9,000	632.72	71,000	-2,000
Calendar year 1952.....	-	-	-8,200	-	-	-3,000	-	-	-8,000
Jan. 31.....	827.9	34,800	+200	675.86	202,000	-2,000	632.19	71,000	0
Feb. 28.....	832.2	38,500	+3,700	676.08	212,000	+10,000	632.33	75,000	+4,000
Mar. 31.....	829.4	36,100	-2,400	675.37	196,000	-16,000	632.01	71,000	-4,000
Apr. 30.....	828.4	35,200	-900	683.33	316,000	+120,000	634.05	74,000	+3,000
May 31.....	835.8	41,900	+6,700	682.27	297,000	-19,000	633.68	74,000	0
June 30.....	835.1	41,200	-700	682.20	296,000	-1,000	634.01	76,000	+2,000
July 31.....	833.9	40,100	-1,100	680.73	271,000	-25,000	634.01	76,000	0
Aug. 31.....	835.1	41,200	+1,100	680.29	264,000	-7,000	631.73	69,000	-7,000
Sept.30.....	834.6	40,800	-400	679.33	249,000	-15,000	633.88	74,000	+5,000
Water year 1952-53.....	-	-	-3,600	-	-	-16,000	-	-	-1,000

Date	Guntersville Reservoir‡			Woods Reservoir			Wheeler Reservoir‡		
Sept.30.....	593.35	448,000	-	935.43	8,800	-	550.68	422,000	-
Oct. 31.....	593.61	459,000	+11,000	935.72	9,100	+300	550.85	426,000	+4,000
Nov. 30.....	593.21	445,000	-14,000	936.50	9,700	+600	550.74	423,000	-3,000
Dec. 31.....	593.41	454,000	+9,000	940.00	12,500	+2,800	550.40	420,000	-3,000
Calendar year 1952.....	-	-	-25,000	-	-	+12,500	-	-	-34,000
Jan. 31.....	593.33	454,000	0	955.90	32,600	+20,100	550.44	422,000	+2,000
Feb. 28.....	592.97	452,000	-2,000	956.95	34,500	+1,900	550.74	445,000	+23,000
Mar. 31.....	593.23	452,000	0	957.40	35,300	+800	553.13	488,000	+43,000
Apr. 30.....	595.27	509,000	+57,000	958.96	38,200	+2,900	556.26	581,000	+93,000
May 31.....	594.63	488,000	-21,000	959.28	38,800	+600	555.27	548,000	-33,000
June 30.....	593.93	470,000	-18,000	959.38	39,000	+200	555.16	546,000	-2,000
July 31.....	592.15	417,000	-53,000	959.54	39,400	+400	554.90	538,000	-8,000
Aug. 31.....	592.19	417,000	0	952.01	26,400	-13,000	553.43	493,000	-45,000
Sept.30.....	592.11	411,000	-6,000	952.05	26,500	+100	553.71	499,000	+6,000
Water year 1952-53.....	-	-	-37,000	-	-	+17,700	-	-	+77,000

Date	Wilson Reservoir			Pickwick Landing Reservoir‡			Kentucky Reservoir‡		
Sept.30.....	507.38	279,600	-	411.30	404,000	-	355.39	††1,082	-
Oct. 31.....	506.33	271,300	-8,300	410.08	379,000	-25,000	354.77	††1,056	-46,000
Nov. 30.....	507.18	278,000	+6,700	409.46	367,000	-12,000	354.90	††1,041	+5,000
Dec. 31.....	505.18	262,400	-15,600	408.07	341,000	-26,000	353.78	††990	-51,000
Calendar year 1952.....	-	-	+2,100	-	-	-22,000	-	-	-267,000
Jan. 31.....	506.01	268,600	+6,400	408.56	353,000	+12,000	354.09	††1,024	+34,000
Feb. 28.....	506.01	268,600	0	408.43	358,000	+5,000	354.36	††1,123	+99,000
Mar. 31.....	506.13	269,700	+900	413.44	448,000	+90,000	*356.8	††1,192	+69,000
Apr. 30.....	507.88	283,600	+13,900	416.45	517,000	+69,000	359.39	††1,421	+229,000
May 31.....	507.14	277,700	-5,900	414.27	466,000	-51,000	359.18	††1,354	-67,000
June 30.....	506.98	276,400	-1,300	413.32	445,000	-21,000	358.12	††1,279	-75,000
July 31.....	505.92	268,100	-8,300	412.05	419,000	-26,000	358.09	††1,280	+1,000
Aug. 31.....	506.32	271,200	+3,100	412.00	418,000	-1,000	355.45	††1,091	-189,000
Sept.30.....	507.10	277,400	+6,200	410.60	390,000	-28,000	355.66	††1,099	+8,000
Water year 1952-53.....	-	-	-2,200	-	-	-14,000	-	-	+17,000

* Estimated.
† Elevation at 12 p.m.
‡ Contents based on backwater profile.
†† Expressed in thousands.
‡‡ Contents by capacity table used beginning Nov. 1, 1952; contents Oct. 31, 1952, by capacity table used since Nov. 1, 1952, was 41,100 cfs-days.

In 1931, a minor drought year, a study was made of large springs in East Tennessee and the results published in Water-Supply Paper 713. In 1950, a more detailed study, including some of these 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, has been continued. Discharge of one group of springs has been measured monthly for one year, then measurements made on another group for a year. As some of these 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 in the flow. A complete list of spring measurements made during the water year October 1952 to September 1953, 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 1952 to September 1953

Anderson County

Spring	Location	Tributary to--	Date	Discharge (gallons per minute)	Temperature (degrees Fahrenheit)		Remarks
					Air	Water	
Bacon.....	¼ mile south of Dossett.	Brushy Fork to Poplar Creek to Clinch River.	Oct. 6	691	63	57	Clear.
Do.....	....do.....	....do.....	Nov. 4	601	60	57	Do.
Do.....	....do.....	....do.....	Dec. 8	628	56	57	Do.
Do.....	....do.....	....do.....	Jan. 7	696	62	57	Do.
Do.....	....do.....	....do.....	Feb. 10	1,997	55	57	Do.
Do.....	....do.....	....do.....	Mar. 10	4,255	58	56	Do.
Do.....	....do.....	....do.....	Apr. 8	2,217	69	57	Do.
Do.....	....do.....	....do.....	May 14	2,141	70	58	Do.
Do.....	....do.....	....do.....	June 2	2,280	76	60	Do.
Do.....	....do.....	....do.....	July 1	1,198	83	59	Do.
Do.....	....do.....	....do.....	Aug. 6	987	88	60	Do.
Do.....	....do.....	....do.....	Sept. 1	628	97	58	Do.
Clear Creek..	1.8 miles northeast of Norris School.	Clear Creek to Clinch River.	June 7	996	77	58	

Blount County

Lovingood....	1 mile southeast of Middle Settlement and 3 miles west of Alcoa.	Lackey Creek to Tennessee River.	Oct. 2	1,104	57	75	Clear.
Do.....	....do.....	....do.....	Nov. 3	1,028	66	58	Do.
Do.....	....do.....	....do.....	Dec. 2	1,028	42	57	Do.
Do.....	....do.....	....do.....	Jan. 2	1,506	40	57	Do.
Do.....	....do.....	....do.....	Feb. 2	2,127	52	57	Do.
Do.....	....do.....	....do.....	Mar. 2	3,514	62	47	Do.
Do.....	....do.....	....do.....	Apr. 2	2,931	51	57	Do.
Do.....	....do.....	....do.....	May 1	2,625	78	57	Do.
Do.....	....do.....	....do.....	June 2	2,603	74	57	Do.

Bradley County

Bell Fount...	On U. S. Highway 11, 7½ miles northeast of Cleveland.	Little South Mouse Creek to South Mouse Creek.	Oct. 1	187	92	59	Clear.
Carpenter....	1,500 ft southeast of Lebanon Church, 5½ miles east of Cleveland.	London Branch to South Chestuee Creek to Hiwassee River.	1	503	92	61	Do.
Fletcher.....	2½ miles northwest of Cleveland.	Candies Creek.....	1	32	70	59	Do.
Hardwick.....	On U. S. Highway 11, 4 miles northeast of Cleveland.	South Mouse Creek....	1	178	93	63	Do.
McKenzie.....	7 miles north of Cleveland.	Candies Creek.....	1	216	86	60	Do.
Pullam.....	6 miles north of Cleveland.	....do.....	1	188	83	61	Do.
Richey.....	On Chatata Valley Road, 5¾ miles east of Cleveland.	Shady Valley Creek to Chatata Creek to Hiwassee River.	1	662	92	64	Do.

Carter County

Big.....	2½ miles southwest of Elizabethton.	Gap Creek to Watauga River.	Oct. 2	875	61	55	Clear.
Do.....	....do.....	....do.....	Nov. 6	871	46	57	Do.
Do.....	....do.....	....do.....	Dec. 2	1,109	38	55	Do.
Do.....	....do.....	....do.....	Jan. 7	1,149	48	55	Do.
Do.....	....do.....	....do.....	Feb. 5	2,976	28	54	Do.
Do.....	....do.....	....do.....	Mar. 3	5,206	49	54	Do.
Do.....	....do.....	....do.....	31	3,411	60	55	Do.
Do.....	....do.....	....do.....	May 5	6,418	72	55	Slightly cloudy.
Do.....	....do.....	....do.....	June 2	2,787	61	55	Clear.

Discharge measurements of springs in Tennessee, water year October 1952 to September 1953--Continued

Carter County--Continued

Spring	Location	Tributary to--	Date	Discharge (gallons per minute)	Temperature (degrees Fahrenheit)		Remarks
					Air	Water	
Blue.....	½ mile northeast of Blue Spring School, and 6 miles east of Elizabethton.	Blue Spring Branch to Watauga River.	Oct. 1	292	81	55	Clear.
Do....	....do.....	....do.....	Nov. 5	221	56	53	Do.
Do....	....do.....	....do.....	Dec. 3	393	42	52	Do.
Do....	....do.....	....do.....	Jan. 6	812	38	49	Slightly milky.
Do....	....do.....	....do.....	Feb. 3	2,029	45	50	Do.
Do....	....do.....	....do.....	Mar. 3	3,523	55	49	Milky.
Do....	....do.....	....do.....	31	1,732	52	52	Clear.
Do....	....do.....	....do.....	May 5	1,777	73	52	Do.
Do....	....do.....	....do.....	June 1	916	76	54	Do.
Do....	....do.....	....do.....	July 3	655	85	55	Do.
Do....	....do.....	....do.....	Aug. 4	420	82	56	Do.
Do....	....do.....	....do.....	Sept. 3	292	82	55	Do.
Elliot....	At Winner, 7 miles northeast of Elizabethton.	Stoney Creek to Watauga River.	Oct. 1	570	77	54	Do.
Do....	....do.....	....do.....	Nov. 5	476	56	54	Do.
Do....	....do.....	....do.....	Dec. 3	664	40	53	Do.
Do....	....do.....	....do.....	Jan. 6	1,562	37	52	Milky.
Do....	....do.....	....do.....	Feb. 3	3,577	40	51	Clear.
Do....	....do.....	....do.....	Mar. 3	3,896	57	51	Do.
Do....	....do.....	....do.....	31	2,639	53	53	Do.
Do....	....do.....	....do.....	May 5	2,450	68	53	Do.
Do....	....do.....	....do.....	June 1	1,813	75	54	Do.
Do....	....do.....	....do.....	July 3	1,230	86	55	Do.
Do....	....do.....	....do.....	Aug. 4	844	77	54	Do.
Do....	....do.....	....do.....	Sept. 3	646	76	54	Do.

Coffee County

Pond.....	½ mile northwest of Hillsboro.	Unnamed Creek to Bradley Creek to Elk River.	Oct. 20	317	48	57	Do.
Do....	....do.....	....do.....	Nov. 19	333	49	54	Muddy.
Do....	....do.....	....do.....	Dec. 9	462	67	65	Clear.
Do....	....do.....	....do.....	31	637	45	51	Muddy.
Do....	....do.....	....do.....	Feb. 5	3,483	60	59	Clear.
Do....	....do.....	....do.....	Mar. 23	5,386	61	59	Do.
Do....	....do.....	....do.....	Apr. 23	3,923	78	62	Do.
Do....	....do.....	....do.....	May 26	3,370	89	68	Do.
Do....	....do.....	....do.....	June 22	1,674	88	65	Do.

De Kalb County

Blue.....	At Blue Spring, 6½ miles south of Smithville.	Sink Creek to Caney Fork.	May 28	405	78	57	Clear.
Do....	....do.....	....do.....	July 16	359	84	58	Do.
Do....	....do.....	....do.....	Aug. 27	283	88	58	Do.
Do....	....do.....	....do.....	Sept.22	220	67	57	-
Overall (Blue).	2 miles southeast of Liberty (published in WSP 728 and 743 as at Haleville, 3 miles south of Liberty, and in WSP 1236 as 1½ miles south of Liberty).	Connell Creek to South Fork to Caney Fork.	Oct. 23	1,620	68	64	Clear.
Do....	....do.....	....do.....	Nov. 7	1,540	61	62	Do.
Do....	....do.....	....do.....	Dec. 8	6,630	63	58	Turbid.
Do....	....do.....	....do.....	Jan. 28	9,430	58	54	Clear.
Do....	....do.....	....do.....	Feb. 19	9,830	55	52	Do.
Do....	....do.....	....do.....	Mar. 17	8,570	50	57	Do.
Do....	....do.....	....do.....	Apr. 17	7,990	54	57	-
Do....	....do.....	....do.....	May 28	8,360	65	62	Clear.
Do....	....do.....	....do.....	June 18	7,630	87	64	Turbid.
Do....	....do.....	....do.....	July 16	2,090	80	64	Clear.
Do....	....do.....	....do.....	Aug. 27	1,350	86	65	Do.
Do....	....do.....	....do.....	Sept.22	1,880	70	65	-
Pine Creek	3¾ miles southeast of Smithville.	Head of Pine Creek to Caney Fork.	Oct. 23	530	70	59	Clear.
Do....	....do.....	....do.....	Nov. 7	476	52	58	Do.
Do....	....do.....	....do.....	Dec. 8	476	63	58	Do.
Do....	....do.....	....do.....	Jan. 28	839	59	57	Do.
Do....	....do.....	....do.....	Feb. 19	a188	52	57	Do.
Do....	....do.....	....do.....	Mar. 17	a135	59	57	Do.
Do....	....do.....	....do.....	Apr. 17	a224	65	57	-
Do....	....do.....	....do.....	May 28	a195	72	58	Clear.
Do....	....do.....	....do.....	June 18	a159	80	58	Do.
Wharton...	2½ miles south of Smithville.	Shining Rock Creek to Pine Creek to Caney Fork.	Oct. 23	543	63	58	Do.
Do....	....do.....	....do.....	Nov. 7	588	51	58	Do.
Do....	....do.....	....do.....	Dec. 8	539	62	58	Do.
Do....	....do.....	....do.....	Jan. 28	1,180	56	57	Do.
Do....	....do.....	....do.....	Feb. 19	b278	50	58	Do.
Do....	....do.....	....do.....	Mar. 17	1,170	62	57	Do.
Do....	....do.....	....do.....	Apr. 17	1,220	65	57	Do.

a Discharge at main spring only.
b Does not include flow of spring in bed of Shining Rock Creek.

Discharge measurements of springs in Tennessee, water year October 1952 to September 1953--Continued

De Kalb County--Continued

Spring	Location	Tributary to--	Date	Discharge (gallons per minute)	Temperature (degrees Fahrenheit)		Remarks
					Air	Water	
Wharton...	2¾ miles south of Smithville.	Shining Rock Creek to Pine Creek to Caney Fork.	May 28	1,100	78	58	Clear
Do....	....do.....	....do.....	June 18	1,060	79	58	Do.
Do....	....do.....	....do.....	July 16	776	78	58	Do.
Do....	....do.....	....do.....	Aug. 27	682	88	59	Do.
Do....	....do.....	....do.....	Sept.22	579	68	58	-

Dickson County

Bruce.....	4¾ miles southwest of Dickson.	Piney River to Duck River.	Oct. 22	503	47	57	Clear.
Do....	....do.....	....do.....	Nov. 20	525	46	58	Do.
Do....	....do.....	....do.....	Dec. 8	449	62	58	-
Do....	....do.....	....do.....	Jan. 20	485	-	-	Clear.
Do....	....do.....	....do.....	Feb. 24	691	47	56	-
Do....	....do.....	....do.....	May 18	750	74	57	-
Do....	....do.....	....do.....	Apr. 29	655	70	57	Clear.
Do....	....do.....	....do.....	May 26	785	86	58	Do.
Do....	....do.....	....do.....	June 23	651	83	57	-
Fielder...	5 miles southwest of Dickson.	....do.....	Oct. 22	907	54	58	Do.
Do....	....do.....	....do.....	Nov. 20	772	54	58	Do.
Do....	....do.....	....do.....	Dec. 8	727	62	58	-
Do....	....do.....	....do.....	Jan. 20	781	-	-	Clear.
Do....	....do.....	....do.....	Feb. 24	889	44	58	-
Do....	....do.....	....do.....	Mar. 18	978	72	57	-
Do....	....do.....	....do.....	Apr. 29	875	73	57	Clear.
Do....	....do.....	....do.....	May 26	992	85	58	Do.
Do....	....do.....	....do.....	June 23	938	85	57	-

Franklin County

Blue.....	4 miles southwest of Estill Springs.	Little Hurricane Creek to Elk River.	Oct. 22	85	48	55	Clear.
Do....	....do.....	....do.....	Nov. 19	237	48	56	Do.
Do....	....do.....	....do.....	Dec. 9	84	69	58	Do.
Do....	....do.....	....do.....	Jan. 14	157	56	55	Do.
Do....	....do.....	....do.....	Feb. 19	216	50	53	Clear.
Do....	....do.....	....do.....	Mar. 23	199	57	56	Do.
Do....	....do.....	....do.....	Apr. 23	126	76	59	Do.
Do....	....do.....	....do.....	May 26	130	84	61	Do.
Do....	....do.....	....do.....	June 22	75	86	64	Do.
Francis...	2½ miles west of Cowan	Boiling Fork Creek to Elk River.	Oct. 16	1,647	74	59	-
Do....	....do.....	....do.....	Nov. 19	1,297	49	59	-
Do....	....do.....	....do.....	Dec. 12	3,036	43	58	Do.
Do....	....do.....	....do.....	Jan. 19	3,805	50	57	Do.
Do....	....do.....	....do.....	Feb. 19	7,710	50	56	Do.
Do....	....do.....	....do.....	Mar. 24	6,054	60	56	Do.
Do....	....do.....	....do.....	Apr. 9	4,515	82	60	Do.
Do....	....do.....	....do.....	May 8	4,089	65	59	-
Do....	....do.....	....do.....	June 18	2,451	100	60	-
Do....	....do.....	....do.....	July 24	2,545	94	60	-
Do....	....do.....	....do.....	Aug. 13	2,343	92	61	Do.
Do....	....do.....	....do.....	Sept.11	2,056	78	60	Do.
Sharps (Winchester).	1.0 mile north of Winchester.	Wagner Creek to Boiling Fork Creek.	Oct. 16	1,021	75	60	
Do....	....do.....	....do.....	Nov. 19	1,014	49	59	Do.
Do....	....do.....	....do.....	Dec. 11	1,510	49	57	Do.
Do....	....do.....	....do.....	Jan. 19	6,916	55	58	Do.
Do....	....do.....	....do.....	Feb. 19	13,379	52	56	Do.
Do....	....do.....	....do.....	Mar. 24	9,977	60	57	Do.
Do....	....do.....	....do.....	Apr. 9	8,491	82	60	Do.
Do....	....do.....	....do.....	May 8	8,702	67	58	Do.
Do....	....do.....	....do.....	June 18	5,237	99	60	
Do....	....do.....	....do.....	July 24	5,502	94	60	
Do....	....do.....	....do.....	Aug. 13	5,345	96	61	Clear.
Do....	....do.....	....do.....	Sept.11	2,809	72	60	Do.
Tally Williams	5 miles southeast of Winchester.	Norwood Creek to Boiling Fork Creek.	Oct. 16	26	75	60	Do.
Do....	....do.....	....do.....	Nov. 19	1,267	52	58	Do.
Do....	....do.....	....do.....	Dec. 12	1,923	45	57	Do.
Do....	....do.....	....do.....	Jan. 19	3,900	50	57	Do.
Do....	....do.....	....do.....	Feb. 19	7,468	50	55	Do.
Do....	....do.....	....do.....	Mar. 24	8,178	60	56	Do.
Do....	....do.....	....do.....	Apr. 9	2,446	80	63	Do.
Do....	....do.....	....do.....	May 8	10,125	64	58	Milky.
Do....	....do.....	....do.....	June 18	662	100	60	
Do....	....do.....	....do.....	July 24	4,124	94	60	
Do....	....do.....	....do.....	Aug. 13	216	95	61	Clear.
Do....	....do.....	....do.....	Sept.11	196	72	58	

Grainger County

Buffalo...	On State game farm at Buffalo Springs.	Buffalo Creek to Holston River.	Oct. 3	1,907	60	57	Clear.
Do....	....do.....	....do.....	Nov. 5	1,795	52	57	Do.
Do....	....do.....	....do.....	Dec. 3	1,894	41	57	Slightly milky.

