

# Surface Water Supply of the United States 1953

## Part 2—A. South Atlantic Slope Basins, James River to Savannah River

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

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GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1273

*Prepared in cooperation with the States  
of Georgia, North Carolina, South  
Carolina, and Virginia, and with other  
agencies*



**UNITED STATES DEPARTMENT OF THE INTERIOR**

**Douglas McKay, *Secretary***

**GEOLOGICAL SURVEY**

**W. E. Wrather, *Director***

## PREFACE

This report was prepared by the Geological Survey in cooperation with the States of Georgia, North Carolina, South Carolina, and Virginia, and with other agencies, by personnel of the Water Resources Division, C. G. Paulsen, chief, under the general direction of J. V. B. Wells, chief, Surface Water Branch, and B. J. Peterson, chief, Annual Reports Section.

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

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E. B. Rice	Raleigh, N. C.
M. T. Thomson	Atlanta, Ga.
D. S. Wallace	Charlottesville, Va.

# CALENDAR FOR WATER YEAR 1953

## OCTOBER 1952

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## NOVEMBER 1952

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## DECEMBER 1952

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## JANUARY 1953

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## FEBRUARY 1953

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## APRIL 1953

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## MAY 1953

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## JUNE 1953

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## JULY 1953

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## AUGUST 1953

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## SEPTEMBER 1953

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SURFACE WATER SUPPLY OF SOUTH ATLANTIC SLOPE BASINS, JAMES RIVER  
TO SAVANNAH RIVER, 1953

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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:

Georgia: State Department of Mines, Mining and Geology, Garland Peyton, director, and State Highway Department, G. L. Gillis, director.

North Carolina: State Department of Conservation and Development, G. R. Ross, director, succeeded by B. E. Douglas; city of Burlington, E. C. Brandon, Jr., city manager, succeeded by J. D. McIntosh, Jr.

South Carolina: State Highway Department, C. R. McMillan, chief highway commissioner; State Public Service Authority, R. M. Jefferies, general manager; State Research, Planning and Development Board, L. W. Bishop, director; State Water Pollution Control Authority, W. T. Linton, executive director; city of Spartanburg, Taylor Blalock, chairman of commissioners of public works.

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; city of Norfolk, C. A. Harrell, city manager; Newport News Waterworks Commission, E. F. Dugger, general manager.

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 133 gaging stations, of which 7 were in Georgia, 49 in North Carolina, 27 in South Carolina, and 50 in Virginia.

The following organizations aided in collecting records:

Georgia: City of Augusta.

North Carolina: State Highway and Public Works Commission, State Stream Sanitation Committee, cities of Durham and Gastonia, Carolina Power & Light Co., and Duke Power Co.

South Carolina: Greenwood County Electric Power Commission, South Carolina Electric & Gas Co., and South Carolina Public Service Authority.

Virginia: Appalachian Electric Power Co., Virginia Electric & Power Co., and Camp Manufacturing 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.

<u>State</u>	<u>District</u>	<u>Address</u>
Georgia <u>a/</u> .....	Atlanta.....	644 Peachtree-Seventh Building.
North Carolina <u>b/</u> .....	Raleigh.....	Federal Building.
South Carolina <u>b/</u> .....	Columbia.....	210 Creason Building.
Virginia.....	Charlottesville.....	Natural Resources Building, University of Virginia.

a/ Except Augusta Canal near Augusta and Savannah River at Augusta, at Burtons Ferry Bridge, near Millhaven, and near Clio.

b/ Including Augusta Canal near Augusta, Ga., and Savannah River at Augusta, Ga., at Burtons Ferry Bridge, near Millhaven, Ga., and near Clio, Ga.

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 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

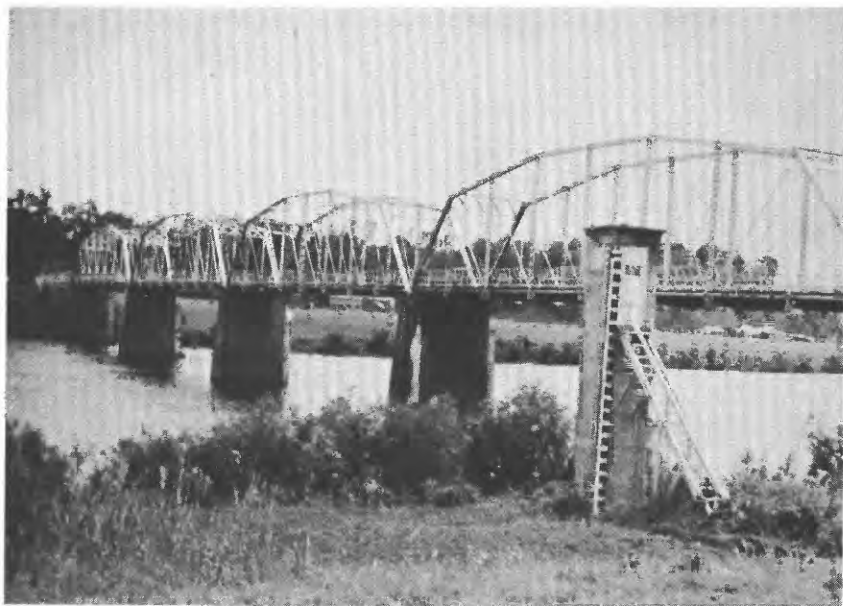
Beginning with the series of reports for the water year ending September 30, 1951, the order of listing gaging-station records was changed. In this report, in a downstream direction along the main stem all stations on a tributary entering above a main-stem station are listed before that station. If a 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 indentation in the listing of gaging stations in the table of contents of this report represents one rank. This downstream order and system of indentation 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 is 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 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.



**A. JAMES RIVER AT SCOTTSVILLE, VA**



**B. ROANOKE RIVER AT NIAGARA, VA.**

**FIGURE 1.—GAGING-STATION STRUCTURES.**

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 of gages, 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 non-recording 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.
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.

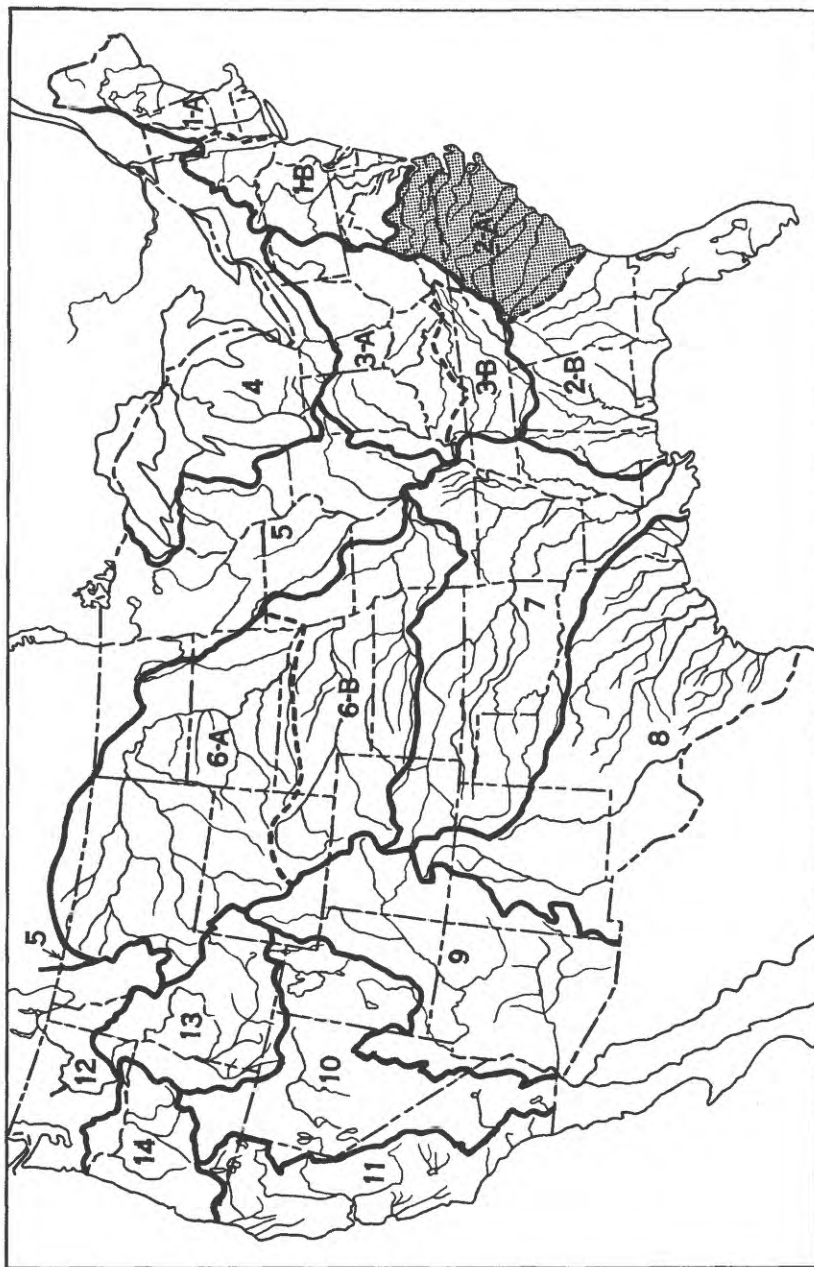


Figure 2.--Map of the United States showing areas covered by the 18 annual volumes on surface water supply. The area covered by this report is shaded.

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

(A = Annual Report; B = Bulletin)

Report	Character of data	Year
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 South Atlantic slope basins, James River to Savannah River, were included with those for the South Atlantic slope and eastern Gulf of Mexico basins.

Numbers of water-supply papers containing results of stream measurements in the South Atlantic slope basins, James River to Savannah River, 1899-1953

Year	WSP	Year	WSP	Year	WSP	Year	WSP	Year	WSP
1899	a35, 36	1911	302	1923	562	1934	757	1944	1002
1900	48	1912	322	1924	582	1935	782	1945	1032
1901	65, 75	1913	352	1925	602	1936	802	1946	1062
1902	a82, 83	1914	382	1926	622	1937	822	1947	1062
1903	a97, 98	1915	402	1927	642	1938	852	1948	1112
1904	b126, 127	1916	432	1928	662	1939	872	1949	1142
1905	b167, 168	1917	452	1929	682	1940	892	1950	1172
1906	b203, 204	1918	472	1930	697	1941	922	1951	1203
1907-8	242	1919-20	502	1931	712	1942	952	1952	1233
1909	262	1921	522	1932	727	1943	972	1953	1273
1910	282	1922	542	1933	742				

a James River only.

b Susquehanna River to Yakin River.

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 872 for the South Atlantic slope basins, James River to Savannah River), 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
Georgia.....	1895-1906	Bull. 16, Water powers of Georgia.....	Geological Survey of Georgia.
Do.....	1907-19	Bull. 36, Water powers of Georgia.....	Do.
North Carolina	1889-1923	Bull. 34, Discharge records of North Carolina streams.	Department of Conservation and Development.
Do.....	1889-1936	Bull. 39, Discharge records of North Carolina streams. <sup>1</sup>	Do.
Do.....	1866-1945	Hydrologic data on the Neuse River basin...	Do.
Do.....	1820-1945	Hydrologic data on the Cape Fear River basin.	Do.
Do.....	1866-1945	Hydrologic data on the Yadkin-Pee Dee River basin.	Do.
Do.....	1872-1945	Hydrologic data on the Catawba and Broad River basins.	Do.
South Carolina	1884-1946	Bull. 17, Summary of records of surface water supply of South Carolina.	South Carolina Research, Planning and Development Board.
Virginia.....	1895-1927	Bull. 31, Water resources of Virginia.....	Virginia Geological Survey.
Do.....	1927-42	Bull. 5, Surface water supply of Virginia (James River basin).	Do.
Do.....	1927-42	Bull. 6, Surface water supply of Virginia (Roanoke and Chowan River basins).	Do.
Do.....	1942-50	Bull. 13, Surface water supply of Virginia (James River basin).	Do.
Do.....	1942-50	Bull. 14, Surface water supply of Virginia (Chowan and Roanoke River basins).	Do.

<sup>1</sup> Contains records of maximum and minimum daily, weekly, and monthly discharge and yearly mean discharge.

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 list gives the numbers and titles of these reports:

WSP	Title
96.....	Destructive floods in the United States in 1903.
771.....	Floods in the United States, magnitude and frequency.
800.....	The floods of March 1936, Part 3, Potomac, James, and upper Ohio Rivers.
847.....	Maximum discharges at stream-measurement stations through September 1938.
1066.....	Floods of August 1940 in southeastern States.

#### RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE GEOLOGICAL SURVEY

The city of Lynchburg, Va., has collected records of daily discharge of Pedlar River at Pedlar Dam, Va., since August 1921 and the Agricultural Research Service of the United States Department of Agriculture has collected records of runoff from 3 areas of less than 20 acres each near Chatham, Va., since 1938.

#### HYDROLOGIC CONDITIONS

The water year 1953 was characterized by below normal runoff for the year over most of the South Atlantic slope basin, James River to Savannah River. Moderate flooding occurred during February and March over most of the area covered by this report which made the runoff for the first half of the water year above normal. Drought conditions beginning late in May in the southeastern part of North Carolina and slowly extending into the rest of the area during July to September caused near record lows to occur in Virginia and North Carolina in September. Some relief came for parts of the area by way of heavy precipitation in the latter part of September. For three key gaging stations in the area covered by this report, a comparison of monthly and yearly mean discharges during the 1953 water year with the median discharges for the 25-year period 1921-45 is shown in figure 3 on the following page.

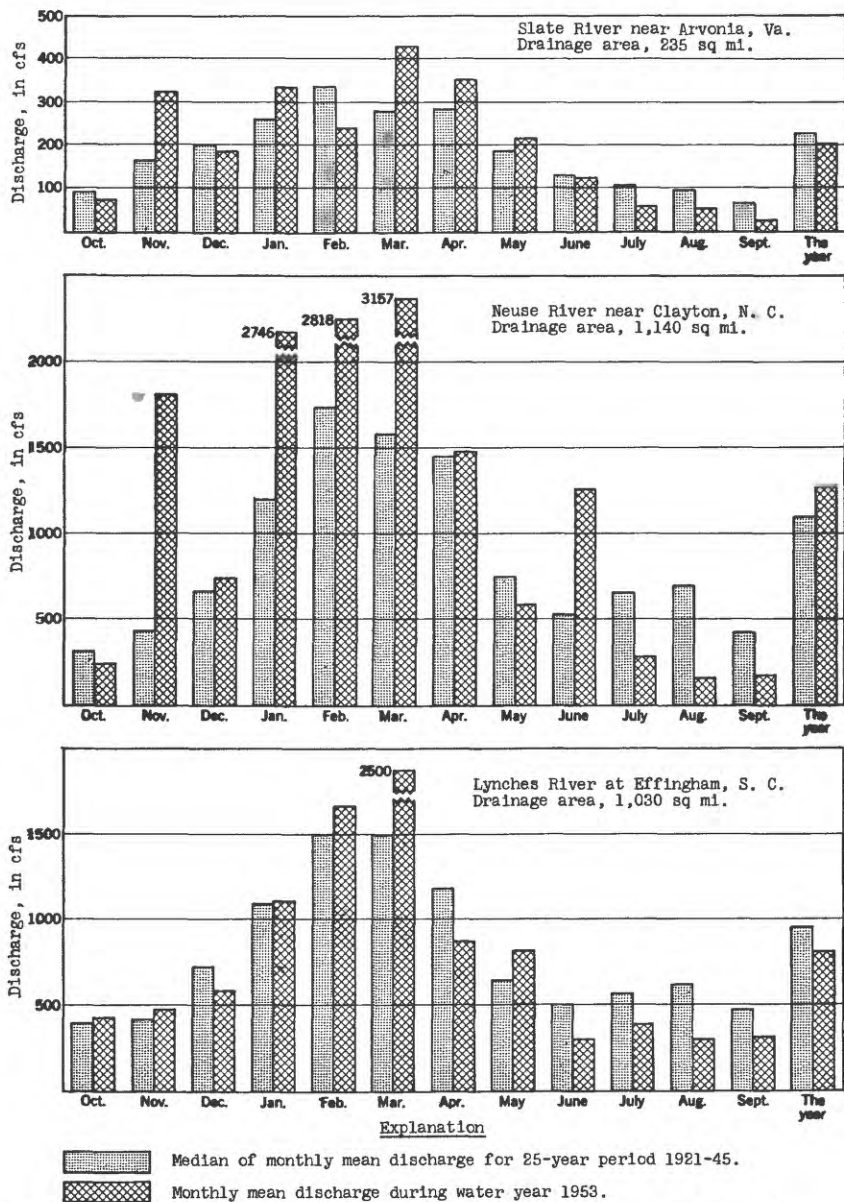


Figure 3.--Comparison of discharge at three key gaging stations during 1953 water year with median discharge for 25-year period.

## JAMES RIVER BASIN

Bolar Spring at Bolar, Va.

Location.--Lat 38°13'05", long. 79°40'40", in Highland County, 1,000 ft north of Bolar which is on county line between Bath and Highland Counties.

Records available.--August 1947, October 1949 to September 1953 (discharge measurements only).

Extremes.--1947, 1949-53: Maximum discharge measured, 17.6 cfs Feb. 3, 1950; minimum measured, 3.59 cfs Aug. 28, 1947.

Remarks.--Discharge measurements generally made once a month 75 ft downstream from source.

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

Oct. 13.....	4.23	Apr. 6.....	6.38
Nov. 21.....	4.14	May 28.....	4.94
Jan. 5.....	5.66	July 10.....	4.51
Feb. 9.....	7.40	Aug. 7.....	3.88
Mar. 12.....	8.21	Sept.11.....	4.73

Muddy Run Spring near Warm Springs, Va.

Location.--Lat 38°06'25", long. 79°45'05", 2.7 miles upstream from Jackson River and 3.9 miles northeast of intersection of U. S. Highway 220 and State Highway 39 at Warm Springs, Bath County.

Records available.--June 1946 to September 1953 (discharge measurements only).

Extremes.--1946-53: Maximum discharge measured, 12.3 cfs Feb. 3, 1950; minimum measured, 2.21 cfs Sept. 11, 1953.

Remarks.--Discharge measurements generally made once a month 50 ft downstream from spring

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

Oct. 13.....	2.25	Apr. 4.....	6.71
Nov. 21.....	3.65	May 28.....	3.85
Jan. 5.....	3.69	July 10.....	2.79
Feb. 9.....	6.40	Aug. 7.....	2.92
Mar. 12.....	7.18	Sept.11.....	2.21

## Back Creek near Mountain Grove, Va.

Location.--Lat 38°04'10", long. 79°53'50", on left bank 0.4 mile downstream from Cummings Run, 0.9 mile downstream from bridge on State Highway 39, and 2.1 miles south of Mountain Grove, Bath County.

Drainage area.--131 sq mi.

Records available.--October 1951 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 1,707 ft above mean sea level (by barometer).

Extremes.--Maximum discharge during year, 7,800 cfs Feb. 21 (gage height, 9.05 ft), from rating curve extended above 2,700 cfs on basis of slope-area determination of peak flow; minimum, 2.4 cfs Sept. 3, 4; minimum gage height, 1.73 ft Nov. 7, 8, 1951-53: Maximum discharge, that of Feb. 21, 1953; minimum, that of Sept. 3, 4, 1953; minimum gage height, that of Nov. 7, 8, 1953.

Remarks.--Records good.

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			
1.7	7.5	3.5	390	1.8	2.0	2.6	69
1.8	11	4.0	690	1.9	5.8	2.8	114
2.0	20	5.0	1,480	2.0	11	3.0	175
2.3	44	6.0	2,480	2.3	33	3.5	390
2.7	98	7.0	3,800	Note.--Same as preceding table above 3.5 ft.			
3.0	179	8.0	5,600				

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	12	8.9	21	67	144	146	162	123	37	24	5.8	3.1
2	11	9.2	20	66	128	137	143	109	35	22	5.4	2.8
3	12	9.2	20	73	116	128	123	102	31	33	12	2.8
4	11	9.2	19	77	107	524	109	89	28	40	14	2.8
5	11	9.2	21	71	93	1,040	96	89	26	35	*17	10
6	11	9.2	29	62	91	548	96	109	28	79	16	15
7	11	8.9	38	77	405	385	240	232	94	62	14	14
8	12	8.9	33	695	467	326	*390	273	66	44	12	10
9	13	8.9	31	1,260	312	256	326	236	46	*35	12	8.4
10	13	10	70	1,180	233	223	281	193	43	28	15	7.4
11	15	11	*1,140	816	193	200	236	159	44	24	12	*6.8
12	16	12	418	445	225	*186	215	134	36	21	9.4	7.4
13	15	12	214	277	222	223	269	120	32	18	8.4	6.8
14	*14	11	134	207	190	326	350	104	31	17	7.4	7.4
15	13	12	96	166	210	390	308	128	27	14	6.3	7.4
16	12	11	77	147	200	704	281	104	24	13	5.8	6.8
17	12	11	65	139	190	506	227	106	197	12	7.4	6.3
18	11	11	56	139	169	418	200	106	204	10	7.9	5.8
19	11	12	51	134	166	478	227	120	114	10	7.9	5.4
20	10	70	46	125	345	428	215	211	79	9.4	6.8	5.4
21	9.6	*78	50	153	*5,220	331	207	240	58	9.4	5.8	5.8
22	9.6	81	55	233	*1,480	265	252	193	47	10	5.4	5.8
23	9.6	66	73	237	690	326	281	149	41	22	5.0	5.4
24	9.6	51	84	901	456	2,940	252	117	35	16	4.7	5.4
25	9.6	41	83	795	335	*1,140	211	96	31	12	4.3	5.4
26	9.6	37	77	423	269	634	193	77	31	10	4.3	5.4
27	9.6	33	67	286	215	456	172	64	30	8.9	3.9	5.4
28	9.2	29	56	237	175	350	146	*54	26	7.9	3.9	5.0
29	9.2	26	51	207	-	277	128	47	32	7.4	3.5	5.0
30	8.9	24	45	179	-	219	126	43	31	6.8	3.5	4.7
31	8.9	-	55	160	-	186	-	40	-	5.8	3.1	-
Total	349.4	730.6	3,295	10,024	13,046	14,696	6,462	3,967	1,584	666.6	249.9	195.1
Mean	11.3	24.4	106	323	466	474	215	128	52.8	21.5	8.06	6.50
Cfsm	0.096	0.186	0.809	2.47	3.56	3.62	1.64	0.977	0.403	0.164	0.062	0.050
In.	0.10	0.21	0.93	2.85	3.71	4.17	1.83	1.13	0.45	0.19	0.07	0.06
Calendar year 1952: Max	3,620	Min	7.2	Mean	180	Cfsm	1.37	In.	18.74			
Water year 1952-53: Max	5,220	Min	2.8	Mean	151	Cfsm	1.15	In.	15.70			

Peak discharge (base, 1,400 cfs).--Dec. 11 (7 a.m.) 1,700 cfs (5.26 ft); Jan. 24 (4:30 p.m.) 1,480 cfs (5.02 ft); Feb. 21 (9:30 a.m.) 7,800 cfs (9.05 ft); Mar. 4 (11 p.m.) 1,570 cfs (5.08 ft); Mar. 24 (7 a.m.) 4,460 cfs (7.40 ft).

\* Discharge measurement made on this day.

## Jackson River at Falling Spring, Va.

Location.--Lat 37°52'36", long. 79°58'39", on right bank 20 ft upstream from Smith Bridge, 0.8 mile south of town of Falling Spring, Alleghany County, 1.6 miles downstream from Falling Springs Creek, and 5.5 miles north of Covington.

Drainage area.--409 sq mi.

Records available.--April 1925 to September 1953. Prior to October 1934, published as "at Barber."

Gage.--Water-stage recorder. Datum of gage is 1,333.49 ft above mean sea level (levels by Corps of Engineers). Prior to Oct. 26, 1934, chain gage at same site and datum.

Average discharge.--28 years, 487 cfs.

Extremes.--Maximum discharge during year, 15,500 cfs Feb. 21 (gage height, 12.44 ft); minimum, 62 cfs Sept. 3 (gage height, 2.93 ft).  
1925-53: Maximum discharge, 24,700 cfs Mar. 17, 1936 (gage height, 14.74 ft), from rating curve extended above 17,000 cfs on basis of records for other stations in James River basin; minimum, 36 cfs Oct. 12, 1946 (gage height, 2.65 ft); minimum daily, 58 cfs Sept. 28-30, Oct. 1, 3, 5, 1930.

Remarks.--Records good except those for periods of backwater from brush and logs, which are fair.

Revisions (water years).--WSP 952: 1936(M), 1927, 1928(M), 1929-30, 1932-40.

Rating table, water year 1952-53 except periods of backwater from logs and brush (gage height, in feet, and discharge, in cubic feet per second)

2.8	64	6.0	1,370
3.1	107	8.0	3,060
3.5	204	10.0	7,500
4.0	345	11.0	10,600
5.0	765		

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	96	90	115	236	412	495	555	373	159	129	84	c68
2	93	90	111	236	376	463	511	352	154	121	84	c64
3	91	91	109	244	342	423	463	332	144	121	c90	c64
4	91	94	107	263	323	858	415	305	134	146	c107	c77
5	96	93	113	253	299	2,420	376	293	129	137	*c127	c192
6	97	91	123	*220	280	1,440	359	323	127	196	c109	258
7	101	90	159	231	747	1,040	815	463	244	233	c96	159
8	99	90	141	820	1,040	875	*875	575	231	199	c91	119
9	102	90	132	1,980	765	758	765	555	204	*159	c91	*102
10	104	88	*146	2,180	*595	615	685	483	174	137	c91	96
11	104	94	1,730	1,860	507	555	615	419	167	123	c91	91
12	107	96	1,110	1,180	595	523	555	376	151	113	c84	c93
13	105	96	615	792	660	575	638	339	139	107	c83	c93
14	*104	94	435	615	555	758	765	313	137	104	c78	c90
15	104	94	329	519	595	1,110	710	313	129	101	c76	c88
16	101	96	272	451	660	1,640	660	307	125	96	c78	c88
17	99	96	236	415	615	1,270	595	288	274	94	c90	c87
18	97	96	209	398	535	1,040	535	288	575	91	c84	c85
19	97	99	190	390	487	1,180	638	305	359	91	c83	c85
20	96	*180	177	362	570	1,040	595	390	272	93	c80	c87
21	94	326	180	387	9,880	875	575	439	223	91	c76	c85
22	94	239	204	615	4,990	758	555	390	133	91	c74	c85
23	93	274	226	555	2,020	605	595	339	169	101	c73	c84
24	93	215	247	1,040	1,340	8,220	575	299	151	104	c73	c83
25	93	174	247	1,750	1,020	*3,400	507	274	134	94	c72	c84
26	93	156	234	1,040	820	1,980	491	*247	127	90	c69	c85
27	93	144	218	765	685	1,400	463	226	141	88	c69	c87
28	93	132	196	638	575	1,110	415	204	134	87	c69	c83
29	91	123	161	575	-	902	376	185	144	84	c66	c81
30	91	119	150	503	-	758	362	174	146	84	c68	c80
31	90	-	190	451	-	615	-	169	-	84	c67	-
Total	3,002	3,910	8,792	21,964	32,288	39,601	16,839	10,338	5,650	3,609	2,573	2,923
Mean	96.8	130	284	709	1,153	1,277	561	333	188	116	83.0	97.4
Cfsm	0.237	0.318	0.694	1.73	2.82	3.12	1.37	0.814	0.460	0.284	0.203	0.238
In.	0.27	0.35	0.80	1.99	2.94	3.60	1.53	0.94	0.51	0.33	0.23	0.27
Calendar year 1952: Max	5,900			Min	88	Mean	488	Cfsm	1.19	In.	16.23	
Water year 1952-53: Max	9,880			Min	64	Mean	415	Cfsm	1.01	In.	13.76	

Peak discharge (base, 4,000 cfs).--Feb. 21 (5 p.m.) 15,500 cfs (12.43 ft); Mar. 24 (1 p.m.) 11,300 cfs (11.20 ft).

\* Discharge measurement made on this day.

c Backwater from logs and brush.

## JAMES RIVER BASIN

Dunlap Creek near Covington, Va.

Location.--Lat 37°48'10", long. 80°02'50", on right bank 20 ft downstream from bridge on U. S. Highway 60, 2.2 miles downstream from Ogle Creek, and 3.0 miles west of Covington, Alleghany County.

Drainage area.--166 sq mi.

Records available.--December 1928 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 1,294.21 ft above mean sea level (levels by Corps of Engineers). Prior to Dec. 8, 1949, chain gage at same site and datum.

Average discharge.--24 years (1929-53), 158 cfs.

Extremes.--Maximum discharge during year, 3,720 cfs Feb. 21 (gage height, 7.04 ft); minimum, 12 cfs Aug. 31, Sept. 1-4 (gage height, 0.95 ft).

1928-53: Maximum discharge, 8,370 cfs Mar. 17, 1936 (gage height, 10.52 ft, from floodmarks), from rating curve extended above 4,500 cfs on basis of velocity-area studies and records for other stations in James River basin; minimum observed, 8 cfs Aug. 27, 28, 30, 1932 (gage height, 0.88 ft).

Remarks.--Records good. Occasional diurnal fluctuation caused by dam above station.

Revisions (water years).--WSP 972: 1929-30, 1932-34, 1942.

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	14	3.0	550	0.9	10
1.2	32	4.0	1,130	1.0	15
1.5	74	5.0	1,840	1.3	43
2.0	179	7.0	3,720	1.5	74
2.5	321				

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	18	20	25	121	119	134	149	132	41	21	14	12
2	18	20	25	115	107	130	138	141	38	21	14	12
3	19	20	25	119	97	124	126	132	36	21	16	12
4	18	20	24	134	89	715	113	121	32	20	17	14
5	18	20	26	119	82	1,360	103	113	31	20	*17	56
6	20	20	29	*97	72	590	101	134	32	30	17	42
7	28	19	36	113	143	382	*283	321	49	35	17	31
8	25	19	38	294	213	290	348	290	43	32	17	24
9	23	19	36	510	186	229	278	235	36	*31	20	*21
10	24	20	*53	520	*152	*193	240	189	42	26	19	19
11	25	21	480	450	134	165	206	158	39	23	17	18
12	23	21	221	263	196	147	181	136	33	21	15	17
13	22	20	136	191	321	145	275	119	32	20	15	17
14	*20	20	99	156	257	134	374	103	38	19	14	16
15	20	19	76	132	304	327	287	93	36	19	14	16
16	20	19	62	115	356	515	251	84	33	18	14	14
17	20	19	54	103	369	364	206	76	39	17	14	14
18	20	19	49	95	297	287	186	72	47	17	14	14
19	20	20	43	67	240	301	232	113	38	17	14	14
20	21	*36	40	82	337	269	243	382	33	17	14	14
21	21	50	47	134	3,120	226	216	249	31	17	14	15
22	20	87	76	307	1,260	196	186	177	34	17	14	14
23	20	80	89	246	570	332	172	143	34	20	14	14
24	20	56	84	226	356	3,020	156	115	29	18	14	14
25	21	43	72	224	269	1,010	141	99	26	17	14	14
26	20	38	64	191	224	550	141	*82	24	15	13	14
27	20	33	56	163	189	360	130	69	26	15	13	14
28	20	30	50	154	156	278	117	60	24	14	13	14
29	20	28	44	147	-	229	107	51	23	14	13	14
30	20	27	43	136	-	191	109	47	21	14	13	14
31	20	-	62	126	-	165	-	43	-	14	12	-
Total	644	883	2,264	5,870	10,215	13,358	5,775	4,279	1,020	620	460	541
Mean	20.8	29.4	73.0	189	365	431	192	138	34.0	20.0	14.8	18.0
Cfs/m	0.125	0.177	0.440	1.14	2.20	2.60	1.16	0.831	0.205	0.120	0.089	0.108
In.	0.14	0.20	0.51	1.31	2.29	3.00	1.29	0.96	0.23	0.14	0.10	0.12
Calendar year 1952: Max	3,160			Min 15		Mean 153	Cfs/m 0.922	In. 12.60				
Water year 1952-53: Max	3,120			Min 12		Mean 126	Cfs/m 0.759	In. 10.29				

Peak discharge (base, 2,000 cfs).--Feb. 21 (12 m.) 3,720 cfs (7.04 ft); Mar. 4 (11:30 p.m.) 2,380 cfs (5.65 ft); Mar. 24 (8:30 a.m.) 3,720 cfs (7.02 ft).

\* Discharge measurement made on this day.

## JAMES RIVER BASIN

17

Potts Creek near Covington, Va.

Location.--Lat 37°44'10", long. 80°01'55", near center of span on downstream side of highway bridge, 0.2 mile upstream from Hays Creek and 3.2 miles southwest of Covington, Alleghany County.

Drainage area.--158 sq mi.

Records available.--December 1928 to September 1953.

Gage.--Chain gage and crest-stage indicator; gage read twice daily. Datum of gage is 1,257.61 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--24 years (1929-53), 175 cfs.

Extremes.--Maximum discharge during year, 5,030 cfs Mar. 24 (gage height, 7.43 ft); minimum observed, 20 cfs Sept. 23-30; minimum gage height, 1.21 ft Sept. 28-30.

1928-53: Maximum discharge observed, 9,710 cfs Jan. 23, 1935 (gage height, 10.10 ft), from rating curve extended above 4,000 cfs on basis of velocity-area studies; minimum discharge, 13 cfs Nov. 29, 1930; minimum gage height, that of Sept. 28-30, 1953.

Remarks.--Records fair.

Revisions (water years).--WSP 727: 1931.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Sept. 15-30)

Oct. 1 to Feb. 21

Feb. 22 to Sept. 30

1.5	.25	2.5	338	1.4	16	2.5	300
1.8	.72	3.0	700	1.6	33	4.0	1,470
2.1	160	4.0	1,470	1.9	78	6.0	3,270
				2.2	152	7.0	4,460

Note.--Same as following 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	33	32	68	196	157	178	225	200	78	48	25	22
2	29	32	52	157	147	169	195	169	73	45	25	22
3	28	32	52	157	128	156	169	139	67	43	40	22
4	28	33	52	147	122	535	149	126	64	43	35	27
5	28	33	52	138	110	1,070	139	126	60	48	*33	73
6	26	32	51	*122	104	630	139	182	57	73	38	57
7	31	31	58	147	147	417	*346	630	109	82	38	45
8	38	31	68	212	204	326	313	446	82	64	32	33
9	39	31	68	283	182	278	267	365	71	*57	40	*30
10	42	31	*212	360	*167	*240	235	272	220	50	33	29
11	45	33	770	408	160	195	210	210	289	45	29	27
12	42	35	366	408	182	195	182	178	78	43	29	27
13	38	36	255	352	237	205	267	149	74	40	28	27
14	33	36	237	265	212	210	365	133	78	40	27	27
15	31	35	141	189	246	215	300	120	74	38	25	27
16	*31	35	116	160	345	225	278	116	67	38	23	25
17	28	33	98	141	338	272	245	111	98	38	26	24
18	28	32	82	125	274	294	225	102	152	33	25	24
19	28	35	77	116	233	404	225	225	107	33	25	24
20	28	*110	72	113	1,000	313	210	1,070	84	33	25	25
21	28	237	144	128	3,240	256	205	424	78	32	23	23
22	28	265	167	358	1,710	225	161	306	73	32	23	21
23	28	125	164	288	870	868	152	225	67	40	23	20
24	31	122	154	327	550	3,560	142	182	64	38	25	20
25	31	98	138	359	438	1,630	133	146	57	33	23	20
26	31	77	119	283	352	950	126	*120	50	31	23	20
27	32	70	110	237	267	590	126	109	48	31	23	20
28	32	63	90	221	215	438	123	98	51	29	23	20
29	32	58	68	221	-	352	113	90	57	29	22	20
30	32	58	65	192	-	300	116	84	51	27	22	20
31	32	-	119	174	-	267	-	78	-	26	22	-
Total	991	1,911	4,285	6,984	12,337	15,963	6,081	6,931	2,578	1,282	853	821
Mean	32.0	63.7	138	225	441	515	203	224	85.9	41.4	27.5	27.4
Cfsm	0.203	0.403	0.873	1.42	2.79	3.26	1.28	1.42	0.544	0.262	0.174	0.173
In.	0.23	0.45	1.01	1.64	2.90	3.76	1.43	1.64	0.61	0.30	0.20	0.19

Calendar year 1952: Max 2,890 Min 25 Mean 196 Cfsm 1.24 In. 16.94  
Water year 1952-53: Max 3,560 Min 20 Mean 167 Cfsm 1.06 In. 14.36

Peak discharge (base, 2,400 cfs)--Feb. 21 (time unknown) 4,460 cfs (7.00 ft); Mar. 24. (time unknown) 5,030 cfs (7.43 ft).

\* Discharge measurement made on this day.

Smith Creek above old dam, near Clifton Forge, Va.

Location.--Lat 37°51'10", long. 79°50'50", on left abutment of bridge on city of Clifton Forge highway, 0.2 mile upstream from old water-supply dam, 0.8 mile upstream from new water-supply dam, 3.1 miles northwest of Clifton Forge, Alleghany County, and 3.5 miles upstream from mouth.

Drainage area.--13.5 sq mi.

Records available.--May 1947 to September 1953.

Gage.--Staff gage and crest-stage indicator; gage read twice daily. Altitude of gage is 1,406 ft (by barometer).

Average discharge.--6 years, 20.9 cfs.

Extremes.--Maximum discharge during year, 752 cfs Mar. 24 (gage height, 5.95 ft); minimum, 1.4 cfs Aug. 31 to Sept. 3 (gage height, 1.08 ft).  
1947-53: Maximum discharge observed, 1,200 cfs Dec. 7, 1950 (gage height, 7.30 ft); minimum, 1.4 cfs July 31, 1952, Aug. 31 to Sept. 3, 1953; minimum gage height, 1.05 ft Aug. 29, Sept. 5, 1948.

Remarks.--Records fair.

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

1.0	0.9	2.5	73
1.1	1.5	3.0	125
1.2	2.5	3.5	183
1.4	5.8	4.0	265
1.5	11	4.5	362
2.0	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	1.9	2.8	3.8	8.7	16	19	26	17	5.4	5.1	1.7	1.4
2	1.9	2.5	4.0	8.7	14	17	22	15	4.9	4.4	1.7	1.4
3	1.9	2.8	4.0	12	12	16	20	15	4.7	3.6	6.3	1.4
4	1.9	2.8	4.0	13	11	30	17	14	4.4	3.4	3.7	1.4
5	1.9	3.1	5.8	12	10	60	16	14	3.8	3.7	2.4	6.7
6	1.9	3.1	7.2	9.8	10	49	19	16	3.7	6.7	*2.2	2.8
7	3.1	3.1	6.3	12	18	42	33	16	9.8	5.8	2.5	2.2
8	2.1	3.1	5.8	*22	18	35	*33	15	5.8	*4.2	2.5	*1.9
9	2.3	3.1	*5.4	51	18	30	32	15	4.7	3.7	2.5	1.9
10	2.8	3.4	16	78	18	26	30	14	4.5	3.1	2.3	1.8
11	3.1	3.4	83	60	*17	*23	26	14	4.0	2.8	2.1	1.8
12	2.6	3.7	42	43	24	21	25	13	3.7	2.5	1.9	1.9
13	2.4	3.4	28	34	25	26	36	12	3.7	2.5	1.9	2.0
14	2.3	3.4	18	28	25	25	41	12	3.6	2.3	1.8	1.8
15	2.2	4.0	13	22	30	49	38	10	3.6	2.1	1.7	1.7
16	*2.3	3.6	9.8	18	28	60	35	9.8	3.6	2.1	1.7	1.7
17	2.4	3.6	8.1	15	27	47	32	9.3	12	1.9	5.8	1.7
18	2.3	3.6	7.2	13	25	44	29	9.3	7.6	1.9	2.6	1.7
19	2.3	*4.0	6.3	11	23	41	33	14	5.4	1.9	2.2	1.7
20	2.3	14	6.3	10	52	39	33	23	4.4	2.3	2.1	1.9
21	2.4	23	7.9	15	257	33	32	22	4.0	2.1	1.9	1.8
22	2.4	16	9.3	19	114	28	29	20	3.7	2.6	1.9	1.7
23	2.5	10	9.8	18	73	54	26	16	3.4	3.1	1.8	1.7
24	2.5	7.6	10	41	50	302	24	13	3.1	2.3	1.9	1.7
25	2.5	6.3	10	44	40	108	21	11	2.8	1.9	1.7	1.7
26	2.5	5.4	9.8	35	33	73	21	*9.8	2.5	1.9	1.7	1.7
27	2.4	4.7	9.8	32	28	49	18	6.7	2.5	1.9	1.5	1.7
28	2.5	4.4	9.3	29	23	41	16	7.2	16	1.7	1.5	1.7
29	2.8	4.0	8.1	23	-	36	15	6.5	14	1.7	1.5	1.6
30	2.8	4.0	7.2	20	-	31	20	6.7	7.2	1.7	1.5	*1.6
31	2.6	-	7.4	18	-	28	-	6.3	-	1.7	1.4	-
Total	75.8	161.9	382.6	775.2	1,039	1,482	800	404.6	162.5	88.6	69.9	57.7
Mean	2.38	5.40	12.3	25.0	37.1	47.8	26.7	13.1	5.42	2.86	2.25	1.92
Cfs/m	0.176	0.400	0.911	1.85	2.75	3.54	1.98	0.970	0.401	0.212	0.167	0.142
In.	0.20	0.45	1.05	2.13	2.86	4.08	2.21	1.12	0.45	0.24	0.19	0.16
Calendar year 1952: Max	255			Min	1.5	Mean	17.3	Cfs/m	1.28	In.	17.48	
Water year 1952-53: Max	302			Min	1.4	Mean	15.1	Cfs/m	1.12	In.	15.14	

Peak discharge (base, 200 cfs).--Feb. 21 (time unknown) 425 cfs (4.82 ft); Mar. 24 (time unknown) 752 cfs (5.95 ft).

\* Discharge measurement made on this day.

## JAMES RIVER BASIN

19

## Cowpasture River near Clifton Forge, Va.

Location.--Lat 37°47'30", long. 79°45'35", in left bank 100 ft downstream from highway bridge, 2.5 miles upstream from confluence with Jackson River, and 4.0 miles southeast of Clifton Forge, Alleghany County.

Drainage area.--456 sq mi.

Records available.--May 1907 to August 1908, March 1925 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 1,006.93 ft above mean sea level (levels by Corps of Engineers). May 1907 to August 1908 staff gage 100 ft upstream (corrected) at different datum. March 1925 to October 1934 chain gage 100 ft upstream (corrected) at present datum.

Average discharge.--28 years (1925-53), 527 cfs.

Extremes.--Maximum discharge during year, 14,800 cfs Feb. 22 (gage height, 12.63 ft); minimum, 60 cfs Sept. 3, 4 (gage height, 1.73 ft).

1907-8, 1925-53: Maximum discharge, 34,200 cfs Mar. 18, 1936 (gage height, 18.62 ft), from rating curve extended above 13,000 cfs on basis of records for other stations in James River basin; minimum, 38 cfs Sept. 2, 1932 (gage height, 1.70 ft).

Flood in March 1913 reached a stage of 20.3 ft, from floodmarks (discharge, about 45,000 cfs), from rating curve extended above 13,000 cfs on basis of records for other stations in James River basin.

Remarks.--Records good.

Revisions (water years).--WSP 952: 1925(M), 1926-40, 1941(M). WSP 972: 1913(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	107	103	157	435	421	544	646	464	169	233	82	65
2	107	100	151	454	384	503	586	445	163	316	85	64
3	103	100	142	478	349	478	518	398	154	201	167	60
4	100	100	145	518	328	713	474	362	148	166	*134	60
5	100	103	154	454	312	2,410	435	337	142	169	178	82
6	105	98	175	376	298	1,730	416	412	145	384	137	125
7	134	98	204	345	575	1,260	687	848	218	333	120	115
8	128	95	201	*771	800	1,000	*950	882	250	255	110	107
9	128	95	185	2,200	700	882	765	765	219	191	105	*87
10	131	98	338	2,410	600	759	692	635	188	163	103	78
11	137	103	3,830	2,150	500	687	635	539	160	151	98	72
12	137	105	2,300	1,420	*554	635	585	464	154	137	93	74
13	125	105	950	950	675	675	652	407	142	125	89	82
14	117	103	635	722	580	915	829	371	137	117	85	78
15	112	105	474	596	704	1,430	704	345	137	112	80	80
16	*112	112	380	523	1,140	2,360	652	337	131	105	76	78
17	115	112	324	488	915	1,640	613	312	421	103	105	74
18	110	112	288	459	785	1,300	554	300	1,160	100	163	76
19	107	*112	257	449	624	1,600	635	333	503	98	105	74
20	107	784	235	416	624	1,340	652	1,100	316	98	89	72
21	105	848	265	426	3,960	1,000	596	652	242	93	82	72
22	105	950	380	570	8,460	300	554	474	218	95	76	72
23	105	681	474	565	2,520	877	513	394	194	105	76	74
24	105	426	426	1,480	1,600	8,140	483	341	166	105	74	72
25	107	312	371	2,520	1,140	5,250	454	304	151	103	72	72
26	107	253	328	1,340	915	2,740	454	280	154	91	72	72
27	105	218	298	882	753	1,860	454	*242	163	87	70	74
28	105	197	285	741	629	1,340	435	210	148	85	69	74
29	105	175	228	635	-	1,060	402	194	169	80	67	74
30	103	166	204	518	-	848	407	185	250	80	67	72
31	103	-	261	454	-	722	-	175	-	82	65	-
Total	3,477	6,969	15,023	26,745	36,755	47,580	17,412	13,507	6,903	4,561	2,994	2,331
Mean	112	232	485	863	1,313	1,535	580	436	230	147	96.6	77.7
Cfs/m	0.246	0.509	1.06	1.89	2.88	3.37	1.27	0.956	0.504	0.322	0.212	0.170
In.	0.28	0.57	1.22	2.18	3.00	3.88	1.42	1.10	0.56	0.37	0.24	0.19

Calendar year 1952: Max 8,030 Min 85 Mean 612 Cfs/m 1.34 In. 18.27  
 Water year 1952-53: Max 8,960 Min 60 Mean 505 Cfs/m 1.11 In. 15.01

Peak discharge (base, 5,000 cfs).--Dec. 11 (8 p.m.) 5,650 cfs (7.86 ft); Feb. 22 (2 a.m.) 14,800 cfs (12.63 ft); Mar. 24 (10:30 p.m.) 11,000 cfs (10.94 ft).

\* Discharge measurement made on this day.

## Stuart Spring near McDowell, Va.

Location.--Lat 38°29'15", long. 79°26'05", on west side of State Highway 614, 5 miles east of McDowell, Highland County.

Records available.--August 1947, October 1949 to September 1953 (discharge measurements only).

Extremes.--1947, 1949-53: Maximum discharge measured, 33.0 cfs Mar. 24, 1953; minimum measured, 1.18 cfs Aug. 28, 1947.

Remarks.--Discharge measurements generally made once a month 300 to 400 ft below source of spring.

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

Oct. 7.....	2.62	Mar. 24.....	33.0
Nov. 10.....	2.20	Apr. 28.....	2.67
Dec. 8.....	2.69	May 27.....	2.51
Jan. 21.....	4.30	July 1.....	3.05
Feb. 26.....	9.56	Sept. 8.....	2.31

## JAMES RIVER BASIN

James River at Lick Run, Va.

Location.--Lat 37°46'25", long. 79°47'05", on right bank 10 ft downstream from old highway bridge at Lick Run, Botetourt County, 1,000 ft downstream from bridge on U. S. Highway 220, 0.9 mile downstream from confluence of Cowpasture and Jackson Rivers, 1.8 miles south of Iron Gate, and at mile 338.9.

Drainage area.--1,369 sq mi.

Records available.--April 1925 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 978.30 ft above mean sea level (levels by Corps of Engineers). Prior to Oct. 26, 1928, chain gage at same site and datum.

Average discharge.--28 years, 1,589 cfs.

Extremes.--Maximum discharge during year, 38,900 cfs Feb. 22 (gage height, 20.55 ft); minimum, 175 cfs Sept. 4, 5 (gage height, 1.50 ft).

1925-53: Maximum discharge, 86,600 cfs Mar. 18, 1936 (gage height, 25.65 ft), from rating curve extended above 33,000 cfs on basis of records for other stations in James River basin; minimum, 153 cfs Oct. 11, 1930.

Flood in November 1877 reached a stage of about 33 ft (discharge, about 120,000 cfs). Flood in March 1913 reached a stage of 30.4 ft, from floodmarks (discharge, about 98,000 cfs).

Remarks.--Records good.

Revisions (water years).--WSP 757: Drainage area. WSP 852: 1936-37. WSP 972: 1927, 1930(M), 1932(M), 1935-36.

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

1.5	175	6.0	4,650
2.0	435	10.0	11,600
3.0	1,135	16.0	25,600
4.0	1,980		

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	297	271	435	1,260	1,460	1,850	2,080	1,420	528	495	227	189
2	297	271	412	1,340	1,340	1,720	1,900	1,420	483	612	237	184
3	287	281	406	1,380	1,220	1,640	1,680	1,300	471	447	338	180
4	271	292	406	1,460	1,140	2,080	1,550	1,220	447	401	*362	180
5	271	292	412	1,340	1,060	8,930	1,420	1,140	424	471	384	256
6	297	287	471	1,140	980	5,880	1,340	1,340	447	845	345	644
7	367	276	547	1,060	1,280	4,050	1,980	2,520	638	*823	323	465
8	350	271	*547	1,850	2,700	3,320	2,970	2,580	890	690	292	*367
9	345	271	502	5,250	2,400	2,840	2,640	2,290	690	566	287	297
10	356	271	850	6,370	1,940	*2,400	2,340	1,980	606	447	281	261
11	362	292	7,050	6,370	1,720	2,130	2,130	1,720	573	406	271	237
12	356	297	5,580	4,200	*1,800	1,980	1,940	1,510	521	367	256	237
13	345	297	2,770	2,900	2,340	2,030	2,130	1,340	465	350	246	242
14	323	297	1,990	2,240	2,130	2,460	2,900	1,220	453	328	237	232
15	307	307	1,460	1,900	2,340	3,390	2,580	1,100	459	323	227	232
16	*297	302	1,180	1,640	3,390	6,040	2,340	1,100	429	302	222	232
17	297	297	1,020	1,510	2,900	4,650	2,180	980	1,180	297	242	227
18	297	297	869	1,420	2,520	3,750	1,940	965	2,180	292	323	232
19	292	318	767	1,380	2,130	4,200	2,130	1,420	1,340	302	261	232
20	287	1,550	697	1,260	2,130	3,750	2,180	2,900	920	302	242	232
21	281	1,800	788	1,340	22,600	3,110	1,980	2,130	704	276	227	232
22	281	1,980	1,100	2,080	24,300	2,640	1,850	1,720	606	281	222	227
23	281	1,680	1,300	2,130	7,900	2,590	1,800	1,460	547	313	217	227
24	281	1,140	1,220	2,900	4,950	24,000	1,760	1,220	489	292	213	222
25	292	860	1,140	5,880	3,750	16,300	1,640	1,100	441	287	208	222
26	287	677	1,020	3,750	3,040	8,240	1,590	965	424	261	203	222
27	287	592	935	2,700	2,520	5,560	1,550	424	424	246	198	222
28	287	534	845	2,240	2,130	4,200	1,420	704	465	242	198	222
29	287	483	739	2,030	-	3,390	1,340	625	453	237	198	222
30	276	465	632	1,760	-	2,700	1,300	580	547	232	198	217
31	271	-	795	1,590	-	2,290	-	560	-	232	189	-
Total	9,412	17,248	38,864	75,670	110,090	144,110	58,580	43,359	19,244	11,965	7,874	7,598
Mean	304	575	1,254	2,441	3,961	4,649	1,953	1,399	641	386	254	253
Cfsm	0.222	0.420	0.916	1.78	2.89	3.40	1.43	1.02	0.468	0.282	0.186	0.185
In.	0.26	0.47	1.06	2.05	3.01	3.92	1.60	1.18	0.52	0.33	0.21	0.21

Calendar year 1952: Max 22,200 Min 261 Mean 1,800 Cfsm 1.31 In. 17.91  
 Water year 1952-53: Max 24,300 Min 180 Mean 1,490 Cfsm 1.09 In. 14.82

Peak discharge (base, 12,000 cfs).--Feb. 22 (1:30 a.m.) 38,900 cfs (20.55 ft); Mar. 24 (9 p.m.) 30,800 cfs (17.88 ft).

\* Discharge measurement made on this day.

## Johns Creek at Newcastle, Va.

Location.--Lat 37°30'20", long. 80°06'25", on right bank 20 ft downstream from highway bridge at Newcastle, Craig County, and 1,700 ft upstream from mouth.

Drainage area.--106 sq mi.

Records available.--April 1926 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 1,254.43 ft above mean sea level, unadjusted. Prior to June 7, 1937, chain gage at same site and datum.

Average discharge.--27 years, 126 cfs.

Extremes.--Maximum discharge during year, 4,880 cfs Mar. 24 (gage height, 9.64 ft); minimum, 7.8 cfs Sept. 4 (gage height, 2.44 ft).  
1926-53: Maximum discharge observed, 8,000 cfs Jan. 23, 1935 (gage height, 10.80 ft), from rating curve extended above 3,200 cfs on basis of velocity-area studies; minimum discharge, 6 cfs Dec. 5, 1946 (gage height, 2.72 ft), result of freezeup; minimum daily, 7 cfs Aug. 11, Sept. 3, 6, 7, 1930.

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

Revisions (water years).--WSP 972: 1935-36(M), 1940(M). WSP 1203: 1928, 1934.

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

2.4	7	5.0	275
2.8	18	5.5	450
3.1	31	6.0	680
3.5	58	7.0	1,240
4.0	110	8.0	2,070
4.5	175	9.0	3,490

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	a15	16	38	a110	139	143	152	118	36	21	9.9	8.2
2	a15	16	37	a120	122	144	138	107	32	18	14	8.0
3	a15	17	37	a140	112	129	123	98	29	21	13	8.0
4	a15	17	39	a120	104	285	111	90	26	26	12	10
5	a15	17	46	a110	92	945	101	96	24	20	12	22
6	a20	18	86	a100	86	522	98	179	24	22	*11	33
7	28	17	75	*a100	201	370	375	410	42	21	12	22
8	24	16	63	153	230	290	284	262	38	*23	13	16
9	22	16	*58	182	176	224	*222	204	30	19	16	13
10	28	18	130	554	150	186	194	166	45	16	21	*11
11	27	19	630	522	*138	*163	168	139	49	15	15	11
12	23	20	272	a300	147	159	151	120	35	14	13	11
13	20	20	176	a220	151	196	220	103	33	14	12	10
14	18	19	134	a180	137	194	234	90	36	13	11	9.6
15	*17	19	a100	a150	176	288	198	85	46	13	10	9.6
16	16	18	a80	a130	a300	434	198	75	40	12	9.9	9.6
17	16	19	a70	a120	a290	302	178	68	99	12	9.6	9.3
18	15	18	a65	a110	a250	342	164	62	118	12	9.3	9.0
19	15	*21	a55	a100	a300	470	166	171	80	12	9.0	9.0
20	15	207	a70	90	a600	320	150	633	60	12	9.0	9.9
21	15	160	a90	190	a1,600	236	140	270	47	12	9.0	12
22	15	210	a120	363	a2,000	206	127	184	40	11	9.0	11
23	16	132	a110	242	a700	344	121	144	37	14	9.0	10
24	16	92	a100	302	422	3,370	111	116	30	15	8.8	10
25	16	72	a90	320	311	1,080	103	101	26	13	8.6	10
26	16	61	a80	230	246	590	106	81	24	11	8.4	10
27	16	56	a70	190	198	414	99	*65	22	11	8.2	11
28	16	47	a65	184	168	305	90	56	28	10	8.0	11
29	16	42	a55	186	-	244	82	48	28	10	8.0	10
30	16	41	a60	166	-	194	88	43	24	9.9	8.0	9.6
31	16	-	a110	151	-	169	-	42	-	9.9	8.0	-
Total	553	1,461	3,211	6,115	9,544	13,258	4,690	4,424	1,228	462.8	334.7	353.8
Mean	17.8	46.7	104	197	341	428	156	143	40.9	14.9	10.8	11.8
Cfs/m	0.168	0.459	0.981	1.86	3.22	4.04	1.47	1.35	0.386	0.141	0.102	0.111
In.	0.19	0.51	1.13	2.14	3.35	4.66	1.64	1.56	0.43	0.16	0.12	0.12
Calendar year 1952: Max				3,210	Min	9.6	Mean	139	Cfs/m	1.31	In.	17.85
Water year 1952-53: Max				3,370	Min	8.0	Mean	125	Cfs/m	1.18	In.	16.01

Peak discharge (base, 2,100 cfs)--Feb. 21 (time unknown) 4,200 cfs (9.35 ft); Mar. 24 (11 a.m.) 4,880 cfs (9.64 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, 1 discharge measurement, and records for Craig Creek at Parr.

Craig Creek at Parr, Va.

Location.--Lat 37°39'55", long. 79°54'40", on right bank 12 ft upstream from Chesapeake & Ohio Railway bridge, 700 ft downstream from Stony Run, 0.2 mile northeast of Horton, 0.4 mile northwest of Parr, Botetourt County, and 12 miles upstream from mouth.

Drainage area.--331 sq mi.

Records available.--April 1925 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 992.50 ft above mean sea level (levels by Corps of Engineers). Prior to June 7, 1937, chain gage at same site and datum.

Average discharge.--28 years, 384 cfs.

Extremes.--Maximum discharge during year, 9,660 cfs Mar. 24 (gage height, 11.93 ft); minimum, 34 cfs Sept. 3-5 (gage height, 3.37 ft).

1925-53: Maximum discharge, 19,100 cfs Jan. 23, 1935 (gage height, 17.0 ft, from graph based on gage readings), from rating curve extended above 11,000 cfs; minimum, 26 cfs Dec. 23, 1943 (gage height, 3.26 ft), result of freezeup.

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

Revisions (water years).--WSF 552: 1937. WSP 892: 1935-36. WSP 1203: 1935(M), 1938(M).

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

3.3	28	5.5	785
3.5	48	6.0	1,200
4.0	128	7.0	2,230
4.5	265	11.0	8,150
5.0	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	62	a60	153	526	365	460	494	293	137	76	38	35
2	60	70	144	498	341	439	438	293	124	71	38	35
3	57	60	140	576	297	400	365	281	115	68	48	34
4	56	61	137	636	281	433	341	269	107	67	107	34
5	54	61	146	526	258	2,530	310	255	100	78	65	46
6	57	60	191	416	239	1,680	293	314	102	84	*53	82
7	55	60	305	360	293	1,160	688	988	124	93	51	87
8	71	60	265	375	648	982	1,080	930	137	*82	52	68
9	82	60	*229	521	570	719	*708	675	124	86	54	54
10	82	58	312	996	455	609	604	548	135	76	57	*46
11	93	62	2,970	1,730	*400	538	532	438	156	68	65	41
12	90	65	1,430	1,020	395	516	444	360	140	60	57	40
13	89	65	768	702	411	626	494	310	115	56	51	39
14	75	65	565	582	355	719	620	269	111	54	48	38
15	*69	68	428	477	455	741	538	242	120	52	45	38
16	68	68	341	411	824	1,160	526	223	128	51	42	37
17	67	65	285	360	837	922	521	208	149	49	41	37
18	64	65	252	323	780	798	472	194	253	48	41	37
19	61	*71	226	310	648	1,200	472	239	217	46	40	37
20	61	624	208	281	620	975	428	1,970	170	46	40	37
21	61	719	235	297	4,550	758	390	1,110	144	45	40	40
22	61	922	428	945	5,740	642	355	697	130	49	40	40
23	61	692	460	719	2,230	734	332	538	113	48	40	40
24	60	428	400	708	1,290	7,510	314	400	104	47	39	39
25	a60	305	346	930	948	4,440	289	332	92	48	39	37
26	a60	245	310	730	752	2,060	281	275	84	46	38	37
27	a60	217	275	209	642	1,340	277	232	81	46	39	40
28	a60	194	249	543	548	957	255	199	81	41	37	40
29	a60	170	223	516	-	774	239	175	86	10	37	39
30	a60	163	202	450	-	653	239	161	88	40	37	38
31	a60	-	239	395	-	554	-	149	-	39	36	-
Total	2,037	5,873	12,859	18,358	26,182	37,928	13,358	13,465	3,765	1,806	1,452	1,292
Mean	65.7	196	415	592	935	1,223	445	434	126	58.3	46.8	43.1
Cfsm	0.198	0.592	1.25	1.79	2.82	3.69	1.34	1.31	0.381	0.176	0.141	0.130
In.	0.23	0.66	1.44	2.06	2.94	4.25	1.50	1.51	0.43	0.20	0.16	0.14

Calendar year 1952: Max 4,760 Min 44 Mean 423 Cfsm 1.28 In. 17.40

Water year 1952-53: Max 7,510 Min 34 Mean 279 Cfsm 1.15 In. 15.52

Peak discharge (base, 4,200 cfs).--Feb. 21 (11 p.m.) 8,660 cfs (11.31 ft); Mar. 24 (3 p.m.) 9,660 cfs (11.93 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for Johns Creek at Newcastle and James River at Buchanan.

## James River at Buchanan, Va.

Location.--Lat 37°31'50", long. 79°40'45", on left bank at Chesapeake & Ohio Railway station at Buchanan, Botetourt County, 300 ft upstream from bridge on U. S. Highway 11, 1,000 ft upstream from Purgatory Creek, 1½ miles downstream from Looney Creek, and at mile 301.2.

Drainage area.--2,084 sq mi.

Records available.--August 1895 to September 1953 in reports of Geological Survey. February 1898 to September 1916, some of which has been revised, in Virginia Geological Survey Bulletin 31.

Gage.--Water-stage recorder. Datum of gage is 802.56 ft above mean sea level (levels by Corps of Engineers). Prior to Nov. 21, 1903, wire-weight gage at same site; datum lowered 2 ft on Apr. 3, 1897. Nov. 21, 1903, to July 1, 1927, chain gage at present site and datum.

Average discharge.--54 years (1898-1912, 1913-53), 2,519 cfs.

Extremes.--Maximum discharge during year, 48,000 cfs Feb. 22 (gage height, 19.15 ft); minimum, 310 cfs Sept. 3, 4, 5 (gage height, 1.70 ft).  
1895-1953: Maximum discharge, about 105,000 cfs Mar. 27, 1913 (gage height, 31 ft, from floodmarks), from rating curve extended above 53,000 cfs by logarithmic plotting and records for other stations in James River basin; minimum, 255 cfs for several days in September 1932 (gage height, 1.60 ft).  
Flood in November 1877 reached a stage of 34.9 ft, from floodmark (discharge, about 125,000 cfs).

Remarks.--Records good except those for periods of no gage-height record, which are fair. Records of water temperatures and sediment loads for the water year 1953 are given in WSP 1290.

Revisions (water years).--WSP 602: 1917-24. WSP 757: Drainage area. WSP 952: 1913(M). WSP 972: 1935-36. See also Records available.

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

1.7	310	4.0	2,280
2.0	480	6.0	5,700
2.5	820	10.0	15,800
3.0	1,230	17.0	39,300

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	528	a450	884	2,120	2,220	2,790	3,100	2,060	956	796	a370	326
2	522	a460	844	2,280	2,060	2,580	2,790	2,120	900	796	a550	321
3	510	a480	812	2,460	1,900	2,400	2,520	2,000	852	788	a650	315
4	480	a500	788	2,650	1,730	2,740	2,340	1,840	804	863	*a700	315
5	468	a520	812	2,400	1,680	11,000	2,170	1,780	764	656	621	332
6	474	a500	988	2,120	1,530	10,500	2,060	2,060	740	1,840	607	570
7	516	a480	1,120	1,900	2,220	6,820	2,520	3,270	924	*1,390	528	868
8	582	a460	*1,200	1,900	5,020	5,290	4,620	4,430	1,040	1,320	588	663
9	588	a440	1,120	5,020	3,530	*4,430	4,070	3,710	1,180	1,180	552	528
10	542	a450	1,120	a9,000	2,860	3,800	*3,440	3,100	1,030	916	504	*462
11	635	a460	10,200	a10,000	2,460	3,270	3,100	2,650	964	796	486	409
12	635	a480	*11,200	a7,000	*2,340	3,020	2,790	2,280	924	698	468	386
13	614	492	5,090	a5,000	2,790	3,270	2,790	2,060	852	635	444	386
14	582	488	3,270	a3,500	2,880	3,800	3,710	1,840	772	594	420	361
15	552	528	2,460	a3,000	3,270	4,340	3,620	1,680	772	570	398	375
16	528	534	2,060	a2,500	5,290	8,000	3,270	1,650	764	540	386	370
17	*a510	516	1,730	a2,300	4,710	7,280	3,100	1,580	972	522	375	370
18	a490	504	1,530	a2,200	4,250	5,700	2,790	1,480	2,280	504	398	364
19	a480	510	1,380	a2,000	3,440	6,140	2,790	1,650	2,340	498	474	370
20	a470	3,200	1,260	a1,800	3,020	5,920	2,940	5,290	1,580	504	409	375
21	a470	3,530	1,330	a2,500	20,200	4,800	2,790	4,900	1,190	498	392	381
22	a460	3,800	1,630	a3,500	*39,300	3,980	2,580	3,270	1,080	474	375	381
23	a460	3,440	2,000	a3,200	14,600	3,530	2,460	2,580	948	528	364	375
24	a460	2,280	1,950	a5,000	8,750	28,500	2,340	2,170	852	516	364	370
25	a470	1,730	1,840	a8,000	6,140	28,900	2,220	1,900	764	480	353	364
26	a470	1,430	1,680	a6,000	4,800	13,500	2,170	1,680	698	474	353	364
27	a460	1,230	1,530	a4,500	3,890	9,000	2,170	1,480	684	444	342	370
28	a460	1,090	1,380	3,620	3,270	6,590	2,060	1,280	740	420	337	375
29	a460	996	1,260	3,100	-	5,290	1,950	1,150	772	414	337	364
30	a450	940	1,140	2,720	-	4,250	1,840	1,070	764	409	332	359
31	a450	-	1,280	2,400	-	3,530	-	1,010	-	a350	332	-
Total	15,876	32,916	66,888	115,690	158,130	215,960	83,110	70,990	29,902	21,203	13,809	12,189
Mean	512	1,097	2,158	3,732	5,648	6,966	2,770	2,290	997	684	445	406
Cfs/m	0.246	0.526	1.04	1.79	2.71	3.34	1.33	1.10	0.478	0.328	0.214	0.195
In.	0.28	0.59	1.20	2.06	2.82	3.85	1.48	1.27	0.53	0.38	0.25	0.22

Calendar year 1952: Max 34,200 Min 403 Mean 2,698 Cfs/m 1.29 In. 17.63  
Water year 1952-53: Max 39,300 Min 315 Mean 2,292 Cfs/m 1.10 In. 14.93

Peak discharge (base, 21,000 cfs).--Feb. 22 (10:30 a.m.) 48,000 cfs (19.15 ft); Mar. 25 (3:50 a.m.) 41,600 cfs (17.55 ft).

\* Discharge measurement made on this day.

A no gage-height record; discharge estimated on basis of records for stations at Lick Run and Holcombs Rock.

## Karnes Spring near Buchanan, Va.

Location.--Lat 37°35'55", long. 79°40'50", 4.7 miles north of Buchanan, Botetourt County.  
Records available.--July 1928, August 1947, October 1949 to September 1953 (discharge measurements only).

Extremes.--1928, 1947, 1949-53: Maximum discharge measured, that of July 7, 1953; minimum measured, 1.49 cfs Dec. 3, 1951.

Remarks.--Discharge measurements generally made once a month near mouth of spring.

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

Oct. 17.....	3.03	Feb. 12.....	6.87	July 7.....	21.4
Nov. 18.....	2.28	Mar. 9.....	15.7	Aug. 4.....	3.43
Dec. 8.....	8.11	Apr. 10.....	11.0	Sept. 8.....	2.48
Jan. 8.....	8.24	May 25.....	8.87	30.....	2.24

## Calfpasture River above Mill Creek, at Goshen, Va.

Location.--Lat 37°59'15", long. 79°29'40", on left bank 20 ft upstream from highway bridge at Goshen, Rockbridge County, and 400 ft upstream from Mill Creek.

Drainage area.--147 sq mi.

Records available.--January 1939 to September 1953.

Gage.--Water-stage recorder and concrete control. Datum of gage is 1,384.84 ft above mean sea level, datum of 1929, Parkersburg-Uniontown supplementary adjustment of 1944.

Average discharge.--14 years, 166 cfs.

Extremes.--Maximum discharge during year, 9,080 cfs Feb. 21 (gage height, 9.87 ft); minimum, 2.5 cfs Sept. 30 (gage height, 1.40 ft).

1939-53: Maximum discharge, 14,800 cfs June 18, 1949 (gage height, 12.14 ft), from rating curve extended above 9,200 cfs by logarithmic plotting; minimum, 1.8 cfs Oct. 9, 1941 (gage height, 1.22 ft).

Remarks.--Records good except those below 30 cfs, which are fair. Discharge given herein includes diversion 50 ft above control by Stillwater Worsted Mill.

Revisions (water years).--WSP 972; 1936(M).

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
 (Shifting-control method used July 4 to Sept. 30)

1.2	2.0	3.0	150
1.5	5.1	3.4	310
1.8	10	4.0	640
2.2	25	5.0	1,270
2.4	40	6.0	2,280
2.6	65	8.0	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	11	8.3	44	114	118	142	174	118	29	16	4.2	4.4
2	10	8.3	40	118	107	132	150	111	27	14	4.3	4.1
3	10	8.3	36	148	96	128	135	107	24	13	5.2	3.9
4	9.4	8.7	34	171	88	260	120	100	22	13	6.2	4.0
5	9.4	8.3	35	160	80	940	109	96	20	14	8.5	6.9
6		9.6	7.9	42	138	75	541	*107	109	20	12	7.9
7	11	7.9	46	125	98	365	164	196	29	10	*7.6	10
8	9	9.1	50	434	174	285	248	43	9.4		6.9	10
9	10	8.1	51	820	185	240	220	33	9.2		6.9	8.7
10	11	8.7	62	910	160	210	220	185	30	*9.0	6.4	7.8
11	11	9.4	1,040	820	142	188	192	154	25	9.0	6.1	6.5
12	10	9.4	634	502	145	174	171	132	23	8.5	5.4	5.8
13	*9.6	9.0	321	326	140	*220	202	116	22	7.8	4.9	5.2
14	9.2	8.7	206	236	125	295	240	107	20	7.4	4.9	4.7
15	8.5	11	154	188	148	574	228	92	19	6.9	4.8	4.2
16	8.1	12	128	157	216	1,200	213	82	18	6.5	4.7	3.9
17	7.9	12	109	140	213	640	185	77	76	6.2	19	3.7
18	8.3	10	96	132	210	475	168	72	88	6.2	13	3.6
19	7.9	11	84	123	182	519	178	79	74	6.1	10	3.7
20	7.8	202	74	114	182	442	164	164	49	7.0	8.7	4.0
21	7.8	*458	84	116	4,790	332	164	142	38	7.0	7.9	4.0
22	7.2	536	140	140	2,100	256	154	128	36	6.1	7.4	3.8
23	7.6	260	168	142	712	228	145	114	28	6.5	7.0	3.5
24	8.1	164	150	636	453	3,390	140	94	24	6.1	6.5	3.1
25	8.3	120	132	880	321	1,430	130	84	21	5.8	6.1	3.3
26	8.3	98	120	464	248	1,030	130	68	19	5.1	5.7	3.5
27	8.5	82	107	300	202	640	128	58	17	4.7	5.5	3.7
28	8.3	67	96	232	168	448	118	49	20	4.4	5.9	3.4
29	8.3	88	82	168	-	516	111	*42	20	4.2	6.1	3.0
30	8.3	51	74	154	-	240	111	36	18	3.9	5.5	2.7
31	8.1	-	68	132	-	199	-	34	-	3.7	4.9	-
Total	279.5	2,271.1	4,527	9,260	11,876	17,079	4,927	3,416	932	248.7	214.1	151.1
Mean	9.02	75.7	146	299	424	551	140	110	31.1	8.02	6.91	5.04
Cfs/m	0.061	0.515	0.993	2.03	2.88	3.75	1.12	0.748	0.212	0.055	0.047	0.034
In.	0.07	0.57	1.14	2.34	3.00	4.32	1.25	0.86	0.24	0.06	0.05	0.04

Calendar year 1952: Max 2,610 Min 5.5 Mean 175 Cfs/m 1.19 In. 16.22  
 Water year 1952-53: Max 4,790 Min 2.7 Mean 151 Cfs/m 1.03 In. 13.94

Peak discharge (base, 2,500 cfs).--Feb. 21 (5 p.m.) 9,080 cfs (9.87 ft); Mar. 24 (11:30 a.m.) 7,050 cfs (8.92 ft).

\* Discharge measurement made on this day.

## Maury River at Rockbridge Baths, Va.

Location.--Lat 37°54'26", long. 79°25'20", on right bank at Rockbridge Baths, Rockbridge County, 700 ft upstream from highway bridge and 1 mile upstream from Hays Creek.

Drainage area.--329 sq mi.

Records available.--October 1928 to September 1953. Prior to October 1945, published as North River at Rockbridge Baths.

Gage.--Water-stage recorder. Datum of gage is 1,100.33 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--24 years (1929-53), 364 cfs.

Extremes.--Maximum discharge during year, 12,800 cfs Feb. 31 (gage height, 9.40 ft); minimum, 21 cfs Sept. 3, 4 (gage height, 0.98 ft).

1928-53: Maximum discharge, 33,000 cfs Mar. 17, 1936 (gage height, 13.07 ft), from rating curve extended above 16,000 cfs by logarithmic plotting; minimum, 11 cfs Nov. 28, 1930 (gage height, 0.76 ft).

Remarks.--Records good.

Revisions (water years).--WSP 972: 1929-40, 1941(M). WSP 1002: 1930(m).

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

1.0	22	4.0	1,480
1.2	38	5.0	2,370
1.4	69	6.0	3,650
1.6	116	7.0	5,500
2.0	250	8.0	8,000
3.0	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	36	34	91	312	286	400	534	410	82	90	27	23
2	36	35	*89	294	250	375	457	365	76	297	27	23
3	35	35	82	430	227	355	395	325	69	104	28	22
4	34	34	78	496	211	658	350	290	64	73	34	22
5	34	35	82	400	189	1,990	304	274	58	78	38	27
6	34	34	124	322	175	1,220	*290	299	56	282	35	48
7	55	33	124	304	270	900	611	567	130	163	*33	48
8	*51	34	115	706	425	752	680	710	141	*114	33	*36
9	44	34	111	1,400	410	686	616	572	98	87	34	31
10	53	35	144	1,760	345	584	567	462	133	65	32	28
11	44	38	2,170	1,640	312	518	490	375	84	60	29	28
12	43	38	1,280	*1,040	385	496	435	312	67	51	28	32
13	41	*36	682	710	375	*644	600	262	65	47	26	36
14	37	36	462	556	326	722	682	234	58	43	25	29
15	36	43	326	446	506	1,200	600	207	56	39	23	28
16	35	53	258	370	800	2,550	584	186	51	35	23	27
17	35	47	211	322	666	1,440	501	182	425	34	87	26
18	34	42	186	294	567	1,140	446	169	365	34	69	26
19	35	42	163	270	501	1,250	545	197	219	34	43	25
20	34	728	144	242	534	1,000	479	922	144	39	36	26
21	33	1,000	193	290	7,520	800	457	572	108	37	33	27
22	33	1,000	290	420	4,360	672	415	430	108	35	29	26
23	34	523	322	375	1,880	633	385	345	98	39	28	24
24	34	312	290	1,300	1,250	7,530	360	270	76	36	28	23
25	35	223	250	1,720	900	3,440	326	230	64	34	27	23
26	35	179	219	970	716	2,430	355	189	56	34	26	23
27	35	150	193	699	589	1,560	410	153	53	33	26	25
28	34	127	169	589	479	1,140	355	130	73	32	25	25
29	34	108	144	474	-	865	322	*111	67	28	25	24
30	34	104	138	385	-	699	330	101	65	28	25	23
31	34	-	182	322	-	600	-	84	-	29	23	-
Total	1,161	5,172	9,313	19,858	25,454	39,229	13,861	9,946	3,209	2,134	1,005	834
Mean	37.5	172	300	641	909	1,265	462	321	107	68.8	32.4	27.8
Cfs/m	0.114	0.523	0.912	1.95	2.76	3.84	1.40	0.976	0.325	0.209	0.098	0.084
In.	0.13	0.58	1.05	2.25	2.87	4.43	1.56	1.13	0.36	0.24	0.11	0.09

Calendar year 1952: Max 7,050 Min 23 Mean 425 Cfs/m 1.29 In. 17.60

Water year 1952-53: Max 7,530 Min 22 Mean 359 Cfs/m 1.09 In. 14.80

Peak discharge (base 4,500 cfs)--Feb. 21 (7 p.m.) 12,800 cfs (9.40 ft); Mar. 24 (12 m.) 11,000 cfs (8.90 ft).

\* Discharge measurement made on this day.

## JAMES RIVER BASIN

Kerrs Creek near Lexington, Va.

Location.--Lat 37°49'33", long. 79°26'28", near center of span on downstream side of highway bridge, 1.2 miles upstream from mouth and 2.8 miles north of Lexington, Rockbridge County.

Drainage area.--34 sq mi, approximately.

Records available.--January 1927 to September 1953 (fragmentary prior to August 1930).

Gage.--Wire-weight gage and crest-stage indicator; gage read twice daily. Datum of gage is 972.04 ft above mean sea level (levels by Corps of Engineers). Prior to Apr. 12, 1942, chain gage at same site and datum.

Average discharge.--23 years (1930-53), 38.5 cfs.

Extremes.--Maximum discharge during year, 3,560 cfs July 1 (gage height, 8.45 ft), from rating curve extended above 800 cfs on basis of 1 slope-area determination at gage height 9.3 ft, and 1 contracted-opening and 1 slope-area determination at gage height 13.8 ft; minimum, 7.8 cfs Sept. 3 (gage height, 2.27 ft).  
1927-53: Maximum discharge, 23,000 cfs Sept. 10, 1950 (gage height, 13.8 ft), from rating curve extended above 800 cfs on basis of 1 slope-area determination at gage height 9.3 ft, and 1 contracted-opening and 1 slope-area determination at gage height 13.8 ft; minimum, 4 cfs for many days in August and September 1932, Sept. 12, 1934, July 17, Nov. 21, 1938.

Remarks.--Records good.

Revisions (water years).--WSP 1203: 1927-49 (maximum only, 1930-34, 1941, 1943-48).

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

2.2	6	3.5	118
2.4	13	4.0	230
2.7	32	5.0	610
3.0	60	6.0	1,120

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	9.0	8.7	11	34	27	35	46	38	18	687	9.8	8.1
2	9.8	8.4	*12	28	25	36	42	35	18	425	10	8.1
3	9.0	8.4	11	70	24	40	38	32	17	46	*12	8.1
4	9.0	8.1	11	48	23	126	35	29	16	29	14	8.4
5	9.0	8.4	17	35	22	111	33	29	15	25	12	11
6	9.0	8.4	17	29	21	75	35	30	14	75	11	14
7	*14	8.1	15	32	33	64	75	34	26	49	12	11
8	9.8	8.1	14	33	28	56	50	28	18	*36	12	*9.4
9	11	8.4	13	45	*24	48	45	26	16	29	11	9.0
10	12	8.1	29	175	22	44	*41	25	16	25	11	9.0
11	11	8.7	118	75	24	39	38	24	14	24	10	9.0
12	11	8.7	48	*54	32	38	38	22	14	22	9.8	12
13	9.8	*8.1	35	44	28	*75	50	22	14	19	9.4	11
14	9.4	8.1	29	37	26	54	42	20	14	18	9.0	9.8
15	9.4	11	25	32	80	111	38	20	13	16	8.7	9.4
16	9.8	9.8	22	29	70	111	42	20	13	16	8.7	9.0
17	9.4	9.0	19	28	55	75	35	19	70	16	9.0	9.0
18	9.0	8.4	18	26	46	92	35	18	46	14	8.7	8.7
19	9.4	17	16	24	40	80	36	26	26	14	8.7	8.7
20	8.7	104	16	22	54	67	35	134	21	19	8.7	8.7
21	8.7	61	23	34	*732	58	34	62	18	14	8.4	9.0
22	8.7	38	19	31	180	52	31	46	17	14	8.4	8.7
23	9.0	26	18	28	92	54	30	58	16	16	8.4	8.4
24	8.7	19	17	305	75	52	28	32	14	13	8.4	8.4
25	9.0	16	16	75	62	210	27	*28	13	12	8.4	8.4
26	9.0	16	16	55	52	118	31	26	13	12	8.4	8.4
27	8.7	14	15	46	92	40	24	12	11	11	8.7	8.7
28	8.7	13	14	40	38	75	34	22	14	11	8.7	8.1
29	8.4	13	11	35	-	62	31	22	12	11	8.4	8.1
30	8.4	13	13	31	-	54	40	21	14	10	8.1	7.8
31	8.4	-	28	28	-	50	-	19	-	9.8	8.1	-
Total	294.2	504.9	686	1,608	1,981	2,824	1,155	971	562	1,737.8	297.9	275.4
Mean	9.49	16.8	32.1	51.9	70.8	91.1	38.5	31.3	18.7	56.1	9.61	9.18
Cfsm	0.279	0.494	0.650	1.53	2.08	2.68	1.13	0.921	0.550	1.65	0.283	0.270
In.	0.32	0.55	0.75	1.76	2.17	3.09	1.26	1.06	0.61	1.90	0.33	0.30
Calendar year 1952: Max			1,920	Min	8.1	Mean	42.3	Cfsm	1.24	In.	16.92	
Water year 1952-53: Max			732	Min	7.8	Mean	35.3	Cfsm	1.04	In.	14.10	

Peak discharge (base, 600 cfs).--Feb. 21 (time unknown) 1,300 cfs (6.3 ft); Mar. 24 (time unknown) 2,970 cfs (7.97 ft); July 1 (time unknown) 3,560 cfs (8.45 ft).

\* Discharge measurement made on this day.

## Big Spring at Kerrs Creek, Va.

Location.--Lat 37°50'50", long. 79°28'30", 1.3 miles east of town of Kerrs Creek, Rock-bridge County.

Records available.--August 1947, October 1949 to September 1953 (discharge measurements only).

Extremes.--1947, 1949-53: Maximum discharge measured, 9.41 cfs Apr. 9, 1951; minimum measured, that of Nov. 13, 1952.

Remarks.--Discharge measurements generally made once a month at bridge on State Highway 623.

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

Oct. 7.....	4.91	Feb. 9.....	6.43	July 8.....	6.81
Nov. 13.....	4.17	Mar. 13.....	8.18	Aug. 10.....	4.70
Dec. 3.....	4.79	Apr. 10.....	7.56	Sept. 8.....	4.95
Jan. 12.....	7.61	May 25.....	6.13		

## Maury River near Lexington, Va.

Location.--Lat 37°48'49", long. 79°26'42", on right bank 900 ft upstream from Lime Kiln highway bridge, 0.2 mile downstream from Kerrs Creek, and 2.8 miles upstream from Lexington, Rockbridge County.

Drainage area.--487 sq mi.

Records available.--August 1925 to September 1953. Prior to October 1945, published as North River near Lexington.

Gage.--Water-stage recorder. Datum of gage is 906.56 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--25 years (1928-53), 515 cfs.

Extremes.--Maximum discharge during year, 13,900 cfs Feb. 21 (gage height, 13.66 ft); minimum, 55 cfs Sept. 2-5 (gage height, 1.92 ft).

1925-53: Maximum discharge, 40,000 cfs Mar. 18, 1936 (gage height, 23.58 ft, from floodmarks), from rating curve extended above 9,000 cfs by logarithmic plotting and on basis of records for other stations in James River basin; minimum, 34 cfs Sept. 6, 1930, Sept. 18, 1932.

Remarks.--Records good.

Revisions (water years).--WSP 952: 1936(M). WSP 972: 1936.

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

2.0	69	5.0	1,470	1.9	52	4.0	835
2.3	122	7.0	3,360	2.2	107	5.0	1,470
2.8	273	11.0	8,950	2.5	182	7.0	3,360
3.8	725			3.0	355	11.0	8,950

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	84	76	161	424	412	570	780	590	194	312	76	56
2	84	78	*150	399	370	540	685	525	185	450	72	55
3	87	80	147	545	353	516	600	476	174	252	74	55
4	80	80	140	665	318	780	540	433	183	177	85	55
5	80	78	144	550	292	2,400	489	412	155	166	98	62
6	78	78	193	456	270	1,540	467	433	152	454	92	116
7	*87	76	196	416	349	1,160	780	685	291	305	85	116
8	109	75	190	704	502	1,010	835	835	298	*232	85	*92
9	97	75	178	1,470	506	890	780	715	209	191	85	78
10	107	80	218	2,030	433	752	752	605	248	160	*105	71
11	107	84	2,460	2,030	399	680	655	498	194	150	81	67
12	95	86	1,790	*1,350	456	645	590	433	168	138	76	78
13	92	*82	920	920	469	808	725	379	160	125	72	130
14	87	80	630	725	420	890	862	343	152	118	69	80
15	84	94	469	590	615	1,340	752	316	145	109	67	72
16	82	113	382	502	1,070	3,130	752	294	140	103	64	67
17	80	100	326	446	862	1,860	655	281	753	96	86	56
18	78	90	288	403	725	1,470	595	270	585	96	152	64
19	76	89	259	378	655	1,580	695	352	383	96	105	62
20	78	849	235	341	640	1,330	630	1,620	280	118	85	62
21	76	1,330	270	357	7,900	1,070	595	862	228	105	78	66
22	76	1,330	357	535	6,090	890	555	645	219	98	72	66
23	76	725	399	478	2,300	862	516	525	206	105	67	62
24	76	456	374	1,340	1,540	8,630	484	429	177	100	67	61
25	76	333	337	2,160	1,160	4,750	450	383	158	87	66	60
26	78	277	299	1,300	950	3,360	480	336	146	85	62	60
27	80	238	270	920	808	2,120	615	287	142	81	61	60
28	80	205	248	780	660	1,580	520	*256	163	80	60	60
29	76	181	205	635	-	1,220	471	232	160	78	60	60
30	76	172	202	520	-	1,010	471	222	152	76	60	58
31	76	-	270	451	-	862	-	209	-	72	60	-
Total	2,598	7,690	12,707	24,800	31,504	50,245	18,776	14,691	6,782	4,817	2,435	2,117
Mean	83.8	256	410	800	1,125	1,621	626	480	226	155	78.5	70.6
cfs/m	0.172	0.526	0.842	1.64	2.31	3.33	1.29	0.986	0.464	0.318	0.161	0.145
In.	0.20	0.59	0.97	1.89	2.40	3.64	1.44	1.14	0.52	0.37	0.19	0.16

Calendar year 1952: Max 9,160 Min 75 Mean 595 cfs/m 1.22 In. 16.63  
 Water year 1952-53: Max 8,630 Min 55 Mean 491 cfs/m 1.01 In. 13.71

Peak discharge (base, 5,000 cfs).--Feb. 21 (10 p.m.) 13,900 cfs (13.66 ft); Mar. 24 (3 p.m.) 11,900 cfs (12.72 ft).

\* Discharge measurement made on this day.

South River near Riverside, Va.

Location.--Lat 37°47'00", long. 79°21'35", on right bank 20 ft upstream from highway bridge, 1.1 miles southwest of Riverside, Rockbridge County, 1.9 miles upstream from mouth, and 4 miles east of Lexington.

Drainage area.--111 sq mi.

Records available.--October 1949 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 910 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,440 cfs Mar. 24 (gage height, 6.25 ft); minimum, 14 cfs Sept. 3 (gage height, 2.01 ft).  
1949-53: Maximum discharge, 3,860 cfs Dec. 7, 1950 (gage height, 8.67 ft); minimum, that of Sept. 3, 1953.  
Flood in March 1936 reached a stage of about 13.7 ft, from information by local residents.

Remarks.--Records good.

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			
2.1	22	4.0	295	2.0	13	3.5	200
2.4	46	5.0	685	2.2	25	4.0	304
3.0	112	6.0	1,260	2.4	44	5.0	685
3.5	179			3.0	126	6.0	1,260

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	41	31	91	116	139	173	243	403	85	50	26	15
2	43	31	87	115	129	170	219	344	87	49	24	14
3	49	31	*81	143	122	162	198	276	77	47	24	14
4	42	31	77	165	116	228	182	233	73	44	27	14
5	39	31	84	154	109	318	170	212	69	52	30	24
6	37	31	87	140	105	262	168	231	67	64	27	52
7	*37	30	83	136	129	226	221	239	130	*52	27	29
8	38	29	80	136	119	214	195	212	115	47	31	24
9	44	30	77	164	*112	190	*187	197	81	44	38	*22
10	35	32	126	388	108	174	182	181	87	40	*37	20
11	49	36	1,090	452	108	162	168	161	84	42	28	20
12	45	*33	530	324	119	*164	168	147	70	38	26	37
13	42	31	338	*255	112	192	233	137	69	37	25	57
14	41	30	249	217	108	190	257	129	64	35	23	29
15	39	62	205	189	171	396	239	123	64	33	22	24
16	36	58	176	171	226	640	260	123	61	33	22	23
17	36	44	157	154	200	482	228	125	286	32	22	22
18	36	41	143	148	173	407	221	112	137	31	22	21
19	36	42	130	139	158	344	221	148	105	29	21	20
20	35	264	123	132	154	288	203	312	88	31	20	21
21	35	785	133	146	822	251	190	222	80	29	19	22
22	35	530	120	153	785	228	176	194	94	28	19	22
23	35	304	113	144	502	222	185	164	74	31	18	21
24	35	217	109	317	362	1,170	154	144	66	28	18	20
25	33	173	104	396	291	972	144	134	62	27	17	19
26	33	147	99	283	249	890	236	123	58	25	16	19
27	33	132	97	235	219	662	478	112	57	24	16	19
28	33	118	90	210	192	498	362	*101	57	24	16	19
29	32	105	84	182	-	386	278	98	54	23	16	19
30	31	101	88	160	-	318	307	94	54	22	16	18
31	32	-	112	147	-	269	-	88	-	21	16	-
Total	1,187	3,560	5,163	6,209	6,139	11,248	6,653	5,519	2,555	1,112	709	700
Mean	38.3	119	167	200	219	363	222	178	85.2	35.9	22.9	23.3
Cfs/m	0.345	1.07	1.50	1.80	1.97	3.27	2.00	1.60	0.768	0.323	0.206	0.210
In.	0.40	1.19	1.73	2.08	2.05	3.77	2.23	1.84	0.86	0.37	0.24	0.23

Calendar year 1952: Max 1,520 Min 28 Mean 170 Cfs/m 1.53 In. 20.81  
Water year 1952-53: Max 1,170 Min 14 Mean 139 Cfs/m 1.25 In. 16.99

Peak discharge (base, 800 cfs).--Nov. 21 (9 a.m.) 862 cfs (5.36 ft); Dec. 11 (5 a.m.) 1,400 cfs (6.20 ft); Feb. 21 (5 p.m.) 1,260 cfs (6.00 ft); Mar. 15 (8 p.m.) 810 cfs (5.27 ft); Mar. 24 (11 a.m.) 1,440 cfs (6.25 ft); June 17 (7:30 a.m.) 835 cfs (5.29 ft).

\* Discharge measurement made on this day.

## Maury River near Buena Vista, Va.

Location.--Lat 37°45'45", long. 79°23'30", on right bank 0.5 mile downstream from South River and 2.8 miles northwest of Buena Vista, Rockbridge County.

Drainage area.--649 sq mi.

Records available.--March 1939 to September 1953. Prior to October 1945, published as North River near Buena Vista.

Gage.--Water-stage recorder. Datum of gage is 846.58 ft above mean sea level, datum of 1929.

Average discharge.--14 years, 689 cfs.

Extremes.--Maximum discharge during year, 13,600 cfs Feb. 21 (gage height, 12.88 ft); minimum, 85 cfs Sept. 2-5 (gage height, 1.70 ft).

1939-53: Maximum discharge, 22,400 cfs Sept. 10, 1950 (gage height, 16.2 ft); minimum, 20 cfs Oct. 10, 1941 (gage height, 1.23 ft), occurred during filling of a small reservoir 2 miles upstream.

Flood of Mar. 18, 1936, reached a stage of about 22 ft, from information by local residents.

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

Revisions (water years).--WSF 952: 1940-41.

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

1.9	115	6.0	2,600	1.7	85	2.5	290
2.5	289	8.0	4,880	2.1	170	3.0	472
3.0	472	11.0	9,760				
4.0	1,000						

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	136	a120	282	558	581	782	1,070	1,000	316	283	120	88
2	138	a120	263	545	532	754	968	870	306	628	120	87
3	151	a120	*256	702	493	728	840	782	287	358	120	85
4	136	a120	246	840	468	1,040	782	702	271	261	131	85
5	129	a120	256	728	436	2,690	702	652	258	240	145	88
6	124	a120	299	628	409	1,990	677	702	252	514	140	170
7	129	a120	306	581	489	1,510	1,000	955	432	413	134	160
8	*159	a120	292	728	628	1,280	1,100	1,070	489	*326	139	151
9	161	a120	286	1,620	*628	1,140	*1,040	968	334	274	152	*112
10	178	a120	402	2,460	581	1,000	968	810	365	237	*158	106
11	176	a130	3,310	2,460	545	870	870	702	326	225	134	106
12	156	*a130	2,370	1,740	581	840	782	628	274	207	122	116
13	148	128	1,360	1,250	628	1,000	968	554	258	190	116	190
14	138	120	935	968	558	1,100	1,140	510	252	178	112	127
15	133	176	728	810	834	1,790	1,040	476	240	170	108	112
16	129	187	604	702	1,360	3,760	1,040	456	228	160	106	104
17	124	161	514	628	1,140	2,460	935	452	1,060	152	104	100
18	122	143	460	581	968	1,990	840	421	810	148	192	99
19	120	138	421	549	840	2,030	902	476	540	145	145	97
20	117	1,380	387	506	810	1,700	840	2,030	421	162	124	97
21	115	2,080	417	556	7,880	1,440	810	1,250	351	158	116	99
22	115	1,860	485	677	6,840	1,210	754	902	365	145	110	100
23	115	1,140	527	652	2,890	1,100	702	754	323	152	104	97
24	115	728	506	1,550	1,990	9,020	677	628	284	150	102	94
25	117	545	468	2,640	1,580	5,420	628	558	255	140	100	94
26	117	452	424	1,660	1,320	4,120	702	501	240	134	99	94
27	117	402	394	1,210	1,070	2,790	1,070	444	228	129	95	94
28	120	354	365	1,000	902	2,120	902	*402	243	127	94	94
29	a120	316	350	840	-	1,700	782	369	249	122	94	94
30	a120	303	323	702	-	1,440	782	351	237	118	92	92
31	a120	-	413	628	-	1,210	-	334	-	116	90	-
Total	4,095	12,071	18,629	31,679	37,981	62,024	26,313	21,689	10,494	6,762	3,717	3,212
Mean	132	402	601	1,022	1,356	2,001	877	700	350	218	120	107
Cfsm	0.203	0.619	0.926	1.57	2.09	3.08	1.35	1.08	0.539	0.336	0.185	0.165
In.	0.23	0.69	1.07	1.81	2.18	3.55	1.51	1.24	0.60	0.39	0.21	0.18

Calendar year 1952: Max 9,260 Min 115 Mean 811 Cfsm 1.25 In. 17.01  
 Water year 1952-53: Max 9,020 Min 85 Mean 654 Cfsm 1.01 In. 13.66

Peak discharge (base 6,200 cfs).--Feb. 21 (10:30 p.m.) 13,600 cfs (12.88 ft); Mar. 24 (4 p.m.) 12,100 cfs (12.20 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, 1 discharge measurement, and records for station near Lexington.

## Pedlar River near Pedlar Mills, Va.

Location.--Lat 37°32'35", long. 79°15'10", on right bank 6 ft downstream from highway bridge, 1.2 miles south of Pedlar Mills, Amherst County, 1.5 miles downstream from Horsley Mill Creek, and 3.7 miles upstream from mouth.

Drainage area.--91 sq mi, approximately.

Records available.--July 1942 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 656 ft (by barometer).

Average discharge.--11 years, 124 cfs (adjusted).

Extremes.--Maximum discharge during year, 2,820 cfs Mar. 24 (gage height, 7.89 ft); minimum, 4.4 cfs Sept. 4, 5 (gage height, 1.88 ft).

1942-53: Maximum discharge, 11,200 cfs Aug. 8, 1942 (gage height, 14.1 ft. from floodmark in gage well), from rating curve extended above 2,200 cfs by logarithmic plotting; minimum, 2.3 cfs Sept. 8, 1944 (gage height, 1.83 ft).

Remarks.--Records good. Diversion above station for municipal supply of Lynchburg.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Stage-discharge relation affected by ice Dec. 29, 30)

1.9	4.0	108
2.0	8.0	3.5
2.2	19	975
2.4	38	7.0
		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	29	25	62	174	129	150	189	298	62	38	10	6.0
2	28	25	60	134	118	157	171	232	60	37	19	5.2
3	34	25	*58	131	112	150	159	189	55	36	15	4.8
4	31	26	57	125	106	272	150	166	51	31	19	4.4
5	29	25	65	110	95	352	140	164	48	52	39	9.0
6	27	25	74	100	91	240	140	179	46	*81	18	28
7	*27	24	63	95	143	202	344	174	87	49	16	13
8	29	24	62	95	129	186	229	157	74	41	17	10
9	31	24	60	147	*112	166	*192	143	57	35	19	*8.5
10	60	28	193	485	100	152	176	136	65	29	19	8.5
11	57	30	950	301	100	145	157	125	72	26	16	8.5
12	45	*32	356	215	112	*154	159	118	57	25	14	11
13	37	29	229	*171	102	402	243	110	49	23	14	17
14	32	27	171	147	95	264	226	102	46	21	12	10
15	30	109	140	129	274	310	194	98	45	19	12	10
16	28	74	123	121	264	328	197	93	45	18	11	8.5
17	27	41	110	110	192	260	171	93	*269	17	10	8.0
18	27	36	100	127	157	264	164	89	123	16	10	7.6
19	27	39	91	116	138	249	164	140	85	15	10	8.0
20	30	471	83	106	134	216	147	360	65	15	9.0	8.0
21	26	714	106	169	1,620	192	158	147	58	15	*9.0	9.0
22	26	356	93	210	758	179	151	121	131	15	8.0	8.5
23	26	202	65	166	420	192	127	110	98	26	8.0	8.0
24	26	145	79	879	298	*1,650	123	93	74	16	7.6	7.6
25	26	121	76	512	246	762	121	89	62	14	7.2	7.6
26	26	102	70	301	213	466	192	61	55	13	6.8	7.6
27	26	93	66	229	186	352	194	74	49	13	6.4	8.0
28	27	79	62	193	164	287	174	*68	49	12	6.4	8.5
29	27	70	50	169	-	249	157	66	46	11	6.0	7.6
30	26	68	50	150	-	221	236	66	44	10	6.0	6.8
31	25	-	135	140	-	202	-	65	-	10	6.0	-
Total	952	3,090	3,979	6,261	6,586	9,381	5,305	4,146	2,127	779	386.4	273.2
Mean	30.7	103	128	202	235	303	177	134	70.9	25.1	12.5	9.11
(*)	+13.9	+13.2	+13.0	+12.5	+12.3	+12.9	+12.8	+12.8	+15.7	+11.4	+10.5	+8.4

Adjusted for diversion and change in contents of Lynchburg Reservoir

Mean	44.6	116	141	214	246	316	190	147	84.6	36.5	23.0	17.5
Cfsm	0.490	1.27	1.55	2.35	2.73	3.47	2.09	1.62	0.930	0.401	0.253	0.192
In.	0.56	1.42	1.79	2.71	2.84	4.00	2.33	1.87	1.04	0.46	0.29	0.21

Observed				Adjusted			
Calendar year 1952:	Max 2,120	Min 15	Mean 139	Mean 152	Cfsm 1.67	In. 22.78	
Water year 1952-53:	Max 1,650	Min 4.4	Mean 119	Mean 131	Cfsm 1.44	In. 19.52	

Peak discharge (base, 1,300 cfs).--Dec. 11 (12:30 a.m.) 1,960 cfs (6.78 ft); Jan. 24 (9 a.m.) 1,400 cfs (5.86 ft); Feb. 21 (12 m.) 2,260 cfs (7.25 ft); Mar. 24 (10 a.m.) 2,820 cfs (7.89 ft).  
\* † Discharge measurement made on this day.

† Diversion and change in contents, equivalent in cubic feet per second, of Lynchburg Reservoir furnished by city of Lynchburg.

## James River at Holcombs Rock, Va.

Location.--Lat 37°30'04", long. 79°15'46", on right bank at Holcombs Rock, Bedford County, 0.9 mile downstream from Pedlar River and at mile 263.2.

Drainage area.--3,250 sq. mi.

Records available.--January 1900 to September 1915 (gage heights only), December 1926 to September 1953. Published as "at Salt Creek" December 1926 to June 1931.

Gage.--Water-stage recorder. Datum of gage is 548.53 ft above mean sea level. datum of 1929. January 1900 to September 1915 float gage in powerhouse of Virginia Electrolytic Co. 1,000 ft upstream at different datum. December 1926 to June 1931 water-stage recorder at site 2 miles downstream at different datum.

Average discharge.--25 years (1927-30, 1931-53), 3,758 cfs.

Extremes.--Maximum discharge during year, 56,100 cfs Feb. 22 (gage height, 21.63 ft); minimum, 323 cfs Aug. 26 (gage height, 3.66 ft); minimum daily, 450 cfs Sept. 4.

1926-53: Maximum discharge, 115,000 cfs Mar. 18, 1936 (gage height, 30.78 ft), from rating curve extended above 57,000 cfs on basis of records for other stations in James River basin; minimum, 100 cfs Sept. 21, 1941 (gage height, 3.02 ft); minimum daily, 223 cfs July 28, 1930.

Flood in March 1913 reached a stage of 31.3 ft, from floodmarks (discharge, 118,000 cfs, from rating curve extended above 57,000 cfs on basis of records for other stations in James River basin).

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow regulated by powerplants above station.

Revisions (water years).-- WSP 972: 1913(M), 1932-33, 1935(M), 1936. WSP 1903: 1928(M).