Discharge measurements of springs in Tennessee, water year October 1952 to September 1953--Continued

Grainger County--Continued

Spring	Location	Tributary to--	Date	Discharge (gallons per minute)	Temperature (degrees Fahrenheit)		Remarks
					Air	Water	
Buffalo...	On State game farm at Buffalo Springs.	Buffalo Creek to Holston River.	Jan. 6	2,159	35	57	Clear.
Do....	....do.....	....do.....	Feb. 16	9,963	46	57	Milky.
Do....	....do.....	....do.....	Mar. 11	8,437	54	56	Cloudy.
Do....	....do.....	....do.....	Apr. 6	5,475	55	58	Clear.
Do....	....do.....	....do.....	May 14	5,296	75	58	Do.
Do....	....do.....	....do.....	June 10	5,251	86	57	Milky.
Heatherly.	At Perrin School.....	Holston River.....	Oct. 5	269	55	57	Clear.
Do....	....do.....	....do.....	Nov. 5	256	39	57	Do.
Do....	....do.....	....do.....	Dec. 3	265	43	57	Do.
Do....	....do.....	....do.....	Jan. 6	292	35	57	Do.
Do....	....do.....	....do.....	Feb. 16	1,791	36	56	Do.
Do....	....do.....	....do.....	Mar. 11	1,149	52	57	Do.
Do....	....do.....	....do.....	Apr. 8	835	55	58	Do.
Do....	....do.....	....do.....	May 14	700	77	58	Do.
Do....	....do.....	....do.....	June 10	871	84	57	Do.
Do....	....do.....	....do.....	July 6	682	91	58	Do.
Do....	....do.....	....do.....	Aug. 5	539	88	57	Do.
Do....	....do.....	....do.....	Sept.14	404	80	58	Do.
Indian Cave.	At mouth of Indian Cave, 9 miles southwest of Rutledge.	....do.....	Oct. 5	242	55	57	Do.
Do....	....do.....	....do.....	Nov. 5	287	53	56	Do.
Do....	....do.....	....do.....	Dec. 3	233	41	57	Do.
Do....	....do.....	....do.....	Jan. 6	310	34	56	Do.
Do....	....do.....	....do.....	Feb. 16	1,809	39	56	Milky.
Do....	....do.....	....do.....	Mar. 11	1,831	50	57	Clear.
Do....	....do.....	....do.....	Apr. 6	1,477	55	58	Do.
Do....	....do.....	....do.....	May 14	1,544	74	58	Do.
Do....	....do.....	....do.....	June 10	1,921	81	57	Do.
Do....	....do.....	....do.....	July 6	1,468	82	58	Do.
Do....	....do.....	....do.....	Aug. 5	911	82	57	Do.
Do....	....do.....	....do.....	Sept.14	458	77	58	Do.

Grundy County

Big.....	At Big Spring, 2.4 miles northeast of Mt. View.	Unnamed Creek to Elk River.	Nov. 13	49	61	58	Do.
Blue (Elk Head).	On Pelham-Altamont highway, 4 miles northeast of Pelham.	Elk River.....	13	158	69	56	Do.

Hamblen County

Panther...	1 mile north of Alpha and 5 miles southwest of Morristown.	Panther Creek to Holston River.	Oct. 3	516	64	58	Clear.
Do....	....do.....	....do.....	Nov. 5	444	57	57	Do.
Do....	....do.....	....do.....	Dec. 3	601	44	56	Do.
Do....	....do.....	....do.....	4	574	50	58	Do.
Do....	....do.....	....do.....	Jan. 8	1,059	52	58	Do.
Do....	....do.....	....do.....	Feb. 16	3,931	52	57	Milky.
Do....	....do.....	....do.....	Mar. 6	4,084	44	58	Clear.
Do....	....do.....	....do.....	Apr. 9	1,921	71	57	Do.
Do....	....do.....	....do.....	May 14	1,521	78	58	Do.
Do....	....do.....	....do.....	June 3	1,982	77	58	Do.

Hamilton County

Anderson's	5 miles southwest of Georgetown.	Long Savannah Creek to Wolftever Creek to Tennessee River.	Oct. 15	870	59	58	Clear.
Do....	....do.....	....do.....	Nov. 3	790	56	57	Do.
Do....	....do.....	....do.....	Dec. 11	3,070	49	55	Milky.
Do....	....do.....	....do.....	Jan. 15	5,340	61	57	Clear.
Do....	....do.....	....do.....	Feb. 16	6,238	43	57	Do.
Do....	....do.....	....do.....	Mar. 8	4,890	73	58	Do.
Do....	....do.....	....do.....	Apr. 8	1,890	77	59	Do.
Do....	....do.....	....do.....	May 8	6,280	74	58	Milky.
Do....	....do.....	....do.....	June 10	1,565	94	60	Clear.
Cave.....	3¾ miles north of Hixson.	North Chickamauga Creek to Tennessee River.	Oct. 2	265	74	58	Do.
Do....	....do.....	....do.....	Nov. 3	125	48	57	Do.
Do....	....do.....	....do.....	Dec. 3	7,585	44	57	Do.
Do....	....do.....	....do.....	Jan. 2	c16,558	43	54	Do.
Do....	....do.....	....do.....	Feb. 3	c15,921	42	53	Do.
Do....	....do.....	....do.....	Apr. 2	c14,871	59	54	Do.
Do....	....do.....	....do.....	May 4	15,304	55	70	Do.
Do....	....do.....	....do.....	June 3	c8,040	78	57	Do.

c Spring flow plus pumpage.

Humphreys County

Crystal...	4.4 miles north of Denver.	Bear Creek to Tennessee River.	June 4	826	76	58	Clear.
Do....	....do.....	....do.....	July 30	826	87	59	Do.
Do....	....do.....	....do.....	Aug. 18	799	80	59	Do.

Discharge measurements of springs in Tennessee, water year October 1952 to September 1953--Continued

Humphreys County--Continued

Spring	Location	Tributary to--	Date	Discharge (gallons per minute)	Temperature (degrees Fahrenheit)		Remarks
					Air	Water	
Crystal....	4.4 miles north of Denver.	Bear Creek to Tennessee River.	Sept.16	983	65	58	Clear.
Horner.....	2.0 miles southwest of Buffalo.	Horner Spring Branch to Buffalo River.	June 25	745	92	58	-
Do.....	....do.....	....do.....	July 30	678	72	59	Clear.
Do.....	....do.....	....do.....	Aug. 18	700	80	59	Do.
Do.....	....do.....	....do.....	Sept.16	705	90	60	Do.

Jackson County

Big.....	1 mile west of Whitleyville.	Jenning Creek to Cumberland River.	Nov. 7	880	58	57	-
Do.....	....do.....	....do.....	Dec. 8	3,010	64	57	-
Do.....	....do.....	....do.....	Jan. 14	10,100	62	57	Clear.
Do.....	....do.....	....do.....	Feb. 16	21,300	53	53	-
Do.....	....do.....	....do.....	Mar. 16	15,300	52	56	-
Do.....	....do.....	....do.....	Apr. 15	21,600	60	55	-
Do.....	....do.....	....do.....	May 11	10,100	72	56	-
Do.....	....do.....	....do.....	June 10	3,360	80	56	-

Jefferson County

Baker.....	Just east of Strawberry Plains.	Crowder Branch to Holston River.	Oct. 3	669	70	59	Cloudy.
Do.....	....do.....	....do.....	Nov. 5	525	63	57	Fairly clear.
Do.....	....do.....	....do.....	Dec. 3	1,638	51	55	Slightly muddy.
Do.....	....do.....	....do.....	Jan. 7	2,105	41	55	Turbid.
Do.....	....do.....	....do.....	Feb. 16	5,116	52	56	Muddy.
Do.....	....do.....	....do.....	Mar. 11	4,847	53	55	Do.
Do.....	....do.....	....do.....	Apr. 9	3,730	66	57	Do.
Do.....	....do.....	....do.....	May 26	4,712	83	61	Very muddy.
Do.....	....do.....	....do.....	June 16	3,797	73	64	Muddy.
Blue.....	4 miles north of New Market.	Holston River.....	Oct. 3	758	61	57	Clear.
Do.....	....do.....	....do.....	Nov. 5	785	56	57	Do.
Do.....	....do.....	....do.....	Dec. 1	826	44	57	Do.
Do.....	....do.....	....do.....	Jan. 6	925	37	57	Do.
Do.....	....do.....	....do.....	Feb. 16	5,251	49	57	Milky.
Do.....	....do.....	....do.....	Mar. 10	3,851	59	57	Clear.
Do.....	....do.....	....do.....	Apr. 9	2,078	82	57	Do.
Do.....	....do.....	....do.....	May 14	2,361	74	58	Do.
Do.....	....do.....	....do.....	June 10	2,347	87	57	Do.
Do.....	....do.....	....do.....	July 3	1,652	73	57	Do.
Do.....	....do.....	....do.....	Aug. 5	1,239	83	57	Do.
Do.....	....do.....	....do.....	Sept.14	1,041	70	58	Do.
Blue Hole..	2 miles northwest of White Pine.	Sartan Branch to Long Creek to Nolichucky River.	Oct. 8	200	67	59	Do.
Do.....	....do.....	....do.....	Nov. 5	206	64	56	Do.
Do.....	....do.....	....do.....	Dec. 4	298	53	57	Do.
Do.....	....do.....	....do.....	Jan. 8	767	56	57	Slightly cloudy.
Do.....	....do.....	....do.....	Feb. 9	826	54	57	Clear.
Do.....	....do.....	....do.....	Mar. 6	1,077	65	58	Do.
Do.....	....do.....	....do.....	Apr. 7	942	64	59	Do.
Do.....	....do.....	....do.....	May 7	969	61	58	Slightly cloudy.
Do.....	....do.....	....do.....	June 3	1,050	78	60	Clear.
Jones.....	2 miles west of New Market.	Lost Creek in Holston River basin.	Oct. 3	233	64	59	Do.
Do.....	....do.....	....do.....	Nov. 5	193	65	59	Do.
Do.....	....do.....	....do.....	Dec. 1	341	45	57	Do.
Do.....	....do.....	....do.....	Jan. 6	471	37	57	Do.
Do.....	....do.....	....do.....	Feb. 14	1,809	52	58	Slightly muddy.
Do.....	....do.....	....do.....	Mar. 10	1,696	61	57	Milky.
Do.....	....do.....	....do.....	Apr. 9	1,073	71	57	Clear.
Do.....	....do.....	....do.....	May 26	1,342	83	58	Do.
Do.....	....do.....	....do.....	June 16	969	75	58	Do.
Mill.....	At Mill Spring, 3 miles northwest of Jefferson City.	Mill Spring Creek to Holston River.	Oct. 3	983	58	57	Do.
Do.....	....do.....	....do.....	Nov. 5	1,032	54	57	Do.
Do.....	....do.....	....do.....	Dec. 3	1,135	43	57	Do.
Do.....	....do.....	....do.....	Jan. 6	1,355	38	57	Do.
Do.....	....do.....	....do.....	Feb. 16	4,847	51	57	Milky.
Do.....	....do.....	....do.....	Mar. 11	5,116	56	57	Slightly cloudy.
Do.....	....do.....	....do.....	Apr. 9	2,899	81	57	Clear.
Do.....	....do.....	....do.....	May 14	2,608	77	58	Do.
Do.....	....do.....	....do.....	June 10	2,801	88	57	Do.
Do.....	....do.....	....do.....	July 3	2,015	84	57	Do.
Do.....	....do.....	....do.....	Aug. 5	1,477	79	57	Do.
Do.....	....do.....	....do.....	Sept.14	1,149	71	58	Do.
Mossy.....	1.1 miles east of Jefferson City Post Office.	Mossy Creek to Holston River.	May 14	20,555	77	59	Muddy.
Do.....	....do.....	....do.....	June 10	24,998	86	59	Do.
Do.....	....do.....	....do.....	July 3	13,554	91	58	Milky.

Discharge measurements of springs in Tennessee, water year October 1952 to September 1953--Continued

Jefferson County--Continued

Spring	Location	Tributary to--	Date	Discharge (gallons per minute)	Temperature (degrees Fahrenheit)		Remarks
					Air	Water	
Mossy.....	1.1 miles east of Jefferson City Post Office.	Mossy Creek to Holston River.	Aug. 5	8,886	85	58	Cloudy.
Do.....	....do.....	....do.....	Sept.14	7,091	71	60	Milky.
Peck Mill..	¼ mile west of Jefferson City.	....do.....	Oct. 3	215	62	57	Clear.
Do.....	....do.....	....do.....	Nov. 5	121	59	58	Do.
Do.....	....do.....	....do.....	Dec. 3	211	57	45	Do.
Do.....	....do.....	....do.....	Jan. 6	269	37	57	Do.
Do.....	....do.....	....do.....	Feb. 16	1,566	52	57	Slightly milky.
Do.....	....do.....	....do.....	Mar. 11	1,423	60	57	Clear.
Do.....	....do.....	....do.....	Apr. 9	983	77	57	Do.
Do.....	....do.....	....do.....	May 14	619	79	58	Do.
Do.....	....do.....	....do.....	June 10	781	92	57	Do.

Knox County

Big Blue (published in WSP 713 as Deep Spring).	2.3 miles southwest of Hall Cross Road and 3 miles northwest of Fountain City.	Beaver Creek to Clinch River.	Oct. 9	489	63	58	Clear.
Do.....	....do.....	....do.....	Nov. 12	606	52	58	Slightly milky.
Do.....	....do.....	....do.....	Dec. 17	1,867	51	56	Milky.
Do.....	....do.....	....do.....	Jan. 7	938	58	56	Do.
Do.....	....do.....	....do.....	Feb. 17	4,757	33	54	Cloudy.
Do.....	....do.....	....do.....	Mar. 10	3,855	43	56	Milky.
Do.....	....do.....	....do.....	Apr. 8	1,521	56	55	Slightly milky.
Do.....	....do.....	....do.....	May 14	1,584	76	57	Clear.
Do.....	....do.....	....do.....	June 16	1,319	76	59	Milky.
Do.....	....do.....	....do.....	July 3	951	78	59	Clear.
Do.....	....do.....	....do.....	Aug. 4	723	84	59	Milky.
Do.....	....do.....	....do.....	Sept.15	565	84	60	Muddy.
Carter Mill	1 mile southeast of Trentville.	Lyon Creek to Holston River.	Oct. 4	601	69	59	Clear.
Do.....	....do.....	....do.....	Nov. 5	637	53	57	Do.
Do.....	....do.....	....do.....	Dec. 3	655	44	58	Milky.
Do.....	....do.....	....do.....	Jan. 7	767	42	57	Clear.
Do.....	....do.....	....do.....	Feb. 16	2,926	50	58	Muddy.
Do.....	....do.....	....do.....	Mar. 6	3,182	63	58	Slightly cloudy.
Do.....	....do.....	....do.....	Apr. 7	1,337	69	59	Clear.
Do.....	....do.....	....do.....	May 11	1,575	80	58	Slightly milky.
Do.....	....do.....	....do.....	June 3	1,310	79	59	Clear.

Marion County

Bible.....	1.0 mile southwest of Comfort.	Big Fiery Gizzard Creek to Battle Creek to Tennessee River.	Oct. 16	969	63	58	Clear.
Do.....	....do.....	....do.....	Nov. 24	1,332	50	57	Do.
Do.....	....do.....	....do.....	Dec. 12	4,699	47	57	Do.
Do.....	....do.....	....do.....	Jan. 19	5,619	45	56	Do.
Do.....	....do.....	....do.....	Feb. 19	5,947	49	53	Do.
Do.....	....do.....	....do.....	Mar. 24	5,655	55	54	Do.
Do.....	....do.....	....do.....	Apr. 23	4,860	61	54	Do.
Do.....	....do.....	....do.....	May 15	4,569	79	58	Do.
Do.....	....do.....	....do.....	June 3	4,165	89	59	Do.
Do.....	....do.....	....do.....	July 24	5,287	85	59	Do.
Do.....	....do.....	....do.....	Aug. 14	2,323	89	60	Do.
Do.....	....do.....	....do.....	Sept.11	1,198	78	59	Do.
Blowing....	Just below source at Sequatchie.	Owens Spring Branch to Little Sequatchie River.	Oct. 16	529	55	58	Do.
Do.....	....do.....	....do.....	Nov. 24	631	49	56	Do.
Do.....	....do.....	....do.....	Dec. 12	3,045	55	56	Do.
Do.....	....do.....	....do.....	Jan. 19	3,833	40	54	Do.
Do.....	....do.....	....do.....	Feb. 19	6,494	55	56	Do.
Do.....	....do.....	....do.....	Mar. 24	8,702	55	56	Do.
Do.....	....do.....	....do.....	Apr. 23	2,702	65	55	Do.
Do.....	....do.....	....do.....	May 7	3,653	70	56	Do.
Do.....	....do.....	....do.....	June 3	1,205	92	60	Do.
Do.....	....do.....	....do.....	July 24	2,338	96	60	
Do.....	....do.....	....do.....	Aug. 14	831	88	61	Do.
Do.....	....do.....	....do.....	Sept.11	646	80	60	Do.
Blue (published in WSP 713 as Smith's Blue Spring.	At Jasper.....	Town Creek to Sequatchie River.	Oct. 16	316	54	57	
Do.....	....do.....	....do.....	Nov. 24	300	48	54	Do.
Do.....	....do.....	....do.....	Dec. 12	3,381	54	57	Do.
Do.....	....do.....	....do.....	Jan. 19	9,465	38	52	Do.
Do.....	....do.....	....do.....	Feb. 19	17,252	52	54	Do.
Do.....	....do.....	....do.....	Mar. 24	25,582	50	54	Do.
Do.....	....do.....	....do.....	Apr. 23	5,807	62	56	Do.

Discharge measurements of springs in Tennessee, water year October 1952 to September 1953--Continued

Marion County--Continued

Spring	Location	Tributary to--	Date	Discharge (gallons per minute)	Temperature (degrees Fahrenheit)		Remarks
					Air	Water	
Blue (published in WSP 713 as Smith's Blue Spring.	At Jasper.....	Town Creek to Sequatchie River.	May 7	10,874	72	57	Clear.
Do.....	....do.....	....do.....	June 3	1,267	90	60	Do.
Do.....	....do.....	....do.....	July 24	5,614	95	60	Milky.
Do.....	....do.....	....do.....	Aug. 24	528	85	60	Clear.
Do.....	....do.....	....do.....	Sept.11	273	80	61	Do.
T. H. Martin No. 1.	At Martin Spring (Dove).	Battle Creek.....	Oct. 16	193	68	56	Do.
Do.....	....do.....	....do.....	Nov. 24	238	52	56	Do.
Do.....	....do.....	....do.....	Dec. 12	5,902	47	58	Do.
Do.....	....do.....	....do.....	Jan. 19	8,922	48	54	Do.
Do.....	....do.....	....do.....	Feb. 19	19,361	45	57	Do.
Do.....	....do.....	....do.....	Mar. 24	21,107	60	55	Do.
Do.....	....do.....	....do.....	Apr. 23	6,005	65	56	Do.
Do.....	....do.....	....do.....	May 8	36,263	75	58	Milky.
Do.....	....do.....	....do.....	June 3	1,267	90	59	Clear.
Do.....	....do.....	....do.....	July 24	4,479	92	58	
Do.....	....do.....	....do.....	Aug. 14	333	92	60	Do.
Do.....	....do.....	....do.....	Sept.11	221	80	62	Do.
T. H. Martin No. 2.	....do.....	....do.....	Oct. 16	544	65	55	Do.
Do.....	....do.....	....do.....	Nov. 24	984	53	54	Do.
Do.....	....do.....	....do.....	Dec. 12	16,926	45	53	Do.
Do.....	....do.....	....do.....	Jan. 19	19,388	45	52	Do.
Do.....	....do.....	....do.....	Feb. 19	30,774	47	51	Do.
Do.....	....do.....	....do.....	Mar. 24	30,514	57	53	Do.
Do.....	....do.....	....do.....	Apr. 23	12,293	62	53	Do.
Do.....	....do.....	....do.....	May 8	50,086	70	56	Milky.
Do.....	....do.....	....do.....	June 3	2,643	90	56	Clear.
Do.....	....do.....	....do.....	24	12,391	90	54	Milky.
Do.....	....do.....	....do.....	Aug. 14	632	90	57	Clear.
Do.....	....do.....	....do.....	Sept.11	552	78	62	-

Marshall County

Big.....	Farmington.....	East Rock Creek....	Nov. 3	220	58	60	Clear.
Do.....	....do.....	....do.....	Jan. 25	15,100	46	48	Turbid.

Maury County

Dixon.....	At Mt. Joy.....	West Fork to Big Bigby Creek to Duck River.	May 26	229	88	58	Clear.

McMinn County

Ingleside No. 3.	At Athens.....	Oostanaula Creek...	Aug. 14	67	77	60	-
Whiteside d/..	3½ miles southeast of Goodfield and 6½ miles northwest of Riceville.	Short Creek to Rogers Creek.	Oct. 15	748	68	59	Clear.

d Small spring between two larger ones from which Athens pumps its water.

Meigs County

Big.....	Big Spring.....	Agency Creek to Hiwassee River.	Oct. 15	601	65	59	Clear.
Marler.....	Near Goodfield.....	Goodfield Creek to Decatur Creek to Tennessee River.	15	130	75	59	-

Perry County

Bates.....	2.0 miles south of Lobelville.	Jones Hollow Branch to Lagoon Branch to Buffalo River.	July 29	292	70	57	Clear.
Do.....	....do.....	....do.....	Aug. 20	256	81	57	Do.
Do.....	....do.....	....do.....	Sept.16	247	83	58	Do.
Bunch Cave (Spring No. 444 in WSP 677).	At Horner, 5.0 miles northeast of Peters Landing.	Mayberry Branch to Cedar Creek to Tennessee River.	July 28	651	88	60	Turbid.
Do.....	....do.....	....do.....	Aug. 19	282	86	60	Clear.
Do.....	....do.....	....do.....	Sept.15	162	98	62	Do.
Hinson (Spring No. 464 in WSP 677).	2.8 miles east of Beardstown.	Cane Creek to Buffalo River.	June 4	2,710	90	58	-
Do.....	....do.....	....do.....	July 29	2,200	80	62	Clear.
Do.....	....do.....	....do.....	Aug. 20	1,790	82	61	Do.
Do.....	....do.....	....do.....	Sept.16	1,770	81	62	Do.
Hurricane Creek.	5.2 miles southeast of Linden.	Hurricane Creek to Buffalo River.	June 24	e10,100	89	62	-
Do.....	....do.....	....do.....	July 29	e9,340	88	60	Do.
Do.....	....do.....	....do.....	Aug. 20	e9,690	78	60	Do.
Do.....	....do.....	....do.....	Sept.16	e8,980	64	59	Do.

e Combined flow of several springs including Boiling Spring.

Discharge measurements of springs in Tennessee, water year October 1952 to September 1953--Continued

Perry County--Continued

Spring	Location	Tributary to--	Date	Discharge (gallons per minute)	Temperature (degrees Fahrenheit)		Remarks
					Air	Water	
Ledbetter (Spring No. 466 in WSP 677).	2.2 miles northeast of Lobelville.	Lost Creek to Buffalo River.	July 29	296	90	58	Clear.
Do.....	....do.....	....do.....	Aug. 18	283	86	59	Do.
Do.....	....do.....	....do.....	Sept.16	229	95	59	Do.
Sinking Creek (Spring No. 449b in WSP 677).	4 miles northeast of Flat Woods.	Sinking Creek to Buffalo River.	July 28	3,720	82	60	Do.
Do.....	....do.....	....do.....	Aug. 19	3,240	84	60	Do.
Do.....	....do.....	....do.....	Sept.15	3,120	67	60	Do.
Unnamed.....	4.7 miles northeast of Peters Landing.	Denton Hollow Branch to Mayberry Branch to Cedar Creek to Tennessee River.	July 28	117	90	60	Turbid.
Do.....	....do.....	....do.....	Aug. 19	54	86	61	Clear.
Do.....	....do.....	....do.....	Sept.15	40	83	60	Do.

Polk County

Maynor (Allen).	1½ miles southeast of Benton.	Fourmile Creek to Ocoee River.	Nov. 21	59	39	56	Clear.
Maynor (Allen)-Prestwood.	....do.....	....do.....	21	101	39	51	Do.
Shelton (Lee)	1¼ miles southeast of Benton.	....do.....	21	44	38	57	Do.

Roane County

Crystal (McKinney's).	4 miles northeast of Wheat.	East Fork Poplar Creek to Poplar Creek to Clinch River.	Oct. 6	530	60	57	Clear.
Do.....	....do.....	....do.....	Nov. 4	498	61	57	Do.
Do.....	....do.....	....do.....	Dec. 8	446	57	59	Do.
Do.....	....do.....	....do.....	Jan. 7	498	63	57	Do.
Do.....	....do.....	....do.....	Feb. 10	821	59	59	Do.
Do.....	....do.....	....do.....	Mar. 10	853	60	62	Do.
Do.....	....do.....	....do.....	Apr. 8	696	76	57	Do.
Do.....	....do.....	....do.....	May 14	754	72	65	Do.
Do.....	....do.....	....do.....	June 2	597	80	70	Do.
Factory (Post Oak).	2 miles east of Rockwood.	Post Oak Creek to Caney Creek to Tennessee River.	Oct. 2	458	64	59	Do.

Sequatchie County

Barker's.....	1½ miles northeast of Dunlap.	Big Brush Creek.....	Oct. 20	494	50	55	Clear.
Do.....	....do.....	....do.....	Nov. 26	669	52	57	Do.
Do.....	....do.....	....do.....	Dec. 18	2,280	51	57	Do.
Do.....	....do.....	....do.....	Jan. 23	3,694	58	57	Do.
Do.....	....do.....	....do.....	Feb. 19	4,367	50	53	Do.
Do.....	....do.....	....do.....	Mar. 23	4,255	57	56	Do.
Do.....	....do.....	....do.....	Apr. 23	3,406	63	57	Do.
Do.....	....do.....	....do.....	May 26	3,635	79	58	Do.
Do.....	....do.....	....do.....	June 26	1,782	80	60	Do.
Do.....	....do.....	....do.....	July 22	1,845	72	58	Do.
Do.....	....do.....	....do.....	Aug. 21	1,438	78	56	Do.
Do.....	....do.....	....do.....	Sept.21	758	70	59	Do.
Boynton.....	½ mile southwest of Daus.	Thurman Creek to Woodcock Creek to Sequatchie River.	Oct. 20	144	52	56	Do.
Do.....	....do.....	....do.....	Nov. 26	271	52	56	Do.
Do.....	....do.....	....do.....	Dec. 18	803	56	53	Do.
Do.....	....do.....	....do.....	Jan. 23	9,694	57	50	Do.
Do.....	....do.....	....do.....	Feb. 19	8,034	47	48	Do.
Do.....	....do.....	....do.....	Mar. 23	6,606	56	53	Do.
Do.....	....do.....	....do.....	Apr. 23	4,071	62	54	Do.
Do.....	....do.....	....do.....	May 26	3,402	75	62	Do.
Do.....	....do.....	....do.....	June 26	361	76	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....	Oct. 23	346	69	57	Clear.
Do.....	....do.....	....do.....	Nov. 26	328	36	51	-
Do.....	....do.....	....do.....	Dec. 9	434	70	57	-
Do.....	....do.....	....do.....	Jan. 28	1,120	37	55	-
Do.....	....do.....	....do.....	Feb. 27	961	-	55	-
Do.....	....do.....	....do.....	June 18	1,040	-	-	-
Do.....	....do.....	....do.....	24	889	85	56	Clear.
Brandon (Spring No. 16 in WSP 640).	1.5 miles southeast of Tharpe and 6.4 miles northwest of Dover.	Brandon Spring Branch to Bards Creek to Cumberland River.	24	826	93	57	Do.

Discharge measurements of springs in Tennessee, water year October 1952 to September 1953--Continued

Stewart County--Continued

Spring	Location	Tributary to--	Date	Discharge (gallons per minute)	Temperature (degrees Fahrenheit)		Remarks
					Air	Water	
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 Tobacco Port).	Shelby Creek to Cumberland River.	Oct. 23	552	71	57	-
Do.	....do.	....do.	Nov. 26	458	38	57	-
Do.	....do.	....do.	Dec. 9	691	70	57	-
Do.	....do.	....do.	Jan. 27	1,140	59	57	-
Do.	....do.	....do.	Feb. 26	1,000	56	55	-
Do.	....do.	....do.	Mar. 18	1,510	65	56	-
Do.	....do.	....do.	Apr. 13	1,020	56	56	-
Do.	....do.	....do.	May 19	1,630	73	66	-
Do.	....do.	....do.	June 19	669	-	59	-
Do.	....do.	....do.	24	916	90	57	Clear.
Shelby No. 2 (part of Spring No. 4 in WSP 640).	1.2 miles northeast of Tobaccoport).	....do.	Oct. 23	1,130	71	57	-
Do.	....do.	....do.	Nov. 26	1,130	38	57	-
Do.	....do.	....do.	Dec. 9	1,840	70	57	-
Do.	....do.	....do.	Jan. 27	2,440	58	57	-
Do.	....do.	....do.	Feb. 26	2,410	56	55	-
Do.	....do.	....do.	Mar. 18	3,420	65	56	-
Do.	....do.	....do.	Apr. 13	2,320	56	56	-
Do.	....do.	....do.	May 19	4,260	75	66	-
Do.	....do.	....do.	June 19	1,560	-	-	-
Do.	....do.	....do.	24	1,580	90	57	Clear.
Unnamed.	At "The Spring Grill" 2½ miles west of Dover.	Hinson Creek to Hickman Creek to Cumberland River.	24	516	87	58	Do.

Sullivan County

Wolford.	3¾ miles northwest of Blountville.	Reedy Creek to South Fork Holston River.	Oct. 2	417	64	55	Clear.
Do.	....do.	....do.	Nov. 3	462	46	56	Do.
Do.	....do.	....do.	Dec. 2	380	44	55	Do.
Do.	....do.	....do.	Jan. 7	637	60	55	Slightly milky.
Do.	....do.	....do.	Feb. 4	776	45	55	Clear.
Do.	....do.	....do.	Mar. 4	4,892	59	54	Muddy.
Do.	....do.	....do.	31	1,512	56	55	Clear.
Do.	....do.	....do.	May 4	929	82	56	Do.
Do.	....do.	....do.	June 1	1,171	77	56	Do.

Unicoi County

Birchfield.	2 miles northeast of Erwin.	North Indian Creek.	Oct. 1	902	71	57	Clear.
Do.	....do.	....do.	Nov. 4	1,019	50	56	Do.
Do.	....do.	....do.	Dec. 1	1,104	45	56	Do.
Do.	....do.	....do.	Jan. 6	1,082	-	56	Do.
Do.	....do.	....do.	Feb. 6	1,189	49	56	Do.
Do.	....do.	....do.	Mar. 2	1,486	56	56	Do.
Do.	....do.	....do.	31	1,252	61	56	Do.
Do.	....do.	....do.	May 4	1,988	75	55	Do.
Do.	....do.	....do.	June 1	1,521	80	56	Do.
United States Fisheries.	2½ miles northeast of Erwin.	....do.	Oct. 1	1,001	74	56	Do.
Do.	....do.	....do.	Nov. 4	1,041	50	55	Do.
Do.	....do.	....do.	Dec. 1	1,100	47	55	Do.
Do.	....do.	....do.	Jan. 6	1,005	43	55	Do.
Do.	....do.	....do.	Feb. 6	1,144	45	55	Do.
Do.	....do.	....do.	Mar. 2	1,297	58	56	Do.
Do.	....do.	....do.	31	1,086	60	56	Do.
Do.	....do.	....do.	May 4	1,257	70	56	Do.
Do.	....do.	....do.	June 1	1,279	80	57	Do.
Do.	....do.	....do.	July 6	1,126	78	57	Do.
Do.	....do.	....do.	Aug. 5	1,176	74	56	Do.
Do.	....do.	....do.	Sept. 4	1,032	83	56	Cloudy.

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.	Oct. 22	1,930	58	61	Clear.
Do.	....do.	....do.	Nov. 25	2,540	64	56	Do.
Do.	....do.	....do.	Dec. 29	2,020	-	-	Do.
Do.	....do.	....do.	Jan. 7	3,930	56	51	Do.
Do.	....do.	....do.	Feb. 24	10,400	44	50	Raining.
Do.	....do.	....do.	Mar. 17	9,010	56	53	Do.
Do.	....do.	....do.	Apr. 30	22,000	64	57	Turbid.
Do.	....do.	....do.	May 25	8,890	94	64	Clear.
Do.	....do.	....do.	June 23	2,600	94	68	-

Discharge measurements of springs in Tennessee, water year October 1952 to September 1953--Continued

White County

Spring	Location	Tributary to--	Date	Discharge (gallons per minute)	Temperature (degrees Fahrenheit)		Remarks
					Air	Water	
Blue.....	1½ miles above Calfkiller River and 4½ miles northeast of Sparta.	Blue Springs Creek to Calfkiller River.	Oct. 1	534	82	62	Clear.
Do.....	....do.....	....do.....	23	364	67	57	Do.
Do.....	....do.....	....do.....	Nov. 24	377	60	55	Do.
Do.....	....do.....	....do.....	Dec. 17	821	61	55	Do.
Do.....	....do.....	....do.....	Jan. 12	15,798	46	49	Muddy.
Do.....	....do.....	....do.....	Feb. 19	15,125	57	50	Clear.
Do.....	....do.....	....do.....	Mar. 25	16,067	37	52	Do.
Do.....	....do.....	....do.....	Apr. 16	12,030	54	52	Do.
Do.....	....do.....	....do.....	May 25	5,296	87	59	Do.
Do.....	....do.....	....do.....	June 25	1,391	89	74	Do.
Do.....	....do.....	....do.....	July 22	1,382	77	65	Do.
Do.....	....do.....	....do.....	Aug. 20	490	82	66	Do.
Do.....	....do.....	....do.....	Sept.21	502	68	61	Do.
Johnson's Mill (Taylor's Mill)	1½ miles southeast of Doyle.	Calfkiller River to Caney Fork.	Oct. 1	1,140	71	60	Do.
Do.....	....do.....	....do.....	23	785	68	59	Do.
Do.....	....do.....	....do.....	Nov. 25	754	58	58	Do.
Do.....	....do.....	....do.....	Dec. 17	1,849	43	57	Do.
Do.....	....do.....	....do.....	Jan. 13	6,373	47	57	Turbid.
Do.....	....do.....	....do.....	Feb. 19	8,752	53	56	Muddy.
Do.....	....do.....	....do.....	Mar. 23	7,827	57	58	Do.
Do.....	....do.....	....do.....	Apr. 23	5,754	67	58	Do.
Do.....	....do.....	....do.....	May 26	7,674	82	59	Do.
Do.....	....do.....	....do.....	June 25	2,513	83	60	Clear.
Lewis.....	On east side of Calfkiller River, 3 miles east of Doyle.	....do.....	Oct. 1	458	75	61	Do.
Do.....	....do.....	....do.....	23	338	69	58	Do.
Do.....	....do.....	....do.....	Nov. 25	326	58	55	Do.
Do.....	....do.....	....do.....	Dec. 17	338	45	53	Do.
Do.....	....do.....	....do.....	Jan. 13	2,536	45	57	Muddy.
Do.....	....do.....	....do.....	Feb. 19	5,655	55	58	Do.
Do.....	....do.....	....do.....	Mar. 23	5,745	57	58	Clear.
Do.....	....do.....	....do.....	Apr. 23	3,258	67	58	Do.
Do.....	....do.....	....do.....	May 26	3,505	83	59	Do.
Do.....	....do.....	....do.....	June 25	951	83	63	Do.
Reno Bridge.	200 ft below Reno Bridge and 2¾ miles southwest of Doyle.	Caney Fork.....	Oct. 1	229	71	60	Do.
Do.....	....do.....	....do.....	23	180	68	58	Do.
Do.....	....do.....	....do.....	Nov. 25	154	58	57	Do.
Do.....	....do.....	....do.....	Dec. 17	219	44	56	Do.
Do.....	....do.....	....do.....	Jan. 13	f2,253	52	58	Do.
Do.....	....do.....	....do.....	Feb. 19	f2,432	57	56	Do.
Do.....	....do.....	....do.....	Mar. 23	f1,589	57	58	Do.
Do.....	....do.....	....do.....	Apr. 23	f699	70	57	Do.
Do.....	....do.....	....do.....	May 26	f1,503	77	58	Do.
Do.....	....do.....	....do.....	June 25	654	83	60	Do.
Do.....	....do.....	....do.....	July 22	4,878	70	61	Do.
Do.....	....do.....	....do.....	Aug. 20	355	83	60	Do.
Do.....	....do.....	....do.....	Sept.22	197	64	60	Do.
Town Creek..	Head of Town Creek, 2 miles west of Sparta.	Town Creek to Calfkiller River.	Oct. 1	g14,400	82	61	Do.
Do.....	....do.....	....do.....	23	g1,203	65	59	Do.
Do.....	....do.....	....do.....	Nov. 24	g1,077	62	58	Do.
Do.....	....do.....	....do.....	Dec. 17	g1,517	54	57	Muddy.
Do.....	....do.....	....do.....	Jan. 12	g10,322	46	57	Do.
Do.....	....do.....	....do.....	Feb. 19	g20,420	58	57	Do.
Do.....	....do.....	....do.....	Mar. 25	g17,862	57	57	Clear.
Do.....	....do.....	....do.....	Apr. 16	g15,260	57	58	Muddy.
Do.....	....do.....	....do.....	May 25	g10,726	85	59	Clear.
Do.....	....do.....	....do.....	June 25	g4,313	85	60	Muddy.

f Partly estimated.
g Includes smaller spring 900 ft downstream from main spring.