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

3.8	410	10.0	11,800
4.4	933	15.0	27,100
6.0	3,370	21.0	53,000

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	868	a700	1,550	3,000	3,460	4,780	5,400	4,080	1,700	1,320	626	453
2	841	a680	1,470	3,630	3,370	4,350	5,010	4,080	1,680	1,920	818	462
3	834	a750	1,410	3,640	3,120	4,120	4,540	3,720	1,460	1,720	687	483
4	840	a680	*1,320	4,080	2,780	4,540	4,080	3,370	1,390	1,290	698	450
5	704	a750	1,350	4,010	2,700	11,500	3,720	3,280	1,300	1,220	987	494
6	768	a800	1,530	3,570	2,620	15,000	3,540	3,630	1,340	3,380	923	605
7	776	a870	1,690	3,080	2,700	10,400	4,820	5,010	1,530	*2,690	884	900
8	868	a750	1,960	2,980	3,720	8,350	6,200	6,410	2,110	2,130	794	1,040
9	928	a800	1,800	5,000	5,010	7,040	5,410	6,000	1,880	2,060	972	850
10	1,130	a650	1,870	11,300	*4,260	6,000	*5,600	5,200	1,840	1,620	860	708
11	1,120	a700	10,800	13,500	3,640	5,200	5,010	4,440	1,780	1,330	755	611
12	1,080	a800	15,900	11,000	3,580	5,010	4,630	3,810	1,640	1,240	741	628
13	992	754	9,010	*7,690	3,810	6,000	4,720	3,370	1,320	1,090	678	611
14	945	760	5,800	5,800	4,170	6,200	5,600	2,940	1,360	1,000	717	594
15	912	930	4,230	4,720	4,720	6,830	6,000	2,700	1,310	944	645	628
16	851	988	3,560	4,170	7,470	12,000	5,600	2,700	1,270	814	574	544
17	782	923	2,940	3,680	7,250	11,800	5,400	2,620	2,440	828	632	560
18	968	834	2,560	3,460	9,410	9,450	4,630	2,540	3,900	862	633	514
19	811	834	2,400	3,280	5,400	9,230	4,540	2,820	4,050	861	594	504
20	560	3,880	2,190	3,120	4,820	9,230	4,630	7,250	2,760	760	719	572
21	782	7,690	2,170	3,370	22,100	7,910	4,440	8,350	2,210	774	*726	580
22	681	7,470	2,340	4,440	52,500	6,620	4,170	5,800	2,130	816	596	547
23	826	6,200	2,810	5,400	23,600	5,800	3,810	4,350	1,820	780	501	568
24	663	4,300	3,000	8,130	13,000	33,700	3,810	3,630	1,520	770	508	548
25	754	3,170	2,830	11,300	9,900	43,500	3,630	3,200	1,390	824	560	479
26	773	2,590	2,460	10,100	7,910	21,500	3,720	2,780	1,390	690	512	556
27	a740	2,250	2,380	7,250	6,620	14,200	3,990	2,620	1,220	660	500	548
28	a780	2,040	2,240	5,800	5,400	10,800	3,900	2,300	1,180	674	486	516
29	a720	1,750	1,990	5,010	-	8,790	3,460	2,060	1,260	633	486	544
30	a700	1,700	1,890	4,350	-	7,250	3,460	1,980	1,310	636	524	528
31	a740	-	2,030	3,990	-	6,200	-	1,800	-	625	488	-
Total	25,738	57,993	101,480	173,850	226,040	323,280	138,470	118,440	53,500	36,961	20,826	17,625
Mean	830	1,933	3,274	5,608	8,073	10,430	4,616	3,821	1,783	1,192	672	588
Cfs/m	0.255	0.595	1.01	1.73	2.48	3.21	1.42	1.18	0.549	0.367	0.207	0.181
In.	0.29	0.66	1.16	1.99	2.58	3.70	1.58	1.36	0.61	0.42	0.24	0.20
Calendar year 1952: Max	46,700			Min	560	Mean	4,202	Cfs/m	1.29	In.	17.58	
Water year 1952-53: Max	52,500			Min	450	Mean	3,546	Cfs/m	1.09	In.	14.79	

Peak discharge (base, 25,500).--Feb. 22 (1 p.m.) 56,100 cfs (21.63 ft); Mar. 25 (2:30 a.m.) 52,000 cfs (20.80 ft).

\* Discharge measurement made on this day.

No gage-height record; discharge estimated on basis of recorded range in stage and records for station at Bent Creek.

## James River at Bent Creek, Va.

Location.--Lat 37°32', long. 78°50', on left bank 100 ft downstream from highway bridge at town of Bent Creek, Appomattox County, 150 ft downstream from Bent Creek, 1 mile downstream from Gladstone, and at mile 222.9.

Drainage area.--3,671 sq mi.

Records available.--March 1925 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 381.39 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Sept. 13, 1930, chain gage at same site and datum.

Average discharge.--28 years, 4,197 cfs.

Extremes.--Maximum discharge during year, 56,700 cfs Feb. 22 (gage height, 16.07 ft); minimum, 533 cfs Aug. 30 (gage height, 2.58 ft); minimum daily, 802 cfs Sept. 4.  
1925-53: Maximum discharge, 115,000 cfs Mar. 18, 1931 (gage height, 23.02 ft), from rating curve extended above 74,000 cfs on basis of velocity-area studies and records for other stations in James River basin; minimum, 222 cfs Oct. 13, 14, 1930 (gage height, 2.21 ft); minimum daily, 222 cfs Oct. 13, 1930.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Flow regulated by powerplants above station.

Revisions (water years).--WSP 742: 1931(m). WSP 757: Drainage area. WSP 972: 1935-36. WSP 1066: 1940. WSP 1203: 1942.

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

2.6	555	8.0	14,900
3.0	1,080	11.0	27,600
3.5	1,960	15.0	49,500
4.0	3,020	16.0	56,000
5.0	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	a1,100	928	2,160	3,870	4,920	5,910	7,280	5,040	2,080	a1,600	a800	634
2	a1,100	914	1,810	4,070	3,960	5,600	6,500	4,900	2,060	a1,700	a900	642
3	a1,100	1,040	1,850	4,620	3,960	5,160	5,800	4,740	2,030	a1,800	a1,200	605
4	a1,150	904	1,680	4,680	3,960	5,500	5,370	4,210	1,760	a1,900	a1,000	602
5	a1,100	1,020	1,740	4,900	5,200	10,100	5,070	3,980	1,780	a1,600	a1,600	506
6	a1,200	1,030	1,730	4,670	3,370	17,200	4,470	4,270	1,560	a3,500	a1,300	679
7	a1,200	1,110	2,080	3,640	3,700	12,500	6,490	5,840	2,340	*a4,000	a1,200	870
8	a1,300	910	2,090	3,690	3,600	9,880	6,400	6,100	2,160	a3,000	a1,200	1,230
9	a1,500	1,070	2,380	4,490	5,440	8,640	8,000	7,430	2,470	a2,560	a1,300	1,220
10	a1,800	814	2,160	11,800	5,770	7,680	7,580	6,480	2,390	a2,000	a1,300	1,060
11	a2,100	1,090	6,980	14,200	4,480	6,510	6,380	5,900	2,180	a1,700	a1,400	949
12	a1,800	992	17,600	13,500	4,110	6,820	6,050	4,580	2,050	a1,500	a950	860
13	a1,600	1,040	12,400	9,880	4,200	7,770	6,690	4,350	2,210	a1,300	a950	1,140
14	a1,400	1,100	7,960	7,840	4,700	7,670	6,650	3,920	2,160	a1,200	a900	883
15	a1,300	1,840	5,880	6,200	5,720	7,760	7,040	3,260	1,480	a1,200	a800	739
16	a1,200	1,940	*4,320	5,390	7,600	11,500	7,010	3,360	1,290	a1,200	a800	736
17	a1,100	1,300	3,690	4,700	8,950	13,800	6,460	3,600	3,480	a1,100	a800	796
18	a1,300	1,260	3,580	4,080	7,780	11,500	6,070	2,920	5,340	a1,100	a800	745
19	a1,000	1,180	2,840	4,280	7,510	10,500	5,810	3,580	a3,800	a900	a850	760
20	a700	4,730	3,020	3,770	5,790	10,800	5,600	7,430	a4,000	a1,000	*a850	740
21	a900	10,200	2,620	4,120	12,600	9,570	5,550	9,980	a3,000	a1,300	812	758
22	a850	9,570	2,560	5,310	50,200	8,330	5,270	7,580	a2,700	a1,000	912	768
23	1,000	8,030	3,140	5,880	33,800	7,580	4,940	5,720	a2,800	a800	870	748
24	1,070	6,500	3,210	9,160	16,000	22,900	4,600	4,610	a2,100	a950	657	749
25	845	4,100	3,600	11,800	11,800	50,200	4,620	4,160	a2,100	a1,000	714	729
26	1,080	3,490	3,120	12,500	9,570	27,200	4,520	3,640	a1,900	a950	784	730
27	983	2,620	2,770	9,570	7,980	17,600	4,580	3,140	a1,700	a850	660	684
28	1,120	2,700	2,770	7,550	7,420	13,100	4,860	2,860	a2,300	a850	650	676
29	956	2,090	2,540	6,710	-	10,800	4,810	2,600	a1,800	a800	688	755
30	922	2,140	2,270	6,280	-	9,260	4,200	2,580	a1,600	a700	746	751
31	1,000	-	3,040	5,080	-	8,030	-	2,330	-	a700	652	-
Total	36,776	77,852	119,590	208,240	251,890	367,370	174,470	144,990	70,800	45,760	29,045	23,754
Mean	1,186	2,595	3,858	6,717	8,996	11,850	5,816	4,677	2,360	1,476	937	792
Cfs/m	0.323	0.707	1.05	1.83	2.45	3.23	1.58	1.27	0.643	0.402	0.255	0.216
In.	0.37	0.79	1.21	2.11	2.55	3.72	1.76	1.46	0.72	0.46	0.29	0.24
Calendar year 1952: Max	46,500			Min 700			Mean 5,043		Cfs/m 1.37		In. 18.69	
Water year 1952-53: Max	50,200			Min 602			Mean 4,248		Cfs/m 1.16		In. 15.68	

Peak discharge (base, 26,500 cfs).-- Feb. 22 (8:30 p.m.) 56,700 cfs (16.07 ft); Mar. 25 (11 a.m.) 54,000 cfs (15.68 ft).

\* Discharge measurement made on this day.

No gage-height record; discharge estimated on basis of recorded range in stage, 2 discharge measurements, and records for stations at Holcombs Rock and at Scottsville.

## Buffalo River near Norwood, Va.

Location.--Lat 37°38', long. 78°53', on right bank 1 mile downstream from Tye River, 3 miles upstream from Rucker Run, and 4½ miles upstream from mouth and Norwood, Nelson County.

Drainage area.--360 sq mi, approximately.

Records available.--March 1940 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 400.78 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--13 years, 508 cfs.

Extremes.--Maximum discharge during year, 6,270 cfs Mar. 24 (gage height, 6.77 ft); minimum, 40 cfs Sept. 4, 5 (gage height, 1.89 ft).  
1940-53: Maximum discharge, 33,500 cfs Oct. 15, 1942, Sept. 19, 1944 (gage height, 18.1 ft, from floodmarks), from rating curve extended above 13,000 cfs by logarithmic plotting; minimum, 30 cfs Oct. 10, 1941 (gage height, 1.64 ft).

Remarks.--Records good except those for periods of doubtful or 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 Mar. 24				Mar. 25 to Sept. 30			
2.2	133	3.0	630	1.8	27	2.2	113
2.4	210	3.5	1,130	2.0	60	2.6	320
2.6	320	6.0	4,880	Note.--Same as preceding table above 2.6 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	185	150	390	693	a740	720	al,100	921	301	264	121	49
2	176	160	376	497	a580	702	1,020	792	308	258	224	46
3	185	150	369	521	a820	693	943	729	277	241	137	42
4	172	150	348	473	a580	1,090	965	675	258	224	153	40
5	168	150	376	428	a540	1,230	943	666	247	219	378	105
6	168	150	390	405	a500	921	954	711	236	289	178	163
7	168	150	a370	398	a600	830	1,700	684	405	241	145	129
8	176	150	a350	405	a540	783	al,200	596	308	213	153	78
9	181	150	a340	810	a500	738	a950	554	270	213	192	62
10	235	164	a350	1,830	*450	684	*a650	529	270	187	182	*65
11	240	189	a2,000	1,370	450	648	738	497	264	182	153	60
12	220	176	al,500	1,030	545	702	738	465	236	178	129	72
13	193	161	al,000	870	489	*1,420	1,170	435	230	168	117	236
14	185	154	a800	*774	450	1,060	900	412	230	163	113	113
15	172	614	a700	711	970	1,150	783	398	224	153	104	92
16	168	341	*a600	657	830	1,270	801	383	219	137	98	81
17	168	235	554	604	702	1,100	720	405	1,100	*129	95	74
18	168	210	505	675	613	1,150	693	369	505	129	107	67
19	168	210	458	622	579	1,100	711	450	390	121	89	67
20	161	1,540	428	562	570	943	648	1,170	a310	158	*83	69
21	158	1,970	450	738	3,120	880	613	588	289	141	78	72
22	*161	1,700	420	765	2,780	810	588	489	420	121	76	72
23	161	1,150	390	657	1,780	820	570	450	378	153	72	69
24	161	890	376	2,570	1,370	4,370	545	412	354	133	72	65
25	161	720	355	1,970	1,150	3,410	521	398	308	113	69	62
26	164	639	341	1,440	998	2,480	711	376	320	107	62	62
27	161	570	327	1,190	880	1,970	657	334	301	104	60	67
28	161	505	308	1,060	783	1,700	622	334	412	98	58	67
29	154	442	284	943	-	1,470	596	*320	301	95	56	60
30	150	420	308	860	-	1,330	711	320	283	89	53	60
31	150	-	528	a600	-	1,210	-	301	-	82	51	-
Total	5,399	14,350	16,271	27,328	24,789	39,384	24,661	16,163	9,932	5,104	3,658	2,566
Mean	174	478	525	882	885	1,270	822	521	331	165	118	78.9
Cfsm	0.483	1.33	1.46	2.45	2.46	3.53	2.28	1.45	0.919	0.458	0.328	0.219
In.	0.56	1.48	1.68	2.82	2.56	4.07	2.54	1.67	1.03	0.53	0.38	0.24

Calendar year 1952: Max 4,620 Min 150 Mean 628 Cfsm 1.74 In. 23.73  
Water year 1952-53: Max 4,370 Min 40 Mean 519 Cfsm 1.44 In. 19.56

Peak discharge (base, 3,000 cfs).--Jan. 24 (11 a.m.) 4,370 cfs (5.66 ft); Feb. 21 (8:30 a.m.) 4,370 cfs (5.72 ft); Mar. 24 (6:30 a.m.) 6,270 cfs (6.77 ft).

\* Discharge measurement made on this day.

a Doubtful or no gage-height record; discharge estimated on basis of recorder graph, records for Tye River near Lovingson and Piney River at Piney River.

Tye River near Lovington, Va.

Location.--Lat 37°43', long. 78°58', on right bank at downstream side of highway bridge, 2 miles downstream from Hat Creek, 4 miles upstream from Piney River, and 6 miles southwest of Lovington, Nelson County.

Drainage area.--92 sq mi, approximately.

Records available.--August 1938 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 578.39 ft above mean sea level, datum of 1929.

Average discharge.--15 years, 156 cfs.

Extremes.--Maximum discharge during year, 3,150 cfs Mar. 24 (gage height, 7.17 ft); minimum, 6.7 cfs Sept. 4 (gage height, 0.59 ft).

1938-53: Maximum discharge, 9,670 cfs Sept. 19, 1944 (gage height, 13.7 ft); minimum, 4.5 cfs Oct. 9, 1941; minimum gage height, 0.29 ft Oct. 4, 1943.

Remarks.--Records good.

Revisions (water years).--WSP 892: 1938.

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			
1.0	33	2.0	193	0.6	7	2.0	216
1.3	63	3.0	460	.7	12	3.0	500
1.5	92	5.0	1,480	1.0	34	4.0	940
				1.4	84	6.0	2,160

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	46	39	124	173	224	247	306	314	93	51	44	8.0
2	44	39	119	156	203	245	276	287	93	49	44	7.5
3	52	39	111	173	190	245	252	260	81	44	36	7.0
4	44	39	*107	161	180	330	234	247	77	41	38	7.0
5	42	39	124	152	166	311	213	239	74	46	54	17
6	*41	38	122	144	159	276	211	245	73	*50	36	44
7	41	37	113	147	213	255	405	232	126	46	31	27
8	43	37	109	152	176	247	300	206	97	43	32	18
9	48	37	105	247	*161	232	*284	190	81	40	36	*15
10	72	41	195	450	156	216	276	183	81	36	39	13
11	68	*48	965	420	156	203	252	166	77	35	30	13
12	57	44	500	*360	178	*239	250	156	70	34	25	22
13	50	41	376	320	161	376	300	147	70	31	25	48
14	46	40	308	280	152	336	265	140	66	29	22	24
15	44	114	263	245	258	376	250	136	66	28	21	20
16	42	76	234	224	242	405	260	134	64	26	18	17
17	41	56	208	208	219	362	234	138	193	25	18	15
18	41	50	190	219	198	376	232	126	97	25	18	13
19	41	53	176	195	193	344	234	156	80	25	18	13
20	40	807	164	180	200	311	216	345	70	44	16	15
21	40	990	180	226	1,860	287	203	183	70	35	*15	16
22	40	600	159	221	1,140	268	193	161	77	28	14	15
23	40	358	149	206	600	284	185	142	67	32	13	13
24	39	270	138	980	450	1,870	183	130	62	26	13	13
25	39	225	132	680	390	1,230	176	128	56	23	12	13
26	39	198	128	485	341	940	258	119	54	22	11	13
27	39	176	122	390	303	660	252	108	79	21	10	13
28	39	155	114	341	268	518	234	*102	85	20	10	12
29	39	143	108	295	-	435	219	98	62	*18	9.5	10
30	39	136	114	263	-	376	284	97	56	17	9.0	9.5
31	39	-	183	242	-	333	-	91	-	22	8.5	-
Total	1,375	4,965	6,140	8,915	9,137	13,133	7,437	5,405	2,397	1,012	726.0	491.0
Mean	44.4	166	198	288	326	424	248	174	79.9	32.6	23.4	16.4
Cfsm	0.463	1.80	2.15	3.13	3.54	4.61	2.70	1.89	0.868	0.354	0.254	0.178
In.	0.56	2.01	2.48	3.61	3.69	5.32	3.01	2.18	0.97	0.41	0.29	0.20

Calendar year 1952: Max 3,090 Min 37 Mean 195 Cfsm 2.12 In. 28.89  
 Water year 1952-53: Max 1,870 Min 7.0 Mean 167 Cfsm 1.82 In. 24.73

Peak discharge (base, 1,200 cfs).--Nov. 20 (12:30 a.m.) 1,360 cfs (4.82 ft); Dec. 11 (1:30 a.m.) 1,660 cfs (5.32 ft); Jan. 24 (10 a.m.) 1,540 cfs (5.12 ft); Feb. 21 (11:30 a.m.) 2,880 cfs (6.92 ft); Mar. 24 (6 a.m.) 3,150 cfs (7.17 ft).

\* Discharge measurement made on this day.

## Piney River at Piney River, Va.

Location.--Lat 37°42'10", long. 79°01'40", on right bank 20 ft downstream from bridge on State Highway 151, 0.2 mile southwest of Piney River Post Office, Nelson County, 1.7 miles downstream from Indian Creek, and 2.5 miles southeast of Lowesville.

Drainage area.--48 sq mi, approximately.

Records available.--July 1949 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 633.58 ft above mean sea level, datum of 1929, Culpeper supplementary adjustment of 1943.

Extremes.--Maximum discharge during year, 1,570 cfs Mar. 24 (gage height, 4.89 ft); minimum, 2.6 cfs Sept. 4 (gage height, 0.76 ft).

1949-53: Maximum discharge, 2,740 cfs Dec. 7, 1950 (gage height, 6.08 ft); minimum, that of Sept. 4, 1953.

Flood in June 1949 reached a stage of 9.9 ft, from floodmarks.

Remarks.--Records good.

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

0.7	2.0	1.5	58
.8	4.0	2.0	145
.9	6.8	2.5	281
1.0	10	3.0	460
1.1	16	4.0	925
1.3	33	5.0	1,680

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	23	18	82	86	127	153	176	176	48	29	10	3.8
2	23	18	80	78	113	145	153	176	49	26	16	3.4
3	24	18	75	82	103	143	139	166	43	26	11	3.0
4	22	18	*68	77	95	181	127	156	38	24	14	3.4
5	22	18	71	74	88	171	119	158	35	28	18	6.8
6	*21	18	69	71	83	162	129	143	36	*28	12	15
7	22	18	72	71	111	153	219	133	54	24	11	8.4
8	22	18	69	74	88	149	181	125	39	22	13	7.1
9	27	18	65	105	*83	139	*171	115	35	21	17	*5.4
10	35	22	160	265	78	129	160	111	39	19	12	4.8
11	34	*22	472	284	82	123	149	103	40	19	9.7	5.1
12	30	19	337	*234	90	*141	145	95	34	18	9.0	12
13	25	18	249	197	82	237	162	88	32	16	9.0	14
14	23	17	202	168	78	237	145	83	31	14	8.1	6.8
15	22	52	166	149	141	271	141	80	31	14	7.8	6.0
16	22	34	143	131	123	262	145	74	30	15	7.8	5.1
17	21	27	123	117	115	243	131	71	113	16	7.8	4.3
18	23	25	111	121	109	249	135	65	35	14	7.8	4.6
19	22	24	90	105	103	216	129	104	46	14	7.4	4.0
20	22	276	90	96	107	194	121	125	40	16	6.5	4.8
21	22	520	98	119	1,170	176	115	88	39	14	*6.5	4.8
22	23	389	86	109	698	164	109	83	71	12	6.0	4.6
23	22	259	82	105	480	202	103	80	55	15	6.0	4.3
24	22	191	77	496	361	*1,110	98	75	49	12	5.5	3.8
25	21	153	72	420	291	675	91	71	43	9.4	5.4	4.0
26	22	135	68	320	240	496	137	66	36	9.0	4.8	3.8
27	21	117	66	262	197	393	119	62	39	7.8	4.8	4.0
28	20	102	64	219	171	323	117	*57	41	7.4	5.1	4.0
29	19	91	62	181	-	275	117	54	35	*7.4	4.3	3.6
30	19	90	64	158	-	231	151	52	31	7.4	4.0	3.4
31	18	-	92	141	-	197	-	48	-	7.1	4.3	-
Total	714	2,743	3,624	5,115	5,607	7,940	4,134	3,084	1,307	511.5	271.6	168.1
Mean	23.0	91.4	117	165	200	256	133	99.5	43.6	16.5	8.76	5.80
Cfsm	0.479	1.90	2.44	3.44	4.17	5.33	2.86	2.07	0.908	0.344	0.182	0.117
In.	0.55	2.12	2.81	3.97	4.34	6.14	3.21	2.39	1.01	0.40	0.21	0.13
Calendar year 1952: Max	1,250	Min	17	Mean	108	Cfsm	2.25	In.	30.57			
Water year 1952-53: Max	1,170	Min	3.0	Mean	96.5	Cfsm	2.01	In.	27.28			

Peak discharge (base, 500 cfs).--Nov. 21 (3 p.m.) 585 cfs (3.28 ft); Dec. 10 (10 p.m.) 952 cfs (4.04 ft); Jan. 24 (9:30 a.m.) 630 cfs (3.42 ft); Feb. 21 (10 a.m.) 1,520 cfs (4.85 ft); Mar. 24 (4 a.m.) 1,570 cfs (4.89 ft).

\* Discharge measurement made on this day.

## Rockfish River near Greenfield, Va.

Location.--Lat 37°52'10", long. 78°49'25", on left bank 50 ft downstream from bridge on State Highway 634, 2.8 miles downstream from confluence of North and South Forks, and 4.1 miles south of Greenfield, Nelson County.

Drainage area.--96 sq mi, approximately.

Records available.--April 1943 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 530.29 ft above mean sea level, datum of 1929, Culpeper supplementary adjustment of 1943. Prior to Aug. 21, 1943, wire-weight gage at same site and datum.

Average discharge.--10 years, 145 cfs.

Extremes.--Maximum discharge during year, 3,040 cfs Mar. 25 (gage height, 9.60 ft); minimum, 5.2 cfs Sept. 3, 4, 5 (gage height, 1.33 ft).  
1943-53: Maximum discharge, 13,700 cfs Sept. 19, 1944 (gage height, 17.2 ft), from rating curve extended above 8,500 cfs on basis of slope-area determinations at gage heights 17.2 and 23.4 ft; minimum, 3.0 cfs July 30, 1944; minimum gage height, 1.25 ft Sept. 17, 18, 19, 1946.

Flood in October 1942 reached a stage of 23.4 ft, from floodmarks (discharge, about 30,000 cfs).

Remarks.--Records fair.

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

Oct. 1 to Mar. 25

Mar. 26 to Sept. 30

1.8	29	4.0	455	1.3	4.0	1.8	44
2.0	52	5.0	750	1.4	8.0	2.5	148
3.0	234	8.0	2,100	1.6	22	3.0	234

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	34	36	106	170	163	202	291	238	80	39	33	6.0
2	39	36	100	148	164	201	272	213	80	39	51	5.6
3	42	36	97	162	154	197	242	194	72	34	34	5.6
4	36	36	91	145	143	282	223	192	68	32	34	5.2
5	34	36	102	135	135	291	202	182	64	55	37	9.6
6	*33	36	102	124	128	253	206	177	62	*47	37	34
7	33	35	95	121	176	230	380	167	106	39	31	20
8	33	34	91	123	145	226	282	150	60	36	31	13
9	38	34	87	192	*131	206	*253	140	72	34	30	*11
10	52	42	164	442	126	190	242	130	76	31	29	11
11	80	*47	609	368	123	177	221	121	80	29	24	11
12	54	42	332	*291	126	*204	217	115	67	27	22	13
13	46	39	262	251	119	355	291	110	66	26	21	20
14	42	38	215	221	114	291	262	106	62	25	19	13
15	39	124	184	197	236	354	245	104	62	23	17	12
16	38	68	*162	179	211	*405	253	104	61	22	16	g9.0
17	38	51	147	165	183	344	223	108	91	20	16	g8.0
18	37	46	135	165	162	344	215	98	82	18	17	g8.0
19	36	51	124	150	152	511	210	127	75	28	14	g9.0
20	36	1,070	115	140	150	262	192	351	64	47	*12	g10
21	36	790	135	177	1,560	253	185	162	58	28	12	g11
22	36	480	119	170	830	234	172	139	78	30	11	g13
23	37	311	112	159	505	245	164	124	58	36	11	g11
24	37	238	108	1,080	392	*1,660	154	114	54	25	9.8	7.6
25	37	195	102	600	322	*1,910	148	109	50	20	9.2	7.6
26	37	169	99	418	282	1,280	238	102	48	20	8.6	7.6
27	36	150	93	332	247	770	202	92	45	19	8.0	7.6
28	36	130	89	291	219	555	188	*88	45	17	7.6	7.6
29	36	119	85	247	-	442	178	84	44	16	7.2	7.2
30	36	114	85	215	-	368	232	84	43	14	6.8	6.8
31	36	-	147	195	-	322	-	80	-	16	6.4	-
Total	1,220	4,633	4,494	7,773	7,420	13,384	6,783	4,305	1,991	892	622.6	323.4
Mean	39.4	154	145	251	265	432	226	139	66.4	28.5	20.1	10.8
Cfsm	0.410	1.60	1.51	2.61	2.76	4.50	2.35	1.45	0.692	0.300	0.209	0.112
In.	0.47	1.78	1.74	3.01	2.87	5.19	2.62	1.67	0.77	0.35	0.24	0.12
Calendar year 1952: Max			2,820	Min 28		Mean 175		Cfsm 1.82		In. 24.74		
Water year 1952-53: Max			1,910	Min 5.2		Mean 148		Cfsm 1.54		In. 20.83		

Peak discharge (base, 1,200 cfs).--Nov. 20 (3 p.m.) 1,460 cfs (6.66 ft); Jan. 24 (12 m.) 1,950 cfs (7.68 ft); Feb. 21 (1 p.m.) 2,500 cfs (8.66 ft); Mar. 24 (8:30 a.m.) 2,560 cfs (8.77 ft); Mar. 25 (3:30 p.m.) 3,040 cfs (9.50 ft).

\* Discharge measurement made on this day.

g Computed from once-daily wire-weight-gage readings.

## James River at Scottsville, Va.

Location.--Lat 37°47'50", long. 78°29'30", on left bank 50 ft downstream from highway bridge at Scottsville, Albemarle County, 6.8 miles upstream from Hardware River, and at mile 184.6.

Drainage area.--4,571 sq mi.

Records available.--February 1925 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 253.18 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Nov. 28, 1928, chain gage at same site and datum.

Average discharge.--28 years, 5,230 cfs.

Extremes.--Maximum discharge during year, 67,000 cfs Mar. 25 (gage height, 19.48 ft); minimum, 575 cfs Sept. 4, 5 (gage height, 2.20 ft); minimum daily, 612 cfs Sept. 4, 5. 1925-53: Maximum discharge, 133,000 cfs Sept. 19, 1944 (gage height, 26.0 ft); minimum, 302 cfs Oct. 1, 1930 (gage height, 1.46 ft); minimum daily, 307 cfs Oct. 15, 1930.

Data for some outstanding floods prior to establishment of this station are given in the following table:

Date	Discharge (cfs)	Gage height (feet)	Remarks
October 1870.....	-	30.7	Gage height from information by local resident.
November 1877.....	About 160,000	27.9	Do.
March 1913.....	121,000	25.16	From floodmarks.

Records.--Records good except those for periods of no gage-height record, which are fair. Flow regulated by powerplants above station. Records of water temperatures and sediment loads for the water year 1953 are given in WSP 1290.

Revisions (water years).--WSP 727: 1931(m). WSP 972: 1913(M), 1936(M), 1940(M).

WSP 1066: 1940.

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

2.2	575	8.0	11,500
2.8	1,120	12.0	25,900
5.0	4,650	18.0	57,000

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	1,690	1,290	2,780	5,410	6,010	7,940	9,110	6,640	2,940	1,840	1,050	650
2	1,530	1,190	2,860	5,010	5,210	6,850	8,170	6,430	2,780	2,060	1,140	635
3	1,540	1,340	2,530	5,810	5,010	6,850	7,500	6,430	2,690	2,290	1,540	*642
4	1,440	1,420	2,860	5,610	4,820	7,280	6,850	5,810	2,450	2,370	1,240	612
5	1,420	1,140	2,420	5,610	4,350	10,100	6,430	5,610	2,290	1,910	2,060	612
6	1,410	1,320	2,690	5,610	4,170	17,800	6,010	5,410	2,140	2,290	1,540	742
7	1,400	1,310	2,860	*5,210	4,260	16,400	8,630	6,220	2,610	4,080	1,530	838
8	1,440	1,320	2,860	4,440	5,010	12,100	8,870	7,280	3,120	3,280	1,460	916
9	1,410	1,180	3,120	5,210	5,010	10,400	8,630	7,720	2,780	2,860	1,690	1,280
10	1,690	1,360	2,860	12,200	6,850	8,870	9,110	7,940	a3,000	a2,500	1,610	1,180
11	2,060	1,240	7,620	17,800	5,810	*8,170	8,630	7,060	a2,800	a2,000	1,690	1,000
12	2,450	1,540	16,100	16,700	5,410	7,720	7,280	5,810	a2,600	a1,800	1,170	958
13	1,690	1,340	16,700	12,400	5,210	10,100	9,350	5,410	a2,800	a1,700	1,180	968
14	1,840	*1,350	10,100	9,350	5,210	9,850	9,350	5,010	a2,700	1,560	1,120	1,320
15	1,560	2,420	7,940	8,170	6,640	9,350	8,630	4,350	*a2,400	1,570	1,010	926
16	1,620	3,810	6,220	6,640	8,630	11,200	8,630	4,260	1,980	1,480	1,010	810
17	*1,450	2,210	5,210	6,220	9,600	16,400	8,400	4,260	2,530	1,290	905	742
18	1,440	1,980	4,170	5,610	8,870	14,000	7,500	4,080	5,610	1,390	905	793
19	1,440	1,690	4,080	5,610	8,170	12,700	7,500	4,170	4,620	1,100	*926	742
20	1,520	7,250	4,070	5,010	7,280	12,100	6,640	7,500	5,010	1,190	829	759
21	1,340	15,000	3,630	5,010	11,100	11,500	7,060	10,400	3,720	1,570	848	759
22	1,180	13,300	3,540	6,430	42,300	9,850	6,640	9,350	3,200	1,220	886	776
23	1,240	10,400	3,630	6,850	50,900	8,870	6,430	7,720	3,540	947	905	759
24	1,320	8,400	3,990	10,500	22,700	19,000	6,220	5,610	2,530	1,140	886	750
25	1,320	6,430	4,260	16,400	15,300	56,400	5,610	5,210	2,610	1,240	702	688
26	1,190	5,010	3,720	15,700	12,100	45,700	6,010	4,630	2,210	1,200	725	742
27	1,390	4,260	3,720	12,400	9,850	25,100	5,810	4,170	2,050	1,030	784	742
28	1,370	3,460	3,540	9,600	8,870	18,100	6,010	3,720	2,940	1,060	680	702
29	1,450	3,120	3,120	8,170	-	14,000	5,810	3,370	2,140	947	658	710
30	1,200	3,120	3,280	7,280	-	11,500	5,810	3,200	2,210	867	702	710
31	1,250	-	3,370	6,850	-	9,850	-	3,120	-	886	718	-
Total	46,290	110,200	151,850	258,620	294,650	446,050	222,630	177,900	87,210	52,667	34,099	24,463
Mean	1,493	3,673	4,898	8,343	10,520	14,390	7,421	5,739	2,907	1,699	1,100	815
Cfsm	0.327	0.804	1.07	1.82	2.30	3.15	1.62	1.26	0.636	0.372	0.241	0.178
In.	0.58	0.90	1.25	2.10	2.40	3.63	1.81	1.45	0.71	0.43	0.28	0.20

Calendar year 1952: Max 48,600 Min 1,120 Mean 6,255 Cfsm 1.37 In. 18.62  
Water year 1952-53: Max 56,400 Min 612 Mean 5,224 Cfsm 1.14 In. 15.52

Peak discharge (base, 27,000 cfs).--Feb. 23 (7 a.m.) 60,900 cfs (18.58 ft); Mar. 25 (9 p.m.) 67,000 cfs (19.48 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for stations at Cartersville and at Bent Creek.

## Slate River near Arvonion, Va.

Location.--Lat 37°42'10", long. 78°22'40", on left bank 100 ft upstream from Bumpers Bridge, 1.8 miles northwest of Arvonion, Buckingham County, 2.9 miles upstream from Hunt Creek, and 3.8 miles upstream from mouth.

Drainage area.--235 sq mi.

Records available.--April 1926 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 238.78 ft above mean sea level (levels by Corps of Engineers). Prior to Sept. 18, 1935, chain gage at same site and datum. Sept. 18, 1935, to Feb. 14, 1936, staff gage at same site and datum.

Average discharge.--26 years (1926-35, 1936-53), 230 cfs.

Extremes.--Maximum discharge during year, 3,780 cfs Nov. 20 (gage height, 10.80 ft); minimum, 16 cfs Sept. 5 (gage height, 1.86 ft).

1926-53: Maximum discharge, 13,600 cfs Sept. 6, 1935 (gage height, 22.18 ft, from floodmarks), from rating curve extended above 5,500 cfs on basis of velocity-area studies; minimum, 2 cfs Sept. 28 to Oct. 2, 1930.

Remarks.--Records good except those for period of no gage-height record, which are fair. Prior to October 1947, occasional diurnal fluctuation at low flow caused by gristmill 5.4 miles above station.

Revisions (water years).--WSP 972: 1928-29, 1932, 1933-34(M), 1935..

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 21 to June 17)

1.8	14	4.0	286
2.1	27	5.0	600
2.5	55	6.0	988
3.0	108	10.0	3,280

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	125	760	168	162	222	492	*121	71	43	20
2	65	70	124	318	158	172	215	269	145	68	42	18
3	66	71	128	284	151	188	201	215	126	66	50	18
4	66	78	132	245	153	1,000	194	188	114	60	48	17
5	65	82	150	192	145	1,760	188	183	107	61	388	16
6	64	75	237	170	140	528	184	241	102	127	86	20
7	63	71	170	160	220	332	740	273	121	100	58	26
8	63	69	140	155	286	280	546	222	151	81	56	31
9	67	68	120	422	203	259	315	184	119	83	66	26
10	84	75	200	1,030	174	232	271	172	134	74	68	23
11	124	95	700	636	163	213	241	165	181	65	56	21
12	103	100	550	332	188	222	282	150	142	60	47	22
13	84	88	350	243	201	582	1,570	142	145	58	46	28
14	75	78	250	211	168	442	1,280	137	165	55	44	49
15	72	264	200	192	527	370	456	132	126	53	41	32
16	71	318	170	177	564	474	370	131	118	51	38	26
17	69	137	160	165	299	325	325	174	195	49	36	24
18	68	108	150	170	234	308	278	150	243	47	36	23
19	68	116	140	190	203	410	322	226	172	46	36	22
20	67	3,130	130	165	192	295	280	923	125	49	35	23
21	63	2,500	140	238	378	249	249	362	106	54	32	24
22	65	726	150	456	492	228	232	232	97	48	30	24
23	68	308	140	271	282	220	222	198	100	47	29	24
24	70	218	130	1,000	237	883	215	170	90	47	27	23
25	71	179	130	778	218	925	201	162	82	44	26	23
26	71	158	120	327	*201	804	203	155	77	39	24	24
27	70	148	120	253	188	424	203	139	75	39	24	24
28	71	*140	110	232	174	320	184	125	81	37	22	26
29	71	128	100	*203	-	278	*177	121	*89	35	22	27
30	70	126	90	183	-	*245	203	122	76	*33	21	*25
31	*69	-	*250	174	-	232	-	121	-	32	*20	-
Total	2,230	9,793	5,806	10,332	6,707	13,360	10,567	6,676	3,725	1,779	1,597	729
Mean	71.9	326	187	333	240	431	352	215	124	57.4	51.5	24.3
Cfsm	0.306	1.39	0.796	1.42	1.83	1.50	0.915	0.528	0.244	0.219	0.103	0.103
In.	0.35	1.55	0.92	1.64	1.06	2.11	1.67	1.05	0.59	0.28	0.25	0.11
Calendar year 1952: Max			3,340	Min	48	Mean	273	Cfsm	1.16	In.	15.81	
Water year 1952-53: Max			3,130	Min	16	Mean	201	Cfsm	0.855	In.	11.58	

Peak discharge (base, 2,100 cfs).--Nov. 20 (1 p.m.) 3,780 cfs (10.80 ft); Mar. 5 (12:30 a.m.) 2,380 cfs (8.47 ft); Apr. 13 (8:30 p.m.) 2,260 cfs (8.34 ft).

\* Discharge measurement made on this day.

Note.--No gage-height record Dec. 7-31; discharge estimated on basis of recorded range in stage and records for Appomattox River at Farmville and Willis River at Flanagan Mills.

## North Fork Moormans River near Whitehall, Va.

Location.--Lat 38°08'25", long. 78°45'05", on left bank 0.5 mile upstream from confluence with South Fork, 0.8 mile upstream from city of Charlottesville dam, and 5.1 miles west of Whitehall, Albemarle County.

Drainage area.--11.4 sq mi.

Records available.--December 1951 to September 1953.

Gage.--Water-stage recorder. Concrete control since November 1952. Altitude of gage is 999 ft (by barometer).

Extremes.--Maximum discharge during year, 492 cfs Mar. 24 (gage height, 4.61 ft); minimum daily, 0.01 cfs Sept. 4, 5.

1951-53: Maximum discharge, that of Mar. 24, 1953; minimum daily, that of Sept. 4, 5, 1953.

Flood of Oct. 15, 1942, reached a stage of 11.7 ft, from floodmarks (discharge, 7,620 cfs, by slope-area determination of peak flow).

Remarks.--Records good except those for periods of doubtful or 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 Feb. 21-27)

Oct. 1-29

Oct. 30 to Sept. 30

0.9	0.6	0.2	0.01	1.1	1.3	2.0	35
1.0	1.5	.4	.02	1.2	2.4	2.5	77
1.2	4.7	.7	.03	1.4	6.8	3.0	140
		.9	.10	1.6	12.8	4.0	333
		1.0	.55	1.8	22	4.5	464

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	1.8	1.0	9.3	12	20	14	23	34	4.9	1.9	0.09	a0.03
2	2.0	1.1	8.8	13	18	14	20	28	4.0	1.4	.56	a.02
3	2.6	*1.1	8.2	18	17	13	17	24	3.2	.79	*.55	a.02
4	1.8	1.4	7.9	18	16	38	15	20	2.8	.56	.56	*.01
5	1.6	1.2	11	15	14	54	14	19	2.4	.56	.56	a.01
6	1.4	1.1	15	13	13	42	13	18	2.7	.79	.55	.08
7	1.4	1.0	14	12	18	32	16	20	9.6	.67	.55	.09
8	1.5	1.0	14	12	16	26	13	17	5.1	.56	.56	.10
9	2.0	1.0	13	*20	14	22	12	15	3.4	1.3	.67	.11
10	3.2	1.8	15	78	13	18	12	14	2.6	*.67	.67	.09
11	4.5	1.9	91	87	13	16	11	13	2.2	.55	.56	.09
12	3.2	1.5	*67	82	14	19	12	12	2.1	.42	.42	.10
13	2.4	1.3	46	45	13	25	59	11	2.2	.16	.29	.10
14	2.0	1.2	31	33	12	26	85	9.9	2.4	.16	.16	.10
15	1.8	12	24	26	24	42	57	9.6	2.4	.15	.14	.10
16	1.8	5.6	19	23	32	*83	47	9.3	2.0	.14	.13	.10
17	1.6	2.8	16	a22	26	64	34	9.0	3.4	.13	.13	.09
18	1.6	2.1	14	a20	22	50	29	7.9	4.6	.12	.15	.09
19	1.8	2.4	12	a19	20	40	26	11	3.2	.14	.14	.08
20	2.0	88	11	a18	21	32	22	22	2.1	.16	.14	.08
21	*1.8	*220	15	28	50	26	20	15	1.8	.16	.13	.07
22	1.6	130	13	29	65	23	17	13	1.6	.15	.12	.07
23	a1.5	58	12	29	49	29	16	12	1.4	.15	.10	.07
24	a1.4	35	12	77	38	357	14	9.9	1.2	.13	.09	.06
25	a1.4	25	12	85	29	312	14	9.0	1.1	.11	.08	.05
26	a1.3	20	11	60	25	221	34	7.9	1.0	.10	.07	.04
27	a1.3	16	11	46	*20	109	84	6.8	.91	.10	.06	a.04
28	a1.2	14	9.6	38	17	75	66	5.8	.79	.09	.05	a.03
29	a1.2	12	9.0	30	-	51	45	5.1	1.2	.09	.04	a.03
30	1.1	11	9.0	25	-	36	38	5.1	.91	.08	.04	a.02
31	1.1	-	12	22	-	28	-	4.9	-	.08	a.03	-
Total	56.9	671.5	572.8	1,035	649	1,932	885	418.2	79.21	12.57	8.39	1.97
Mean	1.84	22.4	18.5	33.4	23.2	62.3	29.5	13.5	2.64	0.405	0.271	0.086
Cfsm	0.161	1.96	1.62	2.93	2.04	5.46	2.59	1.18	0.232	0.036	0.024	0.006
In.	0.19	2.19	1.87	3.38	2.12	6.30	2.89	1.36	0.26	0.04	0.03	0.007

Calendar year 1952: Max 301 Min 1.0 Mean 23.9 Cfsm 2.10 In. 28.48  
Water year 1952-53: Max 357 Min 0.01 Mean 17.3 Cfsm 1.52 In. 20.64

Peak discharge (base, 150 cfs).--Nov. 20 (9 p.m.) 255 cfs (3.63 ft); Mar. 24 (4:30 a.m.) 492 cfs (4.61 ft).

\* Discharge measurement made on this day.

a Doubtful or no gage-height record; discharge estimated on basis of recorder graph, 1 discharge measurement, and records for South Fork Rivanna River near Earlysville.

## South Fork Rivanna River near Earlysville, Va.

Location.--Lat 38°07'30", long. 78°31'05", on left bank 0.3 mile upstream from Fishing Creek, 3.0 miles southwest of Earlysville, Albermarle County, and 8.7 miles upstream from confluence with North Fork.

Drainage area.--216 sq mi.

Records available.--December 1951 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 369 ft (by barometer).

Extremes.--Maximum discharge during year, 5,750 cfs Mar. 25 (gage height, 11.71 ft); minimum observed, 7.2 cfs Sept. 4 (gage height, 0.88 ft).  
1951-53: Maximum discharge, 7,480 cfs Mar. 11, 1952 (gage height, 13.55 ft); minimum, that of Sept. 4, 1953.  
Flood probably in October 1942 reached a stage of about 33 ft, from information by local resident.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Some diurnal fluctuation, mostly at medium flow, by city of Charlottesville reservoir on Moormans River for municipal water supply which averages about 6 cfs.

Rating table, water year 1952-53 (gage height, in feet, and  
discharge, in cubic feet per second)  
(Shifting-control method used Jan. 1-9, Mar. 26 to Apr. 13)

0.8	4.0	2.5	214
1.0	12	3.0	349
1.2	23	5.0	1,040
1.5	48	7.0	2,060
2.0	116	10.0	4,300

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	57	58	170	384	243	300	398	540	138	98	36	9
2	57	58	156	256	248	259	329	426	136	111	39	8
3	64	60	152	272	264	272	303	358	121	69	*39	8
4	56	61	146	248	*203	507	334	326	113	60	37	*7.2
5	56	61	168	*219	188	606	261	320	106	58	41	11
6	55	60	201	205	192	490	259	314	100	77	37	15
7	55	58	180	196	238	426	426	317	228	64	35	21
8	57	58	174	207	216	382	*300	286	444	60	37	16
9	61	57	166	*347	216	357	261	264	174	66	43	15
10	84	70	176	1,210	180	326	256	248	144	*56	41	11
11	106	87	1,080	865	188	289	238	228	132	52	33	13
12	90	73	*606	606	214	314	254	214	116	49	29	15
13	74	66	410	474	178	507	602	201	132	46	26	20
14	67	*a60	358	426	164	474	656	192	119	44	24	17
15	64	a150	289	329	491	725	507	188	116	41	21	15
16	62	a300	261	312	524	*1,040	524	192	108	38	19	13
17	60	a200	207	292	391	706	379	210	127	36	19	12
18	60	a140	190	264	320	672	373	188	190	34	22	11
19	58	a100	184	248	289	606	422	234	158	34	19	10
20	55	1,300	190	228	248	507	323	876	124	73	18	15
21	*54	1,860	216	284	1,410	426	320	355	108	53	16	19
22	58	1,110	207	303	941	388	300	281	100	41	15	21
23	60	590	172	256	672	398	289	246	97	39	14	20
24	60	410	164	1,590	540	3,270	286	210	84	34	16	19
25	60	326	156	980	458	3,560	259	210	80	30	16	18
26	60	272	150	639	358	2,400	404	196	76	29	15	17
27	58	238	150	524	367	1,120	499	166	71	28	14	16
28	60	207	170	426	284	774	455	146	69	26	13	18
29	58	186	138	358	-	606	404	138	75	24	12	15
30	57	184	158	343	-	490	442	138	75	23	11	15
31	58	-	206	264	-	442	-	138	-	28	10	-
Total	1,941	8,458	7,351	13,555	10,225	23,619	11,066	8,346	3,860	1,519	767	438.2
Mean	62.6	282	237	437	365	762	369	269	129	49.0	24.7	14.6
Cfsm	0.290	1.31	1.10	2.02	1.69	3.53	1.71	1.25	0.597	0.227	0.114	0.068
In.	0.33	1.46	1.27	2.33	1.76	4.07	1.91	1.44	0.67	0.26	0.13	0.08

Calendar year 1952: Max 3,800 Min 49 Mean 299 Cfsm 1.38 In. 18.86  
Water year 1952-53: Max 3,560 Min 7.2 Mean 250 Cfsm 1.16 In. 15.71

Peak discharge (base, 2,000 cfs).--Nov. 21 (8 p.m.) 2,440 cfs (7.64 ft); Jan. 24 (1:30 p.m.) 2,720 cfs (8.00 ft); Feb. 21 (2:30 p.m.) 2,440 cfs (7.63 ft); Mar. 25 (7 p.m.) 5,750 cfs (11.71 ft).  
\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of 2 discharge measurements and records for North Fork Moormans River near Whitehall and Rivanna River at Palmyra.

## Rivanna River at Palmyra, Va.

Location.--Lat 37°51'28", long. 78°15'58", on left bank 10 ft upstream from highway bridge at Palmyra, Fluvanna County, 0.5 mile upstream from Cunningham Creek, and 15 miles upstream from mouth.

Drainage area.--675 sq mi.

Records available.--May 1934 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 210.39 ft above mean sea level, datum of 1929, Culpeper supplementary adjustment of 1943. Prior to Oct. 24, 1942, water-stage recorder at site 200 ft downstream at same datum. Oct. 24, 1942, to Dec. 18, 1947, wire-weight gage on upstream side of highway bridge 10 ft downstream at same datum.

Average discharge.--19 years, 761 cfs.

Extremes.--Maximum discharge during year, 9,800 cfs Nov. 20 (gage height, 16.23 ft); minimum, 39 cfs Sept. 5 (gage height, 2.63 ft).

1934-53: Maximum discharge, 78,000 cfs Oct. 16, 1942 (gage height, 36.5 ft at site then in use, 37.4 ft at present site); minimum, 19 cfs Oct. 9, 1941 (gage height, 1.53 ft, site then in use).

Remarks.--Records fair.

Revisions (water years).--WSP 802: 1936(M). WSP 852: 1937. WSP 892: 1934-35.

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

2.6	37	4.5	900
2.9	67	5.0	1,450
3.2	130	6.0	2,400
3.6	280	10.0	5,000
4.0	530	15.0	8,650

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	195	a180	509	1,170	663	a800	1,060	1,260	530	a400	92	48
2	192	a180	474	927	628	a700	963	1,010	446	a500	120	45
3	223	a180	460	852	635	a1,000	868	876	390	a350	*219	43
4	207	a190	439	820	*628	a1,500	844	796	360	a250	139	42
5	188	a190	453	712	586	a2,000	788	772	a330	a220	130	40
6	188	a190	656	656	565	a1,600	*772	764	a600	*a200	148	43
7	184	a190	593	614	756	a1,300	1,730	756	a800	223	125	54
8	*181	188	530	*614	836	a1,100	1,270	740	a1,000	188	125	57
9	184	184	495	1,120	670	*a950	981	a720	a600	244	136	54
10	227	199	481	3,590	621	844	918	a700	a450	227	160	49
11	280	248	2,240	3,310	572	772	860	a660	a400	184	133	46
12	305	262	*1,990	*2,120	621	756	856	a640	a350	167	110	48
13	258	227	1,140	1,350	628	2,160	2,280	a600	a450	154	97	51
14	223	211	936	1,100	544	1,650	2,890	a580	a400	148	88	52
15	211	652	788	927	1,080	1,180	1,730	a560	a360	139	81	53
16	203	1,010	691	812	1,780	*3,800	1,450	a580	a330	133	74	50
17	199	474	635	756	1,080	*2,190	1,200	a640	a700	125	69	47
18	195	348	572	719	868	1,790	1,030	a580	a900	118	72	44
19	192	305	557	694	756	1,640	1,080	a1,500	a600	112	81	43
20	188	4,680	516	635	a700	1,220	936	a3,000	a450	112	77	43
21	178	6,250	551	884	a1,500	1,060	868	a2,000	a350	157	69	44
22	178	5,300	600	1,000	a3,500	963	828	a1,100	a320	130	64	47
23	184	2,060	551	804	a2,500	918	788	a900	a300	157	62	50
24	188	1,170	509	2,720	a2,000	3,990	764	a700	a270	128	60	50
25	192	909	460	3,640	a1,500	6,600	726	a680	a250	108	62	48
26	192	772	446	1,800	a1,300	8,210	788	614	a230	94	58	48
27	188	691	432	1,190	a1,100	3,660	1,020	516	a210	88	55	48
28	192	621	418	1,010	a900	2,470	963	446	a200	84	51	*49
29	192	551	378	876	-	1,850	900	411	a250	79	51	49
30	188	530	350	780	-	1,400	860	411	a300	74	50	47
31	*184	-	544	712	-	1,200	-	516	-	72	49	-
Total	6,279	29,142	20,374	38,704	29,517	61,273	32,991	26,028	13,126	5,365	2,907	1,432
Mean	203	971	657	1,249	1,054	1,977	1,100	840	438	173	93.8	47.7
Cfsm	0.301	1.44	0.973	1.85	1.56	2.93	1.63	1.24	0.649	0.256	0.139	0.071
In.	0.35	1.61	1.12	2.13	1.62	3.38	1.82	1.43	0.72	0.30	0.16	0.08

Calendar year 1952: Max 9,400 Min 170 Mean 878 Cfsm 1.30 In. 17.71  
 Water year 1952-53: Max 8,210 Min 40 Mean 732 Cfsm 1.08 In. 14.72  
Peak discharge (base, 6,000 cfs).--Nov. 20 (10 p.m.) 9,800 cfs (16.23 ft); Mar. 26 (8:30 a.m.) 9,700 cfs (16.12 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage and records for South Fork Rivanna River near Earlysville.

## Willis River at Flanagan Mills, Va.

Location.--Lat 37°40', long. 78°11', on left bank 15 ft upstream from highway bridge, a quarter of a mile downstream from Flanagan Mills, Cumberland County, half a mile downstream from Trices Lake, and 4 miles downstream from Reynolds Creek.

Drainage area.--247 sq mi.

Records available.--April 1926 to January 1935, September 1936 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 178.98 ft above mean sea level (levels by Corps of Engineers). Prior to Jan. 3, 1935, chain gage at site a quarter of a mile upstream at same datum.

Average discharge.--25 years (1926-34, 1936-53), 247 cfs.

Extremes.--Maximum discharge during year, 2,380 cfs Nov. 20 (gage height, 14.54 ft); minimum, 15 cfs Sept. 5 (gage height, 2.82 ft).  
1926-35, 1936-53: Maximum discharge, 9,580 cfs Apr. 27, 1937 (gage height, 23.86 ft, from floodmarks), from rating curve extended above 5,800 cfs on basis of velocity-area studies, with backwater correction; minimum, 2 cfs Sept. 30, Oct. 1, 4, 12, 1930.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Complete regulation of flow from Trices Lake, tributary to Willis River, slightly affects flow at gage.

Revisions (water years).--WSP 872: 1936-37. WSP 892: 1928-29, 1932-34(M), 1935. WSP 972: 1937, 1940. WSP 1203: 1929.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 1-9)

Oct. 1 to Nov. 20

Nov. 21 to Sept. 30

3.6	41	7.0	461	2.8	14	4.0	80
4.0	65	12.0	1,470	3.2	30	5.0	180
4.5	101	14.0	2,100	3.6	52	7.0	461
5.5	214						

Note.--Same as preceding table above 7.0 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	45	54	a180	632	208	196	252	589	78	54	34	16
2	45	52	a150	632	*196	186	235	372	86	53	40	16
3	47	54	a160	470	180	202	218	257	86	49	45	*16
4	46	58	a180	356	180	460	213	191	80	50	*48	17
5	43	66	a200	*283	169	1,000	202	174	74	45	68	16
6	43	64	a250	218	164	1,020	*191	218	71	*57	61	17
7	42	63	a200	196	291	1,000	310	304	67	80	49	32
8	*42	56	*a170	186	518	452	470	218	74	82	51	38
9	46	52	152	319	432	*326	414	196	78	66	46	26
10	49	*a55	147	746	264	a300	283	164	63	62	48	23
11	68	a60	447	841	218	252	246	142	210	54	43	23
12	75	a80	613	765	218	537	269	132	318	41	42	23
13	68	a70	613	423	240	594	860	122	296	41	34	45
14	58	a60	304	290	224	a550	1,100	114	213	36	32	74
15	54	a130	224	240	438	499	1,120	109	164	36	32	67
16	53	a250	191	218	727	670	920	106	127	34	28	52
17	52	a150	174	202	708	689	423	110	104	35	28	37
18	52	a100	164	191	423	537	334	110	142	34	25	41
19	50	a500	152	196	270	518	318	180	191	32	25	31
20	53	a2,000	152	186	240	432	311	461	135	470	24	22
21	52	a1,800	152	213	296	311	270	432	103	240	26	23
22	49	a1,100	164	396	264	270	240	270	86	122	22	23
23	54	a900	164	414	594	246	224	180	86	66	21	23
24	54	a700	152	784	334	920	213	137	80	65	20	23
25	54	a500	142	1,100	252	1,290	196	*123	75	59	20	23
26	53	a350	142	1,080	235	1,540	191	122	66	45	19	21
27	55	a250	142	880	224	1,360	208	109	63	42	20	21
28	55	a200	133	356	202	689	196	91	57	38	19	23
29	54	a180	115	290	-	372	174	86	58	37	20	25
30	54	a170	110	252	-	304	186	81	59	37	17	23
31	56	-	238	224	-	270	-	80	-	34	17	-
Total	1,621	10,124	6,457	13,581	8,963	17,976	10,787	5,782	3,410	2,196	1,024	860
Mean	52.3	337	208	438	320	580	360	187	114	70.8	33.0	28.7
Cfs/m	0.212	1.36	0.842	1.77	1.30	2.35	1.46	0.757	0.462	0.287	0.134	0.116
In.	0.24	1.52	0.97	2.04	1.35	2.71	1.63	0.87	0.52	0.33	0.15	0.13

Calendar year 1952: Max 2,000 Min 30 Mean 261 Cfs/m 1.06 In. 14.40  
Water year 1952-53: Max 2,000 Min 16 Mean 227 Cfs/m 0.919 In. 12.46

Peak discharge (base, 1,700 cfs).--Nov. 20 (time unknown) 2,380 cfs (14.54 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for Slate River near Arvonnia.

## James River at Cartersville, Va.

Location.--Lat 37°40', long. 78°05', on left bank 200 ft downstream from highway bridge between Pemberton and Cartersville, Cumberland County, 2 miles downstream from Willis River, and at mile 152.4.

Drainage area.--6,242 sq mi.

Records available.--January 1899 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 161.57 ft above mean sea level (levels by Corps of Engineers). Prior to June 4, 1927, wire-weight or chain gage at same site and datum.

Average discharge.--53 years (1899-1904, 1905-53), 7,204 cfs.

Extremes.--Maximum discharge during year, 75,600 cfs Mar. 26 (gage height, 20.90 ft); minimum, 724 cfs Sept. 5 (gage height, 0.52 ft); minimum daily, 760 cfs Sept. 5. 1899-1953: Maximum discharge, 180,000 cfs Sept. 20, 1944 (gage height, 29.6 ft, from floodmark in gage well); minimum, 320 cfs Sept. 22, 1932; minimum daily, 348 cfs Oct. 5, 1930; minimum gage height, 0.10 ft Oct. 2, 1941.

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

Revisions (water years).--WSP 582: Drainage area. WSP 972: 1936(M). WSP 1203: 1901-2(M), 1924-25(M), 1928(M).

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

Oct. 1 to Mar 26

Mar. 27 to Sept. 30

1.0	1,550	10.0	24,100	0.5	700	10.0	24,100
3.0	5,080	18.0	59,200	3.0	4,820	14.0	40,200
5.0	9,030	21.0	76,200	6.0	11,600		

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	2,030	1,810	4,450	8,270	7,500	10,000	12,200	8,760	3,760	2,480	1,160	859
2	2,030	1,830	3,910	8,130	7,300	8,350	10,300	9,000	3,680	2,140	1,310	784
3	2,030	1,730	3,910	7,500	5,340	8,130	9,750	8,080	3,500	2,660	1,550	*772
4	2,030	2,030	3,550	7,710	6,340	10,000	8,760	7,620	3,250	2,740	*1,870	784
5	1,940	2,030	4,000	7,500	6,160	17,400	8,290	7,000	2,820	2,480	1,870	760
6	1,860	1,750	4,180	7,100	5,440	19,000	7,840	7,000	3,000	2,570	2,570	772
7	1,860	*1,860	4,180	*6,710	5,800	22,000	7,820	7,820	2,660	3,160	1,850	924
8	1,860	1,940	*4,270	5,980	7,300	16,200	13,900	8,760	3,760	4,540	1,720	1,060
9	1,940	1,800	4,000	6,900	6,520	13,300	11,100	8,760	3,930	*3,500	1,770	1,100
10	2,030	1,860	4,360	14,700	7,710	11,300	11,600	9,500	3,760	3,000	2,130	1,470
11	2,470	1,940	7,520	25,200	7,500	*10,500	10,800	8,520	4,020	2,910	1,960	1,320
12	3,010	2,120	19,300	22,000	6,900	9,260	9,750	7,820	4,100	2,320	1,680	1,150
13	2,920	2,200	22,700	17,400	6,710	13,600	15,000	6,600	3,590	1,900	1,420	1,120
14	2,290	2,030	14,400	13,000	6,520	15,300	19,700	6,200	3,590	2,030	1,340	1,320
15	2,380	2,470	10,500	10,500	8,130	13,000	13,300	5,800	3,250	1,770	1,320	1,450
16	2,030	6,160	8,130	8,570	13,300	15,900	12,700	5,010	2,820	1,800	1,240	1,120
17	*2,120	4,720	6,710	7,710	12,700	20,000	11,900	5,400	2,570	1,720	1,130	980
18	1,980	3,010	5,980	7,100	12,200	19,300	10,000	5,400	5,310	1,550	1,080	950
19	1,940	2,740	5,440	6,900	10,300	17,800	10,000	5,200	6,200	1,640	1,100	950
20	2,030	13,300	4,900	6,710	9,500	15,900	9,500	10,100	5,400	1,610	1,120	911
21	2,030	31,800	5,080	6,340	9,500	15,000	8,760	14,200	5,200	1,850	1,010	911
22	1,800	27,000	4,900	8,570	26,300	13,000	8,520	12,700	4,020	1,980	1,070	924
23	1,670	18,700	4,720	9,030	58,700	11,600	8,080	9,750	4,100	1,390	1,160	924
24	1,860	13,300	4,900	13,500	34,300	18,800	7,800	7,620	4,020	1,390	1,070	911
25	1,860	9,750	5,080	25,900	20,000	53,200	7,200	6,400	2,910	1,420	1,100	*898
26	1,860	7,100	5,260	20,300	15,300	71,400	7,200	6,000	2,820	1,500	898	820
27	1,840	6,160	17,800	12,700	39,500	7,620	*5,200	2,570	1,390	911	846	
28	1,840	5,440	4,540	13,300	11,100	25,200	7,620	4,540	2,740	1,280	924	846
29	1,940	4,720	4,360	11,100	-	19,300	7,620	4,180	3,080	1,230	846	820
30	2,030	4,270	4,000	9,500	-	15,600	7,410	3,840	2,480	1,180	808	820
31	1,750	-	4,720	8,800	-	13,300	-	3,760	-	1,060	846	-
Total	63,230	187,570	198,670	349,530	358,070	581,940	304,200	226,120	108,910	64,190	41,833	29,276
Mean	2,040	6,252	6,409	11,280	12,790	18,770	10,140	7,294	3,630	2,071	1,349	976
Cfs/m	0.327	1.00	1.03	1.81	2.05	3.01	1.62	1.17	0.582	0.332	0.216	0.156
In.	0.38	1.12	1.19	2.09	2.14	3.47	1.81	1.35	0.65	0.38	0.25	0.17
Calendar year 1952: Max	57,700			Min	1,580	Mean	8,377	Cfs/m	1.34	In.	18.27	
Water year 1952-53: Max	71,400			Min	760	Mean	6,886	Cfs/m	1.10	In.	15.00	

Peak discharge (base, 40,000 cfs).--Feb. 23 (5 p.m.) 62,000 cfs (18.52 ft); Mar. 26 (11 a.m.) 75,600 cfs (20.90 ft).

\* Discharge measurement made on this day.

## Fine Creek at Fine Creek Mills, Va.

Location.--Lat 37°35'52", long. 77°49'12", on left bank 10 ft upstream from highway bridge at Fine Creek Mills, Powhatan County, 0.8 mile upstream from mouth, and 6.7 miles northeast of Powhatan.

Drainage area.--23 sq mi, approximately.

Records available.--July 1944 to September 1953.

Gage.--Staff gage and crest-stage indicator; gage read twice daily. Altitude of gage is 160 ft (from topographic map). Prior to July 16, 1946, chain gage at same site and datum.

Average discharge.--9 years, 21.5 cfs.

Extremes.--Maximum discharge during year, 253 cfs Jan. 25 (gage height, 3.25 ft); minimum, 0.8 cfs Aug. 27 to Sept. 1 (gage height, 1.53 ft).  
1944-53: Maximum discharge, 1,650 cfs Aug. 4, 1948 (gage height, 7.0 ft, from floodmark); minimum, that of Aug. 27 to Sept. 1, 1953.

Remarks.--Records fair.

Revisions (water years).--WSP 1203: 1948.

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

1.6	3.2	2.5	66
1.7	6.2	2.8	120
1.8	10	3.0	173
2.0	23	3.2	236
2.3	45		

1.5	0.4	1.8	12
1.6	2.6	2.0	23
1.7	7.0		

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	4.0	5.6	17	47	19	17	23	50	11	4.3	2.6	0.8
2	4.0	5.6	19	27	*17	18	23	22	11	3.9	1.8	1.1
3	6.2	5.9	15	29	17	23	22	20	9.3	3.5	3.1	*1.1
4	3.4	11	13	24	18	47	22	17	7.8	3.5	*2.6	1.1
5	5.2	9.2	30	*17	17	80	21	16	7.0	4.3	3.1	1.8
6	*4.2	7.2	29	17	17	33	*19	24	7.0	*6.1	2.6	3.5
7	4.9	6.9	19	16	73	26	27	54	7.4	4.7	2.6	2.2
8	4.9	5.6	*15	16	34	24	23	29	7.0	4.3	2.2	1.1
9	6.2	5.6	13	36	23	*23	19	22	7.0	4.7	6.1	1.1
10	15	*6.9	13	50	20	23	19	18	7.4	3.5	2.6	1.1
11	9.8	7.2	69	33	22	22	17	17	7.8	2.6	1.8	1.1
12	10	8.8	30	33	31	30	39	14	7.0	2.6	1.8	1.1
13	6.5	7.2	25	24	21	89	109	13	13	2.6	1.6	3.5
14	5.6	6.5	24	22	20	36	109	13	14	2.2	1.8	1.8
15	5.6	20	23	20	41	36	41	12	13	2.2	1.4	1.6
16	5.6	20	20	18	45	40	39	12	9.3	2.6	1.1	1.6
17	5.6	9.2	16	17	34	29	36	13	9.8	1.8	1.1	1.4
18	5.6	9.2	14	19	24	31	31	12	9.3	1.8	1.4	1.1
19	5.6	7.2	14	18	22	34	31	34	7.8	1.6	1.1	1.1
20	5.6	90	14	17	22	26	26	36	7.0	1.6	1.1	1.1
21	5.6	220	23	22	34	24	23	20	7.0	1.1	1.1	1.1
22	5.6	179	21	30	34	23	22	14	7.0	1.1	1.0	1.4
23	5.6	45	18	22	26	21	21	13	6.1	4.3	1.0	1.4
24	5.6	22	14	56	25	*89	19	12	5.2	2.2	1.0	1.1
25	5.6	20	13	183	24	109	18	*12	4.7	1.8	1.0	1.6
26	5.6	19	13	45	22	136	17	16	4.7	1.6	1.0	1.6
27	6.2	20	14	28	20	42	17	9.8	4.7	1.6	3.5	
28	6.2	20	14	24	16	34	16	9.3	4.7	1.1	3.5	
29	5.6	16	12	22	-	30	16	9.5	4.7	1.1	.8	3.5
30	5.6	20	12	19	-	26	24	9.3	4.3	1.1	.8	3.5
31	5.6	-	34	19	-	24	-	10	-	1.4	.8	-
Total	184.3	835.8	620	970	740	1,247	889	582.7	235.0	82.8	55.6	52.5
Mean	5.95	27.9	20.0	31.3	26.4	40.2	29.8	18.8	7.77	2.67	1.73	1.75
Cfsm	0.259	1.21	0.870	1.36	1.15	1.75	1.29	0.817	0.338	0.116	0.075	0.076
In.	0.30	1.35	1.00	1.57	1.20	2.02	1.44	0.94	0.38	0.13	0.09	0.08

Calendar year 1952: Max 304 Min 3.2 Mean 23.5 Cfsm 1.02 In. 13.87  
Water year 1952-53: Max 220 Min 0.8 Mean 17.8 Cfsm 0.774 In. 10.50

Peak discharge (base, 200 cfs).--Nov. 21 (time unknown) 253 cfs (3.23 ft); Jan. 25 (time unknown) 253 cfs (3.25 ft).

\* Discharge measurement made on this day.

## James River near Richmond, Va.

Location.--Lat 37°33'47", long. 77°32'50", on left bank 0.1 mile upstream from Huguenot Memorial Bridge, 1.7 miles downstream from Boshier Dam, 2.9 miles west of city limits of Richmond, Henrico County, 3.3 miles upstream from Powhite Creek, and at mile 111.7.

Drainage area.--6,757 sq mi.

Records available.--October 1934 to September 1953.

Gage.--Water-stage recorder. Control consists of two dams at Williams Island. Datum of gage is 98.82 ft above mean sea level, datum of 1929.

Average discharge.--18 years (1935-53), 7,797 cfs (includes flow in James River & Kanawha Canal).

Extremes.--Maximum discharge during year, 71,100 cfs Mar. 27 (gage height, 15.95 ft); minimum daily, 46 cfs Aug. 31 to Sept. 6.

1934-53: Maximum discharge, 175,000 cfs Mar. 19, 1936 (gage height, 23.42 ft); minimum daily, 46 cfs Sept. 18-20, 25-27, Oct. 1-4, 7, 1941, Sept. 8, 9, 12, 1944, Aug. 31 to Sept. 6, 1953.

Remarks.--Records good. City of Richmond diverts average of 46 cfs from gage pool. Flow regulated by powerplants above station. James River & Kanawha Canal diverts water around station (see following page). Records of chemical analyses and water temperatures for the water year 1953 are given in WSP 1290.

Revisions (water years).--WSP 972: 1936(M).

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

2.94	46	5.0	4,720
3.0	70	7.0	11,800
3.1	140	10.0	26,600
3.5	880	16.0	71,100
4.0	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	1,320	1,700	3,560	6,500	8,040	10,200	12,200	8,400	3,290	1,750	412	46
2	1,260	1,900	3,420	9,490	7,000	9,120	11,000	9,490	3,240	1,700	372	46
3	1,300	1,220	3,260	7,690	*6,340	8,040	9,860	8,220	3,050	1,520	550	*46
4	1,240	1,050	3,020	7,860	6,010	8,760	8,120	7,690	2,890	1,950	838	46
5	1,200	1,220	3,240	7,170	5,680	15,200	8,400	7,000	2,660	2,050	1,110	46
6	1,150	1,240	3,420	6,840	5,360	17,500	7,690	6,670	2,300	1,820	*1,370	46
7	1,130	1,130	3,840	6,670	5,520	21,500	7,690	7,690	2,400	1,900	*1,590	70
8	1,090	1,920	3,560	6,180	7,000	18,000	*12,600	8,220	2,320	3,160	1,170	84
9	1,150	2,000	3,560	5,840	7,520	13,900	11,800	8,580	3,560	3,260	1,110	248
10	1,240	1,130	3,420	9,490	6,340	12,200	10,600	8,760	3,180	2,710	1,110	314
11	1,410	*1,170	4,720	22,600	7,860	10,600	10,600	8,760	3,290	2,380	1,430	630
12	1,800	1,200	13,500	22,600	7,000	9,860	10,200	8,040	3,840	2,050	1,260	550
13	2,320	1,410	22,000	18,900	6,670	11,000	12,200	6,670	3,560	*1,570	943	530
14	*1,900	1,320	17,000	14,300	6,500	16,100	22,000	6,010	3,420	1,200	712	392
15	1,570	1,370	11,400	11,400	7,000	13,900	15,600	5,520	3,160	1,280	650	510
16	1,570	3,230	9,120	9,490	11,800	13,500	13,000	5,360	2,710	1,050	590	670
17	1,340	5,520	7,170	8,040	13,000	18,000	12,200	4,720	2,150	1,070	530	392
18	2,050	3,260	6,010	7,540	12,200	19,400	11,000	4,720	2,250	985	412	248
19	1,950	2,150	4,800	7,000	10,600	17,500	9,860	5,040	5,840	796	314	167
20	1,150	5,740	4,720	6,500	9,860	16,100	9,860	6,010	5,360	922	314	234
21	1,150	33,000	4,570	6,340	9,120	14,800	8,760	13,500	6,010	922	314	167
22	1,150	32,300	4,420	7,170	20,100	13,500	8,580	12,600	3,840	1,170	294	167
23	964	22,000	4,270	9,120	50,100	11,800	8,220	11,400	3,160	1,280	262	167
24	880	14,800	4,120	12,200	48,600	13,500	7,860	8,760	3,700	691	248	167
25	1,800	11,000	4,420	25,400	22,600	37,800	8,400	6,500	2,860	650	248	167
26	1,950	8,220	4,570	22,000	16,600	63,500	7,000	6,000	2,280	775	262	167
27	1,170	6,340	4,420	18,900	13,500	58,700	7,170	5,000	2,020	754	140	154
28	1,050	5,360	4,120	14,300	11,400	28,400	7,340	4,500	1,800	630	91	194
29	1,030	5,200	3,840	11,400	-	20,400	7,340	3,980	2,320	530	140	180
30	1,130	4,880	3,420	9,860	-	16,100	7,170	3,560	2,150	490	77	133
31	1,170	-	3,840	8,760	-	13,900	-	3,420	-	412	46	-
Total	42,584	183,980	180,830	347,350	349,320	572,780	504,960	220,790	94,610	43,427	18,909	6,978
Mean	1,374	6,133	5,833	11,200	12,480	18,480	10,170	7,122	3,154	1,401	610	233
Cfsm	753	698	993	1,041	1,061	1,083	1,028	989	909	866	830	800

Adjusted for diversion by James River & Kanawha Canal

Mean	2,127	6,851	6,826	12,240	13,540	19,560	11,200	8,111	4,063	2,267	1,440	1,033
Cfsm	0.315	1.01	1.01	1.81	2.00	2.89	1.66	1.120	0.601	0.336	0.213	0.153
In.	0.36	1.13	1.16	2.09	2.08	3.33	1.85	1.38	0.67	0.39	0.25	0.17

	Observed					Adjusted		
Calendar year 1952:	Max	55,500	Min	880	Mean	7,945	Mean	8,892
Water year 1952-53:	Max	63,500	Min	46	Mean	6,484	Mean	7,404
							Cfsm	1.32
							In.	17.90
							Cfsm	1.10
							In.	14.86

Peak discharge (base, 50,000 cfs).--Feb. 24 (5 a.m.) 57,900 cfs (14.45 ft); Mar. 27 (2 a.m.) 71,100 cfs (15.95 ft).

\* Discharge measurement made on this day.

† Diversion, in cubic feet per second, by James River & Kanawha Canal.

## James River &amp; Kanawha Canal near Richmond, Va.

Location.--Lat 37°33'52", long. 77°34'28", on left bank 75 ft downstream from canal bridge, 400 ft downstream from headgates, 1,200 ft north of north end of Boshier Dam on James River, 2.1 miles upstream from Huguenot Memorial Bridge, and 4.4 miles west of city limits of Richmond, Henrico County.

Records available.--September 1936 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 106.07 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1938, at datum 3.06 ft higher.

Average discharge.--17 years, 883 cfs.

Extremes.--Maximum discharge during year, 1,230 cfs Feb. 22 (gage height, 8.79 ft); no flow at times when headgates were closed.

1936-53: Maximum gage height, 19.7 ft Sept. 20, 1944 (discharge not determined); no flow at times when headgates were closed.

Remarks.--Records good. Canal diverts from James River 1,200 ft above Boshier Dam and discharges into river at several points below gaging station near Richmond. Figures given show flow in canal only; for record of flow of James River near Richmond (see preceding page).

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

0.88	0	4.0	361
.9	1.0	6.0	680
1.0	10	9.0	1,280
2.0	111		

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	870	0	950	1,070	1,070	1,070	1,110	1,050	950	890	830	790
2	870	0	970	1,090	*1,070	1,070	1,110	1,070	950	890	830	*790
3	870	870	950	1,050	1,050	1,070	1,090	1,030	950	890	830	770
4	870	870	950	1,050	1,050	1,050	1,070	1,050	930	890	850	770
5	870	870	950	1,030	1,050	1,070	1,030	1,050	930	910	870	770
6	870	870	950	1,050	1,030	1,050	1,050	1,050	910	890	890	810
7	850	531	970	1,070	1,050	1,090	1,050	1,070	910	*890	890	790
8	850	0	950	1,050	1,070	1,070	1,090	1,070	910	950	870	790
9	870	0	*950	1,030	1,050	1,090	1,070	1,070	950	950	850	810
10	870	810	950	936	1,030	1,090	1,070	1,090	930	930	870	810
11	870	810	990	565	1,070	1,090	1,070	1,090	930	910	870	850
12	890	*810	1,110	1,070	1,030	1,090	1,070	1,070	950	890	870	830
13	910	830	1,050	1,110	1,010	1,090	1,030	1,050	950	870	850	830
14	*770	830	1,030	1,070	1,030	1,090	1,110	1,050	930	850	830	810
15	870	830	1,050	1,070	1,050	1,050	1,070	941	950	870	830	850
16	870	910	1,050	1,070	1,070	1,070	1,070	543	950	850	830	830
17	834	950	1,030	1,050	1,050	1,070	1,070	990	930	850	830	810
18	0	890	1,030	1,050	1,090	1,070	1,070	990	930	850	810	810
19	235	870	1,010	1,030	1,070	1,110	1,070	990	1,030	850	810	790
20	870	1,010	1,010	1,030	1,070	1,110	1,070	1,030	772	850	810	810
21	870	1,010	1,010	1,030	1,050	1,070	1,070	1,070	252	850	810	790
22	870	1,070	990	1,050	1,090	1,070	1,070	919	970	870	810	790
23	850	1,070	990	1,050	1,050	1,090	1,070	343	950	870	810	790
24	744	950	990	1,030	1,110	1,090	981	1,030	970	830	810	790
25	0	810	990	1,030	1,110	1,070	165	*1,030	930	830	810	790
26	36	850	1,010	1,090	1,110	1,090	1,010	1,030	910	708	810	790
27	850	850	990	1,110	1,070	1,070	1,010	1,010	910	850	790	790
28	850	774	990	1,090	1,070	1,130	1,010	990	910	830	790	790
29	850	970	0	970	1,090	1,110	1,010	970	930	830	810	790
30	870	0	950	1,090	-	1,110	1,010	970	910	830	790	790
31	761	-	990	1,070	-	1,110	-	950	-	830	770	-
Total	25,531	20,945	30,770	32,271	29,720	33,570	30,846	30,656	27,284	26,846	25,730	24,000
Mean	753	698	993	1,041	1,061	1,083	1,028	989	909	866	830	800
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-
Calendar year 1952: Max	1,110			Min 0		Mean 947		Cfsm -		In. -		
Water year 1952-53: Max	1,130			Min 0		Mean 920		Cfsm -		In. -		

\* Discharge measurement made on this day.

## Falling Creek near Drewrys Bluff, Va.

Location.--Lat 37°27'40", long. 77°28'00", on left bank 300 ft downstream from highway bridge, 600 ft downstream from Chesterfield County Reservoir, 2.4 miles northeast of town of Drewrys Bluff, Chesterfield County, 2.7 miles downstream from Pocoshock Creek, and 3.7 miles upstream from mouth.

Drainage area.--54 sq mi, approximately.

Records available.--September 1942 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 60 ft (from topographic map). Prior to Oct. 1, 1952, water-stage recorder at site 300 ft upstream at different datum.

Average discharge.--11 years, 55.3 cfs.

Extremes.--Maximum discharge during year, 1,020 cfs Nov. 21 (gage height, 5.30 ft); minimum, 0.12 cfs Aug. 13 (gage height, 1.55 ft).

1942-53: Maximum discharge, 7,270 cfs July 18, 1945 (gage height, 10.1 ft, site and datum then in use); minimum, that of Aug. 13, 1953.

Remarks.--Records good except those for period of no gage-height record, which are fair. Chesterfield County diverts about 1 cfs for water supply from reservoir 600 ft upstream from gage.

Revisions (water years).--WSP 1032: 1943-44(M).

Rating table, water year 1952-53 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 3 to Nov. 19)

1.5	0.10	2.1	3.8	3.5	130
1.6	.15	2.2	5.7	4.0	265
1.7	.40	2.3	10	4.5	480
1.8	.90	2.5	22	5.0	790
1.9	1.5	3.0	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	*a6	1.8	34	182	66	56	66	96	24	11	0.32	0.15
2	a6	1.9	34	100	57	62	61	73	22	5.7	.40	*.14
3	7.8	2.1	42	104	54	67	56	49	16	4.6	.40	.22
4	9.1	2.2	39	89	*61	132	55	41	14	3.8	.55	1.5
5	9.1	2.3	44	*63	56	237	61	41	11	4.2	*3.1	2.2
6	*7.8	2.5	54	53	49	150	50	45	9.6	4.8	*4.5	49
7	6.6	2.8	42	49	a200	108	74	67	9.1	*5.3	3.8	18
8	6.6	2.9	38	46	a100	94	*73	66	10	4.9	.71	7.8
9	7.4	3.2	35	100	a70	85	58	51	12	4.4	.15	4.2
10	20	*3.2	*35	168	a75	74	53	36	4.2	4.2	7.1	3.3
11	35	3.2	120	132	a70	*68	46	31	21	2.9	.14	2.5
12	33	3.2	109	136	78	89	98	29	16	3.0	.13	7.5
13	26	3.0	67	103	73	206	398	26	18	2.8	.13	48
14	21	2.5	52	81	59	160	425	24	24	2.3	*.14	18
15	14	2.8	44	69	222	140	206	23	21	1.8	.18	9.1
16	7.8	4.2	40	61	240	212	175	21	18	1.8	.14	5.7
17	5.1	25	38	54	134	128	150	20	18	1.4	.14	4.2
18	4.9	20	36	55	99	110	115	20	17	1.3	.14	3.5
19	4.8	17	35	56	82	121	121	25	15	1.4	.28	3.2
20	4.4	202	34	49	74	94	106	36	11	1.4	.39	4.2
21	3.4	654	37	56	139	78	85	29	9.6	1.1	.18	4.4
22	4.0	606	38	89	185	73	73	24	7.4	1.9	.15	3.5
23	4.2	206	34	67	116	72	65	21	6.1	3.7	.14	2.8
24	4.8	100	35	527	94	*170	55	19	4.9	2.3	.14	2.3
25	4.9	69	32	474	87	178	50	20	4.4	1.8	.14	2.3
26	4.9	57	32	200	81	168	47	21	4.2	1.6	.18	2.3
27	5.1	49	31	126	71	122	43	*16	4.2	1.5	.18	9.8
28	4.9	42	29	109	61	109	38	13	7.8	1.2	.20	8.3
29	2.4	38	27	94	-	87	36	11	11	.65	.15	4.9
30	1.5	36	27	74	-	77	41	16	21	.35	.15	4.6
31	1.6	-	105	68	-	69	-	20	-	.25	.14	-
Total	284.1	2,164.8	1,399	3,636	2,753	3,596	2,980	1,030	431.3	89.35	24.59	237.61
Mean	9.16	72.2	45.1	117	98.3	116	99.3	33.2	14.4	2.88	0.793	7.92
Cfsm	0.170	1.34	0.835	2.17	1.82	2.15	1.84	0.615	0.267	0.053	0.015	0.147
In.	0.20	1.50	0.96	2.50	1.90	2.48	2.05	0.71	0.30	0.06	0.02	0.16

Calendar year 1952: Max 790 Min 1.5 Mean 62.8 Cfsm 1.16 In. 15.82  
Water year 1952-53: Max 654 Min 0.13 Mean 51.0 Cfsm 0.944 In. 12.84

Peak discharge (base, 500 cfs).--Nov. 21 (9 p.m.) 1,020 cfs (5.30 ft); Jan. 24 (4 p.m.) 964 cfs (5.23 ft); Apr. 13 (9 p.m.) 624 cfs (4.74 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for Fine Creek at Fine Creek Mills.

## Appomattox River at Farmville, Va.

Location.--Lat 37°18', long. 78°23', on left bank 15 ft downstream from highway bridge 1,000 ft north of town limits of Farmville, Prince Edward County, and 1 1/4 miles downstream from Buffalo Creek.

Drainage area.--306 sq mi.

Records available.--March 1926 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 281.93 ft above mean sea level, datum of 1929. Prior to Nov. 29, 1928, chain gage at same site and datum.

Average discharge.--27 years, 300 cfs.

Extremes.--Maximum discharge during year, 5,020 cfs Nov. 21 (gage height, 16.82 ft); minimum, 34 cfs Sept. 2 (gage height, 3.32 ft).  
1926-53: Maximum discharge, 21,000 cfs Aug. 15, 1940 (gage height, 23.60 ft), from rating curve extended above 12,000 cfs by logarithmic plotting; minimum, 3.8 cfs Sept. 25, 1941; minimum daily, 9 cfs Sept. 20, 1932.

Remarks.--Records good. Diurnal fluctuation at low flow caused by mills above station.

Revisions (water years).--WSP 972: 1927-37, 1938(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	99	100	171	848	236	229	278	510	130	80	70	*36
2	99	100	165	468	*222	256	271	356	137	77	69	35
3	110	104	176	389	208	257	257	279	129	74	81	35
4	102	128	178	359	208	492	243	246	120	70	87	35
5	97	122	185	270	201	1,370	236	246	112	109	82	41
6	95	108	242	235	194	806	229	328	107	134	88	66
7	*94	103	214	*221	465	450	495	398	120	146	91	89
8	94	98	182	207	574	368	*510	286	151	*118	80	112
9	101	95	169	404	368	330	345	233	132	101	90	215
10	144	106	193	890	285	292	292	220	138	88	92	125
11	161	132	*912	848	250	271	271	207	257	77	79	56
12	132	152	869	468	264	292	292	194	154	74	70	90
13	119	130	468	322	278	542	961	188	208	68	67	368
14	111	*112	306	270	243	510	1,210	181	138	65	66	162
15	103	258	249	249	577	495	558	168	114	63	61	84
16	101	485	221	228	848	1,280	454	165	108	60	56	70
17	101	314	207	214	495	1,000	412	174	187	60	52	64
18	98	193	193	207	345	558	342	164	229	58	57	62
19	97	159	183	207	292	526	384	240	143	73	57	64
20	95	1,520	175	193	271	420	342	426	121	330	53	68
21	92	4,060	183	292	528	345	300	272	109	124	51	69
22	92	1,880	200	500	912	308	279	207	100	89	49	68
23	97	845	179	344	574	292	266	188	106	122	48	65
24	99	368	171	949	375	1,040	259	168	103	101	48	64
25	100	284	164	1,400	330	1,350	246	*160	90	82	44	64
26	100	242	159	626	300	1,000	259	152	85	77	43	64
27	99	221	155	375	271	558	266	143	85	75	44	76
28	101	207	149	322	250	420	233	129	116	72	43	86
29	101	185	127	300	-	360	226	126	104	69	40	75
30	97	178	149	257	-	322	272	128	88	66	39	66
31	98	-	408	236	-	292	-	128	-	*64	38	-
Total	3,229	12,790	7,702	13,098	10,364	17,011	10,988	7,010	3,921	2,866	1,935	2,574
Mean	104	426	248	423	370	549	366	226	131	92.5	62.4	85.8
Cfsm	0.340	1.39	0.810	1.38	1.21	1.79	1.20	0.739	0.428	0.302	0.204	0.280
In.	0.39	1.55	0.93	1.59	1.26	2.06	1.34	0.85	0.48	0.35	0.24	0.31

Calendar year 1952: Max 4,060 Min 73 Mean 327 Cfsm 1.07 In. 14.55

Water year 1952-53: Max 4,060 Min 35 Mean 256 Cfsm 0.837 In. 11.35

Peak discharge (base, 3,500 cfs).--Nov. 21 (11 a.m.) 5,020 cfs (16.82 ft).

\* Discharge measurement made on this day.

Buffalo Creek near Hampden Sidney, Va.

Location.--Lat 37°15', long. 78°29', on left bank 20 ft downstream from bridge on State Highway 626, 0.8 mile upstream from Locket Creek, 2 miles northwest of Hampden Sidney, Prince Edward County, and 6 miles southwest of Farmville.

Drainage area.--70 sq mi, approximately.

Records available.--August 1946 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 340 ft (by barometer). Prior to Aug. 19, 1953, staff gage at same site and datum.

Average discharge.--7 years, 71.9 cfs.

Extremes.--Maximum discharge during year, 4,040 cfs Nov. 21 (gage height, 7.77 ft); minimum, 10 cfs Sept. 1 (gage height, 1.48 ft).  
1946-53: Maximum discharge, that of Nov. 21, 1952; minimum, that of Sept. 1, 1953.  
Flood in August 1940 reached a stage of about 15 ft, from information by local resident.

Remarks.--Records 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 Nov. 19)

Oct. 1 to Nov. 20

Nov. 21 to Sept. 30

1.9	25	1.5	11	5.5	472
3.5	110	1.8	22	6.0	820
4.0	160	3.5	112	6.5	1,500
5.0	320	4.0	162	7.5	3,440
5.5	472	5.0	320		
6.0	820				

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	32	62	138	62	67	70	105	34	26	17	*11
2	26	31	57	96	*57	67	62	84	32	26	21	11
3	45	30	64	105	57	70	62	62	32	26	26	11
4	30	42	62	90	57	93	62	60	32	25	24	11
5	30	38	67	*77	57	550	62	57	32	26	22	11
6	27	32	77	62	57	138	*60	54	34	29	19	42
7	*27	32	64	60	215	82	144	82	34	42	19	47
8	26	31	60	57	120	72	87	62	34	32	22	24
9	26	32	57	120	87	*72	72	54	42	*27	30	18
10	48	33	72	201	72	67	70	54	37	24	29	18
11	42	35	*281	138	67	62	62	52	*72	22	24	17
12	35	40	168	74	74	77	80	47	42	20	24	14
13	32	*40	102	72	72	138	272	44	37	19	22	64
14	32	38	77	67	62	57	*230	44	42	18	19	34
15	30	45	70	62	215	116	99	44	40	18	18	22
16	30	193	64	62	238	472	105	44	37	18	17	18
17	30	97	62	77	124	246	87	42	40	17	14	18
18	30	62	60	60	77	124	77	42	62	17	32	17
19	30	100	57	52	72	112	77	47	42	17	20	18
20	30	650	54	52	67	96	74	72	37	44	16	16
21	28	3,240	60	105	124	87	67	50	34	26	16	18
22	27	474	62	112	383	80	64	44	37	20	15	18
23	27	105	54	74	120	74	64	42	37	27	16	17
24	27	99	54	281	87	300	62	42	32	30	14	17
25	27	77	52	368	82	310	57	*40	29	20	13	17
26	27	72	50	281	77	168	62	37	28	20	14	18
27	27	72	50	82	72	99	62	37	27	19	14	24
28	32	54	50	77	72	93	54	34	37	19	14	27
29	32	64	52	74	-	84	54	34	34	18	13	22
30	32	64	50	72	-	77	54	34	28	17	12	-
31	32	-	120	64	-	72	-	34	-	*17	11	-
Total	949	5,954	2,291	3,312	2,926	4,222	2,514	1,580	1,117	726	587	638
Mean	30.6	198	73.9	107	104	136	83.8	51.0	37.2	23.4	18.9	21.3
Cfsm	0.437	2.83	1.06	1.53	1.49	1.94	1.20	0.729	0.531	0.334	0.270	0.304
In.	0.50	3.16	1.22	1.76	1.55	2.24	1.34	0.84	0.59	0.39	0.31	0.34

Calendar year 1952: Max 3,240 Min 18 Mean 84.8 Cfsm 1.21 In. 16.49  
Water year 1952-53: Max 3,240 Min 11 Mean 73.5 Cfsm 1.05 In. 14.24

Peak discharge (base, 500 cfs).--Nov. 21 (time unknown) 4,040 cfs (7.77 ft); Mar. 5 (7 a.m.) 550 cfs (5.63 ft); Mar. 16 (time unknown) 775 cfs (5.96 ft).

\* Discharge measurement made on this day.

## Apptomattox River at Mattoax, Va.

Location.--Lat 37°25'17", long. 77°51'33", on right bank 75 ft upstream from Southern Railway bridge at Mattoax, Amelia County, 0.3 mile upstream from Skinquarter Creek, and 3.7 miles upstream from Flat Creek.

Drainage area.--729 sq mi.

Records available.--August 1900 to December 1905, March 1926 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 174.51 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. August 1900 to December 1905 chain gage at same site at different datum. March 1926 to October 1936 chain gage at present site and datum.

Average discharge.--32 years, 735 cfs.

Extremes.--Maximum discharge during year, 5,800 cfs Nov. 24 (gage height, 21.70 ft); minimum, 50 cfs Sept. 4, 5 (gage height, 4.75 ft).  
1900-1905, 1926-53: Maximum discharge, 35,000 cfs Aug. 18, 1940 (gage height, 35.3 ft, from floodmark in gage house), from rating curve extended above 20,000 cfs on basis of records for stations at Farmville and near Petersburg; minimum, 11 cfs Oct. 2, 1930 (gage height, 3.52 ft).

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

Revisions (water years).--WSP 782: Drainage area. WSP 892: 1938. WSP 972: 1928, 1932, 1934-38.

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

Oct. 1 to Nov. 24

Nov. 25 to Sept. 30

5.8	160	13.0	2,000	4.7	47	9.0	855
6.5	245	20.0	4,650	5.0	70	13.0	2,000
8.0	580	22.0	6,120	6.0	205	20.0	4,650
				7.0	372	22.0	6,120

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	160	176	498	1,680	655	655	805	1,350	a320	212	100	*56
2	160	182	486	2,000	630	630	755	1,380	a320	190	112	55
3	166	182	486	1,270	*594	555	705	905	a310	173	116	53
4	188	212	498	1,030	582	955	680	705	a300	163	119	52
5	188	218	582	980	558	2,060	655	608	a280	156	149	53
6	171	224	630	*705	534	2,390	630	606	a280	298	*144	79
7	*166	212	630	630	830	2,350	*730	1,060	a300	522	137	106
8	160	194	582	582	1,680	1,130	1,000	980	a330	*335	145	113
9	166	188	510	730	1,440	930	1,030	705	a340	300	169	134
10	188	188	486	1,410	955	*830	780	582	a500	251	<u>275</u>	183
11	277	206	*1,000	2,160	755	755	705	534	854	205	198	235
12	296	245	1,970	2,000	730	755	705	486	930	173	158	154
13	260	*268	1,940	1,130	730	1,240	1,720	450	855	156	131	152
14	218	260	1,060	855	705	1,680	2,800	414	955	147	116	582
15	200	294	780	730	980	1,470	<u>2,830</u>	393	486	134	106	371
16	194	731	655	655	2,000	1,710	2,190	382	353	130	98	205
17	182	861	582	606	2,100	2,480	1,320	372	308	121	90	144
18	182	605	534	594	1,240	2,830	1,130	372	362	117	82	119
19	176	407	510	570	880	1,840	1,000	426	498	110	81	106
20	171	1,950	486	<u>546</u>	780	1,320	1,000	680	372	371	127	102
21	171	3,370	510	594	980	1,030	880	805	300	655	95	103
22	171	3,750	510	1,000	1,780	880	780	570	275	344	81	106
23	171	4,030	510	1,130	2,260	905	705	438	251	220	76	106
24	171	<u>5,440</u>	462	2,100	1,900	1,560	655	382	235	228	74	102
25	176	4,660	438	<u>3,050</u>	1,000	2,730	630	355	235	220	70	99
26	182	1,060	414	3,050	880	3,080	606	*335	220	175	69	100
27	182	755	414	2,870	780	<u>3,230</u>	594	308	205	145	66	109
28	182	655	393	1,130	705	2,220	594	a300	205	133	64	121
29	182	582	372	905	-	1,100	<u>546</u>	a300	235	121	62	145
30	182	534	<u>344</u>	805	-	955	570	a300	259	114	61	148
31	182	-	655	730	-	855	-	a310	-	<u>106</u>	<u>59</u>	-
Total	5,821	32,639	19,927	38,127	29,643	47,090	29,730	17,789	11,673	6,725	3,430	4,193
Mean	188	1,088	643	1,230	1,059	1,519	991	574	389	217	111	140
Cfsm	0.258	1.49	0.882	1.69	1.45	2.08	1.36	0.787	0.534	0.298	0.152	0.192
In.	0.30	1.66	1.02	1.95	1.51	2.40	1.52	0.91	0.60	0.34	0.18	0.21
Calendar year 1952: Max	5,440			Min	121	Mean	766	Cfsm	1.05	In.	14.31	
Water year 1952-53: Max	5,440			Min	52	Mean	676	Cfsm	0.927	In.	12.60	

Peak discharge (base, 4,000 cfs).--Nov. 24 (8 p.m.) 5,800 cfs (21.70 ft).

\* Discharge measurement made on this day.

No gage-height record; discharge estimated on basis of records for stations at Farmville and near Petersburg.

## Deep Creek near Mannboro, Va.

Location.--Lat 37°16'59", long. 77°52'22", on left bank at upstream side of bridge on State Highway 38, 0.9 mile upstream from Sweathouse Creek, 3.4 miles northwest of Mannboro, Amelia County, and 7.5 miles southeast of Amelia.

Drainage area.--156 sq mi.

Records available.--September 1946 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 177.20 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Sept. 2, 1949, staff gage at same site and datum.

Average discharge.--7 years, 144 cfs.

Extremes.--Maximum discharge during year, 4,980 cfs Nov. 21 (gage height, 11.64 ft); minimum, 3.9 cfs Sept. 5 (gage height, 0.73 ft).  
1946-53: Maximum discharge observed, 7,140 cfs Sept. 25, 1947 (gage height, 13.1 ft, from floodmarks); minimum discharge, that of Sept. 5, 1953.  
Flood in August 1940 reached a stage of 14.8 ft (discharge, 10,000 cfs, from rating curve extended above 3,800 cfs), from information by local resident.

Remarks.--Records good.

Revisions (water years).--WSP 1203: 1948 (calendar year figures only).

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 10-20, June 15 to July 9)

Oct. 1 to Jan. 25,  
Sept. 15-30

Jan. 26 to Sept. 14

1.1	16	6.0	615	0.7	3.0	4.0	260
1.5	33	7.0	900	1.0	14	5.0	402
2.0	63	8.0	1,300	1.5	38	6.0	615
3.0	139	9.0	1,910	2.0	69	7.0	900
4.0	243	10.0	2,820	3.0	148		
5.0	393	11.0	4,160				

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	38	92	578	144	126	139	299	47	46	14	6.4
2	28	40	89	540	*130	134	134	266	52	37	16	*6.0
3	40	42	106	304	121	153	126	130	50	32	18	5.4
4	46	49	114	297	130	248	117	105	46	28	20	4.8
5	35	58	153	*191	126	540	126	101	42	26	22	24
6	31	50	283	148	117	540	*117	101	39	54	*21	195
7	*30	46	186	130	229	254	148	163	38	43	20	47
8	35	41	134	122	473	194	163	153	40	*40	20	32
9	34	40	118	176	300	173	130	144	40	43	49	22
10	73	43	110	350	178	*158	117	101	40	35	46	17
11	95	60	*191	393	148	144	109	89	134	29	39	16
12	75	76	283	282	153	158	130	81	139	26	28	24
13	58	*69	181	176	158	335	516	76	262	25	23	362
14	47	56	134	148	134	464	868	71	552	22	22	428
15	42	130	118	130	256	286	565	68	220	21	20	118
16	40	423	105	126	590	445	280	66	80	21	18	44
17	38	376	104	118	440	552	260	65	80	20	16	30
18	37	118	100	114	218	286	189	63	113	18	28	24
19	37	85	96	118	168	286	173	150	84	18	36	22
20	56	612	92	110	153	230	158	236	61	50	36	22
21	33	3,700	114	122	238	178	139	126	54	41	24	21
22	32	1,170	134	196	602	158	130	84	48	32	18	21
23	35	615	114	162	549	148	121	73	43	28	16	20
24	37	250	102	470	248	266	113	63	39	29	15	19
25	39	157	96	1,000	200	516	109	*60	36	25	14	19
26	39	134	92	615	178	445	105	58	34	21	12	20
27	39	122	88	254	158	292	101	54	34	19	11	27
28	40	110	85	200	139	200	95	48	41	18	10	50
29	40	99	70	194	-	173	91	46	75	17	9.2	39
30	38	94	82	163	-	153	109	48	60	16	8.4	28
31	38	-	196	148	-	139	-	47	-	15	7.2	-
Total	1,295	8,903	3,962	8,055	6,678	8,374	5,678	3,255	2,623	895	656.8	1,713.6
Mean	41.8	297	128	260	238	270	189	104	87.4	28.9	21.2	57.1
Cfsm	0.268	1.90	0.821	1.67	1.53	1.75	1.21	0.667	0.560	0.185	0.136	0.366
In.	0.31	2.12	0.95	1.92	1.59	1.99	1.35	0.77	0.62	0.21	0.16	0.41

Calendar year 1952: Max 3,700 Min 24 Mean 169 Cfsm 1.08 In. 14.75  
Water year 1952-53: Max 3,700 Min 4.8 Mean 143 Cfsm 0.917 In. 12.40

Peak discharge (base, 1,200 cfs).--Nov. 21 (9 a.m.) 4,980 cfs (11.64 ft); Jan. 25 (3 p.m.) 1,210 cfs (7.77 ft).

\* Discharge measurement made on this day.

## Appomattox River near Petersburg, Va.

Location.--Lat 37°13'33", long. 77°32'20", 2.2 miles upstream from dam of Virginia Electric & Power Co., 4.2 miles downstream from Whipponock Creek, and 5.9 miles west of corporate limits of city of Petersburg.

Drainage area.--1,335 sq mi.

Records available.--May 1927 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 118 ft (by barometer). Prior to Sept. 22, 1931, water-stage recorder at site 0.8 mile downstream at different datum.

Average discharge.--25 years (1927-30, 1931-53), 1,234 cfs.

Extremes.--Maximum discharge during year, 7,800 cfs Nov. 23 (gage height, 9.72 ft); minimum, 58 cfs Sept. 5 (gage height, 1.96 ft).  
1927-53: Maximum discharge, 28,000 cfs Aug. 20, 1940 (gage height, 18.15 ft); minimum, 19 cfs Sept. 21-27, 1932.

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

Revisions (water years).--WSP 757: 1932-33. WSP 802: 1936(M). WSP 972: 1932, 1934-35.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 4-22, Apr. 15-30, May 14 to June 11)

Oct. 1 to Nov. 23				Nov. 24 to Sept. 30			
2.6	221	4.0	1,100	1.9	50		
3.0	385	7.0	4,300	2.2	104		
3.5	685	10.0	8,250	2.6	221		

Note.--Same as preceding table above  
2.6 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	249	284	708	2,650	1,140	1,070	al,300	al,000	390	415	145	76
2	256	284	685	3,310	1,060	1,040	1,190	a2,700	395	348	142	*72
3	280	288	722	2,870	1,000	1,080	1,150	al,600	415	305	163	68
4	296	318	760	2,040	984	1,480	1,080	al,300	400	276	184	65
5	322	362	792	1,630	976	3,510	1,080	al,100	371	252	*172	68
6	300	371	1,180	*1,280	916	3,860	1,050	al,000	348	365	209	339
7	272	362	1,120	1,100	1,380	3,530	1,190	al,500	326	700	206	414
8	272	330	968	1,000	2,650	2,480	1,430	al,900	313	692	193	232
9	272	300	848	1,150	2,760	1,630	1,630	al,300	326	474	228	181
10	322	296	776	2,210	1,880	*1,430	1,380	al,000	490	415	322	175
11	440	322	1,100	2,980	1,380	1,280	1,170	a900	500	344	357	199
12	550	*376	2,380	3,310	1,240	1,280	1,380	a800	1,830	288	272	284
13	508	455	2,700	2,540	1,240	2,100	3,530	a700	1,330	252	221	1,330
14	425	440	1,990	1,580	1,170	2,870	5,380	650	2,160	*228	190	1,380
15	*371	484	1,240	1,280	1,880	2,980	5,020	615	1,580	215	172	1,060
16	339	968	1,020	1,120	3,530	4,660	4,080	608	808	202	160	479
17	318	1,480	891	1,040	3,640	4,190	2,540	589	596	193	151	284
18	305	1,060	824	976	2,760	4,080	1,940	608	622	184	148	215
19	296	708	784	959	1,680	3,970	1,630	925	722	175	148	181
20	292	1,920	758	916	1,380	2,480	1,530	1,280	722	169	154	160
21	284	5,870	752	908	1,630	1,880	1,380	1,330	563	499	184	154
22	272	7,470	874	1,380	2,980	1,530	1,190	1,060	468	685	157	157
23	268	7,650	848	1,780	3,640	1,380	1,070	768	425	390	127	157
24	272	6,540	784	3,420	3,310	a2,200	993	629	395	280	114	157
25	260	5,630	750	5,760	2,100	a3,000	934	570	362	276	107	154
26	288	4,780	685	5,760	1,530	a3,500	882	*556	353	264	100	151
27	288	1,280	664	4,660	1,330	a4,000	648	520	335	221	94	184
28	296	950	636	3,090	1,190	a3,500	832	474	576	190	92	215
29	292	824	596	1,680	-	a2,500	800	435	395	175	84	238
30	288	752	563	1,430	-	al,700	800	405	420	163	82	235
31	284	-	913	1,240	-	al,400	-	395	-	157	80	-
Total	9,797	53,134	30,271	67,049	52,356	77,390	50,409	29,217	18,936	9,702	5,158	9,062
Mean	316	1,771	976	2,163	1,870	2,495	1,680	942	631	315	166	302
Cfsm	0.237	1.33	0.731	1.62	1.40	1.87	1.26	0.706	0.475	0.234	0.124	0.226
In.	0.27	1.48	0.84	1.87	1.46	2.16	1.41	0.81	0.53	0.27	0.14	0.225
Calendar year 1952: Max	7,950			Min	203	Mean	1,351	Cfsm	1.01	In.	13.78	
Water year 1952-53: Max	7,650			Min	63	Mean	1,130	Cfsm	0.846	In.	11.49	

Peak discharge (base, 5,000 cfs).--Nov. 23 (1:30 a.m., 7,800 cfs (9.72 ft); Jan. 25 (11 p.m.) 5,890 cfs (8.28 ft); Mar. 16 (9 a.m.) 5,020 cfs (7.55 ft); Apr. 14 (4 p.m.) 5,500 cfs (8.02 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for station at Mattoax.