Measurements of streamflow in the Cumberland and Tennessee River basins made at points other than gaging stations are given in the following table. Determinations of peak flow at points other than gaging stations are given in a separate table on page 267.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953

Cumberland River basin

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Jan. 15	Yellow Creek bypass.	Cumberland River...	At Middlesboro, Bell County, Ky.....	59.2
Mar. 30	....do.....	....do.....	....do.....	40.9
Aug. 4	....do.....	....do.....	....do.....	8.52
Oct. 24	Hickory Creek....	Clear Fork to Cumberland River.	At bridge on State Highway 90, 1 mile upstream from mouth and 5.1 miles southeast of Jellico, Campbell County, Tenn.	.82
24	Elk Fork Creek...	....do.....	At county highway bridge $\frac{1}{2}$ mile below Southern Ry. bridge, 1.0 mile south of Kentucky-Tennessee State line and 1 mile southwest of Jellico, Campbell County, Tenn.	.72
Sept.24	Clear Fork.....	Cumberland River...	At bridge on U. S. Highway 25, 5.4 miles south of Williamsburg, Whitley County, Ky.	5.6
24	Jellicoe Creek...	....do.....	At bridge on State Highway 92, 7.7 miles southwest of Williamsburg, Whitley County, Ky.	0
23	Roundstone Creek.	Rockcastle River...	$\frac{1}{4}$ mile below bridge on U. S. Highway 25, at Livingston, Rockcastle County, Ky.	3.2
23	Rockcastle River.	Cumberland River...	At Louisville & Nashville R. R. bridge at Livingston, Rockcastle County, Ky.	2.4
Nov. 10	Big South Fork Cumberland River.	....do.....	150 ft upstream from Oneida and Western R. R. bridge and 6.2 miles west of Helenwood, Scott County, Tenn. (published in WSP 603 as South Fork of Cumberland River near Oneida).	b9.7
Dec. 10	....do.....	....do.....	....do.....	b1,250
11	....do.....	....do.....	....do.....	b8,500
Feb. 17	....do.....	....do.....	....do.....	b2,570
Mar. 26	....do.....	....do.....	....do.....	b2,180
Apr. 21	....do.....	....do.....	....do.....	b1,810
May 26	....do.....	....do.....	....do.....	b727
June 23	....do.....	....do.....	....do.....	b475
Aug. 18	....do.....	....do.....	....do.....	b74.8
Sept.21	Little South Fork Cumberland River.	South Fork Cumberland River.	At bridge on State Highway 92, 8.2 miles east of Oil Valley, Wayne County, Ky.	2.9
21	Beaver Creek.....	Cumberland River...	At bridge on State Highway 90, 2 miles west of Monticello, Wayne County, Ky.	5.2
21	Otter Creek.....	Beaver Creek.....	At bridge on State Highway 90, $1\frac{3}{4}$ miles west of Susie, Wayne County, Ky.	4.0
19	Procter Creek....	Cumberland River...	At bridge on State Highway 52, 1 mile upstream from mouth and $1\frac{1}{4}$ miles northwest of Celina, Clay County, Tenn.	0
Oct. 13	Jennings Creek...	....do.....	Above Big Spring, 1 mile west of Whitleyville, Jackson County, Tenn.	ab.75
Nov. 7	....do.....	....do.....	....do.....	.21
Dec. 8	....do.....	....do.....	....do.....	b3.70
Jan. 14	....do.....	....do.....	....do.....	12.2
Feb. 16	....do.....	....do.....	....do.....	b27.0
Mar. 16	....do.....	....do.....	....do.....	11.8
Apr. 15	....do.....	....do.....	....do.....	22.8
Oct. 13	....do.....	....do.....	Below Big Spring, 1 mile west of Whitleyville, Jackson County, Tenn.	b2.91
Nov. 7	....do.....	....do.....	....do.....	2.17
Dec. 8	....do.....	....do.....	....do.....	b10.4
Jan. 14	....do.....	....do.....	....do.....	34.8
Feb. 16	....do.....	....do.....	....do.....	b74.4
Mar. 16	....do.....	....do.....	....do.....	41.5
Apr. 15	....do.....	....do.....	....do.....	70.9
Oct. 22	Charles Creek....	Collins River.....	At county highway bridge at Faulkner Springs, 3 miles northeast of McMinnville, Warren County, Tenn.	13.3
Jan. 28	Pine Creek.....	Caney Fork.....	Above Pine Creek Springs, 1,000 ft above bridge on State Highway 146, $3\frac{1}{2}$ miles southwest of Smithville, DeKalb County, Tenn.	1.81
Oct. 23	....do.....	....do.....	At bridge on State Highway 146, below Pine Creek Springs, $3\frac{1}{2}$ miles southwest of Smithville, DeKalb County, Tenn.	1.18
Nov. 7	....do.....	....do.....	....do.....	1.06
Dec. 8	....do.....	....do.....	....do.....	1.06
Jan. 28	....do.....	....do.....	....do.....	3.88
28	Shining Rock Creek.	Pine Creek.....	Above Wharton Spring, $2\frac{1}{2}$ miles south of Smithville, DeKalb County, Tenn.	.62
Mar. 17	....do.....	....do.....	....do.....	.32
Apr. 17	....do.....	....do.....	....do.....	.37

a Estimated.
t Furnished by Corps of Engineers.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Cumberland River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
May 28	Shining Rock Creek.	Pine Creek.....	Above Wharton Spring, 2¾ miles south of Smithville, DeKalb County, Tenn.	0.20
June 18	....do.....	....do.....	....do.....	a.10
July 16	....do.....	....do.....	....do.....	a.01
Aug. 27	....do.....	....do.....	....do.....	0
Oct. 23	....do.....	....do.....	Below Wharton Spring, 2¾ miles south of Smithville, DeKalb County, Tenn.	1.21
Nov. 7	....do.....	....do.....	....do.....	1.31
Dec. 8	....do.....	....do.....	....do.....	1.20
Jan. 28	....do.....	....do.....	....do.....	3.24
Mar. 17	....do.....	....do.....	....do.....	2.92
Apr. 17	....do.....	....do.....	....do.....	3.09
May 28	....do.....	....do.....	....do.....	2.66
June 18	....do.....	....do.....	....do.....	2.46
July 16	....do.....	....do.....	....do.....	1.74
Aug. 27	....do.....	....do.....	....do.....	1.52
Sept.22	....do.....	....do.....	....do.....	1.29
July 16	Dry Creek.....	Smith Fork.....	At bridge on State Highway 26, at east edge of Dowelltown, DeKalb County, Tenn., 2/3 mile upstream from mouth.	0
Aug. 19	Peyton Creek.....	Cumberland River...	100 ft downstream from bridge on State Highway 80, at Pleasant Shade Smith County, Tenn.	0
Sept. 9	Goose Creek.....	Big Goose Creek....	At county bridge at Beech Grove, 4½ miles northeast of Hartsville, Trousdale County, Tenn.	a.5
9	....do.....	....do.....	At bridge on old State Highway 10, 3½ miles northeast of Hartsville, Trousdale County, Tenn.	0
9	....do.....	....do.....	At bridge on State Highway 25, 2 miles east of Hartsville, Trousdale County, Tenn.	0
9	Little Goose Creek.	....do.....	At bridge on State Highway 25 at Hartsville, Trousdale County, Tenn.	0
9	Second Creek.....	Cumberland River...	At bridge on State Highways 10 and 25, ¾ mile upstream from mouth and 2 miles west of Hartsville, Trousdale County, Tenn.	0
Aug. 25	Cedar Creek.....	....do.....	At bridge on U. S. Highway 70N, 6 miles east of Lebanon, Wilson County, Tenn.	0
Sept. 9	Rocky Creek.....	....do.....	At bridge on State Highways 10 and 25, 4½ miles west of Hartsville, Trousdale County, Tenn.	0
9	....do.....	....do.....	At bridge on State Highway 10, 2¾ miles upstream from mouth and 5½ miles southwest of Hartsville, Trousdale County, Tenn.	0
Aug. 19	Spring Creek.....	....do.....	At bridge on U. S. Highway 70N, 3 miles east of Lebanon, Wilson County, Tenn.	a.01
25	....do.....	....do.....	....do.....	0
Sept. 9	....do.....	....do.....	At bridge on State Highway 10, 1½ miles southwest of Hunter Point, 5 miles north of Lebanon, Wilson County, Tenn.	0
9	Bledsoe Creek....	....do.....	At bridge on State Highway 10A, 4½ miles south of Westmoreland, Sumner County, Tenn.	0
9	....do.....	....do.....	At county highway bridge at Bethpage, Sumner County, Tenn.	0
9	....do.....	....do.....	At county highway bridge, 2 miles east of Rogana and 2½ miles southwest of Bethpage, Sumner County, Tenn.	0
9	....do.....	....do.....	At bridge on State Highway 25, 1¾ miles west of Castalian Springs, Sumner County, Tenn.	0
9	Station Camp Creek.	....do.....	At county highway bridge at Ocana, 6½ miles west of Gallatin, Sumner County, Tenn.	0
9	....do.....	....do.....	At county highway bridge, 2 miles northeast of Saundersville and 4¼ miles southwest of Gallatin, Sumner County, Tenn.	0
9	East Fork Station Camp Creek c/	Station Camp Creek.	At bridge on county road, 1.8 miles west of Gallatin, Sumner County, Tenn.	0
9	Liberty Branch...	East Fork Station Camp Creek.	At bridge on county road, 3.1 miles west of Gallatin, Sumner County, Tenn.	0
July 16	Spencer Creek....	Cumberland River...	At bridge on U. S. Highway 70N, 6 miles west of Lebanon, Wilson County, Tenn.	0
Aug. 19	Cedar Creek.....	....do.....	At bridge on U. S. Highway 70N, 2½ miles north of Mount Juliet, Wilson County, Tenn.	0
Sept. 9	Drake Creek (published in WSP 1206 as Drakes Creek).	....do.....	At bridge on U. S. Highway 31E at east edge of Hendersonville, Sumner County, Tenn.	0
9	Mansker Creek....	....do.....	At bridge on U. S. Highway 31E, 3.0 miles west of Hendersonville, Sumner County, Tenn.	0

a Estimated.
c Measurements published in previous water-supply papers as East Fork Station Camp Creek should have been designated as Town Creek.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Cumberland River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Aug. 29	Hurricane Creek..	Middle Fork Stones River.	At bridge on U. S. Highway 41, 10 miles southeast of Murfreesboro, Rutherford County, Tenn.	0
29	Lytle Creek.....	West Fork Stones River.	At new bridge on U. S. Highway 41, at Murfreesboro, Rutherford County, Tenn.	0
Oct. 27	Stewart Creek....	Stones River.....	At Corps of Engineers gaging station at Sewart Air Force Base, 3 miles northwest of Smyrna, Rutherford County, Tenn.	b.18
Dec. 4	....do.....	....do.....	....do.....	b9.39
18	....do.....	....do.....	....do.....	b9.3
Jan. 9	....do.....	....do.....	....do.....	b72.7
Feb. 12	....do.....	....do.....	....do.....	b968
24	....do.....	....do.....	....do.....	b207
Mar. 3	....do.....	....do.....	....do.....	b1,840
3	....do.....	....do.....	....do.....	b1,760
3	....do.....	....do.....	....do.....	b1,440
3	....do.....	....do.....	....do.....	b1,260
13	....do.....	....do.....	....do.....	b97.8
Apr. 16	....do.....	....do.....	....do.....	113
28	....do.....	....do.....	....do.....	b30.7
30	....do.....	....do.....	....do.....	b1,770
May 15	....do.....	....do.....	....do.....	b268
June 10	....do.....	....do.....	....do.....	b14.9
July 14	....do.....	....do.....	....do.....	b2.54
Aug. 5	....do.....	....do.....	....do.....	b2.50
Sept. 1	....do.....	....do.....	....do.....	b.47
15	....do.....	....do.....	....do.....	b.03
Aug. 29	Hurricane Creek..	....do.....	At bridge on U. S. Highways 41 and 70S at Davidson-Rutherford County line, $\frac{3}{4}$ mile northwest of LaVergne, Tenn.	0
Apr. 29	Stones River.....	Cumberland River...	At site of old gaging station at Stewarts Ferry bridge, 2.8 miles southeast of Donelson, Davidson County, Tenn.	347
24	Mill Creek.....	....do.....	200 ft downstream from bridge on Thompson Lane and $1\frac{3}{4}$ miles northeast of Radnor, Davidson County, Tenn.	d47.2
24	....do.....	....do.....	100 ft downstream from bridge on Elm Hill Road, $1\frac{1}{2}$ miles west of Mudtavern and 3 miles southwest of Donelson, Davidson County, Tenn.	d56.5
Sept. 8	Harpeth River....	....do.....	At ford just above Louisville and Nashville R. R. bridge, $2\frac{1}{4}$ miles north of College Grove, Williamson County, Tenn.	0
8	Nelson Creek.....	Harpeth River.....	At county bridge, $\frac{1}{2}$ mile above mouth, 2 miles southwest of Triune, Williamson County, Tenn.	0
8	McClorys Branch..	....do.....	At county bridge, 0.6 mile above mouth, $4\frac{1}{2}$ miles northwest of College Grove, Williamson County, Tenn.	0
8	Arrington Creek..	....do.....	At county bridge, $2\frac{3}{4}$ miles west of Triune, Williamson County, Tenn.	0
8	Starnes Creek....	....do.....	At county bridge $\frac{1}{2}$ mile above mouth and $5\frac{1}{2}$ miles northwest of College Grove, Williamson County, Tenn.	0
4	Turnbull Creek...	....do.....	1 mile upstream from highway bridge, $1\frac{1}{2}$ miles west of Kingston Springs, Cheatham County, Tenn.	21.8
Jan. 15	Cumberland River.	Ohio River.....	$\frac{1}{2}$ mile upstream from Cheatham Dam site, $2\frac{1}{2}$ miles south of Neptune, Cheatham County, Tenn.	b19,900
Aug. 10	....do.....	....do.....	....do.....	b11,800
June 24	Bear Creek.....	Cumberland River.	At first bridge above mouth, 4 miles northwest of Dover, Stewart County, Tenn.	0
24	Brandon Spring Branch	Bards Creek.....	Just downstream from bridge on State Highway 49, $1\frac{3}{4}$ miles south of Tharpe and 6 miles northwest of Dover, Stewart County, Tenn.	0
Jan. 27	Shelby Creek.....	Cumberland River...	Above Shelby Springs, above county bridge, 1.2 miles northeast of Tobaccoport, Stewart County, Tenn.	ab.5
Feb. 26	....do.....	....do.....	....do.....	b.14
Mar. 18	....do.....	....do.....	....do.....	b5.09
Apr. 13	....do.....	....do.....	....do.....	b.12
May 19	....do.....	....do.....	....do.....	b4.81
June 19	....do.....	....do.....	....do.....	b.02
24	....do.....	....do.....	....do.....	0
Oct. 23	....do.....	....do.....	Below Shelby Spring No. 2, just below county bridge, 1.2 miles northeast of Tobaccoport, Stewart County, Tenn.	2.52
Nov. 26	....do.....	....do.....	....do.....	b2.51
Dec. 9	....do.....	....do.....	....do.....	3.65
Jan. 27	....do.....	....do.....	....do.....	b5.94
Feb. 26	....do.....	....do.....	....do.....	b5.51
Mar. 18	....do.....	....do.....	....do.....	b12.7
Apr. 13	....do.....	....do.....	....do.....	b5.29

a Estimated.
b Furnished by Corps of Engineers.
d Furnished by Tennessee Department of Public Health.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Cumberland River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
May 19	Shelby Creek.....	Cumberland River..	Below Shelby Spring No 2, just below county bridge, 1.2 miles northeast of Tobaccoport, Stewart County, Tenn.		b14.3
June 19	....do.....	....do.....	....do.....		b3.50
24	....do.....	....do.....	....do.....		b3.52
Sept.25	Sinking Fork.....	Little River.....	At bridge on State Highway 117, 2 miles south of Gracey, Christian County, Ky.		0
25	Muddy Fork.....	....do.....	At bridge on State Highway 139, 4 miles north of Cadiz, Trigg County, Ky.		6.4
28	Eddy Creek.....	Cumberland River..	At bridge on State Highway 93, 4 miles southeast of Eddyville, Lyon County, Ky.		5.0

b Furnished by Corps of Engineers.

Tennessee River basin

Nov. 13	West Fork French Broad River.	French Broad River	At county road bridge, 0.1 mile above North Fork at Rosman, N. C.	29.4	28.3
13	Middle Fork French Broad River.	....do.....	At county road bridge, 0.2 mile above mouth and 1 mile southeast of Rosman, N. C.	5.63	5.64
13	East Fork French Broad River.	....do.....	At county bridge 1 mile above mouth and 1.4 miles southeast of Rosman, N. C.	25.9	25.6
14	Turkey Creek.....	Davidson River....	0.1 mile above mouth and 1.3 miles north of Pisgah Forest, N. C.	5.55	5.23
13	Big Willow Creek..	French Broad River	At county bridge, 0.2 miles above mouth and 3.6 miles east of Blantyre, N. C.	9.11	8.51
14	South Fork Mills River.	Mills River.....	At former gaging station at The Pink Beds, 9 miles north of Brevard, N. C.	9.99	6.21
14	....do.....	....do.....	....do.....		6.01
14	North Fork Mills River.	....do.....	0.4 mile above mouth and 2.8 miles west of Mills River, N. C.	24.1	13.6
13	Johnson drainage ditch.	Mud Creek.....	Below Devils Fork on U. S. Highway 64 at Hendersonville, N. C., and 1 mile above mouth.	24.7	10.7
Sept.15	Cane Creek.....	French Broad River	150 ft upstream from U. S. Highway 74 at Fairview, N. C.	18.5	3.84
Nov. 12	Hooper Creek.....	Cane Creek.....	At Asheville-Hendersonville Airport, 1.2 miles above mouth, near Fletcher, N. C.	15.5	4.77
17	Avery Creek.....	French Broad River	At mouth, 3.4 miles northeast of Fletcher, N. C.	8.59	6.65
13	North Hominy Creek	Hominy Creek.....	On U. S. Highway 19 at mouth, 1.2 miles east of Canton, N. C.	7.82	2.97
13	Hominy Creek.....	French Broad River	On State Highway 112, 0.1 mile above South Hominy Creek at Candler, N. C.	30.2	10.9
13	Pole Creek.....	Hominy Creek.....	On U. S. Highway 19, 0.3 mile above mouth and 0.8 mile northeast of Candler, N. C.	9.58	3.37
17	Swannanoa River...	French Broad River	At Southern Ry. bridge, 0.2 mile above North Fork at Grovestone near Black Mountain, N. C.	21.2	8.02
12	Gashes Creek.....	Swannanoa River..,	On U. S. Highway 74 at Fairview, N. C. 0.8 mile above mouth.	6.15	1.73
Sept.15	....do.....	....do.....	....do.....		.93
Nov. 12	Haw Creek.....	....do.....	On State Highway 81 at mouth, 1.2 miles northeast of Biltmore, N. C.	4.57	.81
17	Sweeten Creek.....	....do.....	At mouth, in Biltmore, N. C.	5.46	1.71
17	Mill Creek.....	French Broad River	At mouth, 1.6 miles northeast of post office in West Asheville, N. C.	6.85	2.77
14	Beaverdam Creek...	....do.....	At State Highway 191 at mouth at Elk Mountain, N. C.	12.4	1.69
17	Newfound Creek....	....do.....	At county road bridge, 1 mile above mouth and 2.6 miles southwest of Alexander, N. C.	34.2	9.63
Sept.18	Reems Creek.....	....do.....	150 ft downstream from county highway bridge, 0.3 mile upstream from U. S. Highway 23, at Weaverville, N. C.	30.3	f.94

f Represents residual flow below all diversions for water supply to town of Weaverville, N. C.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Nov. 14	Reems Creek.....	French Broad River	At U. S. Highway 25 at mouth, 0.5 mile south of Alexander, N. C.	36.3	4.62
14	Flat Creek.....	....do.....	On U. S. Highway 25 at mouth, 1.2 miles northeast of Alexander, N. C.	24.7	3.21
June 19	Corner Rock Creek.	Dillingham Creek..	40 ft above Walker Branch and 4.2 miles southeast of Barnardsville, N. C.	3.72	2.24
19	Walker Branch.....	....do.....	40 ft above mouth and 4.2 miles southeast of Barnardsville, N. C.	4.27	3.23
19	Martin Creek.....	North Fork Dillingham Creek.	500 ft above unnamed branch, 2.4 miles above mouth and 4.0 miles northeast of Barnardsville, N. C.	.88	.47
Nov. 12	Ivy River.....	French Broad River	On U. S. Highway 19 above Little Ivy River at Forks of Ivy, 2.5 miles south of Mars Hill, N. C.	60.0	14.4
Sept.18	....do.....	....do.....	....do.....		4.73
Nov. 12	Little Ivy River..	Ivy River.....	At mouth of Forks of Ivy, 2.5 miles south of Mars Hill, N. C.	46.5	7.45
Sept.18	....do.....	....do.....	....do.....		3.36
Nov. 12	Bull Creek.....	....do.....	At mouth of Sexton, 4 miles southwest of Mars Hill, N. C.	22.9	3.31
13	Big Pine Creek....	French Broad River.	At mouth at Barnard, N. C.	16.6	2.73
12	Shelton Laurel Creek.	Big Laurel Creek..	At mouth on State Highway 208, 3.2 miles northeast of Stackhouse, N. C.	54.7	16.5
13	Spring Creek.....	French Broad River	At State Highway 209, 0.5 mile southwest of Hot Springs, N. C.	71.9	16.3
12	West Fork Pigeon River.	Pigeon River.....	0.3 mile above East Fork at Woodrow, N. C.	64.8	g30.7
13	East Fork Pigeon River.	....do.....	0.2 mile above West Fork at Silver Bluff, N. C.	52.8	30.9
12	Beaverdam Creek...	....do.....	At mouth at Fiberville, 0.7 mile northwest of Canton, N. C.	11.2	2.56
Oct. 2	Richland Creek....	....do.....	100 ft upstream from Allen Creek at Hazelwood, N. C.	13.3	14.4
Nov. 7	....do.....	....do.....	....do.....		14.6
Jan. 14	....do.....	....do.....	....do.....		39.4
Feb. 5	....do.....	....do.....	....do.....		30.0
Mar. 5	....do.....	....do.....	....do.....		60.7
Apr. 2	....do.....	....do.....	....do.....		39.5
May 12	....do.....	....do.....	....do.....		41.0
June 9	....do.....	....do.....	....do.....		23.1
July 2	....do.....	....do.....	....do.....		9.80
Aug. 12	....do.....	....do.....	....do.....		15.6
Sept. 8	....do.....	....do.....	....do.....		16.0
Nov. 12	....do.....	....do.....	At Southern Ry. bridge 1.4 miles above Lake Junaluska and 1.5 miles northeast of Waynesville, N. C.	48.0	24.3
12	Crabtree Creek....	....do.....	0.2 mile above mouth and 0.6 mile west of Crabtree, N. C.	25.3	5.24
Sept.11	Pigeon River.....	French Broad River	At Hartford, 4½ miles downstream from Big Creek and Tennessee-North Carolina State line and 10¾ miles south of Newport, Cocke County, Tenn.	-	259
29	....do.....	....do.....	....do.....		45.9
11	....do.....	....do.....	1.3 mile downstream from Sinking Creek, 2.1 miles upstream from mouth, and 2.7 miles north of Newport, Cocke County, Tenn.	-	217
29	....do.....	....do.....	....do.....	-	84.9
Nov. 18	Crabtree Creek....	North Toe River...	At U. S. Highway 19E, 1.7 miles east of Newdale, N. C., and 3.7 miles above mouth.	16.6	9.00
Oct. 6	South Toe River...	....do.....	At site of former gaging station on U. S. Highway 19E at Newdale, N. C.	60.8	32.4
7	....do.....	....do.....	....do.....		36.4
Nov. 4	....do.....	....do.....	....do.....		31.5
Dec. 8	....do.....	....do.....	....do.....		66.5
Jan. 7	....do.....	....do.....	....do.....		82.2
Feb. 3	....do.....	....do.....	....do.....		162
Mar. 10	....do.....	....do.....	....do.....		206
Apr. 7	....do.....	....do.....	....do.....		215
May 4	....do.....	....do.....	....do.....		110
June 2	....do.....	....do.....	....do.....		45.6
July 1	....do.....	....do.....	....do.....		37.1
Aug. 18	....do.....	....do.....	....do.....		37.5
Sept. 2	....do.....	....do.....	....do.....		18.0
Nov. 18	Little Crabtree Creek.	South Toe River...	At U. S. Highway 19E, 0.3 mile west of Micaville, N. C. and 0.8 mile above mouth.	16.7	6.26

g Possibly affected by regulation at Lake Logan.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Nov. 18	Jacks Creek.....	North Toe River...	At mouth on State Highway 197, 2.9 miles southeast of Huntdale, N. C.	20.7	5.22
18	Pigeon Roost Creek	....do.....	At mouth on State Highway 26, 1.7 miles northeast of Huntdale, N. C.	14.1	3.02
18	Big Creek.....	Cane River.....	At mouth on U. S. Highway 19W at Sioux, N. C.	7.98	1.25
Sept.24	Little Limestone Creek.	Nolichucky River..	At bridge on U. S. Highway 11E at Jonesboro, Washington County, Tenn.	-	1.75
24	Richland Creek....	....do.....	At University of Tennessee Experiment Farm near Greeneville, Greene County, Tenn.	-	4.35
Oct. 3	Gap Creek.....	Lick Creek.....	At bridge on U. S. Highway 11E. 0.1 mile upstream from mouth and 2.0 miles from Mohawk, Greene County, Tenn.	-	0
3	Whitehorn Creek...	Bent Creek.....	100 ft downstream from bridge on U. S. Highway 11E at Bulls Gap, Hawkins County, Tenn.	-	0
8	Long Creek.....	Nolichucky River..	At bridge on U. S. Highway 25E, ½ mile north of White Pine, Jefferson County, Tenn.	-	3.08
Sept.24	....do.....	....do.....	....do.....		3.92
Nov. 17	Little Pigeon River.	French Broad River	600 ft downstream from bridge on Gatlinburg Rd., 1½ miles southwest of Pittman Center, Sevier County, Tenn., and 1.6 miles upstream from Webb Creek.	-	11.0
Sept.24	....do.....	....do.....	....do.....		12.6
Nov. 17	Webb Creek.....	Little Pigeon River.	10 ft downstream from Lindsay Creek and 2 miles upstream from mouth at Pittman Center, Sevier County, Tenn.	-	3.14
Oct. 24	Little Pigeon River.	French Broad River	At Hadsden Bridge on U. S. Highway 411, 3½ miles east of Sevierville, Sevier County, Tenn.	-	18.3
Sept.24	....do.....	....do.....	....do.....		20.1
Oct. 24	East Fork Little Pigeon River.	Little Pigeon River.	15 ft below bridge on U. S. Highway 411, 1.3 miles above mouth and 4.8 miles east of Sevierville, Sevier County, at Harrisburg, Tenn.	-	5.18
Nov. 17	....do.....	....do.....	....do.....		7.12
Sept.24	....do.....	....do.....	....do.....		3.86
Oct. 24	West Fork Little Pigeon River.	....do.....	25 ft below bridge on U. S. Highway 411 at park headquarters, 2 miles above Fighting Creek, and 2.5 miles south of Gatlinburg, Sevier County, Tenn.		8.16
Nov. 17	....do.....	....do.....	....do.....		4.54
Sept.24	....do.....	....do.....	....do.....		3.28
Nov. 17	LeConte Creek.....	West Fork Little Pigeon River.	At U. S. Highway 441 bridge, 0.1 mile above mouth in Gatlinburg, Sevier County, Tenn.	-	1.09
17	Roaring Fork Creek	....do.....	20 ft above U. S. Highway 441 and 80 ft above mouth in Gatlinburg, Sevier County, Tenn.	-	1.86
Sept.24	West Fork Little Pigeon River.	Little Pigeon River.	350 ft below bridge on State Highway 71 and 1.6 miles northwest of Pigeon Forge, Sevier County, Tenn.	-	13.2
Nov. 17	Walden Creek.....	West Fork Little Pigeon River.	100 ft above bridge on paved county road, ½ mile above mouth, and 2½ miles northwest of Pigeon Forge, Sevier County, Tenn.	-	6.05
Sept.24	Guess Creek.....	Little Pigeon River.	At bridge on U. S. Highway 411, 2 miles southwest of Sevierville, Sevier County, Tenn.	-	0
23	Beaverdam Creek...	Laurel Creek.....	At bridge on U. S. Highway 421 at Shady Valley, Johnson County, Tenn.	-	3.67
23	Sinking Creek.....	Beidleman Creek...	At bridge on U. S. Highway 421, 3 miles upstream from mouth, southeast of Bristol, Sullivan County, Tenn.	-	5.27
Oct. 13	Dickey Creek.....	South Fork Holston River.	At Sugar Grove, Va.....	7.31	1.29
3	Bear Creek.....	Middle Fork Holston River.	800 ft upstream from mouth and 1 mile west of Atkins, Va.	14.4	.484
3	Middle Fork Holston River.	South Fork Holston River.	300 ft downstream from Bear Creek and 1 mile west of Atkins, Va.	50.6	5.86

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Oct. 13	Staley Creek.....	Middle Fork Holston River.	Above fish hatchery on State Highway 16, 2½ miles southeast of Marion, Va.	8.34	2.02
Sept. 2	Unnamed stream....	Staley Creek.....	3 miles upstream from mouth in Currin Valley and 2 miles southeast of Marion, Va.	-	.181
29	....do.....	....do.....	....do.....	-	.219
2	....do.....	....do.....	2½ miles upstream from mouth in Currin Valley and 2 miles southeast of Marion, Va.	-	.156
29	....do.....	....do.....	....do.....		.097
2	....do.....	....do.....	2 miles upstream from mouth in Currin Valley and 2 miles south of Marion, Va.	-	.024
29	....do.....	....do.....	....do.....		0
Oct. 14	Hungry Mother Creek.	Middle Fork Holston River.	At bridge on State Highway 16, 2¼ miles north of Marion, Va.	13.9	.091
14	Garlock Creek.....	....do.....	1,200 ft above mouth at Chilhowie, Va.	7.18	.281
14	Wolf Creek.....	South Fork Holston River.	At bridge on U. S. Highway 11 at Abingdon, Va.	4.85	3.04
28	....do.....	....do.....	....do.....		2.60
June 17	Beaver Creek.....	....do.....	At Virginia-Tennessee State line in Bristol, Va.-Tenn.		d28.0
9	....do.....	....do.....	At first bridge downstream from Virginia-Tennessee State line in Bristol, Sullivan County, Tenn.	-	d32.1
10	....do.....	....do.....	....do.....		d35.3
Mar. 31	....do.....	....do.....	At 8th and Shelby Sts., 0.15 mile upstream from Mumpower Creek, Bristol, Sullivan County, Tenn.	-	53.5
July 2	....do.....	....do.....	....do.....		23.4
Sept.23	....do.....	....do.....	....do.....		10.7
Oct. 7	Mumpower Creek....	Beaver Creek.....	On State Highway 641 at Norfolk and Western Ry. underpass, 1.8 miles north of Bristol, Va.	-	.731
Mar. 31	....do.....	....do.....	200 ft upstream from mouth, at Broad St., Bristol, Sullivan County, Tenn.	-	10.9
June 9	....do.....	....do.....	....do.....		d3.80
10	....do.....	....do.....	....do.....		d4.88
17	....do.....	....do.....	....do.....		d4.43
July 2	....do.....	....do.....	....do.....		d3.60
Sept.23	....do.....	....do.....	....do.....		1.47
Mar. 31	Beaver Creek.....	South Fork Holston River.	At sewage disposal plant, 2 miles northwest of Bristol city limits, Sullivan County, Tenn.	-	64.5
June 9	....do.....	....do.....	....do.....		d38.0
10	....do.....	....do.....	....do.....		d44.2
Sept. 3	....do.....	....do.....	....do.....		13.8
23	....do.....	....do.....	....do.....		13.2
Oct. 7	Stoffel Creek.....	Steele Creek.....	Along U. S. Highway 58, 2¼ miles west of Bristol, Va.	3.14	1.11
Mar. 31	Cedar Creek.....	Beaver Creek.....	At Adeline School, 0.9 miles upstream from mouth and ½ mile southeast of Avoca, Sullivan County, Tenn.	-	13.8
June 9	....do.....	....do.....	....do.....		d6.91
10	....do.....	....do.....	....do.....		d7.59
17	....do.....	....do.....	....do.....		d5.41
Sept. 3	....do.....	....do.....	....do.....		3.22
23	....do.....	....do.....	....do.....		3.33
23	Beck (Back) Creek.	....do.....	½ mile upstream from mouth, near Bluff City, Sullivan County, Tenn.	-	2.68
Apr. 27	Beaver Creek.....	South Fork Holston River.	At Thomas Bridge on U. S. Highway 19, 2.1 miles downstream from Beck Creek and 3½ miles southeast of Blountville, Sullivan County, Tenn.	-	87.4
May 18	....do.....	....do.....	....do.....		90.1
19	....do.....	....do.....	....do.....		536
19	....do.....	....do.....	....do.....		764
19	....do.....	....do.....	....do.....		950
June 9	....do.....	....do.....	....do.....		d68.3
10	....do.....	....do.....	....do.....		d68.7
17	....do.....	....do.....	....do.....		d64.0
Sept.23	....do.....	....do.....	....do.....		27.2
Oct. 2	Muddy Creek.....	....do.....	100 ft downstream from bridge on U. S. Highway 11W in Blountville, Sullivan County, Tenn., and 1.0 mile upstream from Delaney Branch.		.62

d Furnished by Tennessee Department of Public Health.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Sept.23	Town Creek.....	Roan Creek.....	At bridge on U. S. Highway 421, 15 ft downstream from Goose Creek and 0.2 miles southwest of city limits of Mountain City, Johnson County, Tenn.	-	2.02
23	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.	-	20.5
May 26	Watauga River.....	South Fork Holston River.	300 ft downstream from powerhouse at Watauga Dam, Carter County, Tenn.	-	1,400
26	....do.....	....do.....	....do.....		1,420
26	....do.....	....do.....	....do.....		1,310
26	....do.....	....do.....	....do.....		1,300
26	....do.....	....do.....	....do.....		1,180
26	....do.....	....do.....	....do.....		1,210
26	....do.....	....do.....	....do.....		1,120
26	....do.....	....do.....	....do.....		973
27	....do.....	....do.....	....do.....		28.7
Sept.23	Stoney Creek.....	Watauga River.....	At county highway bridge, 0.3 miles upstream from mouth at Hunter, Carter County, Tenn.	-	6.34
Apr. 28	Watauga River.....	South Fork Holston River.	200 ft upstream from bridge on State Highway 91 at Hunter, Carter County, Tenn.		113
28	....do.....	....do.....	Just downstream from Sycamore Shoals at Rio Vista, Carter County, Tenn.	-	296
May 25	....do.....	....do.....	....do.....		1,750
Sept.24	Buffalo Creek.....	Watauga River.....	At State Highway 91, at mouth southwest of Elizabethton, Carter County, Tenn.	-	9.03
Apr. 1	Watauga River.....	South Fork Holston River.	At Smalling Bridge, 1.8 miles southeast of Watauga, Carter County, Tenn.	-	432
28	....do.....	....do.....	50 ft upstream from county highway bridge at Watauga, Carter County, Tenn.	-	359
June 3	Brush Creek.....	Watauga River.....	At Walnut St. in Johnson City, Washington County, Tenn.	-	d3.82
Mar. 31	....do.....	....do.....	At Barnes School, 2 miles upstream from mouth and 3 miles northeast of Johnson City, Washington County, Tenn.	-	22.6
June 3	....do.....	....do.....	....do.....		d19.2
July 6	....do.....	....do.....	....do.....		14.4
Sept.23	....do.....	....do.....	....do.....		11.0
Mar. 30	South Fork Holston River.	Holston River.....	At construction bridge at Fort Patrick Henry Dam site, Sullivan County, Tenn.	-	527
Apr. 2	....do.....	....do.....	....do.....		1,500
27	....do.....	....do.....	....do.....		2,760
Oct. 3	Kendrick Creek....	South Fork Holston River.	0.3 mile downstream from Straight Branch, 0.4 mile upstream from mouth, and 5 miles southeast of Kingsport, Sullivan County, Tenn.	-	4.17
Sept.24	....do.....	....do.....	....do.....		5.77
May 13	Horse Creek.....	....do.....	0.1 mile upstream from mouth and 1 mile south of Kingsport, Sullivan County, Tenn.	-	d24.8
Oct. 3	....do.....	....do.....	At bridge on State Highway 81, at mouth of unnamed branch, 3 miles south of Kingsport, Sullivan County, Tenn.	-	1.39
Sept.24	....do.....	....do.....	....do.....		1.88
Apr. 28	Peaveler Branch...	Reedy Creek.....	Just downstream from Bridwell packing plant, 5 miles northeast of Kingsport, Sullivan County, Tenn.	-	d.18
29	....do.....	....do.....	....do.....		d.17
June 11	....do.....	....do.....	....do.....		d.45
July 2	....do.....	....do.....	....do.....		d.12
Apr. 28	Reedy Creek.....	South Fork Holston River.	0.4 mile downstream from Peavler Branch and 5 miles northeast of Kingsport, Sullivan County, Tenn.	-	d29.0