Chickahominy River near Providence Forge, Va.

Location.--Lat 37°26'10", long. 77°03'40", on left bank at upstream side of highway bridge, 1.1 miles southwest of Providence Forge, New Kent County, and 1.7 miles downstream from Schiminnee Creek.

Drainage area.--249 sq mi.

Records available.--January 1942 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 6.07 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--11 years, 257 cfs.

Extremes.--Maximum discharge during year, 1,820 cfs Nov. 25 (gage height, 9.10 ft); minimum, 5.3 cfs Sept. 3, 4, 5 (gage height, 1.79 ft).  
1942-53: Maximum discharge, 5,750 cfs July 21, 1945 (gage height, 10.6 ft); minimum, that of Sept. 3, 4, 5, 1953; minimum gage height, 1.56 ft Aug. 25, 26, 1943.

Remarks.--Records good except those for period 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 Nov. 25

Nov. 26 to Sept. 30

2.2	24	7.0	567	1.8	5.5	7.0	568
2.5	44	8.0	955	2.0	13	8.0	955
3.0	86	8.5	1,250	2.5	44	8.5	1,250
4.0	180	9.0	1,700	4.0	176	9.0	1,700
6.0	408			6.0	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	31	33	382	248	592	382	455	216	64	90	9.1	6.2
2	31	34	297	275	455	332	395	208	77	53	9.9	5.9
3	39	34	258	344	369	308	320	194	83	28	11	*5.5
4	49	40	231	382	*320	332	275	180	88	23	15	5.5
5	53	49	221	410	286	382	253	180	70	26	17	5.5
6	*48	54	216	455	264	425	242	198	49	53	17	17
7	38	55	216	*455	275	455	*248	253	40	*79	16	66
8	53	54	216	425	332	470	258	226	38	50	17	82
9	36	50	221	395	382	488	258	198	41	36	30	83
10	60	48	*226	425	395	546	248	185	44	36	39	76
11	97	*57	297	425	395	*526	236	176	63	31	36	50
12	131	75	344	470	440	488	236	180	90	22	31	27
13	126	82	369	526	488	470	332	172	136	18	22	50
14	111	82	410	568	470	506	455	144	131	16	36	78
15	87	89	410	620	470	546	488	109	113	14	53	81
16	61	118	395	620	568	686	526	100	98	14	40	52
17	49	126	382	568	620	725	592	101	79	14	28	28
18	43	136	356	488	686	725	767	100	87	13	20	20
19	39	140	308	440	620	725	811	131	113	12	16	17
20	35	150	253	369	592	620	725	158	105	12	14	15
21	32	a250	221	332	620	546	592	154	62	11	13	18
22	29	a600	212	320	592	488	488	136	42	11	12	29
23	28	a900	194	308	546	440	395	a130	37	13	11	35
24	29	a1,200	185	320	470	410	332	a130	32	14	10	28
25	31	*a1,700	180	356	440	410	297	a140	28	18	9.5	22
26	33	1,700	180	395	455	455	258	a130	25	19	*9.1	20
27	34	1,250	180	565	470	455	226	*a110	22	14	8.4	26
28	34	955	172	305	440	440	203	75	22	11	8.0	49
29	34	688	162	1,000	-	488	185	73	58	*9.9	8.0	59
30	34	506	154	955	-	506	172	64	90	9.5	7.3	54
31	33	-	180	767	-	506	-	58	-	8.7	6.6	-
Total	1,548	11,251	8,028	15,151	13,052	15,281	11,268	4,609	2,027	779.1	579.9	1,110.6
Mean	49.9	375	259	489	466	493	376	149	67.6	25.1	18.7	37.0
Cfsm	0.200	1.51	1.04	1.96	1.87	1.98	1.51	0.598	0.271	0.101	0.075	0.149
In.	0.23	1.68	1.20	2.26	1.95	2.28	1.68	0.69	0.30	0.12	0.09	0.17

Calendar year 1952: Max 1,700 Min 19 Mean 299 Cfsm 1.20 In. 16.37  
Water year 1952-53: Max 1,700 Min 5.5 Mean 232 Cfsm 0.932 In. 12.65

Peak discharge (base, 1,000 cfs).--Nov. 25 (10 p.m.) 1,820 cfs (9.10 ft); Jan. 29 (7 a.m.) 1,000 cfs (8.13 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, 1 discharge measurement, and records for Dragon Run near Church View.

## Lake Drummond in Dismal Swamp, Va.

Location.--Lat 36°35'40", long. 76°26'20", on left bank in outlet canal, in Norfolk County, 200 ft upstream from dam and gates, 0.5 mile downstream from Lake Drummond, 2.5 miles east of Nansemond County line, 3.1 miles north of North Carolina State line, and 20 miles southwest of Norfolk.

Records available.--May 1926 to September 1953.

Gage.--Staff gage read twice daily. Altitude of gage is 15 ft (from topographic map).

Extremes.--Maximum gage height during year, 5.16 ft Feb. 25, May 26, June 13, 14; minimum, -0.67 ft Nov. 3.

1926-53: Maximum gage height, 6.09 ft Oct. 7, 1929; minimum, that of Nov. 3, 1952.

Revisions (water years).--WSP 1032: 1934-43.

Gage height, in feet, water year October 1952 to September 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.09	-0.46	0.60	1.71	3.32	5.03	5.08	5.12	5.00	5.10	4.29	4.98
2	-.21	-.62	.64	1.73	3.36	5.01	5.08	5.07	4.96	5.04	4.23	4.97
3	.37	-.67	.76	1.82	3.46	5.02	5.08	5.03	4.93	5.06	4.23	4.97
4	.23	.22	.73	1.85	3.48	5.00	5.07	5.03	4.96	5.03	4.20	4.91
5	.06	.00	.74	1.96	3.51	5.02	5.03	5.01	4.97	4.98	4.19	4.92
6	-.08	.02	.77	1.99	3.54	5.01	5.03	5.00	4.94	4.97	4.18	4.88
7	.06	.19	.76	2.04	3.55	5.01	5.08	5.04	4.89	4.95	4.30	4.84
8	.09	-.01	.77	2.10	3.71	5.02	5.05	5.07	4.89	4.96	4.26	4.84
9	.16	-.21	.79	2.17	3.85	5.01	5.01	5.05	4.98	4.91	4.28	4.78
10	.27	-.37	.76	2.26	3.86	4.99	5.01	5.09	4.99	4.87	4.29	4.76
11	.45	-.42	.90	2.32	3.89	5.00	4.99	5.08	5.00	4.86	4.26	4.70
12	.30	.22	.91	2.44	3.96	5.05	4.98	5.04	5.03	4.83	4.28	4.69
13	.30	.05	.99	2.47	4.03	5.02	5.08	5.02	5.16	4.84	4.30	4.66
14	.28	-.12	.98	2.53	4.10	5.00	5.08	5.00	5.12	4.79	4.91	4.62
15	.23	-.12	1.07	2.62	4.25	5.00	5.01	4.99	5.05	4.77	4.85	4.55
16	.26	.05	1.06	2.68	4.33	5.02	5.06	4.98	5.04	4.72	4.94	4.54
17	.27	-.05	1.07	2.69	4.42	5.01	5.06	4.98	4.96	4.68	5.03	4.54
18	.26	-.17	1.08	2.75	4.54	5.00	5.00	4.98	4.95	4.67	5.09	4.51
19	.27	-.29	1.11	2.83	4.60	5.00	4.99	5.07	4.98	4.64	5.12	4.47
20	.41	-.38	1.13	2.87	4.70	5.01	5.02	5.00	4.99	4.61	5.12	4.44
21	.33	.30	1.25	2.92	4.85	4.99	5.00	4.98	4.96	4.58	5.06	4.50
22	.03	.53	1.26	2.98	4.91	5.00	5.05	5.00	4.99	4.55	4.99	4.51
23	.00	.57	1.29	3.00	5.00	5.00	5.07	4.97	5.01	4.56	4.99	4.46
24	-.10	.56	1.30	3.03	5.08	5.00	5.03	4.99	4.99	4.59	4.99	4.40
25	-.33	.54	1.33	3.20	5.12	5.02	5.09	5.01	5.00	4.52	5.02	4.37
26	-.50	.56	1.37	3.18	5.02	5.03	5.08	5.10	4.98	4.49	5.01	4.33
27	-.58	.60	1.41	3.16	5.00	5.01	5.08	5.05	4.98	4.48	5.02	4.41
28	-.33	.66	1.46	3.20	5.03	5.04	5.09	5.07	5.11	4.39	5.02	4.55
29	.35	.61	1.42	3.29	-	5.04	5.10	5.00	5.10	4.38	5.02	4.55
30	-.03	.72	1.44	3.28	-	5.06	5.10	5.00	5.11	4.35	5.01	4.55
31	-.29	-	1.53	3.30	-	5.08	-	5.00	-	4.31	4.99	-

## Nottoway River near Burkeville, Va.

Location.--Lat 37°05', long. 78°12', on left bank at downstream side of bridge on Secondary State Highway 723, 2 $\frac{1}{2}$  miles upstream from Modest Creek, 6 miles north of Victoria, and 7 $\frac{1}{2}$  miles south of Burkeville, Nottoway County.

Drainage area.--38 sq mi, approximately.

Records available.--September 1946 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 354.58 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to July 4, 1951, wire-weight gage at same site and datum.

Average discharge.--7 years, 37.1 cfs.

Extremes.--Maximum discharge during year, 1,640 cfs Jan. 24 (gage height, 13.92 ft); minimum, 0.6 cfs Sept. 4 (gage height, 1.00 ft).

1946-53: Maximum discharge observed, 3,020 cfs Sept. 25, 1947 (gage height, 18.15 ft); minimum observed, 0.3 cfs Sept. 20, 1947 (gage height, 1.02 ft).

Maximum stage known, 27.4 ft August 1940, from Corps of Engineers floodmark.

Remarks.--Records good.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Nov. 15)

Oct. 1 to Dec. 31

Jan. 1 to Sept. 30

1.4	2.1	2.5	28	1.0	0.6	2.0	15	8.0	424
1.6	4.3	3.5	70	1.1	1.1	2.5	32	10.0	738
1.8	7.5	5.0	161	1.2	1.7	3.0	55	11.0	942
2.0	12	7.0	317	1.4	4.0	4.0	114		
				1.6	7.0	6.0	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	2.5	3.8	14	138	29	26	30	61	5.1	6.7	1.6	0.8
2	2.5	3.8	14	50	25	30	28	26	5.4	5.4	6.8	.8
3	3.7	4.1	19	77	24	31	25	20	5.0	4.6	12	.6
4	4.2	5.2	16	46	25	186	24	18	4.4	3.9	4.7	.7
5	3.0	5.4	18	31	23	205	23	18	4.0	3.5	3.5	.8
6	2.7	4.4	28	26	22	70	22	16	3.8	6.2	2.7	1.8
7	2.6	4.1	19	*24	82	48	44	20	3.8	5.3	2.4	2.9
8	2.4	3.9	16	22	60	40	32	20	4.6	4.8	8.8	2.4
9	3.1	3.9	*14	108	37	34	25	15	4.3	5.0	34	1.3
10	7.3	4.6	15	198	29	31	24	14	4.0	3.6	6.5	1.0
11	7.2	7.5	90	86	27	28	21	12	7.2	3.0	3.9	1.0
12	5.0	10	43	50	30	43	46	11	28	2.6	3.0	3.2
13	3.7	6.5	26	35	29	253	308	11	126	2.4	2.6	4.1
14	3.1	5.0	20	30	23	80	114	9.8	16	2.1	2.4	5.0
15	2.8	20	17	27	233	86	53	9.4	11	1.8	2.0	2.4
16	2.8	28	15	25	*107	*72	66	9.6	9.2	1.7	1.6	1.5
17	2.9	*12	14	23	56	46	48	10	14	1.6	1.9	1.2
18	2.9	9.1	14	23	38	52	36	11	15	1.6	24	1.0
19	2.8	8.7	13	23	33	64	34	32	10	2.4	5.3	1.0
20	2.7	60	12	21	31	40	*30	33	8.0	38	3.4	1.0
21	*2.7	250	15	46	381	34	27	16	6.8	6.7	2.7	*1.0
22	3.1	85	16	52	208	30	24	12	5.9	4.1	2.0	1.2
23	3.3	39	14	32	66	30	22	11	5.4	6.2	1.8	1.0
24	3.5	26	13	772	49	333	21	8.8	4.8	4.7	1.8	1.0
25	3.5	21	12	167	42	174	20	*8.2	*4.3	2.9	*1.5	1.0
26	3.5	19	12	60	37	118	21	7.6	4.0	2.4	1.3	1.2
27	3.6	18	11	45	32	62	19	6.5	6.2	*1.9	1.2	4.1
28	3.7	17	10	42	28	47	17	5.7	31	1.7	1.1	6.4
29	3.7	16	9.6	39	-	39	16	5.4	11	1.6	1.0	2.8
30	3.6	14	10	31	-	34	24	5.7	11	1.5	.9	1.8
31	3.7	-	174	29	-	30	-	5.3	-	1.3	.8	-
Total	107.8	718.0	733.6	2,378	1,806	2,396	1,244	469.0	379.2	141.2	149.0	93.1
Mean	3.48	23.9	23.7	76.7	64.5	77.3	41.5	15.1	12.6	4.55	4.81	3.10
Cfs/m	0.092	0.629	0.624	2.02	1.70	2.03	1.09	0.397	0.332	0.120	0.127	0.082
In.	0.11	0.70	0.72	2.33	1.77	2.34	1.22	0.46	0.37	0.14	0.15	0.09

Calendar year 1952: Max 890 Min 0.6 Mean 36.2 Cfs/m 0.953 In. 12.96  
Water year 1952-53: Max 772 Min 0.7 Mean 29.1 Cfs/m 0.766 In. 10.40

Peak discharge (base, 600 cfs).--Jan. 24 (6 p.m.) 1,640 cfs (13.92 ft); Feb. 21 (10 p.m.) 942 cfs (10.98 ft); Mar. 24 (1:30 p.m.) 719 cfs (9.86 ft); Apr. 13 (5:30 p.m.) 663 cfs (9.58 ft).  
\* Discharge measurement made on this day.

## Nottoway River near Rawlings, Va.

Location.--Lat 36°59'00", long. 77°48'00", on right bank at downstream side of bridge on State Highway 612, at Harpers Mill, 2.6 miles northwest of Rawlings, Brunswick County.

Drainage area.--323 sq mi.

Records available.--October 1950 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 174 ft (by barometer).

Extremes.--Maximum discharge during year, 6,020 cfs Nov. 21 (gage height, 12.14 ft); minimum, 15 cfs Sept. 5 (gage height, 2.14 ft).  
1950-53: Maximum discharge, that of Nov. 21, 1952; minimum, that of Sept. 5, 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 Oct. 22 to Nov. 15, Jan. 27 to Feb. 21, Apr. 15-26, June 14 to July 5)

Oct. 1 to July 5				July 6 to Sept. 30			
2.6	44	4.0	574	2.1	15	2.8	72
2.8	72	6.0	1,690	2.2	17	3.0	114
3.0	114	8.0	2,940	2.4	25	3.2	175
3.2	175	11.0	5,140	2.6	40	3.4	262
3.4	262						

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	52	57	183		1,030	283	330	366	564	128	155	26
3	50	57	191	775	252	335	356	460	131	120	27	16
4	87	58	238	564	233	366	330	335	125	100	40	16
5	85	72	228	579	233	444	309	278	114	85	78	16
6	68	76	262	418	228	1,030	314	262	109	141	55	17
7	63	72	371	330	206	1,060	309	330	102	192	39	55
8	74	68	314	*293	387	579	408	585	100	105	35	38
9	70	62	248	272	763	475	460	444	102	89	33	31
10	72	60	219	340	496	418	366	335	102	83	109	26
11	162	68	206	601	356	382	330	278	125	72	152	22
12	179	96	324	790	298	350	304	252	350	62	70	21
13	128	136	*501	564	293	392	418	228	224	55	43	21
14	98	120	376	397	309	844	1,450	219	639	49	35	42
15	83	98	283	330	272	1,140	1,930	206	677	46	33	122
16	76	193	233	298	725	671	1,050	194	314	42	30	69
17	68	763	206	272	1,420	*709	601	194	219	40	27	38
18	68	366	194	252	817	590	548	194	210	38	25	29
19	64	202	191	248	*491	491	444	191	283	36	30	24
20	63	158	179	248	382	538	397	628	238	35	62	23
21	62	*1,110	172	238	330	496	361	844	187	100	50	22
22	58	5,060	191	252	522	418	324	486	158	145	32	22
23	56	3,430	228	361	1,390	371	*268	319	139	80	26	23
24	60	1,140	206	356	1,280	361	272	252	128	62	24	23
25	*60	496	187	1,260	612	564	257	210	117	54	22	*22
26	56	371	175	2,420	517	1,230	248	194	*107	43	22	21
27	57	314	168	1,870	465	1,030	233	179	100	36	20	22
28	57	272	162	564	408	736	233	*158	98	33	19	48
29	58	238	155	444	366	543	219	142	136	31	*18	87
30	58	206	142	418	-	465	214	134	198	29	17	64
31	58	194	139	350	-	408	243	134	191	*27	17	64
32	56	-	324	298	-	376	-	131	-	25	16	-
Total	2,306	15,613	7,196	17,432	14,334	18,142	13,562	9,360	5,851	2,210	1,232	1,040
Mean	74.4	520	232	562	512	585	452	302	195	71.3	39.7	34.7
Cfsm	0.230	1.61	0.718	1.74	1.59	1.81	1.40	0.935	0.604	0.221	0.123	0.107
In.	0.27	1.80	0.83	2.01	1.66	2.09	1.56	1.08	0.67	0.25	0.14	0.12

Calendar year 1952: Max 5,060 Min 34 Mean 360 Cfsm 1.11 In. 15.17  
Water year 1952-53: Max 5,060 Min 16 Mean 297 Cfsm 0.920 In. 12.48

Peak discharge (base, 2,500 cfs).--Nov. 21 (1 to 2 p.m.) 6,020 cfs (12.14 ft); Jan. 25 (8 to 10 p.m.) 2,620 cfs (7.50 ft).

\* Discharge measurement made on this day.

## Nottoway River near Stony Creek, Va.

Location.--Lat 36°54'00", long. 77°24'00", on left bank 15 ft downstream from bridge on U. S. Highway 301, 1.8 miles upstream from Island Swamp, 3.3 miles south of town of Stony Creek, Sussex County, and 4.4 miles upstream from Stony Creek.

Drainage area.--586 sq mi.

Records available.--March 1930 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 58 ft (by barometer). Prior to Oct. 11, 1934, chain gage at same site and datum.

Average discharge.--23 years, 551 cfs.

Extremes.--Maximum discharge during year, 6,140 cfs Nov. 23 (gage height, 16.16 ft); minimum, 20 cfs Sept. 5 (gage height, 1.87 ft).

1930-53: Maximum discharge, 25,200 cfs Aug. 17, 1940 (gage height, 23.66 ft), from rating curve extended above 13,000 cfs by logarithmic plotting on basis of records for stations on Appomattox River; minimum, 5 cfs Sept. 2, 5, 1932 (gage height, 0.62 ft).

Remarks.--Records good.

Revisions (water years).--WSP 802: 1935(M). WSP 972: 1931(M), 1932, 1934-35, 1939.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used June 15 to July 6)

Oct. 1 to Nov. 17

Nov. 18 to Sept. 30

2.5	80	1.9	22	3.5	217	10.0	2,190
3.5	243	2.1	33	4.5	456	14.0	4,000
5.0	595	2.5	65	6.0	870	16.0	5,900
7.0	1,170	3.0	129	8.0	1,510		

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	90	119	294	1,650	560	534	547	834	128	184	42	27
2	85	122	290	1,680	521	521	547	900	128	155	37	24
3	89	125	380	1,080	482	628	495	587	134	132	44	28
4	107	142	430	1,050	482	780	469	482	125	120	38	24
5	134	176	380	840	495	1,680	521	392	116	103	71	22
6	110	181	495	628	443	1,820	508	392	108	348	76	31
7	104	159	534	521	641	1,200	600	668	104	294	61	55
8	104	148	430	469	1,650	810	840	930	103	139	56	61
9	128	137	355	628	1,370	710	654	641	107	110	60	50
10	156	136	342	1,310	870	628	521	430	162	99	85	46
11	284	151	*724	1,370	668	560	482	355	406	91	171	37
12	274	231	930	1,170	628	668	456	306	547	80	97	35
13	204	305	752	780	710	1,210	1,780	269	443	70	73	32
14	167	253	534	614	628	1,780	2,970	245	1,050	72	68	32
15	145	239	430	521	1,290	1,480	2,590	223	641	59	59	80
16	134	887	368	482	2,970	1,440	1,340	208	355	61	55	85
17	124	960	342	456	2,360	1,170	1,050	211	258	58	56	58
18	122	469	318	430	*1,240	870	840	211	272	54	42	48
19	116	*306	306	469	840	840	696	288	*306	54	36	41
20	114	682	292	443	710	840	628	1,080	253	49	53	40
21	112	3,340	297	418	752	696	*560	870	206	64	73	34
22	112	4,730	368	482	1,650	600	508	469	176	145	54	28
23	*107	5,900	380	547	2,050	547	469	318	159	99	49	*36
24	107	2,460	330	870	1,340	810	443	256	145	76	46	34
25	114	724	306	3,170	900	1,510	418	219	134	70	36	29
26	116	534	288	3,600	780	1,880	380	196	123	65	33	34
27	118	456	274	2,350	696	1,370	368	175	120	56	*39	42
28	118	405	260	930	614	960	342	152	118	50	30	50
29	122	342	245	840	-	752	318	134	137	*50	29	103
30	124	306	232	752	-	654	330	129	200	46	26	79
31	122	-	405	614	-	587	-	129	-	45	24	-
Total	4,063	25,125	12,311	31,164	28,340	30,535	22,670	12,699	7,262	3,098	1,719	1,325
Mean	131	638	397	1,005	1,012	985	756	410	242	99.9	55.5	44.2
Cfsm	0.224	1.43	0.677	1.72	1.73	1.68	1.29	0.700	0.413	0.170	0.095	0.076
In.	0.26	1.60	0.78	1.98	1.80	1.94	1.44	0.81	0.46	0.20	0.11	0.08

Calendar year 1952: Max 7,180 Min 65 Mean 675 Cfsm 1.15 In. 15.68  
Water year 1952-53: Max 5,900 Min 22 Mean 494 Cfsm 0.843 In. 11.46

Peak discharge (base, 3,500 cfs).--Nov. 23 (1 p.m.) 6,140 cfs (16.16 ft); Jan. 26 (11 a.m.) 3,660 cfs (13.51 ft).

\* Peak discharge measurement on this day.

## Stony Creek near Dinwiddie, Va.

Location--Lat 37°04'00", long. 77°36'10", near center of span on upstream side of bridge on U. S. Highway 1, 1.2 miles southwest of Dinwiddie, Dinwiddie County, 1.7 miles downstream from Chamberlains Bed Creek, and 5.7 miles downstream from confluence of White Oak and Butterwood Creeks.

Drainage area--111 sq mi.

Records available--September 1946 to September 1953. Published as "at Dinwiddie" September 1946 to September 1947 and October 1949 to September 1950.

Gage--Wire-weight gage read once daily. Crest-stage indicator since Nov. 28, 1950. Altitude of gage is 131 ft (by barometer).

Average discharge--7 years, 104 cfs.

Extremes--Maximum discharge during year, 2,190 cfs Jan. 25 (gage height, 10.38 ft, from crest-stage indicator); minimum observed, 0.7 cfs Sept. 5 (gage height, 0.95 ft).  
1946-53: Maximum discharge observed, 2,530 cfs Jan. 29, 1952 (gage height, 10.93 ft); minimum observed, that of Sept. 5, 1953.

Remarks--Records fair.

Rating tables, water year 1952-53.(gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 23 to Dec. 30)

Oct. 1 to Jan. 25

Jan. 26 to Sept. 30

1.3	7.8	4.5	441	0.9	0.4	1.5	15
1.4	12	6.0	645	1.0	1.0	1.9	47
1.7	33	8.0	1,100	1.1	2.5	2.5	151
2.0	65	9.0	1,470	1.2	4.7	3.5	291
3.0	222	10.0	1,950	1.3	7.3	4.5	441

Note.--Same as preceding table above 4.5 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	10	12	37	463	124	108	101	176	21	20	2.2	1.4
2	10	11	37	371	106	108	106	148	23	16	2.0	1.2
3	12	10	55	315	98	124	95	97	24	14	1.8	1.0
4	13	16	55	238	108	242	93	84	21	12	1.9	.8
5	14	19	51	155	98	567	87	66	20	14	3.6	.7
6	14	19	72	123	91	427	87	95	18	26	6.8	3.6
7	13	18	61	*106	368	208	124	275	18	38	6.5	25
8	16	16	51	92	469	161	161	192	16	29	6.3	29
9	20	16	43	115	307	158	108	108	17	20	6.0	17
10	32	16	39	343	176	124	98	88	338	16	6.3	11
11	54	20	139	254	138	116	86	66	59	13	5.7	8.8
12	38	34	*196	270	131	138	160	54	54	11	5.7	7.7
13	31	22	163	188	146	427	667	48	116	11	6.0	11
14	21	17	74	131	161	398	990	43	469	9.2	6.3	46
15	17	38	60	115	455	242	511	40	242	7.7	5.5	32
16	14	214	50	101	818	368	275	42	73	7.3	5.2	22
17	13	139	45	92	427	338	200	42	37	6.8	4.7	14
18	11	69	42	91	*242	*176	168	37	47	6.3	4.3	11
19	11	59	40	88	168	208	146	108	*42	5.7	3.8	8.4
20	9.5	*222	40	86	138	168	131	208	35	5.7	6.3	7.3
21	8.6	970	44	85	242	146	108	124	29	5.2	6.5	6.8
22	9.1	940	51	123	632	116	*101	70	25	4.5	6.5	6.3
23	9.5	427	48	163	483	94	94	54	24	4.7	6.0	5.5
24	*10	270	43	553	259	307	87	42	19	4.3	5.5	*4.7
25	12	98	38	1,500	184	225	79	40	16	4.0	5.0	4.5
26	19	73	38	753	168	307	76	35	15	3.8	3.4	4.3
27	18	48	35	291	146	200	66	*31	15	3.6	2.9	7.3
28	17	40	31	200	124	161	82	27	26	3.4	*2.4	12
29	14	35	29	208	-	131	59	20	23	*2.9	2.4	18
30	13	38	78	161	-	116	57	24	26	2.2	1.9	15
31	13	-	147	131	-	108	-	21	-	2.0	1.8	-
Total	516.7	3,926	1,883	7,925	7,009	6,697	5,185	2,503	1,906	329.3	141.2	345.3
Mean	16.7	131	60.7	256	250	216	173	80.7	63.5	10.6	4.55	11.5
Cfsm	0.150	1.18	0.547	2.31	2.25	1.95	1.56	0.727	0.572	0.095	0.041	0.104
In.	0.17	1.32	0.63	2.66	2.34	2.25	1.74	0.84	0.64	0.11	0.05	0.12

Calendar year 1952: Max 2,190 Min 1.7 Mean 133 Cfsm 1.20 In. 16.37  
Water year 1952-53: Max 1,500 Min 0.7 Mean 105 Cfsm 0.946 In. 12.87

Peak discharge (base, 1,200 cfs).--Nov. 21 (11 p.m.) 1,310 cfs (8.60 ft); Jan. 25 (time unknown) 2,190 cfs (10.38 ft).

\* Discharge measurement made on this day.

## Anderson Branch at Sussex, Va.

Location.--Lat 36°55'10", long. 77°15'45", on right bank 20 ft downstream from bridge on State Highway 40, 1.0 mile east of Sussex, Sussex County, and 1.5 miles upstream from mouth.

Drainage area.--5.4 sq mi, approximately.

Records available.--October 1948 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 96 ft (by barometer).

Average discharge.--5 years, 3.91 cfs.

Extremes.--Maximum discharge during year, 40 cfs Feb. 15, (gage height, 4.45 ft); no flow for many days.

1948-53: Maximum discharge, 126 cfs Sept. 12, 1950 (gage height, 6.12 ft); no flow for prolonged periods.

Remarks.--Records poor.

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

2.6	0	3.3	2.4
2.7	.1	3.5	5.0
2.9	.3	3.8	11
3.0	.5	4.1	22
3.1	1.0	4.4	37
3.2	1.6		

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	0.6	a13	3.4	3.0	4.4	6.3	0			
2		0	1.1	a12	2.8	4.0	4.0	3.7	0			
3		0	2.8	a11	2.5	5.5	3.0	2.0	0			
4		0	2.3	a10	2.9	12	2.8	1.2	0			
5		0	2.3	a8.0	2.8	23	4.1	.8	0			
6		0	3.0	a6.0	2.2	15	3.7	1.6	0			
7		0	2.3	*a4.0	5.7	9.5	5.9	9.9	0			
8		0	1.8	3.3	13	7.2	5.4	6.8	0			
9		0	1.5	5.5	12	5.5	3.8	3.3	0			
10		0	1.6	16	7.8	4.7	3.2	1.5	0			
11		0	*7.8	18	5.7	4.1	2.3	.8	0			
12		0	11	12	5.9	5.9	5.2	.4	0			
13		0	7.6	8.8	7.0	10	24	.3	0			
14		0	4.7	6.4	5.5	9.7	27	.2	0			
15		.1	3.3	4.9	25	10	14	.1	0			
16		.4	2.3	4.2	32	20	13	.1	0			
17		.3	1.9	3.7	*18	*14	12	0	0			
18		.2	1.7	4.2	11	9.5	8.4	0	0			
19		.2	1.4	5.0	7.8	8.4	6.4	.6	0			
20		.3	1.3	4.4	6.4	6.4	5.0	3.6	0			
21		6.1	1.5	3.7	8.8	4.7	*4.0	1.5	0			
22		10	1.5	3.0	11	3.8	3.3	.4	0			
23		5.7	1.3	2.5	8.2	3.6	2.8	.2	0	.3		
24		3.6	1.2	5.0	6.3	5.2	2.2	.1	0			
25		2.4	1.1	12	6.3	11	1.9	0	0			
26		1.9	1.0	8.6	5.9	28	1.5	0	0			
27		1.5	.9	5.4	5.0	16	1.2	0	0			
28		1.2	a.8	4.7	4.0	9.9	1.0	0	0			
29		.9	a.8	5.0	-	7.2	1.8	0	0			
30		.8	a1.5	4.1	-	5.4	1.5	0	0			
31		-	a4.0	3.4	-	4.4	-	0	-			
Total	0	35.6	77.9	217.8	232.9	286.6	177.8	45.4	0.3	0	0	0
Mean	0	1.19	2.51	7.03	8.32	9.25	5.93	1.46	0.01	0	0	0
Cfsm	0	0.220	0.465	1.30	1.54	1.71	1.10	0.270	0.0019	0	0	0
In.	0	0.25	0.54	1.50	1.60	1.97	1.23	0.31	0.002	0	0	0
Calendar year 1952: Max	66			Min	0	Mean	4.61	Cfsm	0.854	In.	11.61	
Water year 1952-53: Max	32			Min	0	Mean	2.94	Cfsm	0.544	In.	7.40	

Peak discharge (base, 50 cfs).--No peak above base.

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for Stony Creek near Dinwiddie and Fontaine Creek near Emporia.

## Nottoway River near Sebrell, Va.

Location.--Lat 36°46'13", long. 77°09'59", on right bank at upstream side of highway bridge 1.0 mile downstream from Three Creek, 2.5 miles southwest of Sebrell, Southampton County, and 5.3 miles upstream from Assamoosick Swamp.

Drainage area.--1,451 sq mi.

Records available.--September 1941 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 5.96 ft above mean sea level. Prior to Aug. 23, 1950, wire-weight gage at same site and datum.

Average discharge.--12 years, 1,230 cfs.

Extremes.--Maximum discharge during year, 5,260 cfs Nov. 26 (gage height, 15.72 ft); minimum, 32 cfs Sept. 4, 5 (gage height, 3.30 ft).

1941-53: Maximum discharge, 25,000 cfs July 22, 1945 (gage height, 24.5 ft); minimum observed, 12 cfs Oct. 23, 1941 (gage height, 3.30 ft).

Flood in August 1940 reached a stage of 29.7 ft, from floodmarks (discharge, 48,000 cfs, from rating curve extended above 25,000 cfs).

Remarks.--Records good.

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

Oct. 1 to May 3				May 4 to Sept. 30			
4.0	105	12.0	2,560	3.3	32	6.0	604
5.0	324	14.0	3,640	3.7	86	8.0	1,190
8.0	1,140	16.0	5,580	4.5	246	10.0	1,890

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	150	840	1,080	2,090	1,840	1,840	870	257	224	80	40
2	114	148	756	1,980	1,560	1,800	1,800	1,400	250	242	72	37
3	117	146	756	2,480	1,560	1,560	1,430	1,730	242	217	70	36
4	110	156	840	2,740	1,500	1,730	1,330	1,560	242	191	64	36
5	110	166	960	2,740	1,500	2,020	1,270	1,190	242	167	67	33
6	146	188	990	2,480	1,500	2,480	1,330	996	224	162	65	38
7	152	233	1,080	2,050	1,200	2,840	1,400	966	209	220	104	38
8	140	219	1,140	1,660	1,400	3,120	1,490	1,220	202	428	107	36
9	146	208	990	1,430	2,120	3,120	1,770	1,560	195	272	97	72
10	166	197	*870	1,560	2,560	2,560	1,730	1,460	191	231	106	92
11	206	193	930	2,090	2,740	2,020	1,490	1,060	217	195	94	92
12	324	202	1,430	2,480	2,440	1,730	1,300	906	500	176	165	83
13	396	254	1,940	2,740	1,980	1,730	1,460	792	764	158	184	68
14	346	396	2,050	2,790	1,870	2,090	2,200	682	682	138	154	58
15	283	360	1,800	2,480	1,870	2,520	2,840	565	1,190	129	133	52
16	233	456	1,430	1,980	2,240	3,020	3,490	488	1,390	127	115	49
17	204	665	1,200	1,630	*2,790	3,230	4,460	440	996	113	96	169
18	182	*1,270	1,050	1,430	3,420	3,420	4,760	416	682	113	92	150
19	166	960	960	1,330	4,360	3,230	3,980	416	476	106	86	111
20	158	728	900	1,300	4,660	2,930	3,020	500	452	100	71	88
21	146	930	840	1,270	3,890	2,560	*2,240	1,190	392	97	58	76
22	*140	2,020	812	1,270	2,930	2,240	1,730	1,390	323	91	80	*65
23	132	2,560	840	1,240	2,740	1,870	1,460	966	290	134	99	57
24	132	3,120	870	1,270	2,930	1,630	1,270	656	*268	171	78	45
25	126	4,160	812	1,490	3,230	1,770	1,110	539	239	133	72	42
26	132	5,160	784	2,160	3,290	2,480	990	452	213	115	*68	48
27	138	4,660	728	2,700	2,840	2,880	900	404	195	106	58	71
28	142	2,930	702	3,290	2,240	3,120	812	356	198	*99	50	68
29	148	1,660	676	4,260	-	3,170	756	334	180	86	54	78
30	148	1,050	624	4,070	-	2,740	702	290	176	82	48	94
31	150	-	676	3,020	-	2,240	-	270	-	85	42	-
Total	5,350	35,745	31,276	66,490	68,650	75,490	56,160	26,064	12,077	4,906	2,729	2,022
Mean	173	1,192	1,009	2,145	2,452	2,435	1,872	841	403	158	86.0	67.4
Cfsm	0.119	0.822	0.695	1.48	1.69	1.66	1.29	0.580	0.278	0.109	0.061	0.046
In.	0.14	0.92	0.80	1.71	1.76	1.94	1.44	0.67	0.31	0.13	0.07	0.05

Calendar year 1952: Max	12,000	Min	102	Mean	1,559	Cfsm	1.07	In.	14.64
Water year 1952-53: Max	5,160	Min	33	Mean	1,060	Cfsm	0.731	In.	9.94

\* Discharge measurement made on this day.

## Blackwater River near Dendron, Va.

Location.--Lat 37°01'30", long. 76°52'30", on left bank 10 ft upstream from Walls Bridge, 1.2 miles downstream from Cypress Swamp, and 3.5 miles southeast of Dendron, Surry County.

Drainage area.--285 sq mi.

Records available.--January 1942 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 30.99 ft above mean sea level (Corps of Engineers benchmark).

Average discharge.--11 years, 282 cfs.

Extremes.--Maximum discharge during year, 1,220 cfs Mar. 18 (gage height, 5.08 ft); no flow for many days during July, August, and September.  
1942-53: Maximum discharge, 4,710 cfs July 21, 1945 (gage height, 8.90 ft); no flow at times.

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

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

(Shifting-control method used Nov. 28 to Dec. 24)

Oct. 1 to Mar. 18

Mar. 19 to Sept. 30

1.0	1.1	2.4	39	4.0	447	0.8	0	1.5	12	2.9	107
1.1	1.8	2.6	53	5.0	1,140	.9	.3	1.9	24	3.3	212
1.3	4.0	2.8	75	6.0	1,960	1.0	1.6	2.1	30	3.7	348
1.6	12	3.0	111			1.1	3.2	2.5	51	4.1	560
2.0	24	3.4	218			1.3	7.3	2.7	71	5.0	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	2.0	2.8	299	192	344	484	429	198	14	170	0	1.2
2	1.8	2.8	261	221	325	442	403	224	14	97	0	.7
3	1.8	2.9	242	292	292	404	352	242	12	73	0	.2
4	1.6	3.9	212	344	271	399	316	227	10	20	0	.1
5	1.4	4.4	195	360	248	428	290	204	8.0	29	0	.1
6	1.2	5.0	189	386	233	506	270	198	6.7	129	0	0
7	1.3	5.8	172	423	227	535	287	224	5.2	179	0	0
8	1.5	8.4	158	423	242	512	287	251	5.0	154	0	0
9	2.9	10	143	*399	251	517	284	264	5.2	114	0	0
10	9.6	12	138	395	264	523	280	254	6.0	53	0	0
11	36	17	*156	399	278	489	276	215	7.3	32	0	0
12	44	22	161	433	292	458	287	170	6.5	22	0	0
13	25	24	183	458	321	468	352	141	6.5	14	1.0	0
14	19	25	255	506	348	474	424	121	7.3	10	20	0
15	17	33	281	558	413	512	500	99	8.0	6.9	30	0
16	16	51	239	564	452	608	638	79	6.5	4.8	38	0
17	15	64	242	552	523	*950	693	58	a8.0	3.8	42	0
18	14	*77	258	541	589	1,180	790	46	a20	2.9	28	0
19	12	99	258	506	558	1,150	910	41	a18	2.2	21	0
20	9.9	107	230	458	589	1,080	745	47	a15	1.9	12	0
21	6.9	256	206	418	666	1,010	626	56	a14	1.3	8.0	0
22	5.4	489	181	369	692	842	518	63	a12	1.0	5.2	0
23	*4.8	845	164	329	652	680	434	50	a15	.8	3.6	*0
24	4.0	875	148	321	601	572	370	40	*a20	.6	2.6	0
25	3.8	652	140	310	558	530	308	38	23	.3	1.8	0
26	3.4	546	130	292	529	590	264	*40	25	.2	1.2	0
27	3.2	523	123	281	541	608	230	36	33	.2	*.6	.3
28	3.0	484	116	271	529	578	201	29	53	*.1	.7	1.8
29	3.0	423	109	268	-	542	176	24	71	.1	2.4	1.3
30	2.9	360	105	288	-	455	165	20	157	0	2.2	1.0
31	2.8	-	143	329	-	429	-	18	-	0	1.8	-
Total	276.2	6,030.0	5,837	11,886	11,828	18,955	12,005	3,715	612.2	1,123.1	222.1	6.7
Mean	8.91	201	188	383	422	611	400	120	20.4	36.2	7.18	0.22
Cfsm	0.031	0.705	0.680	1.34	1.46	2.14	1.40	0.421	0.072	0.127	0.025	0.0008
In.	0.04	0.79	0.76	1.54	1.54	2.47	1.56	0.49	0.08	0.15	0.03	0.001

Calendar year 1952: Max 2,400 Min 0.7 Mean 331 Cfsm 1.16 In. 15.78  
Water year 1952-53: Max 1,180 Min 0 Mean 199 Cfsm 0.698 In. 9.45

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

a No gage-height record; discharge estimated on basis of records for station at Zun1.

## CHOWAN RIVER BASIN

Blackwater River at Zuni, Va.

Location.--Lat 36°52'05", long. 76°50'07", on left bank at downstream side of bridge on U. S. Highway 460 at Zuni, Isle of Wight County, 1.6 miles downstream from Pope Swamp and 4.2 miles upstream from Antioch Swamp.

Drainage area.--448 sq mi.

Records available.--January 1943 to September 1953.

Gage.--Staff gage read once daily. Datum of gage is 8.56 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--10 years, 421 cfs.

Extremes.--Maximum discharge observed during year, 1,260 cfs Mar. 22 (gage height, 8.76 ft); minimum observed, 0.51 cfs Sept. 26 (gage height, 0.86 ft).

1943-53: Maximum discharge, 5,200 cfs July 25, 1945 (gage height, 15.05 ft); no flow Sept. 10-18, 1944.  
Flood in August 1940 reached a stage of 23.2 ft.

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

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

Oct. 1-15		Oct. 16 to Mar. 21		Mar. 22 to Sept. 30	
1.0	1.1	1.0	1.2	5.0	149
1.2	2.4	1.2	3.4	6.0	244
1.4	4.1	1.6	8.5	6.6	380
1.5	5.2	2.0	16	8.0	900
1.9	12	3.0	44	9.0	1,340
2.3	21	4.0	89		
2.7	33				

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	4.1	5.8	585	244	380	740	620	325	24	132	4.4	2.5
2	3.2	5.8	515	325	380	700	585	325	17	107	3.2	2.3
3	3.2	5.8	480	380	410	700	550	325	16	92	2.9	2.5
4	2.4	6.6	445	410	410	700	515	300	14	72	8.6	2.1
5	1.8	6.8	410	445	380	740	480	280	12	54	8.3	2.1
6	1.7	7.1	380	480	350	780	445	260	10	56	7.2	2.1
7	1.6	7.4	324	480	325	780	410	244	8.6	92	5.8	2.1
8	1.6	7.4	300	515	380	780	410	219	7.8	179	5.8	1.8
9	2.6	7.9	280	*550	410	780	410	208	7.2	188	5.1	1.8
10	5.5	9.1	260	585	480	740	380	219	8.6	179	4.4	1.8
11	8.2	10	*280	660	445	740	380	231	8.0	137	3.4	1.8
12	13	14	280	660	445	700	380	231	7.8	102	2.3	1.8
13	16	16	300	660	445	740	380	219	12	67	2.3	1.8
14	24	20	325	660	445	780	550	188	14	40	8.6	1.8
15	32	31	325	660	480	780	620	156	15	29	300	1.2
16	31	44	325	700	620	820	700	127	*15	16	380	1.1
17	24	48	380	700	*780	*820	740	112	14	10	300	.9
18	20	*60	380	740	860	860	820	97	38	8.9	219	.7
19	16	94	380	700	860	860	860	87	32	3.4	127	.6
20	15	163	380	660	820	985	900	87	28	5.3	82	.7
21	14	244	350	660	820	1,080	*900	87	20	32	52	1.2
22	12	350	325	620	860	1,260	860	62	15	67	35	1.0
23	*12	620	325	585	900	1,120	780	58	14	32	29	*.7
24	10	860	280	550	860	1,160	700	58	13	18	24	.7
25	10	1,030	244	515	860	1,160	585	54	16	9.4	17	.6
26	9.7	940	231	480	820	985	480	*48	23	5.8	12	.5
27	9.4	900	208	480	780	900	410	42	38	4.8	*6.6	1.2
28	7.7	820	197	445	740	820	325	38	77	*3.4	5.6	36
29	7.4	740	179	410	-	780	260	35	137	2.5	4.6	46
30	7.1	660	171	380	-	780	251	32	127	3.4	4.1	35
31	6.3	-	179	380	-	700	-	29	-	2.3	3.2	-
Total	332.5	7,733.7	10,024	16,719	16,745	26,270	16,666	4,783	789.0	1,754.2	1,699.5	156.2
Mean	10.7	258	323	539	598	847	556	154	26.3	56.6	54.8	5.21
Cfsm	0.024	0.576	0.721	1.20	1.33	1.89	1.24	0.344	0.059	0.126	0.122	0.012
In.	0.03	0.64	0.83	1.38	1.38	2.18	1.38	0.40	0.07	0.15	0.14	0.01
Calendar year 1952: Max			2,920		Min 0.6	Mean 487		Cfsm	1.09	In.	14.80	
Water year 1952-53: Max			1,260		Min 0.5	Mean 284		Cfsm	0.634	In.	8.59	

\* Discharge measurement made on this day.

## Blackwater River near Franklin, Va.

Location.--Lat 36°45'44", long. 76°53'55", on right bank at mouth of Black Creek, 0.4 mile south of town of Burdette, 3.3 miles downstream from Corrowaugh Swamp, and 6.0 miles north of Franklin, Southampton County.

Drainage area.--613 sq mi.

Records available.--August 1944 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 1.56 ft (revised) above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--9 years, 591 cfs (adjusted for diversion).

Extremes.--Maximum discharge during year, 1,430 cfs Mar. 22 (gage height, 8.44 ft); minimum daily, 2 cfs Sept. 19, 20, 22-26; minimum gage height, 0.63 ft Sept. 18.  
1944-53: Maximum discharge, 5,360 cfs July 25, 1945 (gage height, 13.4 ft, from graph based on gage readings); minimum, 0.4 cfs Sept. 10, 11, 1944 (gage height, 0.36 ft).

Remarks.--Records fair except those for periods of no gage-height record, which are poor. Diversions above station by city of Norfolk for municipal supply some years.

Rating table, water year 1952-53 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used June 26 to July 4, July 30  
to Aug. 17, Sept. 17, 18)

0.7	2	5.0	344
.8	3	6.0	514
.9	5	7.0	800
1.3	24	8.0	1,200
2.0	64	9.0	1,760
3.5	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	9	10	704	363	443	818	835	434	a30	109	12	11
2	9		640	452	425	724	752	525	a27	87	12	7
3	10	8	612	503	425	818	872	503	a25	99	20	a6
4	8	10	572	536	434	870	626	452	26	122	38	a5
5	10	9	536	560	434	940	612	408	28	a130	28	a5
6	9	9	514	572	425	980	584	392	26	a150	23	a5
7	7	9	482	584	416	980	560	363	24	a170	18	a5
8	a6	9	452	*584	514	960	572	332	21	a200	16	a4
9	a5	9	408	584	656	922	560	298	20	a230	24	a4
10	a6	11	*356	612	704	888	548	276	18	a210	28	a4
11	a7	14	363	672	672	835	525	265	18	a170	15	a4
12	a12	16	416	688	626	818	514	260	16	a120	20	a4
13	a17	18	434	688	612	852	584	255	26	a90	49	a4
14	a25	24	425	704	598	905	736	235	40	a50	68	a4
15	a30	31	408	688	640	960	835	202	47	a35	265	a4
16	41	41	392	688	870	1,020	922	166	*36	a20	356	a4
17	38	52	384	688	1,000	*1,080	1,020	140	36	a15	392	4
18	33	*80	392	704	1,040	1,100	1,040	122	53	a11	377	3
19	29	68	392	720	1,040	1,180	1,040	117	61	a8	304	a2
20	24	92	384	736	1,020	1,320	1,020	144	36	a7	180	a2
21	20	260	377	736	980	1,400	1,020	122	28	a15	105	a3
22	*18	536	377	720	980	1,400	1,000	92	26	a70	74	*a2
23	16	720	370	672	1,000	1,350	922	79	26	a35	60	a2
24	15	870	356	626	1,000	1,250	835	74	24	a20	48	a2
25	14	1,040	332	612	1,020	1,120	720	65	22	a15	38	a2
26	13	1,150	304	598	1,000	1,060	626	58	22	a9	*34	a2
27	12	1,150	276	560	940	1,040	536	50	32	a8	30	a5
28	12	1,040	250	536	870	1,040	452	44	78	*a7	24	a15
29	11	888	225	514	-	1,040	384	40	122	a8	20	a50
30	10	784	216	492	-	1,000	338	a37	140	10	16	a30
31	10	-	245	462	-	922	-	a35	-	11	13	-
Total	486	8,947	12,594	18,854	20,784	31,652	21,390	6,585	1,134	2,241	2,707	204
Mean	15.7	298	406	608	742	1,021	713	212	37.8	72.3	87.3	6.80
(t)	0	5.1	24.4	35.7	33.2	11.1	0	0	0	0	0	0

Adjusted for pumpage by city of Norfolk

Mean Cfsm In.	15.7 0.026 0.03	303 0.494 0.55	430 0.701 0.81	644 1.05 1.21	775 1.26 1.31	1,032 1.68 1.94	713 1.16 1.29	212 0.346 0.40	37.8 0.062 0.07	72.3 0.118 0.14	87.3 0.142 0.16	6.80 0.011 0.01
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Observed

Adjusted

Calendar year 1952:	Max	4,190	Min	4	Mean	654	Mean	656	Cfsm	1.07	In.	14.57
Water year 1952-53:	Max	1,400	Min	2	Mean	350	Mean	359	Cfsm	0.586	In.	7.92

\* Discharge measurement made on this day.

† Pumpage, equivalent in cubic feet per second, by city of Norfolk.

a No gage-height record; discharge estimated on basis of records for Blackwater River at Zuni and Nottoway River near Sebrell.

## North Meherrin River near Keysville, Va.

Location.--Lat 37°03', long. 78°25', on right bank at upstream side of highway bridge, 3 miles northeast of Keysville, Charlotte County, and 4 miles upstream from Owl Creek.

Drainage area.--9.2 sq mi, approximately.

Records available.--October 1948 to September 1953.

Gage.--Water-stage recorder. Concrete control since Sept. 4, 1953. Altitude of gage is 475 ft (by barometer).

Average discharge.--5 years, 10.5 cfs.

Extremes.--Maximum discharge during year, 582 cfs Nov. 20 (gage height, 5.74 ft); minimum, 0.6 cfs July 21 to Aug. 1, Aug. 3-7, Aug. 10-16; minimum gage height, 0.10 ft July 17-22, Aug. 31.

1948-53: Maximum discharge, 800 cfs Sept. 1, 1952 (gage height, 6.80 ft), from rating curve extended above 220 cfs; minimum, 0.2 cfs June 29, 1952; minimum gage height, that of July 17-22, Aug. 31, 1953.

Remarks.--Records poor.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Nov. 7, May 1 to July 24, Aug. 18 to Sept. 1)

Oct. 1 to Sept. 3				Sept. 4-30	
0.1	0.6	0.7	5.0	0.5	0.3
.2	.7	.8	9.2	.6	1.5
.3	.9	1.0	22	.7	3.9
.4	1.2	2.0	92	.8	7.6
.5	2.0	3.0	174		
.6	3.2	4.0	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	1.6	2.5	4.6	21	7.6	9.2	15	23	3.7	1.4	0.6	1.1
2	1.7	2.7	5.5	12	6.5	12	15	11	3.4	1.4	.7	1.0
3	2.0	2.8	6.1	15	6.5	14	14	7.6	3.1	1.1	.6	.9
4	1.8	3.4	5.1	9.8	6.5	55	14	6.1	2.8	1.1	.6	*.7
5	1.7	3.0	7.0	7.6	6.1	28	14	6.1	2.8	1.0	.6	3.6
6	1.6	3.1	7.6	6.5	6.5	12	15	5.8	2.7	1.1	.6	3.9
7	1.6	3.1	5.1	*6.1	27	9.8	27	5.8	3.1	1.0	.6	3.4
8	1.7	3.4	4.9	6.1	14	9.2	16	5.3	3.0	1.4	8.0	1.5
9	2.4	3.4	*4.6	29	6.3	7.6	14	5.0	2.8	1.0	.8	1.1
10	2.1	4.1	5.5	37	7.0	5.8	14	5.1	2.7	.9	.6	1.0
11	1.9	4.1	52	16	7.0	6.5	13	4.8	4.0	.8	.6	1.1
12	1.8	3.6	14	11	11	19	29	4.6	2.4	.8	.6	1.1
13	1.6	2.6	9.2	8.3	9.2	34	72	4.5	2.8	.8	.6	4.3
14	1.5	2.6	7.6	7.6	7.0	12	27	4.3	3.0	.8	.6	1.5
15	1.5	16	5.5	6.5	51	25	18	4.3	2.5	.7	.6	1.1
16	1.6	5.0	5.5	6.1	*18	*16	29	4.3	2.2	.7	.6	1.5
17	1.2	3.7	5.8	5.8	12	12	18	4.3	6.5	.7	65	3.2
18	1.0	3.6	5.5	6.1	8.3	19	16	4.8	2.7	.7	7.6	3.4
19	1.1	3.7	5.0	6.1	7.0	16	15	13	2.5	.7	1.6	3.7
20	1.2	256	5.0	5.8	7.6	9.2	10	8.3	2.2	.7	1.4	2.7
21	*1.6	*55	7.6	17	116	9.8	5.8	5.0	2.0	.6	1.2	1.1
22	1.5	21	6.1	10	35	9.2	5.3	4.6	*2.0	.6	1.1	.9
23	1.5	12	5.5	7.0	21	9.2	5.1	4.3	2.0	.8	1.1	1.0
24	1.6	8.3	5.5	191	23	122	5.0	4.1	1.9	.6	1.1	1.0
25	1.8	6.1	5.3	23	18	43	4.8	*3.9	1.8	.6	*1.1	1.1
26	1.7	5.8	5.0	13	13	30	5.5	3.7	1.7	.6	1.1	1.3
27	1.9	5.5	5.0	12	11	23	4.8	3.4	4.8	*.6	1.1	4.6
28	1.9	5.1	5.0	12	9.2	19	4.6	3.2	2.9	.6	1.1	2.5
29	2.1	4.8	5.0	11	-	17	4.5	3.2	1.8	.6	1.1	1.5
30	2.1	4.8	5.1	8.3	-	16	36	3.2	1.7	.6	1.1	1.3
31	2.5	-	59	7.6	-	15	-	3.2	-	.6	1.1	-
Total	52.8	460.8	285.1	541.3	480.3	644.5	486.4	179.8	83.5	25.4	105.1	58.1
Mean	1.70	15.4	9.20	17.5	17.2	20.8	16.2	5.80	2.78	0.82	3.39	1.94
Cfsm	0.185	1.67	1.00	1.90	1.87	2.26	1.76	0.630	0.302	0.089	0.368	0.211
In.	0.21	1.86	1.15	2.19	1.95	2.61	1.96	0.73	0.34	0.10	0.42	0.24
Calendar year 1952: Max	256				Min	0.4	Mean	15.0	Cfsm	1.63	In.	22.22
Water year 1952-53: Max	256				Min	0.6	Mean	9.32	Cfsm	1.01	In.	13.76

Peak discharge (base, 300 cfs).--Nov. 20 (8 a.m.) 582 cfs (5.74 ft); Jan. 24 (8 a.m.) 440 cfs (4.93 ft); Feb. 21 (2:30 p.m.) 474 cfs (5.14 ft); Mar. 24 (5 a.m.) 546 cfs (5.47 ft); Aug. 17 (9 p.m.) 546 cfs (5.50 ft).

\* Discharge measurement made on this day.

## North Meherrin River near Lunenburg, Va.

Location.--Lat 36°59', long. 78°21', on right bank at downstream side of bridge on State Highway 40, half a mile downstream from Tusekiah Creek, 4 miles upstream from Juniper Creek, and 5 miles northwest of Lunenburg, Lunenburg County.

Drainage area.--60 sq mi, approximately.

Records available.--August 1946 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 338 ft (by barometer). Prior to July 5, 1951, wire-weight gage at same site and datum.

Average discharge.--7 years, 50.5 cfs.

Extremes.--Maximum discharge during year, 2,790 cfs Nov. 20 (gage height, 16.15 ft); minimum, 1.3 cfs Aug. 1, Sept. 4, 5; minimum gage height, 0.98 ft Sept. 4, 5.

1946-53: Maximum discharge observed, 3,340 cfs Oct. 31, 1949 (gage height, 18.25 ft), from rating curve extended above 1,600 cfs by logarithmic plotting; minimum discharge, that of Aug. 1, Sept. 4, 5, 1953.

Flood in August 1940 reached a stage of 48 ft, from information by local resident.

Remarks.--Records good.

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

1.0	1.3	3.0	129
1.2	3.8	4.0	271
1.5	12.5	6.0	624
1.8	25	11.0	1,560
2.2	51		

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	5.4	7.8	18	138	35	33	43	108	11	6.7	1.3	2.0
2	5.6	7.8	20	59	31	41	40	46	11	6.1	2.0	1.8
3	9.1	8.0	29	89	30	42	36	36	9.8	5.1	6.1	1.6
4	6.9	11	24	53	30	312	35	31	9.1	4.6	3.2	1.5
5	5.9	9.8	28	38	28	230	34	31	8.6	4.3	3.0	1.8
6	5.6	8.3	42	32	27	86	33	29	8.3	4.6	2.7	15
7	5.4	7.8	26	*30	107	62	77	29	8.8	4.8	2.5	7.8
8	5.4	7.8	22	29	68	53	47	27	9.1	5.4	22	3.5
9	7.2	7.8	*21	188	43	45	38	23	8.6	5.6	38	2.8
10	13	9.4	25	261	36	40	36	24	7.8	4.1	7.5	2.4
11	8.8	15	258	94	33	38	32	21	9.4	3.5	3.4	2.4
12	7.2	17	71	57	40	81	72	19	9.1	3.2	3.0	2.5
13	8.4	10	43	42	40	327	392	18	32	3.1	2.7	23
14	5.9	8.6	33	36	32	88	115	17	19	3.0	2.5	4.1
15	5.6	45	27	33	361	127	66	16	11	2.8	2.4	2.8
16	5.9	27	25	31	*120	*91	95	16	9.4	2.8	2.1	2.4
17	5.9	*15	23	28	67	60	62	16	29	2.7	65	2.2
18	5.9	12	22	30	48	81	50	74	15	2.5	110	2.2
19	5.9	12	20	29	42	80	48	94	11	2.8	8.0	2.2
20	5.6	1,540	20	27	39	53	*40	51	9.1	17	5.1	2.3
21	*5.1	*305	26	71	569	45	35	27	8.3	4.1	4.1	*2.2
22	5.9	110	24	58	178	42	32	20	*7.8	3.1	3.5	2.3
23	6.7	48	21	39	82	40	30	18	7.2	3.8	3.4	2.1
24	6.9	34	20	1,040	62	617	28	16	6.4	3.5	3.2	2.1
25	7.2	28	19	141	58	263	27	*15	5.9	3.0	*3.0	2.1
26	7.2	25	18	71	50	148	30	14	5.4	2.5	2.7	2.4
27	7.2	24	18	54	43	85	26	12	29	*2.2	2.7	9.8
28	7.5	20	17	52	36	66	24	11	26	1.8	2.5	6.9
29	7.8	19	20	48	-	55	22	11	9.1	1.7	2.4	3.5
30	7.5	19	20	39	-	48	128	11	8.3	1.5	2.2	3.1
31	7.5	-	338	36	-	44	-	11	-	1.4	2.1	-
Total	209.1	2,419.1	1,336	2,973	2,435	3,421	1,771	890	359.5	123.3	322.3	122.6
Mean	6.75	80.6	43.1	95.9	87.0	110	59.0	28.7	12.0	3.98	10.4	4.09
Cfsm	0.112	1.34	0.718	1.80	1.45	1.83	0.983	0.478	0.200	0.068	0.173	0.088
In.	0.33	1.50	0.83	1.84	1.51	2.11	1.10	0.55	0.22	0.08	0.20	0.08
Calendar year 1952: Max	1,540			Min	2.8	Mean	59.0	Cfsm	0.983	In.	13.40	
Water year 1952-53: Max	1,540			Min	1.3	Mean	44.9	Cfsm	0.748	In.	10.15	

Peak discharge (base, 950 cfs).--Nov. 20 (12 m.) 2,790 cfs (16.15 ft); Jan. 24 (11 a.m.) 2,710 cfs (15.93 ft); Feb. 15 (11 a.m.) 1,000 cfs (8.08 ft); Feb. 21 (3 p.m.) 1,800 cfs (12.10 ft); Mar. 24 (7 a.m.) 1,750 cfs (11.83 ft); Apr. 13 (11:30 a.m.) 966 cfs (7.86 ft).

\* Discharge measurement made on this day.

Meherrin River near Lawrenceville, Va.

Location.--Lat 36°43'00", long. 77°49'55", on right bank 50 ft upstream from Gholson Bridge, 0.6 mile upstream from Allen Creek, and 3.0 miles southeast of Lawrenceville, Brunswick County.

Drainage area.--553 sq mi.

Records available.--December 1928 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 136.56 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Nov. 17, 1931, chain gage at same site and datum.

Average discharge.--24 years (1929-53), 506 cfs.

Extremes.--Maximum discharge during year, 7,930 cfs Nov. 22 (gage height, 22.7 ft, from floodmark); minimum, 21 cfs Sept. 4, 5 (gage height, 1.33 ft).  
1928-53: Maximum discharge, 88,000 cfs Aug. 17, 1940 (gage height, 42.0 ft, from floodmark), from rating curve extended above 13,000 cfs on basis of velocity-area studies and records for Nottoway River near Stony Creek; minimum, 5 cfs Sept. 23, 24, 1932 (gage height, 0.72 ft); minimum daily, 5 cfs Sept. 24, 1932.

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

Revisions (water years).--WSP 972: 1932(M), 1935.

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

Oct. 1-11

Oct. 12 to Sept. 30

2.0	84	1.3	19	2.5	143	7.0	1,200
3.0	226	1.5	32	3.5	322	11.0	2,560
		1.9	68	5.0	669	20.0	6,000

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	101	95	a280	2,450	466	466	512	1,090	140	135	54	25
2	92	95	a500	1,090	444	478	490	847	162	125	52	24
3	89	97	a370	821	409	536	444	560	168	115	49	25
4	104	121	a420	979	398	694	420	608	153	99	57	22
5	97	132	a400	608	386	2,370	420	409	144	89	64	21
6	86	111	a520	466	364	1,370	444	501	144	90	65	24
7	96	112	a500	409	719	821	548	952	135	103	60	32
8	107	110	a400	375	1,450	669	952	644	133	92	60	41
9	121	104	*a350	501	821	584	644	432	146	98	60	45
10	161	101	292	1,310	584	524	501	364	147	90	280	52
11	214	137	375	1,610	490	490	444	322	159	89	130	44
12	157	182	1,140	847	490	524	536	292	160	83	89	38
13	126	207	572	584	644	1,610	3,130	262	1,170	a80	75	35
14	117	170	420	466	584	1,710	3,280	243	744	a70	72	29
15	107	305	343	409	1,610	979	1,170	234	398	a60	59	28
16	103	1,310	302	386	*4,000	1,220	847	216	223	a80	52	34
17	99	*478	282	364	1,370	899	847	223	204	82	45	31
18	98	272	272	354	847	694	669	211	*354	62	45	34
19	96	a250	252	364	644	719	584	694	282	59	200	34
20	87	a1,000	243	354	572	719	*524	1,250	190	72	129	24
21	*93	a3,000	262	234	669	548	478	669	162	466	84	*25
22	98	a5,000	332	490	3,020	490	444	375	144	a150	66	24
23	99	a6,000	302	536	1,540	466	420	282	150	a110	56	24
24	96	a1,500	272	1,960	795	1,250	398	243	136	a90	48	23
25	86	a700	252	4,350	719	3,280	375	218	120	a80	*43	23
26	90	a500	243	4,000	669	1,960	354	200	103	a70	42	26
27	89	a450	225	899	584	1,170	343	188	115	*a70	34	46
28	108	a400	220	719	512	821	332	170	144	68	32	91
29	99	a350	204	669	-	669	312	160	207	61	31	62
30	97	a300	202	608	-	584	332	162	165	60	28	56
31	97	-	449	501	-	536	-	156	-	55	26	-
Total	3,313	23,589	10,994	30,313	25,580	29,850	21,194	13,177	6,802	3,013	2,187	1,042
Mean	107	786	355	978	914	963	706	425	227	97.2	70.5	34.7
Cfsm	0.193	1.42	0.642	1.77	1.65	1.74	1.28	0.769	0.410	0.176	0.127	0.063
In.	0.22	1.58	0.74	2.04	1.72	2.01	1.43	0.89	0.46	0.20	0.15	0.07

Calendar year 1952: Max 6,080 Min 80 Mean 598 Cfsm 1.08 In. 14.71  
Water year 1952-53: Max 6,000 Min 21 Mean 469 Cfsm 0.848 In. 11.51

Peak discharge (base, 4,500 cfs).--Nov. 22 (time unknown) 7,930 cfs (22.7 ft); Jan. 26 (3 a.m.) 5,520 cfs (18.76 ft).

\* Discharge measurement made on this day.  
a No gage-height record; discharge estimated on basis of records for Meherrin River at Emporia and Nottoway River near Stony Creek.

## Meherrrin River at Emporia, Va.

Location.--Lat 36°41'30", long. 77°32'20", on left bank at downstream side of bridge on U. S. Highway 301, in Emporia, Greenville County.

Drainage area.--749 sq mi.

Records available.--January 1951 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 68 ft (by barometer).

Extremes.--Maximum discharge during year, 11,200 cfs Nov. 23 (gage height, 21.90 ft); minimum, 14 cfs Aug. 8 (gage height, 1.16 ft).  
1951-53: Maximum discharge, that of Nov. 23, 1952; minimum, that of Aug. 8, 1953.

Remarks.--Records good. Low and medium flow regulated by powerplant 0.8 mile above station.

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

1.1	10	6.0	820
1.4	28	12.0	2,180
2.0	66	14.0	3,080
2.4	103	16.0	4,360
3.0	200	21.0	9,970

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	170	41	400	2,000	668	647	710	782	222	222	73	23
2	174	40	390	2,120	584	610	689	1,320	222	226	73	23
3	182	222	462	1,130	580	732	668	894	218	234	108	23
4	30	152	509	1,210	578	864	668	840	222	23	55	23
5	27	136	578	1,010	689	1,750	508	682	223	22	54	18
6	168	246	532	742	558	2,460	568	632	225	164	80	17
7	172	210	605	*589	648	1,240	689	1,250	164	218	15	17
8	81	23	521	496	1,660	930	1,040	1,160	141	137	18	16
9	182	197	442	678	1,460	798	974	782	183	136	21	16
10	295	208	*426	1,280	1,040	710	732	653	237	164	16	16
11	270	172	678	1,920	759	668	576	546	196	31	16	16
12	216	215	1,060	1,390	688	689	647	510	200	30	16	16
13	118	268	1,070	988	866	1,150	2,690	384	558	140	19	16
14	168	272	668	696	808	2,230	4,680	252	1,080	146	214	18
15	169	262	493	578	1,400	1,520	2,630	380	697	104	27	18
16	204	1,240	557	583	*4,980	1,660	1,330	380	442	98	26	98
17	204	1,010	314	473	3,840	1,440	1,150	168	281	132	28	101
18	47	504	407	496	1,460	*1,020	996	273	*390	26	28	17
19	46	*306	380	580	1,040	908	798	503	542	24	27	16
20	188	842	340	476	866	974	*776	1,300	279	111	200	16
21	114	5,770	360	581	802	842	689	1,090	21	281	228	16
22	108	9,410	458	460	2,020	710	626	616	156	330	23	*21
23	166	9,690	494	758	2,750	668	649	514	185	138	27	27
24	*187	2,440	422	992	1,240	886	668	559	186	144	133	24
25	44	908	255	5,230	856	3,570	502	340	184	24	22	18
26	43	613	470	7,290	886	3,190	380	256	317	23	*110	18
27	175	542	275	2,670	820	1,890	542	*268	178	212	23	28
28	155	521	392	1,150	732	1,170	452	292	21	393	136	149
29	101	411	339	1,110	-	864	381	221	176	412	24	150
30	125	390	238	838	-	841	591	182	232	168	23	148
31	216	-	638	668	-	776	-	128	-	57	23	-
Total	4,543	37,261	15,153	41,182	35,306	38,407	28,999	18,137	8,360	4,570	1,881	1,121
Mean	147	1,242	489	1,328	1,261	1,239	967	585	279	147	60.7	37.4
Cfsm	0.196	1.66	0.653	1.77	1.68	1.65	1.29	0.781	0.372	0.196	0.081	0.050
In.	0.23	1.85	0.75	2.04	1.75	1.90	1.44	0.90	0.42	0.23	0.09	0.06

Calendar year 1952: Max 9,690 Min 23 Mean 867 Cfsm 1.16 In. 15.75

Water year 1952-53: Max 9,690 Min 15 Mean 644 Cfsm 0.860 In. 11.66

Peak discharge (base, 6,000 cfs).--Nov. 23 (2 to 3 a.m.) 11,200 cfs (21.90 ft); Jan. 26 (1 to 3 p.m.) 7,640 cfs (19.18 ft).

\* Discharge measurement made on this day.

## Fontaine Creek near Emporia, Va.

Location.--Lat 36°38'10", long. 77°35'10", near center of span on upstream side of highway bridge, 4.4 miles southwest of Emporia, Greensville County, and 7.1 miles upstream from Cattail Creek.

Drainage area.--96 sq mi, approximately.

Records available.--July 1944 to September 1953 (discontinued).

Gage.--Chain gage read twice daily. Crest-stage indicator since May 29, 1951. Altitude of gage is 98 ft (by barometer).

Average discharge.--9 years, 101 cfs.

Extremes.--Maximum discharge observed during year, 1,080 cfs Mar. 26 (gage height, 6.00 ft); minimum daily, 0.1 cfs Sept. 17-26; minimum gage height, 1.25 ft Sept. 25.  
1944-53: Maximum discharge observed, 3,500 cfs July 19, 1945 (gage height, 10.58 ft); minimum daily, that of Sept. 17-26, 1953.

Remarks.--Records poor. Occasional regulation at low flow by mill above station.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-21, Oct. 23 to Nov. 22, Aug. 7, 8, Aug. 11 to Sept. 3, Sept. 6-8)

1.3	0.1	2.6	25
1.4	.2	2.9	57
1.6	.4	3.2	112
1.8	.6	3.6	204
2.0	3.5	4.0	320
2.2	7.4	5.0	670
2.4	13	6.0	1,080

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	4.0	8.7	108	a200	143	143	178	124	13	8.7	0.6	0.4
2	3.0	11	62	a300	178	124	128	114	11	7.9	1.0	.3
3	3.2	13	42	a200	245	128	108	86	11	7.4	1.4	.2
4	3.7	22	39	a170	274	178	92	63	9.7	a10	1.3	a.2
5	3.5	18	47	a150	320	218	88	a60	11	a12	1.4	a.3
6	2.9	14	56	a110	450	384	128	a80	12	9.2	2.4	.3
7	3.2	12	51	a80	556	520	178	a110	12	9.2	2.0	.3
8	4.9	10	44	*65	592	464	204	a150	12	7.9	1.6	.3
9	6.7	11	42	81	520	450	178	a100	12	7.2	a1.8	.3
10	7.7	12	*41	112	450	384	154	a70	24	6.1	a2.2	.2
11	6.3	15	50	154	670	320	128	a60	29	5.0	1.9	.2
12	5.0	19	59	166	352	274	178	a50	24	4.4	.6	.2
13	3.7	25	52	a180	384	245	320	a45	19	5.8	.7	.2
14	2.8	33	51	191	484	251	484	a42	a17	2.9	1.6	.2
15	3.2	43	51	218	750	592	320	a40	a15	2.3	2.2	.2
16	3.0	55	51	245	830	*710	259	a36	a18	2.0	2.9	.2
17	1.7	77	45	274	630	484	191	a34	a19	1.7	2.8	.1
18	1.0	166	43	204	484	204	166	a40	*15	1.4	1.7	.1
19	1.9	*231	40	154	352	154	128	a90	12	1.2	1.7	.1
20	3.0	320	36	73	259	120	a110	a180	10	1.0	1.4	.1
21	4.0	450	a40	65	181	96	92	a140	7.9	a.8	1.3	.1
22	*44.5	484	a50	84	204	88	73	a80	6.7	.6	1.0	*.1
23	5.2	484	a60	104	231	77	67	a60	6.1	.6	1.0	.1
24	5.4	416	a50	112	218	204	62	a50	5.9	.5	.6	.1
25	5.2	320	a45	166	204	556	60	*26	5.2	.5	.6	.1
26	4.9	259	a42	143	178	1,040	60	26	4.4	.5	*.6	.1
27	5.0	204	a40	120	166	830	154	23	4.4	.4	.6	1.0
28	5.6	166	a40	130	154	592	218	19	7.4	.5	.6	1.6
29	6.3	132	a38	128	-	450	191	14	9.5	*.5	.5	1.7
30	7.0	118	a36	120	-	245	154	13	9.2	.5	.5	a1.4
31	7.4	-	a60	120	-	245	-	12	-	.5	.4	-
Total	134.9	4,148.7	1,511	4,619	10,469	10,845	4,851	2,037	372.4	117.2	40.9	10.7
Mean	4.35	138	48.7	149	374	350	162	65.7	12.4	3.78	1.32	0.36
Cfsm	0.045	1.44	0.507	1.55	3.90	3.65	1.69	0.684	0.129	0.039	0.014	0.0037
In.	0.05	1.61	0.58	1.79	4.06	4.21	1.89	0.79	0.14	0.04	0.02	0.004

Calendar year 1952: Max 1,610 Min 1.0 Mean 116 Cfsm 1.21 In. 16.47  
Water year 1952-53: Max 1,040 Min 0.1 Mean 107 Cfsm 1.11 In. 15.18

Peak discharge (base, 800 cfs).--Feb. 16 (about 10 a.m.) 870 cfs (5.46 ft); Mar. 26 (5 p.m.) 1,080 cfs (6.00 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for Meherrin River near Lawrenceville and Nottoway River near Stony Creek.

CHOWAN RIVER BASIN

69

Ahoskie Creek at Ahoskie, N. C.

Location.--Lat 36°17', long. 77°00', on right bank 10 ft downstream from bridge on State Highway 350, half a mile upstream from Atlantic Coast Line Railroad bridge, and three-quarters of a mile southwest of Ahoskie, Hertford County.

Drainage area.--64.3 sq mi.

Records available.--January 1950 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 22 ft (by barometer). Prior to May 24, 1951, staff gage at same site and datum.

Extremes.--Maximum discharge during year, 356 cfs Feb. 17 (gage height, 6.33 ft); no flow for many days.

1950-53: Maximum discharge, 904 cfs Feb. 29, 1952 (gage height, 7.47 ft), from rating curve extended above 800 cfs by logarithmic plotting; no flow at times during each year.

Flood in August 1940 reached a stage of 11.1 ft, from floodmark witnessed by local resident (discharge not determined).

Remarks --Records poor.

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. 31,  
July 6 to Aug. 6, Aug. 14 to Sept. 27)

3.6	0	4.7	17
3.7	.1	5.0	31
3.8	.7	5.3	64
3.9	1.7	5.6	116
4.1	4.2	6.0	236
4.3	7.4	6.4	384
4.5	11		

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	15	54	58	116	25	24	0.6	0	0.5	0.1
2	*0	0	15	64	51	110	24	17	.4	0	.5	*0
3	0	.1	17	78	50	110	21	15	.2	0	.6	0
4	0	.3	15	92	54	121	19	15	.1	0	.6	0
5	0	.4	14	95	55	163	19	17	0	1.3	.7	0
6	0	.5	15	92	*55	204	19	18	0	8.8	7.2	0
7	.1	.5	14	80	60	223	24	27	0	2.8	24	0
8	.1	.6	14	72	106	204	27	35	.1	4.5	5.6	0
9	.3	.6	13	64	116	163	25	32	.2	22	23	0
10	.5	.8	13	63	166	*126	25	27	0	7.2	24	0
11	.4	1.7	21	60	220	101	26	22	0	5.6	*20	0
12	.3	3.4	20	56	263	92	30	18	.2	22	17	0
13	.2	*2.1	19	51	260	90	64	15	11	31	23	0
14	.2	1.3	19	48	250	95	*101	12	2.9	23	*119	0
15	.6	1.6	19	44	299	81	160	9.4	1.1	14	121	0
16	.6	2.5	20	42	340	81	191	7.6	.5	8.1	119	0
17	.2	2.3	19	38	356	88	194	6.4	.3	*4.7	112	0
18	0	1.7	19	36	336	106	157	6.0	.3	2.8	124	0
19	0	2.3	19	35	281	134	116	24	.1	1.3	95	0
20	0	7.9	18	31	220	129	90	42	0	.7	77	0
21	0	4.6	18	29	178	110	72	24	0	.3	52	0
22	0	28	18	26	172	88	58	17	0	.1	36	0
23	0	19	17	24	166	77	46	14	0	.1	27	0
24	0	19	*15	36	185	70	36	15	0	.3	22	0
25	0	22	14	46	204	55	28	*13	0	.1	16	0
26	0	24	13	44	201	54	22	11	0	0	11	0
27	0	23	12	48	172	47	18	7.2	0	0	7.6	17
28	0	22	11	52	142	40	14	4.4	0	0	4.5	15
29	0	19	10	60	-	36	11	2.7	0	0	2.5	5.2
30	0	18	9.6	60	-	32	13	1.3	*0	0	1.0	3.2
31	0	-	34	59	-	29	-	.8	-	.3	.4	-
Total	3.5	270.6	509.6	1,679	5,016	3,165	1,675	499.8	18.0	161.0	1,093.7	40.5
Mean	0.11	9.02	16.4	54.2	179	102	55.8	16.1	0.60	5.19	35.3	1.35
Cfsm	0.0017	0.140	0.255	0.843	2.78	1.59	0.868	0.250	0.0093	0.081	0.549	0.021
In.	0.002	0.16	0.29	0.97	2.90	1.83	0.97	0.29	0.01	0.09	0.63	0.02
Calendar year 1952: Max	875			Min 0			Mean 71.4	Cfsm 1.11	In. 15.11			
Water year 1952-53: Max	356			Min 0			Mean 38.7	Cfsm 0.602	In. 8.16			

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

## ROANOKE RIVER BASIN

## Big Springs at Elliston, Va.

Location.--Lat 37°13', long. 80°14', a quarter of a mile upstream from South Fork Roanoke River and 0.3 mile south of Elliston, Montgomery County.

Records available.--June 1928, August 1947, December 1949 to September 1953 (discharge measurements only).

Extremes.--Maximum discharge measured during year, 4.32 cfs Apr. 1; minimum measured, 3.08 cfs Oct. 22.

1928, 1947, 1949-53: Maximum discharge measured, 6.51 cfs May 3, 1950; minimum measured, that on Oct. 22, 1952.

Remarks.--Discharge measurements made at bridge where spring crosses U. S. Highway 11.

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

Oct. 22....	3.08	Feb. 3....	3.92	June 2....	3.78
Nov. 18....	3.55	Mar. 3....	4.19	July 17....	3.61
Dec. 9....	3.74	Apr. 1....	4.32	Aug. 27....	3.22
29....	4.02	50....	4.00		

## Roanoke River at Lafayette, Va.

Location.--Lat 37°14', long. 80°13', on right bank at Lafayette, Montgomery County, a third of a mile downstream from confluence of North and South Forks and 1½ miles upstream from Mill Branch.

Drainage area.--257 sq mi.

Records available.--September 1943 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 1,174.47 ft above mean sea level, datum of 1929, supplementary adjustment of 1938. Prior to July 30, 1949, staff gage at same site and datum.

Average discharge.--10 years, 276 cfs.

Extremes.--Maximum discharge during year, 6,260 cfs Mar. 24 (gage height, 8.00 ft); minimum, 28 cfs Aug. 25 (gage height, 0.90 ft).

1943-53: Maximum discharge observed, 11,600 cfs Aug. 4, 1948 (gage height, 10.88 ft); minimum observed, 26 cfs for many days in August and on Sept. 1, 1944 (gage height, 0.85 ft).

Remarks.--Records good except those for period of doubtful gage-height record, which are fair.

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

0.9	28	3.0	980
1.0	45	4.0	1,620
1.2	94	5.0	2,340
1.5	212	6.0	3,250
2.0	460	7.0	4,650

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	58	89	385	4200	260	360	246	107	67	47	38
2	60	56	94	320	4190	226	325	222	114	65	47	38
3	60	56	94	355	4180	*180	330	217	110	101	52	36
4	60	56	94	325	4170	713	290	203	104	80	63	56
5	60	56	176	270	4170	1,250	265	194	97	75	65	45
6	60	54	203	226	4160	735	280	385	107	72	58	56
7	65	52	163	246	261	575	590	835	159	91	56	60
8	67	49	143	290	345	485	435	545	124	76	57	54
9	76	49	*127	315	290	420	370	410	124	76	94	47
10	107	56	217	950	250	365	335	335	107	67	75	45
11	83	67	890	710	231	330	305	280	107	60	60	42
12	72	70	465	480	250	325	285	246	97	56	56	42
13	67	56	340	370	246	325	320	212	129	52	54	42
14	65	56	255	310	180	295	285	198	147	56	52	43
15	63	67	180	265	505	350	260	180	104	56	49	42
16	60	75	151	231	580	425	275	163	97	58	47	40
17	60	60	139	172	500	385	255	159	236	*60	45	40
18	60	*58	127	212	425	445	246	151	131	63	45	40
19	58	63	117	180	375	545	255	555	107	63	45	40
20	58	360	110	155	355	460	231	1,270	91	60	43	40
21	58	325	260	425	1,470	395	217	580	117	60	45	42
22	60	465	226	545	1,100	350	208	430	135	60	45	42
23	60	285	203	425	710	442	198	350	94	67	43	38
24	60	190	185	460	600	3,860	190	285	86	63	42	38
25	60	155	172	490	530	1,340	190	241	80	58	40	38
26	60	131	155	370	465	835	194	159	80	56	40	36
27	60	120	143	330	400	660	198	131	83	54	*38	40
28	58	107	131	310	355	560	180	124	101	54	40	40
29	58	97	*110	275	-	495	172	139	86	52	40	38
30	58	97	127	241	-	430	*185	127	72	49	38	36
31	58	-	305	4220	-	385	-	117	-	49	38	-
Total	1,972	3,448	6,191	10,818	11,473	18,836	8,229	9,689	3,353	1,976	1,599	1,254
Mean	63.6	115	200	349	410	605	274	313	111	63.7	51.6	41.8
Cfs/m	0.247	0.447	0.778	1.36	1.60	2.37	1.07	1.22	0.432	0.249	0.201	0.163
In.	0.26	0.50	0.90	1.57	1.67	2.73	1.19	1.41	0.48	0.29	0.23	0.19

Calendar year 1952: Max 3,500 Min 40 Mean 230 Cfs/m 0.895 In. 12.18  
Water year 1952-53: Max 3,860 Min 36 Mean 216 Cfs/m 0.840 In. 11.43

Peak discharge (base, 4,500 cfs).--Mar. 24 (4 a.m.) 6,260 cfs (8.00 ft).

\* Discharge measurement made on this day.

d Doubtful gage-height record; discharge estimated on basis of records for stations at Roanoke and at Niagara.

## Roanoke River at Roanoke, Va.

Location.--Lat 37°15'30", long. 79°56'20", on left bank 50 ft downstream from Walnut Street Bridge in Roanoke, Roanoke County, 3.2 miles upstream from Tinker Creek, and at mile 360.6.

Drainage area.--388 sq mi.

Records available.--July 1896 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 906.84 ft above mean sea level (levels by Corps of Engineers). Prior to June 7, 1937, wire-weight or chain gage on downstream side of highway bridge 50 ft upstream at same datum.

Average discharge.--55 years (1896-1905, 1907-53), 396 cfs.

Extremes.--Maximum discharge during year, 7,220 cfs Mar. 24 (gage height, 8.79 ft); minimum, 50 cfs Aug. 28; minimum gage height, 0.65 ft Sept. 5, 25; minimum daily discharge, 51 cfs Aug. 27.

1896-1953: Maximum discharge, 28,000 cfs Aug. 14, 1940 (gage height, 18.25 ft), from rating curve extended above 15,000 cfs by logarithmic plotting on basis of slope-area determination by Geological Survey, unit hydrograph and flood-routing studies by Corps of Engineers, and records for other stations in Roanoke River basin; practically no flow Dec. 23, 1909, when flow was retarded by freezing (gage height, 0.0 ft); minimum daily, 27 cfs Feb. 20, 1934.

Remarks.--Records good except those for periods of doubtful gage-height record, which are fair. Diurnal fluctuation at low flow caused by powerplant above station.

Revisions (water years).--WSP 972: 1928, 1930, 1933, 1935, 1936-39(M).

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 13-25, Mar. 25, Apr. 1-6)

0.6	48	3.0	1,300
.7	64	4.0	2,150
1.0	138	6.0	4,070
1.5	323	8.0	6,200
2.0	585		

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	100	83	124	555	341	444	*549	319	207	121	62	56
2	98	83	116	454	314	428	503	297	*189	116	70	54
3	95	85	121	465	297	*420	465	295	176	121	66	54
4	92	83	113	470	289	d630	439	276	169	154	77	56
5	90	83	132	394	272	2,100	403	268	163	121	90	68
6	95	81	196	346	256	1,220	398	553	163	116	81	92
7	102	77	207	323	382	888	761	1,190	214	121	77	85
8	105	72	189	351	531	d690	697	843	200	132	125	83
9	130	74	*169	403	454	d570	549	639	176	116	144	77
10	154	81	176	1,230	369	d480	486	514	163	108	110	68
11	150	88	1,330	1,040	364	d440	439	423	154	100	90	64
12	127	100	768	633	369	d470	403	355	147	95	79	86
13	113	88	575	492	384	d580	434	310	172	95	74	74
14	105	81	444	408	337	d510	408	289	207	88	72	68
15	100	95	360	341	627	d520	364	264	176	85	70	64
16	92	110	306	293	1,000	d580	369	272	150	*83	62	61
17	90	98	280	260	731	d560	360	264	264	83	61	59
18	90	*79	256	260	633	d670	337	256	308	83	61	59
19	92	88	222	268	579	d840	346	470	193	83	61	62
20	92	344	207	244	531	d610	332	1,700	163	83	61	66
21	90	346	272	468	1,880	d520	323	858	157	83	61	68
22	*90	587	351	724	1,840	d470	306	645	260	95	61	66
23	92	394	310	543	1,080	1,090	297	537	176	100	59	62
24	95	276	297	573	766	5,290	280	434	147	90	58	61
25	95	214	289	579	633	2,420	272	364	132	81	56	59
26	95	183	272	525	585	d1,540	280	332	124	74	54	58
27	98	163	256	525	549	d1,150	293	306	132	72	51	62
28	95	147	244	508	492	d910	268	276	176	70	*53	64
29	92	127	203	465	-	d760	248	245	154	66	58	62
30	88	124	176	403	-	d670	264	233	132	66	56	61
31	90	-	304	364	-	d600	-	218	-	64	56	-
Total	3,132	4,544	9,261	14,907	16,885	29,070	11,873	14,266	5,344	2,965	2,216	1,977
Mean	101	151	299	481	603	938	396	460	178	95.6	71.5	65.9
Cfsm	0.280	0.389	0.771	1.24	1.55	2.42	1.02	1.19	0.459	0.246	0.184	0.170
In.	0.30	0.43	0.89	1.43	1.61	2.79	1.14	1.37	0.51	0.28	0.21	0.19

Calendar year 1952: Max 3,960 Min 64 Mean 361 Cfsm 0.930 In. 12.68

Water year 1952-53: Max 5,290 Min 51 Mean 319 Cfsm 0.822 In. 11.15

Peak discharge (base, 4,000 cfs).--Mar. 24 (7 a.m.) 7,220 cfs (8.79 ft).

\* Discharge measurement made on this day.

d Doubtful gage-height record; discharge estimated on basis of records for stations at Lafayette and at Niagara.

## ROANOKE RIVER BASIN

Roanoke River at Niagara, Va.

Location.--Lat 37°15'18", long. 79°52'18", on right bank 200 ft downstream from powerplant of Appalachian Electric Power Co. at Niagara, Roanoke County, 2.0 miles downstream from Tinker Creek, 2.1 miles southeast of Vinton, and at mile 355.3.

Drainage area.--511 sq mi.

Records available.--July 1926 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 820.15 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--27 years, 536 cfs.

Extremes.--Maximum discharge during year, 11,100 cfs Mar. 24 (gage height, 12.42 ft); minimum, 29 cfs Oct. 25, 26 (gage height, 0.71 ft); minimum daily, 92 cfs July 11. 1926-53: Maximum discharge, 35,000 cfs Aug. 14, 1940 (gage height, 17.5 ft, from floodmark), from rating curve extended above 12,000 cfs by logarithmic plotting on basis of velocity-area study by Geological Survey, unit hydrograph and flood-routing studies by Corps of Engineers, and records for other stations in Roanoke River basin; minimum, 13 cfs June 4, 1937 (gage height, 0.42 ft); minimum daily, 22 cfs Oct. 18, 1941.

Remarks.--Records good. Flow regulated at dam and powerplant 200 ft above station.

Revisions (water years).--WSP 892: 1928(M), 1930(M), 1933(M), 1935-36(M), 1938(M). WSP 972: 1927-28, 1929(M), 1930, 1933-38, 1940.

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

1.3	91	4.0	920
1.6	139	5.0	1,470
2.0	221	7.0	3,120
2.5	360	11.0	7,800
3.0	530		

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	184	144	222	706	476	544	*674	428	362	210	128	238
2	176	136	209	626	462	634	642	365	307	190	137	240
3	173	132	210	591	405	564	618	373	266	210	145	245
4	182	139	222	612	406	547	430	256	223	179	243	
5	185	138	252	584	380	2,760	524	373	260	152	182	266
6	176	151	276	472	335	1,540	595	662	230	554	182	344
7	180	134	339	439	484	1,120	980	1,350	320	223	189	293
8	183	134	*318	449	690	939	946	1,030	372	221	302	293
9	264	136	286	532	615	810	753	779	250	203	378	285
10	258	144	326	1,400	524	714	678	636	294	144	277	279
11	207	160	1,640	1,470	480	674	574	570	257	92	258	274
12	199	164	932	952	492	716	458	502	256	160	253	341
13	198	150	634	773	506	970	648	432	252	330	253	299
14	196	148	504	612	404	888	580	414	282	162	253	285
15	182	208	462	562	932	938	500	392	334	154	248	282
16	167	170	387	474	1,290	968	517	391	244	*147	233	277
17	176	176	342	370	988	896	508	344	468	147	245	266
18	154	146	304	474	854	918	428	423	820	143	240	266
19	177	170	302	522	728	1,120	506	675	340	139	238	271
20	170	624	210	416	681	962	492	2,070	214	145	238	271
21	*171	559	378	750	2,610	834	426	1,030	250	137	240	277
22	162	792	476	1,200	2,580	750	416	754	410	139	240	263
23	162	520	387	918	1,610	1,020	389	577	248	176	235	255
24	150	445	366	1,010	1,070	7,780	390	490	212	147	240	250
25	150	332	290	968	916	3,380	343	489	226	135	240	248
26	152	302	372	796	796	1,990	387	408	200	128	235	243
27	154	208	238	735	692	1,340	457	370	206	130	235	250
28	153	389	270	656	564	1,060	360	328	256	126	233	253
29	145	216	340	616	-	938	358	311	258	126	233	245
30	140	233	246	504	-	815	383	233	208	121	231	240
31	128	-	422	454	-	720	-	274	-	125	238	-
Total	5,414	7,520	12,162	21,664	22,950	40,177	16,077	17,903	8,658	5,439	7,158	8,082
Mean	175	251	392	699	820	1,296	536	578	289	175	231	269
Cfsm	0.342	0.491	0.767	1.37	1.60	2.54	1.05	1.13	0.566	0.342	0.452	0.526
In.	0.39	0.55	0.88	1.58	1.67	2.93	1.17	1.30	0.63	0.39	0.52	0.59

Calendar year 1952: Max 6,600 Min 124 Mean 506 Cfsm 0.990 In. 13.44  
 Water year 1952-53: Max 7,780 Min 92 Mean 475 Cfsm 0.930 In. 12.60

Peak discharge (base, 7,000 cfs).--Mar. 24 (4:30 a.m.) 11,100 cfs (12.42 ft).

\* Discharge measurement made on this day.

## Blackwater River near Union Hall, Va.

Location.--Lat 37°02'35", long. 79°41'07", on left bank 100 ft upstream from highway bridge at Kemps Ford, 3 miles upstream from Gillis Creek, and 3 miles north of Union Hall, Franklin County.

Drainage area.--208 sq mi.

Records available.--March 1925 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 693.13 ft above mean sea level. Prior to Nov. 22, 1929, chain gage at same site and datum.

Average discharge.--28 years, 235 cfs.

Extremes.--Maximum discharge during year, 4,730 cfs Mar. 24 (gage height, 8.88 ft); minimum, 34 cfs Sept. 3, 5 (gage height, 1.56 ft).  
1925-53: Maximum discharge, 19,700 cfs Aug. 14, 1940 (gage height, 19.52 ft), from rating curve extended above 6,500 cfs by logarithmic plotting on basis of unit hydrograph and flood-routing studies by Corps of Engineers, and records for other stations in Roanoke River basin; minimum, 13 cfs Sept. 20, 1932 (gage height, 1.42 ft).

Remarks.--Records good.

Revisions (water years).--WSP 892: 1930(M), 1933(M), 1938-39(M).

Rating table, water year 1952-53 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 25 to Apr. 15)

1.5	35	3.0	560
1.7	60	4.0	1,090
2.0	128	6.0	2,390
2.5	317	7.0	3,130

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	123	106	*152	383	226	264	364	*251	*128	109	56	38
2	*123	109	146	255	211	294	345	203	123	104	59	37
3	123	109	149	247	*203	*308	326	189	120	104	90	36
4	120	109	149	226	200	615	308	178	120	104	67	37
5	120	106	155	207	189	925	299	178	117	101	73	36
6	120	106	175	200	185	530	294	211	114	120	71	42
7	120	104	168	192	272	427	359	222	143	112	65	52
8	137	104	158	192	286	374	308	211	152	125	69	*53
9	140	104	152	215	226	340	272	192	152	192	85	45
10	182	109	161	446	211	308	268	182	149	120	85	43
11	175	117	505	388	203	304	255	175	196	101	71	43
12	143	117	336	294	215	359	247	172	143	96	62	43
13	134	114	251	251	207	510	290	165	137	*94	57	43
14	125	106	215	234	196	436	268	161	131	92	54	43
15	125	134	196	219	427	585	238	161	134	90	52	43
16	120	158	185	207	535	870	238	172	128	87	49	43
17	120	125	178	200	336	505	222	165	146	90	47	42
18	120	*114	172	203	276	461	222	172	238	87	49	40
19	117	112	168	219	255	466	222	417	189	83	47	40
20	117	207	165	200	251	393	215	359	146	80	47	45
21	112	290	192	411	1,890	359	207	230	143	76	46	50
22	112	388	196	490	850	340	200	189	155	78	47	50
23	114	243	178	317	550	388	196	172	125	85	46	49
24	114	185	172	1,270	441	3,050	196	161	120	83	44	46
25	114	168	168	600	393	1,090	189	168	112	71	*44	46
26	114	161	165	398	345	710	207	155	112	67	43	47
27	114	161	161	336	312	570	186	143	128	65	42	55
28	114	155	155	299	281	495	185	134	128	64	40	54
29	114	152	*152	276	-	436	178	134	120	60	39	53
30	109	152	168	243	-	407	192	134	112	57	38	50
31	106	-	317	234	-	*378	-	134	-	56	38	-
Total	3,841	4,425	5,960	9,852	10,182	17,497	7,506	5,890	4,153	2,853	1,722	1,342
Mean	124	148	192	318	364	564	250	190	138	92.0	55.5	44.7
Cfsm	0.596	0.732	0.925	1.53	1.75	2.71	1.20	0.913	0.663	0.442	0.287	0.215
In.	0.69	0.79	1.06	1.76	1.82	3.12	1.34	1.05	0.74	0.51	0.31	0.24
Calendar year 1952: Max	3,610						Mean 253		Cfsm 1.22	In. 16.57		
Water year 1952-53: Max	3,050				Min 36		Mean 206		Cfsm 0.990	In. 13.43		

Peak discharge (base, 2,000 cfs).--Feb. 21 (1 p.m.) 3,450 cfs (7.32 ft); Mar. 24 (9 a.m.) 4,730 cfs (8.88 ft).

\* Discharge measurement made on this day.

## ROANOKE RIVER BASIN

Roanoke River near Toshes, Va.

Location.--Lat 37°02'03", long. 79°31'16", on right bank 1 $\frac{1}{2}$  miles downstream from Withers Creek, 3 miles upstream from Pigg River, 5 miles northwest of Toshes, Pittsylvania County, and at mile 313.1.

Drainage area.--1,020 sq mi.

Records available.--September 1925 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 588.99 ft above mean sea level (levels by Corps of Engineers). Prior to Oct. 14, 1929, staff gage at same site and datum.

Average discharge.--28 years, 1,032 cfs.

Extremes.--Maximum discharge during year, 16,400 cfs Mar. 24 (gage height, 13.97 ft); minimum, 150 cfs Sept. 3 (gage height, 1.09 ft).

1925-53: Maximum discharge, 70,000 cfs Aug. 15, 1940 (gage height, 27.36 ft, from floodmark), from rating curve extended above 31,000 cfs by logarithmic plotting on basis of unit hydrograph and flood-routing studies by Corps of Engineers, and records for other stations in Roanoke River basin; minimum, 93 cfs Sept. 19, 20, 1932 (gage height, 0.96 ft).

Remarks.--Records good. Diurnal fluctuation at low flow caused by powerplant at Niagara.

Revisions (water years).--WSP 1032: 1933(M), 1938-39(M), 1940, 1944(M).

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

1.1	153	4.0	2,330
1.3	236	6.0	4,380
1.6	399	9.0	8,400
2.0	685	12.0	13,000

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	a420	352	491	1,520	921	1,130	1,400	944	522	398	227	165
2	*a400	364	492	1,210	877	1,170	1,290	899	609	382	250	165
3	370	351	493	1,120	870	1,190	1,200	802	502	370	255	157
4	367	358	470	1,130	921	1,980	1,150	766	482	376	241	177
5	350	350	501	1,010	791	4,020	1,190	766	458	367	260	169
6	378	344	602	926	752	3,000	1,060	810	458	*508	279	193
7	376	357	626	853	956	2,220	1,360	1,500	590	660	260	265
8	410	336	634	828	1,290	1,840	1,720	1,800	615	412	260	*223
9	428	343	596	1,000	1,120	1,630	1,380	1,360	608	493	436	210
10	639	363	568	2,300	1,000	1,390	1,250	1,110	522	399	425	197
11	611	392	2,060	2,720	938	1,280	1,150	971	652	322	312	185
12	496	409	2,010	1,920	950	1,420	1,070	858	520	219	*265	177
13	454	412	1,290	*1,400	934	2,230	1,160	810	492	274	250	322
14	413	368	1,020	1,190	902	2,050	1,170	756	560	468	236	219
15	395	491	858	1,080	1,750	2,280	1,010	708	558	300	227	189
16	398	599	765	940	2,510	3,000	1,010	710	559	284	219	185
17	370	461	734	878	1,930	2,050	1,000	732	588	279	208	181
18	384	414	670	840	1,600	1,820	930	705	1,260	274	208	189
19	364	384	625	928	1,360	2,120	958	1,420	810	270	210	189
20	374	*780	606	877	1,260	1,910	940	2,550	650	260	210	177
21	374	1,310	618	1,400	5,400	1,670	*902	2,030	465	260	210	197
22	372	1,470	805	2,490	4,920	1,490	867	1,340	545	255	202	197
23	386	1,220	762	1,800	2,900	1,470	840	1,050	639	308	202	193
24	384	888	710	3,910	2,130	11,900	826	868	474	295	193	185
25	380	752	672	2,600	1,820	6,840	790	822	417	260	189	181
26	372	666	612	1,840	1,580	3,700	836	792	404	241	185	177
27	376	625	657	1,470	1,390	2,700	864	700	464	232	181	193
28	380	518	540	1,300	1,210	2,170	841	620	590	227	177	197
29	370	571	522	1,220	-	1,890	781	590	472	227	173	193
30	350	500	620	1,090	-	1,670	798	578	440	214	173	189
31	346	-	981	985	-	1,510	-	481	-	223	165	-
Total	12,487	16,746	23,610	44,753	44,882	76,740	31,741	30,870	18,905	10,055	7,284	5,796
Mean	403	558	762	1,444	1,603	2,475	1,058	996	564	324	235	193
Cfam	0.395	0.547	0.747	1.42	1.57	2.45	1.04	0.976	0.553	0.318	0.230	0.189
In.	0.46	0.61	0.86	1.64	1.64	2.80	1.16	1.13	0.62	0.37	0.27	0.21
Calendar year 1952: Max		15,000		Min	264		Mean	1,060	Cfam	1.04	In.	14.16
Water year 1952-53: Max		11,900		Min	157		Mean	882	Cfam	0.865	In.	11.77

Peak discharge (base, 7,500 cfs).--Feb. 21 (4 p.m.) 8,850 cfs (9.30 ft); Mar. 24 (2 p.m.) 16,400 cfs (13.97 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for stations at Niagara and Altavista.

# ROANOKE RIVER BASIN

75

Pigg River near Toshes, Va.

Location.--Lat 36°59'01", long. 79°30'52", on right bank 0.5 mile downstream from Fryingpan Creek and 1.7 miles northwest of Toshes, Pittsylvania County.

Drainage area.--394 sq mi.

Records available.--August 1930 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 602.55 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--23 years, 407 cfs.

Extremes.--Maximum discharge during year, 5,360 cfs Feb. 21 (gage height, 13.23 ft); minimum, 66 cfs Sept. 17 (gage height, 2.87 ft).

1930-53: Maximum discharge, 34,300 cfs Aug. 15, 1940 (gage height, 32.5 ft, from floodmark), from rating curve extended above 11,000 cfs by logarithmic plotting on basis of slope-area determination at gage height 25.8 ft, and records for other stations in Roanoke River basin; minimum, 22 cfs Aug. 31, 1932 (gage height, 2.32 ft).

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

Revisions (water years).--WSP 972: 1931-32(M), 1933, 1934-35(M), 1936, 1937(M), 1938-40.