d Furnished by Tennessee Department of Public Health.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Apr. 29	Reedy Creek.....	South Fork Holston River.	0.4 mile downstream from Peavler Branch and 5 miles northeast of Kingsport, Sullivan County, Tenn.	-	d26.8
June 11	....do.....	....do.....	....do.....		d28.1
Oct. 2	....do.....	....do.....	0.5 mile upstream from bridge on U. S. Highway 23, in Kingsport, Sullivan County, Tenn.	-	11.1
Sept.24	....do.....	....do.....	....do.....		14.4
Apr. 28	....do.....	....do.....	200 ft upstream from Clinchfield R. R. bridge and 0.2 mile upstream from mouth in Kingsport, Sullivan County, Tenn.	-	d31.6
29	....do.....	....do.....	....do.....		d32.9
June 6	....do.....	....do.....	....do.....		d44.1
July 2	....do.....	....do.....	0.1 mile upstream from mouth in Kingsport, Sullivan County, Tenn.		d22.2
May 28	South Fork Holston River.	Holston River.....	At old ferry crossing, 0.7 mile downstream from foot of Long Island and 3 miles west of Kingsport, Sullivan County, Tenn.	-	2,160
Oct. 14	Cove Creek.....	North Fork Holston River.	At bridge on State Highway 42, 2¼ miles northwest of Chatham Hill, Va.		.468
14	Laurel Creek.....	....do.....	Along State Highway 91, 0.6 mile north of Broadford, Va.	58.6	4.71
14	McHenry Creek.....	....do.....	At bridge on State Highway 91, ½ mile southeast of Plasterco, Va.	9.27	.707
7	Cove Creek.....	....do.....	At bridge on U. S. Highway 58, 2 miles north of Shelleys, Va.	17.0	1.78
May 27	Holston River.....	Tennessee River...	At river mile 141.1, 0.3 mile upstream from Sullivan-Hawkins County line, Tenn., and 1.2 miles downstream from junction of North and South Forks Holston River.	-	2,490
27	....do.....	....do.....	....do.....		2,970
27	....do.....	....do.....	....do.....		2,110
20	....do.....	....do.....	At river mile 131.5, 1.1 mile downstream from Smith Island, 0.45 mile downstream from Alexander Creek, and 0.8 mile upstream from Read Hord Island, at Church Hill, Hawkins County, Tenn.	-	18,500
Oct. 2	Bradley Creek.....	Holston River.....	100 ft below Renfroe Creek, 400 ft upstream from Southern R. R. bridge, and 3.9 miles southwest of Church Hill, Hawkins County, Tenn.	-	2.05
Sept.24	Big Creek.....	....do.....	At former gaging station site near Rogersville, Hawkins County, Tenn., 2 miles upstream from mouth.	-	3.13
June 17	Crockett Creek....	....do.....	0.5 mile upstream from mouth and 3½ miles southwest of Rogersville, Hawkins County, Tenn.	-	d1.51
Oct. 23	Briar Fork.....	German Creek.....	½ mile upstream from German Creek and ½ mile northeast of Tate Springs, Grainger County, Tenn.	-	0
Sept.24	....do.....	....do.....	....do.....		0
Oct. 23	German Creek.....	Holston River.....	0.4 mile downstream from Meadow Creek at Tate Springs, Grainger County, Tenn.	-	.53
23	Buck Hollow.....	German Creek.....	At bridge on U. S. Highway 11W, 0.3 mile upstream from mouth at Bean Station, Grainger County, Tenn.	-	0
23	Gap Creek.....	....do.....	0.2 mile upstream from bridge on U. S. Highway 11W at Bean Station, Grainger County, Tenn.	-	.01
23	Mossy Creek.....	Holston River.....	50 ft upstream from railroad spur at Jefferson City, Jefferson County, Tenn.	-	8.40
23	....do.....	....do.....	100 ft upstream from railroad spur at Jefferson City, Jefferson County, Tenn.	-	8.11
23	....do.....	....do.....	500 ft downstream from railroad spur at Jefferson City, Jefferson County, Tenn.	-	5.16

d Furnished by Tennessee Department of Public Health.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Oct. 23	Mossy Creek.....	Holston River.....	1,200 ft downstream from railroad spur at Jefferson City, Jefferson County, Tenn.	-	5.28
23	....do.....	....do.....	300 ft downstream from bridge on old U. S. Highway 11E at Jefferson City, Jefferson County, Tenn.	-	5.00
23	....do.....	....do.....	10 ft upstream from bridge on U. S. Highway 11E and 700 ft downstream from Mossy Spring at Jefferson City, Jefferson County, Tenn.	-	9.38
23	Richland Creek....	....do.....	At county highway bridge 2 miles northeast of Blaine, Grainger County, Tenn. and 8 miles upstream from Lea Creek.	-	.47
Sept.24	....do.....	....do.....	....do.....		.43
Oct. 23	Big Flat Creek....	....do.....	250 ft downstream from bridge on U. S. Highway 11W and 2.4 miles northeast of Skaggston, Knox County, Tenn.	-	4.45
23	Woods Creek.....	....do.....	100 ft upstream from bridge on U. S. Highway 11W, at John Sevier, Knox County, Tenn.	-	.98
Nov. 14	Second Creek.....	Tennessee River...	At Heiskal St., 0.4 mile downstream from city limits of Knoxville, Knox County, Tenn., 1.5 miles north of Rule High School, and 3½ miles upstream from mouth.	-	1.12
13	Third Creek.....	....do.....	50 ft downstream from culvert on paper mill road, 0.1 mile west of city limits of Knoxville, Knox County, Tenn., and 3.5 miles upstream from mouth.	-	3.51
13	....do.....	....do.....	In Tyson Park at Knoxville, Knox County, Tenn., 250 ft upstream from U. S. Highways 11 and 70 and 1.0 mile upstream from mouth.	-	4.41
13	Fourth Creek.....	....do.....	70 ft downstream from culvert across Lyons View Rd, ¼ mile south of Bearden Post Office, Knox County, Tenn., and 1.2 miles upstream from mouth.	-	2.79
14	Knob Creek.....	....do.....	On William Henson home property, 150 ft downstream from U. S. Highway 129, 1⅓ miles south of city limits of Knoxville, Knox County, Tenn., and 2.2 miles upstream from mouth.	-	1.20
13	Ten Mile Creek....	....do.....	75 ft downstream from Williams Rd, ¼ mile upstream from Ebenezer Bridge, and 0.3 mile northwest of Ebenezer, Knox County, Tenn.	-	5.61
13	Ebenezer Branch...	Ten Mile Creek....	500 ft downstream from Southern R. R. bridge, 0.1 mile upstream from mouth and 0.15 mile northwest of Ebenezer, Knox County, Tenn.	-	.78
13	Blue Grass Sink Branch.	Tennessee River...	Just off of 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.	-	.77
13	Denton Spring Branch.	Blue Grass Sink...	1,000 ft upstream from Lowe Ferry Rd. at Blue Grass, Knox County, Tenn., 600 ft downstream from spring, and 0.7 mile south of Blue Grass School.	-	.85
14	Unnamed creek.....	Lackey Creek.....	At farm market road, ¾ mile northwest of Armona, ½ mile upstream from backwater from Fort Loudon Reservoir, and 3½ miles northwest of Maryville, Blount County, Tenn.	-	3.48
13	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.	-	2.29
Oct. 24	Little River.....	....do.....	At bridge on State Highway 73 at Millsap Picnic Grounds, ¼ mile downstream from Laurel Branch and 6½ miles southwest of Gatlinburg, Sevier County, Tenn.	-	12.9

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from --	Locality	Drainage area (sq mi)	Discharge (cfs)
Nov. 14	Little River.....	Tennessee River...	In Great Smoky Mountain National Park, 600 ft upstream from Middle Prong and 3 miles southeast of Townsend, Blount County, Tenn.	-	14.8
14	West Prong Little River.	Middle Prong Little River.	In Great Smoky Mountain National Park, 150 ft upstream from Middle Prong and 3 miles southeast of Townsend, Blount County, Tenn.	-	3.62
14	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.	-	5.61
12	Hesse Creek.....	....do.....	At ford, 0.2 mile upstream from mouth and 1.4 miles south of Walland, Blount County, Tenn.	-	8.24
12	Reed Creek.....	....do.....	100 ft upstream from mouth at Walland, Blount County, Tenn.	-	.50
14	Ellejoy Creek.....	....do.....	0.1 mile upstream from mouth, 7 miles east of Maryville, Blount County, Tenn.	-	4.19
12	Crooked Creek.....	....do.....	100 ft upstream from county bridge, 1.2 miles upstream from mouth, and 5 miles east of Maryville, Blount County, Tenn.	-	9.11
12	Nails Creek.....	....do.....	50 ft downstream from unnamed tributary from left, 100 ft downstream from county road, 0.6 mile upstream from mouth, $\frac{2}{4}$ mile west of Wildwood, and 6 miles northeast of Maryville, Blount County, Tenn.	-	4.50
14	Pistol Creek.....	....do.....	0.35 mile above mouth and 1 mile south of Rockford, Blount County, Tenn.	-	17.1
14	Tessentee Creek...	Little Tennessee River.	At mouth, 0.8 mile north of Otto, N. C.	14.8	7.64
14	Coweeta Creek.....	....do.....	At mouth, on U. S. Highway 23 near Riverside, N. C.	16.9	12.7
14	Cartoogechaye Creek.	....do.....	2 miles above mouth on U. S. Highway 23 near Franklin, N. C.	57.1	42.3
14	Ellijay Creek.....	Cullasaja River...	0.5 mile above mouth near Cullasaja, N. C.	20.4	10.8
14	Iotla Creek.....	Little Tennessee River.	At mouth, at Iotla, N. C.	9.95	6.08
13	Cowee Creek.....	....do.....	At State Highway 286, 0.6 mile above mouth at Wests Mill, N. C.	25.5	13.6
13	Burnington Creek..	....do.....	0.4 mile above mouth at Lost Bridge, near Etna, N. C.	26.6	13.9
13	Tellico Creek.....	....do.....	At mouth, near Lost Bridge, 2.9 miles west of Etna, N. C.	12.2	5.23
13	Brush Creek.....	....do.....	At State Highway 28, near Needmore, N. C.	6.67	1.86
13	Buck Creek.....	Nantahala River...	At U. S. Highway 64, 100 ft above Black Branch and 3.6 miles southwest of Rainbow Springs, N. C.	4.73	4.01
15	Queens Creek.....	....do.....	1,600 ft above mouth, at Nantahala, N. C.	4.24	h.37
13	Sols Creek.....	Tuckasegee River..	At State Highway 281, near Argura, N. C.	3.86	2.76
3	Caney Fork Creek..	....do.....	At mouth, at East Laport, N. C.	51.2	27.3
13	Savannah Creek....	....do.....	At mouth, near Webster, N. C.	41.2	25.9
13	Dicks Creek.....	....do.....	At mouth, near Dillsboro, N. C.	8.66	2.26
13	Soco Creek.....	Oconaluftee River.	At State Highway 107, 0.6 mile above mouth, near Cherokee, N. C.	45.2	21.5
Sept. 1	Connelly Creek....	Tuckasegee River..	At Southern Ry. bridge at mouth, at Whittier, N. C.	13.5	5.58
1	Cooper Creek.....	....do.....	At U. S. Highway 19 at mouth, near Bryson City, N. C.	7.1	4.44
Nov. 13	Galbreath Creek...	....do.....	At Southern Ry. bridge, 150 ft above mouth and 2.9 miles northeast of Bryson City, N. C.	1.82	1.16
Aug. 6	....do.....	....do.....	....do.....		1.28
Sept. 1	....do.....	....do.....	....do.....		.87

h Represents inflow below Queen Creek diversion dam, Nantahala Power & Light Co.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Oct. 28	Indian Creek.....	Deep Creek.....	1.7 miles above mouth and 4.4 miles northeast of Bryson City, N. C.	6.85	3.20
Nov. 5	....do.....	....do.....	....do.....		3.69
Aug. 6	....do.....	....do.....	....do.....		6.86
Sept. 1	....do.....	....do.....	....do.....		4.30
Oct. 8	Deep Creek.....	Tuckasegee River..	At ranger station near Bryson City, N. C., 2.4 miles above mouth.	40.2	27.2
28	....do.....	....do.....	....do.....		18.4
Nov. 5	....do.....	....do.....	....do.....		18.2
Dec. 22	....do.....	....do.....	....do.....		44.5
Jan. 13	....do.....	....do.....	....do.....		128
Feb. 18	....do.....	....do.....	....do.....		145
Mar. 10	....do.....	....do.....	....do.....		141
Apr. 23	....do.....	....do.....	....do.....		88.0
May 18	....do.....	....do.....	....do.....		93.9
June 28	....do.....	....do.....	....do.....		61.6
July 9	....do.....	....do.....	....do.....		60.0
Aug. 6	....do.....	....do.....	....do.....		48.5
Sept. 1	....do.....	....do.....	....do.....		35.2
Nov. 13	....do.....	....do.....	At mouth, near Bryson City, N. C.	43.9	24.2
15	Tulula Creek.....	Cheoah River.....	At mouth, near Robbinsville, N. C.	28.6	8.64
15	Sweetwater Creek..	....do.....	At mouth, near Robbinsville, N. C.	13.6	5.96
18	Long Creek.....	....do.....	0.6 mile upstream from Long Creek Church and 2.8 miles south of Robbinsville, N. C.	4.58	.88
18	....do.....	....do.....	At mouth, near Robbinsville, N. C.	11.8	5.03
18	Buffalo Creek.....	....do.....	At mouth, near Santeetlah Dam, N. C.	13.8	4.63
18	(Big) Santeetlah Creek.	....do.....	0.1 mile above Hooper Cove and 1.7 miles above Rattler Ford, near Santeetlan Dam, N. C.	19.9	7.98
18	Little Santeetlah Creek.	Santeetlah Creek..	At mouth, near Santeetlah Dam, N. C.	5.83	1.70
18	(Big) Santeetlah Creek.	Cheoah River.....	At mouth, below Horse Cove, near Santeetlah Dam, N. C.	27.9	11.4
13	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.	-	21.9
13	Citico Creek.....	....do.....	At county bridge, 0.1 mile upstream from Smoky Branch, ½ mile south Citico Beach, Monroe County, Tenn., and 2.9 miles upstream from mouth.	-	16.6
13	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.	-	22.8
Oct. 22	....do.....	....do.....	At bridge on State Highway 72, 0.5 mile upstream from mouth and 3 miles northeast of Vonore, Monroe County, Tenn.	-	22.0
Nov. 13	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.	-	4.47
13	Notchy Creek.....	....do.....	100 ft upstream from county bridge, 2 miles upstream from mouth, and 2½ miles south of Vonore, Monroe County, Tenn.	-	6.48
13	Island Creek.....	Little Tennessee River.	50 ft downstream from 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.	-	2.34
14	Baker Creek.....	....do.....	0.5 mile upstream from mouth and 3 miles west of Greenback, Loudon County, Tenn.	-	15.1
Oct. 22	Bat Creek.....	....do.....	100 ft upstream from bridge on State Highway 72 and 4½ miles northwest of Vonore, Monroe County, Tenn.	-	7.32
Nov. 13	....do.....	....do.....	At bridge on State Highway 72, 2.3 miles upstream from mouth and 3½ miles north of Vonore, Monroe County, Tenn.	-	10.1
Oct. 22	Fork Creek.....	....do.....	100 ft downstream from bridge on State Highway 72, 2 miles upstream from mouth, and 6 miles southwest of Loudon, Loudon County, Tenn.	-	16.7

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Nov. 13	Fork Creek.....	Little Tennessee River.	100 ft upstream from bridge on State Highway 72, 0.1 mile downstream from Clear Prong, ¼ mile upstream from mouth, and 5½ miles north of Vonore, Monroe County, Tenn.	-	18.5
Oct. 9	North Fork Clinch River.	Clinch River.....	At Wittens Mill, Va.....	8.56	4.24
9	South Fork Clinch River.	....do.....	At Burkes Garden Siding, Va...	9.72	2.22
9	Cavitts Creek.....	....do.....	At bridge on State Highway 16 at North Tazewell, Va.	9.63	5.27
9	Plum Creek.....	....do.....	At bridge on U. S. Highway 19, 2¾ miles west of Tazewell, Va.	6.89	1.64
9	Indian Creek.....	....do.....	At bridge on U. S. Highway 460 at Cedar Bluff, Va.	33.9	3.70
9	Maiden Spring Creek.	Little River.....	At bridge on State Highway 16, 4 miles south of Tazewell, Va.	17.8	7.58
15	Indian Creek.....	....do.....	1,000 ft upstream from mouth at Wardell, Va.	19.2	4.40
15	Little Cedar Creek	Cedar Creek.....	At bridge on U. S. Highway 19, 1 mile west of Lebanon, Va.	7.63	1.04
15	Weaver Creek.....	Clinch River.....	500 ft above mouth at Artrip, Va.	18.1	.504
15	Dump Creek.....	....do.....	At bridge on Secondary Highway 616, 0.7 mile north of Carbo, Va.	31.8	.599
9	Middle Fork Russell Creek.	....do.....	At bridge on State Highway 70 at Virginia City, Va.	-	1.28
9	Bull Run Creek....	....do.....	At bridge on State Highway 70, 1¼ miles north of Carfax, Va.	4.93	.810
16	Toms Creek.....	Guest River.....	At Coeburn, Va.....	10.5	1.10
8	Stock Creek.....	Clinch River.....	Along U. S. Highway 58, ½ mile north of Natural Tunnel, Va.	20.1	1.39
8	....do.....	....do.....	Along U. S. Highway 58, ½ mile west of Clinchport, Va.	26.4	2.85
8	Little Stock Creek	Stock Creek.....	At bridge on U. S. Highway 58, ½ mile west of Clinchport, Va.	4.46	.834
8	Powell River.....	Clinch River.....	0.6 mile north of U. S. Highway 23 on State Highway 610, 1⅝ miles west of Norton, Va.	15.7	3.67
8	Roaring Fork.....	Powell River.....	At bridge on U. S. Highway 23, 4 miles east of Appalachia, Va.	25.3	1.28
8	Callahan Creek....	....do.....	Along State Highway 78, 1.1 miles north of Appalachia, Va.	27.7	2.02
8	South Fork Powell River.	....do.....	At bridge on U. S. Highway 23 at Big Stone Gap, Va.	40.0	3.71
8	North Fork Powell River.	....do.....	Along U. S. Highway 421, 1 mile north of Pennington Gap, Va.	70.0	1.45
8	Cane Creek.....	....do.....	At Ben Hur, Va.....	3.90	.388
8	Station Creek.....	....do.....	200 ft upstream from mouth at Powell River and 5½ miles east of Jonesville, Va.	8.51	.417
8	Wallen Creek.....	....do.....	At bridge on U. S. Highway 58 at Stickleyville, Va.	10.4	.989
8	Indian Creek.....	....do.....	At bridge on U. S. Highway 58, 4.8 miles west of Ewing, Va.	23.0	3.85
24	Big Creek.....	Clinch River.....	At bridge on U. S. Highway 25W, 0.5 mile north of La Follette, Campbell County, Tenn.	-	a.07
22	Cove Creek.....	....do.....	At Caryville, Campbell County, Tenn., 200 ft downstream from Duncan Branch and 0.6 mile upstream from Cove Lake.	-	.25
24	Coal Creek.....	....do.....	At Main Street Bridge at Lake City, Anderson County, Tenn.	-	.84
Nov. 14	....do.....	....do.....	....do.....		1.18
Oct. 22	Buffalo Creek.....	Hinds Creek.....	50 ft downstream from bridge on State Highway 71, 1 mile southeast of Norris, Anderson County, Tenn.	-	.38
Nov. 14	....do.....	....do.....	60 ft downstream from county highway bridge, 0.7 mile upstream from mouth, and 2¼ miles south of Norris, Anderson County, Tenn.	-	.94
14	Hinds Creek.....	Clinch River.....	10 ft downstream from county highway bridge, 0.4 mile upstream from John Creek, and 4½ miles northeast of Clinton, Anderson County, Tenn.	-	5.35
Oct. 22	....do.....	....do.....	2.4 miles above Brushy Creek and 3¼ miles northeast of Clinton, Anderson County, Tenn.	-	4.96