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

2.9	69	5.0	582
3.2	112	8.0	1,960
3.6	192	11.0	3,760
4.0	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	185	197	234	651	306	344	399	413	183	168	135	75
2	217	188	252	413	293	385	385	358	179	162	291	74
3	256	201	242	385	282	413	371	304	177	158	220	73
4	197	215	220	358	280	828	358	285	*170	177	146	74
5	185	199	262	304	272	1,750	344	287	162	168	142	74
6	183	199	249	304	272	759	358	317	160	*220	137	116
7	185	197	246	285	371	549	427	442	239	185	127	118
8	185	192	239	282	471	471	399	399	254	170	127	*109
9	204	190	246	599	371	413	358	330	197	304	156	99
10	274	197	*244	1,250	314	385	344	293	217	201	148	90
11	274	246	599	686	309	371	344	280	227	157	137	87
12	227	254	486	456	317	517	344	264	220	150	*118	86
13	208	225	358	*371	312	1,100	471	254	192	146	112	82
14	208	208	304	344	293	668	427	249	188	142	109	79
15	201	317	277	314	905	786	371	246	192	137	112	77
16	201	312	267	298	880	*902	371	249	188	131	96	75
17	199	246	256	282	502	582	344	256	256	127	86	71
18	199	225	246	282	413	517	330	249	371	125	190	71
19	179	220	239	282	358	517	330	344	309	123	109	73
20	192	*471	242	269	344	456	330	371	215	118	99	75
21	206	651	277	427	2,990	413	*330	295	192	116	102	81
22	190	686	287	634	2,100	399	317	254	633	110	102	88
23	*192	399	369	413	722	399	312	239	677	210	99	86
24	201	330	249	1,600	533	3,760	309	220	267	166	99	79
25	197	290	244	1,000	471	1,250	301	239	208	131	93	79
26	183	269	234	502	427	722	344	217	190	118	92	80
27	208	284	232	413	599	556	330	204	295	114	86	93
28	201	239	229	385	358	502	301	197	256	110	82	112
29	199	254	201	358	-	456	298	192	192	108	79	106
30	194	229	239	330	-	427	317	194	179	101	79	94
31	194	-	534	317	-	413	-	188	-	101	76	-
Total	6,322	8,308	8,693	14,794	15,865	22,020	10,564	8,629	7,385	4,671	3,786	2,576
Mean	204	277	280	477	567	710	352	278	246	151	122	85.9
Cfsm	0.518	0.703	0.711	1.21	1.44	1.80	0.893	0.706	0.624	0.383	0.310	0.218
In.	0.60	0.78	0.82	1.40	1.50	2.08	1.00	0.81	0.70	0.44	0.36	0.24
Calendar year 1952: Max	5,660			Min	112	Mean	399	Cfsm	1.01	In.	13.80	
Water year 1952-53: Max	3,760			Min	71	Mean	311	Cfsm	0.789	In.	10.73	

Peak discharge (base, 4,000 cfs).--Feb. 21 (8 p.m.) 5,360 cfs (13.23 ft); Mar. 24 (3 p.m.) 4,600 cfs (12.16 ft).

\* Discharge measurement made on this day.

## Goose Creek near Huddleston, Va.

Location.--Lat 37°10', long. 79°32', on left bank a quarter of a mile upstream from Haden Bridge, three-eighths of a mile upstream from Rockcastle Creek, and 4 miles upstream from Huddleston, Bedford County.

Drainage area.--187 sq mi.

Records available.--March 1925 to September 1927 (gage heights only), September 1930 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 592.91 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Mar. 15, 1925, to Sept. 30, 1927, chain gage at site a quarter of a mile downstream at different datum.

Average discharge.--23 years (1930-53), 186 cfs.

Extremes.--Maximum discharge during year, 3,150 cfs Feb. 21 (gage height, 9.22 ft); minimum, 26 cfs Sept. 3 (gage height, 1.19 ft).

1930-53: Maximum discharge, 20,300 cfs Oct. 19, 1937 (gage height, 25.75 ft, from floodmarks), from rating curve extended above 6,400 cfs on basis of slope-area determination at gage height, 24.1 ft; minimum, 3 cfs Aug. 31, 1932, Jan. 30, 1934.

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

Revisions (water years).--WSP 892: 1933, 1935(M), 1939. WSP 972: 1931-32(M), 1934(M), 1935-38; 1940, 1941(M). WSP 1082: 1940(F). WSP 1142: 1938-40(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	92	92	103	209	153	182	196	230	101	79	50	33
2	92	92	105	158	147	196	186	186	97	91	53	32
3	92	96	107	168	*141	*204	179	176	*95	85	52	32
4	92	96	107	156	144	479	172	165	93	79	53	33
5	92	94	113	137	138	508	169	165	91	74	58	36
6	92	96	133	130	135	346	169	189	91	168	53	46
7	96	94	122	128	223	284	255	289	131	*120	49	53
8	98	90	*111	124	193	255	211	242	107	101	59	*41
9	101	92	107	171	159	223	189	207	99	114	122	38
10	120	101	113	626	150	207	182	193	103	87	72	36
11	111	111	392	390	147	200	172	176	101	81	56	36
12	101	107	211	*268	156	242	176	169	93	78	53	82
13	96	101	164	215	150	421	207	159	93	76	49	161
14	92	98	142	189	141	350	196	156	93	74	47	60
15	88	146	128	176	473	520	176	156	93	72	45	54
16	88	130	122	162	365	475	186	162	91	69	42	51
17	88	*107	118	156	263	334	176	211	156	a66	56	48
18	88	105	115	182	215	326	169	207	231	a64	46	48
19	88	105	111	179	193	338	179	372	129	a62	45	49
20	86	211	107	162	186	284	*165	589	107	a60	42	52
21	*86	217	135	419	1,280	255	159	214	99	a60	42	54
22	90	192	124	414	615	234	156	171	114	a64	41	51
23	92	144	115	289	387	267	156	153	97	a76	40	48
24	92	128	111	1,030	305	1,750	156	138	89	a68	41	48
25	94	118	109	505	268	654	153	131	83	a60	*40	49
26	90	115	107	310	238	460	193	124	83	a56	37	51
27	92	113	105	247	215	346	176	114	99	53	37	54
28	94	107	103	215	196	280	165	109	124	52	36	54
29	92	103	99	189	-	247	182	105	89	49	35	51
30	92	105	107	169	-	223	186	103	83	49	34	48
31	92	-	220	159	-	204	-	103	-	47	35	-
Total	2,899	3,506	4,066	8,030	7,376	11,294	5,372	5,864	3,155	2,334	1,520	1,529
Mean	93.5	117	131	259	263	364	179	189	105	75.3	49.0	51.0
Cfsm	0.500	0.626	0.701	1.39	1.41	1.95	0.957	1.10	0.561	0.403	0.262	0.273
In.	0.58	0.70	0.81	1.60	1.47	2.25	1.07	1.16	0.63	0.46	0.30	0.30

Calendar year 1952: Max 3,140 Min 60 Mean 221 Cfsm 1.18 In. 16.12  
 Water year 1952-53: Max 1,750 Min 32 Mean 156 Cfsm 0.834 In. 11.33

Peak discharge (base, 3,000 cfs).--Feb. 21 (10:30 a.m.) 3,150 cfs (9.22 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for Blackwater River near Union Hall and Otter River near Bedford.

## Roanoke River at Altavista, Va.

Location.--Lat 37°06'12", long. 79°17'38", on right bank 12 ft upstream from highway bridge a quarter of a mile south of Altavista, Campbell County, half a mile downstream from Sycamore Creek, 3½ miles upstream from Otter River, and at mile 286.5.

Drainage area.--1,802 sq mi.

Records available.--August 1930 to September 1953.

Gage.--Water-stage recorder and telemark. Datum of gage is 503.10 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Feb. 22, 1951, at site on left bank 50 ft downstream at same datum.

Average discharge.--23 years, 1,977 cfs.

Extremes.--Maximum discharge during year, 26,300 cfs Mar. 24 (gage height, 22.15 ft); minimum, 295 cfs Sept. 2, 3, 4 (gage height, 2.55 ft).

1930-53: Maximum discharge, 105,000 cfs Aug. 15, 1940 (gage height, 40.08 ft, from floodmark), from rating curve extended above 41,000 cfs by logarithmic plotting on basis of unit hydrograph and flood-routing studies by Corps of Engineers, and records for other stations in Roanoke River basin; minimum, 94 cfs Jan. 31, 1934 (gage height, 1.66 ft).

Remarks.--Records good. Diurnal fluctuation at low flow caused by powerplant at Niagara, 69 miles above station. Records of water temperatures and sediment loads for the water year 1953 are given in WSP 1290.

Revisions (water years).--WSP 892: 1938(M). WSP 972: 1931-33.

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

3.4	730	2.5	280	9.0	5,200
5.0	1,840	3.0	445	13.0	9,600
9.0	5,400	5.0	1,740	18.0	17,300

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	880	772	1,060	3,600	1,780	2,220	2,700	1,980	1,080	830	481	307
2	850	772	1,060	2,700	1,740	2,220	2,540	1,940	1,110	760	830	304
3	970	778	1,090	2,340	1,670	2,380	2,380	1,700	1,040	795	760	301
4	880	820	1,060	2,250	1,600	3,180	2,300	1,600	*1,000	760	592	304
5	820	790	1,060	2,000	1,530	8,100	2,140	1,560	900	700	530	328
6	820	772	1,200	1,840	1,460	5,900	2,140	1,600	900	1,080	555	358
7	820	772	1,230	1,640	1,670	4,140	2,460	2,380	1,000	*1,640	530	445
8	850	766	1,260	1,600	2,460	3,420	2,940	3,020	1,200	1,040	516	*445
9	910	742	1,200	2,340	2,220	3,020	2,620	2,540	1,100	1,000	604	410
10	1,090	778	1,200	5,400	1,940	2,700	2,380	2,140	1,080	1,110	1,000	378
11	1,340	880	2,790	5,200	1,740	2,460	2,220	1,900	1,180	795	700	361
12	1,090	940	4,500	3,690	1,740	2,620	2,140	1,740	1,140	622	570	354
13	970	910	2,790	*2,780	1,780	4,320	2,300	1,560	1,000	530	*503	538
14	910	850	2,970	2,300	1,670	4,230	2,540	1,460	1,000	748	473	555
15	880	1,030	1,720	1,980	2,540	3,960	2,140	1,420	1,080	688	442	375
16	880	1,370	1,560	1,860	5,200	*6,340	2,060	1,390	1,110	586	431	347
17	850	1,090	1,400	1,670	3,690	4,140	2,060	1,500	1,250	565	400	340
18	820	970	1,340	1,560	2,940	3,510	1,980	1,420	1,980	555	438	325
19	820	910	1,260	1,700	2,540	3,690	1,900	2,460	2,140	530	457	322
20	778	*1,560	1,200	1,670	2,300	3,510	1,900	3,780	1,280	526	410	327
21	790	3,240	1,230	1,940	7,800	3,100	1,820	3,870	1,040	508	406	335
22	790	3,330	1,520	4,410	12,200	2,860	1,740	2,540	1,320	494	396	361
23	*820	2,790	1,520	3,420	5,700	2,700	1,700	2,060	1,780	565	389	358
24	820	1,920	1,370	6,370	4,050	15,600	1,670	1,820	1,320	718	382	344
25	820	1,600	1,340	6,780	3,420	15,500	1,670	1,670	970	575	364	334
26	790	1,400	1,230	3,690	3,020	6,890	1,670	1,600	865	498	361	337
27	790	1,340	1,200	2,940	2,700	4,300	1,700	1,460	830	465	350	358
28	820	1,160	1,120	2,820	2,460	4,050	1,700	1,320	1,460	453	340	389
29	790	1,160	1,090	2,380	-	3,510	1,560	1,220	1,000	442	331	396
30	790	1,060	1,090	2,140	-	3,180	1,530	1,180	970	428	319	378
31	778	-	1,800	1,900	-	2,940	-	1,110	-	424	313	-
Total	27,026	37,272	47,460	88,710	85,560	141,290	62,600	58,940	35,125	21,430	15,173	11,014
Mean	872	1,242	1,531	2,862	3,056	4,558	2,087	1,901	1,171	691	489	367
Cfsm	0.484	0.689	0.850	1.59	1.70	2.53	1.16	1.05	0.650	0.363	0.271	0.204
In.	0.56	0.77	0.98	1.83	1.77	2.92	1.29	1.21	0.73	0.44	0.31	0.23

Calendar year 1952: Max 34,800 Min 575 Mean 2,235 Cfsm 1.24 In. 16.90  
 Water year 1952-53: Max 15,600 Min 301 Mean 1,730 Cfsm 0.960 In. 13.04

Peak discharge (base, 18,000 cfs).--Mar. 24 (12 p.m.) 26,300 cfs (22.15 ft).

\* Discharge measurement made on this day.

## Otter River near Bedford, Va.

Location.--Lat 37°22', long. 79°25', on left bank 10 ft upstream from bridge on U. S. Highway 460, 1 mile downstream from Roaring Run, 5 miles upstream from Elk Creek, 6½ miles northeast of Bedford, Bedford County, and 8 miles upstream from Little Otter River.

Drainage area.--116 sq mi.

Records available.--October 1943 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 647.16 ft above mean sea level, datum of 1929.

Average discharge.--10 years, 145 cfs.

Extremes.--Maximum discharge during year, 3,080 cfs Mar. 24 (gage height, 6.54 ft); minimum, 8.6 cfs Sept. 4 (gage height, 1.05 ft).

1943-53: Maximum discharge, 12,100 cfs Mar. 23, 1949 (gage height, 17.3 ft), from rating curve extended above 4,000 cfs on basis of slope-area determinations at gage heights 12.1 and 17.3 ft; minimum, 5.6 cfs Sept. 8, 1944 (gage height, 0.89 ft).

Flood in 1937 or 1939 reached a stage of 21.8 ft, from mud lines on bridge piers.

Flood in August 1940 reached a stage of 12.1 ft, from floodmarks (discharge, 8,080 cfs), from rating curve extended above 4,000 cfs as explained above.

Remarks.--Records good.

Revisions (water years).--WSP 1142: 1940(M), 1944(M), 1948(M).

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Nov. 20)

Oct. 1 to Nov. 20

Nov. 21 to Sept. 30

1.5	36	1.0	7.2	2.6	229
1.9	81	1.2	14	3.0	375
2.3	148	1.4	25	3.5	600
2.7	258	1.8	60	4.0	880
		2.2	123	5.0	1,590

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	66	43	64	184	158	184	214	204	95	57	28	10
2	60	43	70	145	148	192	195	170	90	53	50	9.4
3	56	43	78	160	145	192	184	158	85	50	30	9.2
4	55	40	79	134	138	*334	176	148	*82	47	30	9.2
5	56	41	90	119	127	391	167	160	78	57	32	14
6	55	41	102	112	123	288	170	288	79	247	28	14
7	58	39	88	110	198	246	359	288	132	*88	27	18
8	63	38	*85	112	158	229	234	243	93	84	74	*15
9	69	39	80	187	138	207	214	210	85	73	68	12
10	82	46	109	484	127	192	204	190	98	57	40	11
11	78	53	445	313	125	184	184	170	95	51	30	11
12	68	46	243	*229	141	217	184	158	80	48	26	17
13	64	49	184	192	125	399	246	145	80	46	24	21
14	60	48	152	170	118	294	210	136	80	44	23	16
15	60	113	134	155	363	395	195	138	76	43	21	14
16	64	73	119	143	263	391	204	208	74	40	19	13
17	62	*58	112	132	204	309	181	162	205	40	20	12
18	61	56	105	173	173	331	178	138	173	38	20	11
19	60	62	100	150	160	316	178	319	107	36	19	12
20	57	248	96	136	162	266	162	734	88	34	18	14
21	*56	229	136	308	1,200	243	158	256	160	32	18	24
22	58	187	110	270	635	229	148	198	190	31	18	24
23	60	134	105	210	425	236	167	188	102	38	16	23
24	55	112	98	779	339	1,360	143	150	84	32	15	22
25	54	102	95	439	291	560	134	141	76	28	*14	22
26	45	96	90	328	256	423	210	130	72	25	13	22
27	44	93	86	274	223	351	162	114	72	25	12	23
28	44	93	82	239	198	305	145	107	82	23	12	23
29	42	102	79	210	-	266	138	105	68	22	12	21
30	41	70	80	184	-	243	188	103	54	21	11	16
31	42	-	203	170	-	226	-	98	-	20	10	-
Total	1,795	2,437	3,699	6,951	6,859	9,999	5,615	5,936	2,945	1,530	778	482.8
Mean	57.9	81.2	119	224	245	323	187	191	98.2	49.4	25.1	16.1
Cfs/m	0.499	0.700	1.03	1.93	2.11	2.78	1.61	1.65	0.847	0.426	0.216	0.139
In.	0.58	0.78	1.19	2.22	2.20	3.20	1.80	1.90	0.94	0.49	0.25	0.16
Calendar year 1952: Max			4,640	Min	24	Mean	187	Cfs/m	1.61	In.	21.95	
Water year 1952-53: Max			1,360	Min	9.2	Mean	134	Cfs/m	1.16	In.	15.71	

Peak discharge (base, 1,500 cfs).--Jan. 24 (9:30 a.m.) 1,590 cfs (4.98 ft); Feb. 21 (8 a.m.) 1,930 cfs (5.38 ft); Mar. 24 (4 a.m.) 3,080 cfs (6.54 ft); May 20 (12:30 a.m.) 2,270 cfs (5.76 ft).

\* Discharge measurement made on this day.

Otter River near Evington, Va.

Location.--Lat 37°13', long. 79°18', on right bank 10 ft upstream from highway bridge, 2 miles upstream from Flat Creek, and 2 miles southwest of Evington, Campbell County.

Drainage area.--325 sq mi.

Records available.--November 1936 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 544.02 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--16 years (1937-53), 372 cfs.

Extremes.--Maximum discharge during year, 4,970 cfs Mar. 24 (gage height, 13.63 ft); minimum recorded, 67 cfs Sept. 19 (gage height, 1.36 ft), but may have been less during period of no gage-height record.  
1936-53: Maximum discharge, 27,500 cfs Oct. 19, 1937, Aug. 19, 1939 (gage height, 23.1 ft), from rating curve extended above 7,000 cfs by logarithmic plotting on basis of unit hydrograph and flood-routing studies by Corps of Engineers, and records for other stations in Roanoke River basin; minimum, 39 cfs Dec. 16, 1943 (gage height, 1.07 ft), result of freezeup.

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

Revisions (water years).--WSP 852: 1937. WSP 892: 1938-39(M). WSP 972: 1937-39. WSP 1032: 1940.

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

Oct. 1 to Mar. 24, Aug. 10 to Sept. 30					Mar. 25 to Aug. 9	
1.2	52	5.0		918	1.5	73
1.7	108	7.0	1,640		2.0	153
2.0	154	11.0	3,420		3.0	383
3.0	345				5.0	960
					8.0	2,060

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	206	175	194	694	369	382	487	556	216	a160	108	74
2	199	178	194	450	334	408	460	408	207	a150	214	72
3	197	178	208	506	322	408	434	370	*196	a140	133	71
4	184	178	208	436	*322	*1,020	421	346	188	a150	120	69
5	185	175	226	357	300	1,250	396	346	182	a350	120	68
6	185	173	269	334	290	694	396	447	178	*a700	118	78
7	190	167	235	322	506	578	808	614	321	283	113	69
8	208	167	224	311	464	520	570	487	235	221	112	*a80
9	208	170	*215	832	357	464	487	434	201	278	447	a70
10	259	180	238	1,800	334	422	460	396	207	178	211	a60
11	259	204	1,170	978	322	395	434	370	212	157	128	a60
12	231	196	664	*650	357	492	434	333	184	140	*117	a100
13	211	184	492	520	322	918	645	321	176	133	124	340
14	206	182	408	450	300	650	542	304	186	128	123	a110
15	199	441	345	395	904	954	460	295	176	123	120	a80
16	201	345	311	369	768	1,110	474	309	176	121	114	a70
17	197	238	290	345	534	708	434	447	484	121	124	a70
18	196	217	279	395	436	694	421	346	434	120	128	69
19	192	213	269	408	395	723	434	748	285	116	117	69
20	187	946	250	357	382	578	*396	1,650	230	115	110	72
21	187	*828	334	750	2,830	520	383	673	201	112	105	80
22	*189	664	311	798	1,430	478	358	500	421	108	100	86
23	190	408	279	563	858	464	358	421	292	107	97	82
24	187	322	269	2,000	694	3,200	346	370	205	108	94	80
25	185	279	259	1,080	606	1,340	333	346	180	105	92	82
26	182	259	250	723	534	960	434	309	168	99	88	84
27	177	250	258	685	478	778	363	275	134	84	86	88
28	177	226	229	534	422	673	346	251	328	92	83	89
29	170	233	209	464	-	599	333	242	214	88	81	84
30	170	215	240	422	-	542	396	237	174	86	79	80
31	173	-	609	395	-	514	-	228	-	84	76	-
Total	6,087	8,591	9,917	19,244	16,170	23,436	13,261	13,379	7,021	4,987	3,882	2,606
Mean	196	286	320	621	578	756	442	432	234	160	125	86.9
Cfsm	0.603	0.860	0.965	1.91	1.78	2.33	1.36	1.35	0.720	0.492	0.365	0.267
In.	0.70	0.98	1.14	2.20	1.85	2.69	1.52	1.53	0.90	0.57	0.44	0.30

Calendar year 1952: Max 7,240 Min 111 Mean 494 Cfsm 1.52 In. 20.64

Water year 1952-53: Max 3,200 Min 60 Mean 352 Cfsm 1.08 In. 14.72

Peak discharge (base, 4,000 cfs).--Feb. 21 (4:30 p.m.) 4,890 cfs (13.46 ft); Mar. 24 (10:30 a.m.) 4,970 cfs (13.63 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for Goose Creek near Huddleston and Otter River near Bedford.

## Roanoke River at Brookneal, Va.

Location.--Lat 37°02'28", long. 78°57'02", on left bank 1,600 ft upstream from highway bridge at Brookneal, Campbell County, 3 miles upstream from Falling River, and at mile 255.9.

Drainage area.--2,420 sq mi, approximately.

Records available.--April 1923 to September 1953.

Gage.--Water-stage recorder and telemark. Datum of gage is 351.96 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Aug. 30, 1929, chain gage at site 1,800 ft downstream at same datum. Aug. 30, 1929, to Aug. 15, 1940, water-stage recorder at site on left bank 1,800 ft downstream at same datum (destroyed by flood). Aug. 16 to Oct. 1, 1940, staff gage at site 1,800 ft downstream at same datum. Oct. 2, 1940, to Sept. 30, 1941, chain gage at site 1,600 ft downstream at same datum.

Average discharge.--30 years, 2,518 cfs.

Extremes.--Maximum discharge during year, 23,400 cfs Mar. 25 (gage height, 22.84 ft); minimum, 390 cfs Sept. 20 (gage height, 5.81 ft).

1923-53: Maximum discharge, 130,000 cfs Aug. 15, 1940 (gage height, 46.5 ft, at present site from gage-height relation curve), from rating curve extended above 44,000 cfs by logarithmic plotting on basis of slope-area determination by Geological Survey, unit hydrograph and flood-routing studies by Corps of Engineers, and records for other stations in Roanoke River basin; minimum, 191 cfs Sept. 2, 1932.

Remarks.--Records good.

Revisions (water years).--WSP 622: Drainage area. WSP 892: 1928(M). WSP 972: 1928-34.

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

5.8	385
6.0	500
7.0	1,330
12.0	6,750
21.0	19,900

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	1,150	1,030	1,380	4,150	2,340	2,970	3,500	2,660	1,470	1,200	824	440
2	1,150	1,040	1,380	3,500	2,240	2,970	3,080	2,760	1,380	1,150	1,620	429
3	1,200	1,040	1,420	2,860	2,180	3,080	3,280	2,500	1,380	1,150	1,380	412
4	1,200	1,060	1,380	2,860	2,080	3,820	2,860	2,240	1,280	1,100	1,060	402
5	1,060	1,100	1,420	2,600	2,020	8,580	2,760	2,180	1,240	1,100	872	412
6	1,040	1,040	1,570	2,290	1,920	8,320	2,660	2,240	1,200	1,200	840	482
7	1,040	1,030	1,620	2,130	2,180	5,720	3,390	2,760	1,280	*2,290	856	563
8	1,060	1,010	1,570	2,020	2,970	4,700	3,820	3,500	1,670	1,620	840	656
9	1,150	997	*1,570	2,500	2,970	4,150	3,600	3,390	1,570	1,280	907	605
10	1,240	1,030	1,570	6,520	2,500	3,820	3,180	2,970	1,470	1,470	1,330	*556
11	1,620	1,150	3,280	7,350	2,290	3,500	2,970	2,600	1,420	1,280	1,240	521
12	1,570	1,240	5,370	5,030	2,340	3,500	2,860	2,390	1,520	1,100	943	500
13	*1,330	1,240	3,600	3,710	2,340	5,030	3,600	2,240	1,420	952	832	598
14	1,240	1,200	2,760	2,970	2,240	5,940	3,820	2,080	1,330	925	760	988
15	1,150	1,380	2,340	2,600	3,080	5,260	3,180	2,020	1,330	1,110	720	664
16	1,150	2,020	2,020	2,390	6,290	8,320	2,970	1,920	1,330	970	672	488
17	1,100	1,670	1,870	2,180	5,030	6,060	2,860	1,970	1,670	925	633	440
18	1,060	1,330	1,770	2,080	*3,710	4,920	2,760	2,180	2,240	916	612	424
19	1,060	1,240	1,670	2,180	3,180	4,920	2,660	2,660	2,760	907	696	407
20	1,040	2,340	1,620	2,180	2,860	4,700	*2,660	4,920	1,920	961	664	402
21	1,030	4,920	1,620	2,340	5,780	4,150	2,600	5,260	1,570	872	598	412
22	1,040	4,370	1,820	4,700	15,100	3,820	2,440	3,500	1,470	832	591	434
23	1,040	3,500	1,920	4,480	8,320	3,600	2,390	2,760	2,080	916	556	470
24	1,060	2,600	1,770	6,290	5,600	9,390	2,340	2,440	2,020	952	549	452
25	1,060	2,130	1,670	10,400	4,700	19,500	2,340	2,130	1,420	979	542	440
26	1,060	1,820	1,620	5,370	4,260	9,850	2,340	2,020	1,240	840	514	434
27	1,040	1,720	1,520	4,040	3,710	6,400	2,550	1,870	1,240	776	500	464
28	1,050	1,620	1,570	3,500	3,590	5,140	2,440	1,720	1,570	752	488	468
29	1,060	1,420	1,420	3,080	-	4,480	2,290	1,620	1,520	736	476	507
30	1,040	1,520	1,380	2,760	-	4,040	2,240	1,620	1,280	696	464	500
31	1,030	-	2,080	2,550	-	3,710	-	1,570	-	696	452	-
Total	35,120	50,807	59,570	115,610	107,620	174,360	86,440	78,690	46,390	32,653	24,031	14,990
Mean	1,133	1,694	1,922	3,665	3,844	5,625	2,881	2,538	1,546	1,053	775	500
Cfsm	0.468	0.700	0.794	1.51	1.59	2.32	1.19	1.05	0.639	0.435	0.320	0.207
In.	0.54	0.78	0.92	1.74	1.66	2.68	1.33	1.21	0.71	0.50	0.37	0.25

Calendar year 1952: Max 29,000 Min 872 Mean 2,843 Cfsm 1.17 In. 16.00

Water year 1952-53: Max 19,500 Min 402 Mean 2,258 Cfsm 0.933 In. 12.67

Peak discharge (base, 21,000 cfs).--Mar. 25 (10 to 11 a.m.) 23,400 cfs (22.84 ft).

\* Discharge measurement made on this day.

## Falling River near Naruna, Va.

Location.--Lat 37°07', long. 78°58', on left bank at upstream side of highway bridge, 2 miles upstream from Little Falling River and 2½ miles northeast of Naruna, Campbell County.

Drainage area.--172 sq mi.

Records available.--July 1929 to January 1935, September 1941 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 412.32 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. July 12, 1929, to Jan. 15, 1935, chain gage at same site and datum.

Average discharge.--17 years (1929-34, 1941-53), 152 cfs.

Extremes.--Maximum discharge during year, 1,800 cfs Mar. 15 (gage height, 7.86 ft); minimum, 20 cfs Sept. 4 (gage height, 2.50 ft).  
1929-35, 1941-53: Maximum discharge, 15,800 cfs Sept. 18 or 19, 1944 (gage height, 23.9 ft, from floodmarks), from rating curve extended above 6,100 cfs on basis of slope-area determinations at gage heights 23.9 and 26.5 ft; minimum, 3 cfs Oct. 9, 1932 (gage height, 2.18 ft).  
Flood in August 1940 reached a stage of 26.5 ft, from floodmarks (discharge, 22,000 cfs, by slope-area determination).

Remarks.--Records good.

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

Oct. 1 to Jan. 24

Jan. 25 to Sept. 30

2.8	55	2.5	20	4.0	323
3.0	85	2.7	38	5.0	668
3.5	203	2.9	64	6.0	1,040
4.0	358	3.3	138		
6.0	1,040				

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	61	66	89	304	119	119	156	216	78	63	46	26
2	62	66	89	175	109	134	149	156	77	69	119	26
3	69	68	93	192	108	142	138	147	72	63	69	26
4	62	75	89	162	109	617	138	132	*72	58	53	26
5	62	68	108	130	104	666	134	132	69	60	56	28
6	62	66	145	121	104	281	142	147	67	125	51	42
7	65	65	108	114	197	206	650	174	91	*188	50	46
8	61	63	100	110	176	178	255	138	80	87	70	37
9	66	65	*93	352	134	160	193	123	93	77	130	*34
10	98	72	114	690	121	147	176	123	93	64	63	29
11	112	89	554	361	119	138	158	115	74	56	50	28
12	-83	87	223	*226	151	188	200	109	69	54	46	30
13	*74	74	158	168	134	578	668	104	67	58	*46	165
14	69	71	130	150	113	260	330	102	80	54	46	45
15	69	329	114	135	417	598	230	98	72	48	44	34
16	66	155	108	128	*278	*704	230	100	74	51	39	32
17	68	*100	102	119	186	287	190	100	237	50	39	32
18	66	87	98	117	151	287	178	100	113	51	39	33
19	65	85	94	114	138	266	203	264	89	46	38	32
20	65	605	91	108	134	200	*172	211	78	63	35	32
21	62	486	108	242	630	176	180	132	74	50	39	32
22	65	313	102	226	356	165	153	115	160	50	36	32
23	68	170	94	162	211	162	149	108	172	63	33	34
24	68	132	91	845	176	722	143	98	80	50	33	32
25	68	114	89	338	167	614	138	98	67	44	33	35
26	66	106	87	196	151	349	156	91	67	44	30	33
27	68	100	85	162	136	238	145	84	100	42	30	40
28	68	96	83	158	125	200	134	80	151	43	27	42
29	66	61	90	140	-	178	132	80	80	39	31	35
30	65	89	89	125	-	167	151	80	70	37	26	*35
31	66	-	353	121	-	156	-	78	-	39	31	-
Total	2,135	4,053	3,961	6,689	5,054	9,283	6,153	3,835	2,766	1,886	1,477	1,133
Mean	68.9	135	128	216	180	299	205	124	92.2	60.8	47.6	37.8
Cfsm	0.401	0.785	0.744	1.26	1.05	1.74	1.19	0.721	0.536	0.353	0.277	0.220
In.	0.46	0.88	0.86	1.45	1.09	2.01	1.33	0.83	0.60	0.41	0.32	0.25

Calendar year 1952: Max 1,830 Min 53 Mean 174 Cfsm 1.01 In. 13.79

Water year 1952-53: Max 845 Min 25 Mean 133 Cfsm 0.773 In. 10.49

Peak discharge (base, 1,600 cfs).--Mar. 15 (10:30 p.m.) 1,800 cfs (7.86 ft).

\* Discharge measurement made on this day.

## Cub Creek at Phenix, Va.

Location.--Lat 37°05', long. 78°46', on right bank 10 ft upstream from bridge on State Highway 40, 0.9 mile west of Phenix, Charlotte County, 2 miles downstream from Rough Creek, and 6 miles upstream from Louse Creek.

Drainage area.--102 sq mi.

Records available.--August 1946 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 371 ft (by barometer). Prior to July 14, 1950, staff gage at same site and datum.

Average discharge.--7 years, 107 cfs.

Extremes.--Maximum discharge during year, 2,300 cfs Nov. 21 (gage height, 11.76 ft); minimum, 20 cfs Sept. 4, 5; minimum gage height, 1.19 ft Aug. 16, 17.  
1946-53: Maximum discharge, 2,340 cfs Apr. 1, 1948 (gage height, 11.88 ft, from floodmark); minimum, 16 cfs Oct. 31, 1947; minimum gage height, 1.16 ft Sept. 5, 1947. Flood of August 1940 reached a stage of 17.5 ft, from floodmark.

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 June 3 to Sept. 6,  
Sept. 8-25, 29-30)

Oct. 1 to Jan. 24		Jan. 25 to Sept. 30	
1.4	35	1.0	19
2.0	82	1.5	54
2.5	133	2.0	99
3.0	197	3.0	222
5.0	479	5.0	520
10.0	1,750		

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	48	72	251	102	100	111	a130	a46	46	28	23
2	39	48	72	134	97	106	108	a120	a45	46	33	21
3	43	48	77	114	94	109	104	a110	*44	46	56	21
4	42	56	75	105	94	163	103	a100	44	44	40	20
5	40	56	78	89	92	340	101	a90	42	46	38	22
6	40	52	98	82	90	295	100	a90	40	56	35	64
7	38	50	81	80	172	154	180	a110	49	75	34	a35
8	39	48	75	78	208	137	164	a100	54	58	36	27
9	43	48	*73	131	126	121	119	a90	56	52	47	*24
10	61	51	82	265	110	112	112	a80	53	*44	40	23
11	63	65	265	335	104	108	105	a76	59	41	33	23
12	54	69	314	*154	113	118	113	a74	46	39	30	24
13	*48	59	122	105	113	174	243	a70	44	37	29	66
14	47	54	98	95	102	164	379	a68	61	36	29	40
15	46	96	87	88	186	167	180	a66	49	35	26	29
16	46	155	81	85	*280	*415	155	a64	46	34	24	26
17	46	*79	79	81	153	385	140	a66	123	34	*32	24
18	45	66	76	79	119	180	120	a90	133	32	44	24
19	45	64	75	78	109	186	134	a200	74	43	37	24
20	44	692	73	76	106	142	*120	a120	63	73	35	24
21	43	1,570	83	104	236	126	113	a100	58	41	35	24
22	44	533	81	159	378	118	108	a80	58	37	32	24
23	46	230	76	103	186	115	105	a70	71	73	32	23
24	47	117	73	197	136	229	a100	a66	56	45	31	23
25	47	97	71	475	127	355	a90	a60	50	37	29	24
26	47	89	69	201	118	288	a100	a60	48	33	28	a25
27	47	85	68	130	110	174	a96	a56	49	32	27	a27
28	48	78	66	124	104	141	a90	a52	76	30	26	a30
29	47	74	63	118	-	127	a86	a50	57	29	25	27
30	46	74	68	106	-	118	a100	a49	50	28	24	24
31	46	-	134	103	-	113	-	a47	-	27	24	-
Total	1,417	4,851	2,905	4,325	3,965	5,580	3,878	2,604	1,744	1,329	1,019	835
Mean	45.7	162	93.7	140	142	180	129	84.0	58.1	42.9	32.9	27.8
Cfs/m	0.448	1.59	0.919	1.37	1.39	1.76	1.26	0.824	0.570	0.421	0.323	0.273
In.	0.52	1.77	1.06	1.58	1.45	2.03	1.41	0.95	0.64	0.49	0.37	0.30

Calendar year 1952: Max 1,570 Min 36 Mean 113 Cfs/m 1.11 In. 15.04

Water year 1952-53: Max 1,570 Min 20 Mean 94.4 Cfs/m 0.925 In. 12.57

Peak discharge (base, 1,000 cfs).--Nov. 21 (2 a.m.) 2,300 cfs (11.76 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for Falling River near Naruna and Roanoke Creek at Saxe.

## Roanoke River at Randolph, Va.

Location.--Lat 36°54'54", long. 78°44'28", on right bank 14 ft downstream from bridge on State Highway 26, 2.8 miles northwest of Randolph, Charlotte County, 3.6 miles upstream from Roanoke Creek, and at mile 227.3.

Drainage area.--3,000 sq mi, approximately.

Records available.--August 1900 to August 1906, October 1927 to March 1930, and October 1950 to September 1953 in reports of Geological Survey. Prior to January 1905, published as Staunton River at Randolph. Records prior to August 1906, republished in Virginia Geological Survey Bulletin 31 with some revisions and corrections.

Gage.--Water-stage recorder. Datum of gage is 307.53 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Aug. 27, 1900, to Oct. 13, 1902, wire-weight gage at site 3.2 miles downstream at different datum. Oct. 14, 1902, to Aug. 11, 1906, and Oct. 1, 1927, to Mar. 31, 1930, wire-weight or chain gage at site of original gage at datum 3.87 ft lower than present datum.

Average discharge.--8 years (1902-5, 1927-29, 1950-53), 3,428 cfs.

Extremes.--Maximum discharge during year, 23,100 cfs Mar. 25 (gage height, 23.39 ft); minimum, 540 cfs Sept. 5, 20, 21, 22 (gage height, 4.55 ft).  
1900-1906, 1927-30, 1950-53: Maximum discharge, about 80,000 cfs Dec. 30, 1901 (gage height, 34.0 ft, site and datum then in use); minimum, that of Sept. 5, 20-22, 1953.

Flood of Aug. 16, 1940, reached a stage of 41.6 ft (discharge, 150,000 cfs), from information by Corps of Engineers.

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

Revisions (water years).--WSP 1203: 1927-30. See also Records available.

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

4.5	520	13.0	7,540
5.2	880	19.0	13,200
7.0	2,240	22.0	19,600

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	1,340	1,340	1,760	5,040	3,050	3,640	4,340	3,140	1,680	1,440	736	572
2	1,340	1,340	1,720	5,410	2,870	3,340	4,040	3,540	1,600	1,300	1,560	564
3	1,340	1,340	1,760	3,840	2,690	3,440	3,740	3,140	1,600	1,300	2,330	556
4	1,400	1,340	1,760	3,840	2,600	4,040	3,540	2,780	1,520	1,300	1,370	548
5	1,340	1,340	1,760	3,440	2,510	8,680	3,440	2,600	1,440	1,230	1,120	630
6	1,300	1,340	1,960	2,960	2,420	9,760	3,240	2,600	1,400	1,280	985	915
7	1,300	1,340	2,080	2,690	3,050	7,120	4,040	2,870	1,400	2,320	915	695
8	1,300	1,340	2,000	2,510	3,940	5,680	5,040	3,840	1,680	2,420	950	690
9	1,340	1,300	1,960	2,870	4,140	4,940	4,640	4,240	1,950	1,680	1,300	724
10	1,440	1,300	1,960	6,410	3,440	4,340	4,040	3,540	1,800	*1,480	1,300	*665
11	1,720	1,340	*4,740	8,960	3,050	3,940	3,640	3,050	1,760	1,560	1,520	610
12	2,000	1,480	6,680	7,050	2,960	3,840	3,440	2,780	1,690	1,230	1,260	588
13	1,720	1,520	5,770	5,230	3,050	5,230	4,740	2,510	1,640	1,060	1,020	592
14	1,520	1,400	3,940	4,140	2,870	7,050	5,950	2,420	1,560	915	880	1,120
15	1,400	1,520	3,050	*5,540	3,640	6,280	4,740	2,240	1,520	985	820	1,020
16	*1,370	2,690	2,600	3,140	6,910	8,320	3,840	2,160	1,560	1,090	790	724
17	1,340	2,420	2,420	2,960	6,980	8,030	3,840	2,160	1,840	915	*754	600
18	1,340	*1,840	2,160	2,690	5,320	6,200	3,540	2,420	2,780	880	1,230	572
19	1,300	1,600	2,080	2,600	4,340	5,860	3,340	2,780	3,050	880	790	556
20	1,300	5,420	2,000	2,780	3,740	5,680	3,340	4,840	2,870	1,520	760	544
21	1,300	9,670	2,000	2,870	5,180	5,140	3,140	6,360	1,920	985	760	544
22	1,300	7,960	2,080	4,540	15,100	4,540	3,050	4,840	1,720	850	730	548
23	1,300	5,680	2,330	6,120	12,700	4,140	*2,870	3,540	2,240	985	712	568
24	1,300	4,040	2,240	6,350	7,120	7,120	2,780	2,960	2,420	1,020	695	580
25	1,300	2,960	2,080	11,400	5,770	19,400	2,690	2,510	1,980	1,020	685	572
26	1,340	2,510	2,040	7,960	5,140	18,300	2,690	2,330	1,520	950	670	568
27	1,340	2,240	1,880	5,500	4,540	8,170	2,870	2,240	1,440	820	655	600
28	1,340	2,080	1,880	4,540	4,040	6,440	2,870	2,000	1,760	760	630	645
29	1,340	1,920	1,720	4,140	-	5,680	2,690	1,940	2,160	730	610	650
30	1,340	1,880	1,680	3,740	-	5,040	2,600	1,760	1,600	706	592	650
31	1,340	-	2,380	3,340	-	4,540	-	1,720	-	690	580	-
Total	42,990	75,490	76,470	142,600	133,160	203,920	108,760	91,750	55,080	36,261	29,709	19,410
Mean	1,387	2,516	2,467	4,600	4,756	6,578	3,625	2,960	1,836	1,170	958	647
Cfsm	0.462	0.839	0.822	1.53	1.59	2.19	1.21	0.987	0.612	0.390	0.319	0.216
In.	0.53	0.94	0.95	1.76	1.66	2.52	1.35	1.14	0.68	0.45	0.37	0.24
Calendar year 1952: Max	27,100			Min	880	Mean	3,432	Cfsm	1.14	In.	15.58	
Water year 1952-53: Max	19,400			Min	544	Mean	2,785	Cfsm	0.928	In.	12.59	

Peak discharge (base, 20,000 cfs).--Mar. 25 (12 p.m.) 23,100 cfs (23.39 ft).

\* Discharge measurement made on this day.

## ROANOKE RIVER BASIN

Roanoke Creek at Saxe, Va.

Location.--Lat 36°56', long. 78°41', on right bank at downstream side of highway bridge, 500 ft northwest of Saxe, Charlotte County, and 4 miles upstream from mouth.

Drainage area.--162 sq mi.

Records available.--August 1946 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 325 ft (from Corps of Engineers maps). Prior to July 21, 1950, staff gage at same site and datum.

Average discharge.--7 years, 128 cfs.

Extremes.--Maximum discharge during year, 2,710 cfs Nov. 21 (gage height, 11.33 ft); minimum, 12 cfs Sept. 5 (gage height, 1.42 ft).

1946-53: Maximum discharge observed, 3,190 cfs Dec. 6, 1948, Nov. 1, 1949 (gage height, 11.94 ft); minimum, that of Sept. 5, 1953.

Flood of Aug. 18, 1940, reached a stage of 25.7 ft (backwater from Roanoke River), from floodmark. A discharge of 10.8 cfs was measured on Sept. 13, 1943.

Remarks.--Records good.

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

Oct. 1 to Nov. 17

Nov. 18 to Feb. 22

Feb. 23 to Sept. 30

2.0	26	2.7	54	8.0	680	1.4	12	4.0	141
2.5	51	4.0	132	9.0	1,110	2.0	29	6.0	281
3.5	111	6.0	281	11.0	2,470	2.6	57		
4.5	176	7.0	400						

Note.--Same as preceding table 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	26	36	66	315	96	102	108	172	33	36	18	14
2	27	38	66	348	87	102	105	176	33	33	20	14
3	28	38	75	253	81	111	99	157	32	31	25	13
4	30	41	81	167	78	158	95	108	31	33	40	13
5	30	44	72	139	75	352	87	87	29	36	36	19
6	28	44	96	108	72	450	87	84	28	34	28	41
7	28	42	99	93	118	288	123	84	29	36	25	67
8	27	39	87	84	214	176	176	84	35	32	28	61
9	32	38	*75	132	273	138	152	75	36	*31	78	38
10	46	42	93	273	167	120	114	68	38	30	93	*26
11	58	52	339	348	114	111	99	63	46	27	48	22
12	55	65	615	289	105	117	123	58	44	24	30	21
13	44	66	463	174	114	211	296	54	38	23	25	23
14	38	57	217	122	105	204	555	52	43	22	23	25
15	36	70	128	102	217	225	442	50	52	21	21	25
16	*34	111	96	90	*425	239	246	48	47	20	19	22
17	34	152	87	84	400	267	197	48	58	20	*19	20
18	33	*99	81	81	225	211	190	52	126	19	35	18
19	32	66	75	78	156	190	138	108	111	19	108	18
20	32	506	72	75	108	183	120	126	61	46	78	18
21	30	2,310	75	99	290	141	108	108	45	41	36	18
22	26	1,380	81	146	830	120	96	75	38	28	26	18
23	31	516	81	156	670	111	*87	60	42	28	23	17
24	32	265	72	291	289	427	84	53	78	32	21	16
25	34	146	69	615	183	790	78	48	56	27	20	16
26	35	108	64	500	155	599	81	44	38	23	18	17
27	35	93	63	249	132	362	84	40	34	21	18	27
28	36	81	60	146	114	225	78	36	39	20	17	32
29	36	72	58	128	-	155	71	35	51	19	16	31
30	36	69	55	125	-	129	85	33	46	18	16	26
31	35	-	160	105	-	117	-	33	-	17	15	-
Total	1,064	6,686	3,821	5,895	5,875	7,131	4,402	2,359	1,417	847	1,023	736
Mean	34.3	225	123	190	210	230	147	76.1	47.2	27.5	33.0	24.5
Cfs/m	0.212	1.38	0.759	1.17	1.30	1.42	0.907	0.470	0.291	0.169	0.204	0.151
In.	0.24	1.54	0.88	1.35	1.35	1.64	1.01	0.54	0.32	0.19	0.24	0.17

Calendar year 1952: Max 2,310 Min 18 Mean 136 Cfs/m 0.840 In. 11.44  
 Water year 1952-53: Max 2,310 Min 13 Mean 113 Cfs/m 0.698 In. 9.47

Peak discharge (base, 1,000 cfs).--Nov. 21 (2 to 3 p.m.) 2,710 cfs (11.33 ft).

\* Discharge measurement made on this day.

## Dan River near Francisco, N. C.

Location.--Lat 36°30'54", long. 80°18'12", on left bank at downstream side of bridge on State Highway 704, an eighth of a mile downstream from Georges Mill, 3 miles east of Francisco, Stokes County, and 7.9 miles downstream from Little Dan River.

Drainage area.--124 sq mi.

Records available.--August 1924 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 830 ft (from topographic map). Prior to Nov. 15, 1929, chain gage at same site and datum.

Average discharge.--29 years, 189 cfs.

Extremes.--Maximum discharge during year, 5,440 cfs Mar. 23 (gage height, 7.72 ft); minimum, 30 cfs Sept. 19 (gage height, 0.90 ft); minimum daily, 52 cfs Sept. 14.

1924-53: Maximum discharge, 12,400 cfs Oct. 19, 1937 (gage height, 12.45 ft), from rating curve extended above 8,500 cfs; minimum, 7.1 cfs Sept. 8, 1932 (gage height, 0.43 ft); minimum daily, 30 cfs Sept. 18, 20, 1932.

Flood of 1916 reached a stage about 3 ft higher than that of Oct. 19, 1937.

Remarks.--Records good. Considerable diurnal fluctuation and some regulation by Pinacles powerplant and two reservoirs 28 miles above station with a combined capacity of 416,000,000 cu ft.

Revisions.--WSP 892: Drainage area.

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

Oct. 1 to July 2				July 3 to Sept. 30	
1.4	100	3.5	1,090	1.0	46
2.0	263	4.0	1,490	1.3	89
2.5	470	5.0	2,450	1.7	173
3.0	750				

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	148	146	129	150	133	213	292	263	120	143	103	103
2	156	157	154	132	133	259	280	242	127	150	89	90
3	140	119	154	138	137	306	265	211	103	155	113	*94
4	119	146	122	129	131	448	259	197	106	132	175	90
5	103	152	151	122	124	371	239	226	109	135	166	95
6	100	150	141	122	120	302	240	*239	120	145	128	86
7	142	154	132	*122	256	273	368	281	179	152	118	84
8	151	145	129	120	180	243	309	218	119	141	120	81
9	*176	121	124	142	151	235	265	185	126	122	121	65
10	166	123	167	174	145	244	258	174	213	117	96	70
11	152	172	220	142	144	246	242	178	223	113	109	66
12	139	168	156	130	164	275	239	170	140	106	114	71
13	111	153	137	126	146	260	272	168	138	107	114	66
14	147	155	135	123	135	239	250	183	138	106	112	52
15	150	194	125	120	294	424	244	175	116	108	112	61
16	159	136	132	117	228	425	253	187	*129	111	*84	64
17	*156	122	121	116	187	355	239	170	673	106	84	165
18	146	154	120	139	168	322	243	166	197	104	110	62
19	115	167	115	124	*156	300	230	198	172	101	114	66
20	108	226	117	123	160	267	214	171	162	98	95	71
21	163	*342	129	250	1,680	254						
22	162	218	120	178	358	260	226	148	193	115	91	68
23	155	175	138	156	356	1,510	218	152	252	121	95	69
24	152	154	131	437	307	*2,140	220	158	158	141	82	65
25	143	156	114	242	267	761	219	145	138	105	101	70
26	136	156	104	186	219	496	225	150	139	89	102	73
27	120	151	108	176	189	414	195	149	149	88	99	84
28	156	133	104	176	192	357	210	126	210	*108	101	68
29	161	129	101	155	-	254	196	124	247	117	107	77
30	163	152	105	150	-	313	256	133	163	121	81	68
31	162	-	187	140	-	290	-	132	-	127	70	-
Total	4,457	4,826	4,122	4,857	7,020	13,036	7,389	5,573	5,195	3,698	3,298	2,270
Mean	144	161	133	157	251	421	246	180	173	119	106	75.7
Cfsm	1.16	1.30	1.07	1.27	2.02	3.40	1.98	1.45	1.40	0.960	0.855	0.610
In.	1.34	1.45	1.24	1.46	2.11	3.91	2.22	1.67	1.56	1.11	0.99	0.68

Calendar year 1952: Max 1,480 Min 83 Mean 203 Cfsm 1.64 In. 22.25  
Water year 1952-53: Max 2,140 Min 52 Mean 180 Cfsm 1.45 In. 19.74

Peak discharge (base, 2,000 cfs).--Feb. 21 (12 m.) 3,250 cfs (5.83 ft); Mar. 23 (11 p.m.) 5,440 cfs (7.72 ft); June 17 (9 p.m.) 2,150 cfs (4.70 ft).

\* Discharge measurement made on this day.

## North Mayo River near Spencer, Va.

Location.--Lat 36°34'05", long. 79°59'15", on left bank 800 ft downstream from highway bridge at Moores Mill, 2 miles downstream from Horse Pasture Creek, and 4 miles southeast of Spencer, Henry County.

Drainage area.--108 sq mi.

Records available.--October 1928 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 730.94 ft above mean sea level (levels by Corps of Engineers). Prior to Jan. 23, 1936, chain gage at site 800 ft upstream at datum 1.50 ft higher. July 25 to Sept. 27, 1936, staff gage at present site and datum.

Average discharge.--23 years (1929-35, 1936-53), 123 cfs.

Extremes.--Maximum discharge during year, 2,500 cfs Mar. 24 (gage height, 6.28 ft); minimum, 25 cfs Sept. 17, 18 (gage height, 1.26 ft).  
1928-53: Maximum discharge, 17,200 cfs Oct. 9, 1947 (gage height, 15.80 ft), from rating curve extended above 7,200 cfs by logarithmic plotting on basis of velocity-area study; minimum, 19 cfs Sept. 2-5, 1930 (gage height, 2.12 ft, site and datum then in use).

Remarks.--Records good.

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

Oct. 1 to Nov. 22			Nov. 23 to May 1			May 2 to Sept. 30		
1.5	43		1.5	52	3.0	478	1.2	21
1.7	73		1.7	84	4.0	975	1.4	37
2.1	165		2.0	156	6.0	2,270	1.7	77
			2.5	297			2.1	173
							2.7	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	*54	54	68	148	93	123	146	178	*64	72	61	30
2	53	54	*70	106	*88	148	140	120	61	67	51	29
3	57	54	70	99	88	170	135	108	61	126	54	28
4	54	53	68	88	88	390	130	102	61	131	57	28
5	54	54	70	82	84	439	128	102	60	74	61	32
6	54	54	75	79	84	219	130	125	58	69	51	46
7	53	54	68	77	170	178	175	154	101	87	51	42
8	56	53	66	79	148	159	140	130	83	66	54	35
9	62	54	66	175	113	143	130	113	72	64	66	32
10	93	57	75	635	102	135	128	106	104	58	54	32
11	70	68	200	225	97	133	123	97	93	56	48	31
12	63	71	118	151	104	180	125	93	71	53	45	31
13	60	60	95	123	95	233	200	89	66	52	44	30
14	59	57	84	111	88	178	148	87	67	51	41	27
15	57	73	77	102	313	342	130	87	66	*49	39	27
16	57	73	79	95	205	268	135	87	64	49	38	27
17	57	62	71	91	146	191	125	87	78	49	36	26
18	56	59	71	102	118	175	123	87	133	48	37	26
19	56	*59	70	99	111	167	123	104	79	47	72	27
20	54	95	70	88	111	148	118	115	69	46	57	30
21	53	122	84	226	1,210	158	116	89	64	44	46	32
22	54	152	79	205	456	158	113	87	172	48	44	30
23	56	108	75	143	233	213	113	83	160	340	42	27
24	56	68	73	685	189	1,580	111	77	79	81	40	27
25	56	82	70	251	170	340	111	77	67	63	38	27
26	57	77	66	161	151	236	130	75	64	57	*36	30
27	57	79	66	155	138	203	116	71	56	54	34	37
28	56	75	66	123	128	193	111	69	230	51	33	39
29	56	71	65	111	-	170	108	69	99	48	32	33
30	54	70	68	99	-	159	135	69	93	46	32	*32
31	54	-	153	95	-	*151	-	66	-	47	31	-
Total	1,788	2,142	2,496	4,989	5,121	7,630	3,896	3,003	2,625	2,193	1,425	930
Mean	57.7	71.4	80.5	161	183	246	130	96.9	87.5	70.7	46.0	31.0
Cfsm	0.534	0.661	0.745	1.49	1.69	2.28	1.20	0.897	0.810	0.655	0.426	0.287
In.	0.62	0.74	0.86	1.72	1.76	2.63	1.34	1.03	0.90	0.76	0.49	0.32

Calendar year 1952: Max 1,180 Min 41 Mean 120 Cfsm 1.11 In. 15.19  
Water year 1952-53: Max 1,580 Min 26 Mean 105 Cfsm 0.972 In. 13.17

Peak discharge (base, 1,400 cfs).--Feb. 21 (3:50 p.m.) 1,680 cfs (5.14 ft); Mar. 24 (11:30 a.m.) 2,500 cfs (6.28 ft).

\* Discharge measurement made on this day.

## Mayo River near Price, N. C.

Location.--Lat 36°32'00", long. 79°59'30", on right bank 300 ft downstream from Anglins Bridge, half a mile downstream from confluence of North and South Mayo Rivers, three-quarters of a mile downstream from Virginia-North Carolina State line, and 4 miles west of Price, Rockingham County.

Drainage area.--260 sq mi.

Records available.--July 1929 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 689.95 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Oct. 29, 1929, staff gage at same site and datum.

Average discharge.--24 years, 327 cfs.

Extremes.--Maximum discharge during year, 8,130 cfs Mar. 24 (gage height, 7.65 ft); minimum, 66 cfs Sept. 18 (gage height, 0.74 ft).  
1929-53: Maximum discharge, 30,000 cfs Oct. 19, 1937 (gage height, 14.00 ft), from rating curve extended above 8,000 cfs by logarithmic plotting; minimum, 41 cfs Sept. 19, 1932 (gage height, 0.52 ft); minimum daily, 44 cfs Sept. 19, 1932.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Infrequent diurnal fluctuation at low flow 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 June 7-21)

0.7	60	3.0	1,060
.9	91	4.0	1,900
1.3	170	5.0	3,110
1.6	272	6.0	4,710
2.0	468	7.0	6,750

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	154	145	178	364	260	335	430	463	154	219	175	80
2	154	156	181	264	245	389	414	321	147	202	154	78
3	163	154	184	253	237	452	389	290	147	355	141	81
4	152	149	178	223	233	992	384	272	147	294	200	81
5	152	156	184	216	223	1,040	364	268	143	198	a190	94
6	152	156	198	202	223	594	379	390	143	237	a160	152
7	152	149	181	198	479	511	251	*441	251	276	a150	131
8	154	141	181	205	399	430	409	359	202	205	a170	106
9	168	152	170	409	312	389	379	303	173	192	a150	98
10	245	158	192	1,210	281	364	364	281	280	173	a140	*91
11	181	184	539	544	268	350	350	260	264	156	*133	89
12	170	208	321	359	290	452	354	245	190	152	127	88
13	165	178	253	303	276	544	572	237	163	149	121	86
14	163	161	226	272	280	452	419	230	161	152	114	80
15	*156	208	208	256	774	793	364	223	161	143	114	78
16	156	223	208	245	560	766	374	223	163	141	112	75
17	154	176	198	230	404	538	345	219	212	141	105	72
18	154	165	187	249	*330	479	340	216	*347	139	106	70
19	152	170	184	256	303	463	345	254	354	135	158	74
20	149	266	184	233	307	404	326	285	170	129	158	83
21	145	366	216	532	3,300	374	316	219	161	119	133	93
22	149	484	205	528	1,260	364	307	198	590	132	125	86
23	154	294	190	374	677	519	303	198	388	525	121	75
24	154	233	190	1,480	533	4,760	503	195	223	192	116	74
25	154	208	184	712	468	1,100	298	190	198	a160	110	83
26	154	*195	181	457	419	748	340	184	187	a150	101	77
27	154	205	176	379	379	626	307	173	187	a150	89	106
28	161	192	170	345	350	566	294	163	548	147	93	114
29	152	184	165	312	-	506	281	165	291	137	93	96
30	149	184	184	285	-	468	345	165	332	121	89	88
31	156	-	357	264	-	441	-	161	-	123	86	-
Total	4,928	6,000	6,553	12,159	14,010	21,177	10,906	7,791	7,077	5,744	4,034	2,679
Mean	159	200	211	392	500	683	364	251	236	185	130	89.3
Cfsm	0.612	0.769	0.812	1.51	1.92	2.63	1.40	0.965	0.908	0.712	0.500	0.343
In.	0.70	0.86	0.94	1.74	2.00	3.03	1.56	1.11	1.01	0.82	0.58	0.38

Calendar year 1952: Max 3,200 Min 119 Mean 318 Cfsm 1.22 In. 16.61  
Water year 1952-53: Max 4,760 Min 70 Mean 282 Cfsm 1.08 In. 14.73

Peak discharge (base, 3,500 cfs).--Feb. 21 (3:30 p.m.) 4,710 cfs (6.01 ft); Mar. 24 (8 a.m.) 8,130 cfs (7.65 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records of nearby streams.

Dan River near Wentworth, N. C.

Location.--Lat 36°25', long. 79°50', on right bank 600 ft downstream from Settles Bridge, 3½ miles northwest of Wentworth, Rockingham County, and 7½ miles downstream from Mayo River.

Drainage area.--1,050 sq mi, approximately.

Records available.--November 1939 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 518 ft (by barometer). Prior to Aug. 3, 1949, at site 150 ft upstream at same datum.

Average discharge.--14 years, 1,194 cfs.

Extremes.--Maximum discharge during year, 19,600 cfs Mar. 24 (gage height, 20.47 ft); minimum, 178 cfs Sept. 1 (gage height, 1.52 ft); minimum daily, 200 cfs Sept. 20, 24, 1939-53; Maximum discharge, 56,800 cfs Sept. 18, 1945 (gage height, 27.78 ft), from rating curve extended above 16,500 cfs on basis of slope-area determination of peak flow at gage height 26.9 ft, and runoff comparisons; minimum, 149 cfs Sept. 11, 1944 (gage height, 1.32 ft); minimum daily, 182 cfs Sept. 11, 1944.

Flood of 1908 reached a stage about 7 ft higher than that of Sept. 18, 1945, and flood of 1937 reached a stage of 29.8 ft, from information by local residents.

Remarks.--Records fair. Slight diurnal fluctuation and regulation 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)  
(Shifting-control method used Oct. 1 to Nov. 20, Nov. 24 to Dec. 11, Dec. 13-30, Jan. 2-8, 13-20, Aug. 20 to Sept. 30)

1.5	190	6.0	2,300
1.9	290	9.0	4,600
2.2	391	12.0	7,500
3.0	720	18.0	14,400
4.0	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	458	486	568	1,640	945	1,160	1,440	1,540	568	832	424	206
2	455	458	535	1,020	922	1,540	*1,440	1,190	510	720	380	210
3	510	443	610	832	855	1,880	1,340	1,090	514	1,470	346	215
4	502	421	589	720	855	3,360	1,260	990	474	1,060	494	210
5	421	443	568	698	810	4,330	1,240	945	384	742	742	290
6	428	447	632	589	788	2,240	1,220	1,040	436	698	676	810
7	384	462	610	589	1,360	1,700	1,590	1,390	1,240	742	455	945
8	432	421	568	*810	2,060	1,490	1,590	1,340	1,590	810	413	421
9	510	413	531	1,990	1,340	1,390	1,340	1,090	855	698	474	*287
10	632	458	568	5,020	1,090	1,260	1,260	968	1,140	589	*494	263
11	632	470	2,100	2,360	990	1,220	1,220	945	1,640	535	366	260
12	526	610	1,500	1,440	1,140	1,490	1,220	878	1,060	478	339	275
13	462	568	922	1,040	1,490	1,880	1,880	855	720	486	329	224
14	443	478	765	922	1,190	1,640	1,940	832	676	451	312	255
15	*470	568	676	832	3,920	3,320	1,590	810	698	451	300	226
16	482	698	610	788	3,380	4,700	1,340	832	610	443	269	215
17	486	610	632	720	1,760	2,370	1,290	810	2,630	432	278	222
18	482	482	610	742	*1,390	1,820	1,190	810	*3,700	421	303	206
19	447	510	589	900	1,220	1,700	1,160	765	1,340	388	654	202
20	432	720	568	788	1,140	1,490	1,140	945	945	413	698	200
21	391	1,240	610	1,740	7,940	1,340	1,060	878	788	377	428	233
22	428	2,040	720	2,510	*9,980	1,290	1,060	765	2,320	368	356	246
23	455	1,020	610	1,490	2,720	1,430	1,040	720	1,380	814	300	222
24	462	788	610	4,840	1,940	13,600	1,040	720	900	766	319	200
25	451	654	610	3,220	1,700	10,600	1,020	720	698	447	293	202
26	447	*632	568	1,700	1,490	3,000	1,120	676	676	395	290	206
27	447	610	547	1,340	1,340	2,240	1,140	654	654	398	272	306
28	421	632	531	1,240	1,220	1,940	990	610	1,450	355	249	398
29	451	539	514	1,190	-	1,700	968	568	1,150	353	241	287
30	447	522	502	1,060	-	1,590	990	568	1,250	370	238	246
31	455	-	961	990	-	1,490	-	568	-	336	233	-
Total	14,449	18,843	21,534	45,560	56,975	82,200	37,918	27,512	32,796	17,856	11,965	8,688
Mean	466	628	695	1,470	2,035	2,652	1,264	887	1,093	576	386	290
Cfsm	0.444	0.598	0.662	1.40	1.94	2.53	1.20	0.845	1.04	0.549	0.368	0.276
In.	0.51	0.67	0.76	1.61	2.02	2.91	1.34	0.97	1.16	0.63	0.42	0.31

Calendar year 1952: Max 11,700 Min 384 Mean 1,147 Cfsm 1.09 In. 14.87  
Water year 1952-53: Max 13,600 Min 200 Mean 1,031 Cfsm 0.982 In. 13.31

Peak discharge (base, 12,000 cfs).--Feb. 22 (6 a.m.) 14,400 cfs (17.99 ft); Mar. 24 (12 p.m.) 19,600 cfs (20.47 ft).

\* Discharge measurement made on this day.

Smith River at Bassett, Va.

Location.--Lat 36°46'15", long. 80°00'00", on left bank 5 ft upstream from highway bridge at north edge of North Bassett, 1 mile northwest of Bassett, Henry County, 3.0 miles downstream from Town Creek, and 5.6 miles upstream from Reed Creek.

Drainage area.--253 sq mi.

Records available.--April 1939 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 753.09 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--14 years, 366 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 2,470 cfs Dec. 13 (gage height, 4.50 ft); minimum, 23 cfs Sept. 18, 26 (gage height, 1.06 ft).

1939-53: Maximum discharge, 26,600 cfs Aug. 14, 1940 (gage height, 18.28 ft); minimum, that of Sept. 18, 26, 1953.

Maximum stage known, about 22.9 ft Oct. 19, 1937, from information by local residents (discharge, 38,200 cfs, from rating curve extended above 24,000 cfs on basis of backwater studies and records for station at Martinsville).

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow regulated since August 1950 by Philpott Reservoir (usable capacity, 145,200 acre-ft).

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

1.3	62	2.5	580
1.4	86	3.0	920
1.6	143	4.0	1,910
2.0	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	*186	178	*137	190	101	98	108	*88	91	a220	117	111
2	190	178	133	162	98	*96	106	104	88	260	121	118
3	194	155	133	162	98	84	106	101	96	182	124	199
4	186	79	133	162	98	194	106	101	a100	174	166	189
5	186	79	137	159	98	190	104	101	a100	174	130	461
6	186	76	137	117	98	108	108	111	a120	174	124	114
7	186	76	133	88	143	94	106	127	a180	182	143	258
8	182	79	133	91	121	84	96	111	a160	182	137	256
9	198	81	133	101	106	86	96	106	a130	*186	133	259
10	198	84	147	174	104	101	101	104	a120	186	130	252
11	190	88	226	121	104	106	101	101	a130	182	127	250
12	186	88	155	104	104	108	104	101	a150	182	108	64
13	182	86	1,260	98	101	117	111	101	a110	186	127	95
14	182	86	718	96	101	104	104	101	a110	182	127	314
15	182	98	143	94	210	166	101	101	a110	174	124	573
16	182	91	143	91	127	130	104	101	a150	174	124	539
17	182	86	143	91	124	117	101	101	a210	170	124	448
18	178	86	143	94	114	114	101	98	a220	178	124	248
19	178	*86	147	91	111	108	101	114	a200	178	124	314
20	178	111	147	91	117	104	101	104	a180	166	124	124
21	178	142	151	148	764	101	101	101	a210	170	121	296
22	178	121	147	98	155	101	101	101	a300	182	127	284
23	178	98	147	108	106	190	101	101	a270	194	124	283
24	182	91	147	412	94	485	101	96	a250	130	124	299
25	178	88	147	151	94	130	101	96	a230	127	124	274
26	178	86	147	124	106	106	108	96	a210	127	*117	91
27	178	86	143	114	101	121	101	101	a210	127	111	118
28	178	86	143	111	98	114	101	127	a210	147	111	240
29	182	86	143	108	-	114	101	94	a210	124	111	187
30	182	96	*143	106	-	111	111	145	a210	108	111	*318
31	182	-	226	104	-	111	-	124	-	108	111	-
Total	5,686	2,951	6,265	3,961	3,796	3,993	3,093	3,259	5,065	5,236	3,850	7,576
Mean	183	98.4	202	128	136	129	103	105	169	169	124	253
(+)	-29	+142	+39	+288	+442	+687	+262	+156	+46	-47	-27	-171

Adjusted for change in reservoir contents

Mean Cfsm In.	154 0.609 0.70	240 0.949 1.06	241 0.953 1.10	416 1.64 1.89	578 2.28 2.37	816 3.23 3.72	365 1.44 1.61	261 1.03 1.19	215 0.850 0.95	122 0.482 0.56	97.0 0.353 0.44	82.0 0.324 0.36
Observed						Adjusted						
Calendar year 1952:	Max	2,180	Min	76	Mean	307	Mean	367	Cfsm	1.45	In.	19.77
Water year 1952-53:	Max	1,260	Min	64	Mean	150	Mean	297	Cfsm	1.17	In.	15.95

Peak discharge (base, 4,500 cfs).--No peak above base.

\* Discharge measurement made on this day.

† Change in contents, equivalent in cubic feet per second, in Philpott Reservoir.

a No gage-height record; discharge estimated on basis of records for station at Martinsville.

## Smith River at Martinsville, Va.

Location.--Lat 36°39'45", long. 79°52'55", on right bank 800 ft downstream from bridge on U. S. Highways 58 and 250, 3 miles south of Martinsville, Henry County, and 5.0 miles downstream from Beaver Creek.

Drainage area.--374 sq mi.

Records available.--August 1929 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 657.32 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--24 years, 468 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 4,880 cfs Mar. 24 (gage height, 6.37 ft); minimum, 18 cfs Jan. 17 (gage height, 1.43 ft); minimum daily, 78 cfs Sept. 13. 1929-53: Maximum discharge, 39,000 cfs Oct. 19, 1937 (gage height, 21.50 ft), from rating curve extended above 14,000 cfs on basis of computations of flow over dam at gage heights 16.76 and 21.50 ft; minimum, 5 cfs May 20, 1934 (gage height, 1.20 ft); minimum daily, 19 cfs Oct. 6, 1935.

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow regulated since August 1950 by Philpott Reservoir (usable capacity, 145,200 acre-ft). Some additional regulation by powerplant 1,000 ft above station.

Revisions (water years).--WSP 1032: 1933-35(M), 1936-39, 1940-41(P).

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

1.7	67	3.0	860
1.8	94	4.0	1,760
2.0	163	5.0	2,860
2.5	438		

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	206	a220	200	325	167	176	218	258	*149	334	160	126
2	207	a210	193	279	196	*235	193	204	157	361	166	119
3	283	a200	198	246	158	238	213	186	153	264	171	236
4	241	a150	204	233	156	548	204	195	171	241	226	178
5	236	a120	190	222	144	717	186	179	178	253	196	468
6	236	a130	213	208	148	324	188	252	96	248	191	259
7	240	a120	185	152	298	232	276	296	303	253	168	219
8	246	a130	194	150	281	192	212	224	202	279	188	273
9	272	a130	193	297	176	190	160	203	176	294	218	275
10	326	a130	205	594	189	184	192	196	194	264	196	265
11	279	a120	492	280	174	232	196	189	276	230	158	258
12	219	a120	258	222	184	300	216	174	252	242	168	125
13	258	a120	847	172	444	310	188	169	260	141	78	188
14	248	a120	1,150	168	160	263	222	178	188	231	155	334
15	239	a140	190	156	619	518	201	182	164	*243	174	556
16	256	a130	201	170	348	408	222	182	236	242	136	594
17	236	a130	205	154	250	278	192	174	338	240	159	278
18	236	a120	198	168	184	260	188	172	311	252	164	239
19	226	*a190	200	168	176	260	206	260	273	249	193	294
20	242	256	208	147	181	218	192	216	255	231	162	258
21	220	361	230	424	1,920	196	176	184	278	222	158	266
22	226	284	214	247	531	220	200	179	512	250	160	290
23	245	178	200	225	280	308	181	182	438	716	134	294
24	220	162	211	1,030	197	1,880	197	168	357	208	174	323
25	236	148	178	423	206	475	180	180	322	205	138	288
26	208	180	226	242	210	292	244	156	344	174	*159	153
27	242	148	194	212	205	253	184	160	326	191	140	114
28	230	142	170	192	190	265	198	200	374	181	142	291
29	224	142	192	178	-	232	194	168	385	217	134	168
30	a230	145	*184	190	-	222	230	108	346	162	107	*271
31	a240	-	464	96	-	214	-	288	-	148	157	-
Total	7,453	4,856	8,367	7,974	8,200	10,774	6,191	6,081	7,925	7,885	5,113	7,916
Mean	240	162	270	257	293	348	208	196	264	254	165	264
(†)	-29	+142	+59	+288	+442	+687	+262	+156	+46	-47	-27	-171

Adjusted for change in reservoir contents

	Mean	211	304	309	545	735	1,035	468	352	310	207	136	93.0
Cfsm	0.564	0.813	0.826	1.46	1.97	2.77	1.25	0.941	0.829	0.553	0.369	0.249	
In.	0.65	0.91	0.95	1.68	2.05	3.19	1.40	1.08	0.92	0.64	0.43	0.28	
Observed													
Calendar year 1952:	Max	2,650	Min	120	Mean	422	Mean	482	Cfsm	1.29	In.	17.56	
Water year 1952-53:	Max	1,920	Min	78	Mean	243	Mean	390	Cfsm	1.04	In.	14.18	

Peak discharge (base, 6,500 cfs).--No peak above base.

\* Discharge measurement made on this day.

† Change in contents, equivalent in cubic feet per second, in Philpott Reservoir.

a No gage-height record; discharge estimated on basis of records for station at Bassett.

## Smith River at Spray, N. C.

Location.--Lat 36°31'45", long. 79°46'10", on right bank 0.9 mile south of Virginia-North Carolina State line, 1 mile downstream from Stuart Creek, and 1 mile north of Spray, Rockingham County.

Drainage area.--538 sq mi.

Records available.--October 1939 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 539.56 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--14 years, 642 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 6,750 cfs Mar. 24 (gage height, 7.95 ft); minimum, 66 cfs Sept. 13 (gage height, 1.39 ft); minimum daily, 107 cfs Sept. 13.

1939-53: Maximum discharge, 45,600 cfs Aug. 15, 1940 (gage height, 19.28 ft), from rating curve extended above 12,000 cfs on basis of computation of peak flow over dam 1½ miles downstream; minimum, 63 cfs Jan. 13, 1942 (gage height, 1.38 ft); minimum daily, 66 cfs Sept. 10, 1944.

Remarks.--Records good except those for period of no gage-height record, which are poor. Flow regulated since August 1950 by Philpott Reservoir (usable capacity, 145,200 acre-ft). Some additional regulation by powerplant at Martinsville, Va.

Rating table, water year 1952-53 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 6-24)

1.6	106	4.0	1,690
2.0	223	5.0	2,680
2.5	475	6.0	3,840
3.0	840	7.0	5,200

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	294	272	234	692	266	318	358	446	234	367	187	158
2	252	302	292	444	333	420	335	346	220	373	158	150
3	306	290	287	390	294	479	338	316	250	398	250	182
4	254	260	289	382	274	988	335	316	240	326	224	226
5	277	198	296	349	273	1,670	325	308	232	288	231	326
6	266	181	322	345	264	722	326	*335	216	287	218	472
7	258	170	281	276	469	492	444	462	335	326	211	153
8	262	179	276	*265	513	414	349	376	328	305	222	304
9	298	152	270	665	353	381	334	354	283	358	235	294
10	355	192	296	1,130	320	359	316	316	358	302	190	*294
11	284	248	764	734	332	368	338	316	339	264	256	278
12	324	243	508	449	325	519	300	302	342	280	178	284
13	262	228	736	343	331	885	550	294	288	282	188	107
14	270	196	1,800	330	305	594	456	302	258	263	163	141
15	282	281	357	330	1,140	953	346	288	256	254	198	404
16	*275	284	302	a340	1,010	957	372	290	289	248	170	640
17	270	224	308	a340	514	560	350	270	369	268	171	554
18	254	214	300	a340	400	500	322	332	*452	254	190	363
19	270	204	296	a340	356	464	333	338	357	250	256	246
20	272	344	286	a350	358	414	313	410	334	248	217	398
21	263	482	337	a500	3,200	394	310	326	336	252	203	167
22	256	652	328	a700	1,600	398	296	303	754	246	193	318
23	272	340	308	422	618	444	301	304	588	*777	182	298
24	258	276	298	1,680	476	3,990	302	293	441	320	177	300
25	285	256	287	918	407	1,170	302	308	388	222	176	328
26	280	259	314	477	379	610	364	262	388	222	188	305
27	271	270	288	411	364	444	370	294	390	196	166	171
28	302	224	274	386	359	450	234	278	440	206	156	187
29	280	248	270	346	-	411	295	290	393	234	162	300
30	271	235	302	311	-	364	337	259	394	200	140	226
31	273	-	549	292	-	356	-	352	-	172	146	-
Total	8,596	7,906	12,053	15,277	15,853	21,514	10,267	9,926	10,492	8,988	6,000	8,564
Mean	277	254	389	493	566	694	342	320	350	290	194	285
(†)	-29	+142	+39	+288	+442	+887	+262	+156	+46	-47	-27	-171

Adjusted for change in reservoir contents

Mean	248	406	428	781	1,008	1,381	604	476	396	243	167	114
Cfsm	0.461	0.755	0.796	1.45	1.87	2.57	1.12	0.885	0.736	0.452	0.310	0.212
In.	0.53	0.84	0.92	1.67	1.95	2.96	1.25	1.02	0.82	0.52	0.36	0.24

		Observed				Adjusted						
Calendar year 1952:	Max	4,450	Min	152	Mean	561	Mean	621	Cfsm	1.15	In.	15.74
Water year 1952-53:	Max	3,990	Min	107	Mean	371	Mean	518	Cfsm	0.963	In.	13.08

\* Discharge measurement made on this day.

† Change in contents in Philpott Reservoir, equivalent in cubic feet per second, furnished by Corps of Engineers.

a No gage-height record; discharge estimated on basis of records for Mayo River near Price and Dan River near Wentworth.

## Sandy River near Danville, Va.

Location.--Lat 36°37'10", long. 79°30'10", on right bank 200 ft downstream from Hickory Forest Creek, 400 ft upstream from bridge on road between Callahans Store and Mount Cross, 5.5 miles northwest of western corporate limits of Danville, Pittsylvania County, and 5.8 miles upstream from mouth.

Drainage area.--113 sq mi.

Records available.--November 1929 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 460.38 ft above mean sea level, unadjusted. Prior to June 26, 1942, water-stage recorder at site 1,200 ft downstream at datum 5.57 ft lower.

Average discharge.--23 years (1930-53), 103 cfs.

Extremes.--Maximum discharge during year, 1,330 cfs Mar. 24 (gage height, 4.18 ft); minimum, 7 cfs Sept. 5; minimum gage height, 1.06 ft Oct. 1, 20; minimum daily discharge, 14 cfs Sept. 2-4.

1929-53: Maximum discharge, 23,000 cfs Aug. 14, 1940 (gage height, 14.8 ft, from floodmarks), from rating curve extended above 3,600 cfs by logarithmic plotting; minimum, 3 cfs Sept. 29, 1930 (gage height, 0.40 ft, site and datum then in use); minimum daily, 8 cfs Aug. 29, 31, Sept. 1, 2, 1932.

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

Revisions (water years).--WSP 972: 1930-41.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Mar. 25 to July 23)

Oct. 1 to July 23

July 24 to Sept. 30

1.1	18	2.5	350	1.2	12	1.6	50
1.3	43	3.0	595	1.3	18	1.8	88
1.6	104	4.0	1,190	1.4	26		
2.0	205						

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	46	52	130	90	97	111	116	30	39	44	15
2	36	46	55	97	83	123	99	83	27	40	29	14
3	42	48	55	95	81	138	95	73	28	52	44	14
4	39	49	52	88	81	400	92	68	28	55	37	14
5	37	46	57	77	77	475	90	68	27	37	34	27
6	32	48	64	73	77	198	95	70	26	37	33	47
7	36	46	55	70	145	150	140	73	43	83	32	35
8	37	45	53	70	128	135	104	66	37	*48	35	25
9	45	46	52	186	99	118	97	62	35	55	32	*23
10	60	50	*81	422	90	111	95	62	102	39	29	22
11	52	64	294	198	88	111	88	58	70	35	25	22
12	46	66	130	130	106	147	102	55	36	32	23	20
13	43	52	95	106	99	245	167	53	42	28	22	21
14	*43	50	83	99	90	164	123	53	40	29	22	20
15	43	92	75	92	408	366	106	53	35	26	21	18
16	43	70	73	86	232	245	121	52	32	25	21	17
17	42	53	66	81	*152	164	104	52	61	25	21	16
18	48	50	64	86	121	147	97	48	50	25	*70	16
19	43	*50	62	83	111	135	97	60	37	25	34	15
20	37	109	60	77	106	121	90	64	35	25	34	17
21	40	174	79	152	681	114	88	52	40	20	29	20
22	45	138	70	147	319	109	*81	50	106	26	28	16
23	46	81	64	114	172	133	79	45	158	111	26	15
24	46	68	62	498	142	880	79	42	58	27	23	16
25	46	60	62	216	135	245	77	42	48	20	22	17
26	46	58	60	140	121	177	86	40	45	17	20	18
27	46	58	60	121	111	145	75	36	52	17	20	34
28	46	55	58	116	99	133	70	33	86	17	18	29
29	46	52	62	111	-	121	70	35	48	19	17	24
30	46	52	60	97	-	111	90	35	45	22	16	21
31	46	-	140	92	-	114	-	35	-	29	18	-
Total	1,339	1,921	2,355	4,150	4,242	6,072	2,908	1,734	1,507	1,085	879	628
Mean	43.2	64.0	78.0	134	152	196	96.9	55.9	50.2	35.0	28.4	20.9
Cfsm	0.382	0.566	0.673	1.19	1.35	1.73	0.858	0.495	0.444	0.310	0.251	0.185
In.	0.44	0.63	0.78	1.37	1.41	1.99	0.96	0.57	0.50	0.36	0.29	0.21

Calendar year 1952: Max 1,280 Min 21 Mean 100 Cfsm 0.885 In. 12.09  
Water year 1952-53: Max 880 Min 14 Mean 79.0 Cfsm 0.699 In. 9.51

Peak discharge (base, 1,500 cfs).--No peak above base.

\* Discharge measurement made on this day.

## Dan River at Danville, Va.

Location.--Lat 36°35'15", long. 79°23'55", on left bank 50 ft downstream from Southern Railway bridge in Danville, Pittsylvania County, 1,000 ft upstream from Fall Creek, and at mile 63.7.

Drainage area.--2,050 sq mi, approximately.

Records available.--August 1934 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 379.29 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--19 years, 2,400 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 21,900 cfs Mar. 25 (gage height, 10.96 ft); minimum, 110 cfs Sept. 3 (gage height, 1.63 ft); minimum daily, 340 cfs Sept. 3.  
1934-53: Maximum discharge, 75,000 cfs Aug. 15, 1940 (gage height, 50.96 ft); minimum, 40 cfs Dec. 8, 1946 (gage height, 1.19 ft); minimum daily, 938 cfs Sept. 13, 1944.

Remarks.--Records good. Diurnal fluctuation caused by cotton mills above station. Flow slightly regulated since August 1950 by Philpott Reservoir on Smith River (usable capacity, 145,200 acre-ft).

Revisions (water years).--WSP 972: 1936.

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

Oct. 1 to Jan. 25				Jan. 26 to Sept. 30			
2.3	570	4.0	3,700	2.0	300	4.0	3,300
2.5	810	6.0	8,800	2.5	710	6.0	8,800
3.0	1,610			3.0	1,300	10.0	20,600
				3.5	2,160		

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	880	845	930	3,080	1,120	1,600	2,320	1,920	1,030	1,640	700	405
2	805	905	990	2,580	1,270	2,380	2,200	2,180	810	1,220	710	445
3	860	930	955	1,900	1,240	3,190	2,100	1,730	*760	1,320	680	340
4	905	840	1,020	1,680	1,140	5,160	2,060	1,680	815	2,120	730	415
5	810	765	1,060	1,560	1,080	9,920	1,790	1,500	705	1,360	955	520
6	810	760	1,060	1,400	1,030	5,440	1,920	1,500	740	1,100	1,080	1,030
7	765	750	1,140	1,240	1,800	3,460	2,540	1,800	680	1,340	860	1,450
8	730	685	1,080	1,150	2,940	2,370	2,840	2,120	2,470	*1,220	800	1,160
9	895	715	975	2,270	2,580	2,300	2,320	1,620	1,340	1,200	725	*805
10	1,160	800	1,220	7,140	1,640	1,930	2,100	1,500	1,620	1,050	745	700
11	1,140	885	*4,720	6,560	1,420	1,810	1,740	1,500	1,890	950	780	585
12	1,020	960	*4,210	3,260	1,460	2,120	1,900	1,340	2,000	850	670	655
13	945	1,040	2,270	2,240	2,040	3,350	3,010	1,260	1,350	865	650	800
14	*860	935	2,520	*1,820	1,860	3,500	4,040	1,240	985	865	590	520
15	830	880	2,290	1,570	4,600	3,620	2,650	1,200	1,000	790	575	425
16	890	1,240	1,280	1,450	8,800	8,800	2,280	1,200	985	795	460	820
17	870	1,160	1,180	1,350	*3,740	*5,300	2,230	1,150	1,140	735	620	900
18	825	930	1,180	1,290	2,360	3,500	1,800	1,240	5,510	765	*580	840
19	820	*830	1,120	1,440	1,800	2,630	1,860	1,190	3,120	730	1,110	585
20	820	1,640	1,060	1,510	1,540	2,450	1,960	1,340	1,520	770	1,280	500
21	850	2,480	1,120	2,100	6,960	2,160	1,750	1,460	1,150	705	910	720
22	705	2,220	1,290	4,600	17,400	1,760	*1,630	1,220	1,550	725	735	515
23	830	2,470	1,240	2,150	7,400	2,070	1,640	1,060	4,030	1,000	540	690
24	920	1,680	1,070	5,620	3,600	12,200	1,700	1,040	1,940	1,940	570	595
25	810	1,240	1,120	8,800	2,870	20,600	1,440	1,050	1,300	995	610	630
26	840	1,060	1,060	3,720	2,460	7,960	1,460	1,120	1,180	720	605	635
27	880	945	1,140	2,040	2,180	4,300	1,940	910	1,110	690	800	705
28	860	1,030	925	1,800	1,820	3,360	1,530	940	1,440	715	490	670
29	860	995	975	1,660	-	3,020	1,480	885	2,210	615	500	760
30	880	860	930	1,480	-	2,580	1,560	935	1,560	645	365	695
31	560	-	1,610	1,320	-	2,450	-	765	-	645	520	-
Total	26,925	34,455	44,740	81,790	90,300	137,290	61,790	41,595	47,940	31,080	21,745	20,335
Mean	869	1,148	1,443	2,638	3,225	4,429	2,060	1,342	1,598	1,003	701	678
(†)	-29	+142	+39	+288	+442	+678	+262	+156	+46	-47	-27	-171

Adjusted for change in reservoir contents

	Mean	840	1,290	1,482	2,926	3,667	5,116	2,322	1,498	1,644	956	674	507
Cfsm	0.410	0.629	0.723	1.43	1.79	2.50	1.13	0.731	0.802	0.466	0.329	0.247	
In.	0.47	0.70	0.83	1.65	1.86	2.88	1.26	0.84	0.89	0.54	0.38	0.28	

	Observed					Adjusted						
Calendar year 1952:	Max	21,900	Min	549	Mean	2,357	Mean	2,417	Cfsm	1.18	In.	16.05
Water year 1952-53:	Max	20,600	Min	340	Mean	1,753	Mean	1,900	Cfsm	0.927	In.	12.58

Peak discharge (base, 22,000 cfs).--No peak above base.

\* Discharge measurement made on this day.

† Change in contents, equivalent in cubic feet per second, in Philpott Reservoir.

## Dan River at Paces, Va.

Location.--Lat 36°38'32", long. 79°05'23", on right bank 12 ft downstream from highway bridge, 0.5 mile southeast of Paces, Halifax County, 0.5 mile upstream from Big Toby Creek, 2.7 miles upstream from Birch Creek, and at mile 36.0.

Drainage area.--2,550 sq mi, approximately.

Records available.--November 1950 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 330 ft (from Corps of Engineers map).

Extremes.--Maximum discharge during year, 20,200 cfs Mar. 26 (gage height, 50.00 ft); minimum, 380 cfs Aug. 31 (gage height, 2.00 ft).

1950-53: Maximum discharge, 25,700 cfs Mar. 26, 1952 (gage height, 22.12 ft); minimum, that of Aug. 31, 1953.

Flood of Aug. 16, 1940, reached a stage of 32.3 ft, from levels to floodmark.

Remarks.--Records excellent. Diurnal fluctuation caused by cotton mills at Danville.

Flow slightly regulated since August 1950 by Philpott Reservoir on Smith River (usable capacity, 145,300 acre-ft).

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

2.2	440	10.0	5,470
3.0	740	14.0	9,160
5.0	1,970	19.0	18,000

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	1,060	950	1,180	4,140	2,040	2,250	2,810	2,250	922	1,830	672	485
2	1,000	978	1,240	4,210	1,970	<del>2,170</del>	2,870	2,600	1,000	1,560	790	470
3	1,060	1,030	1,360	2,880	1,970	3,860	2,530	2,320	*815	1,560	740	455
4	950	1,030	1,360	2,390	1,830	5,260	2,460	2,040	840	2,110	740	440
5	1,060	978	1,400	2,110	1,760	8,680	2,250	1,900	765	1,830	740	470
6	922	868	1,560	1,900	1,690	7,570	2,250	1,900	815	1,500	1,090	610
7	895	895	1,500	1,680	2,670	4,490	3,020	1,970	740	1,500	1,090	1,400
8	840	840	1,430	1,970	3,440	3,440	3,370	2,250	1,490	*1,430	978	1,550
9	895	820	1,360	2,600	4,070	5,300	2,950	2,250	2,250	1,360	895	*1,000
10	1,270	840	*1,450	7,320	2,880	2,670	2,530	1,900	1,690	1,240	695	695
11	1,330	1,000	6,000	8,800	2,390	2,600	2,390	1,830	2,180	1,240	815	650
12	1,180	1,180	5,050	2,320	2,740	2,320	2,320	1,660	2,320	868	790	590
13	1,150	1,210	4,280	3,090	2,880	3,860	3,930	1,500	2,250	922	650	630
14	1,030	1,180	2,880	*2,530	3,020	4,420	4,840	1,430	1,830	895	630	552
15	*978	1,180	3,230	2,250	5,050	3,790	3,930	1,400	1,300	895	570	465
16	950	1,360	1,900	1,970	9,720	6,300	2,950	1,430	1,210	790	570	535
17	978	1,460	1,590	1,830	7,080	*6,300	2,740	1,360	1,760	790	535	790
18	950	1,300	1,560	1,830	3,860	4,210	2,460	1,360	3,300	840	*610	895
19	978	*1,090	1,500	1,830	3,020	3,580	2,320	1,400	4,350	695	610	740
20	922	4,070	1,400	1,970	2,670	3,090	2,320	1,360	2,110	765	1,360	500
21	950	5,700	1,530	2,180	4,490	2,880	2,180	1,590	1,620	790	1,150	570
22	895	4,980	1,620	4,210	14,800	2,530	2,040	1,500	1,360	740	895	590
23	840	4,280	1,760	4,420	15,400	2,600	1,970	1,300	3,300	790	672	590
24	950	2,670	1,500	5,190	4,980	6,500	1,900	1,210	2,600	1,500	590	570
25	978	1,970	1,430	9,720	3,720	16,800	2,180	1,180	1,760	1,530	570	570
26	950	1,620	1,430	6,000	3,370	16,400	1,690	1,210	1,430	922	590	570
27	978	1,500	1,360	3,720	3,020	5,190	2,110	1,180	1,270	765	570	718
28	1,000	1,360	1,400	2,880	2,810	4,000	2,110	950	1,360	695	535	740
29	978	1,400	1,150	2,740	-	3,580	1,760	950	2,110	672	485	718
30	950	1,500	1,240	2,530	-	3,300	1,830	978	2,110	630	465	765
31	978	-	2,110	2,250	-	2,810	-	922	-	650	440	-
Total	30,965	51,059	60,910	108,170	119,550	151,810	76,810	49,080	52,857	34,104	22,552	20,353
Mean	999	1,702	1,965	3,489	4,270	4,897	2,560	1,583	1,762	1,100	727	678
(†)	-29	+142	+39	+288	+442	+687	+262	+156	+46	-47	-27	-171

Adjusted for change in reservoir contents

Mean	970	1,844	2,004	3,777	4,712	5,584	2,822	1,739	1,808	1,053	700	507
Cfsm	0.380	0.723	0.786	1.48	1.85	2.19	1.11	0.682	0.709	0.413	0.275	0.199
In.	0.44	0.81	0.91	1.71	1.93	2.52	1.24	0.79	0.79	0.48	0.32	0.22

		Observed				Adjusted						
Calendar year 1952:	Max	23,400	Min	672	Mean	2,707	Mean	2,767	Cfsm	1.09	In.	14.77
Water year 1952-53:	Max	16,800	Min	440	Mean	2,132	Mean	2,279	Cfsm	0.894	In.	12.16

Peak discharge (base, 22,000 cfs).--No peak above base.

\* Discharge measurement made on this day.

† Change in contents, equivalent in cubic feet per second, in Philpott Reservoir.

## Banister River at Halifax, Va.

Location.--Lat 36°46'35", long. 78°54'58", on left bank 10 ft downstream from bridge on U. S. Highway 360, 1,700 ft downstream from Terrible Creek, 1 mile northeast of Halifax, Halifax County, and 10 miles upstream from mouth.

Drainage area.--552 sq mi.

Records available.--September 1904 to December 1905 (gage heights only), December 1928 to September 1953. Published as "near Houston" 1904-5.

Gage.--Water-stage recorder. Datum of gage is 318.54 ft above mean sea level (levels by Corps of Engineers). Sept. 28, 1904, to Dec. 31, 1905, chain gage at site 400 ft upstream at different datum. Dec. 9, 1928, to Sept. 20, 1950, water-stage recorder at site 400 ft upstream at same datum.

Average discharge.--24 years (1929-53), 541 cfs.

Extremes.--Maximum discharge during year, 3,500 cfs Nov. 21 (gage height, 14.10 ft); minimum, 26 cfs June 3 (gage height, -0.28 ft); minimum daily, 27 cfs for many days in September.

1928-53: Maximum discharge, 50,000 cfs Sept. 20, 1944 (gage height, 40.8 ft, from floodmarks), from rating curve extended above 11,000 cfs on basis of slope-area determination of peak flow and velocity-area study; minimum, 6 cfs for many days in August and September 1932; minimum gage height, that of June 3, 1953; minimum daily discharge, 6 cfs Aug. 30, 1932.

Remarks.--Records good. Low and medium flow regulated by powerplant half a mile above station.

Revisions (water years).--WSP 892: 1929-30, 1932-35. WSP 972: 1938(M), 1940. WSP 1112: 1943(M).

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

-0.2	27	2.0	262
0.0	30	4.0	635
.1	36	8.0	1,590
.5	60	12.0	2,760
1.0	110		

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	158	156	237	924	397	444	486	686	182	178	89	74
2	150	162	306	796	442	569	474	546	156	204	962	27
3	125	195	237	480	346	856	410	373	166	166	894	88
4	178	182	254	502	334	916	423	455	144	174	422	27
5	150	165	304	430	534	1,360	314	290	154	136	156	128
6	179	242	362	326	381	1,610	504	390	144	185	166	285
7	130	129	334	376	665	918	608	232	148	274	149	43
8	155	146	268	378	998	892	891	436	196	331	270	86
9	198	229	296	584	890	552	311	224	207	*217	350	115
10	194	162	390	1,410	476	538	520	277	140	147	120	*92
11	236	106	*1,480	1,830	466	551	315	298	172	145	131	27
12	184	295	1,590	1,050	522	581	544	276	416	122	114	184
13	150	288	942	656	574	901	848	314	168	140	129	27
14	*270	174	567	336	396	1,010	1,340	152	192	94	90	62
15	82	438	362	321	896	946	915	292	226	117	126	71
16	156	327	354	392	1,750	1,380	656	196	190	120	88	52
17	264	240	352	433	*1,040	1,070	691	210	634	84	*91	58
18	116	*238	342	388	904	894	503	284	586	106	387	68
19	127	228	300	362	880	641	526	451	203	109	267	56
20	189	1,690	298	373	591	766	436	261	212	138	122	66
21	130	2,540	358	505	570	512	343	306	212	92	114	74
22	160	1,560	376	764	2,140	430	329	270	138	119	116	90
23	184	970	336	678	1,360	464	*402	251	220	132	80	27
24	180	460	367	1,060	890	1,030	483	145	366	230	90	27
25	166	361	220	1,940	810	1,690	302	154	240	143	93	128
26	160	374	344	1,120	584	1,220	340	197	108	130	94	28
27	181	322	209	571	563	918	527	216	284	114	76	184
28	186	324	242	593	575	818	270	182	1,220	91	90	62
29	159	266	276	550	-	527	370	176	691	110	82	105
30	146	266	256	514	-	576	394	186	301	84	66	80
31	226	-	606	418	-	454	-	145	-	84	72	-
Total	5,269	13,213	13,165	21,560	20,774	26,075	15,475	8,870	8,618	4,516	6,096	2,441
Mean	170	440	425	695	742	841	516	286	287	146	197	81.4
Cfs/m	0.308	0.797	0.770	1.26	1.34	1.52	0.935	0.518	0.520	0.284	0.357	0.147
In.	0.56	0.89	0.89	1.45	1.40	1.75	1.04	0.60	0.58	0.30	0.41	0.16

Calendar year 1952: Max 6,100 Min 36 Mean 461 Cfs/m 0.871 In. 11.87

Water year 1952-53: Max 2,540 Min 27 Mean 400 Cfs/m 0.725 In. 9.83

Peak discharge (base, 5,000 cfs).--No peak above base.

\* Discharge measurement made on this day.

## Hyco River near Denniston, Va.

Location.--Lat 36°35'16", long. 78°53'56", on left bank 10 ft upstream from bridge on U. S. Highway 501, 0.8 mile upstream from Mayo Creek, 2 miles east of Denniston, Halifax County, and 8 miles south of South Boston.

Drainage area.--219 sq mi.

Records available.--July 1929 to March 1934, October 1950 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 315.24 ft above mean sea level. July 10, 1929, to Mar. 14, 1934, chain gage at same site and datum.

Average discharge.--7 years (1929-33, 1950-53), 227 cfs.

Extremes.--Maximum discharge during year, 2,080 cfs Nov. 21 (gage height, 16.32 ft); minimum, 1.9 cfs Sept. 5 (gage height, 3.92 ft).  
1929-34, 1950-53: Maximum discharge observed, 3,420 cfs Mar. 2, 1934 (gage height, 19.18 ft), from rating curve extended above 1,900 cfs; minimum discharge, 0.004 cfs Sept. 14, 1932 (gage height, 3.58 ft), from discharge measurement.  
Floods in August 1928 and September 1945 reached stages of 26.4 and 25.6 ft, respectively, from levels to floodmarks.

Remarks.--Records good.

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

Oct. 1 to Mar. 24		Mar. 25 to Sept. 30			
5.0	25	3.9	1.9	4.5	9.2
6.0	87	4.1	2.4	5.0	29
7.0	190	4.2	2.7	5.5	54
9.0	485	4.3	3.7	6.1	96
12.0	1,070	4.4	5.9		
17.0	2,260				

Note.--Same as preceding table above 6.1 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	36	34	114	1,410	255	222	196	283	23	49	7.2	2.1
2	32	33	110	1,430	222	342	196	236	21	39	23	2.0
3	38	35	140	1,150	196	660	216	140	*20	35	15	2.0
4	32	38	140	556	190	1,090	174	98	18	32	9.6	2.0
5	30	38	130	362	179	1,460	157	86	17	29	8.2	2.1
6	28	38	196	269	162	1,410	146	97	16	42	7.6	10
7	28	38	190	229	335	843	190	97	17	101	6.9	26
8	28	37	152	210	740	417	210	90	22	48	7.9	21
9	37	39	130	1,030	553	318	162	75	31	*32	9.2	*10
10	100	34	130	1,640	325	269	146	64	50	31	10	5.9
11	72	48	864	1,870	255	236	130	58	61	26	8.5	3.7
12	60	73	*1,110	1,820	276	283	140	55	48	24	6.9	2.9
13	49	83	820	948	468	720	655	55	804	22	5.9	2.6
14	43	65	318	378	400	860	780	53	924	19	5.7	2.5
15	*40	34	229	297	1,070	624	397	50	502	18	4.4	2.4
16	38	140	184	255	1,790	570	262	48	206	17	3.4	2.2
17	37	*124	162	222	*1,920	*570	216	44	808	16	2.9	2.1
18	36	83	152	210	1,570	385	174	46	1,390	15	*2.7	2.1
19	35	69	135	216	434	318	152	42	304	15	2.6	2.1
20	34	1,210	125	196	332	269	135	46	124	14	2.5	2.1
21	32	2,030	162	210	889	229	120	57	82	13	2.5	2.1
22	31	1,950	289	348	1,480	203	109	52	63	24	2.5	2.1
23	30	1,950	236	283	1,640	190	101	43	54	25	2.4	2.1
24	33	1,280	184	959	1,430	1,150	96	36	46	22	2.3	2.1
25	32	311	168	1,480	485	1,410	89	32	40	20	2.3	2.1
26	35	229	146	1,390	378	1,240	86	34	38	19	2.2	2.0
27	32	190	130	622	318	502	82	37	37	17	2.2	3.1
28	35	162	122	378	262	340	74	32	55	14	2.2	26
29	36	135	109	385	-	276	70	30	179	11	2.1	14
30	34	125	106	385	-	236	78	27	73	8.9	2.1	8.9
31	33	-	610	289	-	210	-	25	-	7.9	2.1	-
Total	1,196	10,655	7,793	21,407	18,553	17,852	5,739	2,168	6,073	805.8	175.0	172.3
Mean	38.6	355	251	691	663	576	191	69.9	202	26.0	5.65	5.74
Cfsm	0.176	1.62	1.15	3.16	3.03	2.63	0.872	0.319	0.922	0.119	0.026	0.026
In.	0.20	1.81	1.33	3.64	3.16	3.03	0.97	0.37	1.03	0.14	0.03	0.03

Calendar year 1952: Max 2,430 Min 19 Mean 344 Cfsm 1.57 In. 21.41  
Water year 1952-53: Max 2,030 Min 2.0 Mean 254 Cfsm 1.16 In. 15.74

Peak discharge (base, 2,500 cfs).--No peak above base.

\* Discharge measurement made on this day.

## Roanoke River at Buggs Island, Va.

Location (revised).--Lat 36°36'06", long. 78°17'56", on left bank 1,200 ft downstream from John H. Kerr Dam, 2.4 miles upstream from Allens Creek, 5.3 miles upstream from bridge on U. S. Highway 1, 6.7 miles southeast of Boydton, Mecklenburg County, and at mile 178.4.

Drainage area.--7,780 sq mi, approximately.

Records available.--November 1921 to August 1923 (gage heights only), April 1947 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 196.72 ft above mean sea level (Corps of Engineers benchmark). November 1921 to August 1923 (gage heights only), water-stage recorder at site 1.3 miles upstream at different datum. Prior to Oct. 1, 1952, at site on same bank 2,800 ft downstream at different datum.

Average discharge.--6 years, 8,695 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 32,300 cfs Mar. 25 (gage height, 9.45 ft); minimum, 99 cfs July 3 (gage height, 1.53 ft); minimum daily, 380 cfs Nov. 16, 1947-53; maximum discharge, 76,000 cfs Dec. 7, 1948 (gage height, 14.97 ft, site and datum then in use); minimum, that of July 3, 1953; minimum daily, that of Nov. 16, 1952.

Flood in August 1940 reached a stage of 33.9 ft, from levels by Corps of Engineers.

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow regulated since August 1950 by Philpott Reservoir on Smith River (usable capacity, 145,200 acre-ft) and by John H. Kerr Reservoir (usable capacity, 2,324,300 acre-ft).