a Estimated.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Nov. 14	Bull Run Creek....	Clinch River.....	At bridge on State Highway 71, 2.1 miles downstream from Smith Branch, 6½ miles northwest of Fountain City, Knox County, Tenn.	-	8.87
Oct. 22	....do.....	....do.....	At bridge on U. S. Highway 25W, 300 ft upstream from West Branch and 5⅔ miles southeast of Clinton, Anderson County, Tenn.	-	10.4
Nov. 14	....do.....	....do.....	30 ft downstream from county highway bridge, ½ mile upstream from Louisville & Nashville R. R., 1.1 miles upstream from mouth and ¼ miles southeast of Edgemoor, Anderson County, Tenn.	-	17.8
June 23	Beaver Creek.....	....do.....	0.2 mile downstream from bridge on State Highway 71 and 4½ miles north of city limits of Knoxville, Knox County, Tenn.	-	d4.93
Oct. 24	....do.....	....do.....	Just downstream from Blue Spring, 1⅔ miles southwest of Halls Cross Roads, Knox County, Tenn.	-	5.07
Nov. 14	....do.....	....do.....	At bridge on U. S. Highway 25, 0.5 mile downstream from unnamed branch, 1⅝ miles southeast of Powell Station, Knox County, Tenn., and 3.3 miles upstream from Grassy Creek.	-	9.01
13	....do.....	....do.....	At Couch Ford, 1.1 miles upstream from mouth and 2½ miles southwest of Solway, Knox County, Tenn.	-	15.9
13	Conner Creek.....	....do.....	30 ft downstream from county highway bridge, 2,000 ft upstream from mouth, and 4.0 miles southwest of Solway, Knox County, Tenn.	-	2.47
13	Hickory Creek.....	....do.....	10 ft downstream from 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.	-	1.20
Oct. 6	Poplar Creek.....	....do.....	At State Highway 61, 2½ miles southeast of Oliver Springs, Morgan County, Tenn.	-	4.05
Nov. 4	....do.....	....do.....	....do.....		4.75
Oct. 2	Black Creek.....	White Creek.....	75 ft upstream from mouth and 1 mile southwest of Glen Alice, Roane County, Tenn.	-	2.49
Nov. 17	Hiwassee River....	Tennessee River...	At Highway 75 above Spaniard Branch, 7 miles south of Hiwassee, Ga.	26.7	18.7
17	Little Hightower Creek.	Hightower Creek...	At mouth on U. S. Highway 76 near Hiwassee, Ga.	4.18	2.68
17	Scataway Creek....	....do.....	....do.....	6.08	3.69
15	Sweetwater Creek..	Hiwassee River....	0.6 mile above mouth, at Bethesda Church near Brasstown, N. C.	4.25	1.63
16	Brasstown Creek...	....do.....	0.2 mile above Corn Creek, at Young Harris, Ga.	16.2	8.17
15	Little Brasstown Creek.	Brasstown Creek...	0.3 mile above mouth, near Brasstown, N. C.	9.47	3.71
15	Brasstown Creek...	Hiwassee River....	1 mile above mouth, at Brasstown, N. C.	83.2	43.6
15	Peachtree Creek...	....do.....	At U. S. Highway 64, 0.4 mile above mouth, near Brasstown, N. C.	18.2	6.37
15	Martin Creek.....	....do.....	At mouth, near Murphy, N. C.	9.02	3.20
15	Valley River.....	....do.....	At Southern Ry. bridge, 1.4 miles east of Andrews, N. C.	20.8	7.35
15	Junaluska Creek...	Valley River.....	At U. S. Highway 19, 1.0 mile above mouth, near Andrews, N. C.	8.31	3.69
14	Tatham Creek.....	....do.....	At U. S. Highway 19 at Andrews, N. C., 0.5 mile above mouth.	8.04	3.13
14	Taylor Branch.....	....do.....	Above Luther Branch near Coalville, N. C.	5.78	3.44
14	Welch Mill Creek..	....do.....	0.7 mile above mouth on U. S. Highway 19, near Coalville, N. C.	3.77	2.55
14	Hyatt Creek.....	....do.....	0.5 mile above mouth on U. S. Highway 19, at Marble, N. C.	7.28	3.71
14	Vengeance Creek...	....do.....	At mouth, at Marble, N. C....	7.63	4.08
17	Towns Creek.....	Nottely River.....	0.1 mile above mouth, near Choestoe, Ga.	17.7	8.30

d Furnished by Tennessee Department of Public Health.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Tennessee River basin--Continued†

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Nov. 17	Wolf Creek.....	Nottely River.....	0.3 mile above mouth, near Choestoe, Ga.	9.28	6.65
17	Arkaqua Creek.....	....do.....	At mouth, on U. S. Highway 19 near Blairsville, Ga.	11.6	5.45
16	Butternut Creek...	....do.....	At U. S. Highway 19 near Blairsbille, Ga.	11.1	5.84
16	Conley Creek.....	....do.....	At mouth, on U. S. Highway 19 near Ivylog, Ga.	3.20	2.57
16	Dooley Creek.....	....do.....	1 mile above mouth and 1 mile northwest of Nottely Dam near Ivylog, Ga.	7.42	5.39
16	Moccasin Creek....	....do.....	At Lance Mill on N. C.-Ga. State line, 1 mile above mouth, near Ivylog, Ga.	7.44	4.46
Aug. 14	Oostanaula Creek..	Hiwassee River....	Just upstream from Ingleside Spring No. 2, at Athens, McMinn County, Tenn.	-	9.60
Sept. 4	....do.....	....do.....	....do.....		7.84
15	....do.....	....do.....	....do.....		6.89
18	....do.....	....do.....	....do.....		7.12
Aug. 14	....do.....	....do.....	....do.....	-	11.6
14	....do.....	....do.....	Just downstream from Ingleside Spring No. 1, at Athens, McMinn County, Tenn.	-	12.9
Sept. 4	....do.....	....do.....	....do.....		10.2
15	....do.....	....do.....	....do.....		9.11
18	....do.....	....do.....	....do.....		8.86
Oct. 2	Rock Creek.....	Sale Creek.....	At bridge on U. S. Highway 27, 0.1 mile north of Sale Creek, Hamilton County, Tenn.	-	0
Nov. 3	....do.....	....do.....	....do.....		0
Oct. 2	North Chickamauga Creek.	Tennessee River...	At bridge on U. S. Highway 27, 2½ miles southwest of Daisy, Hamilton County, Tenn.	-	0
Nov. 3 1952	....do.....	....do.....	....do.....		0
Mar. 11	West Chicamauga Creek.	Chicamauga Creek..	At crossing of State Highway 143, 2 miles east of Kensington, Ga.	63.4	3,480
11	....do.....	....do.....	....do.....		2,480
11 1953	....do.....	....do.....	....do.....		2,060
Jan. 8 1952	....do.....	....do.....	....do.....		1,040
Oct. 31	Depot Branch.....	Lost Creek.....	¾ mile south of depot at Sewanee, Franklin County, Tenn.	-	.03
1953 July 21	Flint River.....	Tennessee River...	Sec. 19, T. 5 S., R. 2 E., at county road, ½ mile west of Owens Cross Roads, Ala.	-	3,850
Feb. 18	....do.....	....do.....	Sec. 28, T. 6 S., R. 4 W., at U. S. Highway 31, 6 miles South of Decatur, Ala.	-	1,820
Nov. 13	Elk River.....	....do.....	Near Elkhead School, 4.8 miles north of Mt. View, Grundy County, Tenn.	-	0
13	Bostick Creek.....	Elk River.....	3.5 miles north of Mt. View, Grundy County, Tenn.	-	0
13	Unnamed creek.....	....do.....	Near Goodman Cemetary, 1.9 miles northeast of Mt. View, Grundy County, Tenn.	-	0
13	Dry Creek.....	....do.....	Near Payne Cove School, 3.1 miles northeast of Mt. View Grundy County, Tenn.	-	0
13	Unnamed branch....	Unnamed creek to Elk River.	In Parmley Hollow, 1.8 miles northeast of Mt. View, Grundy County, Tenn.	-	0
13	....do.....	....do.....	In Smith Hollow, 1.4 miles northeast of Mt. View, Grundy County, Tenn.	-	0
13	Juanita Creek.....	Gilliam Creek.....	At bridge on U. S. Highway 41, ½ mile west of Monteagle, Grundy County, Tenn.	-	.01
13	Dry Creek.....	....do.....	At bridge on U. S. Highway 41, 2.0 miles southeast of Mt. View, Grundy County, Tenn.	-	0
13	Henley Creek.....	Caldwell Creek....	At bridge on U. S. Highway 41, 1.2 miles south of Mt. View, Grundy County, Tenn.	-	.48
13	Caldwell Creek....	Elk River.....	Near Bells Mill, 1½ miles southwest of Mt. View and 1.8 miles south of Pelham, Grundy County, Tenn.	-	.95
13	Patton Creek.....	....do.....	At bridge on State Highway 50, 0.9 mile southwest of Pelham, Grundy County, Tenn.	-	0
13	Petty Branch.....	....do.....	At bridge on State Highway 50, 2.1 miles east of Alto, Franklin County, Tenn.	-	0

† Includes measurements made prior to 1953 water years.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Nov. 13	Betsy Willis Creek	Elk River.....	0.8 mile southeast of Rutledge Hill, Coffee County, Tenn.	0
13	Dick Creek.....	Mud Creek.....	1.9 miles southeast of Alto, Franklin County, Tenn.	0
13	Rose Creek.....	....do.....	At county bridge, 0.9 mile southeast of Alto, Franklin County, Tenn.	0
13	Mud Creek.....	Elk River.....	0.9 mile east of Alto, Franklin County, Tenn.	.41
13	Yellow Branch.....	....do.....	At Wilder Chapel, 1.7 miles northwest of Alto, Franklin County, Tenn.	0
13	Beans Creek.....	....do.....	At county bridge, ½ mile east of Prairie Plains, Coffee County, Tenn.	.38
13	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
13	Childer Creek.....	....do.....	At bridge, ½ mile upstream from mouth and 1.6 miles northeast of Capitol Hill, Franklin County, Tenn.	0
17	Taylor Creek.....	....do.....	At bridge, 0.6 mile above mouth and ¾ mile southwest of Estill Springs, Franklin County, Tenn.	8.86
Oct. 22	Rock Creek.....	....do.....	At footbridge, ½ mile downstream from State Highway 55 at Tullahoma, Coffee County, Tenn.	.80
Nov. 17	....do.....	....do.....	450 ft upstream from mouth and 1.5 miles southwest of Estill Springs, Franklin County, Tenn.	11.7
13	Hessey Branch.....	....do.....	At bridge on U. S. Highway 41A, 2 miles south of Estill Springs and 3.9 miles north of Winchester, Franklin County, Tenn.	0
13	Boiling Fork Creek	....do.....	At bridge on U. S. Highway 64, 2.3 miles northeast of Cowan, Franklin County, Tenn.	.28
13	Miller Creek.....	Boiling Fork Creek	At bridge on U. S. Highway 64, 1.6 miles northeast of Cowan, Franklin County, Tenn.	0
13	Keith Cove.....	....do.....	1.1 miles upstream from mouth, 1.7 miles southwest of Cowan, Franklin County, Tenn.	0
13	Norwood Creek.....	....do.....	3.1 miles southwest of Cowan and 3.6 miles southeast of Winchester, Franklin County, Tenn.	.86
13	Wagner Creek.....	....do.....	At bridge on old State Highway 50, 1.0 mile southwest of Dechard, Franklin County, Tenn.	0
13	Boiling Fork Creek	Elk River.....	At bridge on U. S. Highway 41A at Winchester, Franklin County, Tenn.	6.22
14	Dry Creek.....	Boiling Fork Creek	At bridge on State Highway 50, 1.3 miles west of Winchester, Franklin County, Tenn.	0
14	Unnamed branch....	Elk River.....	At bridge on State Highway 50, 3.9 miles north of Belvidere, Franklin County, Tenn.	0
14	Kitchens Creek....	....do.....	At Mansford, 1.3 miles northeast of Harmony, Franklin County, Tenn.	1.98
14	Murell Creek.....	....do.....	At bridge on State Highway 50, 0.4 mile above mouth and 1.2 miles northwest of Harmony, Franklin County, Tenn.	2.64
14	Beans Creek.....	....do.....	At Beans Creek, 1½ miles south of Old Salem, Franklin County, Tenn.	1.74
14	Mathias Branch....	Beans Creek.....	At county bridge, 0.9 mile east of Huntland, Franklin County, Tenn.	0
14	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.	1.60
14	Factory Branch....	....do.....	½ mile upstream from mouth at Falls Mill, Franklin County, Tenn.	2.84
Nov. 14	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.	1.22
14	Beans Creek.....	Elk River.....	1.3 miles upstream from mouth in Franklin County, 2.1 miles northeast of Shady Grove, Tenn.	21.0
14	Shelton Creek.....	....do.....	At bridge 0.7 mile west of Smithland, ¾ mile upstream from mouth and 4.1 miles east of Kelso, Lincoln County, Tenn.	5.53
14	Teal Hollow.....	Dukes Creek.....	At bridge on U. S. Highway 64, 700 ft upstream from mouth at Kelso, Lincoln County, Tenn.	1.35
14	Dukes Creek.....	Elk River.....	At bridge 0.6 mile northeast of Kelso, Lincoln County, Tenn., and 0.7 mile upstream from mouth.	1.84
17	East Fork Mulberry Creek.	Mulberry Creek....	At Locks Mill, 1.0 mile east of Mulberry, 2.7 miles upstream from mouth, and 6¾ miles north of Kelso, Lincoln County, Tenn.	5.34
17	Mulberry Creek....	Elk River.....	Near Warren Cemetary, 1.4 miles upstream from mouth, 2.2 miles south of Mulberry, Lincoln County, Tenn.	9.83

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Nov. 14	Lees Creek.....	Elk River.....	500 ft upstream from head of Oakwood Acres Lake, 1.0 mile above mouth and 3½ miles southeast of Fayetteville, Lincoln County, Tenn.	0.71
17	Stewart Creek.....	....do.....	½ mile northeast of Liberty, 3,000 ft upstream from mouth, and 3.0 miles southeast of Fayetteville, Lincoln County, Tenn.	1.86
15	Norris Creek.....	....do.....	At bridge on U. S. Highway 64, at Fayetteville, Lincoln County, Tenn., 1.6 miles above mouth.	3.53
15	Cane Creek.....	....do.....	At U. S. Highway 64, 2¼ miles west of Fayetteville, Lincoln County, Tenn.	11.7
17	Molino Creek.....	....do.....	At bridge, 1.2 miles upstream from mouth and 1.4 miles northeast of Molino, Lincoln County, Tenn.	.67
15	Swan Creek.....	....do.....	1.2 miles upstream from mouth, at East Cyruston and 3.7 miles west of Harms, Lincoln County, Tenn.	4.72
18	Coldwater Creek...	....do.....	At county highway bridge at Coldwater, Lincoln County, Tenn., 1.2 miles upstream from mouth.	4.01
15	Bradshaw Creek....	....do.....	1.3 miles upstream from mouth at Dellrose, Lincoln County, Tenn.	6.30
15	Kelly Creek.....	....do.....	0.4 mile southeast of Baugh, Giles County, Tenn., and 1.4 miles upstream from mouth.	1.93
15	Indian Creek.....	....do.....	0.8 mile above mouth and 0.9 mile southwest of Bryson, Giles County, Tenn.	2.79
15	Robertson Fork....	Richland Creek....	At county highway bridge at Buffords, Giles County, Tenn.	5.68
15	Big Creek.....	....do.....	At highway bridge, 0.8 mile west of Riversburg (previously published as 1½ miles northwest of Riversburg) Giles County, Tenn.	20.4
Oct. 9	Pigeon Roost Creek.	....do.....	At county highway bridge, 0.6 mile above mouth and 1.0 mile south of Wales, Giles County, Tenn.	15.5
Nov. 12	....do.....	....do.....	....do.....	8.58
Dec. 10	....do.....	....do.....	....do.....	108
Jan. 9	....do.....	....do.....	....do.....	25.8
Mar. 11	....do.....	....do.....	....do.....	32.2
Apr. 8	....do.....	....do.....	....do.....	73.6
May 14	....do.....	....do.....	....do.....	21.5
June 17	....do.....	....do.....	....do.....	2.43
July 7	....do.....	....do.....	....do.....	1.32
Aug. 13	....do.....	....do.....	....do.....	2.02
Sept.10	....do.....	....do.....	....do.....	.23
Nov. 15	Weakly Creek.....	....do.....	At county highway bridge, ½ mile above mouth, 5 miles northwest of Pulaski, Giles County, Tenn. (Previously published as 3¾ miles northwest of Pulaski.)	18.1
15	Chicken Creek.....	....do.....	At bridge just upstream from mouth, 1¾ miles southwest of Pulaski, Giles County, Tenn.	1.43
18	Buchanan Creek....	....do.....	At bridge on U. S. Highway 31, 6½ miles southeast of Pulaski, Giles County, Tenn.	4.27
18	Newton Creek.....	Buchanan Creek....	At bridge on U. S. Highway 31, 1.0 mile upstream from mouth and 3½ miles southeast of Tarpley, Giles County, Tenn.	0
18	Ragdale 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.	.49
14	Ford Creek.....	....do.....	On road to Aspen Hill at Prospect, Giles County, Tenn.	1.03
14	Jenkens Creek.....	....do.....	At Bethel, Giles County, Tenn.....	.68
18	West Fork Shoal Creek.	Shoal Creek.....	¼ mile upstream from mouth and 2¼ miles west of Bethel, Giles County, Tenn.	4.17
18	East Fork Shoal Creek.	....do.....	¼ mile upstream from mouth and 2¾ miles west of Bethel, Giles County, Tenn.	4.14
14	Shoal Creek.....	Elk River.....	At Red Hill School, ¼ mile southwest of Legg, Limestone County, Ala., and 2¼ miles upstream from mouth.	13.6
14	Sulphur Creek.....	....do.....	0.3 mile west of Walnut Hill, 1½ miles upstream from mouth, and 3¼ miles southwest of Elkmont, Limestone County, Ala.	5.42
18	East Fork Sugar Creek.	Sugar Creek.....	At Mt. Zion Church, 4½ miles west of Minor Hill, Lawrence County, Tenn.	16.9
18	Shannon Creek.....	East Fork Sugar Creek.	....do.....	5.34
14	Sugar Creek.....	Elk River.....	0.3 mile downstream from Stinnet Branch at Wheeler Reservoir Reservation and 2.7 miles south of Mt. Rozell, Limestone County, Ala.	61.9
14	Big Creek.....	....do.....	0.7 mile east of Elk River Mills bridge and 1.2 miles northwest of Pleasant Point, Limestone County, Ala.	8.50