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

2.0	370	4.0	4,350
2.5	970	5.0	8,250
3.0	1,820	7.0	18,400
3.5	2,870	9.0	29,900

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	2,200	1,380	3,450	5,180	1,760	*481	13,200	5,540	*4,130	3,460	1,740	5,280
2	2,200	1,360	3,280	5,760	6,680	6,540	13,300	4,020	*3,800	3,600	2,280	5,660
3	2,400	1,350	2,970	5,090	6,680	6,490	13,600	2,320	3,920	3,580	5,180	5,000
4	2,300	1,610	2,930	5,250	6,680	6,490	12,800	6,690	3,750	1,970	5,450	4,430
5	2,300	1,200	2,960	15,800	6,780	5,910	615	6,610	3,590	2,020	4,940	1,520
6	2,400	628	1,010	10,400	6,680	7,800	9,220	6,300	2,370	3,890	5,190	2,080
7	2,500	628	492	5,760	3,250	8,790	9,200	6,020	2,210	3,800	4,810	2,240
8	3,000	628	3,220	5,720	1,900	5,580	9,250	6,550	4,060	3,630	1,700	3,740
9	3,500	616	2,940	5,080	6,780	5,960	12,500	3,070	3,620	3,600	2,280	3,300
10	6,400	628	3,120	19,000	6,880	9,170	12,500	2,320	3,580	3,660	5,420	3,240
11	5,000	640	3,010	22,800	7,050	9,460	12,700	6,790	3,520	1,460	4,950	3,040
12	4,500	652	4,320	22,800	7,050	*9,800	5,040	6,460	3,680	1,900	5,130	1,640
13	3,500	765	4,490	16,800	7,050	*9,600	11,200	6,580	2,200	5,660	5,200	2,260
14	3,500	688	2,730	10,500	3,420	9,040	12,500	6,580	2,210	5,400	4,900	3,400
15	2,340	553	5,220	6,950	3,520	5,280	12,300	6,320	3,960	5,450	1,570	3,370
16	2,280	380	6,400	7,760	9,600	9,650	9,220	2,390	3,630	5,420	2,100	3,360
17	2,300	496	6,070	7,450	9,600	9,810	8,920	2,400	3,590	3,830	4,760	3,600
18	2,300	1,540	5,770	5,780	9,450	11,600	3,650	6,210	7,320	1,650	4,760	2,920
19	2,320	1,440	5,580	6,080	9,380	9,680	4,360	5,390	7,180	2,120	4,960	1,570
20	2,320	2,920	5,160	6,110	9,400	9,660	10,100	4,770	2,140	4,200	4,920	1,920
21	2,320	13,800	4,810	5,760	8,080	9,320	8,950	4,680	2,170	3,840	4,830	4,810
22	2,080	21,700	5,540	6,850	7,190	5,220	8,630	4,620	7,550	3,660	1,740	4,420
23	1,760	18,100	5,670	5,780	7,230	12,800	8,960	2,300	5,760	3,790	2,280	4,520
24	1,670	21,200	5,600	14,680	6,180	15,500	9,130	2,380	4,920	3,940	4,820	5,220
25	1,310	13,000	4,950	23,000	6,540	*23,900	4,280	4,640	3,680	1,660	4,810	4,560
26	1,350	8,610	5,550	26,000	6,420	*27,800	2,260	4,540	3,650	2,130	4,810	2,000
27	1,350	3,550	5,050	26,600	6,470	27,500	6,050	4,400	2,020	4,200	4,860	1,980
28	1,360	4,550	4,990	21,600	2,500	27,500	6,100	4,520	1,990	4,040	5,300	7,070
29	1,360	4,580	5,550	11,800	-	22,200	5,930	4,550	3,980	4,160	1,740	6,960
30	1,350	3,990	5,620	7,220	-	*17,300	6,100	4,280	3,600	4,020	2,240	6,190
31	1,360	-	5,760	3,000	-	12,700	-	2,500	-	3,940	4,920	-
Total	76,850	133,082	134,812	352,460	180,100	361,471	262,365	144,550	113,780	109,600	124,670	111,300
Mean	2,479	4,436	4,349	11,370	6,432	11,660	8,746	4,663	3,793	3,535	4,022	3,710
(†)	+381	+3,138	+2,104	+1,074	+7,542	+4,662	-662	+613	+1,049	-1,286	-2,278	-2,494

Adjusted for change in reservoir contents

	Mean	Cfs/m	In.
Observed	2,860	0.368	0.42
Adjusted	7,574	0.974	1.09
	6,453	0.829	0.96
	12,440	1.60	1.84
	13,970	1.80	1.87
	16,320	2.10	2.42
	8,084	1.04	1.16
	5,276	0.678	0.78
	4,842	0.622	0.69
	2,249	0.289	0.33
	1,744	0.224	0.26
	1,216	0.156	0.17

	Observed	Adjusted
Calendar year 1952: Max	35,500	Min 380
Water year 1952-53: Max	27,800	Min 380
	Mean 7,559	Mean 5,767
	Mean 8,696	Mean 6,877
	Cfs/m 1.12	Cfs/m 0.884
	In. 15.24	In. 11.99

Peak discharge (base, 50,000 cfs).--No peak above base.

\* Discharge measurement made on this day.

† Change in contents, equivalent in cubic feet per second, in Philpott and John H. Kerr Reservoirs, furnished by Corps of Engineers.

Note.--No gage-height record Oct. 1-14; discharge estimated on basis of records for stations at Roanoke Rapids, N. C., and near Scotland Neck, N. C.

## Roanoke River at Roanoke Rapids, N. C.

Location --Lat 36°28', long. 77°38', on right bank  $1\frac{1}{2}$  miles downstream from bridge on State Highway 48 (highway renumbered) at Roanoke Rapids, Halifax County,  $2\frac{1}{2}$  miles upstream from Chocoyott Creek, and at mile 133.6.

Drainage area --8,410 sq mi, approximately.

Records available --December 1911 to December 1932 (published as "at old Gaston"), February 1930 to September 1953. Gage-height records collected at site of auxiliary gage since November 1890 are contained in reports of U. S. Weather Bureau.

Gage --water-stage recorder at present site and datum since February 1930. Datum of gage is 43.83 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Dec. 7, 1911, to Nov. 21, 1921, and Apr. 7 to Dec. 31, 1932, chain gage and Nov. 21, 1921, to Apr. 7, 1932, water-stage recorder, both at site 9 miles upstream at different datum. Since Aug. 6, 1941, auxiliary water-stage recorder 3.6 miles downstream from base gage.

Average discharge --42 years, 8,449 cfs (adjusted for storage).

Extremes --Maximum discharge during year, 31,200 cfs Mar. 26 (gage height, 10.67 ft);

minimum discharge, 681 cfs Nov. 7, 9 (gage height, 1.57 ft) 1911-53; Maximum discharge, 261,000 cfs Aug. 18, 1940 (gage height, 39.0 ft, from floodmarks); minimum, 458 cfs Sept. 21, 1932 (gage height, 1.25 ft); minimum daily, 472 cfs Sept. 21, 1932.

Flood of November 1877 at Old Gaston reached a stage about 2 ft lower than flood of August 1940, which was 21.5 ft.

Remarks --Records good. Flow regulated since August 1950 by Philpott Reservoir on Smith River (usable capacity, 145,200 acre-ft) and by John H. Kerr Reservoir (usable capacity, 2,324,300 acre-ft). Some additional diurnal fluctuation caused by powerplant at Roanoke Rapids.

Revisions (water years) --WSP 712: 1930. WSP 822: 1936. WSP 1032: 1912, 1923(M), 1928(M), 1930(M), 1933(M).

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

1.5	625	5.0	6,500
2.0	1,050	6.0	9,500
2.5	1,630	8.0	17,000
3.0	2,320	11.0	33,000
4.0	4,100		

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	*2,250	1,230	3,690	7,330	2,060	2,710	13,300	7,080	2,250	3,790	4,280	4,770
2	2,250	1,130	3,540	6,050	1,320	1,710	13,500	6,590	4,040	3,590	1,830	5,210
3	2,320	1,230	3,230	6,010	5,270	6,780	13,500	4,370	3,860	3,760	2,180	5,530
4	2,250	1,300	3,030	5,520	6,420	7,390	13,300	2,770	3,910	3,650	5,460	5,060
5	2,250	1,390	3,030	8,500	6,470	8,040	12,300	6,860	3,840	1,970	5,300	4,610
6	2,250	1,440	3,150	15,000	6,540	7,110	2,000	7,220	3,650	2,040	4,890	1,480
7	2,880	997	1,560	7,020	6,720	8,290	3,550	3,180	2,400	4,140	5,020	2,040
8	3,410	713	1,100	5,790	3,810	9,020	10,100	8,870	2,250	3,850	5,050	2,180
9	3,600	689	2,490	6,020	2,180	6,350	9,780	6,820	4,330	3,730	1,580	3,630
10	7,130	721	3,240	13,100	6,690	9,260	11,900	3,270	3,980	3,780	2,180	3,410
11	5,650	794	3,440	22,300	7,110	9,460	12,900	2,570	3,890	3,600	5,230	3,260
12	3,320	853	3,420	22,100	7,360	10,000	12,300	6,790	3,750	1,340	5,100	3,090
13	3,320	*879	4,110	22,000	7,440	10,600	9,320	6,770	6,470	1,710	5,090	*1,420
14	3,230	836	4,450	13,200	7,060	10,300	14,100	6,800	5,650	5,750	5,150	2,110
15	2,720	1,040	2,590	9,100	4,300	10,300	13,500	6,790	3,150	5,560	4,930	3,560
16	2,110	1,340	5,080	7,630	8,200	7,860	13,300	6,440	4,240	5,560	*1,430	3,340
17	2,040	1,310	6,260	7,710	11,000	10,600	10,100	2,590	4,110	5,450	2,040	3,320
18	2,040	862	5,960	6,660	10,000	12,100	9,250	2,540	5,860	3,950	4,910	3,440
19	2,040	1,290	5,690	5,830	9,780	10,200	4,100	6,260	8,240	1,460	4,820	3,200
20	2,040	2,460	5,660	5,990	9,630	9,900	6,440	5,860	7,720	2,110	4,770	1,310
21	2,040	12,200	5,110	5,980	9,570	9,790	9,440	5,100	2,480	4,230	4,890	1,760
22	2,040	23,300	5,010	6,240	9,260	10,600	9,490	4,840	2,390	4,040	4,740	4,510
23	1,970	18,700	5,620	6,270	9,250	6,400	9,490	4,750	7,530	4,030	1,550	4,410
24	1,500	20,800	5,880	7,460	7,750	13,800	9,450	2,430	6,100	3,960	*2,110	4,440
25	1,600	18,500	5,760	25,400	6,710	22,800	8,270	2,390	5,080	3,900	5,010	5,060
26	1,190	12,700	5,030	24,500	6,900	28,600	4,520	4,690	3,810	1,450	4,840	4,640
27	1,180	6,020	5,470	26,000	6,830	29,200	2,620	4,570	3,800	1,970	4,850	2,400
28	1,120	3,400	4,940	22,400	6,810	27,400	6,030	4,450	2,560	4,160	4,860	2,320
29	1,190	4,420	4,910	21,400	-	26,400	6,660	4,490	2,320	3,970	5,120	6,930
30	1,170	4,500	5,630	8,200	-	19,200	6,390	4,450	4,250	4,110	1,760	7,140
31	1,190	-	5,270	6,720	-	13,900	-	2,250	-	4,110	2,110	-
Total	75,420	147,044	134,430	363,420	191,440	374,100	286,940	157,810	127,890	110,720	123,060	109,380
Mean	2,433	4,901	4,336	11,720	6,837	12,070	9,565	5,091	4,263	3,572	3,970	3,646
(†)	+391	+3,138	+2,104	+1,074	+7,542	+4,662	-662	+613	+1,049	-1,286	-2,278	-2,494

Adjusted for change in reservoir contents

Mean	2,814	8,039	6,440	12,800	14,380	16,730	8,903	5,704	5,312	2,286	1,692	1,152
Cfs/m	0.335	0.956	0.766	1.52	1.71	1.99	1.06	0.678	0.632	0.272	0.201	0.137
In.	0.39	1.07	0.88	1.75	1.78	2.29	1.18	0.78	0.71	0.31	0.23	0.15

	Observed						Adjusted					
Calendar year 1952:	Max	35,900	Min	689	Mean	7,906	Mean	9,043	Cfs/m	1.08	In.	14.66
Water year 1952-53:	Max	28,600	Min	689	Mean	6,032	Mean	7,142	Cfs/m	0.849	In.	11.52

\* Discharge measurement made on this day.

† Change in contents, equivalent in cubic feet per second, in Philpott and John H. Kerr Reservoirs, furnished by Corps of Engineers.

## Roanoke River near Scotland Neck, N. C.

Location.--Lat 36°12', long. 77°23', on right bank 10 ft upstream from bridge on U. S. Highway 258, 1 mile downstream from tributary on right, 3 miles downstream from Bridgers Creek, 5 $\frac{1}{4}$  miles north of Scotland Neck, Halifax County, and at mile 102.5.

Drainage area.--8,700 sq mi, approximately.

Records available.--July 1896 to May 1903 (published as "at Neal"), August 1940 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 5.77 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. July 1896 to May 1903 chain gage at different datum at site of auxiliary gage. Aug. 15 to Oct. 18, 1940, wire-weight gage at present site and datum. Auxiliary water-stage recorder 8.9 miles downstream. Aug. 15, 1940, to Jan. 13, 1941, auxiliary staff gage at same site as present auxiliary gage.

Average discharge.--19 years (1896-1902, 1940-53), 9,066 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 26,400 cfs Mar. 29; maximum gage height, 28.12 ft Mar. 30; minimum discharge, 750 cfs Nov. 10.

1896-1903, 1940-53: Maximum discharge, 260,000 cfs Aug. 19, 1940; maximum gage height, 41.98 ft Aug. 19, 1940; minimum discharge, that of Nov. 10, 1952.

Maximum stage observed during period June 1930 to July 1940, 35.1 ft Jan. 24, 1936 (from unpublished U. S. Weather Bureau records adjusted to present datum). The following data on major floods (adjusted to present datum) were furnished by State Highway and Public Works Commission: 1877, about 37.8 ft; March 1912, 36.8 ft; 1919, 34.9 ft; 1924, 32.9 ft.

Remarks.--Records good. Flow regulated since August 1950 by Philpott Reservoir on Smith River (usable capacity, 145,200 acre-ft) and by John H. Kerr Reservoir (usable capacity, 2,324,300 acre-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	2,600	1,280	4,240	7,780	7,100	4,860	18,200	7,650	2,440	3,880	4,170	3,400
2	2,350	1,290	3,960	7,270	4,100	3,320	16,600	7,530	2,980	3,770	3,030	4,860
3	2,320	1,310	3,590	6,750	4,120	4,470	15,500	5,520	3,880	3,700	1,940	5,410
4	2,320	1,340	3,390	6,140	6,210	7,820	15,400	4,620	3,920	3,770	3,500	5,470
5	2,320	1,360	3,320	6,090	6,730	8,560	14,400	5,500	3,880	3,100	5,120	4,880
6	2,320	1,500	3,560	14,400	6,590	8,520	7,680	7,350	3,700	2,200	5,090	3,390
7	2,400	1,440	3,080	12,300	6,800	8,380	7,600	8,040	3,100	2,920	5,010	1,790
8	3,170	1,000	1,790	7,250	5,250	9,520	10,400	7,900	2,490	3,920	5,360	2,060
9	3,480	800	1,500	6,310	4,390	7,840	10,400	7,370	3,030	3,770	3,630	2,540
10	4,570	750	2,930	9,670	5,110	8,870	12,200	5,130	4,100	3,770	2,080	3,450
11	7,580	775	3,520	16,500	7,420	9,860	13,400	3,610	3,950	3,740	3,690	3,290
12	10,500	825	3,850	20,600	7,800	10,600	13,600	5,050	3,980	2,880	5,120	3,230
13	3,450	*930	3,810	21,400	8,220	11,100	10,000	7,050	4,250	1,590	5,140	2,640
14	3,560	960	4,500	19,500	7,920	11,700	14,300	7,210	6,730	3,920	5,360	*1,640
15	3,290	930	4,120	14,100	5,640	11,100	15,000	7,070	4,570	5,560	5,230	2,310
16	2,600	1,280	4,110	10,100	7,660	9,920	14,400	7,070	3,760	5,690	3,440	3,230
17	2,210	1,500	6,110	8,740	12,800	11,000	12,700	4,710	4,090	5,500	1,920	3,530
18	2,060	1,390	2,350	8,040	12,000	11,800	11,200	2,890	5,070	4,540	3,780	3,230
19	2,130	1,070	6,070	6,700	10,800	12,700	6,280	4,420	7,730	3,060	5,070	3,290
20	2,130	1,500	5,990	5,940	10,900	11,200	5,540	6,420	8,300	1,850	5,010	2,600
21	2,080	6,500	5,690	6,270	10,400	11,200	9,660	6,090	5,090	2,980	5,190	1,510
22	2,100	18,000	5,720	6,000	10,400	11,100	9,910	5,390	2,740	4,030	5,010	2,640
23	2,080	20,400	5,770	7,030	9,500	8,280	10,100	5,070	5,420	4,100	3,330	4,330
24	1,950	19,900	6,100	6,220	9,100	11,600	10,100	3,920	7,050	3,990	*1,920	4,390
25	1,660	20,600	6,130	16,700	7,910	17,000	10,000	2,500	5,790	3,990	3,490	4,580
26	1,610	17,500	5,490	22,400	7,490	22,000	6,060	3,510	4,450	3,040	4,810	4,890
27	1,540	12,700	5,630	22,900	7,340	24,500	4,530	4,770	3,940	1,750	4,870	3,890
28	1,280	6,700	5,560	23,700	7,270	25,800	4,630	4,630	3,180	2,800	4,770	2,870
29	1,280	5,140	5,120	23,200	-	25,800	6,350	4,680	2,610	3,880	4,960	4,600
30	1,280	4,830	5,660	18,300	-	25,000	6,660	4,680	3,200	3,960	3,610	7,250
31	1,280	-	6,270	11,900	-	21,700	-	3,700	-	4,100	2,020	-
Total	78,890	155,490	142,530	380,180	215,970	386,970	322,800	171,050	129,300	111,730	126,690	106,990
Mean	2,545	5,183	4,598	12,260	7,113	12,480	10,780	5,518	4,310	3,604	4,087	3,566
(t)	+381	+3,138	+2,104	+1,074	+7,542	+4,662	-662	+613	+1,049	-1,286	-2,278	-2,494

Adjusted for change in reservoir contents

	Observed				Adjusted			
Mean	2,926	8,321	6,702	13,540	15,260	17,140	10,100	6,131
Cfs/m	0.356	0.956	0.770	1.53	1.75	1.97	1.16	0.705
In.	0.39	1.07	0.89	1.76	1.82	2.27	1.29	0.81
Calendar year 1952:	Max	30,000	Min	750	Mean	8,328	Mean	9,465
Water year 1952-53:	Max	25,800	Min	750	Mean	6,380	Mean	7,490
							Cfs/m	1.09
							In.	14.82
								0.861
								11.68

\* Discharge measurement made on this day.

+ Change in contents, equivalent in cubic feet per second, in Philpott and John H. Kerr Reservoirs, furnished by Corps of Engineers.

## Tar River near Tar River, N. C.

Location.--Lat 36°12', long. 78°34', on right bank 50 ft downstream from bridge on State Highway 96, 1½ miles upstream from Fishing Creek, 2½ miles east of town of Tar River, Granville County, and 8 miles south of Oxford.

Drainage area.--161 sq mi.

Records available.--November 1939 to September 1953.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 280 ft (from topographic map).

Average discharge.--14 years, 156 cfs.

Extremes.--Maximum discharge during year, 7,500 cfs Nov. 20 (gage height, 13.78 ft); minimum, 0.2 cfs Sept. 24, 35.

1939-53: Maximum discharge, 10,600 cfs Sept. 18, 1945 (gage height, 16.51 ft); minimum, 0.2 cfs Nov. 9-22, 1941, Oct. 18, 1943, Sept. 24, 25, 1953.

Revisions.--The maximum discharge for the water year 1941 has been revised to 4,380 cfs Nov. 15, 1940 (gage height, 10.64 ft), superseding figure published in WSP 922, 972.

Remarks.--Records fair except those for period of no gage-height record, which are poor. Town of Oxford diverts about 0.5 cfs for municipal water supply.

Revisions (water years).--WSP 972: 1940-41. WSP 1112: 1941 (calendar year figures).

Rating table, water year 1952-53 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-31, June 20-26,  
June 29 to July 23)

0.7	0.2	1.4	21	4.0	524
.8	1.1	1.7	37	5.0	867
.9	3.0	2.0	55	7.0	1,830
1.0	5.7	2.5	90	9.0	3,070
1.2	12	3.0	223	11.0	4,740

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	11	63	1,200	150	a160	*122	340	20	44	4.9	0.6
2	14	11	63	317	131	a400	216	134	18	34	4.6	.5
3	20	11	90	366	114	a500	157	86	16	28	4.1	.4
4	16	12	88	333	119	a800	119	70	15	24	4.1	*.4
5	14	13	77	197	112	a700	119	66	14	20	3.8	.3
6	12	13	100	147	100	a340	108	114	13	20	3.5	.4
7	12	13	103	119	459	a260	418	301	14	*18	3.5	.5
8	11	14	79	112	534	a220	332	105	16	17	3.5	.5
9	18	13	69	750	267	a190	174	78	18	16	3.5	.5
10	47	13	66	1,230	177	a180	134	75	20	15	3.3	.6
11	50	18	313	664	147	a170	108	56	20	14	3.0	.7
12	34	38	298	301	296	a400	465	48	20	12	2.8	.7
13	26	40	154	197	426	a900	1,470	44	1,180	11	2.8	.7
14	22	30	108	157	213	a340	762	41	681	10	2.6	.4
15	*18	30	90	134	2,260	a340	267	38	95	9.4	2.6	.3
16	16	99	76	119	1,930	a440	396	36	60	8.8	2.4	.3
17	15	69	110	384	a260	233	55	1,560	8.5	*2.0	1.4	.4
18	14	44	65	108	247	a220	160	41	2,250	7.9	1.9	.4
19	13	35	62	112	a260	a190	134	46	160	7.2	2.0	.4
20	12	3,610	59	105	a230	a170	112	114	91	39	1.9	.3
21	11	4,620	111	102	a1,000	a160	102	69	68	39	1.7	.3
22	11	1,210	190	122	a700	a150	92	47	54	16	1.7	.6
23	10	308	119	108	a360	a150	87	38	45	13	1.5	*.4
24	9.8	195	95	1,990	a260	a4,000	82	35	38	11	1.0	.2
25	10	140	85	1,800	a240	a3,000	75	36	32	8.8	.8	.2
26	11	117	75	355	a220	a1,000	69	134	28	7.9	.8	.3
27	11	103	68	223	a190	a300	65	59	50	7.2	.7	12
28	11	89	62	230	a170	a180	60	36	1,000	7.2	.6	20
29	11	75	57	378	-	a150	57	27	117	6.3	.6	10
30	11	68	54	210	-	a130	63	24	63	*6.0	.5	7.6
31	10	-	851	170	-	a120	-	22	-	5.4	.5	-
Total	515.8	11,060	3,859	12,446	11,696	16,520	6,758	2,411	7,796	491.6	73.2	60.9
Mean	16.6	369	124	401	418	533	225	77.8	260	15.8	2.56	2.03
Cfsm	0.103	2.29	0.770	2.49	2.60	3.31	1.40	0.483	1.61	0.098	0.015	0.013
In.	0.12	2.55	0.89	2.87	2.70	3.82	1.56	0.56	1.80	0.11	0.02	0.01
Calendar year 1952: Max	6,050				Min 6.3	Mean 222	Cfsm 1.38	In. 18.78				
Water year 1952-53: Max	4,620				Min 0.2	Mean 202	Cfsm 1.25	In. 17.01				

Peak discharge (base, 2,000 cfs).--Nov. 20 (12 p.m.) 7,500 cfs (13.78 ft); Jan. 24 (12 p.m.) 3,520 cfs (9.62 ft); Feb. 15 (10 p.m.) 4,200 cfs (10.39 ft); Mar. 24 (time unknown) 7,280 cfs (13.57 ft); June 18 (1 a.m.) 4,200 cfs (10.43 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage and records for Flat River at Bahama.

## Tar River near Nashville, N. C.

Location.--Lat 35°51'00", long. 77°55'50", on left bank 15 ft downstream from Cockrell Bridge on State Highway 58, 5 miles upstream from Sapony Creek, and 10 miles south of Nashville, Nash County.

Drainage area.--701 sq mi.

Records available.--October 1928 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 110.96 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Oct. 18, 1928, to Oct. 11, 1929, and Mar. 26, 1930, to Sept. 18, 1934, chain gage at bridge at same datum. Oct. 11, 1929, to Mar. 26, 1930, staff gage at same datum 45 ft upstream. Oct. 13, 1934, to Feb. 27, 1935, staff gage at present site and datum.

Average discharge.--25 years, 752 cfs.

Extremes.--Maximum discharge during year, 6,600 cfs Nov. 25 (gage height, 13.07 ft); minimum, 13 cfs Sept. 20 (gage height, 1.59 ft); minimum daily, 17 cfs Sept. 19.

1928-53: Maximum discharge, 16,900 cfs Dec. 3, 1934 (gage height, 20.8 ft); minimum observed, 10 cfs Sept. 20, 1932 (gage height, 1.50 ft).

Revisions.--The maximum discharge observed for the water year 1930 has been revised to 11,100 cfs Oct. 6, 1929 (gage height, 16.98 ft), superseding figure published in WSP 697.

Remarks.--Records fair except those for periods of no gage-height record, which are poor. Considerable diurnal fluctuation and some regulation at low flow caused by small mills above station.

Revisions.--WSP 822: Drainage area. Revised figures of discharge, in cubic feet per second, for high-water period in the water year 1930, superseding those published in WSP 697, are given herewith:

1929		1929-Con.	
Oct. 2.....	7,620	Oct. 5.....	10,400
3.....	8,820	6.....	10,800
4.....	9,100	7.....	6,580

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October 1929.....	10,800	306	2,930	4.18	4.82
Calendar year 1929.....	10,800	186	1,202	1.71	23.27
Water year 1929-30.....	10,800	38	832	1.19	16.12

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	159	172	433	1,750	770	745	725	835	201	680	99	70
2	175	164	425	2,640	705	860	1,040	1,090	198	441	86	58
3	181	175	489	2,420	635	1,290	998	835	189	345	67	63
4	192	181	521	1,340	*635	1,770	860	590	184	292	99	39
5	213	184	521	1,160	680	2,090	725	521	170	285	104	56
6	186	198	537	835	635	2,200	705	489	170	254	99	60
7	178	213	505	705	655	1,620	770	655	151	288	84	24
8	178	192	493	635	1,680	1,070	1,170	975	192	281	92	69
9	207	181	457	635	2,250	905	1,360	705	473	285	111	68
10	314	178	429	1,310	1,430	815	905	529	401	235	111	67
11	449	207	497	2,250	998	745	745	469	281	207	97	73
12	361	274	615	2,470	885	860	1,200	429	264	186	95	62
13	295	321	835	1,400	1,430	1,340	2,340	385	2,550	178	95	61
14	264	306	590	860	1,770	2,280	2,810	357	4,660	178	111	22
15	232	295	495	725	2,100	2,870	3,330	337	5,600	167	97	58
16	222	441	441	655	3,470	3,050	2,500	314	5,600	148	95	59
17	210	461	413	615	4,240	3,190	1,430	288	2,580	136	102	48
18	204	441	397	565	4,800	2,460	1,340	295	3,680	148	274	38
19	186	341	385	615	3,990	1,340	950	345	4,450	133	295	17
20	189	1,080	377	590	1,140	1,110	860	561	4,880	126	213	47
21	181	2,620	457	557	1,120	950	745	680	4,150	143	151	22
22	170	3,800	*600	549	1,820	835	680	561	725	295	116	46
23	170	4,880	*650	545	2,420	795	635	385	565	216	95	26
24	172	6,050	*550	635	1,870	815	590	310	497	181	76	*53
25	178	5,140	489	1,820	1,200	1,820	557	*285	433	161	97	21
26	172	838	445	3,330	1,040	3,190	529	285	361	146	80	28
27	175	655	421	4,310	925	4,280	501	437	325	116	92	88
28	178	590	369	3,240	835	3,120	473	397	732	116	72	544
29	181	517	377	1,040	-	1,020	288	1,980	123	80	615	50
30	181	461	357	1,200	-	860	449	248	1,720	*99	78	271
31	170	-	770	925	-	770	-	204	-	99	47	-
Total	6,523	31,556	15,298	42,326	46,128	51,065	32,375	15,084	48,262	6,688	3,410	2,773
Mean	210	1,052	493	1,365	1,647	1,647	1,079	487	1,609	216	110	92.4
Cfs/m	0.300	1.50	0.703	1.95	2.35	2.35	1.54	0.695	2.30	0.308	0.157	0.132
In.	0.35	1.67	0.81	2.25	2.45	2.71	1.72	0.80	2.56	0.35	0.18	0.15

Calendar year 1952: Max 7,100 Min 72 Mean 831 Cfs/m 1.18 In. 16.12  
Water year 1952-53: Max 6,050 Min 17 Mean 826 Cfs/m 1.18 In. 16.00

Peak discharge (base, 4,000 cfs).--Nov. 25 (4 a.m.) 6,600 cfs (13.07 ft); Jan. 28 (3 a.m.) 4,660 cfs (10.78 ft); Feb. 19 (5 a.m.) 5,120 cfs (11.41 ft); Mar. 28 (2 a.m.) 4,590 cfs (10.69 ft); June 16 (3 a.m.) 5,780 cfs (12.21 ft); June 21 (6 a.m.) 5,120 cfs (11.37 ft).

\* 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.

## PAMLICO RIVER BASIN

Sapony Creek near Nashville, N. C.

Location.--Lat 35°53'05", long. 77°54'45", on downstream side of highway bridge, 1 mile upstream from mouth and 6½ miles southeast of Nashville, Nash County.

Drainage area.--64.8 sq mi.

Records available.--April 1950 to September 1953.

Gage.--Wire-weight gage read twice daily. Altitude of gage is 107 ft (from topographic map). Prior to July 14, 1953, staff gage at same site and datum.

Extremes.--Maximum and minimum discharges for the water years 1950-53 are contained in the following table:

Water year	Maximum			Minimum observed		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1950†	Aug. 25, 1950	1,630	12.30	June 18, 19, 1950	0.78	0.74
1951	Apr. 11, 1951	316	5.40	July 14, 1951	.09	.58
1952	Mar. 5, 1952	1,350	11.20	July 29, 1952	.2	.10
1953	Apr. 14, 1953	970	9.6	Sept. 17, 1953	.04	.72

† Period April to September.

a From graph based on gage readings.

1950-53: Maximum discharge, 1,630 cfs Aug. 25, 1950 (gage height, 12.30 ft, from graph based on gage readings); minimum observed, 0.04 cfs Sept. 17, 1953.

Remarks.--Records fair except those below 3 cfs, which are poor.

Discharge, in cubic feet per second, April to September 1950

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							50	119	6.8	51	11	6.2
2							34	166	6.2	37	10	5.5
3							29	198	4.5	13	13	6.8
4							25	125	6.8	8.1	9.6	4.8
5							27	58	6.5	4.8	8.5	5.8
6							34	29	6.2	9.6	8.1	14
7							39	17	*5.0	30	10	15
8							29	14	3.8	103	8.5	9.6
9							22	10	2.8	146	7.8	14
10							19	8.1	2.3	*80	6.2	38
11							19	8.7	5.8	*40	3.8	32
12							17	44	6.8	53	3.5	43
13							17	74	5.5	56	3.0	66
14							16	95	3.8	80	3.0	86
15							14	80	2.7	160	2.5	112
16							14	50	2.0	411	2.5	61
17							*13	40	1.2	434	8.1	20
18							14	23	.95	*324	12	14
19							14	16	2.4	174	12	9.6
20							14	14	36	69	6.8	8.1
21							15	12	98	27	5.5	7.5
22							16	9.6	178	43	3.5	7.2
23							15	7.2	117	86	2.8	36
24							14	6.8	31	83	96	20
25							13	6.5	14	23	1,180	112
26							12	5.5	9.2	14	558	36
27							10	5.0	12	16	148	17
28							9.6	4.2	18	29	*34	14
29							17	4.0	24	32	14	13
30							88	4.0	17	18	10	13
31							-	4.5	-	12	7.8	-
Total							646.6	1,258.1	656.25	2,648.5	2,209.5	847.1
Mean							21.6	40.6	21.2	85.4	71.3	28.2
Cfsm							0.333	0.627	0.327	1.32	1.10	0.435
In.							0.37	0.72	0.37	1.52	1.27	0.49
Calendar year	: Max			Min	Mean			Cfsm	In.			
Water year	: Max			Min	Mean			Cfsm	In.			

## Sapony Creek near Nashville, N. C.--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	13	25	36	58	36	32	53	16	2.0	6.2	8.1	3.2
2	12	24	36	58	40	36	*46	14	1.5	3.2	4.8	3.0
3	10	23	34	50	43	38	69	12	.95	1.8	5.0	3.0
4	9.2	22	43	46	40	36	92	11	.78	3.5	11	3.2
5	23	21	56	43	40	36	182	32	*.60	3.0	13	3.0
6	43	23	98	43	36	40	158	86	.60	2.3	11	1.5
7	50	22	182	46	38	50	75	86	.78	1.6	6.5	1.2
8	43	23	150	58	56	43	86	46	1.0	.86	3.8	.95
9	*46	23	105	*89	64	36	142	25	1.3	.43	20	.86
10	40	23	134	126	66	32	234	17	3.0	.37	53	*.52
11	36	23	119	75	50	25	294	12	3.2	.27	43	.37
12	29	32	92	55	*48	21	185	10	2.7	.17	19	.37
13	19	34	154	50	46	23	86	9.2	1.8	.11	14	.37
14	13	34	105	48	43	59	61	7.8	61	*.10	22	.37
15	10	32	58	46	40	98	50	*6.2	66	.11	81	.95
16	8.8	29	53	48	38	119	40	5.0	40	.11	48	4.0
17	8.1	29	50	53	38	72	38	6.2	9.6	.52	12	4.0
18	7.8	27	48	48	53	46	36	5.5	8.1	.69	7.8	3.2
19	7.5	24	43	43	72	46	34	5.8	8.5	2.3	11	2.5
20	22	23	40	40	86	112	34	7.8	6.8	7.2	11	2.3
21	38	27	48	38	58	198	38	8.8	5.5	3.2	11	2.0
22	46	27	43	38	56	283	43	8.8	4.0	2.3	6.5	1.6
23	40	27	40	34	58	198	40	8.5	2.7	.69	11	.69
24	38	27	40	36	50	105	61	6.8	2.0	13	18	.95
25	48	48	43	38	40	69	78	5.5	*1.3	36	12	.69
26	50	64	40	38	40	61	64	4.2	.95	9.2	9.6	1.8
27	46	*66	40	38	54	50	36	3.8	.78	9.2	6.5	2.0
28	36	58	38	36	40	27	3.0	11	5.8	5.8	5.8	1.6
29	34	46	36	34	-	39	21	2.5	12	3.8	5.2	1.2
30	29	40	43	32	-	43	17	2.0	9.2	11	4.8	.86
31	27	-	53	34	-	48	-	2.3	-	15	4.0	-
Total	882.4	946	2,082	1,517	1,343	2,132	2,401	476.7	269.64	144.03	499.4	52.25
Mean	28.5	31.5	67.2	48.9	48.0	68.8	80.0	15.4	8.99	4.65	16.1	1.74
Cfsm	0.440	0.486	1.04	0.755	0.741	1.06	1.23	0.238	0.139	0.072	0.248	0.027
In.	0.51	0.54	1.19	0.87	0.77	1.22	1.38	0.27	0.15	0.08	0.29	0.03

Calendar year 1950: Max - Min - Mean - Cfsm - In. -  
 Water year 1950-51: Max 294 Min 0.10 Mean 34.9 Cfsm 0.539 In. 7.30

\* 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	0.86	2.0	5.8	22	216	361	80	64	27	0.6	32	78
2	1.1	2.2	6.2	20	112	216	78	54	21	.6	62	126
3	.60	4.8	6.2	18	80	*216	75	24	12	.5	92	158
4	.52	7.2	*7.5	15	98	500	72	18	8.2	.4	61	37
5	.43	5.2	14	19	134	1,120	58	14	5.6	.4	24	15
6	.43	3.8	20	32	182	910	52	11	4.2	.4	9.2	14
7	.40	18	16	32	166	517	48	10	3.5	.6	8.8	8.6
8	.69	25	12	22	98	283	46	11	2.9	2.5	28	7.3
9	.69	15	10	25	69	158	*43	13	3.0	7.9	53	6.2
10	.95	6.8	8.8	*46	58	134	39	18	2.1	9.7	119	6.0
11	1.8	4.8	7.8	69	53	150	39	24	1.7	4.4	105	5.6
12	2.5	4.0	7.2	78	48	174	37	24	1.3	3.5	37	*7.1
13	1.8	3.5	*6.8	80	43	182	39	19	1.1	2.6	12	6.7
14	1.2	3.8	6.5	56	46	174	41	18	1.0	*2.1	5.6	6.0
15	.95	4.2	7.2	48	53	119	35	12	3.0	1.4	3.6	4.7
16	.78	5.5	8.8	38	64	105	32	8.7	33	1.0	4.1	3.6
17	.60	7.2	9.2	34	92	28	28	4.6	12	.9	14	3.2
18	.43	7.2	12	29	126	86	27	8.7	25	.9	*11	2.9
19	.40	5.2	27	25	174	98	24	34	16	6.3	9.0	4.6
20	.40	5.0	32	24	150	112	22	58	7.9	2.5	65	7.1
21	.40	4.5	38	23	98	150	19	72	5.8	2.6	98	11
22	.60	4.5	53	46	72	134	18	50	3.9	1.3	119	18
23	.52	4.5	58	92	64	98	15	30	3.5	1.0	66	41
24	*.78	5.0	58	126	69	150	12	12	3.3	.6	20	39
25	.86	5.5	36	142	182	273	22	12	3.6	.4	12	26
26	.86	6.5	29	105	263	502	35	*9.9	2.5	.4	8.8	15
27	.86	8.5	32	69	409	434	105	13	*1.5	.4	12	7.7
28	1.1	7.5	29	56	434	225	142	16	1.1	.3	14	4.6
29	1.2	6.5	27	86	460	134	134	10	.9	.2	16	4.9
30	1.3	6.5	27	150	-	105	92	9.7	.7	.4	27	4.1
31	1.6	-	23	225	-	92	-	11	-	15	36	-
Total	27.61	199.9	641.0	1,852	4,113	8,004	1,509	673.6	218.3	71.8	1,184.1	678.9
Mean	0.891	6.66	20.7	59.7	142	258	50.3	21.7	7.28	2.32	38.2	22.6
Cfsm	0.014	0.103	0.319	0.921	2.19	3.98	0.776	0.335	0.112	0.036	0.590	0.349
In.	0.02	0.11	0.37	1.06	2.36	4.59	0.87	0.39	0.13	0.04	0.68	0.39

Calendar year 1951: Max 294 Min 0.10 Mean 26.6 Cfsm 0.410 In. 5.56  
 Water year 1951-52: Max 1,120 Min 0.2 Mean 52.4 Cfsm 0.809 In. 11.01

\* Discharge measurement made on this day.

## Sapony Creek near Nashville, N. C.--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	*4.3	3.0	32	142	59	80	36	33	1.1	21	0.15	0.17
2	3.8	3.0	33	243	50	90	68	71	.85	18	.15	.15
3	4.7	3.0	54	253	50	134	97	86	.85	13	.15	.11
4	4.7	3.2	64	158	*53	234	142	39	.68	11	.15	.11
5	4.5	3.8	78	104	65	265	90	26	.68	17	.75	.09
6	3.8	4.7	74	83	83	216	59	21	.68	13	.95	.13
7	3.8	5.2	67	68	86	166	59	36	.68	9.5	1.2	.13
8	3.3	5.2	61	62	134	111	68	62	2.5	8.8	1.0	.23
9	6.6	4.7	51	62	243	*86	90	83	4.4	10	2.0	.45
10	16.	5.2	44	83	338	71	71	74	9.2	8.2	2.7	.27
11	16	7.4	58	104	234	65	41	59	6.6	7.2	1.8	.19
12	13	15	78	118	142	80	80	29	6.6	6.5	1.4	.11
13	12	16	102	104	126	142	*256	19	109	5.4	1.7	.08
14	9.6	*13	81	77	158	225	811	15	158	3.0	*4.6	.06
15	7.8	16	58	59	283	283	612	13	409	1.7	3.5	.08
16	7.8	25	44	53	338	243	294	11	409	1.7	2.3	.06
17	8.3	28	40	47	473	*385	142	9.8	198	1.4	17	.04
18	7.4	29	35	47	421	385	83	9.5	198	1.2	36	.06
19	6.6	20	31	56	225	216	65	9.5	*612	1.0	19	.05
20	5.5	72	30	62	118	126	56	16	421	.95	6.9	.08
21	4.5	243	44	65	118	97	56	21	142	1.2	4.1	.06
22	4.0	487	*67	56	166	74	44	18	32	1.2	2.5	.06
23	3.8	487	102	50	263	65	35	9.8	36	1.2	1.8	.05
24	3.3	316	95	62	305	68	30	6.3	21	.95	1.4	*.06
25	3.3	207	64	83	207	77	26	*4.1	20	.75	1.0	.05
26	3.3	88	51	126	134	97	22	4.1	16	.45	.85	.08
27	3.8	58	43	142	118	104	20	3.3	14	.45	.68	15
28	*3.5	48	37	97	104	80	17	2.7	15	.35	.60	7.6
29	2.9	41	32	68	-	50	16	2.0	*31	.30	.40	6.0
30	2.7	37	28	71	-	44	17	1.6	37	*.25	.25	5.2
31	2.7	-	88	68	-	39	-	1.3	-	.19	*.23	-
Total	187.3	2,294.4	1,766	2,873	5,094	4,396	3,503	796.0	2,912.82	166.64	117.21	36.81
Mean	6.04	76.5	57.0	92.7	182	142	117	25.7	97.1	5.38	3.78	1.23
Cfsm	0.093	1.18	0.880	1.43	2.81	2.19	1.81	0.397	1.50	0.063	0.058	0.019
In.	0.11	1.32	1.01	1.65	2.92	2.52	2.01	0.46	1.67	0.10	0.07	0.02
Calendar year 1952: Max			1,120		Min 0.2	Mean 61.6		Cfsm 0.951		In. 12.95		
Water year 1952-53: Max			811		Min 0.04	Mean 66.1		Cfsm 1.02		In. 13.86		

\* Discharge measurement made on this day.

## Fishing Creek near Enfield, N. C.

Location.--Lat 36°09', long. 77°42', on right bank 15 ft downstream from bridge on U. S. Highway 301, 2,000 ft downstream from Atlantic Coast Line Railroad bridge, 2 miles southwest of Enfield, Halifax County, and 4½ miles downstream from Rocky Creek.

Drainage area.--521 sq mi.

Records available.--October 1923 to September 1953 in reports of Geological Survey. October 1918 to December 1936 (annual discharge summaries) in Bulletin 39 of North Carolina Department of Conservation and Development. Gage-height records collected at site 2,000 ft upstream July 1910 to April 1914 and at same site since May 1914 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 76.26 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Oct. 27, 1932, staff gage at highway bridge at same datum. July 1, 1910, to Apr. 30, 1914, U. S. Weather Bureau gages at site 2,000 ft upstream at different datum and since May 1, 1914, at present site and datum.

Average discharge.--35 years (1918-53), 511 cfs.

Extremes.--Maximum discharge during year, 3,390 cfs Nov. 23 (gage height, 13.35 ft); minimum, 25 cfs Sept. 24-26 (gage height, 0.26 ft).

1923-53: Maximum discharge, 12,600 cfs Dec. 2, 1934, Aug. 18, 1940; maximum gage height, 17.72 ft Aug. 18, 1940; minimum discharge, about 10 cfs Oct. 19, 1933.

Flood of Apr. 19, 1910, reached a stage of 21.0 ft (from floodmarks) at site 2,000 ft upstream at different datum. Flood of July 24, 1919, reached a stage of 19.6 ft (discharge, 20,300 cfs).

Remarks.--Records good except those computed from once-daily staff-gage readings, which are fair. Slight diurnal fluctuation and some regulation at low flow caused by mills above station.

Revisions (water years).--WSP 872: 1935(M). WSP 1172: Drainage area.

Rating tables, water year 1952-53, except periods when rate of change in stage was a factor (gage height, in feet, and discharge, in cubic feet per second)  
{Shifting-control method used Nov. 12-15}

Oct. 1 to Nov. 22

Nov. 23 to Sept. 30

1.2	120	10.0	1,720	0.3	29	4.0	465
2.0	208	12.0	2,400	1.0	95	7.0	1,020
4.0	480	14.0	4,200	2.0	197		
7.0	1,020						

Note.--Same as preceding table above 7.0 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	*118	130	310	k1,680	495	510	480	k1,030	143	296	68	44
2	117	135	303	1,630	480	558	574	960	138	230	62	43
3	121	135	375	g1,130	435	k1,050	591	593	135	197	*61	41
4	140	145	435	g940	*435	1,420	480	435	130	171	60	37
5	150	150	405	g780	510	1,550	450	368	124	169	60	35
6	145	166	465	g574	495	1,310	480	390	117	214	62	32
7	127	178	495	g460	465	940	510	525	113	183	62	31
8	120	161	420	g450	k1,200	720	880	540	127	162	103	33
9	156	150	360	g495	1,630	*626	780	480	159	174	137	35
10	256	145	339	g1,040	1,260	557	557	390	183	163	108	41
11	421	161	510	g1,350	860	525	480	348	202	142	85	49
12	385	190	740	g1,100	k798	617	k503	*290	230	132	71	46
13	262	238	591	g760	1,350	1,060	k1,920	260	k1,050	123	70	41
14	208	*220	465	g574	1,240	1,220	2,540	242	1,750	115	108	42
15	184	226	390	g495	k1,560	k1,260	2,360	224	1,600	108	110	42
16	186	k601	353	465	2,780	2,190	k1,600	208	k1,110	105	96	39
17	156	677	324	455	3,190	*2,400	1,530	202	k780	99	*78	39
18	150	465	317	420	2,650	*2,120	1,080	202	k2,100	84	k140	36
19	145	330	310	450	k1,460	k1,250	760	242	2,710	87	148	35
20	140	k636	296	465	860	880	644	k848	2,710	85	102	31
21	135	k2,250	346	435	780	700	540	k634	k1,420	87	77	30
22	129	2,780	*525	405	1,240	591	480	368	k516	110	68	27
23	125	3,290	g510	390	1,260	557	450	266	k1,450	138	63	26
24	126	k2,190	g420	420	960	574	420	224	k775	114	62	25
25	130	k1,000	g360	872	760	800	405	202	339	99	59	25
26	135	574	g332	k1,180	681	940	368	196	248	95	59	26
27	135	465	g317	1,220	626	1,100	346	194	222	85	57	40
28	140	405	g303	950	557	1,060	324	182	k1,080	77	55	k449
29	140	368	g284	662	-	669	303	162	1,080	72	51	350
30	135	332	272	644	-	540	332	149	k483	72	49	200
31	135	-	k551	540	-	495	-	144	-	72	46	-
Total	5,112	18,893	12,423	23,411	31,017	30,789	22,947	11,496	23,224	4,068	2,435	1,968
Mean	165	630	401	755	1,108	993	774	371	131	78.5	65.6	55.6
Cfsm	0.317	1.21	0.770	1.45	2.13	1.91	1.47	0.712	0.251	0.151	0.126	0.126
In.	0.36	1.35	0.89	1.67	2.21	2.20	1.64	0.82	1.66	0.29	0.17	0.14

Calendar year 1952: Max 5,050 Min 59 Mean 556 Cfsm 1.07 In. 14.53  
Water year 1952-53: Max 3,290 Min 25 Mean 514 Cfsm 0.987 In. 13.40

\* Discharge measurement made on this day.

g Computed from once-daily staff-gage readings.

k Computed by using rate of change in stage as a factor.

## Tar River at Tarboro, N. C.

Location.--Lat 35°53'40", long. 77°32'00", near right bank on downstream end of pier of bridge on U. S. Highway 64 in Tarboro, Edgecombe County,  $6\frac{1}{2}$  miles downstream from Fishing Creek, and at mile 46.2.

Drainage area.--2,140 sq mi, approximately.

Records available.--July 1896 to December 1900, October 1931 to September 1953. Gage-height records collected at same site since 1905 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 10.37 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. July 1896 to December 1900 chain gage at Atlantic Coast Line Railroad bridge, 600 ft downstream at different datum. Oct. 1 to Dec. 8, 1931, chain gage at site 100 ft upstream at present datum.

Average discharge.--26 years, 2,244 cfs.

Extremes.--Maximum discharge during year, 9,950 cfs Feb. 20; maximum gage height, 18.13 ft Feb. 20; minimum discharge, 108 cfs Sept. 24, 26 (gage height, 1.02 ft). 1896-1900, 1931-53: Maximum discharge, 37,200 cfs Aug. 20, 1940 (gage height, 31.77 ft); minimum, 36 cfs Oct. 17, 22, 1933 (gage height, 0.45 ft). Maximum stage known, 34.0 ft, present datum, July 27, 1919, from floodmarks 20 ft downstream (discharge, 52,800 cfs, from rating curve extended above 38,000 cfs).

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

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
(†)	1899	Feb. 11, 1899	22,400	25.00
727	1932	Mar. 12, 1932	12,100	20.24
742	1933	Apr. 24, 1933	8,050	15.95

† Published in 21st Annual Report, Part 4.

Remarks.--Records good. Some diurnal fluctuation at low flow caused by mills above station. Town of Henderson diverted an average of 2.2 cfs during water year 1953 out of basin above station. Town of Tarboro diverts about 1 cfs for municipal supply.

Revisions (water years).--WSP 1172: Drainage area. Revised figures of discharge, in cubic feet per second, for the water years 1899, 1900, 1932, and 1933, superseding those published in 21st Annual Report, Part 4, WSP 727 and 742, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1899		1932-Con.		1933		1933-Con.	
Feb. 8	13,600	Mar. 9	7,420	Jan. 1	5,580	Feb. 22	4,440
9	17,800	10	8,890	2	4,760	23	4,680
11	21,000	11	10,900	27	4,940	24	4,440
20	22,400	12	11,800	28	5,980	Apr. 18	4,400
20	14,000	13	10,900	29	6,850	19	5,670
21	17,900	14	8,050	30	6,920	20	6,650
22	19,300	15	4,940	31	5,980	21	7,470
23	19,900	Dec. 16	4,560	Feb. 1	4,750	22	7,910
24	19,400	17	5,260	13	4,380	23	7,980
25	17,900	18	5,580	14	4,740	24	7,980
26	15,800	19	5,020	15	4,800	Apr. 25	7,760
Sept. 10	350	26	4,380	16	4,680	26	6,570
Oct. 21	735	27	4,740	17	4,350	27	4,840
1932		28	5,280	18	5,520		
Mar. 7	4,750	29	5,910	19	5,780		
8	6,470	30	6,250	20	5,060		
		31	6,050	21	4,560		

Month	Maximum	Minimum	Mean	Per square mile	Runoff in inches
February 1899.....	22,400	3,060	12,920	6.04	6.29
September.....	2,250	350	682	.319	.36
Water year 1898-99.....	22,400	350	3,474	1.62	22.04
October 1899.....	4,845	453	1,334	.619	.72
Calendar year 1899.....	22,400	350	3,405	1.59	21.59
Water year 1899-1900.....	12,970	134	2,284	1.07	14.59
March 1932.....	11,800	1,100	3,820	1.79	2.06
Water year 1931-32.....	11,800	38	1,140	.583	7.24
December 1932.....	6,250	601	2,920	1.36	1.57
Calendar year 1932.....	11,800	38	1,370	.640	8.70
January 1933.....	6,920	1,820	3,630	1.70	1.95
February.....	5,780	2,580	3,930	1.84	1.91
April.....	7,980	1,400	3,730	1.74	1.95
Water year 1932-33.....	7,980	42	1,730	.808	10.97
Calendar year 1933.....	7,980	36	1,400	.654	8.86

## Tar River at Tarboro, N. C.--Continued

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

1.1	122	6.0	1,910
1.5	202	8.0	2,920
2.0	320	10.0	4,080
3.0	636	14.0	6,650
4.0	1,030	18.0	9,750

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	462	424	1,820	k2,700	2,860	3,200	2,280	1,640	530	4,930	269	241
2	459	427	1,640	k4,130	2,380	2,860	2,180	2,280	462	k3,520	295	181
3	*443	418	1,550	5,060	2,130	3,250	2,430	2,920	449	2,360	255	197
4	436	495	g1,640	5,650	2,040	4,310	2,540	2,590	433	1,760	315	202
5	456	436	g1,730	4,810	2,040	5,060	2,330	2,230	409	1,330	271	163
6	462	392	g1,730	4,140	*2,130	5,780	2,090	2,000	418	1,120	230	211
7	479	421	g1,770	3,250	2,130	6,110	2,000	1,910	421	830	k560	173
8	446	459	g1,820	2,640	2,660	5,910	2,180	2,180	412	790	400	179
9	462	462	g1,730	2,330	k4,210	4,510	2,640	2,380	565	890	360	163
10	548	462	g1,590	2,280	5,120	3,660	3,030	2,180	636	950	368	157
11	618	479	g1,770	3,210	5,320	3,030	2,540	1,730	790	790	370	179
12	910	512	g1,910	4,140	4,800	2,810	2,180	1,510	673	692	349	175
13	990	548	g2,330	4,680	4,320	3,200	k3,220	1,380	k1,100	582	360	195
14	830	*654	g2,280	k3,750	4,620	4,080	5,090	1,200	k3,370	530	415	181
15	750	711	g2,230	2,860	5,320	4,930	5,980	1,030	5,290	495	479	165
16	673	730	g1,860	2,430	5,980	5,910	6,920	910	6,110	479	452	179
17	600	990	g1,730	2,180	7,060	6,720	7,470	830	7,130	436	424	142
18	565	1,290	g1,550	2,000	7,980	7,260	6,320	770	7,910	415	794	171
19	512	1,290	g1,460	1,910	8,940	7,760	5,240	711	7,690	386	830	173
20	479	1,120	g1,380	1,910	9,660	6,830	4,060	770	7,620	381	790	173
21	449	k2,180	g1,460	1,910	8,580	5,740	3,140	1,200	7,910	386	711	136
22	462	k4,670	g1,550	1,860	7,030	k4,410	2,590	1,680	8,130	370	548	129
23	421	6,070	g1,590	1,730	6,580	3,310	2,230	1,550	7,160	462	436	150
24	415	6,920	2,000	1,770	6,520	2,860	2,000	1,380	k5,080	530	351	115
25	424	7,910	1,910	2,040	6,520	2,760	1,620	1,290	k3,660	462	330	142
26	406	8,770	1,680	k3,340	5,300	3,620	1,640	1,120	k2,390	427	273	122
27	427	k7,890	1,590	4,680	4,440	4,560	1,510	890	1,770	392	269	216
28	427	k4,920	1,510	5,390	3,720	5,390	1,380	830	1,550	349	230	376
29	430	k2,840	1,420	5,780	-	5,850	1,250	870	k2,450	330	255	k499
30	430	2,130	1,330	k3,680	-	k3,530	1,200	692	k4,310	*330	211	1,160
31	409	-	1,420	3,140	-	2,640	-	800	-	300	209	-
Total	16,280	67,020	52,980	101,380	140,390	141,850	91,480	45,253	96,828	28,004	12,409	6,645
Mean	525	2,234	1,709	3,270	5,014	4,576	3,049	1,460	3,228	903	400	222
Cfsm	0.245	1.04	0.799	1.53	2.34	2.14	1.42	0.682	1.51	0.422	0.187	0.104
In.	0.28	1.16	0.92	1.76	2.44	2.47	1.59	0.79	1.68	0.49	0.22	0.12

Calendar year 1952: Max 17,500 Min 204 Mean 2,453 Cfsm 1.15 In. 15.61  
 Water year 1952-53: Max 9,660 Min 115 Mean 2,193 Cfsm 1.02 In. 13.92

\* Discharge measurement made on this day.

g Computed from once-daily staff-gage readings.

k Computed by using rate of change in stage as a factor.

## Tar River at Greenville, N. C.

Location.--Lat 35°37'00", long. 77°22'30", at bridge on State Highway 11, 600 ft downstream from Atlantic Coast Line Railroad bridge at Greenville, Pitt County, and at mile 21.0.

Drainage area.--2,620 sq mi (revised).

Records available.--March to September 1935, August to September 1940 (discontinued).

Gage.--Water-stage recorder. Datum of gage is 2.37 ft (revised) below mean sea level, datum of 1929, supplementary adjustment of 1936. Gage-height records collected at same site or at site 600 ft upstream at same datum, since 1905 are contained in reports of the U. S. Weather Bureau.

Extremes.--1935, 1940: Maximum discharge, 36,500 cfs Aug. 22, 1940 (gage height, 22.07 ft); minimum not determined.

Maximum stage known since at least 1877 is 24.5 ft July 28, 1919, from U. S. Weather Bureau records (discharge, 46,500 cfs, from rating curve extended above 37,000 cfs by logarithmic plotting).

Remarks.--Low and medium stages affected by tide.

Revisions.--Revised figures of discharge, in cubic feet per second, for the 1940 water year, superseding those published in WSP 1066, are given herewith:

1940		1940-Con.	
Aug. 1	700	Sept. 23	700
2	650	25	850
3	650	27	700
4	750	28	700
5	700	29	650
Sept. 10	1,200	30	600
22	750		

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
August 1940.....	296,360	36,200	650	9,560	3.65	4.21
September.....	39,760	3,120	600	1,325	.506	.56

## Herring Run near Washington, N. C.

Location.--Lat 35°34', long. 77°01', on left bank 10 ft downstream from highway bridge, 1 mile upstream from bridge on U. S. Highway 264, 2½ miles northeast of Washington, Beaufort County, and 3 miles upstream from mouth.

Records available.--January 1950 to September 1953.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 2 ft, revised (from topographic map). Prior to May 8, 1951, staff gage at same site and datum.

Extremes.--Maximum discharge during year, 139 cfs Sept. 27 (gage height, 9.22 ft); minimum, 0.7 cfs Nov. 3, 4.

1950-53: Maximum discharge, 271 cfs June 27, 1951 (gage height, 11.21 ft); minimum, 0.7 cfs Nov. 18, 19, 1950, Oct. 22-24, 1951, Nov. 3, 4, 1952.

Flood in 1946 reached a stage of 17 ft, from information by local resident (discharge not determined).

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

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

Oct. 1 to May 12

May 13 to Sept. 30

5.0	0.8	6.0	24
5.1	2.0	7.0	42
5.2	5.6	8.0	77
5.4	14		

5.1	0.9	6.0	22
5.3	2.1	7.0	42
5.5	5.0	8.0	77
5.7	12		

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	0.8	1.5	15	8.4	13	7.0	a8	1.4	2.0	0.9	1.2
2	.9	.9	1.7	8.8	7.5	16	*8.0	a6	1.3	1.8	.9	*1.1
3	1.0	.8	1.6	8.8	10	19	8.4	a5	1.2	1.5	.9	1.0
4	.9	.8	2.0	8.4	12	22	7.5	a5	*1.2	1.4	.9	1.2
5	.9	.8	2.0	7.0	13	23	6.5	a4	1.2	1.2	.9	1.0
6	.9	.8	2.2	6.1	11	19	5.6	a4	1.2	1.2	2.1	1.0
7	.9	.8	2.0	*5.1	17	16	7.0	a6	1.2	1.2	2.2	.9
8	.9	.8	2.0	4.6	58	15	7.5	a10	1.2	1.9	1.0	.9
9	1.1	.9	1.8	6.5	30	14	7.0	a8	1.2	2.0	1.2	.9
10	1.0	.8	1.7	11	21	12	6.5	a7	6.6	6.8	1.2	.9
11	1.0	1.2	4.6	11	18	12	5.6	6.5	2.3	1.7	*1.1	.9
12	1.0	1.0	4.1	10	19	16	5.6	5.6	1.6	1.4	2.4	.9
13	.9	.9	3.3	8.8	22	22	6.1	4.5	3.9	1.2	2.7	.8
14	.9	.8	2.7	8.0	19	19	6.1	*4.1	2.3	1.2	*2.4	.8
15	1.0	1.5	2.5	7.0	32	17	5.1	*3.7	1.9	1.2	9.5	.8
16	.9	1.0	2.0	6.1	27	17	4.6	3.4	1.8	1.0	6.0	.8
17	*.9	.9	2.0	5.1	22	16	4.6	3.1	1.0	1.0	4.8	.8
18	.9	.8	1.8	4.6	*18	14	4.1	2.9	6.8	1.0	4.6	.8
19	.9	1.4	1.7	4.6	17	13	4.1	2.8	*5.0	2.1	4.3	.8
20	.8	5.6	1.7	4.6	15	12	3.7	2.9	3.9	6.5	3.7	4.9
21	.8	26	1.8	18	15	11	3.3	2.8	3.2	2.2	3.1	4.2
22	.8	11	1.8	17	17	10	3.0	2.8	2.6	1.7	2.5	1.8
23	.8	5.6	1.8	12	17	9.2	2.7	2.5	2.6	4.8	2.2	1.4
24	.8	3.3	1.8	17	16	10	2.7	2.2	2.8	2.1	1.9	1.2
25	.8	2.7	1.7	16	20	11	a2.5	2.1	2.5	1.3	1.8	1.1
26	.8	*2.2	1.7	12	19	12	a2.3	2.0	2.1	1.2	1.5	1.0
27	.8	2.0	1.7	10	16	11	a2.1	1.8	1.9	1.2	1.4	52
28	.8	1.8	1.5	10	14	8.8	a2.1	1.7	1.9	1.0	1.4	38
29	.8	1.7	1.5	11	-	8.4	a2.0	*1.5	2.0	1.0	1.2	9.0
30	.8	1.7	1.5	10	-	7.5	a2.0	1.5	2.4	1.0	1.2	*5.8
31	.9	-	1.1	9.2	-	6.5	-	1.5	-	.9	1.2	-
Total	27.3	81.2	72.9	293.3	530.9	432.4	145.3	124.9	81.1	57.7	119.0	117.9
Mean	0.88	2.71	2.45	9.46	19.0	13.9	4.84	4.03	2.70	1.86	3.84	3.93
Cfs/m	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 84

Min 0.8

Mean 3.92

Cfs/m -

In. -

Water year 1952-53: Max 58

Min 0.8

Mean 5.71

Cfs/m -

In. -

Peak discharge (base, 180 cfs).--No peak above base.

\* 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 Swift Creek near Vanceboro.

## Eno River at Hillsboro, N. C.

Location.--Lat 36°04', long. 79°06', on right bank 1,000 ft downstream from bridge on State Highway 86, at Hillsboro, Orange County, and 2 miles downstream from Sevenmile Creek.

Drainage area.--66.5 sq mi.

Records available.--November 1927 to September 1953 (fragmentary prior to April 1930).

Gage.--Water-stage recorder and sharp-crested weir. Datum of gage is 487.44 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to June 29, 1937, staff gage at same site and datum with natural control.

Average discharge.--23 years (1930-53), 65.7 cfs.

Extremes.--Maximum discharge during year, 3,000 cfs Mar. 24 (gage height, 14.84 ft); minimum, about 0.1 cfs Sept. 5 (result of emergency municipal water-supply diversion upstream); minimum unregulated daily discharge, 0.3 cfs Sept. 25 (gage height, 0.95 ft). 1927-53: Maximum discharge, 11,000 cfs Sept. 18, 1945 (gage height, 20.01 ft), from rating curve extended above 6,000 cfs by logarithmic plotting; minimum, that of Sept. 5, 1953; minimum unregulated daily discharge, 0.3 cfs Oct. 20-27, 1941, Sept. 25, 1953.

Remarks.--Records good except those below 10 cfs, which are fair. Diversion of about 0.25 cfs for Hillsboro water supply is partly returned above station as sewage. Town of Mebane diverted 1.5 acre-ft Sept. 2-4, 1953, for emergency municipal water supply.

Revisions (water years).--WSP 1032: 1939(M), 1944(M). WSP 1203: 1930(M).

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

0.95	0.1	2.0	38
1.0	1.3	2.5	81
1.1	3.1	3.0	145
1.2	5.3	4.0	312
1.3	8.1	5.0	555
1.5	15	8.0	1,030
1.7	23	11.0	1,660

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	14	11	36	236	70	70	82	74	14	18	4.4	1.0
2	14	14	36	112	83	195	104	46	13	15	4.2	1.3
3	22	14	45	121	59	173	76	39	12	13	4.4	*1.0
4	16	14	40	93	58	254	69	36	12	11	4.2	.4
5	13	15	40	70	55	207	64	37	11	10	4.0	.2
6	13	16	64	*59	51	118	62	45	11	10	6.1	2.1
7	12	16	46	55	173	98	77	46	19	10	6.1	2.7
8	12	16	40	56	136	88	71	40	29	11	5.6	4.2
9	17	15	37	458	86	77	60	35	21	11	5.3	5.8
10	21	18	41	544	69	72	57	30	26	9.1	5.9	2.7
11	20	26	185	196	63	73	52	28	20	*8.4	4.9	2.6
12	17	28	86	120	205	200	113	26	16	7.8	4.4	2.3
13	15	22	60	89	170	295	246	25	24	7.5	4.2	1.9
14	13	18	49	76	98	140	120	24	267	7.3	3.8	1.7
15	13	50	44	68	1,140	171	79	23	30	7.0	3.5	1.3
16	12	43	40	63	277	399	123	22	21	6.7	3.1	.8
17	12	26	36	59	152	144	84	23	52	6.4	3.3	.8
18	12	21	36	58	107	114	68	22	42	6.1	3.3	1.0
19	11	53	35	61	94	103	63	28	24	6.1	3.8	.8
20	11	1,660	34	54	88	88	56	53	20	23	4.2	.4
21	9.7	1,020	97	83	537	77	53	27	17	14	3.8	*.6
22	9.7	244	73	76	330	74	50	23	16	9.4	3.1	1.0
23	10	117	52	56	162	80	48	21	15	12	2.9	1.0
24	12	83	47	777	122	1,540	46	19	13	9.1	2.7	.8
25	12	64	42	247	108	244	43	19	12	7.5	2.4	.3
26	11	56	40	125	97	154	42	21	12	6.7	2.3	.4
27	11	51	37	97	84	117	40	17	15	6.1	1.9	19
28	12	44	35	98	77	100	37	15	108	5.9	*1.7	13
29	11	40	32	125	-	89	36	15	124	5.3	1.3	4.9
30	11	37	35	84	-	80	42	15	28	5.3	1.3	5.3
31	11	-	503	73	-	77	-	14	-	4.9	1.5	-
Total	420.4	3,852	2,005	4,469	4,731	5,712	2,163	906	1,044	290.6	113.6	77.3
Mean	13.6	128	64.7	144	169	184	72.1	29.2	34.8	9.37	3.66	2.58
Cfs/m	0.205	1.92	0.973	2.17	2.54	2.77	1.08	0.439	0.523	0.141	0.055	0.039
In.	0.24	2.15	1.12	2.50	2.65	3.19	1.21	0.51	0.58	0.16	0.06	0.04
Calendar year 1952: Max			2,470		Min 5.8	Mean 79.6	Cfs/m 1.20	In. 16.30				
Water year 1952-53: Max			1,660		Min 0.2	Mean 70.6	Cfs/m 1.06	In. 14.41				

Peak discharge (base, 1,500 cfs).--Nov. 20 (8 a.m.) 2,060 cfs (12.46 ft); Jan. 24 (12 m.) 1,610 cfs (10.85 ft); Feb. 15 (12:30 p.m.) 2,200 cfs (12.86 ft); Mar. 24 (7 a.m.) 3,000 cfs (14.84 ft).  
\* Discharge measurement made on this day.

## Flat River at Bahama, N. C.

Location.--Lat 36°11'00", long. 78°52'45", on right bank half a mile upstream from Lake Michie, 1¼ miles upstream from highway bridge, 1¼ miles north of Bahama, Durham County, and 1½ miles upstream from Dial Creek.

Drainage area.--150 sq mi.

Records available.--July 1925 to September 1953.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 346 ft (by barometer). Prior to Oct. 12, 1925, staff gage at same site and datum.

Average discharge.--28 years, 146 cfs.

Extremes.--Maximum discharge during year, 9,500 cfs Nov. 20 (gage height, 9.35 ft); minimum, 1.1 cfs Sept. 23 (gage height, 0.85 ft).  
1925-53: Maximum discharge, 16,100 cfs Sept. 18, 1945 (gage height, 11.90 ft), from rating curve extended above 14,000 cfs; minimum, 0.37 cfs Sept. 26, 27, 1932 (gage height, 0.23 ft).

Remarks.--Records good except those for periods of no gage-height record, which are poor. Some diurnal fluctuation and occasional regulation at low flow caused by small mill 5 miles above station. Town of Roxboro diverted an average of 1.7 cfs during water year 1953 out of Myco River (Roanoke River basin) returning sewage to Flat River above station.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Aug. 4-28)

0.8	1.3	2.5	341
.9	3.1	3.0	580
1.0	5.7	4.0	1,220
1.3	20	5.0	2,100
1.6	53	6.0	3,300
2.0	153	8.0	6,500

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	28	18	73	640	156	133	150	180	26	36	8.2	2.6
2	27	19	78	253	139	383	248	98	25	32	7.4	2.4
3	30	21	93	332	128	500	162	73	23	28	7.1	2.4
4	22	20	86	242	125	868	139	69	22	23	6.8	*2.1
5	23	20	83	165	117	745	128	65	20	23	6.8	2.4
6	25	20	139	139	106	310	114	67	20	66	6.4	3.4
7	22	20	103	125	372	223	202	83	23	39	5.7	2.9
8	23	20	83	120	346	193	183	67	25	30	6.0	2.6
9	28	20	73	1,170	189	165	131	59	34	24	6.4	2.6
10	57	21	98	1,640	145	150	117	53	55	20	5.4	3.1
11	46	31	545	515	128	147	106	52	53	18	5.2	3.1
12	34	50	230	296	219	394	455	47	38	17	5.2	3.1
13	31	42	145	205	332	896	905	47	3,540	15	5.4	2.7
14	27	32	114	174	174	336	359	43	153	14	*4.9	2.6
15	27	90	98	153	2,380	334	193	40	83	13	4.9	2.6
16	23	114	88	142	716	418	180	38	a65	13	4.4	2.4
17	23	53	83	131	346	238	150	39	a1,000	12	3.9	2.0
18	22	39	76	122	*234	193	128	38	a360	11	3.4	2.0
19	21	36	73	131	193	180	122	54	a150	11	3.4	1.7
20	20	*5,990	69	114	174	153	112	114	a90	191	3.6	1.3
21	19	2,250	187	122	*1,100	136	98	53	a60	47	4.1	*1.5
22	20	672	177	162	745	128	93	42	a50	27	3.9	1.5
23	20	274	117	117	346	131	90	39	a40	20	4.1	1.2
24	16	183	98	2,100	242	3,970	86	35	a36	20	3.9	1.3
25	16	*147	90	654	219	708	83	47	34	18	3.6	1.2
26	20	125	80	296	193	441	76	83	33	14	3.6	1.2
27	23	112	76	212	168	283	73	46	29	12	3.6	6.8
28	22	96	69	249	147	219	69	35	203	11	*3.1	5.2
29	18	86	63	372	-	169	65	32	88	11	2.9	12
30	19	78	63	202	-	165	84	30	46	9.6	2.9	11
31	20	-	1,140	168	-	150	-	26	-	8.5	2.7	-
Total	772	10,639	4,590	11,463	9,879	13,479	5,101	1,794	6,424	834.1	148.9	92.9
Mean	24.9	357	148	370	353	435	170	57.9	214	26.9	4.80	3.10
Cfs/m	0.166	2.38	0.987	2.47	2.35	2.90	1.13	0.386	1.43	0.179	0.032	0.021
In.	0.19	2.65	1.14	2.84	2.45	3.34	1.26	0.44	1.59	0.21	0.04	0.02
Calendar year 1952: Max	5,990				Min 12		Mean 207	Cfs/m 1.38	In. 18.73			
Water year 1952-53: Max	5,990				Min 1.2		Mean 179	Cfs/m 1.19	In. 16.17			

Peak discharge (base, 4,500 cfs).--Nov. 20 (9:30 a.m.) 9,500 cfs (9.35 ft); Mar. 24 (6:30 a.m.) 7,500 cfs (8.43 ft).

\* 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.

## Dial Creek near Bahama, N. C.

Location.--Lat 36°10'35", long. 78°51'20", on right bank three-eighths of a mile upstream from mouth and Lake Michie and 1½ miles northeast of Bahama, Durham County.

Drainage area.--4.9 sq mi, approximately.

Records available.--October 1925 to September 1953. Prior to October 1929, published as "at Bahama."

Gage.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 356 ft (from topographic map).

Average discharge.--28 years, 4.39 cfs.

Extremes.--Maximum discharge during year, 1,010 cfs June 13 (gage height, 5.25 ft), from rating curve extended above 270 cfs on basis of slope-area determination of peak flow and computation of peak flow over dam at gage height 4.83 ft; no flow Sept. 1-5, 16-26.

1925-53: Maximum discharge not determined, occurred May 24, 1940 (gage height, 7.60 ft); no flow at times in many years.

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

Revisions (water years).--WSP 1233: 1926-40, 1941-42(M), 1944-45, 1946-47(M), 1948-50(P).

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

0.0	0	0.6	0.73	2.0	14
.1	.01	.8	1.38	2.3	26
.2	.07	1.0	2.42	2.6	50
.3	.17	1.3	4.75	3.0	95
.4	.30	1.6	8.0	3.3	142

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	1.08	0.99	2.66	12	5.9	5.2	6.1	7.4	0.93	2.12	0.54	0
2	1.11	1.02	3.23	7.3	5.2	12	7.4	4.03	.90	1.65	.32	0
3	2.24	1.02	3.47	9.5	5.0	16	5.3	3.31	.87	1.50	.29	0
4	1.22	1.18	2.80	5.7	5.0	20	5.0	3.01	.81	1.50	.35	0
5	1.11	1.26	3.31	4.66	4.48	16	5.4	3.15	.75	1.42	.39	.01
6	1.05	1.11	3.63	4.12	4.30	10	4.94	4.28	.75	1.60	.30	.49
7	1.02	1.08	2.80	3.87	13	9.7	5.6	1.76	1.38	.43	.30	.39
8	.96	1.05	2.73	4.12	9.8	7.3	6.6	3.63	1.70	1.30	.43	.24
9	1.95	1.05	2.73	20	6.6	5.9	5.5	2.87	1.26	1.18	.68	.14
10	2.73	1.18	3.33	31	5.7	6.0	5.0	2.48	5.2	1.02	.43	.10
11	1.85	2.16	9.3	12	5.2	6.0	4.30	2.30	1.65	.96	.34	.09
12	1.46	3.08	4.66	7.2	10	14	10	2.06	1.26	.90	.27	.08
13	1.30	1.85	3.55	5.7	8.8	22	23	1.95	1.22	.81	.25	.06
14	1.22	1.50	3.08	4.93	6.6	12	12	1.80	7.2	.78	.21	.03
15	1.15	6.90	2.87	4.57	76	12	8.0	1.65	3.79	.70	.17	.01
16	1.11	4.30	2.66	4.48	19	14	12	1.65	3.01	.68	.14	.01
17	1.08	2.60	2.60	4.30	12	9.4	7.8	1.70	58	.66	.14	0
18	1.02	2.18	2.48	4.39	8.7	8.0	6.0	1.55	12	.60	.22	0
19	1.02	2.00	2.36	4.30	7.5	7.4	5.5	3.55	5.4	.60	.25	0
20	*.93	.99	2.30	3.87	7.2	6.2	4.93	a3.8	3.79	1.90	.26	0
21	.81	44	5.4	4.75	18	5.7	4.48	a2.1	2.94	.81	.21	0
22	.87	16	3.55	4.39	15	5.5	4.12	a1.6	2.48	.73	.15	.01
23	.93	7.8	3.01	3.87	10	5.3	3.87	a1.5	2.24	.96	.12	0
24	.99	5.2	2.80	88	8.7	131	3.55	a1.4	1.85	.73	.10	0
25	.96	4.30	2.66	16	7.9	22	3.31	a5	1.65	.56	.09	0
26	.96	3.95	2.54	9.1	7.2	13	3.15	a2.7	1.55	.53	.06	.01
27	1.02	3.63	2.42	7.5	6.4	10	2.87	1.60	4.48	.48	.05	.51
28	1.06	3.31	2.30	9.7	5.7	8.3	2.73	1.26	15	.46	.04	.56
29	1.02	2.87	2.18	8.7	-	7.4	2.66	1.18	5.0	.41	.03	.27
30	.96	2.80	2.24	6.6	-	6.9	7.9	1.11	2.66	.37	.02	.21
31	.96	-	29	6.1	-	6.4	-	1.05	-	.35	.01	-
Total	37.17	230.37	124.65	322.72	304.88	439.3	193.11	82.27	272.88	29.65	7.09	7.13
Mean	1.20	7.68	4.02	10.4	10.9	14.2	6.44	2.65	9.10	0.956	0.229	0.238
Cfsm	0.245	1.57	0.820	2.12	2.22	2.90	1.31	0.541	1.86	0.195	0.047	0.049
In.	0.28	1.75	0.95	2.45	2.31	3.33	1.47	0.62	2.07	0.22	0.05	0.05
Calendar year 1952: Max	126				Min 0.14	Mean 5.81	Cfsm 1.19	In. 16.15				
Water year 1952-53: Max	131				Min 0	Mean 5.62	Cfsm 1.15	In. 15.55				

Peak discharge (base, 160 cfs).--Nov. 20 (9 a.m.) 198 cfs (3.58 ft); Jan. 24 (8 a.m.) 227 cfs (3.69 ft); Feb. 15 (9 a.m.) 180 cfs (3.50 ft); Mar. 24 (5 a.m.) 416 cfs (4.23 ft); June 13 (5 a.m.) 1,010 cfs (5.25 ft); June 17 (12 m.) 180 cfs (3.50 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.

Flat River at dam, near Bahama, N. C.

Location.--Lat 36°08'55", long. 78°49'43", on right bank 900 ft downstream from Durham municipal dam, 3 miles southeast of Bahama, Durham County, and 5 miles upstream from confluence with Eno River.

Drainage area.--171 sq.mi.

Records available.--August 1927 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 255.05 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--26 years, 159 cfs.

Extremes.--Maximum discharge during year, 9,300 cfs Nov. 20 (gage height, 14.50 ft); minimum, 0.3 cfs Sept. 23 (gage height, 0.34 ft); minimum daily, 0.5 cfs Sept. 22.  
1927-53: Maximum discharge, 18,600 cfs July 26, 1938 (gage height, 19.50 ft), from rating curve extended above 13,000 cfs on basis of computation of peak flow over Durham municipal dam; no flow Sept. 3-14, 1938 (result of construction work upstream).

Remarks.--Records fair except those for periods of no gage-height record, which are poor. Considerable regulation since 1926 by Lake Michie (usable capacity, 12,610 acre-ft) above station. An average of 13.7 cfs was diverted above station for Durham municipal water supply and about 5.0 cfs was returned as sewage to Neuse River 3 miles upstream from Northside gage during water year 1953.

Revisions (water years).--WSP 802: 1935.

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

Oct. 1 to June 19				June 20 to Sept. 30			
0.5	3.6	2.0	160	0.3	0.1	0.6	6
.6	5.8	3.0	398	.4	.9	.7	10
.7	9.7	4.0	720	.5	2.8		
.8	15	6.0	1,560				
1.0	27	8.0	2,550				
1.3	54	10.0	3,900				
1.6	91	12.0	5,800				

Note.--Same as preceding table above 0.7 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	99	11	52	934	194	129	144	162	4	41	41	2.8
2	50	11	44	413	196	240	*154	162	4	30	40	4
3	50	12	44	398	142	302	142	80	4	12	15	3
4	62	11	44	264	84	575	155	5.5	4	41	2.8	*3
5	11	10	74	196	85	912	180	53	4	61	2.8	3
6	11	10	152	198	85	443	150	80	4	24	2.8	3
7	11	10	166	196	282	398	242	156	3	2.3	2.8	3
8	11	10	156	196	398	398	246	79	3	29	2.8	2.8
9	*16	10	152	620	297	257	137	52	3	41	2.8	3
10	48	10	81	1,870	192	194	120	52	3	42	2.8	2.8
11	49	10	175	712	194	174	73	53	3	21	2.8	2.8
12	49	13	312	428	198	228	116	53	3	2.1	2.8	2.8
13	24	10	198	326	256	504	830	53	2,420	2.3	2.8	2.5
14	11	9	152	384	292	458	571	60	428	3	2.8	2.8
15	11	9	152	228	2,240	369	384	73	207	3	2.5	2.5
16	11	9	136	194	1,220	504	333	87	146	3	4	2.3
17	11	9	54	188	*440	369	259	87	628	3	*4	1.2
18	11	9	61	214	356	334	185	87	577	3	3	2.8
19	11	38	73	98	356	328	105	52	356	3	2.8	a.9
20	39	5,390	43	72	248	205	45	52	214	3	2.5	a.8
21	11	3,120	54	80	526	172	44	54	65	3	2.5	a.6
22	11	1,040	210	90	979	194	45	54	65	3	2.5	a.5
23	11	378	288	94	473	108	69	54	65	3	2.8	*1.0
24	11	202	202	1,660	384	3,980	86	54	75	15	2.8	2.1
25	11	241	79	1,040	384	1,260	84	28	83	43	2.8	2.8
26	11	178	53	428	334	550	84	*11	26	42	2.8	2.5
27	11	178	41	307	202	369	69	7	2.5	14	2.8	3
28	11	112	56	283	200	342	42	4	67	2.8	*2.5	2.3
29	11	73	69	352	-	342	48	4	71	2.8	2.8	1.7
30	11	67	78	370	-	220	83	4	50	2.8	2.8	1.7
31	11	-	625	192	-	144	-	4	-	12	2.8	-
Total	717	11,200	4,076	13,025	11,237	15,002	5,205	1,864	5,587.5	513.1	175.3	68.2
Mean	23.1	373	131	420	401	484	174	60.1	186	16.6	5.65	2.27
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-
Calendar year 1952: Max	5,920	Min	9	Mean	221	Cfsm	-	In.	-			
Water year 1952-53: Max	5,390	Min	0.5	Mean	188	Cfsm	-	In.	-			

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of streamflow continuity.

## Neuse River near Northside, N. C.

Location.--Lat 36°02'07", long. 78°44'59", on right bank 10 ft downstream from Fish Dam Bridge, 1½ miles downstream from Rocky Creek, 2½ miles downstream from Seaboard Air Line Railway bridge, and 2½ miles south of Northside, Granville County.

Drainage area.--526 sq mi.

Records available.--July 1927 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 226.32 ft above mean sea level (levels by Corps of Engineers). Prior to June 2, 1928, chain gage at bridge 10 ft upstream at same datum. Since Sept. 29, 1950, auxiliary water-stage recorder at bridge at U. S. Highway 15, 4 miles upstream. Mar. 25, 1949, to Sept. 28, 1950, auxiliary wire-weight gage at same site.

Average discharge.--26 years, 541 cfs.

Extremes.--Maximum discharge during year, 11,200 cfs Nov. 21 (gage height, 23.12 ft); minimum, 12 cfs Sept. 21 (gage height, 1.06 ft).

1927-53: Maximum discharge, 36,600 cfs Sept. 18, 1945; maximum gage height, 31.02 ft Sept. 18, 1945, from floodmark; minimum discharge, 3.1 cfs Sept. 20, 1932 (gage height, 0.87 ft).

Remarks.--Records fair except those for periods of no gage-height record, which are poor. Moderate diurnal fluctuation caused by powerplants above station. Flow slightly regulated by Durham municipal dam. For diversion see page for records for Flat River at dam near Bahama.

Revisions (water years).--WSP 822: Drainage area. WSP 1032: 1933(M), 1935-36, 1937(M), 1938-39, 1944(M).

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

(Fall used as a factor Nov. 20-27, Dec. 1, Jan. 2-5, 10-13, 26-28, Feb. 17-19, 23-24, Mar. 18, 19, 24-29, Apr. 14, 15, June 14, 15, 18-20)

Oct. 1-31,  
July 2 to Sept. 30

Nov. 1 to July 1

1.1	14	1.4	42	7.0	1,010
1.3	30	1.5	57	10.0	1,860
1.5	60	2.0	110	13.0	2,860
1.7	95	3.0	225	17.0	4,800
2.0	136	5.0	550	21.0	8,000
4.0	438				

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	54	260	3,440	550	a500	*510	550	57	171	88	15
2	175	52	232	2,610	530	a800	592	470	57	139	83	15
3	118	52	*267	1,370	480	a1,400	550	355	57	98	73	15
4	175	52	267	1,050	402	a2,000	470	232	57	93	38	16
5	121	59	253	621	386	a2,700	490	219	57	103	26	15
6	69	*57	355	530	355	a1,700	426	239	58	*129	32	67
7	60	52	410	*490	768	a950	592	589	57	71	32	51
8	58	54	386	470	1,640	a800	760	434	90	64	29	30
9	64	54	340	1,560	1,060	a700	510	267	105	86	26	22
10	139	54	318	3,440	613	a550	410	219	148	83	29	20
11	207	62	523	4,130	530	a500	370	195	165	78	31	18
12	178	101	985	2,350	785	a700	493	183	101	56	a26	15
13	132	141	592	1,070	1,610	a2,500	2,070	177	1,170	36	a24	15
14	88	100	434	760	1,010	a1,800	2,400	165	2,490	30	a22	14
15	73	77	386	676	2,370	a1,200	1,060	165	792	34	a20	14
16	73	266	362	530	5,460	a3,200	1,000	189	306	30	20	15
17	65	201	*288	500	4,400	2,180	1,070	177	627	28	20	15
18	62	119	246	500	2,760	1,100	634	183	2,020	29	23	15
19	60	97	232	*460	1,080	901	490	177	770	29	26	14
20	60	2,360	225	378	739	718	370	225	408	115	27	14
21	78	9,260	288	362	1,150	550	325	239	207	299	22	14
22	51	8,540	592	426	2,990	530	302	177	154	*85	20	16
23	46	4,500	571	402	2,300	500	288	148	*148	64	17	*20
24	47	1,830	530	1,950	1,180	3,420	310	142	136	62	15	20
25	49	982	348	4,550	960	8,480	302	131	148	71	19	19
26	56	*578	274	*3,630	a850	4,770	281	148	126	78	20	14
27	56	451	239	1,530	a650	2,210	274	*117	68	67	20	249
28	55	434	201	850	a550	1,260	225	84	733	38	21	336
29	49	325	239	1,010	-	874	207	69	530	29	20	122
30	53	288	225	935	-	697	225	66	348	*28	16	65
31	51	-	1,230	655	-	530	-	63	-	98	14	-
Total	2,660	31,252	12,098	43,235	38,168	50,720	18,006	6,794	12,190	2,421	899	1,290
Mean	85.8	1,042	390	1,395	1,363	1,636	600	219	406	78.1	29.0	43.0
Cfs/m	0.163	1.98	0.741	2.65	2.58	3.11	1.14	0.416	0.772	0.148	0.055	0.050
In.	0.19	2.21	0.86	3.06	2.70	3.59	1.27	0.48	0.86	0.17	0.06	0.09
Calendar year 1952: Max			9,570	Min 28		Mean 643	Cfs/m 1.22	In. 16.64				
Water year 1952-53: Max			9,260	Min 14		Mean 602	Cfs/m 1.14	In. 15.54				

Peak discharge (base, 4,500 cfs).--Nov. 21 (7 p.m.) 11,200 cfs (23.12 ft); Jan. 25 (a p.m.) 5,120 cfs (17.80 ft); Feb. 16 (8:30 p.m.) 6,360 cfs (19.35 ft); Mar. 25 (11 a.m.) 9,300 cfs (21.97 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated from recorded range in stage and records at other stations in the basin.

## NEUSE RIVER BASIN

115

Neuse River near Clayton, N. C.

Location.--Lat 35°39', long. 78°25', on left bank 5 ft downstream from bridge on State Highway 42, 1.8 miles upstream from Mill Creek, and 3 miles east of Clayton, Johnston County.

Drainage area.--1,140 sq mi, approximately.

Records available.--July 1927 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 128.12 ft above mean sea level (levels by Corps of Engineers). Prior to Mar. 18, 1942, 1,100 ft upstream at same datum.

Average discharge.--26 years, 1,227 cfs.

Extremes.--Maximum discharge during year, 8,450 cfs Nov. 25 (gage height, 11.81 ft); minimum, 54 cfs Sept. 24 (gage height, 0.86 ft).  
1927-53: Maximum discharge, 22,900 cfs Sept. 19, 1945 (gage height, 22.12 ft); minimum, 44 cfs Sept. 15, 1932 (gage height, 0.28 ft, site then in use).  
Flood of July 23, 1919, reached a stage of 21.15 ft from floodmark at former site, (discharge, 21,200 cfs).

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

Revisions (water years).--WSP 822: Drainage area. WSP 1032: 1930, 1935(M).

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

0.9	51	4.0	1,750
1.1	106	6.0	3,160
1.5	226	8.0	4,850
2.0	468	12.0	8,650
3.0	1,080		

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	*216	192	618	3,870	1,380	1,180	*1,180	925	*226	860	142	*73
2	209	189	800	*4,170	1,150	1,320	1,620	1,220	223	540	156	78
3	236	180	666	4,510	1,050	2,100	1,490	1,050	209	399	202	95
4	279	199	830	4,000	1,020	3,010	1,220	806	206	685	199	92
5	246	212	624	2,180	925	3,400	1,050	654	195	516	163	114
6	266	209	618	1,460	860	3,400	990	594	195	329	165	126
7	250	219	648	1,150	1,160	2,900	1,080	776	206	319	168	126
8	212	206	709	1,050	2,720	1,880	1,280	1,120	297	301	154	142
9	258	189	685	1,120	2,940	1,550	1,460	1,050	301	275	227	148
10	353	166	648	3,100	2,190	1,360	1,120	740	288	a240	202	134
11	338	250	709	4,340	1,520	1,150	925	594	343	a220	165	128
12	348	315	919	4,510	1,320	1,390	1,370	528	357	a200	142	106
13	357	297	1,420	4,680	2,350	3,420	3,920	496	3,750	a200	134	92
14	319	301	1,050	3,160	2,790	4,170	4,850	462	5,020	a220	142	81
15	279	348	788	1,490	4,080	4,480	4,170	433	3,910	a220	123	*73
16	258	388	691	1,250	7,010	6,230	3,030	427	2,970	a200	117	70
17	226	334	642	1,050	6,440	5,310	2,090	427	1,610	a190	103	70
18	212	462	594	990	6,050	4,680	1,950	450	3,240	a180	661	64
19	206	362	516	1,020	6,140	3,020	1,490	462	3,490	a180	321	62
20	195	1,940	492	960	4,770	1,950	1,150	691	2,700	a200	195	64
21	199	5,020	636	890	2,220	1,580	960	558	1,120	a350	159	64
22	195	5,860	860	890	3,290	1,280	818	570	660	a300	137	67
23	202	6,330	1,080	860	3,820	1,220	770	474	558	a180	123	*70
24	202	7,650	1,050	1,940	4,000	1,760	733	399	427	a180	109	59
25	195	8,450	925	6,390	2,820	4,530	703	367	368	a180	109	64
26	186	7,800	740	6,380	1,880	5,030	685	373	373	a180	98	70
27	183	3,860	612	5,590	1,620	6,140	636	393	373	a170	84	713
28	195	1,030	546	5,310	1,380	6,980	612	348	705	a170	86	1,180
29	199	860	498	3,180	-	6,660	570	301	1,880	*165	98	678
30	199	709	486	1,950	-	3,300	582	266	1,790	154	84	404
31	*195	-	1,270	1,680	-	1,460	-	250	-	165	73	-
Total	7,445	54,547	22,970	85,120	78,895	97,860	44,494	18,194	36,010	8,668	5,061	5,307
Mean	240	1,619	741	2,746	2,818	3,157	1,463	587	1,267	280	163	177
Cfs/m	0.211	1.59	0.650	2.41	2.47	2.77	1.30	0.515	1.11	0.246	0.143	0.155
In.	0.24	1.78	0.75	2.78	2.57	3.19	1.45	0.59	1.24	0.28	0.17	0.17
Calendar year 1952: Max		12,000		Min	89	Mean	1,318	Cfs/m	1.16	In.	15.73	
Water year 1952-53: Max		8,450		Min	59	Mean	1,278	Cfs/m	1.12	In.	15.21	

Peak discharge (base, 7,100 cfs).--Nov. 25 (3 p.m.) 8,450 cfs (11.81 ft); Jan. 25 (10 p.m.) 7,270 cfs (10.53 ft); Feb. 16 (7 p.m.) 7,460 cfs (10.77 ft); Mar. 28 (7 p.m.) 7,170 cfs (10.46 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.

## Middle Creek near Clayton, N. C.

Location.--Lat 35°34'10", long. 78°35'30", on right bank 300 ft downstream from bridge on State Highway 50, a quarter of a mile upstream from Buffalo Branch, 3 $\frac{1}{4}$  miles downstream from county line, and 9 $\frac{1}{4}$  miles southwest of Clayton, Johnston County.

Drainage area.--80.7 sq mi.

Records available.--November 1939 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 177 ft (by barometer). Prior to Nov. 21, 1939, staff gage at same site and datum.

Average discharge.--14 years, 87.9 cfs.

Extremes.--Maximum discharge during year, 1,100 cfs Feb. 16 (gage height, 8.47 ft); minimum, 0.4 cfs Sept. 22-24.

1939-53: Maximum discharge, 4,100 cfs Sept. 1, 1952 (gage height, 12.31 ft); minimum, that of Sept. 22-24, 1953.

Remarks.--Records fair. Occasional diurnal fluctuation at low flow caused by gristmill above station.

Revisions (water years).--WSP 952: 1940(M), 1941. WSP 1233: 1943(M), 1945, 1949.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 25 to Nov. 11, Sept. 30)

Oct. 1 to June 17

June 18 to Sept. 30

1.0	11	3.0	120	0.3	0.4	0.8	6.0
1.3	20	4.0	219	.4	1.0	1.0	11
1.6	33	5.0	352	.6	2.8	1.2	17
2.0	52	6.0	500				
2.5	82	8.0	940				

Note.--Same as preceding table above 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	*42	23	*67	440	116	112	*76	116	*13	31	3.8	*1.9
2	38	23	71	*426	104	179	196	95	11	24	5.5	2.1
3	38	23	137	192	96	268	148	88	11	21	39	2.1
4	38	24	112	172	104	268	98	68	11	73	28	2.2
5	35	25	90	124	108	324	91	57	10	63	12	3.1
6	33	26	92	104	91	219	82	53	10	32	8.7	4.0
7	31	26	82	94	152	152	120	165	18	25	9.4	6.0
8	31	27	73	91	331	132	116	223	26	35	8.2	9.6
9	44	23	68	108	268	116	90	77	29	24	20	7.3
10	88	23	70	187	*198	104	77	56	20	19	23	5.7
11	71	33	84	236	120	104	69	46	16	18	12	4.2
12	54	62	90	152	132	264	218	40	14	15	8.2	3.4
13	46	58	75	108	242	455	514	35	17	13	7.1	2.6
14	40	43	66	95	177	540	765	32	37	12	7.1	1.8
15	37	43	62	88	447	366	402	28	32	11	5.8	*1.4
16	36	62	59	82	940	593	152	25	20	10	5.7	1.1
17	35	54	57	81	600	665	112	24	109	9.6	5.8	.8
18	32	44	55	87	288	310	90	23	268	9.2	7.3	.8
19	31	39	53	167	187	208	120	23	97	8.2	16	.6
20	28	379	52	112	162	167	95	44	37	*7.8	*11	.6
21	26	560	99	114	240	142	80	44	27	7.1	7.8	.5
22	24	640	142	162	410	128	72	31	22	7.1	5.5	.4
23	25	426	94	116	440	128	68	25	19	6.9	4.3	*.4
24	25	177	84	200	270	172	63	21	17	6.7	3.8	.4
25	25	128	77	704	214	172	57	20	15	6.4	3.6	.6
26	24	112	71	*712	182	128	56	20	14	5.2	3.4	.9
27	24	100	65	318	162	102	50	19	13	4.6	*3.4	24
28	31	86	80	182	128	90	47	16	14	*4.3	2.8	50
29	31	77	56	167	84	44	14	147	4.2	2.4	14	14
30	26	72	55	152	-	80	54	13	77	3.7	2.1	8.0
31	*23	-	218	128	-	76	-	13	-	4.0	2.0	-
Total	1,112	3,438	2,536	6,101	6,909	6,848	4,222	1,554	1,171	521.0	344.5	160.5
Mean	35.9	115	81.8	197	247	221	141	50.1	39.0	16.8	11.1	5.35
Cfsm	0.445	1.42	1.01	2.44	3.06	2.74	1.75	0.621	0.485	0.208	0.158	0.086
In.	0.51	1.58	1.17	2.81	3.18	3.16	1.95	0.72	0.54	0.24	0.16	0.07
Calendar year 1952: Max		2,720			Min 2.4	Mean 105		Cfsm 1.30	In. 17.68			
Water year 1952-53: Max		940			Min 0.4	Mean 95.7		Cfsm 1.19	In. 16.09			

Peak discharge (base, 600 cfs).--Nov. 22 (3 a.m.) 700 cfs (7.05 ft); Jan. 25 (8 p.m.) 1,070 cfs (8.42 ft); Feb. 16 (11 a.m.) 1,100 cfs (8.47 ft); Mar. 16 (9 p.m.) 915 cfs (7.86 ft); Apr. 14 (6 a.m.) 865 cfs (7.66 ft).

\* Discharge measurement made on this day.

## Little River near Princeton, N. C.

Location.--Lat 35°30'20", long. 78°09'30", on left bank a quarter of a mile upstream from highway bridge, three-quarters of a mile upstream from Little Creek, and 3 miles north of Princeton, Johnston County.

Drainage area.--229 sq mi.

Records available.--February 1930 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 108 ft (by barometer). Prior to Nov. 16, 1934, staff gage at same site and datum.

Average discharge.--23 years, 240 cfs.

Extremes.--Maximum discharge during year, 2,710 cfs June 16 (gage height, 11.09 ft); minimum, 7 cfs Sept. 23-25.

1930-53: Maximum discharge, 4,470 cfs Dec. 2, 1934 (gage height, 12.68 ft); minimum, 1.0 cfs several times in September and October 1932 (gage height, 0.30 ft).

Flood of September 1924 reached a stage of 14.90 ft; July 1919, 14.57 ft; October 1929, 13.47 ft, from information by local resident.

Remarks.--Records fair. Slight diurnal fluctuation and occasionally some regulation for short periods caused by mills above station.

Revisions (water years).--WSP 822: Drainage area. WSP 1233: 1935(M).

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used July 12 to Sept. 30)

0.7	7	2.0	183
1.0	21	3.0	410
1.2	37	6.0	1,000
1.4	61	9.0	1,760
1.7	117	11.0	2,650

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	39	24	124	530	214	358	176	270	*35	250	15	*16
2	35	23	113	630	195	389	326	358	34	165	22	15
3	39	23	135	570	181	590	358	336	33	95	18	14
4	38	23	193	530	205	650	298	262	33	97	13	14
5	44	23	193	*430	285	728	300	190	33	490	14	13
6	32	24	200	326	275	728	265	157	33	570	14	14
7	*26	30	195	250	241	590	298	358	34	245	14	14
8	27	25	159	214	470	480	378	590	35	*128	15	12
9	26	26	135	214	710	389	326	480	33	113	18	11
10	37	25	121	295	670	326	265	298	34	90	*16	10
11	74	31	146	358	530	290	217	195	36	79	23	10
12	81	40	202	368	450	420	348	139	38	52	26	10
13	64	53	202	347	510	670	1,320	*97	638	42	27	11
14	54	58	165	316	530	746	1,870	84	1,990	39	22	10
15	*49	57	141	258	570	670	*1,460	67	*2,380	35	19	10
16	41	64	117	212	*920	900	860	58	2,650	35	22	9
17	35	86	106	181	1,110	1,020	630	53	2,020	33	19	9
18	32	75	95	170	1,090	1,020	430	48	1,330	32	25	9
19	31	67	90	179	940	940	336	47	1,230	31	21	8
20	30	74	86	214	690	746	378	58	1,020	29	16	8
21	27	568	108	209	510	530	305	81	813	29	128	9
22	26	960	219	265	670	400	226	97	480	28	97	8
23	24	1,160	255	288	880	336	195	90	530	26	44	*7
24	24	*1,020	226	270	840	347	170	72	630	23	26	7
25	24	764	205	389	764	368	152	54	260	22	22	7
26	27	510	170	400	670	358	130	49	146	20	20	8
27	24	336	141	*347	550	316	117	42	117	18	21	20
28	*23	226	121	347	440	278	104	38	110	16	21	14
29	22	172	106	326	238	90	36	193	*16	17	20	20
30	22	146	95	278	-	209	93	36	250	14	16	69
31	22	-	185	233	-	*183	-	35	-	14	16	-
Total	1,103	6,713	4,749	9,944	16,110	16,213	12,421	4,775	17,198	2,879	807	396
Mean	35.6	224	153	321	575	523	414	154	573	92.9	26.0	13.2
Cfsm	0.155	0.978	0.668	1.40	2.51	2.28	1.81	0.672	2.50	0.406	0.114	0.058
In.	0.18	1.09	0.77	1.61	2.62	2.63	2.02	0.78	2.79	0.47	0.13	0.06

Calendar year 1952: Max 3,670 Min 17 Mean 188 Cfsm 0.821 In. 11.18  
Water year 1952-53: Max 2,650 Min 7 Mean 256 Cfsm 1.12 In. 15.15

Peak discharge (base, 1,200 cfs).--Apr. 14 (2 p.m.) 1,910 cfs (9.42 ft); June 16 (8 a.m.) 2,710 cfs (11.09 ft).

\* Discharge measurement made on this day.

## NEUSE RIVER BASIN

Neuse River near Goldsboro, N. C.

Location.--Lat 35°20', long. 78°00', on left bank 5 ft downstream from highway bridge, 0.2 mile upstream from Stony Creek, 1.5 miles downstream from Atlantic Coast Line Railroad bridge, 3 miles south of Goldsboro, Wayne County, 4.3 miles downstream from Little River, and at mile 135 (by U. S. Weather Bureau).

Drainage area.--2,390 sq mi, approximately.

Records available.--February 1930 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 42.95 ft above mean sea level, datum of 1929., supplementary adjustment of 1936. Prior to July 23, 1931, chain gage at railroad bridge 1.5 miles upstream at datum 5.84 ft higher. July 23, 1931, to Aug. 31, 1948, water-stage recorder at site 2.3 miles upstream at datum 1.71 ft higher than present datum.

Average discharge.--23 years, 2,437 cfs.

Extremes.--Maximum discharge during year, 9,300 cfs Feb. 23 (gage height, 16.92 ft); minimum, 103 cfs Sept. 26 (gage height, 1.62 ft).  
1930-53: Maximum discharge, 30,700 cfs Sept. 23, 1945; maximum gage height, 26.72 ft Sept. 23, 1945, site and datum then in use; minimum unregulated discharge, 85 cfs Sept. 14, 1932 (gage height, 1.03 ft, site and datum then in use); minimum, 80 cfs Dec. 3, 1951 (result of temporary closure of river channel upstream).  
Maximum discharge known, 38,300 cfs Oct. 5, 1929 (gage height, 31.1 ft, at railroad bridge and present datum), by current-meter measurement.

Remarks.--Records good.

Revisions.--WSP 822: Drainage area.