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Nov. 14	Anderson Creek....	Elk River.....	At Confluence Church, Lauderdale County, Ala., just downstream from Dement Creek, 0.1 mile upstream from county highway bridge.	16.0
Oct. 8	Bear Creek.....	Tennessee River...	Sec. 7, T. 9 S., R. 10 W., at county road, 5 miles north of Haleyville, Ala.	12.9
Nov. 13	....do.....	....do.....	....do.....	12.3
Dec. 18	....do.....	....do.....	....do.....	18.5
Sept.15	Mayberry Branch...	Cedar Creek.....	Just upstream from Bunch Cave Springs Branch, 5.0 miles northeast of Peters Landing, Perry County, Tenn.	0
15	....do.....	....do.....	....do.....	.36
Nov. 14	Marsh Creek.....	Tennessee River...	400 ft downstream from county bridge and 1.8 miles southeast of Pope, Perry County, Tenn.	1.85
14	Cypress Creek.....	....do.....	At county bridge at Pope, Perry County, Tenn.	4.79
14	Lick Creek.....	....do.....	200 ft downstream from county bridge, just downstream from North Fork and 3.7 miles south of Pine View, Perry County, Tenn.	5.63
14	Toms Creek.....	....do.....	At county bridge, 0.6 mile west of Pine View, Perry County, Tenn.	4.03
14	Roan Creek.....	....do.....	75 ft downstream from first bridge above mouth and 10 miles west of Lobelville, Perry County, Tenn.	2.11
14	Crooked Creek.....	....do.....	At first bridge upstream from mouth, 9 miles northwest of Lobelville, Perry County, Tenn.	1.65
13	Perry Creek.....	Duck River.....	3.8 miles northeast of Fredonia, Coffee County, Tenn.	0
13	Goose Pond Branch.	....do.....	4.0 miles northeast of Fredonia, Coffee County, Tenn.	0
13	Duck River.....	Tennessee River...	3.3 miles northeast of Fredonia, Coffee County, Tenn.	.74
13	Boiling Springs Branch.	Duck River.....	2.0 miles northeast of Fredonia, Coffee County, Tenn.	.56
13	Walker Branch.....	Messick Creek.....	At State Highway 53 bridge near mouth, 1.6 miles northeast of Fredonia, Coffee County, Tenn.	0
13	Messick Creek.....	Duck River.....	At bridge on State Highway 53, 1.6 miles northeast of Fredonia, Coffee County, Tenn.	.30
13	Eaton Branch.....	....do.....	0.2 mile south of Fredonia, Coffee County, Tenn., and 0.3 mile upstream from mouth.	.18
13	Wolf Creek.....	Little Duck River.	1.0 mile upstream from mouth and 1.4 miles east of Manchester, Coffee County, Tenn.	1.92
13	Hunt Creek.....	....do.....	At U. S. Highway 41, 2 miles southeast of Manchester, Coffee County, Tenn.	1.19
13	Little Duck River.	Duck River.....	At bridge on U. S. Highway 41, northwest of Manchester, Coffee County, Tenn.	7.48
17	Brewer Creek.....	....do.....	0.7 mile east of Blanton Chapel, Coffee County, Tenn., and 1.3 mile upstream from mouth.	2.42
13	Crumpton Creek....	....do.....	150 ft downstream from Wiley Creek and 0.1 mile north of Rutledge Falls, Coffee County, Tenn.	4.34
13	Carroll Creek.....	....do.....	3½ miles northwest of Rutledge Falls, Coffee County, Tenn.	0
17	Shipman Creek.....	....do.....	At bridge at Roseville, 0.8 mile upstream from mouth and 2.5 miles west of Normandy, Bedford County, Tenn.	4.23
17	Garrison Fork.....	....do.....	At bridge on U. S. Highway 41 at Beech Grove, Coffee County, Tenn.	1.00
17	Sallie Branch.....	Garrison Fork.....	At bridge on State Highway 64, 0.1 mile upstream from mouth and 1.3 miles northeast of Fairfield, Bedford County, Tenn.	0
17	Noah Fork.....	....do.....	0.7 mile upstream from mouth and 1.0 mile east of Fairfield, Bedford County, Tenn.	5.02
17	Wartrace Creek....	....do.....	Near bridge on State Highway 64, 0.5 mile southwest of Wartrace, Bedford County, Tenn., and 1.2 miles above mouth. (Formerly published as 1.0 mile south of Wartrace.)	.67
17	Garrison Fork.....	Duck River.....	At county road bridge, 0.6 mile upstream from mouth and 1.4 miles west of Haley, Bedford County Tenn,	8.73
17	Thompson Creek....	....do.....	At county road bridge, 1.5 miles upstream from mouth, 1.8 miles west of Roseville, and 3.0 miles west of Normandy, Bedford County, Tenn.	2.75
17	Flat Creek.....	....do.....	At State Highway 64, 0.6 mile upstream from mouth and 1.2 miles southwest of Shelbyville, Bedford County, Tenn.	4.08
17	Sugar Creek.....	....do.....	At county road bridge, 0.5 mile upstream from mouth and 3.8 miles northeast of Bedford, Bedford County, Tenn.	1.36

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Nov. 18	Little Hurricane Creek.	Duck River.....	At U. S. Highway 41A, 0.8 mile upstream from mouth and 1.1 miles northwest of Elbethel, Bedford County, Tenn.	0.10
18	Fall Creek.....	....do.....	At county road bridge, 0.4 mile upstream from Hurricane Creek and 3.4 miles north of Elbethel, Bedford County, Tenn.	.31
18	Hurricane Creek...	Fall Creek.....	2.7 miles north of Elbethel, Bedford County Tenn.	.14
15	Fall Creek.....	Duck River.....	100 ft downstream from county road bridge, 0.7 mile upstream from mouth, and 3.0 miles northwest of Elbethel, Bedford County, Tenn.	1.12
18	Sinking Creek.....	....do.....	At county road bridge, 0.9 mile upstream from mouth and 1.2 miles southwest of Halls Mill, Bedford County, Tenn.	.52
15	Alexander Creek...	North Fork Creek..	At county road bridge, 0.7 mile upstream from mouth and 3.3 miles southeast of Unionville, Bedford County, Tenn.	.10
15	Weakly Creek.....	....do.....	0.2 mile upstream from mouth and 1.2 miles north of Poplins Crossroads, Bedford County, Tenn.	.28
15	Clem Creek.....	....do.....	At county road bridge, 0.3 mile upstream from mouth and 1.3 miles northwest of Poplins Crossroads, Bedford County, Tenn.	0
15	North Fork Creek.,	Duck River.....	1.0 mile northwest of Poplins Crossroads, Bedford County, Tenn.	2.43
15	Wilson Creek.....	....do.....	At county road bridge, 0.7 mile upstream from mouth and 2.2 miles northeast of Wilhoite Mills, Marshall County, Tenn.	.37
15	Spring Creek.....	....do.....	0.7 mile north of Wilhoite Springs, Marshall County, Tenn., and 1.3 miles upstream from mouth.	0
15	Rich Creek.....	....do	0.5 mile upstream from mouth and 1.4 miles southwest of Wilhoite Mills, Marshall County, Tenn.	1.67
14	Sanders Creek.....	Big Rock Creek....	At bridge on State Highways 11 and 31A, 2.8 miles southwest of Lewisburg, Marshall County, Tenn.	.19
14	Collins Creek.....	....do.....	At ford 1.0 mile upstream from mouth and 1.3 miles southeast of Lewisburg, Marshall County, Tenn.	.42
14	Big Rock Creek (West Rock Creek).	Duck River.....	At bridge on State Highway 50, 3 blocks southeast of courthouse at Lewisburg, Marshall County, Tenn.	2.28
14	Snake Creek.....	Big Rock Creek....	At bridge on U. S. Highway 31A, 0.9 mile upstream from mouth and 2.2 miles northeast of Lewisburg, Marshall County, Tenn.	0
14	Dry Branch.....	....do.....	At bridge on State Highway 11, 3.1 mile northeast of Lewisburg, Marshall County, Tenn.	.002
14	Big Rock Creek....	Duck River.....	At Double Bridges, 1½ miles south of Oslin and 1.8 miles south of Verona, Marshall County, Tenn.	10.7
14	Mud Creek.....	East Rock Creek...	At county road bridge, ½ mile upstream from mouth and 1.8 mile southeast of Farmington, Marshall County, Tenn.	0
14	East Rock Creek...	Big Rock Creek....	0.3 mile upstream from Belfast Creek and ½ mile southwest of Farmington, Marshall County, Tenn.	0
14	Belfast Creek.....	East Rock Creek...	1.2 miles upstream from mouth and 1.3 miles south of Farmington, Marshall County, Tenn.	0
15	East Rock Creek...	Big Rock Creek....	3⅘ miles northwest of Farmington, Marshall County, Tenn.	2.29
15	Caney (Spring Creek.	Duck River.....	At bridge on State Highway 99, 0.2 mile west of Caney Spring, Marshall County, Tenn.	0
15	Flat Creek.....	....do.....	At bridge on State Highway 99, 1.0 mile upstream from mouth and 1.7 miles west of Pottsville, Maury County, Tenn.	4.37
18	Cedar Creek.....	....do.....	1.7 miles upstream from mouth and 2.4 miles northwest of Berlin, Maury County, Tenn.	.64
18	Dry Creek.....	Cedar Creek.....	0.7 mile upstream from mouth and 2.4 miles northwest of Berlin, Maury County, Tenn.	0
14	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.	4.03
14	Mooresville Creek.	Globe Creek.....	At bridge on State Highway 50A, 1½ miles upstream from mouth, at Mooresville, Marshall County, Tenn.	.44
14	Bear Creek.....	....do.....	At bridge on State Highway 50A, 1.1 miles upstream from mouth and 1.3 miles north of Mooresville, Maury County, Tenn.	.59

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Nov. 14	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.	0.38
14	Globe Creek.....	Fountain Creek....	400 ft downstream from mouth of Bear Creek and 2.3 miles northwest of Mooresville, Maury County, Tenn.	4.13
14	Hurricane Creek...	....do.....	0.2 mile northwest of Fountain Heights, Maury County, Tenn.	1.36
14	Silver Creek.....	....do.....	At county road bridge, 1.3 miles upstream from mouth and 1.0 mile northeast of Fountain Heights, Maury County, Tenn.	2.48
14	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.	13.4
18	Lytle Creek.....	....do.....	250 ft downstream from county road bridge, 0.6 mile upstream from mouth, and 1.0 mile northeast of Columbia, Maury County, Tenn.	.75
14	Little Bigby Creek	....do.....	200 ft downstream from bridge on State Highways 50 and 99, 1¾ miles west of Columbia, Maury County, Tenn.	3.21
13	Knob Creek.....	....do.....	200 ft upstream from county highway bridge at Timmons (Athendale) and 4¾ miles northwest of Columbia, Maury County, Tenn.	2.03
13	Greenlick Creek...	....do.....	400 ft downstream from county highway bridge, 4½ miles northwest of Columbia, Maury County, Tenn.	.92
13	Snow Creek.....	....do.....	300 ft downstream from first bridge upstream from mouth and 2 miles east of Williamsport, Maury County, Tenn.	4.68
13	Leipers Creek.....	....do.....	200 ft upstream from first bridge upstream from mouth and 1 mile east of Williamsport, Maury County, Tenn.	11.5
13	Poplar Creek.....	....do.....	At first bridge upstream from mouth, ½ mile south of Williamsport, Maury County, Tenn.	0
13	Sugar Fork e/.....	Big Bigby Creek...	At bridge on U. S. Highway 43, 1¼ miles northeast of Mt. Pleasant, Maury County, Tenn.	1.55
13	Big Bigby Creek...	Duck River.....	At former gaging station, 200 ft downstream from bridge on State Highway 99, at Cross Bridges, Maury County, Tenn.	16.6
13	Catheys Creek.....	....do.....	At ford, ½ mile downstream from county bridge, 1¾ miles above mouth, and 4¼ miles southwest of Williamsport, Maury County, Tenn.	11.1
14	Dunlap Creek.....	....do.....	200 ft downstream from bridge on State Highway 50 at Shady Grove (Duck River Post Office) Hickman County, Tenn.	.31
14	Barren Fork.....	Locust Fork.....	At ford at New Bethel Church, 5.3 miles east of Wrigley, Hickman County, Tenn.	.83
14	Hassell Creek.....	Lick Creek.....	At bridge ½ mile upstream from mouth, 2½ miles northeast of Littlelot, Hickman County, Tenn.	5.98
14	Lick Creek.....	Duck River.....	400 ft upstream from Bratton Ford bridge and ¼ mile northeast of Littlelot, Hickman County, Tenn.	48.2
13	Dry Creek.....	....do.....	At first bridge upstream from mouth, 1¼ miles northeast of Graytown and 4¼ miles east of Centerville, Hickman County, Tenn.	5.01
3	Swan Creek.....	....do.....	Just downstream from Wright Branch, 5½ miles southeast of Gordonsburg, Lewis County, Tenn.	3.13
14	....do.....	....do.....	200 ft downstream from bridge on State Highway 99 at east edge of Gordonsburg, Lewis County, Tenn.	5.60
13	....do.....	....do.....	300 ft downstream from bridge on State Highway 50 and 3¼ miles southeast of Centerville, Hickman County, Tenn.	116
13	Haley Creek.....	....do.....	At first bridge upstream from mouth, 2½ miles east of Centerville, Hickman County, Tenn.	1.98
13	Defeated Creek....	...do.....	100 ft upstream from bridge on State Highways 48 and 100 and 1 mile northeast of Centerville, Hickman County, Tenn.	1.54
13	Indian Creek.....	....do.....	At Twoney, ¼ mile downstream from Armory and ½ mile south of Centerville, Hickman County, Tenn.	4.10
13	Bruce Hollow Branch.	Piney River.....	At county road bridge at mouth, 5.0 miles southwest of Dickson, Dickson County, Tenn.	0

e Published as East Fork of Big Bigby Creek in WSP 728 and as Sugar Creek in WSP 1206.

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Nov. 13	Gray Hollow Branch	Piney River.....	At county road bridge at mouth, 5.6 miles southwest of Dickson, Dickson County, Tenn.	0
13	Piney River.....	Duck River.....	100 ft downstream from ford, 0.2 miles south of Dickson County line, and 4.9 miles north of Pinewood, Hickman County, Tenn.	15.0
13	Big Spring Creek..	Piney River.....	¼ mile above mouth and 1½ miles north of Pinewood, Hickman County, Tenn.	9.47
14	Beaverdam Creek...	Duck River.....	At bridge on State Highway 50, at Coble, Hickman County, Tenn.	55.5
14	West Fork Wolf Creek.	Wolf Creek.....	At mouth, 3½ miles northwest of Coble, Hickman County, Tenn.	0
14	Wolf Creek.....	Duck River.....	¼ mile downstream from West Fork, 1/3 mile downstream from county highway bridge, and 5½ miles northwest of Coble, Hickman County, Tenn.	6.18
14	Barren Hollow Branch.	....do.....	3/8 mile downstream from county highway bridge and 1 mile northwest of Only, Hickman County, Tenn.	7.17
14	Sugar Creek.....	....do.....	¼ mile downstream from county highway bridge at Buckanort and 1½ miles north of Only, Hickman County, Tenn.	11.2
13	Tumbling Creek....	....do.....	At Taylortown, ½ mile above mouth and 4 miles southeast of Hurricane Mills, Humphreys County, Tenn.	16.8
13	Little Hurricane Creek.	Hurricane Creek...	150 ft downstream from county bridge and 5 miles south of McEwen, Humphreys County, Tenn.	3.85
13	Hurricane Creek...	Duck River.....	1,000 ft upstream from mouth and 2 miles west of Hurricane Mills, Humphreys County, Tenn.	21.6
14	Saw Branch.....	Buffalo River.....	¾ mile upstream from county highway bridge at Barnesville and 5 miles west of Summertown, Lawrence County, Tenn.	4.54
14	Grinders Creek....	....do.....	500 ft upstream from mouth and 5½ miles south of Hohenwald, Lewis County, Tenn.	5.77
14	Little Buffalo River.	....do.....	At first bridge upstream from mouth, 7 miles south of Hohenwald, Lewis County, Tenn.	52.2
13	Allens Creek.....	....do.....	At highway bridge at Riverside, 0.3 mile upstream from mouth and 7½ miles southwest of Hohenwald, Lewis County, Tenn.	5.81
14	Rockhouse Creek...	....do.....	At first bridge upstream from mouth at Howard, 7 miles southwest of Hohenwald, Lewis County, Tenn.	11.1
14	Trace Creek.....	....do.....	400 ft upstream from mouth and 7½ miles southwest of Hohenwald, Lewis County, Tenn.	10.0
13	Forty-eight Creek.	....do.....	200 ft upstream from county highway bridge, ½ mile upstream from mouth, 1 mile west of Ashland and 8½ miles northeast of Waynesboro, Wayne County, Tenn.	30.6
13	Opossum Creek.....	...do.....	At ford at mouth, 4½ miles southeast of Flat Woods, Perry County, Tenn.	.69
13	Green River.....	....do.....	At Little Hope, ½ mile upstream from mouth and 3¾ miles southeast of Flat Woods, Perry County, Tenn.	23.4
July 28	Sinking Creek.....	....do.....	Just downstream from Sinking Creek Spring, 4 miles northeast of Flat Woods, Perry County, Tenn.	8.28
Aug. 19	....do.....	....do.....	....do.....	7,22
Sept.15	....do.....	....do.....	....do.....	6.96
Nov. 13	....do.....	....do.....	At first bridge upstream from mouth, 2¾ miles north of Flat Woods, Perry County, Tenn.	0
Sept.15	....do.....	....do.....	....do.....	0
Nov. 13	Rockhouse Creek...	....do.....	At first bridge upstream from mouth, 6 miles south of Linden, Perry County, Tenn.	0
June 24	Hurricane Creek...	....do.....	½ mile downstream from Boiling Spring and 5.2 miles southeast of Linden, Perry County, Tenn.	22.6
July 29	....do.....	....do.....	....do.....	20.8
Aug. 20	....do.....	....do.....	....do.....	21.6
Sept.16	....do.....	....do.....	½ mile downstream from Boiling Spring and 5.2 miles southeast of Linden, Perry County, Tenn.	20.0
Nov. 13	....do.....	....do.....	At county highway bridge, 1 mile upstream from mouth and 3¾ miles southeast of Linden, Perry County, Tenn.	8.21
14	Short Creek.....	....do.....	0.7 mile upstream from bridge on State Highway 100 and 1 mile east of Linden, Perry County, Tenn.	2.01
14	Coon Creek.....	....do.....	100 ft downstream from bridge on State Highway 100, 2½ miles northeast of Linden, Perry County, Tenn.	5.89
14	Brush Creek.....	....do.....	75 ft upstream from first bridge above mouth and 4½ miles northeast of Linden, Perry County, Tenn.	6.32
14	Lower Sinking Creek.	Cane Creek.....	At mouth, 2½ miles east of Beardstown, Perry County, Tenn.	0

Miscellaneous discharge measurements in the Cumberland and Tennessee River basins during water year October 1952 to September 1953--Continued

Tennessee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Nov. 14	Cane Creek.....	Buffalo River.....	100 ft upstream from county bridge and 1 1/3 miles east of Beardstown, Perry County, Tenn.	46.2
13	Blue Creek.....	Duck River.....	At county bridge, 1 1/3 miles upstream from mouth and 4 miles southwest of Waverly, Humphreys County, Tenn.	14.3
13	Trace Creek.....	Tennessee River...	200 ft downstream from bridge on U. S. Highway 70 and 0.3 miles east of Waverly, Humphreys County, Tenn.	1.26
13	Big Richland Creek	....do.....	150 ft upstream from county highway bridge, just downstream from Wolf Creek, and 5½ miles north of Waverly, Humphreys County, Tenn.	12.6
13	Whiteoak Creek....	....do.....	300 ft upstream from bridge on State Highway 13 and 9¾ miles north of Waverly, Humphreys County, Tenn.	9.80
Sept. 2	Cypress Creek.....	....do.....	At bridge on U. S. Highway 70, 1½ miles southeast of Camden, Benton County, Tenn.	0
30	....do.....	....do.....	....do.....	0
Nov. 25	....do.....	....do.....	200 ft downstream from Cane Creek, just upstream from Burnside Creek and 1.0 mile southeast of Camden, Benton County, Tenn.	d4.76
25	Cane Creek.....	Cypress Creek.....	1,000 ft upstream from mouth of Charles Creek and 1,300 ft downstream from U. S. Highway 70, just downstream from sewer outfall northeast of Camden, Benton County, Tenn.	d1.66

d Furnished by Tennessee Department of Public Health.

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 1952 to September 1953

Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
1953 July 6	Rocky Spring Creek Branch.	Middle Fork Holston River.	At Groseclose, Va.....	653

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U. S. GOVERNMENT PRINTING OFFICE : 1955 O - 346106