Rating tables, water year 1952-53, except periods computed using rate of change in stage as a factor (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 21				Mar. 22 to Sept. 30			
2.5	392	8.0	2,900	1.6	99	3.0	530
3.0	540	10.0	4,100	2.0	190	4.0	930
4.0	930	13.0	6,100	2.5	339		
6.0	1,850	17.0	9,400				

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	750	420	7,520	k2,190	7,280	k5,930	6,520	1,950	506	2,300	267	164
2	670	420	4,420	k3,740	6,330	4,710	6,730	2,460	474	2,150	258	159
3	592	406	2,340	4,490	4,090	3,920	k5,290	*2,960	448	1,470	298	182
4	558	406	2,000	4,940	2,960	4,160	3,980	3,140	418	1,040	267	150
5	540	406	2,000	*5,330	2,620	4,750	3,260	2,730	360	890	298	150
6	558	420	2,000	5,680	2,620	5,140	2,680	2,300	356	1,280	356	167
7	558	435	1,950	5,890	2,570	5,400	2,400	2,510	363	1,470	345	182
8	525	435	1,850	5,080	2,790	5,750	2,460	3,380	370	1,280	298	243
9	558	435	1,800	k3,400	3,900	5,820	2,680	3,920	363	970	273	276
10	558	435	1,750	2,730	4,620	5,680	2,790	3,260	450	890	*261	267
11	670	450	1,750	3,080	5,070	4,350	2,620	3,060	498	770	298	237
12	830	510	1,750	3,920	5,270	3,680	2,300	2,400	474	670	356	214
13	850	558	1,850	4,420	4,880	3,800	3,100	1,850	k1,380	590	336	204
14	830	670	2,150	4,810	4,230	4,490	4,360	1,470	k4,270	538	307	198
15	*790	750	2,300	5,270	4,360	5,140	5,270	1,240	5,270	490	249	164
16	770	770	1,950	5,540	4,750	5,680	6,240	1,060	6,100	454	223	140
17	690	810	1,660	5,400	5,200	6,100	7,120	950	6,880	414	258	136
18	610	850	1,520	k3,470	5,750	6,660	1,520	890	7,760	360	270	125
19	575	830	1,420	2,510	6,520	7,280	7,380	850	8,080	359	282	129
20	525	995	1,530	2,250	7,360	7,920	6,660	850	7,600	336	610	122
21	510	k1,620	1,280	2,350	8,240	8,400	k4,510	930	6,960	313	570	131
22	480	k3,480	1,580	2,350	9,000	8,500	3,000	1,040	6,450	295	370	118
23	465	4,230	1,710	2,350	9,300	7,290	2,300	1,040	k4,620	304	366	*118
24	450	*4,890	2,050	2,510	9,200	k5,120	2,000	970	k2,520	366	292	108
25	450	5,680	2,150	2,790	8,800	3,520	1,800	850	2,050	442	246	106
26	450	6,590	2,050	3,800	8,240	3,800	1,660	770	1,620	359	212	114
27	435	7,360	1,850	4,420	7,760	4,360	1,570	730	1,280	313	195	243
28	435	7,920	1,620	4,880	7,360	4,750	1,420	690	1,150	*285	187	234
29	420	6,320	1,470	5,610	-	5,140	1,260	670	995	261	185	789
30	435	8,500	1,530	6,360	-	5,610	1,280	630	k1,480	255	174	1,150
31	435	-	1,420	8,960	-	6,100	-	570	-	264	169	-
Total	17,972	69,971	63,620	128,540	161,070	168,950	112,160	52,860	81,563	22,198	9,076	6,699
Mean	580	2,332	2,052	4,146	5,752	5,450	3,739	1,705	2,719	718	293	223
Cfsm	0.243	0.976	0.858	1.73	2.41	2.28	1.56	0.713	1.14	0.300	0.122	0.093
In.	0.28	1.09	0.99	2.00	2.51	2.63	1.75	0.82	1.27	0.35	0.14	0.10
Calendar year 1952: Max	17,100			Min	216	Mean	2,384	Cfsm	0.997	In.	13.57	
Water year 1952-53: Max	9,300			Min	105	Mean	2,451	Cfsm	1.02	In.	13.93	

\* Discharge measurement made on this day.

k Computed by using rate of change in stage as a factor.

# NEUSE RIVER BASIN

119

Neuse River at Kinston, N. C.

Location.--Lat 35°15'30", long. 77°35'10", on left bank at Kinston, Lenoir County, 800 ft downstream from bridge on State Highway 11 and at mile 90.

Drainage area.--2,690 sq mi, approximately.

Records available.--February 1930 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 10.90 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Nov. 25, 1934, chain gage at highway bridge 1 mile downstream at datum 0.80 ft lower.

Average discharge.--23 years, 2,804 cfs.

Extremes.--Maximum discharge during year, 9,020 cfs Feb. 26, 27; maximum gage height, 15.34 ft Feb. 26; minimum discharge, 189 cfs Sept. 20 (gage height, 2.06 ft).  
1930-53: Maximum discharge, 25,900 cfs Sept. 27, 1945; maximum gage height, 22.44 ft Sept. 27, 1945; minimum discharge, 124 cfs Sept. 26, 1932 (gage height, 1.29 ft, site and datum then in use).  
Maximum stage known, 25.0 ft, present site and datum, July 1919 (discharge, about 39,000 cfs), from information furnished by North Carolina State Highway and Public Works Commission.

Remarks.--Records good.

Revisions.--WSP 822: Drainage area.

Rating tables, 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)

Oct. 1 to Feb. 26

Feb. 27 to Sept. 30

2.8	462	9.0	3,540	2.1	195	4.0	835
3.2	604	11.0	4,900	2.5	285	5.0	1,300
4.0	914	13.0	6,440	3.0	430	7.0	2,340
5.0	1,360	16.0	10,100				
7.0	2,340						

Note.--Same as preceding table above 7.0 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	1,070	496	7,400	1,870	5,720	8,090	5,490	1,710	685	1,400	332	244
2	914	479	7,850	2,230	6,200	7,730	5,880	2,340	625	2,070	335	244
3	810	479	7,730	3,150	6,620	7,100	6,200	2,760	580	2,230	330	237
4	752	462	k5,590	3,670	6,530	5,810	6,360	3,000	540	1,760	352	230
5	678	462	k3,500	*4,200	5,050	5,260	5,960	3,240	520	1,300	325	217
6	641	462	2,500	4,620	3,740	4,970	4,560	3,120	482	1,060	330	215
7	641	462	2,230	5,040	3,300	5,040	3,570	2,820	482	1,250	395	226
8	641	496	2,120	5,490	3,240	5,260	3,000	3,000	500	1,500	426	237
9	660	496	2,020	5,560	3,560	5,490	2,820	3,480	520	1,400	380	251
10	696	496	1,970	5,260	3,670	5,640	2,820	3,860	500	1,130	*344	302
11	678	532	1,970	3,910	4,130	5,720	2,940	4,060	520	988	328	315
12	734	604	1,970	3,480	4,820	5,720	2,880	3,860	580	900	322	298
13	872	660	1,920	3,670	4,970	5,340	2,700	2,990	705	790	430	268
14	936	660	1,970	4,000	5,190	4,830	2,940	2,220	k1,930	705	500	253
15	914	752	2,120	4,340	5,120	4,690	3,540	1,810	3,370	645	465	248
16	*893	830	2,280	4,690	4,900	4,900	4,270	1,500	4,190	800	389	242
17	851	851	2,120	4,970	4,830	5,340	4,900	1,300	5,070	560	330	226
18	790	872	1,870	5,260	5,040	5,720	5,560	1,150	5,640	500	420	199
19	715	936	1,680	5,120	5,260	6,040	6,280	1,080	6,280	485	465	194
20	678	957	1,580	3,690	5,640	6,440	6,900	1,040	6,900	500	392	219
21	604	1,200	1,500	2,790	6,120	6,800	7,000	1,110	7,300	500	500	255
22	586	k1,730	1,450	2,640	6,710	7,300	6,620	1,080	7,300	451	665	248
23	568	2,760	1,500	2,580	7,400	7,850	5,120	1,150	7,100	426	500	*217
24	550	3,360	1,720	2,580	8,090	8,090	k3,500	1,150	6,800	402	458	197
25	532	3,930	1,970	2,700	8,740	7,850	2,480	1,110	5,630	412	406	195
26	514	4,480	2,180	2,880	9,020	6,240	2,120	1,010	3,710	482	341	194
27	514	5,040	2,120	3,300	9,020	5,020	1,910	920	k2,300	454	312	318
28	496	5,640	1,970	3,800	8,600	4,690	1,760	858	1,760	409	285	500
29	479	6,280	1,770	4,270	-	4,690	1,660	790	1,450	*356	280	482
30	479	6,900	1,630	4,690	-	4,760	1,500	770	1,300	356	255	552
31	479	-	1,630	5,190	-	5,120	-	750	-	338	242	-
Total	21,365	53,764	81,830	121,640	160,830	183,540	123,140	61,038	85,269	26,339	11,814	8,023
Mean	689	1,792	2,640	3,924	5,744	5,921	4,105	1,969	2,842	850	381	267
Cfs/m	0.256	0.666	0.981	1.46	2.14	2.20	1.53	0.732	1.06	0.316	0.142	0.099
In.	0.30	0.74	1.13	1.68	2.22	2.54	1.70	0.84	1.18	0.36	0.16	0.11

Calendar year 1952: Max 16,800 Min 290 Mean 2,530 Cfs/m 0.941 In. 12.80  
Water year 1952-53: Max 9,020 Min 194 Mean 2,571 Cfs/m 0.956 In. 12.96

\* Discharge measurement made on this day.

k Computed by using rate of change in stage as a factor.

## Contentnea Creek near Wilson, N. C.

Location.--Lat 35°41'15", long. 77°56'50", in left abutment midway between separated lanes of bridge on U. S. Highway 301, 250 ft downstream from municipal powerplant, 1 mile upstream from Atlantic Coast Line Railroad bridge, and 3 miles southwest of Wilson, Wilson County.

Drainage area.--236 sq mi.

Records available.--February 1930 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 78 ft (from topographic map). Prior to June 24, 1934, staff gage at tailrace of municipal powerplant 250 ft upstream at same datum.

Average discharge.--23 years, 236 cfs.

Extremes.--Maximum discharge during year, 2,100 cfs June 16 (gage height, 8.29 ft); minimum, 0.5 cfs Sept. 22-26, 28-30.

1930-53: Maximum discharge, 4,830 cfs Aug. 17, 1940 (gage height, 13.80 ft); minimum, about 0.2 cfs Oct. 6-15, 1932, Nov. 24 to Dec. 26, 1933.

Maximum stage known, 24.3 ft in September 1924, from information by local resident.

Remarks.--Records fair except those below 20 cfs, which are poor. Extreme diurnal fluctuation and considerable regulation during low flow caused by reservoir and municipal powerplant above station. City of Wilson diverted an average of 3.4 cfs above station for municipal supply during water year 1953.

Revisions (water years).--WSP 782: 1934. WSP 822: 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	21	12	93	393	172	334	138	260	*18	234	8.5	*5.6
2	21	13	90	526	169	313	*258	322	18	93	8.5	5.6
3	22	14	118	570	143	480	246	*304	18	69	8.5	4.4
4	9.5	34	156	541	204	644	282	206	6.9	90	8.5	3.5
5	5.6	17	167	408	271	792	299	109	3.5	346	8.5	3.5
6	6.4	17	167	290	265	792	165	209	3.5	523	8.4	3.3
7	*25	11	184	197	239	694	212	424	4.1	453	7.9	3.3
8	21	8.9	138	155	320	525	266	528	26	*93	7.9	3.3
9	21	8.7	194	172	585	400	275	516	15	89	7.9	3.2
10	113	24	142	228	711	357	179	422	16	327	7.9	1.9
11	106	50	137	310	711	250	151	230	32	250	7.9	.7
12	61	36	182	350	585	350	215	132	38	64	7.9	.7
13	60	75	208	344	529	540	978	70	333	102	7.6	.7
14	50	47	145	242	555	870	1,590	80	1,160	81	7.4	.7
15	35	65	131	189	600	711	*1,920	61	1,850	50	5.9	.6
16	38	59	102	163	765	900	1,680	59	2,030	48	6.2	.6
17	*32	83	97	156	960	1,040	980	59	1,650	17	6.5	.6
18	31	81	101	134	*1,100	1,010	555	59	1,650	3.6	6.5	.6
19	20	58	97	147	1,070	980	351	57	1,550	31	6.4	.6
20	19	83	108	195	738	792	371	44	1,300	23	6.4	.6
21	11	294	108	220	480	495	355	107	873	15	6.1	.6
22	11	548	212	250	555	330	193	115	425	22	5.7	.5
23	11	946	266	283	765	258	200	63	1,270	18	5.7	.5
24	11	1,040	253	258	819	264	138	40	1,050	7.4	5.7	*.5
25	11	688	166	337	792	274	139	21	508	8.1	5.7	.5
26	12	*328	139	368	684	282	107	29	178	8.5	5.6	.5
27	12	152	121	*361	525	280	103	29	120	8.6	5.6	.7
28	14	158	109	258	420	188	83	18	177	8.8	5.6	.5
29	13	114	103	221	-	159	63	19	215	*8.8	5.6	.5
30	12	94	93	285	-	122	145	19	335	8.8	5.6	1.1
31	12	-	223	271	-	137	-	18	-	8.8	5.6	-
Total	847.5	5,138.6	4,546	8,822	15,732	15,353	12,637	4,629	16,871.0	5,119.4	213.7	49.9
Mean	27.3	171	147	285	562	495	421	149	562	101	6.89	1.66
Cfsm	0.116	0.725	0.623	1.21	2.38	2.10	1.78	0.631	2.38	0.428	0.029	0.0070
In.	0.13	0.81	0.72	1.39	2.48	2.42	1.99	0.73	2.66	0.49	0.03	0.008

Calendar year 1952: Max 4,310 Min 0.7 Mean 191 Cfsm 0.809 In. 10.98  
 Water year 1952-53: Max 2,030 Min 0.5 Mean 241 Cfsm 1.02 In. 13.86

\* Discharge measurement made on this day.

## Contentnea Creek at Hookerton, N. C.

Location.--Lat 35°25'40", long. 77°35'05", on right bank at Hookerton, Greene County, 0.3 mile (revised) upstream from bridge on State Highway 123 and 2½ miles upstream from Wheat Swamp Creek.

Drainage area.--789 sq mi.

Records available.--November 1928 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 16 ft (from topographic map). Prior to Nov. 26, 1934, staff gage at site 200 ft downstream at same datum.

Average discharge.--25 years, 748 cfs.

Extremes.--Maximum discharge during year, 2,470 cfs June 22 (gage height, 12.11 ft); minimum, 29 cfs Sept. 19 (gage height, 1.70 ft).

1928-53: Maximum discharge, 11,100 cfs Oct. 6, 1929 (gage height, 18.9 ft); minimum, 13 cfs Sept. 16, 17, 1932 (gage height, 1.17 ft).

Maximum stage known, 23.3 ft in September, 1928, from floodmark (discharge, 34,000 cfs), from rating curve extended above 10,000 cfs by logarithmic plotting. High water of autumn 1934 was at practically the same stage.

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

Revisions.--WSP 822: Drainage area.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-24)

Oct. 1 to June 27

June 28 to Sept. 30

2.4	69	7.0	770	1.7	29	2.7	95
2.7	95	9.0	1,200	2.0	45	3.0	122
3.0	122	11.0	1,850	2.3	64	4.0	239
4.0	239	13.0	3,160				
5.0	395						

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	132	67	378	689	632	1,510	485	732	93	651	50	38
2	122	67	327	810	613	1,420	503	1,180	88	651	49	*37
3	112	67	311	910	575	1,310	575	1,260	79	473	48	36
4	103	69	327	990	575	1,260	651	1,260	74	323	53	36
5	97	69	352	1,030	613	1,290	670	1,230	71	246	51	36
6	91	69	386	1,030	651	1,340	651	994	68	206	47	37
7	90	71	422	990	690	1,420	651	890	70	274	47	36
8	88	80	440	799	880	1,480	594	1,240	84	431	46	37
9	90	82	422	618	990	1,510	594	1,370	95	485	46	38
10	a120	80	386	557	1,080	1,480	613	1,570	106	331	*46	38
11	a160	91	449	594	1,130	1,340	613	1,770	118	288	46	37
12	a180	127	521	651	1,200	1,170	539	1,810	102	386	46	36
13	a170	158	521	730	1,260	1,130	610	1,690	283	395	88	34
14	a160	167	503	750	1,310	1,150	659	1,120	710	243	132	34
15	*158	169	485	710	1,370	1,230	1,040	*635	1,050	181	118	32
16	142	175	458	651	*1,400	1,370	1,260	392	1,220	158	80	32
17	137	181	386	539	1,420	1,450	1,460	304	1,450	137	65	32
18	132	200	336	485	1,420	1,510	1,610	246	1,790	122	71	30
19	122	187	304	449	1,450	1,540	1,850	220	2,050	109	101	30
20	112	200	296	449	1,510	1,610	2,000	274	2,280	100	74	32
21	102	416	304	458	1,570	1,610	1,810	252	2,400	82	63	36
22	96	664	327	503	1,610	1,610	1,320	220	2,470	76	56	36
23	90	750	370	594	1,570	1,510	906	194	2,400	79	51	36
24	85	*810	413	651	1,510	1,300	603	206	2,220	77	47	34
25	82	890	467	770	1,480	1,030	485	187	2,000	78	45	32
26	79	990	503	830	1,510	910	404	163	1,900	76	43	34
27	75	1,050	451	870	1,540	810	344	147	1,950	*69	41	68
28	73	1,060	370	890	1,540	770	296	127	1,800	*62	40	122
29	*70	670	319	870	-	710	252	113	1,170	56	38	163
30	69	456	296	790	-	613	239	108	717	53	38	122
31	67	-	373	690	-	*557	-	103	-	51	37	-
Total	3,406	10,162	12,163	22,347	33,099	38,950	24,487	22,007	30,908	6,949	1,803	1,381
Mean	110	339	393	721	1,182	1,256	816	710	1,030	224	58.2	46.0
Cfsm	0.139	0.430	0.498	0.914	1.50	1.59	1.03	0.900	1.31	0.284	0.074	0.058
In.	0.16	0.48	0.57	1.05	1.56	1.84	1.15	1.04	1.46	0.33	0.08	0.07

Calendar year 1952: Max 4,950 Min 43 Mean 533 Cfsm 0.676 In. 9.20  
Water year 1952-53: Max 2,470 Min 30 Mean 569 Cfsm 0.721 In. 9.79

Peak discharge (base, 1,900 cfs).--Apr. 20 (12 m.) 2,000 cfs (11.30 ft); June 22 (10 a.m.) 2,470 cfs (12.11 ft).

\* Discharge measurement made on this day.

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

## Swift Creek near Vanceboro, N. C.

Location.--Lat 35°20'42", long. 77°11'44", on left bank at highway bridge, 2½ miles upstream from bridge on State Highway 118, 2½ miles downstream from Clayroot Swamp, and 3½ miles northwest of Vanceboro, Craven County.

Drainage area.--182 sq mi.

Records available.--January 1950 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 5 ft (from topographic map). Prior to Jan. 16, 1951, staff gage at same site and datum.

Extremes.--Maximum discharge during year, 1,050 cfs Feb. 10 (gage height, 7.08 ft); minimum, 0.5 cfs Sept. 18 (gage height, 2.28 ft).

1950-53: Maximum discharge observed, 2,330 cfs July 10, 1950 (gage height, 9.54 ft); minimum, that of Sept. 18, 1953.

Flood of 1909 reached a stage of 16 ft, and flood of 1928 reached a stage of 11.7 ft, from information by local resident.

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

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 2 to Nov. 20, June 18 to July 20, Sept. 28-30)

Oct. 1 to Nov. 22

Nov. 23 to Sept. 30

2.7	4.7	4.0	62	2.3	0.8	3.5	22	5.0	260
3.0	12	4.5	130	2.5	2.1	3.7	31	6.0	590
3.3	23	5.0	252	2.7	4.0	4.0	49	7.0	1,000
3.6	36			3.0	8.5	4.3	80		
				3.2	13	4.6	146		

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	5.8	62	262	158	310	60	34	4.7	14	1.0	1.8
2	30	6.4	58	425	123	257	*91	51	4.4	12	.9	*1.8
3	27	7.1	57	366	136	346	109	43	3.6	9.9	1.2	1.9
4	23	9.1	58	316	239	425	105	40	3.3	7.4	1.2	2.1
5	20	10	60	270	313	474	91	38	3.0	6.2	1.5	2.5
6	18	10	60	222	323	508	77	33	2.8	6.0	1.9	2.1
7	16	10	60	*188	296	425	72	a46	3.0	6.4	9.3	2.0
8	15	11	58	157	500	336	71	a150	4.7	6.9	13	1.7
9	15	11	55	143	861	263	68	a170	8.1	*28	16	1.4
10	18	12	55	146	1,020	208	62	94	20	27	18	1.2
11	19	15	70	166	888	180	57	64	12	14	*11	1.0
12	18	20	152	182	645	185	52	50	7.8	11	5.5	.9
13	16	23	146	196	508	326	53	41	17	a8	7.1	.8
14	13	22	120	180	458	491	55	34	136	a6	*36	.8
15	12	20	100	157	425	442	55	*26	94	a5	52	.7
16	12	20	87	138	576	382	51	22	42	a4	34	.6
17	*12	19	76	123	642	372	47	18	38	a3.5	17	.6
18	11	19	70	111	*524	316	44	15	*120	a3.5	34	.6
19	9.7	28	64	107	392	257	45	13	163	3.2	41	.8
20	8.6	46	60	107	306	219	47	12	64	6.2	28	9.6
21	7.8	108	60	109	260	180	47	16	42	24	16	53
22	6.4	236	85	120	273	152	42	15	32	11	9.7	44
23	6.8	260	70	138	339	130	38	11	24	*6.1	7.2	31
24	6.8	208	68	141	336	123	33	9.7	24	5.0	5.8	24
25	6.8	157	66	212	356	133	29	8.5	23	5.8	4.5	18
26	6.2	*125	64	242	491	157	26	7.8	18	3.3	3.4	13
27	6.0	102	61	202	474	157	28	6.7	15	2.4	2.9	276
28	5.8	89	57	174	392	130	28	6.0	23	1.8	2.4	680
29	*5.1	75	54	163	-	113	23	*5.1	16	*1.5	2.2	625
30	5.3	70	51	166	-	100	21	4.7	12	1.3	2.0	*392
31	5.1	-	67	154	-	89	-	4.5	-	1.1	1.9	-
Total	417.4	1,754.4	2,211	5,783	12,234	8,186	1,647	1,089.0	980.4	251.5	389.6	2,190.9
Mean	13.5	58.5	71.3	186	437	264	54.9	35.1	32.7	8.11	12.6	73.0
Cfsm	0.074	0.321	0.392	1.02	2.40	1.45	0.302	0.193	0.180	0.045	0.069	0.401
In.	0.08	0.36	0.45	1.18	2.50	1.67	0.34	0.22	0.20	0.05	0.08	0.45

Calendar year 1952: Max 1,330 Min 1.6 Mean 131 Cfsm 0.720 In. 9.79  
Water year 1952-53: Max 1,020 Min 0.6 Mean 102 Cfsm 0.560 In. 7.58

\* 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 Herring Run near Washington.

## Trent River near Trenton, N. C.

Location.--Lat 35°03'54", long. 77°27'25", on left bank 50 ft downstream from Free Bridge, 800 ft downstream from Little Chinquapin Branch, 1½ miles southwest of Phillips Cross-roads, and 6 miles west of Trenton, Jones County.

Drainage area.--168 sq mi.

Records available.--January 1951 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 18.5 ft above mean sea level (from Corps of Engineers benchmark). Prior to Mar. 21, 1951, wire-weight gage on bridge 50 ft up-stream at same datum.

Extremes.--Maximum discharge during year, 1,680 cfs Sept. 30 (gage height, 12.87 ft), from rating curve extended above 1,000 cfs by logarithmic plotting; minimum, 4.5 cfs Aug. 6 (gage height, 2.40 ft).

1951-53: Maximum discharge, that of Sept. 30, 1953; minimum, 2.9 cfs June 12, 13, 1951.

Flood of 1928 reached a stage of 17.3 ft, from information furnished by State Highway and Public Works Commission.

Remarks.--Records fair except those for periods of no gage-height record, which are poor. Records of chemical analyses and water temperatures are given in WSP 1390.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 4 to Jan. 2)

Oct. 1 to Jan. 2				Jan. 3 to Sept. 30			
2.8	6.2	4.0	48	2.5	5.0	6.0	230
2.9	8.3	5.0	110	2.7	8.4	8.0	447
3.1	13	7.0	264	2.9	14	10.0	788
3.5	26			3.3	29	12.0	1,370
				4.0	69	13.0	1,920

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	a6	37	120	78	343	*87	15	6.3	128	4.6	9.2
2	17	a6	35	152	74	300	80	19	5.9	61	4.6	8.9
3	16	a6	35	164	119	343	72	29	5.6	42	4.9	8.4
4	16	a6	36	160	225	376	66	35	5.5	27	4.8	7.8
5	14	a6	38	148	300	398	61	41	5.3	21	4.6	7.4
6	a13	a6	40	*132	321	410	56	40	5.0	26	38	7.8
7	a12	a7	40	116	332	387	54	48	5.9	18	39	12
8	a11	a6	40	102	502	343	52	132	8.4	14	106	18
9	a14	6.0	40	93	635	280	50	210	8.0	12	38	17
10	a18	a6	38	96	696	215	48	245	8.9	10	61	13
11	a19	a9	47	102	654	176	44	220	8.4	9.4	*35	10
12	18	a13	60	113	585	192	39	160	7.6	8.4	23	8.4
13	a18	a14	64	113	488	316	40	102	13	7.8	28	8.0
14	a17	a15	60	105	376	*387	46	*67	50	7.6	112	6.9
15	a16	a16	55	96	321	410	52	46	83	7.4	97	6.3
16	*16	16	51	89	343	410	52	32	132	6.3	67	6.0
17	a16	a16	48	81	*354	376	48	24	188	5.9	60	5.8
18	a14	a16	44	73	354	310	44	19	*215	5.5	129	5.5
19	12	a16	41	70	332	260	41	16	188	5.3	176	5.3
20	a12	a26	38	66	290	215	35	14	152	5.3	128	8.9
21	a11	a70	39	68	245	184	30	14	109	5.4	83	36
22	a10	a85	40	77	230	156	27	13	78	5.4	55	74
23	a9	a7	39	80	250	132	24	12	62	*5.4	38	71
24	a8	a60	38	88	270	134	22	11	68	5.1	29	49
25	a7	*54	38	113	321	128	20	11	72	4.9	22	32
26	6.4	52	38	116	376	140	19	11	100	4.8	18	25
27	a6	52	36	*109	398	136	17	10	120	4.8	15	422
28	a6	50	35	97	387	124	15	8.9	128	*4.8	13	1,090
29	*6.6	45	32	96	-	116	13	*7.8	160	4.8	12	1,540
30	a6	40	30	92	-	109	13	7.1	142	4.7	10	1,600
31	a6	-	47	84	-	96	-	5.7	-	4.6	9.7	-
Total	392.0	793.0	1,299	3,211	9,854	7,892	1,267	1,626.5	2,140.8	482.6	1,525.2	5,119.6
Mean	12.6	26.4	41.9	104	352	255	42.2	52.5	71.4	15.6	49.2	171
Cfsm	0.075	0.157	0.249	0.619	2.10	1.52	0.251	0.312	0.425	0.093	0.293	1.02
In.	0.09	0.18	0.29	0.71	2.18	1.75	0.28	0.36	0.47	0.11	0.34	1.13

Calendar year 1952: Max 1,050 Min 3.8 Mean 102 Cfsm 0.607 In. 8.30  
Water year 1952-53: Max 1,600 Min 4.6 Mean 97.5 Cfsm 0.580 In. 7.89

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records at supplementary gage located downstream on State Highway 12.

## New River near Gum Branch, N. C.

Location.--Lat 34°51'05", long. 77°31'05", on right bank 3 ft downstream from highway bridge, half a mile downstream from Jenkins Swamp, 1½ miles southwest of Gum Branch, Onslow County, and 2½ miles southeast of Richlands.

Drainage area.--74.5 sq mi.

Records available.--August 1949 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 3 ft above mean sea level (Corps of Engineers benchmark). Prior to Mar. 23, 1950, staff gage at same site and datum.

Extremes.--Maximum discharge during year, 668 cfs Feb. 9 (gage height, 8.76 ft); minimum, 3.3 cfs Sept. 19, 50 (gage height, 0.67 ft).

1949-50: Maximum discharge, 3,150 cfs July 9, 1950 (gage height, 16.16 ft), from rating curve extended above 3,400 cfs; minimum, that of Sept. 19, 50, 1953.

Flood of 1906 reached a stage 3 ft higher than that of July 9, 1950, from information furnished by local resident.

Remarks.--Records fair.

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

Oct. 1 to May 9				May 10 to Sept. 30			
1.2	9.7	3.0	81	0.7	3.5	2.5	56
1.4	15	4.0	141	.9	6.2	3.0	81
1.7	24	5.0	216	1.1	9.9	4.0	141
2.0	35	6.0	305	1.4	17	5.0	216
2.5	56	8.0	545	1.7	26	6.0	305
				2.0	37		

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	12	36	141	54	148	*71	20	7.8	24	4.7	4.3
2	21	12	35	158	50	138	63	29	7.8	18	5.4	8.9
3	21	12	45	118	95	208	56	41	7.5	14	5.9	6.9
4	20	11	47	100	197	286	52	32	6.9	12	5.2	5.3
5	18	11	43	81	275	257	48	31	6.7	11	4.6	4.8
6	17	11	46	*68	257	240	44	27	6.6	17	4.8	5.4
7	17	12	44	59	224	192	48	36	8.4	16	12	15
8	18	12	40	55	382	148	52	174	18	12	7.5	14
9	26	12	38	55	620	121	46	240	14	9.9	8.0	7.5
10	39	12	38	65	560	103	43	154	10	9.1	8.4	5.6
11	35	17	60	76	346	94	39	64	9.1	9.1	*6.9	4.8
12	29	31	71	89	224	126	35	44	8.4	8.4	5.9	4.5
13	26	29	60	78	198	240	40	35	88	7.8	12	4.2
14	24	23	52	65	180	*292	48	*29	240	7.3	61	3.9
15	22	23	45	58	172	240	39	25	265	6.4	53	3.7
16	*24	26	41	54	200	176	34	21	132	5.9	22	3.5
17	23	24	38	51	*216	141	31	18	*62	5.4	14	3.5
18	20	22	37	48	189	115	28	17	127	5.2	16	3.4
19	19	21	35	55	130	103	27	16	141	5.3	28	3.3
20	18	36	34	54	115	92	26	15	66	14	18	8.0
21	15	108	36	58	106	78	24	15	37	9.7	12	27
22	14	144	38	76	112	74	*23	15	28	6.9	9.1	18
23	14	118	36	64	138	71	22	13	23	8.6	8.0	11
24	13	71	35	78	141	88	20	13	24	8.0	7.5	7.8
25	13	*54	35	109	166	162	18	15	46	6.0	6.6	6.7
26	12	48	36	100	224	172	17	12	65	5.2	5.9	6.4
27	12	44	35	*78	232	138	17	10	62	5.0	5.4	165
28	*12	41	33	68	196	106	15	9.0	54	4.6	5.3	388
29	11	38	31	68	-	100	14	8.6	39	4.3	4.8	434
30	11	37	29	64	-	92	13	*8.2	36	4.3	4.7	248
31	11	-	62	56	-	78	-	8.0	-	4.3	4.5	-
Total	599	1,072	1,291	2,347	5,978	4,599	1,053	1,174.8	1,848.2	284.7	377.1	1,432.4
Mean	19.3	35.7	41.6	75.7	214	148	35.1	37.9	54.9	9.18	12.2	47.7
Cfsm	0.259	0.479	0.558	1.02	2.87	1.99	0.471	0.509	0.737	0.123	0.164	0.640
In.	0.30	0.54	0.64	1.17	2.98	2.30	0.53	0.59	0.82	0.14	0.19	0.72
Calendar year 1953: Max			1,090	Min	4.5	Mean	66.1	Cfsm	0.887	In.	12.08	
Water year 1952-53: Max			620	Min	3.3	Mean	59.9	Cfsm	0.804	In.	10.92	

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

\* Discharge measurement made on this day.

## Haw River near Benaja, N. C.

Location.--Lat 36°15', long. 79°34', on left bank 200 ft upstream from site of old High Rock Mill, 500 ft upstream from highway bridge, half a mile upstream from county line, 6 miles downstream from Troublesome Creek, and 6 miles east of Benaja, Rockingham County.

Drainage area.--168 sq mi.

Records available.--October 1928 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 629 ft (by barometer).

Average discharge.--25 years, 165 cfs.

Extremes.--Maximum discharge during year, 816 cfs Feb. 53 (gage height, 5.03 ft); minimum, 6.7 cfs Sept. 3-5.

1928-53: Maximum discharge, 15,300 cfs Sept. 25, 1947 (gage height, 19.22 ft, from high-water mark), from rating curve extended above 4,000 cfs on basis of slope-area determination of peak flow; minimum, 6.3 cfs Sept. 1, 1932 (gage height, 0.73 ft).

Flood of July 1916 reached a stage of about 17.5 ft, from floodmark on tree 500 ft below gage.

Remarks.--Records good.

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

Oct. 1 to Feb. 23				Feb. 24 to Sept. 30			
1.3	39	3.0	323	0.7	5.3	1.2	29
1.6	69	4.0	576	.9	12	1.6	69
2.0	125	5.0	816				
2.5	216						

Note.--Same as preceding table above 1.6 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	43	48	77	299	151	153	*155	135	37	65	16	8.9
2	40	49	75	336	139	193	164	132	34	52	18	7.5
3	40	50	88	299	128	242	158	112	33	49	16	6.7
4	43	50	90	222	127	336	147	100	34	51	15	6.7
5	39	50	85	165	122	412	134	97	32	47	17	6.7
6	39	51	111	135	117	399	132	*108	32	42	19	15
7	38	51	114	*122	214	348	203	108	59	38	18	44
8	37	50	100	117	336	252	206	103	117	37	19	50
9	58	50	90	228	373	193	180	94	114	36	19	*29
10	100	54	96	451	311	167	147	88	100	33	*18	21
11	84	76	442	502	212	156	132	81	125	29	15	18
12	67	94	660	552	205	206	153	76	155	26	13	16
13	58	84	744	490	240	256	264	71	169	25	12	16
14	54	89	458	348	256	258	360	88	138	23	10	15
15	51	69	268	220	571	250	399	65	81	21	8.9	13
16	50	85	155	160	792	288	360	64	69	20	7.8	11
17	50	75	122	139	*768	299	271	64	76	19	7.8	11
18	49	88	112	130	514	299	182	61	108	19	47	9.2
19	48	68	106	134	348	248	149	60	156	19	49	8.5
20	46	318	98	132	232	197	134	79	195	19	45	8.5
21	44	318	114	158	574	173	122	82	169	17	34	9.6
22	44	348	125	230	744	155	115	69	93	*16	26	10
23	44	311	120	275	792	155	112	65	115	26	22	8.5
24	46	226	112	423	552	477	108	65	109	35	20	*7.8
25	48	147	104	576	412	588	104	60	77	26	18	8.1
26	49	115	98	564	288	624	115	58	58	21	16	8.5
27	49	102	93	432	208	454	114	50	50	20	*14	28
28	50	*93	89	277	174	360	102	44	75	24	13	61
29	*50	85	86	216	-	248	96	42	112	18	12	47
30	49	81	82	193	-	188	103	42	86	14	10	28
31	47	-	209	169	-	164	-	38	-	13	9.2	-
Total	1,554	3,335	5,321	8,694	9,900	8,748	5,121	2,381	2,806	900	584.7	532.2
Mean	50.1	111	172	280	354	282	171	76.8	93.5	29.0	18.9	17.7
Cfsm	0.298	0.661	1.02	1.67	2.11	1.68	1.02	0.457	0.557	0.173	0.112	0.106
In.	0.34	0.74	1.18	1.92	2.19	1.94	1.13	0.53	0.62	0.20	0.13	0.12

Calendar year 1952: Max 1,640 Min 18 Mean 162 Cfsm 0.964 In. 13.16  
 Water year 1952-53: Max 792 Min 6.7 Mean 137 Cfsm 0.815 In. 11.04

Peak discharge (base, 1,400 cfs).--No peak above base.

\* Discharge measurement made on this day.

## Horsepen Creek at Battle Ground, N. C.

Location.--Lat 36°08'34", long. 79°51'24", on right bank 10 ft downstream from highway bridge, 0.5 mile downstream from bridge on U. S. Highway 320, three-quarters of a mile north of Battle Ground, Guilford County, and 2 miles upstream from mouth.

Drainage area.--15.9 sq mi.

Records available.--November 1925 to July 1931 (fragmentary November 1925 to October 1928), May 1934 to September 1953.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 737.94 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. November 1925 to July 31, 1931, water-stage recorder at site 1,000 ft upstream at datum 1.45 ft higher.

Average discharge.--20 years (1929-30, 1934-53), 15.1 cfs.

Extremes.--Maximum discharge during year, 620 cfs Feb. 15 (gage height, 6.52 ft); minimum, 1.3 cfs Sept. 1, 5 (gage height, 0.44 ft).

1925-31, 1934-53: Maximum discharge, 6,400 cfs Sept. 24, 1947 (gage height, 10.36 ft), from rating curve extended above 800 cfs on basis of contracted-opening determination of peak flow; minimum, 0.7 cfs July 24, 1926.

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

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	a5	5.4	6.8	38	12	12	20	14	3.1	5.4	2.1	1.6
2	a6	5.2	8.4	20	11	40	*21	11	3.0	5.1	2.0	1.7
3	a6	5.4	8.4	21	13	38	14	10	2.8	4.9	2.0	1.7
4	a5	5.2	8.2	15	13	65	13	9.7	2.8	5.1	2.6	1.7
5	a5	4.9	16	12	11	34	12	9.1	2.8	4.9	2.3	6.3
6	a5	4.7	13	10	11	20	13	8.6	2.8	4.7	2.0	6.0
7	a5	4.5	9.6	9.5	139	16	21	*9.3	56	4.3	2.4	3.7
8	a5	4.5	7.4	*13	37	14	13	7.8	73	4.3	2.3	*2.3
9	a15	4.9	7.2	196	21	13	11	7.6	51	4.3	2.4	2.3
10	a9	6.0	85	155	17	12	10	9.3	246	4.2	2.0	2.2
11	a7	10	258	35	15	16	9.3	7.6	52	4.0	2.0	2.3
12	a6	9.3	32	21	56	42	19	6.2	18	3.7	1.8	2.0
13	a5	6.2	18	16	26	34	65	5.8	13	3.6	1.7	1.8
14	a5	5.8	14	15	18	20	22	5.4	11	3.2	1.7	1.8
15	*4.9	6.6	11	13	273	53	16	5.2	8.2	3.0	1.6	1.8
16	4.9	6.0	10	13	59	128	15	5.2	7.4	2.8	1.6	1.7
17	4.7	5.4	9.5	12	31	27	13	5.2	171	2.7	4.8	1.7
18	4.7	5.2	8.9	12	21	20	12	5.1	38	2.7	7.6	1.8
19	4.7	5.8	8.9	11	17	17	13	5.1	17	2.6	4.4	1.8
20	4.2	20	8.9	10	18	14	12	6.4	12	2.6	3.2	1.9
21	4.2	47	16	36	*284	13	12	5.4	9.5	2.6	2.9	2.3
22	4.3	20	10	16	*83	13	11	4.9	8.9	2.6	2.6	1.9
23	4.5	12	8.7	13	32	31	11	4.3	9.5	3.0	2.4	1.7
24	4.5	9.1	8.2	165	24	207	10	4.2	7.6	3.0	2.3	1.8
25	4.5	7.8	7.9	38	20	43	9.7	5.2	6.8	2.8	2.2	1.9
26	4.3	7.6	7.2	21	17	27	11	5.1	6.4	2.8	2.0	2.3
27	4.7	6.8	6.8	17	15	20	9.7	3.8	6.2	2.8	1.9	20
28	5.2	*6.2	6.5	29	13	17	9.1	3.6	7.0	2.7	1.9	3.8
29	4.9	6.0	6.5	21	-	16	8.6	3.6	7.0	2.6	1.7	2.4
30	4.9	6.8	6.7	15	-	14	9.7	3.6	6.2	*2.2	1.7	2.2
31	5.2	-	149	14	-	13	-	3.2	-	2.2	1.7	-
Total	170.3	260.3	779.7	1,032.5	1,287	1,049	446.1	200.5	866.0	107.4	75.8	88.4
Mean	5.49	8.68	25.2	33.3	46.0	33.8	14.9	6.47	28.9	3.46	2.45	2.95
Cfsm	0.345	0.546	1.58	2.09	2.89	2.13	0.937	0.407	1.82	0.218	0.154	0.186
In.	0.40	0.61	1.82	2.42	3.01	2.45	1.04	0.47	2.02	0.25	0.18	0.21

Calendar year 1952: Max 531 Min 2.2 Mean 17.5 Cfsm 1.10 In. 15.00  
 Water year 1952-53: Max 284 Min 1.6 Mean 17.4 Cfsm 1.09 In. 14.88

Peak discharge (base, 300 cfs).--Dec. 11 (6:30 a.m.) 560 cfs (6.44 ft); Dec. 31 (2 p.m.) 322 cfs (5.80 ft); Jan. 9 (8:30 p.m.) 385 cfs (6.00 ft); Feb. 15 (1 p.m.) 620 cfs (6.52 ft); Feb. 21 (9 a.m.) 560 cfs (6.40 ft); Mar. 16 (3 a.m.) 351 cfs (5.87 ft); Mar. 24 (5 a.m.) 460 cfs (6.17 ft); June 10 (7 a.m.) 560 cfs (6.35 ft); June 17 (5 p.m.) 385 cfs (6.03 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated from records for nearby stations.

## Reedy Fork near Gibsonville, N. C.

Location.--Lat 36°11', long. 79°37', on right bank a quarter of a mile downstream from Huffines Mill, 14 miles upstream from Buffalo Creek, and 6 miles northwest of Gibsonville, Guilford County.

Drainage area.--133 sq mi.

Records available.--September 1928 to September 1953.

Gage.--Water-stage recorder and rock-masonry control. Datum of gage is 626.88 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--25 years, 114 cfs.

Extremes.--Maximum discharge during year, 1,430 cfs Feb. 22 (gage height, 6.31 ft) minimum, 0.4 cfs Sept. 18, 19 (gage height, 0.48 ft); minimum daily, 0.5 cfs Sept. 19, 1928-53; Maximum discharge, 11,600 cfs Sept. 25, 1947 (gage height, 20.77 ft); minimum, that of Sept. 18, 19, 1953; minimum daily, that of Sept. 19, 1953.  
Flood of July 1916 reached a stage of 17.90 ft, from information by local resident (discharge, 8,640 cfs).

Remarks.--Records good. Considerable diurnal fluctuation caused by powerplants above station. Flow partly regulated since 1923 by Lake Brandt (capacity, 113,256,000 cu ft) 14 miles above station and since 1943 by Richland Lake 12 miles above station. City of Greensboro diverted from Lake Brandt an average of 15.4 cfs for municipal supply and Cone Mills diverted from Richland Lake an average of 4.9 cfs during 1953 water year.

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

0.5	0.6	1.4	54
.6	1.2	1.7	96
.7	2.7	2.0	157
.8	5.6	2.5	284
.9	10	3.0	415
1.0	16	4.0	710
1.2	32	6.0	1,330

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	16	37	219	103	88	*112	74	18	33	8.4	0.8
2	24	19	38	245	90	129	157	80	12	55	5.0	.8
3	27	20	42	240	82	179	174	16	36	55	5.0	2.0
4	20	13	44	164	80	271	162	63	17	16	5.3	.7
5	22	12	49	116	75	318	127	63	18	11	8.2	.9
6	24	13	60	88	71	331	118	*62	9.1	20	3.0	2.4
7	21	20	63	*74	188	222	171	67	28	10	6.4	4.8
8	19	18	59	75	237	98	157	67	39	15	8.2	3.4
9	37	19	52	275	368	100	137	60	112	10	6.0	*7.5
10	57	20	94	457	229	98	116	53	235	12	12	1.5
11	59	34	488	725	107	101	114	46	486	12	7.2	1.5
12	54	48	607	471	150	174	129	43	402	7.4	2.4	1.8
13	46	50	438	209	227	250	214	39	190	13	3.8	1.8
14	39	47	260	110	191	274	227	37	43	7.0	6.5	1.8
15	34	46	114	101	628	162	362	34	29	14	2.4	1.6
16	29	44	81	92	864	214	146	31	29	12	1.1	1.8
17	26	40	71	86	665	294	120	30	*46	5.0	1.1	6.0
18	26	36	82	326	82	323	107	32	169	10	1.6	1.0
19	23	36	58	84	129	110	96	31	680	7.4	2.0	.5
20	20	327	54	77	114	109	88	36	250	12	2.2	.3
21	20	307	66	109	590	105	82	38	68	10	5.1	1.5
22	22	204	74	129	*1,160	98	74	37	53	*13	4.2	2.2
23	22	155	74	142	674	107	71	37	64	10	2.0	3.6
24	17	122	67	401	242	546	87	42	71	6.9	2.1	5.3
25	16	84	59	471	168	859	64	34	59	8.2	4.0	5.6
26	20	66	54	415	167	575	74	29	43	8.7	2.3	5.3
27	20	55	52	176	129	250	74	29	36	20	.8	9.6
28	19	50	48	120	90	127	62	20	36	9.3	1.0	14
29	*18	42	46	139	-	127	58	23	39	5.0	2.1	3.3
30	18	39	44	135	-	114	63	19	36	8.5	3.3	10
31	18	-	229	122	-	105	-	16	-	14	6.9	-
Total	844	2,002	3,584	6,349	8,184	6,838	5,728	1,346	3,333.1	431.4	131.6	103.9
Mean	27.2	66.7	116	205	292	221	124	43.4	111	13.9	4.25	3.46
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 2,400 Min 8.7 Mean 118 Cfsm - In. -  
Water year 1952-53: Max 1,160 Min 0.5 Mean 101 Cfsm - In. -

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

South Buffalo Creek near Greensboro, N. C.  
(Formerly published as Buffalo Creek near Greensboro, N. C.)

Location.--Lat 36°03'37", long. 79°43'33", on left bank 5 ft downstream from bridge on McConnell road crossing, 3.8 miles east of post office in Greensboro, Guilford County, and 6 miles upstream from North Buffalo Creek.

Drainage area.--32.8 sq mi.

Records available.--August 1928 to September 1953. Prior to October 1952, published as Buffalo Creek near Greensboro.

Gage.--Water-stage recorder. Datum of gage is 696.2 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--25 years, 38.0 cfs.

Extremes.--Maximum discharge during year, 1,540 cfs Feb. 21 (gage height, 7.96 ft); minimum, 2.8 cfs Aug. 30.  
1928-53: Maximum discharge, 10,000 cfs July 15, 1949 (gage height, 11.54 ft), from rating curve extended above 2,000 cfs on basis of contracted-opening determinations at gage heights 8.69, 10.64, and 11.54 ft; minimum, 0.2 cfs Oct. 2, 1930.

Remarks.--Records fair. Sewage from Greensboro enters above station affecting low-water flow.

Revisions (water years).--WSP 972: 1928-33, 1934(M), 1935-37, 1939, 1940(M).

Rating tables, water year 1952-53 (gage height, in feet, and  
discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Nov. 19, Jan. 9-12)

Oct. 1 to Dec. 11

Dec. 12 to Sept. 30

2.8	7.2	5.0	120	2.7	3.0	5.0	104
3.0	11	5.5	171	2.9	5.7	5.5	165
3.3	20	6.0	260	3.2	13	6.0	270
3.6	33	6.5	440	3.5	25	6.5	450
4.0	52	7.0	775	4.0	47	7.0	710
4.5	80			4.5	69	7.5	1,080

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	7.4	8.5	*14	438	28	25	28	35	6.0	7.9	5.9	6.0
2	7.7	7.4	17	82	25	96	39	18	6.6	7.1	4.5	6.4
3	16	7.6	21	73	25	111	*27	18	6.9	8.6	4.6	6.6
4	8.5	9.4	18	47	25	148	25	15	6.9	20	6.6	6.4
5	6.5	10	24	34	22	180	20	18	6.7	8.1	6.7	13
6	6.5	9.0	42	29	20	53	19	30	6.4	7.6	8.1	49
7	7.9	8.6	21	26	129	40	72	*32	60	8.8	6.0	29
8	7.9	8.3	18	33	186	34	38	20	260	8.8	7.8	8.8
9	38	6.8	18	*230	51	30	27	14	368	8.6	14	7.4
10	52	10	60	460	40	28	24	12	326	8.6	*8.4	6.7
11	15	21	517	170	34	35	20	12	359	7.4	7.1	*7.1
12	9.8	20	334	52	127	162	47	12	104	5.7	6.7	6.2
13	9.0	12	54	40	193	205	108	12	26	5.9	6.4	4.4
14	9.8	9.4	33	34	54	62	56	10	16	7.6	5.4	4.6
15	9.4	12	28	30	538	63	32	10	13	7.2	4.8	6.0
16	*9.2	10	22	28	451	260	30	9.1	13	6.4	3.8	5.2
17	9.8	8.8	21	26	*79	106	24	8.1	300	6.4	3.8	6.2
18	9.2	8.8	19	32	47	45	30	8.6	526	5.9	7.2	5.6
19	7.9	11	18	33	38	41	19	9.8	*53	5.1	8.1	5.1
20	8.3	385	16	28	41	34	18	11	22	5.9	7.6	4.0
21	9.0	537	58	55	862	28	18	9.6	14	7.1	6.9	4.6
22	9.4	324	38	47	*446	28	17	9.3	17	6.9	6.2	6.0
23	9.4	77	26	33	110	31	17	8.4	34	8.8	4.1	5.9
24	9.2	36	22	350	52	441	16	9.8	15	8.4	4.2	5.7
25	8.8	28	19	343	46	271	15	9.3	12	6.6	6.2	6.0
26	7.4	24	16	66	41	65	14	9.3	10	4.6	5.6	5.4
27	8.5	22	15	45	35	43	13	9.6	8.6	5.0	5.6	44
28	8.8	19	14	51	30	37	14	8.1	10	6.2	6.2	16
29	*8.6	17	14	57	-	32	14	7.2	9.8	6.6	4.8	7.4
30	8.6	15	15	39	-	29	23	7.4	8.4	6.6	3.5	6.0
31	8.6	-	234	32	-	28	-	5.7	-	6.2	4.1	-
Total	352.1	1,682.6	1,784	3,043	3,775	2,791	854	408.3	2,624.3	230.4	190.9	300.7
Mean	11.4	56.1	57.5	98.2	135	90.0	28.5	13.2	87.5	7.43	6.16	10.0
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-
Calendar year 1952: Max	1,560				Min 4.2	Mean 54.8	Cfsm -	In. -				
Water year 1952-53: Max	862				Min 3.5	Mean 49.4	Cfsm -	In. -				

Peak discharge (base, 650 cfs).--Nov. 20 (8 p.m.) 662 cfs (6.95 ft); Dec. 11 (9 p.m.) 775 cfs (7.00 ft); Feb. 15 (9 p.m.) 1,040 cfs (7.45 ft); Feb. 21 (4 p.m.) 1,540 cfs (7.96 ft); Mar. 24 (6 p.m.) 752 cfs (7.07 ft); June 17 (11:30 p.m.) 1,130 cfs (7.56 ft).  
\* Discharge measurement made on this day.

## North Buffalo Creek near Greensboro, N. C.

Location.--Lat 36°07'13", long. 79°42'30", on left bank 5 ft downstream from highway bridge, 4.2 miles upstream from mouth, and 5.8 miles northeast of post office in Greensboro, Guilford County.

Drainage area.--36.4 sq mi.

Records available.--August 1928 to September 1953.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 679 ft (from topographic map).

Average discharge.--25 years, 46.0 cfs.

Extremes.--Maximum discharge during year, 1,430 cfs Feb. 21 (gage height, 9.17 ft); minimum, 7.6 cfs Aug. 16, 23 (gage height, 1.83 ft).

1928-53: Maximum discharge, 6,000 cfs Sept. 25, 1947 (gage height, 15.96 ft), from rating curve extended above 2,000 cfs on basis of contracted-opening determinations at gage heights 14.15 and 15.96 ft; minimum, 1.6 cfs Aug. 28, 1932.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Diurnal fluctuation at low flow caused by mills above station. Diversion into basin from Greensboro and Proximity Mills enters above station.

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

1.9	10	4.0	343
2.0	14	5.0	575
2.2	28	6.0	773
2.5	55	7.0	944
3.0	130		

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				97	34	34	*74	38	16	23	12	19
2	24	16	32	56	34	100	67	27	21	22	11	20
3	49	19	31	74	34	150	56	21	22	26	16	20
4	25	26	27	46	36	200	38	23	22	24	22	20
5	19	25	49	44	33	70	29	35	22	13	22	44
6	22	24	38	42	32	50	33	*40	18	18	24	70
7	24	24	25	*41	240	46	104	41	220	21	21	25
8	23	21	25	50	76	40	48	33	180	22	23	18
9	129	19	25	200	51	36	42	30	182	21	23	*18
10	55	32	151	400	45	32	39	24	277	22	16	20
11	29	46	520	100	43	34	33	26	71	16	20	20
12	22	34	75	50	172	220	110	29	34	10	21	16
13	21	24	42	43	74	100	146	30	27	14	20	11
14	22	23	31	41	51	80	61	30	21	18	19	13
15	22	32	31	40	717	130	43	50	21	19	16	17
16	*23	21	30	38	128	270	45	30	24	19	11	19
17	21	20	31	34	*70	70	39	27	*295	21	16	19
18	20	21	29	37	57	50	33	29	53	16	25	18
19	17	29	27	32	50	48	27	30	34	11	27	15
20	19	486	25	32	53	40	27	32	24	14	21	13
21	22	272	57	92	898	36	30	28	18	*21	21	14
22	22	78	34	52	191	34	32	28	34	24	14	20
23	22	38	31	40	96	40	32	36	58	31	10	19
24	21	33	27	494	50	500	32	22	26	22	14	20
25	22	31	22	110	50	150	28	25	24	16	19	18
26	16	31	24	61	46	70	22	25	24	12	19	14
27	18	25	22	48	40	48	26	25	20	13	20	128
28	23	*26	22	83	36	42	28	24	31	13	20	22
29	20	25	27	62	-	40	28	23	20	13	17	20
30	24	21	25	46	-	40	50	18	24	16	11	20
31	24	-	405	38	-	36	-	14	-	13	14	-
Total	855	1,542	1,942	2,621	3,445	2,632	1,402	873	1,843	564	565	728
Mean	27.6	51.4	62.6	84.5	123	91.4	46.7	28.2	61.4	18.2	18.2	24.3
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 1,380 Min 12 Mean 58.9 Cfsm - In. -

Water year 1952-53: Max 898 Min 10 Mean 52.6 Cfsm - In. -

Peak discharge (base, 920 cfs).--Feb. 15 (12:30 p.m.) 1,280 cfs (8.57 ft); Feb. 21 (8 a.m.) 1,430 cfs (9.17 ft); Mar. 24 (time unknown) 1,130 cfs (8.04 ft).

\* Discharge measurement made on this day.

Note.--No gage-height record Jan. 8-12, Feb. 24 to Mar. 31; discharge estimated on basis of weather records, recorded range in stage when available, and records for nearby stations.

## Stony Creek near Burlington, N. C.

Location.--Lat 36°11', long. 79°25', on right bank a quarter of a mile upstream from highway bridge, half a mile upstream from Buttermilk Creek, 4½ miles upstream from mouth, and 6 miles north of Burlington, Alamance County.

Drainage area.--44.2 sq mi.

Records available.--July 1952 to September 1953.

Gage.--Water-stage recorder.

Extremes.--1952: Maximum discharge during period July to September, 1,090 cfs Sept. 1 (gage height, 6.54 ft); minimum discharge observed, 0.4 cfs July 29, 30.  
1952-53: Maximum discharge during water year, 1,670 cfs Feb. 15 (gage height, 9.08 ft); no flow for Sept. 25, 26.

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

Discharge, in cubic feet per second, 1952

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1	-	g20	*487	9	-	a4.0	2.8	17	-	3.3	2.6	25	g0.7	0.8	4.8
2	-	a10	18	10	-	a5.2	2.8	18	-	3.4	3.6	26	a.6	.6	4.0
3	-	a5.0	*7.8	11	-	g2.8	2.9	19	-	1.8	4.0	27	a.6	.6	3.6
4	-	g3.2	5.1	12	-	g1.6	2.8	20	-	1.3	3.9	28	g.5	1.7	3.2
5	-	g2.1	4.0	13	-	g1.2	2.6	21	-	1.2	3.9	29	g.4	2.2	3.0
6	-	g4.2	3.4	14	-	a1.0	2.5	22	-	1.7	88	30	*g.4	6.5	3.0
7	-	g3.6	3.1	15	-	*.9	2.6	23	-	1.2	16	31	g17	117	-
8	-	g4.6	2.9	16	-	1.0	2.8	24	g0.8	1.2	6.6				
Total.....															
Mean.....															
Cubic feet per second per square mile.....															
Runoff in inches.....															
* Discharge measurement made on this day.															
a No gage-height record; discharge estimated from records for nearby stations.															
g Computed from graph based on twice-daily staff-gage readings.															

Discharge, in cubic feet per second, water year October 1951 to September 1952

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.0	2.4	*8.1	207	26	26	24	32	2.6	2.6	a0.07	0.01
2	3.0	2.6	8.4	55	22	100	24	17	2.4	1.7	a.06	.01
3	3.2	3.9	11	58	20	109	*21	15	2.1	.85	a.06	.01
4	2.8	3.6	10	40	20	279	21	13	2.1	.70	a.05	.01
5	2.6	3.1	11	28	18	181	19	12	2.2	.65	a.05	.01
6	2.6	3.2	22	23	17	65	20	18	2.2	.80	a.05	.02
7	2.4	3.5	14	20	199	46	113	16	6.1	.75	a.10	.02
8	2.2	3.5	12	20	104	38	44	*13	14	.70	a.10	.02
9	2.5	3.5	11	*468	42	32	30	11	9.6	.70	a.10	.02
10	4.9	3.9	105	503	30	29	24	9.5	10	.70	a.10	.01
11	4.0	5.8	778	122	26	30	21	9.0	9.5	.60	.15	** .01
12	2.9	6.8	93	54	84	140	94	9.0	7.0	.55	.08	.01
13	2.2	5.1	38	34	75	187	201	9.2	4.6	.38	.05	.01
14	2.1	3.6	25	27	37	72	78	7.0	27	.38	a.04	.01
15	2.0	6.5	20	24	979	71	41	6.3	9.5	.33	a.04	.01
16	1.8	13	17	21	*195	154	35	5.8	5.8	.29	a.04	.01
17	*1.8	6.0	15	20	73	60	30	5.8	7.0	.29	a.04	.01
18	1.8	4.8	14	19	47	45	25	5.6	13	.27	a.10	.01
19	1.9	5.0	13	21	37	40	22	6.3	*7.3	.27	a.20	.01
20	2.2	352	12	18	36	32	20	8.7	4.8	.49	a.10	.01
21	2.4	372	44	102	*935	28	19	6.5	3.2	*.38	a.08	.01
22	2.3	103	34	71	289	27	18	5.6	4.2	.35	a.06	.01
23	2.5	30	23	35	88	27	17	5.1	13	.55	a.04	.01
24	2.6	19	20	842	56	404	16	6.3	6.8	.40	a.02	.01
25	2.4	15	17	162	49	106	15	5.6	3.8	.29	a.02	0
26	2.5	13	15	55	42	58	15	5.1	2.5	.18	a.02	0
27	2.5	11	13	38	34	40	14	4.1	5.5	.14	*.01	.07
28	*2.4	9.7	12	58	30	34	12	3.3	18	.10	.01	.04
29	2.5	8.6	11	68	-	30	12	2.8	6.0	.08	.01	.05
30	2.3	6.4	11	36	-	27	17	2.8	3.8	a.08	.01	.02
31	2.2	-	459	29	-	24	-	2.8	-	a.07	.01	-
Total	78.5	1,031.5	1,896.5	3,098	3,610	2,541	1,062	279.2	215.6	16.60	1.87	0.44
Mean	2.53	34.4	61.2	99.9	129	82.0	35.4	9.01	7.13	0.535	0.080	0.015
Cfs/m	0.057	0.778	1.38	2.26	2.92	1.86	0.801	0.204	0.163	0.012	0.0014	0.00034
In.	0.07	0.87	1.60	2.61	3.04	2.14	0.89	0.23	0.18	0.01	0.002	0.0004
Calendar year 1952: Max - Min - Mean - Cfs/m - In. -												
Water year 1952-53: Max 979 Min 0 Mean 37.9 Cfs/m 0.857 In. 11.64												

Peak discharge (base, 900 cfs).--Dec. 11 (1 p.m.) 1,340 cfs (7.65 ft); Dec. 31 (9 p.m.) 940 cfs (5.90 ft); Jan. 24 (4 p.m.) 1,120 cfs (6.63 ft); Feb. 15 (5 p.m.) 1,670 cfs (9.08 ft); Feb. 21 (3:30 p.m.) 1,460 cfs (8.19 ft).

\* Discharge measurement made on this day.

\*\* Field estimate made on this day.

a No gage-height record; discharge estimated from records for nearby stations.

## Haw River at Haw River, N. C.

Location.--Lat 36°05', long. 79°22', on left bank at town of Haw River, Alamance County, 650 ft downstream from Southern Railway bridge, and 3 miles downstream from Stony Creek.

Drainage area.--599 sq mi.

Records available.--October 1928 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 471.69 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--25 years, 590 cfs.

Extremes.--Maximum discharge during year, 8,400 cfs Feb. 15 (gage height, 17.00 ft); minimum, 21 cfs Sept. 26 (gage height, 1.24 ft); minimum daily, 23 cfs Sept. 26.  
1928-53: Maximum discharge, 37,000 cfs Sept. 18, 1945 (gage height, 31.10 ft, from floodmark), from rating curve extended above 26,000 cfs on basis of contracted-opening determination of peak flow; minimum, 3 cfs Sept. 5, 1930 (gage height, 0.92 ft); minimum daily, 5 cfs Sept. 6, 1930.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Large diurnal fluctuation and some regulation for short periods at low flow caused by powerplants above station. City of Burlington diverted an average of 5.8 cfs for municipal supply from basin above station during water year 1953.

Revisions (water years).--WSP 757: 1929(M). WSP 782: 1934. WSP 822: Drainage area.

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

1.3	25	4.0	705
1.5	46	6.0	1,460
1.7	77	8.0	2,340
2.0	140	10.0	3,400
2.5	258	12.0	4,600
3.0	384	14.0	6,000

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		103	*236	a2,700	556	a500	a560	474	116	207	62	39
2		114	221	a1,200	458	a900	a600	384	152	187	50	36
3		103	286	a1,100	408	a1,200	*339	384	83	133	50	38
4		110	333	a800	408	a1,700	573	313	80	149	54	36
5	a100	108	323	371	a1,600	524	293	142	222	50	48	
6		101	358	a420	346	a1,300	474	273	60	187	57	93
7		101	371	a400	1,300	a1,000	915	306	114	133	47	a200
8		70	320	a430	1,460	a700	610	308	108	57	a200	
9	a190	122	346	a2,500	1,260	a600	656	263	713	69	65	a100
10	a300	118	447	a4,200	985	a550	524	231	889	67	*103	a70
11	a220	158	4,210	a2,400	656	a500	458	226	1,050	103	87	*60
12	a190	248	2,340	a1,800	1,020	a1,100	753	221	1,060	101	62	49
13	a160	240	1,920	1,140	1,220	a1,800	1,580	165	705	95	62	32
14	a140	202	1,140	792	1,020	a1,200	1,240	184	474	110	57	33
15	a125	256	722	622	5,890	a1,200	1,100	192	278	87	52	40
16	a120	296	a450	507	4,000	a2,200	880	202	140	87	44	38
17	116	238	a380	412	2,440	a1,300	705	174	207	83	42	39
18	114	183	a340	442	1,540	a1,100	556	162	860	68	44	34
19	116	222	a320	442	950	a800	490	193	1,080	79	40	49
20	105	2,510	a300	384	722	a650	412	288	758	81	44	59
21	97	3,580	a440	707	5,460	a600	384	223	442	77	87	39
22	95	2,250	a500	880	4,900	a500	393	197	273	83	49	34
23	97	1,180	a410	722	2,780	a540	303	164	320	97	96	28
24	105	758	a360	3,440	1,540	a5,000	300	174	300	77	49	26
25	99	540	a320	2,690	1,100	a2,900	283	197	268	72	57	26
26	83	408	a300	1,790	915	a2,100	310	169	204	65	89	23
27	112	371	a280	1,100	740	a1,250	358	167	180	72	50	80
28	*147	270	a270	845	600	a900	346	158	243	83	59	141
29	97	246	a270	950	-	a700	296	122	300	74	42	149
30	99	223	a260	705	-	a600	298	83	266	60	36	122
31	99	-	a2,200	606	-	a540	-	93	-	50	31	-
Total	3,826	15,429	20,973	37,706	45,055	37,530	17,685	6,983	12,215	3,145	1,774	1,962
Mean	123	514	677	1,216	1,609	1,211	590	225	407	101	57.2	65.4
Cfsm	0.205	0.858	1.13	2.03	2.69	2.02	0.985	0.376	0.679	0.169	0.095	0.109
In.	0.24	0.96	1.30	2.34	2.80	2.33	1.10	0.43	0.76	0.20	0.11	0.12

Calendar year 1952: Max 12,000 Min 47 Mean 666 Cfsm 1.11 In. 15.15  
Water year 1952-53: Max 5,890 Min 23 Mean 560 Cfsm 0.935 In. 12.69

Peak discharge (base, 6,000 cfs).--Feb. 15 (3 p.m.) 8,400 cfs (17.00 ft); Feb. 21 (5 p.m.) 7,770 cfs (16.26 ft); Mar. 24 (time and discharge unknown).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated from recorded range in stage and other records in basin.

## Haw River near Pittsboro, N. C.

Location.--Lat 35°42', long. 79°05', on left bank 100 ft upstream from Robeson Creek, 8 miles downstream from bridge on U. S. Highway 64, and 5 miles east of Pittsboro, Chatham County.

Drainage area.--1,310 sq mi, approximately.

Records available.--November 1928 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 180.06 ft above mean sea level (levels by Corps of Engineers). Prior to Oct. 14, 1929, staff gage at same site and datum.

Average discharge.--25 years, 1,270 cfs.

Extremes.--Maximum discharge during year, 21,100 cfs Feb. 15 (gage height, 15.52 ft); minimum, 4.5 cfs Sept. 20, 21 (gage height, 1.24 ft); minimum daily, 5.3 cfs Sept. 20, 1928-53; Maximum discharge, 79,000 cfs during night of Sept. 18-19, 1945 (gage height, 28.58 ft, from high-water mark in gage shelter); minimum, 4.5 cfs Sept. 27, 1948, Sept. 20, 21, 1953 (gage height, 1.24 ft); minimum daily, that of Sept. 20, 1953. Flood of August 1908 reached a stage of 32.1 ft, from floodmarks, 1,000 ft upstream (discharge, 98,000 cfs). Flood of 1865 reached a stage about 1 ft lower than flood of 1908, from information by local residents. Flood of September 1928 reached a stage of 20.3 ft, from floodmarks (discharge, 39,200 cfs).

Remarks.--Records good except those for periods of no gage-height record, which are poor. Considerable diurnal fluctuation and some regulation for short periods at low flow caused by powerplants above station.

Revisions.--WSP 822: Drainage area.

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

1.2	3.0	2.1	108	4.0	1,360
1.3	8.8	2.4	212	5.0	2,260
1.4	12	2.7	379	7.0	4,560
1.6	28	3.0	580	9.0	7,600
1.8	52	3.5	950	13.0	15,100

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		178	570	7,940	1,150	1,150	1,150	845	194	382		75
2		186	536	2,990	1,150	2,080	1,840	1,110	244	306		54
3		202	430	2,360	982	3,320	1,570	710	222	218		38
4		179	578	2,020	928	3,910	1,190	815	258	182		31
5		235	680	1,480	928	4,430	1,020	748	224	182		28
6		178	658	1,150	945	2,770	998	1,170	107	722		26
7		172	622	1,020	1,760	2,110	1,230	874	200	580		24
8		118	744	935	3,820	1,700	1,790	710	822	284		130
9	241	142	643	5,800	2,310	1,440	1,310	702	1,520	173		66
10	244	223	582	11,200	1,880	1,230	1,150	431	1,480	106		42
11	248	176	4,500	5,580	1,440	1,190	982	573	1,880	99		114
12	431	235	4,480	3,430	1,810	2,920	1,420	710	1,520	99		81
13	441	430	2,310	2,260	3,640	5,560	4,580	444	1,190	182	(*)	127
14	420	392	1,920	1,700	2,210	3,240	3,180	365	702	114		167
15	298	466	1,400	1,360	13,300	3,220	1,920	290	898	143		95
16		318	1,010	1,150	12,100	6,190	2,160	324	622	157		98
17		578	860	1,030	4,560	3,400	1,700	268	389	153		55
18		481	748	898	2,990	2,460	1,270	307	916	68		42
19		356	695	1,030	2,060	2,060	1,070	383	1,440	104		10
20	282	7,850	672	982	*1,660	1,570	1,070	648	1,150	177	(*)	5.3
21	299	12,300	653	920	7,050	1,360	958	748	740	86		99
22	207	6,730	1,310	1,600	11,400	1,190	882	573	636	53		36
23	108	2,510	1,010	1,310	5,670	1,270	830	342	643			91
24	90	1,660	822	8,720	3,240	14,400	755	227	451			164
25	65	1,190	740	6,710	2,310	6,380	718	394	429			34
26	86	974	688	3,430	1,920	3,910	361	451	457			48
27	205	778	636	2,310	1,660	2,770	272	302		a100		875
28	163	749	608	1,740	1,360	1,970	732	290	950			29
29	269	585	865	2,060	-	1,610	740	276	345			104
30	282	491	650	1,660	-	1,440	830	186	203			196
31	262	-	5,740	1,310	-	1,230	-	212	-			26
Total	8,321	41,060	38,160	88,065	96,133	93,480	39,979	16,498	21,134	5,570	2,109	3,138.3
Mean	268	1,369	1,231	2,841	3,433	3,015	1,333	532	704	180	68.0	105
Cfsm	0.205	1.05	0.940	2.17	2.62	2.30	1.02	0.406	0.537	0.137	0.052	0.080
In.	0.24	1.17	1.08	2.50	2.73	2.65	1.13	0.47	0.60	0.16	0.06	0.09
Calendar year 1952: Max			34,200	Min	54	Mean	1,457	Cfsm	1.11	In.	15.13	
Water year 1952-53: Max			14,400	Min	5.3	Mean	1,243	Cfsm	0.949	In.	12.88	

Peak discharge (base, 17,000 cfs).--Feb. 15 (6 p.m.) 21,100 cfs (15.52 ft); Mar. 24 (10 a.m.) 18,600 cfs (14.65 ft).

\* 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.

## New Hope River near Pittsboro, N. C.

Location.--Lat 35°44', long. 79°02', on right bank at downstream side of bridge on U. S. Highway 64, a quarter of a mile downstream from Whiteoak Creek, and  $8\frac{1}{4}$  miles east of Pittsboro, Chatham County.

Drainage area.--285 sq mi.

Records available.--January 1949 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 176.45 ft above mean sea level (from Corps of Engineers benchmark). Prior to Mar. 17, 1950, staff gage at same site and datum.

Extremes.--Maximum discharge during year, 5,310 cfs Mar. 15 (gage height, 19.50 ft); minimum, 2.0 cfs Sept. 4.

1949-53: Maximum discharge, 7,900 cfs Mar. 5, 1952; minimum, that of Sept. 4, 1953.

Flood of September 1945 reached a stage of 37.65 ft; 1939 flood, 35.2 ft; 1905 flood, 23.85 ft, from information by State Highway and Public Works Commission.

Remarks.--Records fair except those for July and August and period of no gage-height record, which are poor. City of Durham discharged an average of 4.4 cfs sewage effluent into basin above station from Keuse River during water year 1953.

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	12	102	1,440	288	211	211	514	23	138	8.0	3.2
2	22	12	98	1,700	232	307	460	552	22	59	7.3	3.0
3	22	12	120	2,000	206	708	742	332	21	34	8.5	*2.4
4	22	12	126	1,610	191	1,020	597	156	20	26	6.4	2.6
5	23	12	120	862	196	1,220	286	123	19	23	*4.5	7.2
6	22	12	116	408	186	1,100	211	129	18	20	4.2	11
7	19	*12	116	254	307	742	222	588	20	28	4.8	20
8	17	14	106	*211	762	393	318	650	48	74	4.8	21
9	18	14	95	614	820	270	288	444	81	48	6.4	12
10	29	15	89	1,280	706	222	206	201	58	*25	*6.2	7.7
11	46	16	123	1,700	387	491	128	120	74	20	6.8	5.6
12	41	24	289	2,000	297	473	329	92	82	17	6.8	4.0
13	33	44	294	1,840	553	1,220	1,370	80	47	15	*2.8	3.6
14	27	46	191	787	686	1,340	*1,700	70	31	13	7.2	3.2
15	*23	41	144	312	1,580	1,600	1,790	60	44	11	7.2	3.2
16	20	40	116	232	2,710	1,910	1,330	54	50	10	7.2	3.0
17	18	55	102	201	3,540	1,850	599	49	39	10	12	2.8
18	17	58	95	186	2,520	1,850	378	4*	188	8.8	107	2.8
19	16	4*	89	201	1,390	1,300	28*	42	152	7.8	50	3.0
20	16	1,080	82	198	*490	532	208	50	72	7.8	16	3.6
21	14	2,230	118	177	491	342	172	70	42	7.2	9.6	3.6
22	12	3,840	248	195	950	248	148	59	29	*6.6	7.7	3.6
23	11	3,130	306	216	1,020	228	134	44	28	10	8.0	*3.2
24	10	2,120	216	1,000	970	1,310	123	38	23	12	4.8	3.2
25	10	1,100	164	1,980	682	3,610	112	32	22	14	4.4	3.2
26	11	320	140	2,780	403	4,240	10*	*31	20	12	3.6	4.0
27	12	201	120	2,400	306	7,500	9*	32	20	8.3	*3.2	194
28	12	*164	106	1,400	254	1,340	92	35	434	8.5	3.0	*343
29	*12	137	95	602	-	499	82	28	704	6.9	3.2	a160
30	12	116	89	490	-	306*	114	25	390	*5.2	3.6	a70
31	12	-	580	390	-	*240	-	23	-	6.0	3.2	-
Total	602	14,935	4,775	29,445	23,103	33,622	12,875	4,769	2,917	692.1	340.4	912.3
Mean	19.4	498	154	950	825	1,085	429	154	93.9	22.3	11.0	30.4
Cfs/m	0.068	1.75	0.540	3.35	2.89	3.81	1.51	0.540	0.329	0.078	0.039	0.107
In.	0.08	1.95	0.62	3.84	3.01	4.39	1.88	0.62	0.37	0.08	0.04	0.12

Calendar year 1952: Max 6,940 Min 10 Mean 335 Cfs/m 1.18 In. 16.03

Water year 1952-53: Max 4,240 Min 2.2 Mean 353 Cfs/m 1.24 In. 16.81

Peak discharge (base, 2,500 cfs).--Nov. 22 (1 p.m.) 4,100 cfs (17.42 ft); Jan. 28 (3 p.m.) 2,980 cfs (15.75 ft); Feb. 17 (7 a.m.) 3,780 cfs (16.98 ft); Mar. 25 (11 p.m.) 5,310 cfs (18.50 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for nearby stations.

## West Fork Deep River near High Point, N. C.

Location.--Lat 36°00'15", long. 79°58'42", on left bank 2,300 ft upstream from highway bridge and High Point Lake, 2.3 miles west of Jamestown, and 2.5 miles northeast of High Point College, High Point, Guilford County.

Drainage area.--32.1 sq mi.

Records available.--June 1923 to September 1926, July 1928 to September 1953.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 758 ft (from topographic map). June 14, 1923, to Sept. 30, 1926, staff gage at site 2,300 ft downstream at different datum.

Average discharge.--28 years, 31.7 cfs.

Extremes.--Maximum discharge during year, 1,400 cfs Mar. 24 (gage height, 11.15 ft); minimum, 2.2 cfs Sept. 1, 2 (gage height, 2.45 ft).  
1923-26, 1928-53: Maximum discharge, 8,450 cfs Sept. 24, 1947 (gage height, 19.92 ft, from floodmark), from rating curve extended above 2,000 cfs on basis of contracted-opening determination of peak flow; minimum, 0.3 cfs Sept. 1, 1932.

Remarks.--Records good except those above 25 cfs, which are fair, and those for period of no gage-height record, which are poor.

Revisions (water years).--WSP 852: Drainage area. WSP 922: 1928-29(M), 1933(M), 1936(M).

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

2.5	2.9	4.0	61
2.6	4.8	4.5	116
2.8	9.8	5.0	193
3.0	16	6.0	318
3.3	27	8.0	518
3.6	40	10.0	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	a9.4	9.3	12	76	26	25	26	24	6.8	9.5	5.2	2.6
2	a16	9.3	14	40	23	81	34	18	8.6	9.5	4.4	2.4
3	a13	9.3	14	49	22	85	24	17	6.6	10	4.6	2.7
4	a10	9.3	13	30	22	163	23	16	6.3	9.0	6.2	4.0
5	a9.4	9.3	30	23	20	71	22	17	8.3	8.7	5.9	23
6	a9.4	9.3	22	21	20	42	25	18	6.6	8.4	5.4	24
7	a9.4	9.0	17	*21	308	34	42	20	445	8.2	5.4	9.8
8	a9.4	8.7	15	47	72	31	25	16	70	8.2	9.5	5.6
9	a30	8.7	14	342	38	27	23	15	44	7.9	7.1	5.0
10	a15	12	187	367	31	25	22	14	33	7.4	5.2	4.6
11	a12	17	464	68	29	35	19	13	50	6.8	4.4	5.0
12	a11	15	54	40	222	96	63	12	19	6.6	4.4	5.0
13	a10	11	32	30	67	63	152	12	16	6.3	4.0	4.6
14	*9.8	11	25	27	39	39	42	11	20	6.3	3.6	4.4
15	9.8	12	21	24	557	74	30	11	14	6.1	3.4	4.4
16	10	11	19	23	99	174	28	11	*14	6.1	3.2	4.2
17	9.8	10	18	21	48	46	23	11	341	6.1	3.4	4.0
18	9.5	10	17	24	35	37	22	11	55	6.1	7.1	4.0
19	9.5	11	16	22	31	33	22	12	25	6.1	7.1	4.0
20	8.7	31	17	20	39	28	20	15	18	6.1	5.6	4.2
21	8.4	149	36	68	768	25	19	12	17	5.6	5.2	4.4
22	8.7	38	22	35	150	29	18	11	37	8.4	4.4	3.8
23	9.0	21	19	29	59	120	18	10	17	12	4.2	3.6
24	9.3	17	18	339	44	643	17	9.8	13	6.8	4.0	*3.6
25	9.3	16	17	74	39	56	17	9.5	12	6.1	3.6	3.8
26	9.3	15	16	38	35	53	17	9.0	12	5.9	3.6	4.4
27	9.3	15	16	32	29	40	15	7.9	11	5.6	3.4	41
28	9.5	13	15	56	26	35	15	7.9	16	5.4	3.4	9.0
29	8.7	13	14	46	-	30	15	7.9	11	*5.0	3.1	6.1
30	8.7	13	15	31	-	28	25	7.9	11	4.6	2.9	5.4
31	9.0	-	343	28	-	*26	-	7.9	-	6.1	2.7	-
Total	330.3	543.2	1,552	2,090	2,898	2,334	863	394.8	1,360.2	220.9	147.6	212.6
Mean	10.7	18.1	50.1	67.4	104	75.3	28.8	12.7	45.3	7.13	4.76	7.09
Cfsm	0.333	0.564	1.56	2.10	3.24	2.35	0.897	0.396	1.41	0.222	0.148	0.221
In.	0.38	0.63	1.80	2.42	3.36	2.70	1.00	0.46	1.58	0.26	0.17	0.25
Calendar year 1952: Max	1,140				Min 4.6	Mean 39.5	Cfsm 1.23	In. 16.75				
Water year 1952-53: Max	768				Min 2.4	Mean 35.5	Cfsm 1.11	In. 15.01				

Peak discharge (base, 700 cfs).--Dec. 11 (3:30 a.m.) 950 cfs (9.97 ft); Feb. 15 (9:30 a.m.) 1,110 cfs (10.54 ft); Feb. 21 (5 a.m.) 1,260 cfs (10.92 ft); Mar. 24 (1:30 a.m.) 1,400 cfs (11.15 ft); June 7 (2:30 p.m.) 765 cfs (9.34 ft); June 17 (3 p.m.) 740 cfs (9.17 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage and records for station on East Fork Deep River.

## East Fork Deep River near High Point, N. C.

Location.--Lat 36°02'15", long. 79°56'46", on left bank 5 ft upstream from highway bridge, 3.3 miles upstream from High Point Dam, and 5.2 miles northeast of High Point College, High Point, Guilford County.

Drainage area.--14.2 sq mi.

Records available.--July 1928 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 764.02 ft above mean sea level, unadjusted. Intake pipe extended to downstream side of bridge since Mar. 1, 1934.

Average discharge.--25 years, 14.8 cfs.

Extremes.--Maximum discharge during year, 1,760 cfs Feb. 21 (gage height, 4.19 ft); minimum, 2.2 cfs Sept. 2 (gage height, 0.24 ft).  
1928-53: Maximum discharge, 6,300 cfs Sept. 24, 1947 (gage height, 10.87 ft, from floodmark), by contracted-opening method based on floodmarks at gage height 14.11 ft on upstream side of bridge and 10.87 ft on downstream side of bridge; minimum, 0.7 cfs Sept. 22, 1941 (result of temporary regulation); minimum, unregulated, 1.3 cfs Sept. 25, 1941.

Remarks.--Records good above 15 cfs and fair below.

Revisions.--WSP 852: Drainage area.

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

0.2	1.6	0.9	28
.3	3.0	1.2	65
.4	5.0	1.5	126
.5	7.6	2.0	280
.7	16	2.5	470

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	4.4	5.3	27	12	11	15	10	4.2	5.5	3.8	2.4
2	7.8	4.4	6.3	19	10	41	14	8.3	4.2	6.0	3.6	2.6
3	6.6	4.6	6.3	22	10	39	11	7.9	4.2	6.3	3.6	2.6
4	4.8	4.8	5.8	13	9.6	71	11	7.6	4.0	5.8	4.6	2.4
5	4.6	4.6	14	10	9.3	27	10	8.3	4.0	5.3	3.8	1.6
6	4.6	4.6	9.6	9.3	9.3	18	13	7.9	4.0	5.3	3.6	7.5
7	4.6	4.4	7.1	9.0	140	15	20	8.3	159	5.0	3.8	4.0
8	4.6	4.4	6.6	31	28	13	12	7.3	30	5.0	4.0	3.4
9	15	4.4	6.3	191	18	12	11	6.8	13	4.8	3.8	3.2
10	7.3	5.8	106	120	14	11	10	6.6	79	4.6	3.4	3.2
11	6.0	7.1	160	28	14	18	9.3	6.3	32	4.4	3.4	3.2
12	5.5	6.6	22	17	83	40	29	6.0	11	4.4	*3.0	3.2
13	5.3	5.0	15	14	25	27	65	6.0	8.6	4.2	3.0	3.0
14	5.0	4.8	10	13	18	18	19	5.8	7.9	4.2	2.7	3.0
15	5.0	5.3	9.0	11	317	88	13	5.8	6.8	4.2	2.7	3.0
16	5.0	5.0	7.9	10	33	46	13	5.5	6.8	4.2	2.7	2.9
17	4.8	4.8	7.6	9.3	22	21	11	5.5	233	3.8	5.1	2.9
18	4.8	4.8	7.3	10	16	17	10	5.5	20	3.8	4.2	2.9
19	4.6	5.0	7.1	9.6	*14	16	10	6.6	11	4.0	4.2	2.9
20	4.4	13	7.3	9.3	23	13	9.3	6.0	8.3	3.8	3.6	2.9
21	4.2	40	15	32	397	12	8.6	5.5	19	3.6	3.4	2.9
22	4.4	11	9.3	15	49	12	8.6	5.5	15	5.3	3.2	3.0
23	4.4	7.6	9.0	12	24	122	8.3	5.3	11	5.0	3.0	2.7
24	4.4	6.8	8.6	162	19	140	8.3	5.3	7.1	4.0	3.0	2.7
25	4.6	6.3	8.3	30	18	35	7.9	5.8	6.3	3.8	2.7	2.9
26	4.6	6.3	7.9	18	16	22	7.9	4.8	6.0	3.6	2.7	3.2
27	4.6	6.0	7.6	15	13	18	7.6	4.6	6.0	3.6	2.7	2.1
28	4.6	5.8	6.6	32	12	15	7.3	4.6	10	3.6	2.6	4.0
29	4.6	5.5	6.3	20	-	13	7.3	4.6	6.0	3.4	2.6	3.4
30	4.6	5.5	6.3	15	-	12	11	4.6	5.8	3.6	2.6	3.2
31	4.4	-	142	13	-	11	-	4.4	-	4.2	2.4	-
Total	164.3	208.4	653.4	946.5	1,373.2	974	398.4	193.0	743.2	138.3	103.5	126.2
Mean	5.30	6.95	21.1	30.5	49.0	31.4	13.3	6.23	24.8	4.46	3.34	4.21
Cfsm	0.373	0.489	1.49	2.15	3.45	2.21	0.937	0.439	1.75	0.314	0.235	0.296
In.	0.43	0.55	1.71	2.48	3.60	2.55	1.04	0.51	1.95	0.36	0.27	0.33

Calendar year 1952: Max 585 Min 2.9 Mean 18.2 Cfsm 1.28 In. 17.50  
Water year 1952-53: Max 397 Min 2.4 Mean 16.5 Cfsm 1.16 In. 15.78

Peak discharge (base, 800 cfs).--Feb. 15 (5:30 a.m.) 1,370 cfs (3.56 ft); Feb. 21 (2 a.m.) 1,760 cfs (4.19 ft); Mar. 23 (10 p.m.) 1,300 cfs (3.45 ft); June 17 (8 a.m.) 1,640 cfs (4.00 ft).

\* Discharge measurement made on this day.

## Deep River near Randleman, N. C.

Location.--Lat 35°54'10", long. 79°51'15", on left bank 500 ft downstream from highway bridge, a quarter of a mile downstream from Coltrane's mill, half a mile south of Guilford County line, 4½ miles upstream from Muddy Creek, and 7 miles north of Randleman, Randolph County.

Drainage area.--134 sq mi.

Records available.--October 1928 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 638.11 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--25 years, 120 cfs.

Extremes.--Maximum discharge during year, 4,850 cfs Feb. 21 (gage height, 18.93 ft); minimum not determined, occurred during period of no gage-height record.  
1928-53: Maximum discharge, 20,000 cfs Sept. 25, 1947 (gage height, 32.2 ft, from floodmark), from rating curve extended above 7,100 cfs on basis of contracted-opening determination of peak flow at bridge 1½ miles upstream; minimum, 0.5 cfs Nov. 28, 1931 (gage height, 1.41 ft); minimum daily, 1.2 cfs Nov. 12, 1933.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Large diurnal fluctuation at low flow caused by Coltrane's mill. Flow slightly regulated by High Point Lake (total capacity, 5,064 acre-ft). City of High Point diverts about 3 cfs for municipal supply above station and discharges sewage effluent into Rich Fork in Pee Dee River basin.

Revisions (water years).--WSP 76C: 1929-30.

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

1.5	1.5	4.0	337
1.6	3.7	6.0	785
1.8	10	8.0	1,280
2.0	23	10.0	2,800
2.5	72	16.0	3,600
3.0	141		

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	65	459	104	93	a100		24	36	18	11
2	16	17	*49	183	103	289	a200		14	47	29	12
3	27	11	34	211	76	306	a110	a80	17	32	14	9.9
4	19	11	30	136	88	491	a90		23	41	30	11
5	22	8.9	85	116	91	342	a90		19	28	20	14
6	16	14	80	*73	51	193	a90	59	17	30	22	39
7	17	12	56	84	694	153	a100	90	727	28	18	37
8	20	7.2	78	105	340	150	a150	66	400	32	70	16
9	71	16	47	1,450	191	a190	a100	70	145	24	42	
10	58	38	207	1,260	143	a150	72	23	150	14	43	
11	34	36	1,800	354	116	a120	80	51	276	15	17	
12	23	31	310	198	588	a500	143	39	114	32	15	
13	44	29	151	155	352	326	348	40	56	18	14	
14	*27	37	109	106	182	a180	204	41	51	17	13	
15	25	24	109	103	2,380	223	139	39	68	17	13	
16	23	21	62	108	581	610	98	40	*46	18	11	
17	24	24	81	68	255	234		22	912	16	11	a10
18	26	60	56	91	176	177		31	357	28	37	
19	18	22	57	107	153	159		28	131	19	20	
20	28	339	72	74	138	a130		37	84	73	17	
21	24	662	104	163	3,330	a110		29	54	30	14	
22	31	255	100	154	904	a110	a80	45	572	41	12	
23	18	110	126	78	301	a120	a70	35	189	73	11	
24	11	101	72	1,190	213	a1,100	a70	49	71	34	11	
25	16	61	66	395	187	a400	a60	24	65	21	10	
26	22	50	62	195	167	a240	a60	26	47	13	11	a20
27	19	70	58	157	152	a150	50	18	48	2.8	12	a50
28	19	56	54	169	119	a130	43	43	211	*4.3	20	a20
29	18	32	66	191	-	a120	68	22	99	5.2	30	a20
30	20	39	44	141	-	a110	a80	16	65	6.1	16	a10
31	17	-	1,150	101	-	*a100	-	34	-	10	11	-
Total	779	2,204.1	5,372	8,403	12,071	7,686	3,145	1,419	4,850	805.4	624	429.9
Mean	25.1	73.5	173	271	431	248	105	45.8	162	26.0	20.1	14.3
Cfsm	0.202	0.593	1.40	2.19	3.48	2.00	0.847	0.369	1.31	0.210	0.162	0.115
In.	0.23	0.66	1.61	2.52	3.62	2.31	0.94	0.43	1.45	0.24	0.19	0.13
Calendar year 1952: Max			4,970		Min 1.9	Mean 145		Cfsm 1.17	In. 15.88			
Water year 1952-53: Max			3,330		Min -	Mean 131		Cfsm 1.06	In. 14.33			

Peak discharge (base, 2,600 cfs).--Dec. 10 (7:50 a.m.) 3,020 cfs (14.21 ft); Feb. 15 (12:30 p.m.) 4,040 cfs (17.08 ft); Feb. 21 (9 a.m.) 4,850 cfs (18.93 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for nearby streams.

## Deep River at Ramseur, N. C.

Location.--Lat 35°44', long. 79°39', on right bank 1,600 ft downstream from railroad station at Ramseur, Randolph County, and 1½ miles downstream from Sandy Creek.

Drainage area.--346 sq mi.

Records available.--November 1922 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 414.50 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--31 years, 348 cfs.

Extremes.--Maximum discharge during year, 10,100 cfs Feb. 15 (gage height, 15.97 ft); minimum, 0.8 cfs Aug. 3, Sept. 25, 36 (gage height, 0.40 ft), minimum daily, 0.8 cfs Aug. 3.

1922-53: Maximum discharge, 42,000 cfs Sept. 12, 1945 (gage height, 34.04 ft, from floodmark), from rating curve extended above 19,000 cfs on basis of slope-area determination of peak flow; minimum, 0.4 cfs May 27, Nov. 28, 29, 1941; minimum daily, 0.7 cfs Nov. 29, 1941.

Flood of August 1901 reached a stage of 38.75 ft, from floodmarks, about a quarter of a mile upstream (discharge, 30,000 cfs).

Remarks.--Records good except those for periods of no gage-height record, which are poor. Large diurnal fluctuation caused by powerplants above station. Flow regulated by High Point Lake and small powerplant reservoirs. Town of Asheboro diverted an average of 1.3 cfs during water year 1953 from Fee Dee River basin into this basin above station.

Revisions (water years).--WSF 922: Drainage area, WSP 1933: 1923-26, 1927-33(M), 1929, 1930(M), 1932-33, 1924(M), 1935, 1936-37(M), 1944(M).

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

0.4	6.8	2.0	408
.5	16	2.5	845
.8	26	3.0	930
.8	53	4.0	1,540
1.0	91	6.0	2,890
1.3	164	8.0	4,120
1.6	258	12.0	6,980

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	25	24	154	1,830	279	290	287	235	104	152	28	12
2	35	24	*122	586	281	700	585	234	55	122	18	75
3	24	107	192	553	259	310	356	310	53	88	6.8	22
4	24	118	428	240	240	1,306	282	273	50	105	10	12
5		54	94	309	222	1,160	262	*189	54	73	14	12
6	a60	89	160	*277	213	567	217	220	28	66	57	13
7		18	151	234	1,330	426	a200	291	795	105	50	13
8	26	17	153	225	1,180	376	a460	284	1,300	87	44	*39
9	55	17	180	3,820	534	335	a500	101	432	54	151	89
10	110	31	206	3,900	375	318	a300	170	252	73	137	26
11	123	117	3,070	1,200	329	310	a200	183	340	41	28	19
12	90	168	370	598	1,140	1,580	1,140	118	262	53	62	10
13	77	105	401	410	1,360	1,540	*2,100	115	149	92	*31	11
14	*24	25	282	339	570	728	782	119	141	43	30	16
15	90	60	235	290	6,730	900	429	100	180	28	30	40
16	93	98	232	241	2,800	1,340	a400	30	95	27	30	22
17	89	112	177	255	870	728	a300	99	1,220	15	78	14
18	28	81	151	242	535	499	a290	144	1,380	9.6	24	8.6
19	35	94	178	282	432	458	251	35	433	17	71	9.6
20	104	1,010	94	275	382	354	272	302	174	106	26	12
21	20	2,360	270	245	6,180	321	a260	121	160	174	26	14
22	21	1,240	285	382	3,240	314	a250	114	780	21	27	85
23	52	388	202	282	1,050	307	a220	115	488	80	27	31
24	88	265	167	2,940	658	3,620	a200	376	242	72	26	12
25	27	224	170	1,490	539	1,340	a180	194	159	45	26	21
26	26	207	156	614	463	658	161	117	125	48	31	7.7
27	69	92	146	426	401	460	188	121	64	55	28	55
28	22	170	136	420	352	388	146	80	472	32	15	236
29	99	87	187	557	-	344	117	63	408	32	8.6	94
30	57	98	157	379	-	329	178	28	344	32	9.6	28
31	24	-	3,390	321	-	*298	-	46	-	31	10	-
Total	1,735	7,410	12,567	24,152	32,944	23,135	11,483	5,084	10,539	1,973.6	1,160.0	1,032.9
Mean	56.0	247	405	779	1,177	746	393	164	351	63.7	37.4	34.4
Cfs/m	0.162	0.714	1.17	2.25	3.40	2.16	1.11	0.474	1.01	0.184	0.108	0.099
In.	0.19	0.80	1.35	2.60	3.54	2.49	1.23	0.55	1.13	0.21	0.12	0.11
Calendar year 1952: Max	16,900			Min 17		Mean 423		Cfs/m 1.22		In. 16.66		
Water year 1952-53: Max	6,730			Min 6.8		Mean 365		Cfs/m 1.05		In. 14.32		

Peak discharge (base, 6,000 cfs).--Jan. 9 (9 p.m.) 6,080 cfs (10.76 ft); Feb. 15 (1 p.m.) 10,100 cfs (15.87 ft); Feb. 21 (7 p.m.) 9,820 cfs (15.28 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records at Randleman and Moncure.

## CAPE FEAR RIVER BASIN

Bear Creek at Robbins, N. C.

Location.--Lat 35°26', long. 79°36', on right bank 300 ft downstream from Cabin Creek and half a mile west of Robbins, Moore County.

Drainage area.--134 sq mi.

Records available.--November 1939 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 323.23 ft above mean sea level, datum of 1929, supplementary adjustment of 1936 (levels by North Carolina Highway and Public Works Commission).

Average discharge.--14 years, 144 cfs.

Extremes.--Maximum discharge during year, 5,460 cfs Feb. 15 (gage height, 13.40 ft); minimum, 2.9 cfs Sept. 5.

1939-53: Maximum discharge, 27,000 cfs Sept. 18, 1945 (gage height, 32.02 ft, from floodmarks), from rating curve extended above 7,000 cfs on basis of slope-area determination of peak flow; no flow Oct. 2, 22-27, 1941.

Remarks.--Records fair except those for August and September, and those for period of no gage-height record, which are poor. Some diurnal fluctuation caused by mills above station. Diversion of about 300,000 gal daily, from the gage pool, for municipal water supply of town of Robbins is included in these records.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 3-6, Oct. 22 to Nov. 19, May 29 to June 6, Aug. 10 to Sept. 26, Sept. 29, 30)

Oct. 1 to Nov. 21					Nov. 22 to Sept. 30				
1.7	14	3.0	211		1.4	3.3	3.0	206	
2.0	37	4.0	560		1.5	5.6	4.0	560	
2.3	77	5.0	970		1.7	13	5.0	970	
2.6	130	6.0	1,430		1.9	25	6.0	1,430	
					2.3	64	9.0	2,940	
					2.6	114			

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	29	51	450	122	139	139	333	*20	38	11	4.2
2	27	26	62	211	110	401	162	340	17	28	11	4.0
3	29	27	146	242	104	375	139	219	17	54	13	4.0
4	31	30	79	164	106	436	122	127	18	118	30	3.3
5	29	29	68	124	101	318	114	106	17	43	27	3.3
6	28	30	93	106	92	198	110	103	17	28	25	3.5
7	*25	30	72	97	424	169	155	222	57	26	19	5.6
8	25	29	60	102	284	157	120	144	118	103	18	5.1
9	95	29	*56	a150	153	*139	103	92	62	51	17	5.1
10	110	32	68	a600	124	129	97	76	48	34	14	5.1
11	58	57	233	a350	116	170	89	68	46	25	13	5.1
12	45	46	136	a200	353	1,800	1,350	60	38	22	14	5.4
13	39	45	82	a150	309	840	1,530	56	79	19	13	14.9
14	34	32	70	a130	162	343	395	50	153	*17	11	19
15	32	50	63	a120	2,990	1,180	232	47	66	18	9.4	5.4
16	32	66	58	a110	520	502	229	45	49	18	7.1	4.9
17	34	39	57		279	279	176	44	363	18	8.8	4.7
18	32	35	56		206	232	148	43	162	16	*7.9	4.2
19	32	34	53		174	214	142	42	56	17	6.7	4.0
20	34	816	53		164	179	122	70	39	60	7.1	4.0
21	35	1,420	93	a130	1,400	159	*120	57	33	41	7.1	4.2
22	28	299	84	*118	680	159	110	46	182	23	6.7	4.4
23	28	139	67	97	328	179	103	40	74	41	6.0	4.2
24	25	97	89	1,310	243	2,010	95	41	170	37	5.6	*4.2
25	22	81	76	435	240	440	89	32	133	22	5.6	4.4
26	23	73	66	224	211	276	85	29	52	18	5.1	*4.2
27	22	74	59	169	161	216	81	23	39	15	*5.1	1,700
28	*23	64	56	180	157	191	74	18	34	15	5.1	166
29	29	56	50	230	-	171	72	16	66	14	4.9	58
30	29	54	52	148	-	157	119	24	102	14	4.7	33
31	28	-	1,670	127	-	144	-	23	-	13	4.7	-
Total	1,092	3,902	4,028	6,912	10,333	12,302	6,622	2,636	2,327	1,006	343.6	2,231.5
Mean	35.2	130	130	223	369	397	221	85.0	77.8	32.5	11.1	74.4
Cfsm	0.263	0.970	0.970	1.66	2.75	2.96	1.65	0.634	0.579	0.243	0.063	0.555
In.	0.30	1.08	1.12	1.92	2.87	3.41	1.84	0.73	0.65	0.28	0.10	0.62
Calendar year 1952: Max	7,100	Min	4.7	Mean	193	Cfsm	1.44	In.	19.54			
Water year 1952-53: Max	2,990	Min	3.3	Mean	147	Cfsm	1.10	In.	14.92			

Peak discharge (base, 3,500 cfs).--Feb. 15 (11 a.m.) 5,460 cfs (13.40 ft); Mar. 24 (7 a.m.) 3,960 cfs (10.80 ft); Apr. 12 (7:30 p.m.) 3,900 cfs (10.70 ft); Sept. 27 (11 a.m.) 3,720 cfs (10.45 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 Deep River at Ramseur, Uwharrie River near Eldorado.

## Deep River at Moncure, N. C.

Location.--Lat 35°36', long. 79°05', on right bank 1½ miles northwest of Moncure, Chatham County, 2½ miles downstream from Rocky River, and 4½ miles upstream from confluence with Haw River.

Drainage area.--1,410 sq mi, approximately.

Records available.--May 1898 to December 1899, July 1930 to September 1953 in reports of Geological Survey. Revised records for May 1898 to December 1899 in Bulletin 34 of North Carolina Department of Conservation and Development.

Gage.--Water-stage recorder. Datum of gage is 185.88 ft above mean sea level (levels by Corps of Engineers). May 1898 to December 1899, chain gage at railroad bridge 1 mile downstream at different datum.

Average discharge.--24 years, 1,466 cfs.

Extremes.--Maximum discharge during year, 22,200 cfs Mar. 24 (gage height, 8.98 ft); minimum, 39 cfs Sept. 16, 17 (gage height, 0.79 ft); minimum daily, 39 cfs Sept. 16, 17, 1898-99, 1930-53: Maximum discharge, 80,300 cfs Sept. 18, 1945 (gage height, 17.20 ft), from rating curve extended above 66,000 cfs; minimum, 9 cfs Nov. 11, 1941; minimum daily, 10 cfs Nov. 5-6, 8-12, 1941.

Remarks.--Records good above 250 cfs and fair below except those for periods of no gage-height record, which are poor. Diurnal fluctuation and considerable regulation at low flow caused by small powerplants above station.

Revisions (water years).--WSP 822: Drainage area. WSP 1082: 1930-46 (1943-46 not previously published). See also Records available.

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

0.7	28	2.5	1,110
.9	57	3.0	1,800
1.2	139	4.0	3,740
1.5	276	5.0	6,240
1.7	398	6.0	9,340
2.0	621	8.0	17,300

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			557	12,400	1,320	1,330	1,210	1,880	101	754	116	52
2			497	8,480	1,180	1,910	1,400	1,910	139	613	72	52
3			589	3,410	1,090	4,070	1,490	2,170	158	432	54	54
4			880	2,700	1,020	5,420	1,270	1,330	260	589	113	55
5			791	1,850	1,010	5,290	1,060	1,030	224	690	75	90
6			681	1,350	950	3,480	970	950	95	426	52	262
7			707	1,130	1,860	2,180	920	1,650	84	426	52	87
8		174	735	1,010	5,550	1,710	1,260	1,600	711	234	139	55
9		77	647	4,870	3,600	1,490	1,310	1,230	2,130	250	101	47
10		160	565	10,800	1,990	1,300	1,010	880	1,300	240	61	45
11		385		1,070	10,500	1,440	1,210	910	690	728	178	50
12		347		4,640	4,260	1,500	5,490	1,570	597	549	250	178
13		317		2,420	2,220	4,500	12,400	3,190	605	549	196	151
14		317		1,230	1,760	3,960	7,690	8,520	511	446	75	132
15		353		920	1,330	13,500	8,230	3,380	398	482	59	75
16		299		781	1,180	15,200	10,100	1,930	453	482	132	122
17		147		707	1,070	14,400	4,780	1,910	419	405	178	286
18		101		673	1,020	4,960	2,800	1,430	360	2,290	82	1,100
19		255		565	1,190	2,100	2,100	1,180	254	2,400	126	215
20		224		526	1,310	1,530	1,780	1,080	630	980	82	305
21		162		772	1,150	4,880	1,520	970	446	541	64	147
22		166		1,070	1,190	12,400	1,330	870	526	1,970	64	72
23		126		1,110	1,270	10,700	1,310	850	462	2,290	101	59
24		240		930	9,740	4,360	16,200	781	334	1,210	276	57
25		183		850	11,200	2,500	14,000	726	534	690	129	106
26				781	6,200	2,180	8,180	690	605	630	151	77
27				673	2,640	1,860	2,770	573	497	497	84	57
28				754	647	1,680	1,580	1,990	398	1,610	129	113
29				638	605	2,170	-	1,650	638	234	655	139
30				630	526	2,130	-	1,440	695	311	910	166
31				-	6,990	1,580	-	1,300	-	255	-	84
Total	7,443	54,972	35,155	115,010	123,120	136,450	50,440	24,169	25,494	7,599	4,301	11,577
Mean	240	1,832	1,134	3,710	4,397	4,402	1,681	780	850	239	139	386
Cfsm	0.170	1.30	0.804	2.83	3.12	3.12	1.19	0.553	0.603	0.170	0.099	0.274
In.	0.20	1.45	0.93	3.03	3.25	3.60	1.33	0.64	0.67	0.20	0.11	0.31

Calendar year 1952: Max 33,800 Min 70 Mean 1,891 Cfsm 1.34 In. 18.27  
 Water year 1952-53: Max 16,200 Min 39 Mean 1,632 Cfsm 1.16 In. 15.72

Peak discharge (base, 15,000 cfs).--Nov. 21 (time and discharge unknown); Jan. 24 (3:30 p.m.) 15,200 cfs (7.47 ft); Feb. 15 (5:30 p.m.) 20,600 cfs (8.66 ft); Mar. 24 (12 m.) 22,200 cfs (8.98 ft).  
 \* Discharge measurement made on this day.

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

## Cape Fear River at Lillington, N. C.

Location.--Lat 35°24', long. 78°49', near right bank in downstream end of pier of bridge on U. S. Highway 15-A, 1,800 ft downstream from Norfolk Southern Railway bridge, 0.5 mile north of Lillington, Harnett County, and 1 mile downstream from Neill Creek.

Drainage area.--3,440 sq mi, approximately.

Records available.--December 1923 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 105.71 ft above mean sea level (levels by Corps of Engineers). Prior to Oct. 8, 1927, chain gage at same site and datum.

Average discharge.--29 years (1924-53), 3,336 cfs.

Extremes.--Maximum discharge during year, 44,100 cfs Feb. 16 (gage height, 17.34 ft); minimum, 59 cfs Sept. 22 (gage height, 0.35 ft); minimum daily, 61 cfs Sept. 20, 21.  
1923-53: Maximum discharge, 192,000 cfs Sept. 19, 1945 (gage height, 33.19 ft, from floodmark), from rating curve extended above 70,000 cfs on basis of logarithmic plotting and velocity-area studies; minimum, 29 cfs Oct. 8, 1926 (gage height, 0.01 ft); minimum daily, 29 cfs Oct. 8, 1926.

Remarks.--Records good except those below 500 cfs, which are fair, and those for period of no gage-height record, which are poor. Large diurnal fluctuation and considerable regulation at low flow caused by powerplants above station.

Revisions (water years).--WSP 822: Drainage area. WSP 1002: 1930(M). WSP 1032: 1927, 1942(W).

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

0.3	52	3.0	1,860
.5	61	5.0	4,850
.7	129	7.0	8,580
1.0	240	11.0	19,300
1.5	503	15.0	34,000
2.0	670	19.0	52,400

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	720	466	1,400	27,000	3,500	3,220	2,920	3,050	555	1,420	300	129
2	609	461	1,420	16,300	2,920	3,770	3,610	4,010	241	1,180	209	73
3	790	410	1,500	9,010	2,770	8,580	4,340	4,170	319	862	87	92
4	660	392	1,810	7,560	2,360	11,200	3,690	2,640	375	1,320	117	96
5	838	411	1,920	5,360	2,420	12,400	2,920	2,360	667	1,080	218	67
6		726	400	1,800	3,770	2,300	8,790	2,490	1,980	302	987	212
7		618	400	1,640	2,920	3,200	6,060	2,490	3,940	426	1,700	212
8		589	470	1,700	2,560	10,900	4,860	3,450	4,010	842	1,320	190
9		897	394	1,640	6,930	8,370	3,690	3,370	2,920	2,740	410	138
10		568	355	1,530	22,900	5,550	3,220	2,770	2,300	3,300	637	276
11		628	452	2,610	21,200	4,090	3,000	2,360	1,530	2,770	340	216
12		888	720	10,400	11,900	3,530	7,070	3,300	1,420	2,360	286	206
13		906	411	6,790	7,170	8,520	21,600	16,600	1,420	1,980	355	336
14		854	1,030	4,280	5,190	7,760	16,100	17,400	1,100	1,530	366	286
15		888	1,030	2,920	3,690	21,000	13,400	8,790	870	1,050	246	244
16		846	1,020	2,360	3,000	40,900	21,900	6,240	822	1,390	236	167
17		576	598	1,960	2,630	25,800	13,000	5,360	798	1,290	301	256
18		573	1,260	1,640	2,420	14,800	8,160	3,850	870	1,730	517	1,480
19		392	814	1,580	2,630	7,170	6,600	3,140	782	4,680	85	580
20		751	12,900	1,420	2,920	4,850	4,850	2,630	915	2,920	*122	404
21		704	32,000	1,640	2,770	6,340	3,850	2,490	1,640	1,660	270	464
22		415	30,400	2,630	3,070	*26,600	3,220	2,300	1,300	3,400	232	264
23		400	18,300	2,840	3,370	21,200	3,140	2,040	1,060	1,650	124	76
24		334	8,160	2,490	16,600	10,900	21,600	1,660	870	2,420	150	97
25		364	4,680	2,040	27,000	6,790	28,900	1,640	623	1,220	244	227
26		337	3,140	1,360	14,900	5,330	19,800	1,580	1,290	1,150	95	211
27		326	2,420	1,640	8,790	4,680	10,400	1,030	838	1,020	194	73
28		378	1,980	1,480	6,240	3,650	6,800	1,530	660	1,760	269	138
29		398	1,520	1,460	5,530	-	4,510	1,640	660	2,920	236	98
30		446	1,700	1,530	5,190	-	3,610	1,580	569	1,980	256	67
31		499	-	8,370	4,010	-	3,220	-	568	-	318	71
Total	18,722	128,736	80,440	264,530	270,380	289,940	119,410	52,135	50,667	16,162	7,880	15,738
Mean	604	4,291	2,595	8,533	9,656	9,353	3,960	1,682	1,689	522	254	525
Cfsm	0.176	1.25	0.754	2.48	2.81	2.72	1.16	0.489	0.491	0.152	0.074	0.153
In.	0.20	1.39	0.87	2.66	2.92	3.13	1.29	0.58	0.55	0.17	0.09	0.17

Calendar year 1952: Max 71,500 Min 168 Mean 4,186 Cfsm 1.22 In. 16.55  
Water year 1952-53: Max 40,900 Min 61 Mean 3,602 Cfsm 1.05 In. 14.20

Peak discharge (base, 30,000 cfs).--Nov. 22 (3 a.m.) 34,600 cfs (15.25 ft); Jan. 25 (2 a.m.) 32,400 cfs (14.60 ft); Feb. 16 (7 a.m.) 44,100 cfs (17.34 ft); Mar. 24 (11 p.m.) 37,800 cfs (15.93 ft).

\* Discharge measurement made on this day.

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

## Little River at Linden, N. C.

Location.--Lat 35°16', long. 78°47', on left bank 10 ft downstream from bridge on U. S. Highway 15-A, 1½ miles west of Linden, Cumberland County, 2 miles upstream from Stewart Creek, and 4½ miles upstream from mouth.

Drainage area.--460 sq mi.

Records available.--November 1928 to September 1953. Prior to 1950, published as Lower Little River at Linden.

Gage.--Water-stage recorder. Datum of gage is 73.10 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Aug. 26, 1934, chain gage at same site and datum. Since June 18, 1948, auxiliary wire-weight gage 2½ miles downstream read twice daily during periods of backwater.

Average discharge.--25 years, 548 cfs.

Extremes.--Maximum discharge during year, 5,610 cfs Mar. 14 (gage height, 9.46 ft); maximum gage height, 10.26 ft Feb. 16 (backwater from Cape Fear River); minimum discharge, 46 cfs Aug. 31, Sept. 1 (gage height, 2.02 ft).

1928-53: Maximum discharge not determined, occurred Sept. 18, 1945, during period of backwater from Cape Fear River; maximum gage height, 41.47 ft Sept. 19 or 20, 1945 (from floodmark); minimum discharge, 26 cfs Oct. 14, 1940.

Flood of Sept. 21, 1928, reached a stage of 37.3 ft, from floodmark.

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

Revisions.--WSP 822: Drainage area.

Rating table, water year 1952-53 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Backwater from Cape Fear River Jan. 24, 25,  
Feb. 15-21, Mar. 24-26)

2.0	44	3.5	330
2.4	95	4.0	488
2.7	141	6.0	1,220
3.0	197	10.0	2,810

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	191	151	488	1,220	725	860	672	602	127	165	61	48
2	180	151	488	1,540	655	910	672	890	122	163	57	49
3	167	151	602	1,540	620	1,180	690	1,460	116	143	56	54
4	158	151	*708	1,180	602	*1,420	655	1,220	113	122	54	73
5	150	151	708	950	637	1,460	620	970	108	124	72	76
6	148	151	637	800	655	1,300	585	672	106	125	102	124
7	*144	153	602	690	672	1,100	620	910	107	189	138	195
8	144	153	536	637	990	930	620	1,100	150	172	128	162
9	176	155	488	655	1,100	820	585	1,300	180	141	113	119
10	309	156	456	880	1,020	742	552	910	174	605	104	96
11	342	171	456	1,000	800	690	520	637	169	386	94	85
12	335	238	488	1,040	690	1,180	536	504	155	208	85	78
13	278	267	488	895	690	2,390	880	424	144	153	82	80
14	235	248	456	725	742	2,380	1,140	355	157	131	80	98
15	211	235	408	637	1,300	2,380	1,340	321	171	118	80	104
16	199	248	389	585	*2,170	1,940	1,000	266	182	108	73	108
17	189	253	380	568	*2,330	1,620	725	267	193	100	67	100
18	180	253	370	536	1,820	1,460	602	230	383	94	130	87
19	174	220	358	568	1,260	1,220	520	238	408	88	143	77
20	169	918	355	*602	928	1,060	520	286	330	87	110	73
21	156	1,960	472	602	1,050	950	472	315	232	110	96	72
22	153	2,500	637	620	1,540	880	456	330	163	130	87	69
23	153	2,100	655	620	1,820	880	424	264	146	110	80	66
24	153	1,780	585	835	1,700	*1,020	392	235	197	100	74	62
25	153	1,100	520	1,430	1,420	905	373	199	253	92	67	61
26	155	820	472	1,620	1,620	1,520	355	*180	242	87	62	63
27	153	690	474	1,380	1,060	1,370	336	167	211	80	*58	224
28	153	620	408	1,040	990	1,060	321	151	178	72	55	292
29	151	568	376	910	-	880	300	143	160	69	51	355
30	151	520	361	860	-	800	315	136	184	69	49	312
31	151	-	645	800	-	725	-	130	-	67	48	-
Total	5,764	17,233	15,416	27,965	31,206	36,362	17,798	15,842	5,571	4,448	2,554	3,562
Mean	186	574	497	902	1,114	1,237	593	511	182	143	82.4	119
Cfs/m	0.404	1.25	1.08	1.96	2.42	2.69	1.29	1.11	0.404	0.311	0.179	0.259
In.	0.47	1.39	1.25	2.26	2.52	3.10	1.44	1.28	0.45	0.36	0.21	0.29
Calendar year 1952: Max	5,520			Min 63			Mean 523	Cfs/m 1.14	In. 15.50			
Water year 1952-53: Max	2,580			Min 48			Mean 509	Cfs/m 1.11	In. 15.02			

Peak discharge (base, 2,100 cfs).--Nov. 22 (8 a.m.) 2,580 cfs (9.45 ft); Feb. 16 (10 p.m.) 2,460 cfs (10.26 ft); Mar. 14 (6 p.m.) 2,810 cfs (9.46 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for nearby stations.

## Rockfish Creek near Hope Mills, N. C.

Location.--Lat 34°58', long. 78°55', on left bank 50 ft upstream from bridge on U. S. Highway 301, at mouth of Little Rockfish Creek, 1½ miles east of town of Hope Mills, Cumberland County, and 5½ miles upstream from mouth.

Drainage area.--384 sq mi, includes that of Little Rockfish Creek.

Records available.--October 1902 to May 1903 (gage heights only), November 1928 to December 1931, February 1939 to September 1953. Published as "near Brunt" 1902-3 and as "near Fayetteville" 1928-31.

Gage.--Water-stage recorder. Datum of gage is 52.25 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. October 1902 to May 1903 and November 1928 to December 1931, chain gages at sites 4 miles downstream at different datums. Since June 18, 1948, auxiliary wire-weight gage 4 miles downstream.

Average discharge.--16 years (1929-31, 1939-53), 382 cfs.

Extremes.--Maximum discharge during year, 1,670 cfs May 2 (gage height, 12.55 ft); minimum, 31 cfs Dec. 21 (gage height, 3.80 ft); minimum daily, 36 cfs Dec. 14, May 31. 1928-31, 1939-53: Maximum discharge, 8,000 cfs Sept. 18, 1945 (gage height, 31.75 ft), from rating curve extended above 4,500 cfs on basis of computation of peak flow over dams three-quarters of a mile upstream on Rockfish Creek and 1½ miles upstream on Little Rockfish Creek; minimum, 2.6 cfs Oct. 24, Nov. 22, 23, 1941; minimum daily, 2.8 cfs Nov. 23, 1941.

Remarks.--Records fair except those for period of no gage-height record, which are poor. Large diurnal fluctuation and considerable regulation caused by mills and reservoirs above station.

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	285	120	481	497	188	298	452	600	107	477	41	106
2	317	40	360	560	445	549	428	804	300	446	41	148
3	368	300	385	304	430	625	457	990	230	337	186	111
4	122	350	*480	398	425	582	286	930	228	150	212	202
5	40	350	440	578	418	717	119	874	166	288	267	89
6	231	350	166	501	423	639	443	708	78	339	330	45
7	297	350	205	436	229	485	482	1,270	39	460	*348	185
8	*350	120	428	398	130	366	453	729	257	297	*43	273
9	350	40	444	405	567	537	390	666	305	366	176	272
10	350	300	385	286	513	503	394	561	321	324	369	265
11	120	60	422	143	504	464	302	595	303	218	301	*256
12	40	300	426	538	458	622	380	515	318	193	322	111
13	300	350	125	499	435	1,050	571	410	229	421	357	49
14	350	350	36	434	244	1,100	*649	372	39	505	353	253
15	350	120	278	364	176	1,040	598	450	246	315	43	255
16	350	40	396	439	*640	850	481	308	347	315	41	271
17	350	300	386	240	*695	786	448	96	323	127	197	237
18	120	350	351	82	667	695	416	393	444	45	222	246
19	40	350	390	470	617	586	176	424	443	49	226	87
20	300	350	337	439	547	533	513	394	292	300	123	43
21	350	350	49	377	444	449	439	361	270	*257	220	200
22	350	789	309	415	406	365	364	387	457	225	146	130
23	350	989	559	391	650	576	336	218	328	215	46	225
24	350	782	166	385	579	574	411	71	306	220	96	146
25	120	564	285	54	625	608	243	387	332	116	212	223
26	40	450	252	517	576	658	124	344	403	41	222	*83
27	300	437	317	504	532	546	350	315	197	192	*91	68
28	350	442	276	548	408	455	360	357	140	214	175	390
29	350	192	357	491	-	334	325	321	384	227	78	430
30	350	343	400	471	-	580	362	80	529	230	43	430
31	350	-	430	375	-	514	-	36	-	139	*166	-
Total	8,310	10,228	10,317	12,517	12,971	18,666	11,854	14,946	8,261	8,048	5,671	5,829
Mean	268	341	333	404	463	602	395	462	275	260	185	194
Cfsm	0.944	1.20	1.17	1.42	1.63	2.12	1.39	1.70	0.968	0.915	0.644	0.683
In.	1.09	1.34	1.35	1.64	1.70	2.44	1.55	1.96	1.08	1.05	0.74	0.76
Calendar year 1952: Max		2,910		Min 27		Mean 330		Cfsm 1.16		In. 15.79		
Water year 1952-53: Max		1,270		Min 36		Mean 350		Cfsm 1.23		In. 16.70		

\* Discharge measurement made on this day.

Note.--No gage-height record Oct. 8 to Nov. 21; discharge estimated on basis of records for nearby stations.

## CAPE FEAR RIVER BASIN

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Cape Fear River at lock 3, near Tarheel, N. C.

Location.--Lat 34°50', long. 78°48', on right bank 100 ft upstream from lock 3, 1 mile downstream from county line, 7 miles north of Tarheel, Bladen County, 9 miles upstream from Phillips Creek, and at mile 95.

Drainage area.--4,810 sq mi, approximately.

Records available.--October 1937 to September 1953.

Gage.--Water-stage recorder and concrete lock and dam control. Datum of gage is 28.935 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Jan. 7, 1939, staff gage on upper lock wall 100 ft downstream at same datum. Auxiliary water-stage recorder 600 ft downstream; prior to Jan. 14, 1943, auxiliary staff gage 400 ft downstream on lower end of lock wall.

Average discharge.--16 years, 4,843 cfs.

Extremes.--Maximum discharge during year, 41,000 cfs Feb. 16; maximum gage height, 21.93 ft Feb. 17; minimum discharge, 252 cfs Aug. 31 (gage height, 0.51 ft); minimum daily, 275 cfs Aug. 31.

1937-53: Maximum gage height, 43.44 ft Sept. 22, 1945 (discharge not determined); minimum discharge, 200 cfs Oct. 20, 1940 (gage height, 0.42 ft); minimum daily, 260 cfs Oct. 19, 1940.

Remarks.--Records good except those computed using submergence as a factor, those for period of indefinite stage-discharge relation, and those computed from twice-daily gage readings, which are fair. Slight diurnal fluctuation and some regulation for short periods at low flow caused by powerplants above station.

Rating table, water year 1952-53, except periods computed using submergence as a factor and period of indefinite stage-discharge relation (gage height, in feet, and discharge, in cubic feet per second)

0.6	320	2.0	1,830
.8	480	3.0	3,460
1.0	670	4.0	5,690
1.5	1,200	7.0	14,600

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	1,470	1,000	2,900	k15,400	5,690	6,330	4,960	3,960	850	2,740	561	376
2	1,320	810	2,660	k23,800	4,960	6,070	4,610	6,330	958	2,200	507	376
3	1,300	840	2,900	k20,300	4,720	8,950	5,690	8,090	790	1,700	480	336
4	1,310	936	3,080	k13,700	4,500	13,500	5,820	7,270	730	1,420	507	368
5	1,040	925	3,750	k10,800	4,170	16,100	4,720	5,690	790	2,120	456	424
6	1,160	936	3,560	7,540	4,170	15,400	4,170	4,610	903	1,690	610	384
7	1,420	958	2,990	5,690	4,060	12,600	4,170	5,690	870	1,830	740	416
8	1,250	925	2,990	4,720	7,800	8,950	4,170	7,810	760	2,270	660	800
9	1,260	790	3,080	4,590	k13,400	6,860	5,080	6,860	1,600	1,700	570	680
10	1,380	780	2,900	k13,700	10,800	5,940	4,610	5,690	3,750	1,260	590	600
11	1,480	1,010	2,740	k22,600	7,810	5,200	4,060	4,280	3,650	1,570	780	640
12	1,400	1,270	6,800	k22,100	6,200	6,330	3,650	3,180	3,270	1,140	660	489
13	1,570	1,500	k10,800	k15,200	7,000	k16,100	9,960	2,820	2,990	790	740	416
14	1,700	1,340	g7,270	k10,400	10,800	k23,100	k19,600	2,420	2,270	958	760	384
15	1,640	1,760	g5,080	6,860	11,400	k20,300	k17,400	2,040	1,830	860	680	620
16	1,560	1,650	g4,170	5,320	e32,000	k21,700	k12,200	1,830	1,830	710	498	*620
17	1,450	1,580	g3,560	4,610	e38,000	k23,600	8,950	1,450	1,970	630	416	640
18	1,280	1,570	g2,990	3,960	e29,000	k17,200	7,000	1,500	2,500	590	850	570
19	958	1,830	g2,820	3,960	e21,000	k12,800	5,080	1,690	3,960	650	1,830	516
20	840	3,030	g2,990	4,590	e14,000	k11,000	4,500	1,700	5,200	440	1,100	368
21	1,200	k21,900	g2,580	4,610	k10,900	7,540	4,170	1,970	3,270	480	800	*312
22	1,090	k29,600	g3,180	4,610	k19,000	6,200	3,650	2,420	2,340	561	790	392
23	980	k29,800	g4,720	4,960	k30,400	5,560	3,360	2,200	2,740	640	580	344
24	925	k19,900	4,170	6,500	k26,300	7,920	3,080	1,560	3,650	561	360	440
25	881	k14,000	3,750	k23,200	k16,300	*k29,900	2,900	1,390	2,660	469	360	424
26	690	k8,720	3,270	k24,900	k11,900	k27,200	2,420	1,390	1,900	456	480	456
27	680	5,320	2,990	k19,100	8,950	k20,700	2,340	1,760	1,830	392	507	810
28	870	4,170	2,740	k13,000	7,540	k14,700	2,040	1,420	1,390	498	376	4,310
29	970	3,460	2,420	10,800	-	k9,910	2,420	1,220	2,740	580	392	6,240
30	925	2,740	2,500	8,090	-	6,460	2,580	1,160	3,460	830	305	3,160
31	881	-	3,180	7,270	-	5,560	-	892	-	590	275	-
Total	36,760	165,050	115,530	346,480	372,770	399,680	169,360	102,292	67,251	53,145	19,220	26,911
Mean	1,186	5,502	3,727	11,180	13,310	12,890	5,645	3,300	2,242	1,069	620	897
Cfsm	0.247	1.14	0.775	2.32	2.77	2.68	1.17	0.686	0.466	0.222	0.129	0.186
In.	0.28	1.28	0.89	2.68	2.88	3.09	1.31	0.79	0.52	0.26	0.15	0.21
Calendar year 1952: Max	68,400				471		Mean 5,719	Cfsm 1.19	In. 16.20			
Water year 1952-53: Max	38,000				275		Mean 5,081	Cfsm 1.06	In. 14.34			

\* Discharge measurement made on this day.

e Stage-discharge relation indefinite; discharge estimated on basis of 1 discharge measurement.

g Computed from twice-daily gage readings.

k Computed by using submergence as a factor.

## Little Coharie Creek near Roseboro, N. C.

Location--Lat 34°57', long. 78°29', on downstream end of center pier of bridge on State Highway 24, 1½ miles east of Roseboro, Sampson County, and 1½ miles upstream from Bearskin Swamp.

Drainage area--96.4 sq mi.

Records available--January 1950 to September 1953.

Gage--Water-stage recorder. Altitude of gage is 81 ft (estimated from previously destroyed benchmark at site). Prior to Jan. 12, 1951, wire-weight gage at same site and datum.

Extremes--Maximum discharge during year, 379 cfs May 10 (gage height, 6.58 ft); minimum, 0.5 cfs Aug. 31 to Sept. 4; minimum gage height, 1.12 ft Aug. 31, Sept. 1, 2, 1950-53; Maximum discharge, 569 cfs Mar. 27, 1952 (gage height, 6.98 ft), from rating curve extended above 430 cfs; minimum, that of Aug. 31 to Sept. 4, 1953. Flood of 1924 reached a stage of 11.6 ft, from information furnished by State Highway and Public Works Commission.

Remarks--Records fair except those for period of no gage-height record, which are poor. Records of chemical analyses for the water year 1953 are given in WSP 1290.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 26 to Jan. 20)

1.2	0.7	3.0	32
1.3	1.3	4.0	65
1.5	3.0	5.0	118
1.7	5.2	6.0	215
2.0	10	6.5	348
2.5	20		

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	13	38	103	78	125	85	128	11	16	1.9	0.5
2	12	14	a40	103	73	139	60	179	10	13	1.6	.5
3	11	14	a48	106	83	158	58	245	8.9	10	1.3	.5
4	9.3	14	a50	112	89	163	50	309	7.9	10	1.1	.5
5	8.7	14	*52	112	92	173	46	290	7.6	13	1.5	*.7
6	8.2	15	56	103	86	179	44	251	7.1	11	1.9	9.4
7	15	15	54	89	94	185	60	287	10	8.9	1.8	25
8	13	15	52	76	128	179	73	337	18	19	1.9	31
9	17	15	45	76	139	173	76	312	*28	38	2.9	34
10	*27	16	45	86	139	158	69	379	27	23	4.5	30
11	33	20	46	89	139	150	52	330	18	15	4.0	18
12	33	36	46	92	139	173	44	268	15	10	3.5	11
13	30	45	46	94	139	204	60	212	22	8.2	3.8	9.6
14	25	50	44	97	128	201	76	168	62	6.8	4.4	11
15	23	50	42	92	132	205	89	119	52	6.3	3.9	12
16	25	46	39	83	136	237	*94	56	33	5.8	3.2	8.7
17	23	42	38	73	128	233	86	40	37	5.0	3.5	6.5
18	22	37	37	69	122	215	60	34	67	4.4	3.8	5.2
19	19	33	36	67	125	192	45	30	69	4.0	4.0	4.4
20	17	66	37	55	122	168	44	30	71	4.2	4.1	3.9
21	16	116	40	73	122	154	38	36	73	4.4	*3.3	3.7
22	14	128	45	80	136	139	34	39	57	4.8	2.8	3.6
23	14	125	46	*78	136	125	32	34	25	5.6	2.2	3.2
24	14	118	45	94	128	125	28	30	18	*5.2	1.6	3.0
25	14	115	44	103	136	118	26	36	23	4.6	1.4	*2.8
26	13	112	40	97	142	112	24	36	24	3.8	*1.1	2.9
27	13	94	39	92	139	103	21	*27	21	3.5	.8	24
28	15	62	37	89	136	94	19	20	21	3.7	.7	45
29	12	48	36	92	-	83	17	15	19	3.3	.6	54
30	*12	42	36	85	-	73	31	13	16	3.0	.6	56
31	12	-	81	80	-	67	-	12	-	2.6	*.5	-
Total	529.2	1,530	1,363	2,748	3,386	4,803	1,519	4,303	878.5	276.1	74.2	423.6
Mean	17.1	51.0	44.6	88.6	121	155	50.6	139	29.3	8.91	2.39	14.1
Cfsm	0.177	0.529	0.463	0.919	1.26	1.61	0.525	1.44	0.304	0.092	0.025	0.146
In.	0.20	0.59	0.53	1.06	1.31	1.85	0.59	1.66	0.34	0.11	0.03	0.16

Calendar year 1952: Max 553 Min 1.3 Mean 87.7 Cfsm 0.910 In. 12.37  
Water year 1952-53: Max 379 Min 0.5 Mean 59.9 Cfsm 0.621 In. 8.43

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated from recorded range in stage and other records.

## Black River near Tomahawk, N. C.

Location.--Lat 34°45', long. 78°17', on upstream side of highway bridge near center of span, a quarter of a mile downstream from Clear Run Swamp and  $3\frac{1}{2}$  miles northeast of Tomahawk, Sampson County.

Drainage area.--680 sq mi.

Records available.--October 1951 to September 1953.

Gage.--Wire-weight gage read twice daily. Datum of gage is 0.39 ft below mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge observed during year, 1,510 cfs Mar. 16 (gage height, 34.35 ft); minimum observed, 24 cfs Sept. 2 (gage height, 25.83 ft).

1951-53: Maximum discharge observed, 2,090 cfs Mar. 8, 1952 (gage height, 36.14 ft); minimum observed, that of Sept. 2, 1953.

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

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

25.8	22	28.0	289
26.0	36	32.0	980
26.5	80	35.0	1,680
27.0	138		

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	125	75	357	578	527	816	527	223	80	239	30	26
2	107	80	323	714	510	816	493	629	75	193	29	25
3	96	80	340	680	510	1,020	459	920	70	158	29	*28
4	80	80	357	680	595	1,180	425	960	68	125	30	26
5	75	80	374	612	697	1,270	391	850	67	113	33	28
6	70	80	357	561	714	1,320	374	782	67	101	49	47
7	70	80	391	527	782	1,290	391	799	68	90	90	70
8	69	80	374	493	902	1,200	442	960	119	90	113	85
9	70	80	357	493	1,080	1,040	a520	1,000	*151	90	66	80
10	*107	85	357	561	1,120	960	a500	1,180	151	90	38	75
11	138	90	374	612	1,060	984	a450	1,160	125	113	30	70
12	151	119	374	629	1,020	1,000	a370	1,060	119	101	30	66
13	144	172	357	595	920	1,270	a400	920	113	90	40	56
14	132	179	323	544	833	1,440	a520	816	425	75	67	46
15	132	193	306	493	850	1,490	a600	765	646	66	75	39
16	125	223	289	476	960	1,490	a580	629	612	59	54	38
17	119	223	272	459	1,000	1,470	a500	425	527	55	49	35
18	113	208	255	459	920	1,420	a440	357	850	49	158	35
19	107	193	255	459	816	1,320	a350	272	1,140	46	374	32
20	107	223	255	442	748	1,200	a350	239	1,220	50	223	29
21	96	476	255	442	714	1,120	340	255	1,220	52	*113	29
22	90	731	272	510	782	1,000	323	223	1,020	50	80	29
23	85	663	272	*510	867	902	323	223	748	41	52	29
24	85	612	272	527	902	867	289	179	663	38	52	28
25	85	578	272	765	920	867	255	165	663	37	44	28
26	85	510	289	782	1,000	850	223	158	646	35	39	29
27	85	476	289	731	960	799	193	*158	527	34	*38	96
28	80	459	272	731	902	697	179	144	425	31	33	408
29	80	425	255	731	-	646	172	113	306	30	31	357
30	75	391	239	629	-	612	151	96	289	29	30	255
31	75	-	272	561	-	561	-	90	-	29	28	-
Total	3,058	7,944	9,606	17,986	23,611	32,817	11,530	16,750	13,200	2,379	2,147	2,224
Mean	98.6	265	310	580	843	1,059	384	540	440	76.7	63.3	74.1
Cfsm	0.145	0.390	0.456	0.853	1.24	1.56	0.565	0.754	0.847	0.113	0.102	0.109
In.	0.17	0.43	0.53	0.98	1.29	1.79	0.63	0.92	0.72	0.13	0.12	0.12
Calendar year 1952: Max			2,090		Min	43	Mean	462	Cfsm	0.679	In.	9.24
Water year 1952-53: Max			1,490		Min	25	Mean	392	Cfsm	0.576	In.	7.83

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for Little Coharie Creek near Roseboro, Northeast Cape Fear River near Chinquapin.

## South River near Parkersburg, N. C.

Location.--Lat 34°48', long. 78°27', on downstream side of highway bridge near center of span, at Bladen-Sampson County line, 1.9 miles southwest of Parkersburg, Sampson County.

Drainage area.--382 sq mi.

Records available.--October 1951 to September 1953.

Gage.--Wire-weight gage read twice daily. Datum of gage is 0.38 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge during year, 880 cfs Mar. 17-19; maximum gage height, 59.51 ft Mar. 17, 18; minimum, 1.7 cfs Sept. 26 (gage height, 52.07 ft).  
1951-53: Maximum discharge, 1,480 cfs Mar. 8, 1952 (gage height, 60.37 ft); minimum, that of Sept. 26, 1953.

Remarks.--Records fair.

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

52.1	2.0	54.0	69
52.5	4.3	55.0	136
52.5	8.4	56.0	222
52.7	14	57.0	320
53.0	23	58.0	470
53.5	44	59.0	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	58	35	375	289	346	670	405	279	26	128	6.0	2.4
2	53	33	405	309	346	670	360	332	23	144	6.2	2.4
3	50	33	470	332	360	700	320	470	21	144	7.5	*2.4
4	44	33	490	360	390	730	289	570	19	128	6.2	4.9
5	41	30	*470	375	420	765	269	645	17	107	5.1	4.3
6	39	30	435	390	420	*800	259	645	15	81	5.1	5.1
7	37	30	405	390	435	800	259	670	16	66	8.2	6.6
8	37	30	375	390	470	800	259	730	26	69	8.6	5.1
9	39	28	346	405	470	765	259	765	*39	81	7.3	3.6
10	*46	28	332	420	470	730	259	765	35	93	5.2	2.9
11	50	33	309	450	450	700	240	765	28	93	4.5	2.5
12	53	48	289	470	450	730	240	700	26	69	7.3	2.4
13	53	63	269	470	470	730	249	670	30	46	11	2.9
14	50	69	249	470	450	765	259	595	63	35	8.9	2.7
15	46	75	249	450	470	800	249	510	72	30	7.1	2.4
16	48	87	240	435	490	840	*249	435	58	26	6.0	2.4
17	50	93	240	420	510	880	259	360	50	41	6.6	2.2
18	48	100	231	405	530	880	269	289	87	50	16	2.0
19	48	93	231	405	550	880	269	204	87	48	44	1.9
20	46	128	222	375	570	840	309	160	69	46	23	1.8
21	44	259	222	375	550	765	346	121	50	35	*15	2.0
22	41	320	231	375	570	730	375	100	41	26	9.8	3.2
23	41	346	231	375	570	670	375	100	39	21	7.3	2.5
24	39	360	231	405	595	645	375	121	39	18	6.0	2.1
25	39	360	222	420	645	645	360	107	41	15	5.4	1.8
26	37	360	222	405	670	620	332	81	46	12	4.5	1.8
27	37	360	222	405	670	595	299	*63	58	11	4.0	18
28	37	346	213	390	670	570	249	50	75	9.4	*3.5	69
29	35	346	204	375	-	530	186	41	87	6.4	3.2	53
30	35	360	195	360	-	470	152	35	107	7.1	2.9	39
31	35	-	213	346	-	435	-	30	-	6.2	2.6	-
Total	1,358	4,516	9,038	12,241	14,007	22,150	8,599	11,408	1,390	1,696.1	264.0	255.3
Mean	43.8	151	292	395	500	715	287	368	46.3	54.8	8.52	8.51
Cfsm	0.115	0.395	0.764	1.03	1.31	1.87	0.751	0.963	0.121	0.143	0.022	0.022
In.	0.13	0.44	0.88	1.19	1.36	2.16	0.84	1.11	0.14	0.17	0.03	0.02

Calendar year 1952: Max 1,480 Min 5.4 Mean 269 Cfsm 0.704 In. 9.58  
Water year 1952-53: Max 880 Min 1.8 Mean 238 Cfsm 0.623 In. 8.47

\* Discharge measurement made on this day.

## Colly Creek near Kelly, N. C.

Location.--Lat 34°28', long. 78°15', on right bank 10 ft downstream from bridge on State Highway 53, 4 miles east of Kelly, Bladen County, and  $6\frac{1}{2}$  miles upstream from mouth.

Drainage area.--85.2 sq mi.

Records available.--January 1950 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 15.4 ft above mean sea level, unadjusted. Prior to Dec. 13, 1950, staff gage at same site and datum.

Extremes.--Maximum discharge during year, 344 cfs Mar. 14 (gage height, 5.35 ft); no flow for several days during July, August, and September.

1950-53: Maximum discharge observed, 647 cfs July 16, 1950 (gage height, 6.30 ft), from rating curve extended above 500 cfs; no flow at times during several years.

Flood of 1908 reached a stage of 11.1 ft; September 1945, 10.2 ft, from information by local resident. Flood of 1928 reached a stage of 7.7 ft, from information furnished by North Carolina Highway and Public Works Commission.

Remarks.--Records fair except those for June to September, which are poor.

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

Oct. 1-14			Oct. 15 to Sept. 30		
3.0	45	0.5	0.2	1.5	9.2
3.5	71	.6	.7	2.0	18
4.0	106	.7	1.2	2.5	29
		.9	2.4	3.0	45
		1.1	4.3	3.5	74
				4.0	113
				4.5	165
				5.0	254
				5.5	385

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	10	62	86	113	249	172	35	5.3	a0.5	a0	a0
2	94	10	66	91	111	254	160	43	4.0	a.4	a0	a0
3	96	9.7	77	96	136	261	150	66	3.2	a.4	a0	a0
4	94	8.9	78	98	142	268	141	80	2.5	5.0	a0	a0
5	88	8.3	85	96	141	273	132	87	2.0	5.9	a0	a0
6	82	7.9	92	94	137	273	124	87	1.6	3.4	a.2	a0
7	75	7.5	92	93	158	273	118	107	1.5	2.5	a.4	a.3
8	69	7.2	91	90	191	271	111	163	2.2	1.8	a.8	a.3
9	*70	7.1	90	91	194	264	106	149	*2.6	1.8	.9	a.3
10	70	7.2	87	97	194	254	100	142	2.2	5.0	.8	a.3
11	68	9.7	88	105	190	256	94	132	1.7	5.0	a.7	a.3
12	63	13	86	109	186	308	88	123	1.5	3.1	a.7	a.3
13	58	14	84	109	194	335	91	120	2.0	2.1	a.7	a.3
14	50	14	83	108	192	344	94	112	3.4	1.6	.8	a.3
15	43	16	80	107	221	341	94	102	3.2	1.3	.8	a.3
16	40	18	76	106	231	333	*90	92	2.5	.9	.8	a.3
17	36	18	73	104	229	333	82	82	4.9	a.7	.8	a.3
18	32	17	70	105	229	341	74	70	8.0	a.5	.8	a.3
19	29	16	69	110	223	341	69	61	7.2	a.4	.8	a.2
20	26	22	67	113	219	335	62	55	5.1	a.3	*.4	a0
21	23	42	70	119	219	319	55	50	3.6	a.2	a.2	a0
22	21	52	70	*121	223	306	52	43	2.8	a.1	a.1	a0
23	19	51	69	118	225	290	48	36	2.3	*0	a0	a0
24	18	55	68	124	219	283	43	30	1.9	a0	a0	a0
25	17	59	70	125	227	271	40	25	1.5	a0	*0	a0
26	16	59	73	120	240	259	37	22	1.2	a0	a0	a0
27	15	57	72	118	242	238	34	*16	1.2	a0	a0	a.2
28	14	58	71	118	245	221	30	13	1.2	a0	a0	a.3
29	*13	56	68	118	-	206	27	10	.8	a0	a0	1.3
30	12	59	64	117	-	194	25	8.3	a.6	a0	a0	2.7
31	11	-	73	115	-	182	-	5.6	-	a0	a0	-
Total	1,452	789.5	2,364	3,321	5,471	8,676	2,543	2,167.9	83.7	40.9	10.7	8.3
Mean	46.8	26.3	75.3	107	195	280	84.8	69.9	2.79	1.32	0.35	0.28
Cfsm	0.549	0.309	0.896	1.26	2.29	3.29	0.995	0.820	0.033	0.015	0.0041	0.0033
In.	0.63	0.34	1.03	1.45	2.39	3.79	1.11	0.95	0.04	0.02	0.005	0.004

Calendar year 1952: Max 249

Water year 1952-53: Max 344

Min 0

Min 0

Mean 57.1

Mean 73.8

Cfsm 0.670

Cfsm 0.866

In. 9.11

In. 11.76

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

a No gage-height record; discharge estimated on basis of known regimen of stream and from records of Little Coharie Creek.

## CAPE FEAR RIVER BASIN

Northeast Cape Fear River near Chinquapin, N. C.

Location.--Lat 34°49', long. 77°50', on right bank 540 ft downstream from bridge on State Highway 41, half a mile downstream from Muddy Creek, and 1¼ miles west of Chinquapin, Duplin County.

Drainage area.--600 sq mi.

Records available.--July 1940 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 17.28 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--13 years, 620 cfs.

Extremes.--Maximum discharge during year, 2,020 cfs June 19 (gage height, 9.77 ft); minimum, 13 cfs Sept. 19.

1940-53: Maximum discharge, 11,000 cfs Oct. 16, 1942 (gage height, 16.74 ft), from rating curve extended above 8,100 cfs; minimum, 10 cfs Oct. 25, 1941.

Flood of 1908 reached a stage of 22.6 ft at old bridge 1,000 ft upstream from gage. Flood of 1938 reached a stage of 0.8 ft lower than that of 1908, from information by State Highway and Public Works Commission.

Remarks.--Records fair.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 21 to May 7, June 14-28)

0.9	13	3.0	278
1.1	23	4.0	445
1.4	49	5.0	637
1.7	88	7.0	1,110
2.0	130	10.0	2,260
2.5	202		

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	95	35	247	450	402	1,110	*463	115	26	262	16	*19
2	79	34	224	575	377	1,060	411	202	24	202	17	17
3	66	35	217	659	488	1,200	360	334	22	168	18	16
4	82	34	232	681	694	1,320	326	366	21	133	18	17
5	59	34	232	681	961	1,460	294	368	19	108	18	19
6	56	32	247	*637	1,060	1,500	278	310	19	103	24	21
7	49	33	254	595	1,080	1,460	262	286	20	85	34	27
8	46	36	254	517	1,380	1,350	262	522	23	101	42	52
9	48	36	247	445	1,780	1,170	254	681	28	78	29	68
10	57	37	240	428	1,980	1,010	247	681	42	61	33	57
11	80	41	286	436	1,900	865	224	517	45	53	*29	34
12	96	52	360	445	1,740	889	210	445	42	47	24	26
13	102	82	377	445	1,460	1,140	224	420	120	42	23	21
14	95	112	368	436	1,230	1,350	302	*386	958	37	25	19
15	88	127	334	411	1,170	1,500	334	286	1,420	34	35	17
16	*80	131	294	386	1,290	1,540	326	210	1,500	34	72	16
17	79	133	262	352	*1,350	1,580	278	155	*1,480	30	71	15
18	78	130	247	334	1,350	1,820	247	120	1,780	26	70	14
19	68	124	232	318	1,230	1,500	217	92	1,980	24	94	13
20	61	129	217	310	1,060	1,290	196	76	1,940	26	120	19
21	54	208	210	318	889	1,110	190	66	1,620	22	134	63
22	48	310	210	352	889	913	*196	66	1,140	21	105	88
23	43	368	202	368	985	796	188	65	704	25	78	123
24	45	411	202	377	1,010	750	171	76	445	29	58	112
25	47	*411	202	411	1,110	796	154	66	402	24	43	*78
26	46	402	202	436	1,230	819	134	57	436	22	34	56
27	43	394	202	*454	1,260	819	116	47	481	22	27	362
28	*39	352	202	445	1,230	727	103	40	463	19	25	1,400
29	36	318	196	445	-	659	92	34	428	18	23	1,980
30	35	278	188	436	-	595	87	*31	552	18	21	1,940
31	35	-	219	420	-	517	-	28	-	17	19	-
Total	1,913	4,859	7,608	14,003	32,585	34,415	7,146	7,168	17,960	1,891	1,379	6,709
Mean	61.7	162	245	452	1,164	1,110	238	231	599	61.0	44.5	224
Cfs/m	0.103	0.270	0.408	0.753	1.94	1.85	0.397	0.385	0.998	0.102	0.074	0.373
In.	0.12	0.30	0.47	0.67	2.02	2.13	0.44	0.44	1.11	0.12	0.09	0.42
Calendar year 1952: Max	2,480			Min 23		Mean 412		Cfs/m 0.687		In. 9.31		
Water year 1952-53: Max	1,980			Min 13		Mean 377		Cfs/m 0.628		In. 8.53		

\* Discharge measurement made on this day.

## Waccamaw River at Freeland, N. C.

Location.--Lat 34°05'43", long. 78°32'56", on left bank 150 ft downstream from New Britton Bridge on State Highway 130, 1 mile southwest of Freeland, Brunswick County, and 7 miles downstream from Juniper Creek.

Drainage area.--626 sq mi.

Records available.--July 1939 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 15.52 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to July 14, 1943, staff gage at site 150 ft upstream at same datum. Since July 15, 1952, auxiliary water-stage recorder at site 3.3 miles downstream; Oct. 7, 1949, to July 14, 1952, auxiliary staff gage at same site.

Average discharge.--14 years, 633 cfs.

Extremes.--Maximum discharge during year, 2,450 cfs Mar. 15-19; maximum gage height, 14.23 ft Mar. 17; minimum discharge, 0.9 cfs Sept. 23, 25, 26.  
1939-53: Maximum discharge, 7,400 cfs Feb. 14, 1948 (gage height, 15.92 ft); minimum observed, 0.5 cfs Nov. 10, 11, 1940.

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

Revisions.--WSP 1172: 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	a1,400	92	a580	322	1,210	1,880	1,210	117	13	a3	20	11
2	a1,300	84	a580	340	1,170	1,880	1,110	117	10	a3	16	7.6
3	a1,250	77	a600	380	1,170	1,930	1,020	112	7.9	*a4	12	6.3
4	a1,150	71	a620	384	1,170	1,980	940	106	6.6	a11	14	5.9
5	a1,040	71	664	403	1,170	*2,030	840	117	6.3	a9	21	5.7
6	a900	69	664	413	1,140	2,090	780	113	5.3	12	32	6.4
7	a800	59	664	413	1,210	2,090	a700	109	5.0	14	44	12
8	a680	55	664	403	1,370	2,090	a650	113	*6.2	16	74	24
9	*648	53	648	403	1,530	2,090	a800	102	4.8	18	92	18
10	605	51	619	417	1,680	2,030	a580	96	3.6	19	123	14
11	579	70	605	527	1,750	1,980	a550	92	3.4	22	132	13
12	553	89	498	619	1,830	2,150	a500	86	3.3	21	102	11
13	528	94	459	648	1,930	2,330	a490	84	7.1	17	86	8.3
14	492	96	413	664	1,980	2,390	a470	79	6.5	17	79	6.7
15	447	117	389	664	2,090	2,450	444	81	11	15	71	5.4
16	425	144	380	664	2,090	2,450	425	77	11	15	61	3.3
17	403	129	371	664	2,090	2,450	392	75	11	12	58	3.2
18	362	132	327	664	2,030	2,450	352	57	12	9.6	56	2.6
19	334	132	294	664	1,980	2,450	325	51	22	5.2	51	2.3
20	307	a170	275	680	1,880	2,390	307	46	15	13	49	1.8
21	290	a400	306	712	1,830	2,330	274	44	a13	22	40	1.8
22	266	a500	309	*780	1,780	2,270	259	41	a9	23	35	1.1
23	251	a550	309	865	1,730	2,150	236	38	a8	*21	32	1.9
24	228	a580	309	985	1,680	2,090	213	34	a7	16	29	1.0
25	213	a600	317	1,050	1,680	2,030	191	31	a6	15	27	*.9
26	191	a630	310	1,110	1,730	1,930	174	28	a5	13	25	1.1
27	166	a650	310	1,170	1,780	1,830	156	26	a5	11	22	14
28	149	a650	318	1,210	1,680	1,680	135	*23	a4	9.6	*17	34
29	129	a630	298	1,250	-	1,530	120	18	a3	8.4	16	30
30	114	a590	290	1,250	-	1,410	120	17	a3	14	13	22
31	102	-	290	1,250	-	1,330	-	16	-	15	11	-
Total	16,282	7,635	13,680	21,948	46,590	64,160	14,563	2,146	236.0	423.6	1,460	275.3
Mean	525	254	441	708	1,664	2,070	485	69.2	7.87	13.7	47.1	9.18
Cfsm	0.839	0.409	0.704	1.13	2.66	3.31	0.775	0.111	0.013	0.022	0.075	0.015
In.	0.97	0.45	0.81	1.30	2.77	3.81	0.87	0.13	0.01	0.03	0.09	0.02

Calendar year 1952: Max 1,670 Min 2.7  
Water year 1952-53: Max 2,450 Min 0.9

Mean 350 Cfsm 0.559 In. 7.61  
Mean 519 Cfsm 0.829 In. 11.26

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records at auxiliary gage or streamflow continuity.

## Waccamaw River near Longs, S. C.

Location.--Lat 33°54'45", long. 78°42'55", near right bank on upstream side of bridge on State Highway 9, 500 ft downstream from Buck Creek and 2.1 miles southeast of Longs, Horry County.

Drainage area.--1,030 sq mi, approximately.

Records available.--March 1950 to September 1953.

Gage.--Wire-weight gage read twice daily. Datum of gage is 5.28 ft above mean sea level, datum of 1929, supplementary adjustment of 1936 (levels by Corps of Engineers).

Extremes.--Maximum discharge during year, 6,360 cfs Mar. 15 (gage height, 11.50 ft, from graph based on gage readings); minimum, 12 cfs Sept. 25, 26.

1950-53: Maximum discharge, that of Mar. 15, 1953; minimum, 9 cfs July 30 to Aug. 1, 1952.

Remarks.--Records good.

Rating table, water year 1952-53 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Aug. 7 to Sept. 30)

0.5	11	5.0	445	10.0	2,520
1.0	31	8.0	990	10.5	3,440
1.5	59	8.5	1,140	11.0	4,770
2.0	96	9.0	1,420	11.5	6,360
3.0	191	9.5	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	1,860	180	1,180	804	1,960	3,240	2,220	191	30	17	18	32
2	1,760	170	1,140	824	1,960	3,240	2,080	180	29	14	18	30
3	1,760	150	1,100	844	1,960	3,240	1,860	160	28	12	19	27
4	1,670	131	1,100	864	1,960	3,440	1,760	150	27	14	20	26
5	1,580	122	1,070	884	1,960	3,660	1,580	150	25	19	21	25
6	1,500	108	1,070	904	2,080	3,660	1,580	140	23	23	65	25
7	1,420	104	1,100	904	2,220	3,900	1,420	140	22	20	342	26
8	1,290	96	1,140	904	2,360	3,900	1,350	131	21	24	505	24
9	1,290	92	*1,020	924	2,680	3,660	1,230	131	19	88	490	22
10	1,290	88	968	946	2,660	*3,660	1,140	131	*17	77	475	21
11	1,180	88	946	968	3,040	3,660	1,040	131	16	44	475	21
12	1,100	92	946	990	3,040	4,170	990	131	16	30	445	21
13	1,040	96	924	990	3,240	5,370	946	122	15	25	369	21
14	990	113	904	1,020	3,240	6,030	904	113	15	24	297	20
15	924	170	904	1,040	3,240	6,360	844	108	16	23	236	19
16	884	272	884	1,040	3,440	6,030	804	100	16	23	180	17
17	844	297	864	1,070	*3,440	6,030	747	92	30	23	180	17
18	804	323	844	1,070	3,240	6,030	709	84	96	22	180	16
19	766	349	804	1,070	3,240	6,030	655	80	62	22	180	16
20	728	403	785	1,100	3,240	5,700	603	76	34	22	170	16
21	673	521	785	1,340	3,240	5,370	569	70	26	23	140	16
22	603	709	766	1,580	3,040	4,770	*505	66	22	*23	122	15
23	537	844	766	1,760	3,040	4,470	475	62	30	23	104	14
24	490	924	747	1,860	2,860	4,170	417	56	32	23	84	13
25	431	1,020	747	1,860	2,860	*3,900	375	53	29	22	73	12
26	389	1,070	766	1,960	2,860	3,660	362	50	24	21	*59	12
27	336	1,140	785	1,960	3,040	3,440	310	44	22	20	53	51
28	297	1,180	785	1,960	3,040	3,040	272	41	21	19	47	51
29	*260	1,180	785	1,960	-	2,860	236	36	20	18	41	100
30	248	1,180	785	1,960	-	2,680	213	33	19	18	38	88
31	213	-	765	1,960	-	2,520	-	31	-	18	36	-
Total	29,157	13,212	28,195	39,320	76,380	131,890	28,196	3,063	802	795	5,502	694
Mean	941	440	910	1,268	2,799	4,255	940	99.5	26.7	25.6	177	29.6
Cfsm	0.914	0.427	0.863	1.23	2.72	4.13	0.913	0.097	0.026	0.025	0.172	0.029
In.	1.05	0.48	1.02	1.42	2.83	4.76	1.02	0.11	0.03	0.03	0.20	0.03

Calendar year 1952: Max 2,520 Min 9 Mean 612 Cfsm 0.594 In. 8.08  
 Water year 1952-53: Max 6,360 Min 12 Mean 985 Cfsm 0.956 In. 12.98

\* Discharge measurement made on this day.

## Yadkin River at Patterson, N. C.

Location.--Lat 35°59'30", long. 81°33'30" on left bank 200 ft upstream from bridge on State Highway 268, half a mile south of Patterson, Caldwell County, three-quarters of a mile upstream from Warrior Creek, and 2 miles downstream from Walnut Branch.

Drainage area.--28.8 sq mi.

Records available.--November 1939 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 1,212.47 ft above mean sea level, unadjusted. Prior to Feb. 9, 1940, staff gage read twice daily at same site and datum.

Average discharge.--14 years, 46.8 cfs.

Extremes.--Maximum discharge during year, 1,380 cfs Feb. 21 (gage height, 4.28 ft); minimum, 9.4 cfs Sept. 3 (gage height, 0.11 ft).  
1939-53: Maximum discharge, 15,200 cfs Aug. 13, 1940 (gage height, 12.70 ft), from rating curve extended above 1,300 cfs on basis of computation of peak flow over dam at gage heights 4.58, 7.70, and 12.70 ft; minimum, 6 cfs Sept. 7, 1944, May 28, 29, 1947; minimum daily, 9 cfs June 22, 1941.

Remarks.--Records good.

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

0.1	6.3	0.7	58	0.1	9.0	1.0	110
.2	11	1.0	101	.2	14	1.5	214
.3	18	1.3	155	.3	20	2.0	344
.5	36			.5	39	3.0	691
				.7	64		

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	15	32	31	47	50	46	20	19	14	10
2	10	11	15	24	30	66	56	38	19	18	13	9.9
3	9.7	11	16	24	29	61	52	34	19	56	13	9.9
4	9.7	11	15	22	27	106	49	32	19	52	12	18
5	10	11	17	19	25	92	46	37	*18	30	13	61
6	*10	11	19	18	26	71	49	48	17	38	13	29
7	10	11	16	18	50	63	55	50	59	29	12	19
8	11	11	16	20	40	56	47	45	160	24	14	16
9	22	11	*15	28	34	51	45	39	*43	23	23	14
10	23	12	37	132	31	49	43	36	36	20	15	13
11	16	13	54	61	31	58	40	34	32	19	13	13
12	14	15	33	45	43	78	40	32	27	18	12	13
13	13	13	27	38	40	81	41	31	31	17	11	13
14	13	*11	21	33	36	70	38	29	31	16	*12	12
15	11	11	18	31	64	103	37	31	31	17	11	12
16	11	11	19	29	61	*96	37	31	29	*17	11	12
17	11	11	18	27	54	81	36	30	26	17	11	11
18	11	11	17	34	46	77	35	29	24	17	13	11
19	11	15	16	32	43	68	35	34	23	19	22	11
20	11	79	16	30	140	60	34	34	23	17	21	29
21	11	*44	18	52	*655	55	34	29	23	16	16	25
22	11	35	17	*49	206	69	33	27	40	25	17	16
23	11	23	16	45	119	391	32	26	31	44	16	14
24	11	19	16	102	90	433	32	25	24	22	13	13
25	11	17	16	76	77	186	34	24	23	17	13	13
26	11	19	15	56	67	124	39	23	21	17	12	15
27	11	23	14	48	58	102	33	22	20	15	12	22
28	11	18	13	45	51	86	*31	20	23	15	11	19
29	11	17	12	39	-	75	29	20	21	14	11	15
30	11	16	13	35	-	68	52	20	20	14	10	14
31	12	-	30	33	-	63	-	20	-	14	10	-
Total	369.4	533	600	1,277	2,204	3,086	1,224	986	933	696	420	502.8
Mean	11.9	17.8	19.4	41.2	78.7	100	40.8	31.8	31.1	22.5	13.5	16.8
Cfs/m	0.413	0.618	0.674	1.43	2.73	3.47	1.42	1.10	1.08	0.781	0.469	0.583
In.	0.48	0.69	0.77	1.65	2.85	3.98	1.58	1.27	1.20	0.90	0.54	0.65

Calendar year 1952: Max 1,020 Min 9.7 Mean 36.9 Cfs/m 1.22 In. 17.46  
Water year 1952-53: Max 655 Min 9.7 Mean 35.2 Cfs/m 1.22 In. 16.56

Peak discharge (base, 1,000 cfs).--Feb. 21 (10:30 a.m.) 1,380 cfs (4.28 ft).

\* Discharge measurement made on this day.

## Reddies River at North Wilkesboro, N. C.

Location.--Lat 36°10', long. 81°10', on left bank 400 ft upstream from highway bridge, 1½ miles northwest of North Wilkesboro, Wilkes County, 1½ miles upstream from North Wilkesboro municipal dam, and 2 miles upstream from mouth.

Drainage area.--93.9 sq mi.

Records available.--December 1939 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 978.62 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--14 years, 142 cfs.

Extremes --Maximum discharge during year, 2,500 cfs Feb. 21 (gage height, 7.29 ft); minimum, 36 cfs Sept. 3 (gage height, 0.71 ft).

1939-53: Maximum discharge, 27,000 cfs Aug. 14, 1940 (gage height, 22.02 ft), from rating curve extended above 2,100 cfs on basis of computation of peak flow over dam; minimum, that of Sept. 2, 1953.

Remarks.--Records good.

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

0.7	35	2.0	236
.8	45	3.0	525
1.0	67	4.0	900
1.5	144	5.0	1,350

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	55	75	151	102	144	190	173	*86	74	52	37
2	54	55	78	109	96	181	181	173	82	73	55	37
3	52	54	77	107	94	176	174	149	82	88	188	42
4	52	53	74	94	92	260	170	139	82	133	98	57
5	53	53	84	88	87	236	165	159	81	122	70	132
6	53	53	84	84	93	187	171	214	88	87	*57	86
7	65	53	74	82	160	170	202	221	175	84	57	61
8	57	53	73	88	120	160	171	181	260	78	60	52
9	90	53	70	99	107	149	165	160	119	74	63	49
10	26	55	136	162	*102	144	163	147	132	*67	53	47
11	71	65	264	141	104	154	157	138	104	65	51	46
12	65	66	142	117	115	218	157	133	94	65	49	47
13	61	57	117	107	104	232	160	125	107	63	*47	47
14	59	56	102	101	101	192	149	123	152	61	46	44
15	57	57	93	94	210	314	*147	128	122	60	44	44
16	56	56	87	92	183	*283	146	123	106	80	42	43
17	55	55	86	86	154	227	139	118	99	81	44	43
18	55	55	84	114	132	216	139	117	90	63	62	42
19	55	120	82	99	123	202	139	144	87	74	80	43
20	54	318	82	93	249	181	134	130	84	61	63	108
21	54	*519	93	247	*1,290	171	133	115	89	57	54	83
22	55	206	82	165	402	190	130	112	134	62	51	53
23	55	123	87	139	253	854	128	107	106	100	51	49
24	56	99	*84	357	210	998	128	106	84	65	50	49
25	56	92	81	214	189	460	126	102	78	59	47	50
26	56	104	78	162	171	332	141	99	77	59	44	57
27	56	102	77	142	160	276	125	96	85	55	43	78
28	56	88	75	134	152	243	122	92	126	54	42	60
29	55	82	73	120	-	218	118	92	82	52	41	51
30	*55	80	75	112	-	204	203	92	78	56	40	*48
31	55	-	*148	107	-	194	-	88	-	54	*33	-
Total	1,822	2,937	2,917	3,989	5,359	8,166	4,573	4,096	3,171	2,186	1,783	1,685
Mean	58.9	97.9	94.1	129	191	263	152	132	106	70.5	57.5	56.2
Cfsm	0.626	1.04	1.00	1.37	2.03	2.80	1.62	1.41	1.13	0.751	0.612	0.599
In.	0.72	1.16	1.16	1.58	2.12	3.23	1.81	1.62	1.26	0.87	0.71	0.67
Calendar year 1952: Max			2,070	Min 52	Mean 124	Cfsm 1.32	In. 17.90					
Water year 1952-53: Max			1,290	Min 37	Mean 117	Cfsm 1.25	In. 16.91					

Peak discharge (base, 2,000 cfs)--Feb. 21 (9:30 a.m.) 2,500 cfs (7.29 ft).

\* Discharge measurement made on this day.

## Yadkin River at Wilkesboro, N. C.

Location.--Lat 36°09', long. 81°09', on right bank 150 ft upstream from bridge on U. S. Highway 421 between North Wilkesboro and Wilkesboro, 150 ft downstream from Reddies River, and half a mile northeast of Wilkesboro, Wilkes County.

Drainage area.--493 sq mi.

Records available.--April 1903 to June 1909, October 1920 to September 1953. Prior to October 1928, published as "at North Wilkesboro." Discharge records April 1903 to June 1909, published in water-supply papers, are considerably in error. Revised records April 1903 to May 1907 in Bulletin 34 of North Carolina Department of Conservation and Development.

Gage.--Water-stage recorder at present site since Jan. 9, 1930. Datum of gage is 942.35 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Apr. 10, 1903, to June 30, 1909, and Oct. 15, 1920, to Apr. 10, 1929, staff or chain gages at site 1½ miles downstream at different datum. Apr. 11, 1929, to Jan. 9, 1930, chain gage at present site and datum. Datum used 1920-28 was about 1.2 ft lower than that used 1903-9.

Average discharge.--36 years (1903-6, 1920-53), 788 cfs.

Extremes.--Maximum discharge during year, 11,300 cfs Feb. 21 (gage height, 15.10 ft);

minimum, 169 cfs Sept. 18 (gage height, 1.67 ft); minimum daily, 180 cfs Sept. 2.

1903-9, 1920-53: Maximum discharge, 160,000 cfs Aug. 14, 1940 (gage height, 37.6 ft, from floodmarks), from rating curve extended above 20,000 cfs on basis of slope-area determination of peak flow; minimum, 101 cfs Jan. 20, 1940, result of freezeup; minimum daily, 162 cfs July 21, 24, 1926.

Flood of July 1916 reached a stage of 34.5 ft (present site and datum), from flood-mark (discharge, 116,000 cfs, from rating curve extended above 20,000 cfs as explained above).

Remarks.--Records good except those for period of doubtful gage-height record, which are fair. Slight diurnal fluctuation at low flow caused by powerplant on Reddies River 1 mile above station.

Revisions (water years).--WSP 822: Drainage area. WSP 892: 1930(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

1.8	202	3.2	1,000	1.7	180	4.0	1,520
2.0	291	3.5	1,200	1.9	262	5.0	2,170
2.2	392	4.0	1,520	2.2	398	7.0	3,570
2.4	502	4.5	1,840	2.5	560	9.0	5,130
2.8	740			3.0	870	11.0	6,930
				3.5	1,200	14.0	9,980

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	250	250	350	4680	502	740	902	902	384	350	271	188
2	241	250	340	4543	480	1,060	850	716	369	346	306	180
3	245	254	340	4514	457	1,000	805	650	360	384	284	192
4	232	245	350	4446	452	1,490	786	590	360	626	350	249
5	245	245	345	4419	*435	1,520	753	608	346	632	315	654
6	259	236	387	4392	435	1,160	772	824	356	453	275	548
7	254	241	350	4382	902	968	902	1,030	1,110	418	280	346
8	273	241	350	376	734	864	792	870	1,320	393	306	280
9	391	241	320	474	602	779	740	728	722	360	374	254
10	491	250	558	1,680	537	728	728	650	602	*341	297	241
11	366	282	1,390	1,130	519	753	704	602	674	324	258	241
12	320	306	660	740	668	1,290	698	572	4486	324	241	237
13	301	263	525	596	644	1,520	722	548	4480	319	*232	232
14	301	*259	452	525	572	1,200	668	525	4596	306	220	220
15	286	263	403	480	1,320	1,640	650	*531	4632	306	212	216
16	286	259	382	452	1,320	*1,780	650	596	4537	306	208	212
17	277	250	371	435	935	1,260	632	514	4491	306	208	208
18	273	250	356	590	753	1,100	626	502	4453	315	325	196
19	268	327	350	554	662	1,000	626	548	4423	393	544	212
20	259	1,620	345	491	1,030	870	596	614	4408	328	408	439
21	250	1,530	392	1,300	*9,200	805	590	502	4403	293	315	546
22	263	1,010	356	1,000	3,730	870	584	480	4560	306	271	293
23	268	537	356	753	1,780	3,310	578	464	4740	584	275	254
24	259	430	345	1,580	1,290	6,220	572	459	4554	369	254	245
25	259	382	355	1,200	1,130	2,640	566	448	4475	310	245	254
26	259	403	350	844	968	1,780	662	433	4433	293	232	297
27	254	463	316	710	864	1,390	578	413	4408	268	220	368
28	250	392	316	660	798	1,230	548	398	4475	271	212	341
29	250	361	306	608	-	1,100	543	393	4413	271	208	280
30	245	340	311	548	-	1,000	792	398	398	258	200	*254
31	*250	-	*668	519	-	935	-	384	-	306	196	-
Total	8,625	12,380	12,895	21,641	33,719	44,202	20,615	17,892	15,958	11,079	8,542	6,697
Mean	278	413	416	698	1,204	1,426	687	577	532	357	276	290
Cfs/m	0.564	0.938	0.644	1.42	2.44	2.89	1.39	1.17	1.06	0.724	0.560	0.588
In.	0.65	0.93	0.97	1.63	2.54	3.33	1.56	1.35	1.20	0.84	0.64	0.66

Calendar year 1952: Max 9,100  
Water year 1952-53: Max 9,200

Min 232  
Min 180

Mean 643  
Mean 592

Cfs/m 1.30  
In. 16.30

Cfs/m 1.20  
In. 16.30

Peak discharge (base, 8,000 cfs).--Feb. 21 (4:30 p.m.) 11,300 cfs (15.10 ft).

\* Discharge measurement made on this day.

d Gage-height record doubtful; discharge computed on basis of doubtful gage heights.

## Fisher River near Copeland, N. C.

Location.--Lat 36°20', long. 80°40', on left bank 500 ft upstream from bridge on State Highway 268, 1 mile upstream from Cody Creek, and 2 miles northwest of Copeland, Surry County.

Drainage area.--121 sq mi.

Records available.--October 1931 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 913 ft (by barometer). Prior to Sept. 5, 1936, staff gage at same site and datum.

Average discharge.--22 years, 184 cfs.

Extremes.--Maximum discharge during year, 6,120 cfs Mar. 24 (gage height, 10.35 ft), minimum, 37 cfs Sept. 2 (gage height, 1.86 ft).  
1931-53: Maximum discharge, 27,300 cfs Aug. 14, 1940 (gage height, 18.4 ft, from floodmarks), from rating curve extended above 5,800 cfs on basis of slope-area determination of peak flow; minimum observed, 21 cfs Sept. 18, 1932 (gage height, 1.70 ft).

Remarks.--Records good.

Revisions.--WSP 822: Drainage area.

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

2.1	66	3.0	329	1.8	31	3.5	562
2.3	105	3.5	562	2.0	53	4.0	806
2.6	183	4.0	806	2.3	104	5.0	1,350
				2.6	178	6.0	2,020
				3.0	328	8.0	3,620

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	80	80	114	194	148	194	277	254	99	98	66	38
2	79	80	114	153	140	258	262	188	90	90	66	*37
3	79	79	116	150	136	342	246	172	88	389	68	39
4	75	79	112	138	136	509	242	164	88	512	111	47
5	75	77	121	131	128	391	228	255	84	728	90	95
6	77	77	131	126	131	285	235	*266	88	207	77	88
7	80	77	116	124	256	250	294	365	175	175	76	79
8	*84	77	112	128	184	232	246	254	128	140	82	61
9	108	77	110	140	158	210	228	197	115	131	92	56
10	138	80	167	188	148	200	224	178	122	115	79	53
11	107	90	537	178	143	204	210	184	119	106	67	52
12	94	99	210	153	150	281	204	156	106	104	63	51
13	92	86	170	143	143	337	269	150	115	95	59	51
14	90	82	150	138	136	269	210	145	115	94	54	47
15	86	103	138	136	370	599	200	143	*106	90	*51	47
16	84	94	131	128	285	461	200	150	*104	88	48	46
17	84	86	126	126	207	319	191	143	563	86	47	49
18	84	84	122	140	178	294	188	140	172	84	54	42
19	82	86	119	138	*167	277	191	161	126	94	68	45
20	80	334	117	128	229	242	181	170	115	86	79	59
21	79	631	131	404	2,310	228	178	140	108	79	64	76
22	80	332	124	254	609	239	175	136	153	79	60	57
23	80	186	122	200	387	1,280	172	131	115	131	59	51
24	82	151	122	424	306	3,130	172	124	102	84	57	51
25	80	*138	117	285	273	684	172	119	99	76	53	51
26	82	126	115	217	246	514	181	113	99	74	49	56
27	82	146	111	184	221	*433	167	106	92	*70	47	69
28	80	128	108	181	210	382	164	102	197	67	45	67
29	79	121	106	170	-	332	161	102	133	67	42	57
30	79	119	104	156	-	302	252	102	119	64	41	53
31	79	-	215	150	-	285	-	100	-	64	39	-
Total	2,640	4,015	4,408	5,515	8,135	13,963	6,320	5,090	3,936	4,368	1,953	1,670
Mean	85.2	134	142	178	291	450	211	164	131	141	63.0	55.7
Cfs/m	0.704	1.11	1.17	1.47	2.40	3.72	1.74	1.36	1.08	1.17	0.521	0.460
In.	0.81	1.23	1.35	1.70	2.50	4.29	1.94	1.56	1.21	1.34	0.60	0.51
Calendar year 1952: Max	1,760			Min 62		Mean 187		Cfs/m 1.54		In. 21.09		
Water year 1952-53: Max	3,130			Min 37		Mean 170		Cfs/m 1.40		In. 19.04		

Peak discharge (base, 2,200 cfs).--Feb. 21 (11 a.m.) 3,620 cfs (8.00 ft); Mar. 24 (8 a.m.) 6,120 cfs (10.35 ft).

\* Discharge measurement made on this day.

## Forbush Creek near Yadkinville, N. C.

Location.--Lat 36°08', long. 80°33', on left bank 900 ft upstream from highway bridge, three-quarters of a mile north of Forbush Church, 2½ miles upstream from Logan Creek, 3½ miles upstream from mouth, and 6 miles east of Yadkinville, Yadkin County.

Drainage area.--21.7 sq mi.

Records available.--April 1940 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 728 ft (by barometer).

Average discharge.--13 years, 21.8 cfs.

Extremes.--Maximum discharge during year, 1,220 cfs Mar. 23 (gage height, 8.76 ft); minimum, 4.1 cfs Aug. 17.

1940-53: Maximum discharge, 2,450 cfs Sept. 30, 1944 (gage height, 11.02 ft), from rating curve extended above 700 cfs on basis of velocity-area study; minimum, 2.1 cfs Sept. 22, 24, 25, 1941; minimum daily, 2.5 cfs Sept. 25, 1941.

Remarks.--Records good except those for period 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 Jan. 24

Jan. 25 to Sept. 30

0.6 5.6  
.9 13  
1.0 24  
1.4 54

0.5 .6  
.8 14  
1.0 25  
1.4 54  
2.0 106

2.5 163  
3.0 223  
3.5 288  
4.0 353  
5.0 483

Note.--Same as following 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	6.3	8.1	8.9	24	18	28	23	24	8.0	23	5.8	5.5
2	6.3	8.1	9.6	17	18	37	22	19	7.6	20	5.8	*5.2
3	7.7	8.1	9.6	16	20	37	21	17	8.0	18	16	5.2
4	7.0	7.7	9.3	14	20	74	21	16	8.0	16	24	6.5
5	7.0	8.1	10	13	19	42	20	16	7.6	16	8.7	52
6	7.0	8.1	11	*12	19	a32	21	*16	7.6	16	8.0	187
7	6.6	8.1	9.6	*12	38	a30	25	19	49	14	8.0	33
8	*7.0	8.1	9.6	23	31	a28	21	17	33	13	8.3	15
9	9.6	8.1	9.6	53	25	a28	20	15	16	12	7.6	12
10	9.3	9.3	25	66	23	a26	20	14	56	12	6.9	10
11	8.5	11	39	32	23	a26	18	14	44	12	6.5	9.8
12	8.1	11	17	22	31	a44	24	13	17	12	6.2	9.4
13	8.1	8.9	14	18	26	a50	28	12	32	12	5.5	8.7
14	7.7	8.9	12	16	23	a40	21	12	36	11	5.2	8.3
15	7.7	10	12	15	135	169	20	12	*17	9.0	*4.9	8.0
16	7.7	9.3	11	15	44	66	*20	14	15	8.7	4.6	7.6
17	7.7	8.9	10	14	30	38	18	12	59	8.7	23	7.2
18	7.7	8.9	10	28	*24	31	18	12	20	8.7	12	7.6
19	7.7	9.3	10	22	21	28	18	13	16	8.3	79	12
20	7.3	12	10	18	27	26	17	14	13	8.0	13	11
21	7.3	38	12	109	449	23	17	12	16	7.6	9.8	9.0
22	7.7	22	11	42	74	27	17	12	30	9.4	8.7	7.6
23	8.1	14	11	28	40	248	17	11	15	11	8.3	7.6
24	8.1	12	10	136	34	265	16	11	12	8.0	7.6	7.6
25	8.1	*11	10	44	31	57	16	11	12	7.2	7.2	8.0
26	8.1	10	10	29	28	*39	18	10	11	7.2	7.2	8.7
27	8.1	10	10	24	28	*33	16	9.4	90	*6.9	6.9	12
28	9.5	9.6	10	25	27	29	16	9.0	270	6.5	6.5	8.7
29	8.1	9.3	10	22	-	27	15	9.0	93	5.8	6.2	8.0
30	8.1	9.3	9.6	20	-	25	25	9.0	40	5.8	6.2	*8.0
31	8.1	-	44	19	-	24	-	8.7	-	6.2	5.8	-
Total	240.3	325.2	404.8	948	1,326	1,677	589	413.1	1,058.8	340.0	339.4	506.2
Mean	7.75	10.8	13.1	30.6	47.4	54.1	19.6	13.3	35.3	11.0	10.9	16.9
Cfsm	0.357	0.498	0.604	1.41	2.18	2.49	0.903	0.613	1.65	0.507	0.502	0.779
In.	0.41	0.56	0.69	1.62	2.27	2.87	1.01	0.71	1.81	0.58	0.58	0.87

Calendar year 1952: Max 336

Min 4.7

Mean 22.3

Cfsm 1.03

In. 14.00

Water year 1952-53: Max 449

Min 4.6

Mean 22.4

Cfsm 1.03

In. 13.98

Peak discharge (base, 570 cfs).--Feb. 21 (1:30 p.m.) 738 cfs (6.93 ft); Mar. 23 (12 p.m.) 1,220 cfs (8.76 ft); June 28 (3 a.m.) 818 cfs (7.36 ft); Sept. 6 (3 p.m.) 724 cfs (6.75 ft).

\* Discharge measurement made on this day.

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

## Yadkin River at Yadkin College, N. C.

Location.--Lat 35°51'24", long. 80°23'09", on left bank 80 ft downstream from bridge on U. S. Highway 64, 1½ miles south of Yadkin College, Davidson County, and 6½ miles downstream from Reedy Creek.

Drainage area.--2,280 sq mi, approximately.

Records available.--July 1928 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 638.65 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--25 years, 2,917 cfs.

Extremes.--Maximum discharge during year, 35,000 cfs Mar. 25 (gage height, 21.93 ft); minimum observed, 455 cfs Sept. 4 (gage height, 0.05 ft).

1928-53: Maximum discharge, 80,200 cfs Aug. 15, 1940 (gage height, 33.75 ft); minimum, 395 cfs Sept. 20, 1932 (gage height, 0.05 ft).

Maximum stage known, 35.0 ft, from floodmarks, sometime in July 1916 (discharge, 86,600 cfs).

Remarks.--Records good except those for periods computed from wire-weight gage readings, which are fair. Slight diurnal fluctuation during low flow caused by small powerplant with little storage capacity 10 miles upstream from station. Records of sediment loads for the water year 1953 are given in WSP 1290.

Revisions (water years).--WSP 822: Drainage area. WSP 852: 1935-37(m).

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

0.4	580	6.0	5,900
.7	740	9.0	9,740
1.0	955	12.0	14,000
1.5	1,350	15.0	19,100
2.0	1,790	18.0	25,200
4.0	3,750	21.0	32,600

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	1,070	1,030	1,480	3,250	2,100	g2,950	g3,650	3,350	1,480	2,300	895	665
2	1,070	1,110	1,390	2,850	2,080	g3,150	g3,950	3,450	1,350	*1,740	955	640
3	g1,110	1,150	1,430	2,200	1,920	g3,950	g3,350	2,950	1,350	1,970	1,190	635
4	g210	1,070	1,430	2,060	1,880	5,190	g3,150	2,650	1,310	2,290	1,570	g820
5	g992	1,070	1,430	1,920	1,790	*7,400	g3,150	2,450	1,310	2,950	1,920	*g680
6	g1,150	1,070	1,520	1,740	1,740	5,300	g3,050	2,550	1,230	3,350	1,390	3,400
7	g1,000	1,070	1,610	1,700	3,050	4,050	g3,350	3,150	2,850	2,300	1,190	4,920
8	g1,010	1,050	*1,520	1,700	3,950	3,550	g3,650	3,950	4,150	1,970	1,110	1,790
9	g1,110	1,070	1,430	3,450	3,150	3,250	g3,250	3,250	3,150	1,740	1,430	1,230
10	g1,270	1,150	1,480	3,550	2,500	2,950	g3,050	2,750	3,950	1,560	*1,270	1,020
11	g1,520	1,190	3,300	3,450	2,250	2,650	g2,850	2,550	5,180	1,390	1,190	888
12	1,430	1,310	4,550	3,550	2,750	3,150	g2,950	2,350	3,050	1,350	1,030	852
13	1,270	1,310	2,750	2,550	3,050	3,750	g3,950	2,250	2,300	1,350	910	859
14	1,190	1,230	2,150	2,150	2,500	4,250	g3,950	2,150	2,650	1,270	873	873
15	1,150	1,190	1,880	1,970	5,760	4,780	g3,050	2,100	2,850	1,230	782	789
16	1,150	1,310	1,740	1,880	7,400	10,300	g2,850	2,020	2,200	1,190	789	789
17	1,110	1,310	1,610	1,740	4,970	6,380	2,750	2,150	2,760	1,190	789	747
18	1,070	1,190	1,580	1,840	3,550	4,550	2,550	*2,100	3,050	1,110	1,030	747
19	1,070	1,150	1,580	2,150	2,950	4,150	2,650	2,060	2,650	1,150	1,190	655
20	1,110	1,310	1,480	2,060	2,650	3,850	2,650	2,300	2,020	1,560	1,610	740
21	1,110	3,850	1,610	3,050	11,100	3,350	2,500	2,300	1,840	1,310	1,520	838
22	1,070	7,010	1,660	5,900	26,400	3,150	2,450	2,060	3,220	1,150	1,150	1,230
23	1,030	4,180	1,610	4,050	g15,600	4,380	2,400	1,880	2,950	1,190	1,030	1,150
24	1,070	2,400	1,560	6,190	g5,900	24,000	2,400	1,880	2,550	1,390	985	932
25	1,070	1,880	1,520	6,880	g4,650	32,200	2,350	1,840	2,020	1,480	955	810
26	1,070	1,660	1,430	4,550	g4,050	g12,100	2,500	1,740	1,740	1,190	895	796
27	1,110	1,610	1,430	3,350	g3,550	g6,380	2,550	1,660	1,610	1,070	817	1,150
28	1,110	1,610	1,430	2,950	g3,150	g5,190	2,450	1,560	3,970	1,010	796	1,190
29	1,110	1,560	1,430	3,050	-	g4,550	2,250	1,480	3,550	1,000	698	1,150
30	1,070	1,480	1,390	2,500	-	g4,150	2,350	1,480	3,550	895	716	970
31	1,070	-	2,280	2,200	-	g3,850	-	1,480	-	859	734	-
Total	34,652	50,540	54,650	92,430	136,370	193,050	88,000	71,890	77,620	47,504	33,409	33,755
Mean	1,118	1,685	1,763	2,982	4,870	6,227	2,933	2,319	2,587	1,532	1,078	1,125
Cfsm	0.490	0.739	0.773	1.31	2.14	2.73	1.29	1.02	1.13	0.872	0.473	0.493
In.	0.57	0.52	0.89	1.51	2.22	3.15	1.44	1.37	1.27	0.77	0.54	0.55

Calendar year 1952: Max 24,600 Min 910 Mean 2,771 Cfsm 1.22 In. 16.53  
 Water year 1952-53: Max 32,200 Min 620 Mean 2,504 Cfsm 1.10 In. 14.90  
Peak discharge (base, 18,000 cfs).--Feb. 22 (6 p.m.) 28,000 cfs (19.20 ft); Mar. 25 (9 a.m.) 35,000 cfs (21.93 ft).

\* Discharge measurement made on this day.

g Computed from once-daily, or more frequent, wire-weight gage readings.

## Rocky River at Turnersburg, N. C.

Location.--Lat 35°54', long. 80°48', on right bank 1,000 ft downstream from bridge on U. S. Highway 21 at Turnersburg, Iredell County, 1 mile downstream from Mud Creek, and 1½ miles upstream from mouth.

Drainage area.--85.5 sq mi.

Records available.--April 1940 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 724.10 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to June 19, 1950, at site 170 ft upstream at same datum.

Average discharge.--13 years, 111 cfs.

Extremes.--Maximum discharge during year, 1,990 cfs Mar. 24 (gage height, 6.38 ft); minimum, 19 cfs Aug. 18 (gage height, 1.25 ft); minimum daily, 25 cfs Sept. 1-3.

1940-53: Maximum discharge, 6,080 cfs Sept. 18, 1945 (gage height, 12.08 ft), from rating curve extended above 3,400 cfs by logarithmic plotting; minimum, 1 cfs Oct. 18, 1940, Oct. 26, 1941; minimum daily, 22 cfs Oct. 26, 1941.

A stage of about 18 ft was reached by flood sometime during years 1936 to 1938, from information by local resident.

Remarks.--Records good except those for period of no gage-height record, which are fair. Considerable diurnal fluctuation at low flow caused by mills above station in some past years but only slight fluctuation in recent years.

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

Oct. 1 to Feb. 21,  
Sept. 6-30

Feb. 22 to Sept. 5

1.4	25	1.3	21	3.0	357
1.7	51	1.5	35	4.0	800
2.0	92	1.7	53	5.0	1,290
2.5	200	2.0	95	6.0	1,780
		2.5	200		

Note.--Same as following 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	46	49	52	122	90	111	133	123	49	66	40	25
2	46	50	55	90	85	149	125	99	47	60	36	25
3	58	50	58	86	80	166	117	90	47	63	36	25
4	48	48	55	76	80	248	115	85	46	66	58	*33
5	47	49	56	69	78	219	111	83	46	61	43	88
6	47	50	62	*66	76	184	113	85	46	59	39	164
7	47	49	56	65	129	143	133	137	467	59	40	90
8	47	48	55	80	130	127	115	109	265	63	45	46
9	59	49	54	140	105	117	108	95	244	55	46	39
10	76	52	78	150	*92	109	106	86	148	*51	43	37
11	61	60	126	120	89	116	99	81	305	50	*37	37
12	55	62	90	100	153	149	109	75	141	48	34	36
13	53	55	75	85	143	164	115	73	115	48	33	36
14	53	53	66	75	118	143	108	72	139	48	32	34
15	52	58	62	70	382	350	99	70	106	47	29	34
16	52	58	59	70	244	268	97	70	95	47	29	33
17	51	54	58	65	168	185	95	73	88	46	29	31
18	51	53	58	70	134	157	93	70	80	45	32	31
19	51	53	56	90	118	145	95	75	73	46	50	33
20	48	72	56	80	130	*129	92	*53	69	47	64	36
21	47	135	65	240	1,150	119	90	72	68	42	46	42
22	49	122	60	180	642	129	88	66	106	42	40	40
23	51	73	59	150	262	332	88	65	92	52	38	33
24	51	62	59	320	195	1,460	86	63	74	47	37	33
25	51	59	56	300	168	425	85	60	66	41	33	34
26	51	58	56	160	147	*256	104	57	85	40	32	40
27	51	59	54	130	131	203	90	55	63	40	30	60
28	*50	56	54	120	119	175	85	53	75	37	29	53
29	48	53	53	120	-	157	83	53	126	35	28	42
30	48	53	53	100	-	145	97	53	105	35	26	38
31	49	-	134	95	-	137	-	51	-	48	26	-
Total	1,594	1,802	1,990	3,684	5,436	6,896	3,074	2,382	3,456	1,534	1,160	1,326
Mean	51.4	60.1	64.2	119	194	222	102	76.8	115	49.5	37.4	44.2
Cfs/m	0.601	0.703	0.751	1.39	2.27	2.60	1.19	0.898	1.35	0.579	0.437	0.517
In.	0.69	0.78	0.87	1.60	2.36	3.00	1.34	1.04	1.50	0.67	0.50	0.58

Calendar year 1952: Max 1,540 Min 34 Mean 112 Cfs/m 1.31 In. 17.76  
Water year 1952-53: Max 1,460 Min 25 Mean 94.1 Cfs/m 1.10 In. 14.93

Peak discharge (base, 2,000 cfs).--No peak above base.

\* Discharge measurement made on this day.

Note.--No gage-height record Jan. 7 to Feb. 4; discharge estimated on basis of recorded range in stage and records for stations on nearby streams.

## South Yadkin River near Mocksville, N. C.

Location.--Lat 35°51', long. 80°40', on right bank at downstream side of highway bridge, 1 mile upstream from Little Creek, 4 miles downstream from Fifth Creek, 4½ miles upstream from Hunting Creek, and 6½ miles southwest of Mocksville, Davis County.

Drainage area.--313 sq mi.

Records available.--October 1938 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 660 ft (by barometer).

Average discharge.--15 years, 317 cfs.

Extremes.--Maximum discharge during year, 3,450 cfs Mar. 23 (gage height, 10.48 ft); minimum, 60 cfs Sept. 3 (gage height, 1.52 ft).  
1938-53: Maximum discharge, 8,000 cfs Sept. 19, 1945 (gage height, 16.02 ft); minimum, that of Sept. 3, 1953.  
Maximum stage known, 22.6 ft October 1929, from floodmark established by local resident.

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)

1.5	57	4.0	760
1.7	91	6.0	1,440
2.0	157	8.0	2,180
2.5	280	10.0	3,150
3.0	430		

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	127	134	157	426	262	321	365	318	136	225	122	65
2	122	135	159	280	250	378	347	275	129	181	116	62
3	134	136	169	250	240	463	327	250	127	205	87	60
4	139	136	167	232	232	595	315	232	*125	270	107	*68
5	129	*134	167	210	225	727	307	228	120	193	116	215
6	127	136	181	200	220	*529	302	228	118	200	103	1,510
7	125	136	176	193	381	427	350	291	679	174	99	589
8	122	136	187	238	400	375	329	318	1,370	171	105	208
9	139	136	164	410	313	358	299	265	1,200	*167	127	150
10	189	141	192	430	275	315	288	240	578	152	111	129
11	176	162	332	378	262	310	280	225	710	140	*99	120
12	155	171	285	299	340	427	285	215	1,040	140	89	118
13	146	164	220	260	446	496	341	205	490	140	86	134
14	146	150	200	238	353	427	302	198	423	140	82	113
15	141	159	186	225	920	558	275	193	344	140	77	107
16	139	164	*171	215	991	892	*270	191	302	140	73	105
17	136	159	174	210	578	578	262	198	272	130	75	99
18	136	152	169	210	417	463	255	193	248	130	82	97
19	136	152	167	270	350	414	258	222	225	130	127	99
20	134	171	164	240	374	365	250	245	210	130	193	105
21	139	201	176	501	1,880	329	242	219	200	130	146	111
22	129	362	181	*744	2,340	324	240	195	232	120	118	120
23	134	240	171	430	1,780	1,100	239	183	272	150	105	101
24	136	193	171	945	710	2,700	238	176	225	140	99	97
25	136	176	167	946	546	2,700	235	171	195	120	93	97
26	136	171	164	480	463	1,480	255	164	183	110	86	107
27	136	171	162	371	397	694	258	155	179	110	82	171
28	136	171	157	335	350	562	230	150	198	110	78	167
29	136	164	155	350	-	480	225	146	256	100	75	134
30	134	159	152	299	-	420	238	146	407	100	70	116
31	134	-	408	275	-	364	-	143	-	134	68	-
Total	4,273	4,975	5,831	10,990	16,295	20,569	8,406	6,575	11,183	4,622	3,094	5,384
Mean	138	166	188	355	582	664	280	212	373	149	99.8	179
Cfsm	0.441	0.530	0.601	1.13	1.86	2.12	0.895	0.677	1.19	0.476	0.319	0.572
In.	0.51	0.59	0.69	1.31	1.94	2.44	1.00	0.78	1.33	0.55	0.37	0.64

Calendar year 1952: Max 3,030 Min 101 Mean 335 Cfsm 1.07 In. 14.58  
Water year 1952-53: Max 2,700 Min 60 Mean 280 Cfsm 0.895 In. 12.15

Peak discharge (base, 2,700 cfs).--Mar. 23 (8 p.m.) 3,450 cfs (10.48 ft).

\* Discharge measurement made on this day.

Note.--No gage-height record July 11-30; discharge estimated on basis of recorded range in stage and records for stations on nearby streams.

Hunting Creek near Harmony, N. C.

Location.--Lat 36°00', long. 80°44', on right bank at downstream side of highway bridge, three-quarters of a mile downstream from Kennedy Creek, 1 mile east of Houstonville, Iredell County, 2 miles downstream from U. S. Highway 21, and 3½ miles northeast of Harmony.

Drainage area.--153 sq mi.

Records available.--January 1951 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 731 ft (by barometer). Prior to Apr. 5, 1951, wire-weight gage on upstream side of bridge at same datum.

Extremes.--Maximum discharge during year, 3,620 cfs Mar. 24 (gage height, 13.30 ft); minimum, 36 cfs Sept. 18 (gage height, 1.40 ft).

1951-53: Maximum discharge, that of Mar. 24, 1953, minimum, that of Sept. 18, 1953.

Remarks.--Records good. Small diurnal fluctuation at low flow caused by mills above station. Records of chemical analyses 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 Mar. 31 to Apr. 26)

Oct. 1 to Jan. 24 Jan. 25 to Mar. 24, Sept. 7-30 Mar. 25 to Sept. 6

1.8	66	1.5	46	6.0	950	1.5	56
2.3	135	2.0	108	8.0	1,550	2.0	122
3.0	250	3.0	266	11.0	2,650	3.0	284
4.0	440	4.0	457			4.0	482
5.0	680					5.0	702

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	72	87	194	131	173	224	224	84	102	72	51
2	81	73	91	145	124	254	208	165	81	105	93	*52
3	84	74	97	137	119	258	208	146	82	262	97	55
4	71	72	*91	120	116	383	200	137	*81	232	262	70
5	71	72	98	110	109	337	194	132	84	130	104	116
6	73	72	111	101	109	*258	195	132	81	115	86	227
7	73	70	94	*99	221	224	232	212	482	147	88	124
8	73	71	90	167	204	204	206	161	216	167	111	74
9	96	88	71	194	181	188	194	144	226	111	108	67
10	129	77	126	209	*148	160	189	130	259	98	88	58
11	94	87	224	183	140	185	182	118	404	91	78	57
12	84	91	145	140	197	258	192	111	181	88	72	56
13	82	77	118	114	180	300	232	107	165	90	69	56
14	77	76	105	104	155	249	208	107	208	90	67	53
15	74	88	102	94	496	575	182	108	*160	85	64	54
16	72	90	104	88	356	646	*181	118	144	89	61	54
17	73	81	98	82	249	346	170	116	137	84	80	49
18	74	78	92	155	*197	283	166	114	125	81	77	44
19	74	78	92	145	172	266	165	121	118	81	147	48
20	72	143	91	111	194	232	160	149	114	80	132	58
21	67	328	105	509	2,210	215	158	116	115	77	91	79
22	70	246	97	210	800	232	152	114	*306	81	81	61
23	70	137	94	193	376	729	149	109	165	115	78	52
24	72	112	94	607	283	2,490	146	105	132	88	74	53
25	73	105	94	320	249	654	142	104	119	76	71	53
26	72	101	92	209	224	*428	168	101	115	73	68	67
27	73	108	88	172	199	348	154	95	114	*72	66	100
28	*74	95	84	196	183	311	143	90	158	69	61	88
29	70	91	82	170	-	275	137	90	121	64	60	64
30	68	91	64	143	-	249	158	81	111	62	57	59
31	71	-	214	134	-	232	-	89	-	78	55	-
Total	2,383	3,027	3,272	5,557	8,302	11,962	5,397	3,876	4,888	3,183	2,718	2,099
Mean	76.9	101	106	179	296	386	180	125	163	103	87.7	70.0
Cfsm	0.503	0.660	0.693	1.17	1.93	2.52	1.18	0.817	1.07	0.673	0.573	0.458
In.	0.58	0.74	0.80	1.35	2.02	2.91	1.31	0.94	1.19	0.77	0.66	0.51

Calendar year 1952: Max 2,250 Min 60 Mean 175 Cfsm 1.14 In. 15.60  
Water year 1952-53: Max 2,490 Min 44 Mean 155 Cfsm 1.01 In. 13.78

Peak discharge (base, 2,000 cfs).--Feb. 21 (5:30 p.m.) 3,430 cfs (12.90 ft); Mar. 24 (6:30 a.m.) 3,620 cfs (13.30 ft).

\* Discharge measurement made on this day.

## PEE DEE RIVER BASIN

South Yadkin River at Cooleemee, N. C.

Location.--Lat 35°48', long. 80°34', on left bank 150 ft downstream from tailrace of Erwin Cotton Mills at Cooleemee, Davie County, 550 ft upstream from bridge on State Highway 801, 2 $\frac{1}{4}$  miles downstream from Bear Creek, and 2 $\frac{3}{4}$  miles upstream from Third Creek.

Drainage area.--569 sq mi.

Records available.--June 1928 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 624.57 ft above mean sea level, datum of 1929, supplementary adjustment of 1936 (levels by Corps of Engineers). June 27, 1949, to Dec. 8, 1952, auxiliary wire-weight gage at bridge on U. S. Highway 601, 5 miles downstream.

Average discharge.--23 years (1930-53), 621 cfs.

Extremes.--Maximum discharge during year, 6,450 cfs Mar. 24 (gage height, 18.20 ft); minimum, 36 cfs Nov. 5 (gage height, 0.76 ft); minimum daily, 82 cfs Sept. 4.

1928-53: Maximum discharge, 24,800 cfs Oct. 3, 1929 (gage height, 32.25 ft), from rating curve extended above 7,500 cfs on basis of computation of peak flow over dam; minimum, 10 cfs Nov. 25, 1931 (gage height, 0.40 ft); minimum daily, 23 cfs Oct. 12, 19, 1941.

Flood of July 16, 1916, reached a stage of 27.2 ft, from floodmark in Erwin Cotton Mill.

Remarks.--Records fair except those above 1,500 cfs, which are poor. Large diurnal fluctuation and slight regulation during low and medium flow caused by Erwin Cotton Mills above station.

Revisions.--WSP 822: Drainage area.

Rating table, water year 1952-53 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Aug. 30 to Sept. 30)

1.0	70	5.0	1,430
1.2	114	8.0	2,400
1.5	198	12.0	3,900
2.0	350	18.0	6,350
3.0	696		

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	203	217	295	860	475	585	689	562	248	390	230	95
2	205	204	272	527	446	710	648	521	239	328	201	137
3	215	220	308	449	423	948	610	449	242	315	239	144
4	215	258	262	416	412	1,230	581	430	239	578	366	*82
5	236	*248	276	405	399	1,460	550	423	239	403	306	277
6	256	221	278	*348	391	*1,040	545	412	310	357	224	2,570
7	191	238	302	357	849	806	627	474	962	324	201	1,610
8	199	198	330	339	791	696	630	568	1,850	363	201	390
9	214	215	272	592	601	552	459	459	1,560	*337	246	275
10	268	277	288	867	503	569	537	416	905	290	224	254
11	287	253	595	696	469	555	504	390	1,120	272	*204	224
12	278	285	546	541	653	822	533	374	1,370	260	198	155
13	296	262	420	456	814	990	798	360	734	254	192	204
14	239	227	325	422	612	849	629	352	677	248	186	204
15	200	256	372	394	1,760	950	525	336	585	245	161	195
16	252	298	*253	388	2,010	1,660	*501	323	499	239	149	192
17	213	257	318	363	1,150	1,340	499	337	449	233	100	189
18	164	255	292	340	768	909	475	332	432	230	158	186
19	236	270	291	484	632	791	482	388	390	230	224	136
20	262	297	257	435	603	689	475	416	366	239	306	152
21	220	460	314	836	3,010	620	458	380	353	236	278	198
22	222	799	355	*1,400	4,500	619	444	354	432	227	221	210
23	220	466	304	801	4,230	1,440	424	318	550	224	207	192
24	220	402	286	1,740	1,610	6,040	431	308	416	251	204	192
25	244	273	302	1,720	1,040	8,040	426	302	344	230	166	195
26	200	334	293	943	845	4,190	449	287	340	221	152	161
27	271	284	290	676	714	1,430	469	275	331	218	152	239
28	205	353	284	609	632	1,080	434	260	353	138	152	296
29	231	239	305	667	-	886	417	*257	449	172	152	248
30	198	287	215	547	-	787	429	257	621	194	147	215
31	224	-	868	496	-	735	-	263	-	210	112	-
Total	7,084	8,843	10,348	20,428	31,333	42,067	15,769	11,561	17,605	8,446	6,261	9,817
Mean	229	295	334	659	1,119	1,357	526	373	587	272	202	327
Cfsm	0.402	0.518	0.587	1.16	1.97	2.38	0.924	0.658	1.03	0.478	0.355	0.575
In.	0.46	0.58	0.68	1.34	2.05	2.75	1.03	0.78	1.15	0.55	0.41	0.64
Calendar year 1952: Max	5,660			Min 120		Mean 608		Cfsm 1.07		In. 14.54		
Water year 1952-53: Max	6,040			Min 82		Mean 519		Cfsm 0.912		In. 12.40		

\* Discharge measurement made on this day.

## Third Creek at Cleveland, N. C.

Location--Lat 35°45', long. 80°41', on left bank 200 ft downstream from highway bridge, three-quarters of a mile north of Cleveland, Rowan County, and 7 miles upstream from Fourth Creek.

Drainage area--87.4 sq mi.

Records available--April 1940 to September 1953.

Gage--Water-stage recorder. Datum of gage is 684.47 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to May 22, 1950, on right bank at site 200 ft upstream at same datum.

Average discharge--13 years, 89.2 cfs.

Extremes--Maximum discharge during year, 1,620 cfs Mar. 25 (gage height, 12.27 ft); minimum, 16 cfs Sept. 2 (gage height, 0.41 ft).

1940-53: Maximum discharge, 3,080 cfs about Sept. 19, 1945 (gage height, 15.76 ft, from floodmarks), from rating curve extended above 900 cfs by logarithmic plotting; minimum, that of Sept. 2, 1953.

Maximum stage known, 22.5 ft sometime in July 1916, from floodmark witnessed by local resident. Creek channel improved considerably by dredging since 1916.

Remarks--Records good except those for period of no gage-height record, which are fair. Town of Statesville diverts about three-quarters of a cubic foot per second into basin above station.

Revisions (water years)--WSP 1112: 1944-46.

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

0.4	16	5.0	475
1.0	50	7.0	710
1.5	87	9.0	920
2.0	134	11.0	1,280
3.0	237	13.0	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	32	36	38	120	68	77	81	81	33	39	30	18
2	32	36	39	86	64	102	77	83	32	38	26	17
3	32	36	41	71	62	142	74	59	*33	39	35	18
4	31	35	39	63	60	186	72	57	32	58	31	*20
5	32	*36	42	58	58	*150	70	57	32	42	28	49
6	32	36	44	56	58	106	71	57	32	41	30	166
7	31	35	41	54	171	92	a85	67	276	41	*27	86
8	30	35	39	69	105	88	a75	59	134	39	28	40
9	38	36	39	218	79	78	a70	55	124	*37	29	35
10	44	39	55	179	71	75	a70	53	70	33	26	31
11	38	46	92	111	69	78	a65	51	235	31	23	31
12	36	46	56	81	99	120	a70	49	83	30	22	35
13	36	39	49	71	93	116	a85	48	66	30	22	39
14	35	38	45	66	77	93	a75	46	60	28	20	32
15	35	42	42	63	409	102	*a70	46	54	28	18	28
16	35	40	*41	60	194	102	67	46	51	28	18	26
17	35	38	41	58	121	85	63	48	51	27	48	25
18	34	38	41	59	93	81	61	46	46	27	28	25
19	34	38	41	59	83	78	62	59	44	28	89	27
20	33	51	41	56	107	73	60	74	43	30	48	29
21	*32	58	48	164	856	70	60	51	41	26	32	30
22	34	59	44	*108	771	81	58	47	205	26	28	26
23	35	44	42	81	226	334	58	45	61	33	28	24
24	35	41	42	374	149	1,300	58	43	49	26	25	25
25	35	41	41	164	123	1,010	58	42	45	24	25	26
26	35	40	41	105	105	210	63	41	44	23	24	32
27	35	41	40	89	92	144	58	39	42	22	22	70
28	36	39	39	87	82	119	56	37	46	22	22	38
29	35	38	39	85	-	101	56	37	42	20	20	30
30	35	38	39	73	-	92	71	37	46	36	20	28
31	35	-	246	70	-	85	-	36	-	*69	18	-
Total	1,067	1,214	1,567	3,058	4,545	5,568	2,019	1,576	2,152	1,021	891	1,104
Mean	34.4	40.5	50.5	98.6	162	180	67.3	50.8	71.7	32.9	28.7	36.8
Cfsm	0.394	0.463	0.578	1.13	1.85	2.06	0.770	0.581	0.820	0.376	0.328	0.421
In.	0.45	0.52	0.67	1.30	1.93	2.37	0.86	0.67	0.92	0.43	0.38	0.47
Calendar year 1952: Max	1,710				Min 24	Mean 93.5	Cfsm 1.07	In. 14.55				
Water year 1952-53: Max	1,300				Min 17	Mean 70.6	Cfsm 0.808	In. 10.97				

Peak discharge (base, 1,050 cfs)--Mar. 25 (1 a.m.), 1,620 cfs (12.27 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage and records for South Yadkin River near Mocksville.

## Abbotts Creek at Lexington, N. C.

Location.--Lat 35°48'24", long. 80°14'06", on right bank 200 ft downstream from small tributary, 300 ft upstream from highway bridge, 0.6 mile downstream from bridge on U. S. Highway 64, 1 1/2 miles southeast of Lexington, Davidson County, and 4.9 miles downstream from Rich Fork.

Drainage area.--174 sq mi.

Records available.--March 1940 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 622.55 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to July 28, 1949, at site 600 ft upstream at same datum.

Average discharge.--13 years, 162 cfs.

Extremes.--Maximum discharge during year, 4,030 cfs Feb. 22 (gage height, 13.56 ft); minimum, 7.9 cfs Sept. 24 (gage height, 1.34 ft).  
1940-53: Maximum discharge, 14,800 cfs Sept. 25, 1947 (gage height, 22.12 ft, site then in use, from floodmarks); minimum, 1.8 cfs Oct. 22, 1941.

Remarks.--Records good. Town of Lexington diverted an average of 3.1 cfs during water year 1953 above station for water supply. City of High Point discharges about 3 cfs sewage effluent diverted from Deep River (Cape Fear River basin) into Rich Fork above station.

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

1.3	7.0	3.0	301
1.5	12	4.0	570
1.7	22	5.0	820
2.0	52	7.0	1,300
2.3	104	9.0	1,850
2.6	182	12.0	3,010

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	26	41	1,250	134	141	136	163	22	70	20	9.5
2	23	28	41	404	117	298	227	100	19	60	18	9.2
3	22	28	50	263	106	440	*170	138	19	52	68	9.0
4	28	24	47	209	102	700	126	86	18	46	301	9.8
5	24	26	53	146	92	*724	115	79	18	40	91	*16
6	22	27	107	122	86	329	108	96	16	36	164	70
7	21	26	74	111	743	221	206	108	324	35	62	77
8	22	25	55	139	1,000	188	183	90	981	35	51	40
9	34	25	50	936	337	154	124	69	616	34	221	21
10	68	*28	114	1,370	206	134	115	62	583	29	*69	18
11	43	39	1,020	952	173	138	102	55	371	26	35	16
12	33	48	1,090	301	490	453	194	51	149	26	28	15
13	28	36	239	194	866	557	551	47	126	23	26	16
14	27	28	144	154	329	309	466	45	163	*20	22	14
15	26	28	108	134	1,870	251	190	42	108	20	20	11
16	27	33	88	119	2,290	309	160	42	74	20	20	11
17	26	28	*81	108	541	239	136	42	302	18	18	10
18	26	26	74	111	263	182	119	*40	958	18	21	10
19	27	27	70	115	206	166	115	41	367	19	38	*10
20	26	60	69	100	209	141	100	58	141	91	40	12
21	23	238	121	*228	2,690	122	92	46	100	28	26	13
22	26	318	144	248	*2,950	122	84	40	403	24	21	10
23	26	133	92	160	768	322	79	37	*224	57	20	9.2
24	28	76	84	887	357	2,600	77	39	88	54	18	8.3
25	27	58	77	1,010	272	1,870	74	36	64	23	15	9.0
26	29	54	72	321	227	510	72	30	55	21	15	12
27	28	54	66	206	194	278	67	28	48	18	14	86
28	28	50	64	218	166	221	62	25	615	15	13	98
29	26	44	56	275	-	188	61	23	234	15	12	36
30	26	44	56	191	-	157	74	25	138	14	12	22
31	26	-	883	148	-	141	-	25	-	14	11	-
Total	868	1,685	5,530	11,130	17,784	12,605	4,345	1,808	7,344	981	1,510	708.0
Mean	28.0	56.2	172	359	635	407	145	58.3	245	31.6	48.7	23.6
Cfsm	0.161	0.323	0.988	2.06	3.65	2.34	0.833	0.335	1.41	0.182	0.280	0.136
In.	0.18	0.36	1.14	2.38	3.80	2.69	0.93	0.39	1.57	0.21	0.32	0.15

Calendar year 1952: Max 5,760 Min 7.0 Mean 200 Cfsm 1.15 In. 15.65  
Water year 1952-53: Max 2,950 Min 8.3 Mean 181 Cfsm 1.04 In. 14.12

Peak discharge (base, 2,400 cfs).--Feb. 16 (4 a.m.) 3,010 cfs (12.00 ft); Feb. 22 (1 a.m.) 4,030 cfs (13.56 ft); Mar. 24 (9 p.m.) 3,420 cfs (12.67 ft).  
\* Discharge measurement made on this day.

## Yadkin River at High Rock, N. C.

Location.--Lat 35°35'46", long. 80°13'59", on right bank 0.3 mile downstream from High Rock Dam, 0.6 mile west of High Rock, Davidson County,  $1\frac{1}{4}$  miles upstream from Lick Creek, and at mile 253.

Drainage area.--3,980 sq mi, approximately.

Records available.--January 1919 to November 1927, November 1941 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 558.68 ft above mean sea level, datum of 1929, and 590.00 ft above Carolina Aluminum Co. datum. January 1919 to November 1927 at datum 590.00 ft lower.

Average discharge.--18 years (1919-25, 1926-27, 1942-53), 4,806 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 54,000 cfs Mar. 25 (gage height, 13.33 ft); minimum, 17 cfs Sept. 28; minimum daily, 23 cfs Oct. 5.

1919-27, 1941-53: Maximum discharge, 76,600 cfs July 21, 1919 (gage height, 15.9 ft, present datum, from floodmarks determined by Tallassee Power Co.), from rating curve extended above 53,000 cfs on basis of velocity-area study; minimum, 10 cfs Aug. 10, 1942 (gage height, 1.84 ft); minimum daily, 12 cfs Aug. 9, 1942.

Maximum stage known, 22.1 ft (present datum) in July 1916, from floodmarks, from records by Tallassee Power Co.

Remarks.--Records good except those below 2,000 cfs, which are fair. Except for major floods, flow completely regulated by High Rock Reservoir since 1927 (usable capacity, 10,230,000,000 cu ft).

Revisions (water years).--WSP 972: 1919(M), drainage area. Previously published records for this station prior to November 1941 are occasionally subject to error, owing to faulty or no gage-height record and a rating curve extended above 26,000 cfs which gave results considerably larger than present rating.

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

2.0	19	3.0	390	6.0	7,780
2.1	28	3.5	940	7.0	12,500
2.2	42	4.0	1,710	9.0	23,500
2.4	85	4.5	2,730	11.0	36,500
2.7	189	5.0	4,130	13.0	51,600

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	1,240	96	2,100	6,160	4,790	5,130	5,920	3,990	1,650	3,930	97	1,380
2	1,190	32	3,520	5,470	5,370	6,620	6,400	216	3,420	3,920	39	2,700
3	*1,230	1,610	2,820	3,340	5,410	6,200	6,210	44	2,160	4,370	3,380	2,640
4	32	2,410	3,370	5,310	5,610	9,000	5,850	3,720	1,620	1,440	3,240	2,330
5	23	2,440	4,540	6,630	5,670	*10,700	5,010	3,080	1,520	70	3,260	447
6	2,950	3,060	2,670	5,480	5,410	9,320	7,020	3,890	618	2,620	3,280	41
7	2,870	2,720	32	4,900	5,610	6,180	5,380	3,960	32	3,160	*3,470	3,900
8	2,900	45	5,100	5,290	4,790	5,860	4,230	3,420	3,520	2,350	191	3,920
9	2,820	28	5,280	5,700	5,170	6,560	4,520	1,190	4,960	2,590	39	3,240
10	2,800	2,600	4,700	4,380	4,910	5,550	4,130	44	5,020	1,750	3,240	1,350
11	44	2,900	4,760	3,480	4,860	5,820	5,170	4,140	5,880	267	1,510	3,030
12	26	2,510	3,870	5,350	6,160	5,800	3,050	3,760	4,600	38	576	1,380
13	3,560	2,510	2,460	5,530	5,520	5,810	4,360	*3,550	2,570	5,260	595	39
14	3,680	2,260	32	5,520	4,070	6,630	5,400	3,840	3,240	4,760	586	3,820
15	3,340	75	3,660	5,350	9,870	6,560	3,040	3,400	4,670	4,440	32	781
16	3,370	32	4,340	5,090	16,700	13,000	4,220	1,170	4,300	4,080	24	778
17	3,410	2,110	4,590	5,350	9,800	10,500	4,720	322	5,490	4,150	696	728
18	92	*2,010	3,610	4,790	7,050	7,630	4,480	4,120	5,430	730	611	794
19	42	2,120	3,690	5,080	5,900	6,630	1,910	4,090	5,980	27	583	84
20	3,380	1,880	673	5,420	5,620	6,400	3,140	3,960	5,590	918	577	39
21	3,430	1,870	35	4,960	27,200	5,550	6,760	3,970	46	2,710	1,130	860
22	1,040	60	4,240	5,000	35,800	3,110	7,010	4,050	5,100	1,390	58	689
23	1,440	32	3,070	5,090	29,500	9,200	7,730	160	4,740	2,880	32	930
24	3,500	3,070	3,280	5,420	11,000	35,800	7,270	46	4,890	2,610	2,510	900
25	89	2,840	2,750	5,130	8,640	46,800	1,080	3,970	4,710	1,280	2,620	900
26	32	2,700	2,770	5,530	6,700	28,800	44	3,820	4,270	38	2,910	237
27	1,170	152	2,690	3,240	5,590	10,300	898	3,400	34	1,120	1,830	40
28	1,160	1,990	36	4,600	4,520	7,960	3,320	1,960	25	1,260	1,350	1,820
29	1,150	112	3,820	4,890	-	7,120	4,990	1,730	1,520	1,100	68	1,830
30	1,170	31	4,800	4,940	-	6,480	3,500	49	3,100	1,160	25	2,650
31	890	-	4,280	4,070	-	4,900	-	28	4,220	1,390	-	-
Total	54,070	46,103	97,428	156,490	257,240	311,780	136,562	79,039	100,705	70,838	39,949	44,277
Mean	1,744	1,537	3,143	5,048	9,187	10,060	4,552	2,550	3,357	2,285	1,289	1,476
(†)	-259	+769	-241	+375	+107	+24	-606	+274	+162	-520	+90	+211

Adjusted for change in reservoir contents

Mean	1,485	2,306	2,902	5,423	9,294	10,080	3,946	2,824	3,519	1,765	1,379	1,687
Cfs/m	0.375	0.579	0.729	1.36	2.34	2.53	0.991	0.710	0.884	0.443	0.346	0.424
In.	0.43	0.65	0.84	1.57	2.44	2.92	1.11	0.82	0.99	0.51	0.40	0.47

	Observed						Adjusted					
Calendar year 1952:	Max	43,800	Min	15	Mean	4,484	Mean	4,462	Cfs/m	1.12	In.	15.26
Water year 1952-53:	Max	46,800	Min	23	Mean	3,820	Mean	3,850	Cfs/m	0.967	In.	13.15

\* Discharge measurement made on this day.

† Change in contents, equivalent in cubic feet per second, in High Rock Reservoir; furnished by Carolina Aluminum Co.

## Uwharrie River near Eldorado, N. C.

Location--Lat 35°25'30", long. 80°01'00", on right bank 300 ft downstream from State Highway 109, 1 mile upstream from McLeans Creek, and 3 miles south of Eldorado, Montgomery County.

Drainage area--347 sq mi.

Records available--October 1938 to September 1953.

Gage--Water-stage recorder and concrete control. Altitude of gage is 297 ft (by barometer).

Average discharge--15 years, 324 cfs.

Extremes--Maximum discharge during year, 6,020 cfs Feb. 15 (gage height, 10.85 ft); minimum, 5.1 cfs Sept. 22 (gage height, 0.66 ft); minimum daily, 8.8 cfs Sept. 22. 1938-53: Maximum discharge, 23,300 cfs Sept. 18, 1945 (gage height, 26.22 ft, from floodmark), from rating curve extended above 13,000 cfs by logarithmic plotting; minimum, 0.5 cfs Sept. 21, Oct. 13, 14, 1941; minimum daily, 0.5 cfs Oct. 13, 1941. Flood of August 1928 reached a stage of 22.2 ft, from floodmark established by local resident (discharge, 17,900 cfs).

Remarks--Records good. Marked diurnal fluctuation and some regulation for short periods at low flow caused by gristmill above station. Town of Asheboro diverted an average of 1.3 cfs during water year 1953 above station for water supply. Sewage is discharged into Deep River (Cape Fear River basin).

Revisions (water years)--WSP 892: 1939.

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

0.8	8.2	2.0	187
0.9	111	2.5	343
1.0	16	3.0	555
1.2	29	4.0	1,090
1.4	56	6.0	2,400
1.6	91	10.0	5,320

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	59	41	87	3,230	315	343	305	486	66	238	32	23
2	56	41	84	728	292	456	295	326	61	139	25	22
3	56	39	107	528	263	728	298	266	54	144	24	18
4	53	53	99	466	253	1,300	263	263	52	152	71	13
5	53	39	99	329	238	1,060	253	221	52	103	106	23
6	46	44	137	263	215	640	244	209	50	82	96	156
7	48	39	185	230	1,070	486	329	343	59	87	133	122
8	46	41	132	218	1,660	420	394	430	867	150	63	64
9	73	44	*116	2,150	675	365	288	263	401	68	81	41
10	99	42	113	4,200	448	326	256	212	336	61	147	30
11	116	56	1,080	1,670	362	322	241	187	176	50	63	25
12	77	108	962	675	542	1,620	1,200	174	142	41	42	21
13	73	111	362	443	1,500	2,350	2,120	155	127	41	37	63
14	61	82	253	347	675	975	1,120	142	147	36	27	28
15	56	70	204	298	3,980	1,090	542	134	122	35	28	26
16	56	56	168	272	5,290	1,240	528	132	99	37	26	20
17	53	63	147	247	1,090	675	506	122	253	28	20	22
18	53	63	139	241	625	524	365	122	675	28	534	11
19	52	61	132	288	490	474	329	118	221	35	89	17
20	52	250	120	247	438	398	298	218	139	407	61	14
21	46	762	152	253	2,910	343	269	160	105	389	68	10
22	50	1,070	295	*380	5,030	340	247	122	103	120	32	8.8
23	52	318	201	282	1,330	412	232	111	282	164	35	18
24	40	195	168	2,230	782	2,790	227	111	155	141	25	12
25	41	144	155	2,240	625	1,590	218	139	103	73	28	10
26	41	122	142	782	537	728	204	111	82	53	28	13
27	44	111	139	502	468	528	201	99	66	29	470	
28	50	107	118	443	394	443	187	82	465	39	18	306
29	47	97	120	560	-	384	176	73	1,090	34	16	91
30	46	84	109	434	-	347	218	75	470	33	15	48
31	47	-	1,750	347	-	315	-	66	-	30	13	-
Total	1,746	4,351	8,055	25,523	32,495	23,992	12,353	5,672	7,022	3,084	2,022	1,745.8
Mean	56.3	145	260	823	1,161	774	412	183	234	99.5	65.2	58.2
Cfs/m	0.162	0.418	0.749	2.37	3.35	2.23	1.19	0.527	0.674	0.287	0.188	0.168
In.	0.19	0.47	0.86	2.74	3.48	2.57	1.32	0.61	0.75	0.33	0.22	0.19
Calendar year 1952: Max	13,200	Min	28	Mean	404	Cfs/m	1.16	In.	15.86			
Water year 1952-53: Max	5,290	Min	8.8	Mean	351	Cfs/m	1.01	In.	13.73			

Peak discharge (base, 4,600 cfs)--Feb. 15 (10:30 a.m.), 6,020 cfs (10.85 ft); Feb. 22 (12 m.) 5,580 cfs (10.27 ft).

\* Discharge measurement made on this day.

## Rocky River near Norwood, N. C.

Location.--Lat 35°09'00", long. 80°10'30", on left bank 1,000 ft downstream from Lanes Creek, 1 1/2 miles upstream from highway bridge, and 6 miles southwest of Norwood, Stanly County.

Drainage area.--1,370 sq mi, approximately.

Records available.--October 1929 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 212.91 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Average discharge.--24 years, 1,261 cfs.

Extremes.--Maximum discharge during year, 29,400 cfs Feb. 15 (gage height, 20.24 ft); minimum, 50 cfs about Aug. 14 (gage height, 0.25 ft from recorded range in stage). 1929-53: Maximum discharge, 155,000 cfs Sept. 18, 1945 (gage height, 46.37 ft, from floodmark), from rating curve extended above 70,000 cfs on basis of slope-area determination of peak flow; minimum, 19 cfs Oct. 28, 1931, Nov. 13, 1933. Flood of August 1908 reached a stage of 35 ft, from information by local residents.

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

Revisions (water years).--WSP 822: Drainage area. WSP 852: 1937. WSP 1052: 1936(M).

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

0.3	60	3.0	1,820
.7	158	5.0	4,100
1.0	261	9.0	9,300
1.5	500	13.0	15,600
2.0	810	16.0	21,000

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	209	122	150	8,300	797	1,130	797	1,410	*120	295	a70	69
2	196	122	153	2,630	726	3,150	784	2,130	a110	206	a70	65
3	189	122	183	1,760	648	4,850	946	2,720	a110	172	a500	67
4	174	117	216	1,380	622	5,140	712	1,310	a100	585	a5,000	67
5	158	114	231	946	585	4,680	615	1,040	a95	256	a700	1,250
6	148	114	246	752	538	2,420	575	1,050	93	319	a250	4,630
7	140	122	357	641	2,900	1,580	687	4,540	a100	997	122	1,670
8	137	122	274	603	6,620	1,280	771	3,580	a600	2,150	a100	597
9	186	122	220	4,170	2,660	1,060	641	1,240	a350	661	a500	290
10	261	117	213	6,560	1,380	906	550	790	a250	295	a150	180
11	286	122	1,510	3,460	1,050	882	489	579	a700	174	a90	137
12	223	158	1,260	1,760	1,040	8,750	1,880	472	a450	135	a70	117
13	183	203	648	1,110	2,240	10,700	6,560	410	a250	110	a60	2,150
14	158	186	450	874	1,480	3,710	2,740	357	a200	93	a55	634
15	153	161	357	758	19,200	5,470	1,230	316	a170	*85	65	278
16	153	148	299	660	17,300	5,600	954	282	164	85	a100	170
17	150	145	269	603	4,630	2,480	1,040	257	158	83	a4,000	140
18	148	142	250	579	2,120	1,760	758	238	202	81	*a2,900	122
19	145	142	242	628	1,450	1,450	654	227	261	76	3,760	105
20	135	183	231	615	1,220	1,200	579	238	174	327	4,890	97
21	120	357	231	*693	14,400	997	516	253	140	140	901	110
22	114	357	295	1,230	17,700	882	462	234	120	110	357	97
23	112	257	303	842	6,840	1,890	425	206	483	306	220	93
24	112	199	286	6,900	2,760	11,900	405	189	320	183	158	88
25	120	174	299	5,630	2,540	8,620	381	238	213	153	150	83
26	122	164	274	2,320	2,180	3,720	348	216	253	114	117	85
27	124	167	250	1,360	1,700	1,820	321	167	186	90	107	14,700
28	120	170	231	1,150	1,570	1,350	298	148	137	72	102	4,320
29	114	170	216	1,470	-	1,220	282	135	137	60	100	855
30	127	161	206	1,210	-	962	312	127	148	58	93	467
31	124	-	6,930	914	-	850	-	122	-	60	78	-
Total	4,841	4,960	17,280	62,508	118,696	102,589	27,691	25,221	6,794	8,531	25,815	33,736
Mean	156	165	557	2,016	4,239	3,309	923	814	226	275	833	1,125
Cfsm	0.114	0.120	0.407	1.47	3.09	2.42	0.674	0.594	0.165	0.201	0.608	0.821
In.	0.13	0.13	0.47	1.70	3.22	2.78	0.75	0.68	0.18	0.23	0.70	0.92

Calendar year 1952: Max 41,600 Min 58 Mean 1,450 Cfsm 1.06 In. 14.41

Water year 1952-53: Max 19,200 Min 55 Mean 1,202 Cfsm 0.877 In. 11.89

Peak discharge (base, 16,000 cfs).--Feb. 15 (6:30 p.m.) 29,400 cfs (20.24 ft); Feb. 21 (4:30 p.m.) 21,200 cfs (16.08 ft); Mar. 12 (9:30 p.m.) 16,100 cfs (13.32 ft); Sept. 27 (11 a.m.) 26,400 cfs (18.68 ft).

\* Discharge measurement made on this day.

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

## Brown Creek near Polkton, N. C.

Location.--Lat 35°02'10", long. 80°08'40", on left bank 100 ft downstream from site of Medley's mill, 400 ft downstream from bridge on State Highway 742, 3½ miles downstream from Little Brown Creek, and 4 miles northeast of Polkton, Anson County.

Drainage area.--110 sq mi.

Records available.--October 1937 to September 1953.

Gage.--Water-stage recorder and sharp-crested weir. Altitude of gage is 216 ft (by barometer).

Average discharge.--16 years, 83.2 cfs.

Extremes.--Maximum discharge during year, 1,640 cfs Feb. 15 (gage height, 10.29 ft); minimum, 0.04 cfs Sept. 24-26 (gage height, 0.82 ft).

1937-53: Maximum discharge, 17,300 cfs Sept. 18, 1945 (gage height, 17.68 ft, from floodmark), from rating curve extended above 3,000 cfs by logarithmic plotting; no flow for several days of most years.

Flood of August 1908 reached a stage of 16.4 ft, from floodmark witnessed by local resident (discharge, 12,500 cfs); July 1916, 15.7 ft (discharge, 10,400 cfs); September 1928, about 15 ft.

Remarks.--Records good above 5 cfs and fair below.

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

0.8	0	2.0	37
.9	.42	2.5	108
1.0	1.14	3.0	168
1.1	2.0	4.0	268
1.3	4.2	5.0	470
1.5	7.2	6.0	741
1.7	14	10.0	1,470

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	0.36	1.74	608	50	80	44	44	0.62	0.21	0.07	0.21
2	3.1	.31	2.8	426	42	236	38	177	.42	.19	.07	.16
3	2.5	.31	12	481	36	376	33	223	.36	5.0	.36	.16
4	2.0	.36	9.6	260	37	448	29	173	.31	5.2	.418	.16
5	1.83	.31	7.2	96	38	525	26	106	.26	.76	.39	.21
6	1.74	.31	9.1	60	35	481	25	103	.21	.74	.44	.69
7	1.38	.36	8.6	44	96	293	35	307	.69	.187	.16	1.06
8	1.22	.31	8.8	41	135	126	30	276	.62	.410	.75	.76
9	2.0	.42	5.9	145	113	84	25	288	.76	.45	5.6	.42
10	4.0	.55	5.4	253	82	*66	22	142	.83	11	4.8	1.06
11	4.5	.69	31	218	57	68	18	44	.76	5.0	2.7	.98
12	3.2	.69	20	178	64	595	202	26	1.47	2.9	1.83	.55
13	3.1	.69	16	92	87	1,030	653	18	2.7	1.74	.98	.36
14	2.7	.83	12	56	80	1,110	558	13	5.0	1.14	.69	.36
15	2.3	1.14	9.6	43	1,030	812	547	11	2.4	.76	.42	.26
16	1.92	.98	8.0	36	1,530	446	264	8.8	1.56	*.55	.36	.21
17	1.65	1.06	6.7	32	1,460	198	75	7.7	1.22	.42	3.0	.16
18	1.47	1.22	6.1	31	812	121	49	6.7	1.06	.31	4.2	.16
19	1.30	1.60	5.6	32	325	93	37	5.8	.76	.26	155	.16
20	1.14	9.5	5.0	31	109	70	30	7.5	.62	.31	35	.16
21	.98	13	7.0	*30	402	56	25	5.8	.42	.36	8.8	.16
22	.69	7.0	11	29	514	49	*20	5.1	.45	.31	12	.11
23	.69	5.1	8.3	26	492	85	18	4.5	1.12	.31	5.6	.07
24	.69	4.6	8.0	315	481	666	15	3.6	1.30	.26	3.2	.04
25	.55	3.9	8.6	317	306	509	13	2.8	.83	.26	1.92	.04
26	.48	3.2	8.0	307	193	405	12	2.4	.42	.26	1.14	.16
27	.48	2.8	7.0	326	157	210	9.9	1.83	.31	.21	.76	300
28	.48	2.5	6.5	128	113	121	8.8	1.38	.21	.11	.48	162
29	.48	2.2	5.9	104	-	81	8.3	1.14	.49	.11	.36	121
30	*.42	1.92	5.4	80	-	59	10	.90	.36	.07	.26	49
31	.36	-	427	60	-	49	-	.83	-	.07	.21	-
Total	52.89	68.22	691.84	4,885	8,876	9,549	2,880.0	2,019.78	28.54	680.82	809.95	640.83
Mean	1.71	2.27	22.3	158	317	308	96.0	65.2	0.951	22.0	26.1	21.4
Cfs/m	0.016	0.021	0.203	1.44	2.88	2.80	0.873	0.593	0.0086	0.200	0.237	0.195
In.	0.02	0.02	0.203	1.65	3.00	3.25	0.97	0.68	0.01	0.23	0.27	0.22

Calendar year 1952: Max 4,520 Min 0.31 Mean 118 Cfs/m 1.07 In. 14.54

Water year 1952-53: Max 1,530 Min 0.04 Mean 85.4 Cfs/m 0.776 In. 10.53

Peak discharge (base, 810 cfs).--Feb. 15 (10:30 p.m.) 1,640 cfs (10.29 ft); Mar. 14 (6 a.m.) 1,160 cfs (9.32 ft); July 7 (9:30 p.m.) 920 cfs (8.67 ft); Aug. 4 (1 a.m.) 871 cfs (8.51 ft).

\* Discharge measurement made on this day.

Pee Dee River near Rockingham, N. C.

Location.--Lat 34°56'40", long. 79°52'10", on left bank at bridge on U. S. Highway 74, 2.5 miles upstream from Falling Creek, 3.3 miles downstream from Blewett Falls hydro-electric plant, and 6 miles west of Rockingham, Richmond County, and at mile 187.

Drainage area.--6,870 sq mi, approximately.

Records available.--August 1906 to January 1912 (gage heights and fragmentary discharge), September 1927 to September 1953. Published as Yadkin River near Pee Dee 1906-12.

Gage.--Water-stage recorder. Datum of gage is 120.68 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). August 1906 to January 1912 staff gage at site 4 miles upstream at different datum. September 1927 to Sept. 30, 1931, water-stage recorder at present site at datum 1.00 ft higher.

Average discharge.--26 years (1927-53), 7,871 cfs (unadjusted).

Extremes.--Maximum discharge during year, 64,100 cfs Feb. 22 (gage height, 11.90 ft); minimum, 150 cfs July 13 (gage height, 0.58 ft); minimum daily, 215 cfs Aug. 30.

1927-53: Maximum discharge, 270,000 cfs Sept. 18, 1945 (gage height, 30.80 ft), from rating curve extended above 194,000 cfs; minimum, 50 cfs Dec. 2, 3, 1951; minimum daily, 58 cfs Dec. 2, 1951.

Maximum stage known, 31.28 ft Aug. 27, 1908 (present datum), from records of State Highway and Public Works Commission (discharge, 276,000 cfs).

Remarks.--Records good. Large diurnal fluctuation caused by powerplants above station. Flow largely regulated since 1928 by four reservoirs above station which have a combined usable capacity for normal operation of 17,638,000,000 cu ft.

Revisions (water years).--WSP 822: Drainage area. WSP 1203: 1928-37.

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

0.8	222	4.0	8,300
1.0	314	5.0	13,300
1.5	700	7.0	25,700
2.0	1,450	9.0	40,000
2.5	2,700	12.0	65,000
3.0	4,350		

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	4,000	1,820	3,880	27,000	8,220	9,200	8,980	8,640	2,220	3,880	3,180	2,960
2	3,880	236	4,140	16,000	6,910	8,750	8,750	8,400	1,750	3,160	410	2,870
3	3,670	3,490	4,150	11,900	6,780	13,800	8,750	9,080	3,370	2,830	2,360	2,850
4	792	3,290	4,170	10,600	6,860	16,200	8,750	6,390	3,000	4,690	6,560	2,610
5	295	2,700	3,850	8,880	7,170	21,800	8,520	5,210	2,310	499	7,460	2,540
6	3,400	2,880	1,340	5,500	6,740	19,200	6,840	5,460	2,410	3,450	2,710	4,210
7	3,710	2,570	268	7,940	8,520	12,700	7,250	7,120	1,610	3,750	1,750	4,590
8	3,600	1,370	2,750	7,860	12,400	9,880	7,990	10,100	3,850	4,810	2,150	2,140
9	3,760	565	2,580	8,860	13,000	8,750	6,750	3,430	6,810	380	858	
10	3,620	2,970	2,400	22,800	10,100	8,750	8,080	2,570	3,170	5,060	842	698
11	1,280	4,510	2,700	18,800	9,420	8,750	6,550	5,590	3,780	3,080	1,590	1,520
12	279	3,570	5,430	11,900	9,200	13,600	6,140	5,050	5,140	825	2,960	1,420
13	2,530	3,440	5,220	10,400	9,200	35,500	23,500	5,090	6,270	3,550	3,050	1,110
14	2,150	3,710	1,060	8,980	9,200	19,000	18,400	4,560	4,740	4,080	1,940	3,200
15	3,480	1,540	4,540	6,190	27,800	15,000	11,400	3,990	5,050	4,750	2,020	2,080
16	3,640	325	4,330	8,980	55,600	25,000	9,880	2,340	6,780	5,120	241	1,950
17	3,260	2,020	4,070	7,860	33,500	20,500	9,200	1,480	7,320	4,230	2,220	2,400
18	2,050	3,050	3,530	5,900	16,600	15,000	8,750	4,720	7,580	6,900	4,540	2,740
19	470	3,900	3,670	6,100	12,700	11,400	6,590	3,540	7,470	502	7,430	2,370
20	2,460	4,810	3,190	5,740	10,600	9,880	5,980	3,060	6,640	6,530	8,750	610
21	4,030	4,700	758	7,130	27,400	9,420	7,520	3,060	954	4,740	7,430	1,650
22	3,860	4,630	3,520	7,260	61,000	9,200	4,330	3,320	4,200	3,280	1,900	834
23	1,900	1,640	5,790	7,760	57,800	8,750	4,300	5,100	2,850	2,850	467	711
24	3,620	4,040	3,550	11,900	28,900	34,200	4,770	2,020	5,460	3,290	1,360	1,180
25	1,810	4,830	1,880	21,800	18,600	60,700	4,720	4,670	5,120	1,660	1,600	1,390
26	317	4,590	3,940	13,200	13,600	54,000	890	4,820	5,610	478	1,240	2,770
27	2,400	4,490	4,040	10,400	11,400	24,000	4,820	3,160	3,280	3,180	1,210	14,200
28	2,360	3,140	1,640	9,880	9,880	14,200	6,540	2,480	2,220	2,360	1,560	18,600
29	3,240	1,990	4,710	9,650	-	11,100	6,100	3,380	4,720	2,210	1,400	7,340
30	3,020	332	5,050	9,420	-	9,650	6,720	3,720	4,580	2,470	215	1,340
31	3,070	-	3,050	8,960	-	9,200	-	723	-	1,960	1,960	-
Total	82,153	87,208	109,176	333,570	509,700	547,080	239,810	146,263	129,514	103,964	82,905	95,449
Mean	2,650	2,907	3,522	10,760	18,200	17,650	7,994	4,718	4,317	3,354	2,674	3,182
(+)	-712	+324	+807	+171	+89	+103	-797	+366	+146	-536	-45	+355

Observed

Adjusted

Calendar year 1952: Max	117,000	Min	268	Mean	7,972	Mean	7,965	Cfsm	1.16	In.	15.79
Water year 1952-53: Max	61,600	Min	215	Mean	6,758	Mean	6,780	Cfsm	0.987	In.	13.40

† Adjusted for change in contents, equivalent in cubic feet per second, in High Rock and Narrow Reservoirs (furnished by Carolina Aluminum Co.) and Tillery and Blewett Reservoirs (furnished by Carolina Power and Light Co.).

## Juniper Creek near Cheraw, S. C.

Location.--Lat 34°39', long. 79°54', at left end of Eureka Lake Dam, 1½ miles upstream from mouth and 3½ miles south of Cheraw, Chesterfield County.

Drainage area.--64 sq mi, approximately.

Records available.--May 1940 to September 1953.

Gage.--Water-stage recorder and concrete spillway. Altitude of gage is 90 ft (from Corps of Engineers map).

Average discharge.--13 years, 76.5 cfs.

Extremes.--Maximum discharge during year, 880 cfs June 9 (gage height, 2.30 ft); minimum, 16.2 cfs July 31.

1940-53: Maximum discharge, 3,910 cfs Sept. 18, 1945 (gage height, 5.71 ft), from rating curve extended above 880 cfs by logarithmic plotting and computation of peak flow over dam; no flow May 30, 1945, and part of May 29, 1945, and May 7, 1951 (water below spillway crest and gates closed).

Remarks.--Records good except those for period of gate operation, which are fair.

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	36	46	99	95	200	60	150	65	110	20.2	20.9
2	34	36	53	114	95	190	70	180	65	120	32	23.8
3	29.5	36	67	125	95	130	75	200	65	140	45	37
4	27.0	36	73	114	90	80	70	200	65	240	60	42
5	27.0	36	76	97	90	80	70	170	65	480	64	38
6	27.0	36	76	81	90	85	70	160	65	340	76	39
7	27.0	36	68	66	90	85	75	180	85	220	135	86
8	27.0	36	*64	85	120	120	75	190	200	170	209	114
9	33	37	59	85	130	*140	80	190	*750	160	243	137
10	42	38	54	85	130	140	70	170	500	160	209	119
11	50	47	53	100	130	140	65	150	280	140	150	74
12	50	66	53	100	130	150	65	120	190	110	108	45
13	47	71	53	100	130	150	80	100	160	100	74	30
14	42	73	51	100	130	150	110	95	150	90	52	24.6
15	39	70	49	100	140	150	140	90	130	90	40	25.8
16	39	64	48	100	95	150	130	85	110	85	34	22.4
17	38	61	47	100	55	150	110	85	110	85	29.5	21.6
18	38	55	47	100	55	150	80	80	110	80	47	20.9
19	37	54	47	100	55	140	70	85	120	80	63	20.2
20	34	105	49	100	55	140	65	110	120	75	56	21.6
21	32	128	67	95	75	100	*65	120	100	*55	55	24.6
22	32	137	71	95	95	55	60	120	95	35	46	22.4
23	34	122	75	95	140	55	60	110	90	59	37	20.9
24	35	108	74	95	220	55	60	90	85	70	30	19.5
25	35	81	68	100	220	60	60	85	85	49	*27.0	20.9
26	36	66	63	95	220	60	60	80	90	33	25.4	27.5
27	36	56	59	*95	200	80	60	75	90	28.6	23.1	157
28	*37	53	54	95	200	60	65	70	90	24.6	22.4	408
29	35	50	53	95	-	60	75	70	95	23.8	21.6	358
30	35	46	49	95	-	60	100	70	110	21.6	21.6	194
31	35	-	74	95	-	60	-	70	-	17.5	20.9	-
Total	1,105.5	1,878	1,840	3,001	3,370	3,405	2,295	3,750	4,335	3,492.1	2,074.7	2,213.4
Mean	35.7	62.6	59.4	96.8	120	110	76.5	121	144	113	66.9	73.8
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 700 Min 6.2 Mean 66.9 Cfsm 1.05 In. 14.23

Water year 1952-53: Max 750 Min 17.5 Mean 89.8 Cfsm 1.40 In. 19.04

Peak discharge (base, 250 cfs).--June 9 (2:30 p.m.) 880 cfs (2.30 ft); July 5 (2 p.m.) 522 cfs (1.51 ft); Sept. 28 (6 p.m.) 484 cfs (1.56 ft).

\* Discharge measurement made on this day.

Note.--Gates in dam open making spillway partly inoperative as control Jan. 8 to July 21; discharge computed from flow over spillway plus computed flow through gates.

## Pee Dee River at Peedee, S. C.

Location.--Lat 34°12'15", long. 79°32'55", in pier of bridge on U. S. Highway 76 at Peedee, Marion County, 0.2 mile downstream from Atlantic Coast Line Railroad bridge, 8½ miles downstream from Black Creek, and at mile 102.8 upstream from Winyah Bay.

Drainage area.--8,830 sq mi, approximately.

Records available.--January 1939 to September 1953. Prior to October 1947, published as "near Mars Bluff." Gage-height records collected at practically same sites since 1923 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 24.73 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Oct. 1, 1947, at site 1.6 miles downstream at datum 1.27 ft lower.

Average discharge.--14 years, 8,873 cfs.

Extremes.--Maximum discharge during year, 39,700 cfs Feb. 28 (gage height, 23.54 ft); minimum, 1,260 cfs Sept. 25 (gage height, 2.09 ft, from graph based on gage readings). 1939-53: Maximum discharge, 220,000 cfs Sept. 22, 1945 (gage height, 33.30 ft, site and datum then in use) from rating curve extended above 48,000 cfs on basis of discharge measurement of 221,000 cfs at Cheraw; minimum, 805 cfs Oct. 9, 1951 (gage height, 1.26 ft).

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

Revisions.--WSP 1233: Drainage area.

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

2.1	1,260	18.0	15,200
3.0	1,820	20.0	19,900
6.0	3,890	22.0	29,800
12.0	8,460	24.0	43,700
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	4,340	3,820	3,440	7,530	11,400	36,200	29,200	7,660	3,960	5,390	2,810	1,380
2	5,020	3,660	2,600	13,000	10,600	31,000	23,800	8,950	2,400	5,240	2,670	2,010
3	5,240	2,810	4,490	15,200	9,760	24,800	19,200	9,940	2,740	4,790	3,090	3,090
4	5,020	2,010	5,240	15,400	9,040	21,500	16,800	11,200	2,810	4,340	1,940	3,300
5	4,420	3,520	5,540	14,700	8,700	19,900	15,200	10,900	3,740	5,240	4,170	3,230
6												
7	2,600	3,890	5,460	13,800	8,620	19,900	13,900	9,670	3,520	5,460	7,120	3,020
8	2,140	3,590	4,860	11,700	8,460	20,300	12,600	9,670	3,090	4,120	6,290	3,300
9	3,890	3,590	3,370	10,600	8,950	20,700	11,600	9,580	3,370	5,090	4,540	4,940
10	4,560	5,300	2,460	10,100	10,300	19,900	11,100	11,200	4,490	5,690	3,370	4,490
11	4,790	2,460	*3,590	10,000	12,100	17,700	10,900	11,900	7,420	7,040	3,230	3,020
12	4,790	2,080	3,740	12,500	12,200	16,200	10,700	10,300	*7,580	6,890	2,270	2,010
13	4,490	3,740	3,890	14,700	11,600	15,500	9,850	8,300	7,040	5,620	2,080	1,620
14	3,020	4,860	4,420	15,000	11,200	15,900	9,310	7,660	6,890	4,420	2,670	2,080
15	2,200	4,640	5,920	14,500	10,900	17,400	12,600	7,190	7,340	2,810	3,520	2,010
16	3,090	4,560	5,320	13,500	10,900	19,600	15,200	6,820	7,120	4,040	3,520	2,200
17												
18	3,440	4,340	3,590	11,600	13,300	22,000	15,500	6,290	6,360	4,860	2,880	2,810
19	4,190	3,090	4,940	10,800	16,400	23,800	15,000	5,390	6,820	5,320	2,460	2,460
20	4,420	2,140	5,160	10,400	18,200	24,800	14,100	4,190	7,500	5,090	1,560	2,400
21	4,040	2,810	4,940	9,310	21,100	25,300	13,000	3,890	8,060	4,640	3,000	2,740
22	3,090	4,190	4,640	8,140	24,300	23,800	11,600	5,390	8,140	4,040	5,990	2,740
23												
24	2,140	5,920	4,490	7,900	26,900	21,100	9,940	5,090	7,980	3,300	7,420	2,600
25	3,320	7,190	4,190	8,140	26,900	18,600	9,490	4,860	6,520	5,240	8,060	1,680
26	4,340	7,260	3,300	8,620	26,400	16,600	*8,360	4,720	3,740	*4,860	5,990	1,680
27	4,420	6,440	4,490	8,950	28,000	15,500	7,040	4,720	5,160	3,960	3,370	1,500
28	3,590	4,790	4,940	10,700	31,000	16,200	6,590	4,120	5,990	3,590	1,940	1,300
29												
30	3,820	5,690	4,790	13,900	35,500	18,000	6,590	3,890	6,060	3,520	1,940	1,480
31	2,880	5,990	3,960	15,000	39,000	20,300	5,760	5,320	6,060	2,600	*2,140	2,080
32	2,010	6,140	4,790	14,700	39,700	23,800	4,260	5,240	5,760	1,820	1,940	7,020
33	2,510	5,160	4,790	*14,100	-	28,600	6,440	4,190	4,640	3,020	1,920	12,300
34	*3,300	4,490	3,890	13,400	-	32,200	7,120	3,740	3,890	2,950	2,010	12,600
35	3,740	-	5,460	12,600	-	32,200	-	4,120	-	2,740	1,940	-
Total	115,080	128,170	136,700	370,490	501,430	679,300	362,770	216,100	166,190	137,730	107,550	99,090
Mean	3,712	4,272	4,410	11,950	17,910	21,910	12,090	6,971	5,540	4,443	3,469	3,303
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-
Calendar year 1952: Max	61,500	Min	1,440	Mean	9,376	Cfsm	-	In.	-			
Water year 1952-53: Max	39,700	Min	1,300	Mean	8,276	Cfsm	-	In.	-			

\* Discharge measurement made on this day.

## PEE DEE RIVER BASIN

Lynchess River near Bishopville, S. C.

Location.--Lat 34°15', long. 80°13', near center of span on downstream side of bridge on U. S. Highway 15, 1 mile upstream from Seaboard Air Line Railroad bridge, 2.9 miles northeast of Bishopville, Lee County, and 3.3 miles downstream from Bells Branch.

Drainage area.--675 sq mi.

Records available.--May 1942 to September 1953.

Gage.--Wire-weight gage read twice daily. Altitude of gage is 161 ft (by barometer). Prior to June 11, 1948, at site 100 ft upstream at same datum.

Average discharge.--11 years, 738 cfs.

Extremes.--Maximum discharge during year, 4,350 cfs Feb. 19 (gage height, 13.86 ft, from graph based on gage readings); minimum, 184 cfs Aug. 16, 17, 1942-53: Maximum discharge, 29,400 cfs Sept. 19, 1945 (gage height, 22.35 ft, from floodmark), from rating curve extended above 12,000 cfs by velocity-area studies; minimum, 184 cfs Oct. 10, 11, 1951.

Remarks.--Records good.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 6, Jan. 3, 4, July 7, 8, Aug. 20, 21)

Oct. 1 to Dec. 6, July 9 to Aug. 21		Dec. 7 to Jan. 4		Jan. 5 to July 8, Aug. 22 to Sept. 30	
5.4	184	7.0	337	5.8	245
5.5	193	9.0	700	6.0	269
6.0	244	11.0	1,180	7.0	411
7.0	369	12.0	1,650	9.0	779
9.0	704				14.0
					4,520

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	369	315	355	720	545	1,450	659	639	282	245	203	203
2	355	328	355	982	545	1,300	659	905	269	282	203	203
3	358	328	428	1,210	563	1,060	639	1,140	257	295	223	213
4	341	341	540	1,650	545	1,230	619	1,140	245	395	223	203
5	315	328	523	1,570	545	1,510	599	1,040	245	619	266	234
6	328	328	443	971	510	2,080	581	993	245	739	355	348
7	328	315	417	659	545	2,470	581	1,230	245	639	290	699
8	328	315	400	619	581	2,050	639	1,450	282	493	315	861
9	341	328	368	599	679	1,530	639	1,790	322	459	341	779
10	341	328	*368	619	619	971	581	2,360	365	507	341	429
11	398	341	384	905	510	*861	545	2,250	350	574	290	308
12	398	383	434	949	581	1,120	545	1,340	*350	459	244	295
13	383	428	469	759	739	1,360	699	719	322	415	213	269
14	355	428	434	599	861	2,180	993	581	295	278	203	257
15	341	383	400	563	949	4,020	1,220	510	282	244	193	223
16	341	369	368	527	1,170	3,550	1,710	476	257	244	184	213
17	341	369	352	510	1,780	2,430	1,700	443	295	223	184	223
18	341	355	352	510	3,860	*1,660	1,040	427	380	213	193	223
19	355	369	337	510	4,180	1,230	659	427	380	203	244	213
20	328	428	352	510	2,720	993	619	476	308	193	398	223
21	315	523	400	545	1,680	883	563	493	295	213	540	213
22	302	540	487	563	1,350	819	545	510	282	266	545	203
23	315	523	524	599	1,450	799	527	443	282	*266	295	223
24	315	459	451	699	1,840	905	*510	411	282	244	269	223
25	341	398	417	927	2,590	993	476	365	295	255	245	203
26	328	383	400	1,120	2,250	1,170	459	336	295	244	234	231
27	315	393	400	1,230	1,670	1,200	443	322	282	223	*223	591
28	315	383	384	1,040	1,570	905	443	322	257	223	213	993
29	315	369	352	*779	-	779	427	295	257	213	223	1,090
30	328	369	368	619	-	639	443	282	245	203	213	1,860
31	*315	-	451	581	-	679	-	282	-	203	203	-
Total	10,486	11,437	12,713	24,643	37,627	44,826	20,762	24,397	8,748	10,270	8,309	12,449
Mean	338	361	410	795	1,344	1,446	682	767	292	331	266	415
Cfsm	0.501	0.544	0.607	1.18	1.99	2.14	1.03	1.17	0.435	0.490	0.397	0.615
In.	0.58	0.63	0.70	1.36	2.07	2.47	1.15	1.35	0.48	0.56	0.46	0.69
Calendar year 1952: Max			13,700	Min	203	Mean	753	Cfsm	1.12	In.	15.18	
Water year 1952-53: Max			4,180	Min	184	Mean	621	Cfsm	0.920	In.	12.50	

Peak discharge (base, 3,000 cfs).--Feb. 19 (1:30 a.m.) 4,350 cfs (13.86 ft); Mar. 15 (4 p.m.) 4,180 cfs (13.76 ft).

\* Discharge measurement made on this day.

## Lynches River at Effingham, S. C.

Location.--Lat 34°03'05", long. 79°45'15", on left bank at downstream side of bridge on U. S. Highway 52, 75 ft upstream from Atlantic Coast Line Railroad bridge and 1 mile south of Effingham, Florence County.

Drainage area.--1,030 sq mi, approximately.

Records available.--August 1929 to September 1953. Gage-height records collected at same site since 1891 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 58.49 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Sept. 7, 1934, staff gage at same site and datum.

Average discharge.--24 years, 950 cfs.

Extremes.--Maximum discharge during year, 3,920 cfs Feb. 23 (gage height, 12.35 ft); minimum, 212 cfs Sept. 5.

1929-53: Maximum discharge, 25,000 cfs Sept. 22, 1945 (gage height, 21.21 ft), from rating curve extended above 17,000 cfs by logarithmic plotting; minimum, 116 cfs July 1, 1935.

Remarks.--Records good.

Cooperation.--Gage-height record collected in cooperation with U. S. Weather Bureau.

Revisions.--WSP 952: Drainage area.

Rating table, water year 1952-53 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 8 to Dec. 7, Feb. 21  
to Mar. 26, July 10 to Sept. 30)

2.2	220	6.0	894
2.5	265	9.0	1,840
3.0	340	11.0	2,610
4.0	505	13.0	4,100

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	695	348	*505	761	1,340	3,040	1,460	559	*295	250	242	228
2	595	348	487	741	1,340	3,260	1,400	559	280	242	235	220
3	541	348	505	801	1,220	3,190	1,220	559	280	235	220	220
4	505	348	505	868	1,040	3,040	1,000	595	272	258	242	220
5	469	348	505	948	894	2,840	894	685	265	272	272	220
6	451	348	541	1,060	844	2,610	844	761	258	288	265	228
7	469	348	613	1,160	844	2,370	822	967	250	378	280	258
8	417	348	667	1,220	1,060	2,220	801	1,120	288	451	370	302
9	417	355	667	1,400	1,060	2,120	761	1,180	348	541	385	395
10	417	362	631	1,600	976	2,080	741	1,240	298	685	355	469
11	417	385	595	1,560	921	2,330	722	1,300	295	894	362	577
12	417	417	559	1,280	921	3,090	741	1,340	348	894	378	667
13	434	417	541	976	948	3,580	741	1,400	355	722	362	577
14	469	417	541	894	921	3,420	685	1,490	348	667	318	378
15	469	451	559	948	976	2,980	685	1,700	340	577	272	318
16	451	487	595	1,040	1,120	2,660	722	1,770	310	417	242	288
17	417	505	595	1,060	1,220	2,500	781	1,460	295	348	242	272
18	417	487	541	976	1,300	2,460	668	954	272	310	235	250
19	401	469	523	894	1,400	3,330	976	613	288	288	228	242
20	401	523	505	844	1,490	3,750	1,100	505	340	265	235	235
21	385	595	523	948	1,700	3,120	1,280	469	370	250	258	235
22	385	595	523	1,060	2,290	2,610	1,420	451	370	242	325	228
23	378	613	541	976	3,750	2,260	1,290	469	332	242	378	228
24	370	631	577	1,100	3,840	2,020	844	487	295	255	469	228
25	362	685	631	1,630	3,500	1,840	667	487	272	302	487	235
26	355	741	722	1,490	3,340	1,660	595	451	280	288	370	235
27	355	703	722	1,240	*3,190	1,490	559	401	295	280	302	280
28	355	631	685	1,160	2,980	1,420	523	370	288	280	272	295
29	355	559	667	*1,160	-	1,400	505	348	280	272	258	370
30	*348	523	631	1,220	-	1,400	*497	332	*265	258	242	505
31	348	-	*685	1,280	-	*1,420	-	318	-	*242	*228	-
Total	13,255	14,335	18,087	34,295	46,425	77,510	26,124	25,320	9,062	11,903	9,329	9,393
Mean	428	478	583	1,106	1,658	2,500	871	817	302	384	301	313
Cfsm	0.416	0.464	0.566	1.07	1.61	2.43	0.846	0.793	0.293	0.373	0.292	0.304
In.	0.48	0.52	0.65	1.23	1.68	2.80	0.94	0.91	0.33	0.43	0.34	0.34
Calendar year 1952: Max				10,000	Min	205	Mean	975	Cfsm	0.947	In.	12.89
Water year 1952-53: Max				3,840	Min	220	Mean	808	Cfsm	0.784	In.	10.65

\* Discharge measurement made on this day.

## Little Pee Dee River near Dillon, S. C.

Location.--Lat 34°24', long. 79°20', near center of span on downstream side of bridge on State Highway 9, 1.1 miles east of Dillon, Dillon County, and 3 miles upstream from Maple Swamp.

Drainage area.--524 sq mi.

Records available.--March 1939 to September 1953.

Gage.--Wire-weight gage read twice daily. Altitude of gage is 76 ft (by barometer).

Average discharge.--14 years, 492 cfs.

Extremes.--Maximum discharge during year, 2,240 cfs May 9 (gage height, 9.58 ft, from graph based on gage readings); minimum, 62 cfs Aug. 7 (gage height, 3.78 ft).  
1939-53: Maximum discharge, 3,810 cfs Sept. 20, 1945 (gage height, 14.64 ft), from rating curve extended above 2,800 cfs by velocity-area studies and logarithmic plotting; minimum, 43 cfs Sept. 6, 1951 (gage height, 3.62 ft).

Remarks.--Records good. Records of chemical analyses 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 Oct. 1 to Nov. 27, Jan. 27, June 12 to Sept. 30)

Oct. 1 to Nov. 30, Jan. 28 to Sept. 30				Dec. 1 to Jan. 27			
3.9	62	7.0	378	6.9	303		
4.0	67	7.5	575	7.0	327		
4.5	95	8.0	850	7.5	507		
5.0	127	9.0	1,630	8.0	775		
6.0	202	10.0	2,710				
6.5	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	470	178	660	423	755	a1,130	755	254	144	620	86	89
2	450	a174	605	443	755	1,130	725	a304	138	530	a89	95
3	398	174	555	463	725	1,130	725	a413	134	450	89	134
4	317	174	531	485	698	1,130	698	470	134	a432	86	141
5	247	170	463	463	645	1,200	620	552	127	a530	80	141
6	202	170	423	443	575	1,200	575	698	110	598	72	a148
7	206	178	405	443	552	1,200	552	1,130	a107	530	62	162
8	362	178	387	463	a552	a1,130	530	1,780	107	490	70	174
9	470	a178	*405	485	552	1,060	490	a2,130	113	510	a104	174
10	332	182	423	507	575	*985	450	a2,130	*138	510	127	178
11	262	182	443	531	598	985	432	1,630	449	450	138	190
12	a271	206	423	531	645	1,080	a433	1,360	1,780	a378	152	202
13	262	218	423	507	645	1,280	432	1,130	1,540	332	170	a214
14	254	228	a387	463	620	1,720	432	915	a1,130	332	194	228
15	254	262	371	443	a645	1,920	432	785	818	304	210	218
16	262	a292	371	405	645	1,920	413	a670	645	271	a210	182
17	262	304	355	371	698	1,920	396	a575	575	218	214	148
18	262	317	341	371	785	1,820	396	490	552	194	198	134
19	a254	332	315	355	850	1,820	a450	432	530	a166	182	130
20	240	378	303	355	985	1,630	490	362	490	174	186	a120
21	223	470	303	355	1,060	1,360	378	282	a490	162	182	104
22	210	620	303	371	1,130	1,130	*346	240	510	*141	186	95
23	206	a755	315	387	1,200	1,060	332	234	530	144	190	95
24	210	850	327	405	1,280	985	317	a240	552	134	178	104
25	210	985	341	a423	1,280	985	292	254	620	124	162	107
26	a210	985	355	485	1,280	915	a262	254	1,060	a116	*155	116
27	218	a915	371	555	1,280	915	254	254	1,060	110	141	158
28	206	915	a371	*645	1,200	915	228	234	a850	107	130	194
29	*190	818	371	725	-	850	218	214	670	101	124	210
30	190	755	371	755	-	850	210	a166	670	95	a107	218
31	182	-	387	755	-	818	-	162	-	89	95	-
Total	8,310	12,543	12,404	14,811	23,210	58,153	13,263	20,764	16,753	9,342	4,369	4,603
Mean	268	418	400	478	829	1,231	442	670	558	301	141	153
Cfs/m	0.511	0.798	0.763	0.912	1.58	2.35	0.844	1.28	1.06	0.574	0.269	0.292
In.	0.59	0.89	0.88	1.05	1.64	2.71	0.94	1.48	1.18	0.66	0.31	0.33

Calendar year 1952: Max 1,540 Min 50 Mean 423 Cfs/m 0.807 In. 10.98  
Water year 1952-53: Max 2,130 Min 62 Mean 489 Cfs/m 0.933 In. 12.66

\* Discharge measurement made on this day.

a No gage-height record; discharge interpolated or estimated on basis of weather records.

## Drowning Creek near Hoffman, N. C.

Location.--Lat 35°03'38", long. 79°29'39", on right bank 10 ft downstream from bridge on U. S. Highway 1, three-quarters of a mile downstream from Deep Creek, 1 mile upstream from Seaboard Air Line Railway bridge, and 4 miles northeast of Hoffman, Richmond County.

Drainage area.--178 sq mi.

Records available.--October 1939 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 270 ft (from topographic map).

Average discharge.--14 years, 258 cfs.

Extremes.--Maximum discharge during year, 1,660 cfs Nov. 22 (gage height, 6.95 ft); minimum, 59 cfs Sept. 1 (gage height, 1.81 ft).

1939-53: Maximum discharge, 10,900 cfs Sept. 18, 1945 (gage height, 10.29 ft), from rating curve extended above 5,600 cfs by logarithmic plotting; minimum, 38 cfs Aug. 4, 1940 (gage height, 1.32 ft).

Remarks.--Records fair.

Revisions (water years).--WSP 972: 1941(M).

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Sept. 17-18)

Oct. 1 to June 19,  
Sept. 19-30

June 20 to Sept. 18

1.9	60	5.0	299	1.8	58	4.0	200
2.5	93	6.0	770	2.5	104	5.0	300
3.0	120	6.5	1,150	3.0	135	5.5	490
4.0	185	7.0	1,730				

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	123	132	246	508	358	383	396	299	98	187	69	61
2	117	132	248	650	316	379	371	520	*90	129	80	70
3	120	132	273	704	309	440	355	716	87	110	73	71
4	112	129	319	584	316	515	355	692	87	148	170	70
5	112	129	344	476	312	573	453	578	87	219	278	74
6	109	132	314	413	312	535	387	449	84	327	*472	90
7	112	132	273	344	299	495	382	535	93	180	306	167
8	112	129	258	308	273	431	387	606	163	142	170	129
9	135	129	240	290	246	366	392	535	220	164	186	91
10	193	135	230	273	226	*334	358	431	185	135	151	79
11	215	153	240	252	258	331	312	312	147	113	116	74
12	181	193	258	230	290	490	304	265	123	104	100	71
13	153	201	285	230	304	802	383	235	132	94	94	85
14	158	174	240	252	322	1,000	540	210	193	91	97	151
15	132	168	220	281	431	870	835	197	210	94	94	135
16	132	189	210	327	606	680	698	185	150	91	82	85
17	132	177	208	351	849	606	530	177	166	*82	83	72
18	129	156	206	366	764	656	431	170	258	79	113	67
19	123	153	201	348	551	568	383	170	355	78	*135	69
20	129	230	197	*299	444	490	355	201	314	156	138	74
21	123	645	235	281	431	444	327	235	186	240	128	74
22	120	1,470	265	281	495	422	*306	201	186	243	97	71
23	128	935	290	290	674	422	290	163	245	167	85	63
24	132	692	258	334	728	556	281	144	300	176	79	61
25	132	520	235	413	590	770	273	138	238	123	77	*62
26	129	409	225	595	495	905	258	135	193	97	74	71
27	129	341	210	686	453	728	246	120	170	90	70	190
28	129	306	201	530	422	568	240	109	154	88	67	372
29	129	281	193	435	-	490	230	106	145	84	64	556
30	*126	265	189	400	-	444	230	109	170	79	62	617
31	129	-	282	387	-	418	-	106	-	74	*51	-
Total	4,113	8,967	7,569	12,116	12,094	17,111	11,268	9,049	5,229	4,164	3,869	4,022
Mean	133	299	244	391	432	552	376	292	174	134	125	134
Cfsm	0.747	1.68	1.37	2.20	2.43	3.10	2.11	1.64	0.978	0.753	0.702	0.753
In.	0.86	1.87	1.58	2.53	2.53	3.58	2.35	1.89	1.09	0.87	0.81	0.84

Calendar year 1952: Max 1,470 Min 54 Mean 273 Cfsm 1.53 In. 20.84

Water year 1952-53: Max 1,470 Min 61 Mean 273 Cfsm 1.53 In. 20.80

Peak discharge (base, 850 cfs).--Nov. 22 (6 a.m.) 1,660 cfs (6.95 ft); Feb. 17 (7 p.m.) 920 cfs (6.22 ft); Mar. 14 (12 m.) 1,030 cfs (6.36 ft); Mar. 26 (6 a.m.) 950 cfs (6.26 ft); Apr. 15 (11 a.m.) 884 cfs (6.17 ft).

\* Discharge measurement made on this day.

## Lumber River at Boardman, N. C.

Location.--Lat 34°26', long. 78°58', on right bank 15 ft downstream from bridge on U. S. Highway 74, 1 mile downstream from Atlantic Coast Line Railroad bridge at Boardman, Columbus County, and  $\frac{1}{2}$  miles downstream from Big Swamp.

Drainage area.--1,230 sq mi, approximately.

Records available.--September 1929 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 72.05 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Sept. 30, 1936, staff gage at site 100 ft downstream at same datum. Sept. 30, 1936, to June 8, 1943, wire-weight gage at present site and datum.

Average discharge.--24 years, 1,327 cfs.

Extremes.--Maximum discharge during year, 3,940 cfs May 12 (gage height, 7.73 ft); minimum, 148 cfs Sept. 3 (gage height, 0.61 ft).

1929-53: Maximum discharge, 13,400 cfs Sept. 24, 1945 (gage height, 10.64 ft); minimum, 116 cfs Sept. 15, 16, 1951.

Maximum stage known, 11.8 ft in August 1928, from floodmark witnessed by local resident (discharge, 25,000 cfs).

Remarks.--Records fair.

Revisions.--WSP 892: 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 Oct. 5-7, Nov. 21, May 2-5, 9, 10, 26, 27, June 17, July 9-10, Aug. 7, 17-21, Sept. 7, 27, 28)

Oct. 1 to May 12, July 5 to Sept. 30					May 13 to July 4		
0.6	146	5.0	1,070	1.6	255		
1.0	208	6.0	1,670	2.0	318		
2.0	365	7.0	2,740	3.0	510		
3.0	528	8.0	4,420				
4.0	722						

Note.--Same as preceding table above 3.7 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	870	357	1,800	990	1,420	2,540	*2,080	748	390	650	223	162
2	870	357	1,840	1,010	1,460	2,540	2,030	815	344	672	223	156
3	838	349	1,800	1,030	1,530	2,610	2,030	1,050	318	650	208	156
4	806	349	1,670	1,050	1,580	2,740	1,880	1,510	294	735	193	162
5	679	349	*1,530	1,070	1,560	2,810	1,880	1,580	278	696	190	164
6	557	349	1,420	1,110	1,560	2,810	1,750	1,710	263	672	188	180
7	480	349	1,560	1,120	1,530	2,740	1,640	1,930	255	672	243	243
8	461	349	1,300	1,140	1,560	2,680	1,530	2,180	*286	650	270	254
9	445	349	1,240	1,220	1,530	2,540	1,420	2,620	286	559	278	239
10	461	341	1,200	1,330	1,530	2,480	1,330	3,510	294	502	285	246
11	478	349	1,140	1,460	1,560	2,420	1,240	3,760	302	478	309	262
12	478	373	1,120	1,530	1,600	2,610	1,200	3,850	318	461	333	278
13	494	381	1,100	1,530	1,600	2,740	1,170	3,670	318	429	357	285
14	511	405	1,100	1,500	1,600	2,960	1,140	3,340	326	413	389	285
15	511	429	1,070	1,420	1,640	3,260	1,100	3,030	344	373	429	262
16	528	461	1,050	1,360	1,640	3,420	1,070	2,740	353	333	429	223
17	528	494	1,030	1,300	1,670	3,500	1,070	2,420	385	301	416	200
18	528	511	990	1,270	1,710	3,580	1,070	2,130	430	378	587	193
19	511	950	1,240	1,220	1,750	3,670	1,050	1,800	460	262	*498	200
20	494	578	910	1,220	1,750	3,760	1,010	1,560	520	246	364	208
21	461	719	910	*1,270	1,750	3,850	990	1,360	560	239	298	200
22	445	748	910	1,300	1,840	3,760	990	1,200	570	239	278	179
23	429	838	890	1,300	1,980	3,500	1,030	1,070	580	223	270	168
24	413	970	870	1,330	2,130	3,340	1,070	970	550	216	278	157
25	405	1,070	890	1,330	2,360	3,180	1,100	858	520	231	270	154
26	389	1,140	910	1,300	2,480	2,960	1,030	711	510	246	254	*156
27	381	1,220	910	1,300	2,610	2,740	950	628	550	262	231	279
28	373	1,300	910	1,300	2,610	2,610	838	*600	560	295	*216	368
29	373	1,390	910	1,330	-	2,480	776	560	590	317	193	381
30	365	1,600	910	1,360	-	2,300	696	500	620	293	182	333
31	365	-	970	1,390	-	2,130	-	440	-	246	170	-
Total	15,927	19,002	35,610	39,400	49,520	91,260	38,260	54,650	12,374	12,837	9,052	6,753
Mean	514	635	1,149	1,271	1,769	2,944	1,275	1,763	412	414	292	225
Cfsm	0.421	0.519	0.942	1.04	1.45	2.41	1.05	1.45	0.338	0.339	0.232	0.184
In.	0.49	0.58	1.09	1.20	1.51	2.78	1.17	1.67	0.38	0.39	0.28	0.21
Calendar year 1952: Max			2,740	Min	190	Mean	944	Cfsm	0.774	In.	10.54	
Water year 1952-53: Max			3,850	Min	154	Mean	1,054	Cfsm	0.864	In.	11.75	

\* Discharge measurement made on this day.

## Little Pee Dee River at Galivants Ferry, S. C.

Location.--Lat 34°03'25", long. 79°14'50", near left bank on downstream side of bridge on U. S. Highway 501, at Galivants Ferry, Horry County, 1.0 mile downstream from Lake Swamp.

Drainage area.--2,790 sq mi, approximately.

Records available.--January 1942 to September 1953.

Gage.--Wire-weight gage read twice daily. Datum of gage is 23.95 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--11 years, 2,934 cfs.

Extremes.--Maximum discharge during year, 9,730 cfs Mar. 19 (gage height, 9.47 ft, from graph based on gage readings); minimum, 367 cfs Sept. 35, 36.  
1942-53: Maximum discharge, 36,800 cfs Sept. 23, 1945 (gage height, 13.23 ft, from graph based on gage readings); minimum, 282 cfs Sept. 15-17, 1951.  
Maximum stage known, 16.0 ft in September 1938, from floodmark set by local resident.

Remarks.--Records good.

Rating tables, water year 1952-53 (gage height, in feet, and discharge  
in cubic feet per second)  
(Shifting-control method used June 17, Aug. 21)

Oct. 1 to June 17, Aug. 22 to Sept. 30				June 18 to Aug. 21			
3.0	350	8.0	4,050	3.2	493	6.0	1,470
4.0	690	9.0	7,510	3.5	595	7.0	2,420
6.0	1,590	10.0	12,000	4.0	765		
7.0	2,230						

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	3,390	724	2,830	1,990	3,190	5,910	5,210	1,390	1,000	1,520	561	418
2	3,010	724	3,010	2,110	3,190	6,290	4,890	1,390	895	1,520	527	401
3	2,670	690	3,010	2,230	3,190	6,690	4,590	1,350	792	1,470	527	384
4	2,370	690	3,010	2,230	3,190	6,690	4,310	1,350	724	1,470	493	384
5	2,110	656	3,010	2,370	3,190	6,690	4,050	1,320	690	1,470	493	384
6	1,890	656	3,190	2,370	3,190	6,690	3,810	1,350	656	1,420	493	418
7	1,720	656	3,190	2,370	3,390	6,690	3,590	1,410	656	1,380	527	486
8	1,570	656	3,190	2,370	3,590	6,690	3,590	1,570	622	1,420	561	486
9	1,390	656	3,190	2,370	3,590	6,690	3,390	1,720	622	1,470	561	452
10	1,320	656	3,010	2,510	3,810	6,690	3,190	2,110	622	1,470	561	486
11	1,210	690	2,830	2,510	4,050	6,690	3,010	2,510	*588	1,380	561	486
12	1,180	724	2,670	2,510	4,310	7,510	2,830	3,190	588	1,320	595	486
13	1,180	724	2,510	2,510	4,310	7,930	2,670	3,810	656	1,280	663	486
14	1,140	758	2,510	2,670	4,310	8,370	2,510	4,310	758	1,180	697	486
15	1,100	792	2,370	2,670	4,310	8,370	2,230	4,590	930	1,170	731	520
16	1,070	792	2,370	2,630	4,310	8,810	2,230	4,890	1,140	1,040	731	520
17	1,070	860	2,230	2,630	4,310	9,270	2,110	5,210	1,350	969	765	520
18	1,070	895	2,230	3,010	4,310	9,270	1,990	4,890	1,470	901	799	520
19	1,070	930	2,110	3,010	4,310	9,730	1,890	4,590	1,470	833	799	486
20	1,040	1,040	1,990	3,010	4,050	9,270	1,800	4,310	1,470	765	833	452
21	1,040	1,180	1,990	3,190	4,050	8,810	1,800	4,050	1,380	731	833	418
22	1,000	1,280	1,990	3,010	4,310	8,810	1,720	3,590	1,350	697	758	418
23	965	1,390	1,990	3,010	4,310	8,370	*1,640	3,010	1,320	*897	690	401
24	930	1,570	1,990	3,190	4,310	7,930	1,570	2,510	1,350	663	622	384
25	895	1,690	1,890	3,390	4,590	7,510	1,500	2,230	1,350	629	588	367
26	860	2,230	1,890	3,390	4,890	*7,510	1,440	1,890	1,350	595	554	384
27	826	2,510	1,890	3,390	5,210	6,690	1,390	1,640	1,350	561	*554	520
28	792	2,670	1,890	3,390	5,550	6,290	1,390	1,440	1,350	561	520	554
29	792	2,830	1,890	3,190	-	5,910	1,390	1,320	1,380	561	486	588
30	*758	2,830	1,890	3,190	-	5,910	1,390	1,210	1,470	561	452	656
31	758	-	1,890	3,190	-	5,210	-	1,070	-	561	435	-
Total	42,186	35,349	75,750	86,010	113,320	229,890	79,120	81,220	31,349	32,195	18,970	13,951
Mean	1,361	1,178	2,444	2,775	4,047	7,416	2,637	2,620	1,045	1,039	612	465
Cfsm	0.488	0.422	0.876	0.995	1.45	2.66	0.945	0.939	0.375	0.372	0.219	0.167
In.	0.56	0.47	1.01	1.15	1.51	3.07	1.05	1.08	0.42	0.43	0.25	0.19
Calendar year 1952: Max	6,690					Min 459	Mean 1,929	Cfsm 0.691	In. 9.39			
Water year 1952-53: Max	9,730					Min 367	Mean 2,299	Cfsm 0.824	In. 11.19			

\* Discharge measurement made on this day.

## Black River near Gable, S. C.

Location.--Lat 33°54'00", long. 80°09'55", near left bank on downstream side of McBride Crossing on U. S. Highway 378, 1 mile downstream from Church Branch and 6.3 miles northwest of Gable, Clarendon County.

Drainage area.--401 sq mi.

Records available.--June 1951 to September 1953.

Gage.--Wire-weight gage read twice daily. Altitude of gage is 95 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,660 cfs Feb. 28 (gage height, 3.95 ft, from graph based on gage readings); minimum, 1 cfs Aug. 6.  
1951-53: Maximum discharge, 4,150 cfs Sept. 3, 1952 (gage height, 5.22 ft, from graph based on gage readings); minimum, that of Aug. 6, 1953.

Remarks.--Records good except those between 15 and 100 cfs, which are fair, and those below 15 cfs, which are poor.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 26 to Dec. 31, May 18 to July 20, Aug. 26 to Sept. 13, Sept. 30)

1.8	0	2.6	218
1.9	4	3.0	501
2.0	20	3.5	1,020
2.1	40	4.0	1,740
2.3	95		

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	388	150	*253	388	493	1,500	484	230	*20	34	4	28
2	330	146	270	396	493	1,350	451	270	17	30	3	28
3	283	146	270	460	484	1,350	418	283	12	24	2	28
4	247	146	276	493	468	1,280	396	296	7	28	2	26
5	224	146	276	510	435	1,280	375	316	4	34	2	36
6	204	154	276	510	410	1,210	366	336	3	34	2	65
7	189	158	276	528	426	1,080	373	519	3	30	9	98
8	189	162	289	556	443	962	366	680	10	24	10	120
9	194	166	289	556	435	905	350	690	32	24	10	98
10	204	175	*289	510	418	850	323	670	62	132	14	58
11	213	230	289	476	410	850	303	631	92	224	24	40
12	224	264	289	460	410	962	296	546	102	247	77	30
13	224	283	283	*451	426	1,080	310	493	120	218	109	22
14	218	289	283	435	468	1,210	303	451	227	170	85	20
15	213	296	276	426	501	1,350	289	396	276	126	60	20
16	208	296	264	418	519	1,350	276	316	189	95	38	18
17	208	289	253	418	592	1,280	283	253	138	68	40	15
18	208	276	247	426	711	1,080	316	208	166	48	92	15
19	204	276	235	426	784	1,020	330	180	180	34	112	15
20	204	366	241	426	784	905	323	146	175	22	162	14
21	204	460	264	519	850	795	283	142	162	18	134	14
22	199	418	264	510	850	742	241	120	249	20	123	12
23	184	388	276	501	905	690	224	102	118	26	134	12
24	170	366	283	519	962	742	213	83	95	24	150	12
25	162	343	296	510	1,210	690	189	65	74	18	154	24
26	162	316	310	493	1,420	670	180	60	55	18	134	55
27	158	310	323	476	*1,580	641	166	50	36	17	112	98
28	154	283	336	476	1,660	612	154	42	40	12	86	154
29	150	276	323	468	-	574	138	32	48	12	74	189
30	150	259	323	468	-	546	*134	28	*50	7	58	180
31	150	-	350	476	-	519	-	22	-	*7	*36	-
Total	6,419	7,833	8,772	14,685	19,547	30,075	8,851	8,656	2,760	1,825	2,050	1,544
Mean	207	251	283	474	638	970	295	279	92.0	58.9	66.1	51.5
Cfs/m	0.516	0.651	0.706	1.18	1.74	2.42	0.736	0.696	0.229	0.147	0.165	0.128
In.	0.58	0.73	0.81	1.36	1.81	2.79	0.28	0.80	0.26	0.17	0.19	0.14
Calendar year 1952: Max			3,910	Min	34	Mean	436	Cfs/m	1.09	In.	14.78	
Water year 1952-53: Max			1,660	Min	2	Mean	310	Cfs/m	0.773	In.	10.47	

\* Discharge measurement made on this day.

## Black River at Kingstree, S. C.

Location.--Lat 33°39'40", long. 79°50'10", on left bank at downstream side of bridge on U. S. Highway 52 at Kingstree, Williamsburg County, 1.0 mile downstream from Kingstree Swamp Canal.

Drainage area.--1,260 sq mi, approximately.

Records available.--August 1929 to September 1953. Gage-height records collected at same site since 1893 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 25.66 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Nov. 7, 1934, tape gage at same site and datum.

Average discharge.--24 years, 787 cfs.

Extremes.--Maximum discharge during year, 5,240 cfs Mar. 2-7; maximum gage height, 11.44 ft Mar. 3; minimum discharge, 8 cfs Aug. 31, Sept. 1.  
1929-53: Maximum discharge, 29,100 cfs Sept. 20, 1945 (gage height, 16.07 ft); minimum, 4 cfs June 30, July 1, 4, 5, 1935, Sept. 5, 6, Oct. 15-19, 1944.  
Maximum stage known, 18.0 ft Sept. 21, 1928 (discharge, 41,600 cfs, from rating curve extended above 27,000 cfs).

Remarks.--Records good.

Cooperation.--Gage-height record collected in cooperation with U. S. Weather Bureau.

Revisions (water years).--WSP 1032: 1928(M), drainage area.

Rating table, water year 1952-53 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Nov. 15, Dec. 10  
to Feb. 11, Mar. 26 to June 13, Sept. 8-30)

Oct. 1 to May 17				May 18 to Sept. 30			
1.8	88	8.0	1,240	0.3	7		
2.0	104	9.0	1,790	.4	9		
3.0	199	10.0	2,740	.5	12		
5.0	462	11.0	4,340	.6	15		
7.0	898	12.0	7,020				

Note.--Same as  
preceding table  
above 0.6 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	898	116	462	530	1,430	4,760	1,330	194	34	82	11	9
2	898	112	462	586	1,330	5,240	1,240	221	28	70	11	9
3	844	112	462	649	1,200	5,240	1,160	244	25	60	10	11
4	818	108	462	694	1,120	5,240	1,090	250	22	56	11	16
5	742	103	462	742	1,090	5,240	1,020	244	19	51	10	17
6	671	99	478	767	1,050	5,240	927	256	17	46	12	20
7	*586	95	495	*767	1,090	5,240	871	268	17	42	93	43
8	530	92	495	742	1,280	4,760	792	300	20	39	66	42
9	512	90	495	742	1,330	4,150	*742	373	92	36	71	43
10	586	90	462	742	1,430	3,630	671	431	221	33	46	58
11	649	94	462	742	1,480	3,310	627	495	188	31	25	72
12	606	108	446	767	1,600	3,470	586	530	210	32	20	78
13	530	130	431	767	1,600	3,630	567	548	238	34	*20	78
14	431	153	431	767	1,540	3,970	548	567	199	35	17	68
15	373	178	431	792	1,480	4,340	512	606	221	33	15	60
16	319	199	401	767	1,380	4,340	478	627	183	28	13	56
17	286	210	387	767	1,330	4,150	446	649	130	25	16	56
18	268	232	387	742	1,280	3,970	416	606	104	22	29	52
19	256	*256	373	718	1,240	3,800	387	548	90	19	22	44
20	244	286	373	694	1,240	3,470	359	*478	90	19	20	41
21	232	338	373	718	1,240	3,160	332	401	104	21	17	34
22	210	387	387	792	1,330	2,740	312	319	116	20	14	28
23	199	431	401	898	1,480	2,510	300	244	121	19	12	22
24	183	446	416	987	1,720	2,400	293	188	116	18	11	18
25	173	446	416	1,090	2,110	2,200	286	148	*108	15	10	15
26	163	446	446	1,340	2,620	2,020	274	116	101	14	10	16
27	153	462	462	1,870	3,310	1,940	256	94	93	14	10	51
28	144	462	478	2,300	4,150	1,790	226	75	92	14	9	74
29	139	478	478	2,110	-	1,660	204	59	104	13	9	94
30	130	478	478	1,860	-	1,540	183	48	95	12	9	*108
31	126	-	495	1,600	-	1,430	-	40	-	11	8	-
Total	12,899	7,237	13,687	30,049	44,480	110,580	17,435	10,167	3,198	364	657	1,333
Mean	416	241	442	969	1,589	3,567	581	328	107	31.1	21.2	44.4
Cfs/m	0.330	0.191	0.351	0.769	1.26	2.83	0.461	0.260	0.085	0.025	0.017	0.035
In.	0.38	0.21	0.40	0.89	1.31	3.26	0.51	0.30	0.09	0.03	0.02	0.04

Calendar year 1952: Max 5,500 Min 12 Mean 775 Cfs/m 0.615 In. 8.36  
Water year 1952-53: Max 5,240 Min 6 Mean 692 Cfs/m 0.549 In. 7.44

\* Discharge measurement made on this day.

## SANTÉE RIVER BASIN

Catawba River near Marion, N. C.

Location.--Lat 35°42'20", long. 82°02'10", on right bank 15 ft downstream from bridge on U. S. Highway 281, 0.2 mile downstream from Tom Creek, and 2.2 miles northwest of Marion, McDowell County. Records include flow of small tributary which enters above control.

Drainage area.--171 sq mi (including area of small tributary which enters above control).

Records available.--October 1941 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 1,208 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--12 years, 324 cfs.

Extremes.--Maximum discharge during year, 4,750 cfs Feb. 21 (gage height, 8.40 ft); minimum, 95 cfs Sept. 18 (gage height, 0.60 ft); minimum daily, 38 cfs Sept. 18.  
1941-53: Maximum discharge, 19,700 cfs Aug. 28, 1949 (gage height, 15.02 ft), from rating curve extended above 10,000 cfs on basis of logarithmic plotting and contracted-opening determinations at gage heights 15.02 and 19.34 ft; minimum, that of Sept. 18, 1953; minimum daily, that of Sept. 18, 1953.  
Maximum stage known, 19.34 ft Aug. 13, 1940 (discharge, 71,400 cfs, from rating curve extended above 10,000 cfs as explained above).

Remarks.--Records good except those for period of no gage-height record, which are poor. Considerable diurnal fluctuation and slight regulation for short periods at low flow caused by powerplants above station.

Revisions (water years).--WSP 1032: 1942, 1943(P).

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

Oct. 1 to Dec. 31

Jan. 1 to Sept. 30

0.8	54	0.6	35	2.5	610
1.0	87	.8	58	3.0	870
1.2	130	1.0	90	4.0	1,510
1.5	215	1.3	152	5.0	2,220
2.0	400	1.6	241	7.0	3,680
3.0	860	2.0	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	95	85	133	274	204	332	379	340	129	106	71	55
2	93	87	123	203	198	404	359	247	*133	93	72	42
3	95	111	155	238	*217	387	343	208	92	112	93	40
4	91	*82	*162	152	220	587	331	*247	92	98	86	61
5	93	109	145	160	211	565	296	214	120	100	103	151
6	91	84	125	*134	224	466	299	225	132	103	147	90
7	91	114	164	279	321	339	321	345	115	283	57	57
8	91	104	141	199	273	383	307	281	257	116	138	53
9	305	84	158	259	212	*351	268	220	170	79	92	48
10	212	113	146	1,060	178	331	267	175	218	99	99	78
11	159	130	246	552	208	395	281	204	283	72	76	53
12	107	99	226	391	315	556	256	194	177	69	65	54
13	*118	114	135	319	293	565	259	182	123	*85	77	48
14	89	112	133	288	235	484	266	184	121	69	75	*45
15	87	87	161	259	356	504	*221	152	168	75	59	43
16	133	85	184	214	407	440	229	198	127	144	56	69
17	163	110	118	223	374	391	227	184	146	92	*80	43
18	93	107	154	273	277	375	222	163	144	94	68	38
19	91	232	148	274	299	359	221	189	109	145	68	44
20	114	476	139	192	736	331	212	202	144	101	99	332
21	123	257	125	475	*3,240	319	208	178	120	98	76	a170
22	130	218	140	371	1,230	468	205	136	140	83	65	a110
23	87	135	112	440	732	2,200	202	167	147	120	87	a80
24	87	145	135	1,090	588	1,500	199	162	100	79	60	a80
25	85	114	107	632	508	898	196	121	123	69	53	a70
26	85	165	139	448	448	680	217	152	101	98	50	118
27	123	192	152	383	399	565	200	149	98	66	76	174
28	121	121	101	365	371	512	188	109	127	62	52	121
29	82	112	122	331	-	462	192	120	102	59	46	100
30	80	112	101	307	-	419	400	141	132	88	44	77
31	108	-	346	281	-	395	-	109	-	66	39	-
Total	3,522	4,060	4,626	10,949	13,232	17,035	7,789	5,874	4,420	2,865	2,555	2,542
Mean	114	135	149	353	473	550	260	189	147	92.4	82.4	84.7
Cfs/m	0.667	0.789	0.871	2.06	2.77	3.22	1.52	1.11	0.860	0.540	0.482	0.495
In.	0.77	0.88	1.01	2.38	2.88	3.70	1.69	1.28	0.96	0.62	0.56	0.55
Calendar year 1952: Max	3,430			Min	75	Mean	265	Cfs/m	1.55	In.	21.14	
Water year 1952-53: Max	3,240			Min	38	Mean	218	Cfs/m	1.27	In.	17.28	

Peak discharge (base, 3,400 cfs).--Feb. 21 (1 p.m.) 4,750 cfs (8.40 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated from records for nearby stations.

## Linville River at Branch, N. C.

Location.--Lat 35°47'50", long. 81°53'20", on right bank 20 ft downstream from bridge on State Highway 126 at Branch, Burke County, and 0.2 mile upstream from Lake James.

Drainage area.--65 sq mi, approximately.

Records available.--May 1907 to December 1908 (fragmentary), June 1922 to September 1953. Published as "at Ponta Flora" 1907-8.

Gage.--Water-stage recorder. Datum of gage is 1,205.87 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. May 1907 to December 1908 staff gage 1.2 miles downstream at different datum. June 7, 1922, to July 5, 1936, staff gage at present site and datum.

Average discharge.--31 years (1922-53), 140 cfs.

Extremes.--Maximum discharge during year, 3,820 cfs Feb. 21 (gage height, 5.66 ft); minimum, 13 cfs Sept. 3, 4 (gage height, 1.33 ft); minimum daily, 13 cfs Sept. 3. 1907-8, 1922-53: Maximum discharge, 39,500 cfs Aug. 13, 1940 (gage height, 11.4 ft), from rating curve extended above 6,400 cfs on basis of slope-area determination of peak flow; minimum, 3 cfs Jan. 2, 1940, result of freezeup; minimum daily, 8 cfs Sept. 7-9, 1925.

Flood of July 1916 reached a stage about 0.4 ft lower than that of Aug. 13, 1940.

Remarks.--Records fair. Occasional slight diurnal fluctuation caused by small mill above station.

Revisions (water years).--WSP 892: 1928-29, 1935, 1937.

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

Oct. 1 to July 23

July 24 to Sept. 30

1.4	16	2.5	264	1.3	11
1.6	38	3.0	570	1.4	19
1.8	68	3.5	1,000	1.6	42
2.0	108	4.0	1,520	1.8	72
2.2	158	4.6	2,250	2.0	110
				2.2	158

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	23	66	144	131	161	180	317	45	48	30	15
2	22	23	66	115	122	185	161	174	*41	42	49	14
3	22	23	66	110	*118	150	153	38	38	56	38	13
4	21	*23	*62	93	108	305	142	*124	37	186	64	31
5	21	23	63	78	100	305	134	120	38	93	45	137
6	20	22	74	*81	98	236	134	142	38	63	37	66
7	21	22	66	89	139	206	147	186	167	55	43	50
8	28	22	58	89	131	186	142	150	139	58	49	36
9	57	22	57	159	110	*167	122	131	104	54	43	29
10	110	24	100	1,680	102	158	117	122	74	45	38	28
11	65	31	273	546	100	164	113	113	113	41	32	23
12	46	33	170	320	206	327	108	106	79	37	28	23
13	*39	33	131	236	224	402	110	100	63	*36	26	22
14	36	28	108	203	180	282	113	95	68	36	23	20
15	33	27	91	177	200	372	*104	93	58	34	22	*19
16	31	26	87	155	180	320	102	93	55	34	21	17
17	31	25	87	142	174	256	95	85	55	37	*20	17
18	30	24	85	155	150	228	93	81	52	41	22	16
19	28	60	78	158	147	217	95	87	46	50	30	21
20	27	488	74	136	312	186	93	117	80	49	50	133
21	26	153	78	262	*2,200	167	91	87	68	39	39	114
22	25	104	76	236	829	198	87	78	80	45	34	58
23	25	83	72	203	448	1,980	85	72	65	92	50	39
24	25	78	68	748	330	1,300	83	68	62	92	36	32
25	25	76	63	434	278	674	81	65	108	53	27	30
26	25	95	80	287	236	441	91	80	79	43	23	37
27	25	155	58	232	200	335	85	57	63	39	21	59
28	25	104	57	210	180	273	79	52	58	34	18	69
29	24	85	49	196	-	240	76	51	54	32	17	46
30	23	76	51	161	-	210	298	49	52	36	17	36
31	23	-	106	147	-	189	-	48	-	36	15	-
Total	982	2,011	2,600	7,982	7,728	10,882	3,511	3,282	2,077	1,636	1,007	1,248
Mean	31.7	67.0	83.9	257	278	351	117	105	69.2	52.8	32.5	41.6
Cfsm	0.488	1.03	1.29	3.95	4.25	5.40	1.80	1.62	1.06	0.812	0.500	0.640
In.	0.56	1.15	1.49	4.57	4.42	6.23	2.01	1.87	1.19	0.94	0.58	0.71
Calendar year 1952: Max	2,370			Min 15		Mean 115		Cfsm 1.77		In. 23.99		
Water year 1952-53: Max	2,200			Min 13		Mean 123		Cfsm 1.89		In. 25.72		

Peak discharge (base, 1,600 cfs).--Jan. 10 (6 a.m.) 2,950 cfs (5.10 ft); Feb. 21 (9 a.m.) 3,820 cfs (5.66 ft); Mar. 23 (1 p.m.) 3,010 cfs (5.14 ft).

\* Discharge measurement made on this day.

## Catawba River at Catawba, N. C.

Location.--Lat 35°43', long. 81°04', on right bank at downstream side of bridge on U. S. Highways 64 and 70, half a mile upstream from Lyle Creek, five-eighths of a mile upstream from Southern Railway bridge, and 1 mile northeast of Catawba, Catawba County. Records include flow of Lyle Creek.

Drainage area.--1,535 sq mi, includes that of Lyle Creek.

Records available.--July 1896 to April 1902 (gage heights only, 1900, 1902), November 1934 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 746.49 ft above mean sea level, datum of 1909, supplementary adjustment of 1936. July 1896 to April 1902, wire-weight gage at bridge five-eighths of a mile downstream at different datum.

Average discharge.--21 years (1896-99, 1935-53), 2,352 cfs (unadjusted).

Extremes.--Maximum discharge during year, 16,000 cfs Feb. 32 (gage height, 11.85 ft); minimum, 93 cfs July 12 (gage height, 2.11 ft); minimum daily, 101 cfs July 12.

1896-1902, 1934-53: Maximum discharge, 177,000 cfs Aug. 14, 1940 (gage height, 36.8 ft, from floodmarks), from rating curve extended above 24,000 cfs on basis of computation by Duke Power Co. of peak flow over dam; minimum, that of July 12, 1953; minimum daily, that of July 12, 1953.

Maximum stage known, 44.1 ft July 16, 1916, affected by failure of earth dike at Lookout Shoals Dam, 4 miles above station, from information furnished by State Highway and Public Works Commission.

Remarks.--Records good except those below 1,000 cfs and those for periods of no gage-height record, which are fair. Flow regulated by four reservoirs above station which have a combined usable capacity of 14,975,000,000 cu ft.

Revisions (water years).--WSP 952: 1936-38. WSP 952: Drainage area.

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

2.1	90	3.3	890
2.2	118	4.0	1,680
2.3	158	6.0	4,800
2.5	280	8.0	8,400
2.8	465	11.0	14,300

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	2,100	930	1,520	330	182	177	4,460	2,500	2,220	600	255	1,760
2	1,860	284	2,000	1,010	1,990	2,880	3,340	518	1,700	154	125	2,160
3	2,030	2,080	1,820	210	2,240	3,780	1,840	163	1,840	183	2,320	1,780
4	733	1,880	1,690	158	2,130	3,450	307	2,150	1,690	172	1,640	1,440
5	238	1,820	1,560	1,220	2,330	2,720	167	2,350	1,620	107	1,670	172
6	2,160	1,720	306	1,660	1,930	2,380	2,640	2,860	274	761	2,150	177
7	2,400	1,960	163	1,520	278	422	4,460	2,480	1,280	1,780	1,270	158
8	2,690	1,330	1,680	1,320	172	200	2,880	2,060	3,390	1,850	150	1,560
9	2,480	158	1,820	1,340	2,070	2,750	2,630	729	2,750	1,620	142	1,540
10	2,290	2,070	1,680	450	1,770	2,760	2,780	158	2,090	1,360	1,900	1,350
11	828	2,040	1,290	285	1,880	4,010	961	2,210	2,750	118	2,240	1,470
12	158	1,960	1,270	1,340	1,870	3,730	398	2,780	1,530	101	2,150	163
13	1,910	1,930	448	1,660	1,980	3,370	1,740	2,660	346	a1,300	1,660	138
14	1,930	1,900	256	1,530	249	2,670	2,120	2,170	138	a1,500	1,450	1,760
15	1,840	678	1,680	937	398	1,280	2,320	2,350	1,610	a2,500	192	1,590
16	2,070	a260	1,410	1,010	2,550	3,810	2,480	300	1,870	1,820	118	1,840
17	2,270	a1,500	1,760	172	2,320	3,750	2,290	158	2,180	1,540	1,780	1,010
18	726	a1,600	1,770	163	2,320	3,630	384	2,460	2,020	203	1,810	1,090
19	158	a1,600	*1,530	1,490	1,420	3,420	172	2,160	1,910	130	2,020	212
20	1,770	2,230	205	1,150	2,320	3,100	2,870	2,140	228	1,950	1,740	130
21	2,090	1,980	150	1,090	7,380	1,050	2,110	2,500	150	2,500	1,270	1,320
22	2,140	348	1,190	1,170	*13,800	238	2,180	1,940	2,190	2,130	*154	1,520
23	1,780	146	1,190	1,700	4,970	3,360	2,080	296	1,800	2,580	122	1,220
24	1,640	1,250	182	665	4,650	8,000	2,060	158	1,880	1,400	1,640	1,290
25	564	1,640	142	249	4,460	10,400	283	2,240	1,740	218	2,030	1,150
26	252	1,820	130	2,450	3,900	8,070	172	2,780	1,630	126	1,870	199
27	1,930	320	252	3,030	1,680	6,960	2,060	*1,700	352	1,680	1,790	259
28	1,830	1,950	240	2,730	227	5,400	2,590	1,570	146	2,350	1,650	1,090
29	2,010	150	1,920	3,120	-	3,210	2,010	1,630	673	2,130	182	1,210
30	1,900	138	1,940	2,740	-	4,460	2,970	228	172	2,040	115	1,940
31	1,590	-	1,770	625	-	4,460	-	138	-	2,040	1,690	-
Total	50,367	39,652	34,964	38,524	73,386	109,897	60,094	50,516	44,149	38,923	39,496	32,698
Mean	1,625	1,322	1,128	1,243	2,621	3,545	2,003	1,630	1,472	1,256	1,274	1,090
(t)	-812	-210	+50	+1,421	+1,286	+587	-174	-155	+150	-411	-597	-17
Observed								Adjusted				
Calendar year 1952:	Max	17,000	Min	122	Mean	2,079	Mean	1,937	Cfsm	1.26	In.	17.15
Water year 1952-53:	Max	13,800	Min	101	Mean	1,679	Mean	1,764	Cfsm	1.15	In.	15.61

\* Discharge measurement made on this day.

† Change in contents, equivalent in cubic feet per second, in Bridgewater, Rhodiss, Oxford and Lookout Shoals Reservoirs; furnished by Duke Power Co.

a No gage-height record; discharge estimated on basis of powerplant records.

## Henry Fork near Henry River, N. C.

Location.--Lat 35°41', long. 81°24', on left bank 450 ft downstream from highway bridge at site of old Link Ford, 1½ miles downstream from Burke-Catawba County line, and 2 miles southeast of village of Henry River, Burke County.

Drainage area.--80 sq mi, approximately.

Records available.--July 1925 to November 1931, December 1941 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 890.99 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Nov. 30, 1931, at site 450 ft upstream at same datum.

Average discharge.--17 years (1925-31, 1942-53), 125 cfs.

Extremes.--Maximum discharge during year, 3,420 cfs Aug. 19 (gage height, 8.30 ft), from rating curve extended above 2,000 cfs on basis of slope-area determination of peak flow and computation of peak flow over dam; minimum, 6.8 cfs Aug. 14; minimum daily, 7.2 cfs Oct. 6.

1925-31, 1941-53: Maximum discharge, 15,300 cfs Oct. 2, 1929 (gage height, 18.40 ft, site then in use), from rating curve extended above 2,300 cfs on basis of computation of peak flow over dam at Henry River, at gage height 29.2 ft; minimum, 3 cfs Dec. 20, 1942; minimum daily, 4 cfs Nov. 15, Dec. 20, 1942.

Maximum stage known, 29.2 ft Aug. 13, 1940, at former site, from floodmarks (discharge, 31,300 cfs).

Remarks.--Records good except those for periods of no gage-height record, which are poor. Considerable diurnal fluctuation and some regulation caused by mill above station. An average of about 3 cfs is diverted for water supply by city of Morganton and Morganton State Hospital and wasted into Catawba River.

Revisions (water years).--WSP 952: 1928, 1930.

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

0.7	11	2.0	264
.9	27	3.0	625
1.1	50	5.0	1,520
1.3	83	6.0	2,020
1.7	174		

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	58	29	52	177	97	129	189	141	73	67	12	58
2	59	9.3	59	116	111	173	161	111	67	89	63	26
3	58	40	58	107	99	174	153	105	70	33	78	43
4	43	58	59	80	103	256	146	105	64	31	58	60
5	7.2	60	60	89	90	291	143	101	47	85	58	659
6	40	64	59	74	65	199	153	113	31	74	*59	461
7	*62	33	30	74	138	166	164	169	383	65	62	202
8	58	40	61	*76	177	146	143	122	*586	64	31	111
9	51	8.1	58	99	134	141	136	105	120	74	9.7	95
10	89	41	75	535	109	129	131	101	45	85	47	79
11	57	58	185	243	103	146	124	101	220	44	58	81
12	52	58	107	153	120	267	131	95	116	7.8	59	49
13	72	58	79	116	111	339	138	95	87	46	43	124
14	65	59	63	103	99	226	124	83	85	59	22	82
15	62	62	70	103	319	781	120	67	96	59	29	65
16	64	17	72	a100	312	*452	122	64	95	*39	*8.9	64
17	64	41	74	a100	199	286	116	79	79	48	42	60
18	29	*58	67	a110	*153	232	114	95	67	34	62	58
19	*8.1	65	65	161	131	205	114	101	78	30	*969	40
20	55	155	60	a150	367	180	116	99	38	58	124	217
21	59	89	8.5	a300	1,890	161	107	79	57	58	97	226
22	59	64	38	*217	546	237	109	64	120	60	42	111
23	62	48	52	158	305	959	108	42	91	80	34	85
24	64	62	52	301	226	772	107	69	68	62	52	85
25	28	58	53	251	194	397	99	88	65	32	54	83
26	7.6	59	49	169	169	291	120	79	78	8.5	56	83
27	47	59	48	134	151	242	109	69	39	41	42	133
28	58	59	48	131	136	214	*101	70	30	59	58	151
29	60	51	59	126	-	196	93	72	79	13	27	99
30	62	25	62	114	-	188	158	34	65	41	7.6	83
31	65	-	243	97	-	174	-	28	-	29	39	-
Total	1,624.9	1,587.4	2,125.5	4,762	6,644	8,751	3,804	2,746	2,935	1,535.1	2,403.2	3,773
Mean	52.4	52.9	68.6	154	237	262	127	88.6	97.8	49.5	77.5	126
Cfsm	0.655	0.661	0.858	1.92	2.96	3.52	1.59	1.11	1.22	0.619	0.969	1.58
In.	0.76	0.74	0.99	2.21	3.09	4.07	1.77	1.28	1.36	0.71	1.12	1.75

Calendar year 1952: Max 2,560 Min 6 Mean 128 Cfsm 1.60 In. 21.85  
 Water year 1952-53: Max 1,890 Min 7.2 Mean 117 Cfsm 1.46 In. 19.85

Peak discharge (base, 2,800 cfs).--Feb. 21 (3 a.m.) 2,970 cfs (7.59 ft); Aug. 19 (5 a.m.) 3,420 cfs (8.30 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for nearby stations.

## Indian Creek near Laboratory, N. C.

Location.--Lat 35°25'20", long. 81°15'50", on left bank 250 ft upstream from remains of Rudisill Mill dam, half a mile upstream from highway bridge, 1½ miles upstream from mouth, 1½ miles south of Laboratory, Lincoln County, and 3½ miles south of Lincolnton.

Drainage area.--68.4 sq mi.

Records available.--August 1951 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 736 ft (by barometer).

Extremes.--Maximum discharge during year, 1,400 cfs Feb. 21 (gage height, 4.85 ft); minimum, 14 cfs Aug. 31 to Sept. 4 (gage height, 0.74 ft).

1951-53: Maximum discharge, 5,030 cfs Mar. 4, 1952 (gage height, 8.74 ft), from rating curve extended above 830 cfs on basis of computation of peak flow over dam 1 mile downstream at gage heights, 4.95, 6.27, and 8.74 ft; minimum, that of Aug. 31 to Sept. 4, 1953.

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

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

0.7	11	290
.8	19	355
1.0	48	420
1.2	95	740
1.4	153	1,540
1.7	232	

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	31	33	98	69	79	82	101	31	34	19	15
2	31	31	*38	69	65	115	77	82	30	42	52	*15
3	31	31	36	67	63	109	74	67	30	67	128	15
4	31	30	34	54	61	157	74	63	30	95	29	19
5	31	30	40	50	58	115	69	*61	29	38	27	74
6	31	30	40	46	61	95	74	63	31	34	47	50
7	31	30	34	46	219	87	85	95	61	82	25	36
8	30	29	34	82	103	85	72	65	65	92	25	25
9	60	50	33	176	82	77	69	58	108	40	24	21
10	48	31	62	475	74	77	69	54	160	33	21	19
11	40	38	108	159	72	90	67	52	202	30	19	19
12	36	40	48	101	90	188	69	50	59	30	19	19
13	36	31	41	82	79	123	74	48	50	29	18	50
14	34	31	40	69	72	101	67	48	79	27	17	21
15	33	33	36	67	342	115	65	45	150	27	17	19
16	34	31	36	63	144	101	69	45	58	27	16	17
17	33	*33	34	61	106	90	65	46	52	26	18	17
18	33	33	34	83	*87	87	63	46	*45	27	21	17
19	33	34	34	58	82	85	63	67	41	29	*98	19
20	*31	52	34	54	218	77	61	69	40	27	41	51
21	30	40	40	287	1,110	74	61	48	42	29	26	41
22	31	34	36	109	542	144	58	45	103	27	25	23
23	31	34	38	118	216	264	58	41	45	30	24	20
24	31	33	38	379	135	*514	58	41	41	25	20	19
25	31	33	36	141	115	188	56	40	41	23	19	23
26	31	34	34	101	103	132	74	38	38	23	18	33
27	31	36	34	87	92	115	58	36	39	21	17	65
28	31	33	34	98	85	103	54	34	36	20	17	34
29	30	33	33	85	-	95	54	34	36	20	16	27
30	30	33	34	74	-	87	108	34	41	*19	15	25
31	30	-	197	69	-	85	-	33	-	21	15	-
Total	1,037	1,002	1,383	3,466	4,544	3,854	2,047	1,647	1,809	1,094	893	848
Mean	33.5	33.4	44.6	112	162	124	68.2	53.1	60.3	35.3	28.8	29.3
Cfsm	0.490	0.488	0.652	1.64	2.37	1.81	0.997	0.776	0.862	0.516	0.421	0.414
In.	0.56	0.54	0.75	1.88	2.47	2.10	1.11	0.90	0.98	0.60	0.49	0.46
Calendar year 1952: Max	3,750			Min 18			Mean 99.0	Cfsm 1.45	In. 19.68			
Water year 1952-53: Max	1,110			Min 15			Mean 64.7	Cfsm 0.946	In. 12.84			

Peak discharge (base, 1,500 cfs).--No peak above base.

\* Discharge measurement made on this day.

## Long Creek near Bessemer City, N. C.

Location.--Lat 35°18'20", long. 81°14'05", on right bank at upstream side of highway bridge, 2 miles northeast of Bessemer City limits, Gaston County,  $8\frac{1}{4}$  miles upstream from mouth.

Drainage area.--31.4 sq mi.

Records available.--December 1952 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 706.1 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during period, 816 cfs June 10 (gage height, 4.95 ft); minimum, 2.8 cfs Sept. 18 (gage height, 0.93 ft); minimum daily, 3.8 cfs Sept. 17.

Remarks.--Records good. Bessemer City diverts out of basin approximately 0.5 cfs for water supply causing small diurnal fluctuation at low flow.

Rating table, Dec. 13, 1952, to Sept. 30, 1953 (gage height, in feet, and discharge, in cubic feet per second)

1.0	3.8	2.4	76
1.2	7.1	3.0	175
1.4	10.4	3.5	296
1.6	15.8	4.0	452
2.0	55	4.5	635

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			-	36	27	34	33	40	12	11	11	4.6
2			-	27	25	66	32	34	11	11	28	4.6
3			-	27	24	52	32	29	10	35	10	4.4
4			-	22	25	58	30	28	11	24	7.4	4.8
5		+12	-	19	23	47	29	26	10	12	8.1	6.2
6			-	19	23	39	32	*26	12	12	11	17
7			-	18	150	37	34	40	24	11	8.1	9.8
8			-	93	53	34	29	26	75	11	9.2	6.4
9			-	*132	37	53	29	24	133	10	11	5.9
10			-	242	33	32	*28	22	179	9.7	7.4	5.7
11			-	56	32	45	27	22	71	9.0	7.1	5.6
12			+19	37	49	74	29	22	27	9.2	6.6	5.6
13			16	31	*38	52	29	21	22	8.7	6.6	5.4
14			15	28	33	42	27	19	20	9.0	5.7	4.8
15			14	27	194	49	26	19	19	8.4	5.4	4.6
16			14	25	64	40	31	19	17	8.4	5.4	*4.4
17			14	24	46	56	27	19	18	8.7	6.6	3.8
18			13	28	37	35	26	18	*15	9.7	7.7	4.3
19			13	25	34	33	27	20	15	10	*20	5.4
20			14	23	153	32	24	19	14	21	10	6.5
21			16	83	517	30	25	18	14	9.2	7.8	6.6
22		+11	14	34	152	61	24	19	38	11	7.3	*5.1
23			15	54	72	215	24	17	16	11	7.1	4.9
24			15	214	58	*254	23	17	17	8.7	6.8	4.6
25			14	60	51	74	23	15	17	8.1	6.2	6.0
26			14	41	47	*52	25	14	14	8.4	6.2	9.5
27			14	34	40	46	22	13	17	7.6	*5.9	30
28			13	35	37	41	22	12	14	7.6	5.2	8.7
29			12	31	-	39	21	13	13	7.4	5.6	7.4
30		+12	13	28	-	36	48	13	13	*7.3	5.1	7.1
31			113	28	-	34	-	12	-	6.6	4.6	-
Total			-	1,581	2,074	1,752	838	655	898	340.7	257.9	209.7
Mean			-	51.0	74.1	56.5	27.9	21.1	29.6	11.0	8.32	6.99
Cfsm			-	1.62	2.36	1.80	0.889	0.672	0.943	0.350	0.265	0.223
In.			-	1.87	2.46	2.07	0.99	0.78	1.05	0.40	0.31	0.25

Calendar year : Max

Water year : Max

Min

Min

Mean

Mean

Cfsm

Cfsm

In.

In.

Peak discharge (base, 650 cfs)--Feb. 21 (2 a.m.) 795 cfs (4.88 ft); Mar. 23 (9 p.m.) 714 cfs (4.72 ft); June 10 (7:30 p.m.) 816 cfs (4.95 ft).

\* Discharge measurement made on this day.

† Result of discharge measurement.

## South Fork Catawba River at Lowell, N. C.

Location.--Lat 35°17'09". long. 81°06'04". on right bank 120 ft downstream from Housers Creek, 1 mile north of Lowell, Gaston County, and 3 miles downstream from Long Creek.

Drainage area.--630 sq mi.

Records available.--January 1942 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 603.10 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--11 years, 816 cfs.

Extremes.--Maximum discharge during year, 8,190 cfs Mar. 24 (gage height, 10.58 ft); minimum, 63 cfs Aug. 1 (gage height, 1.18 ft); minimum daily, 146 cfs Aug. 17.

1942-53: Maximum discharge, 22,000 cfs Sept. 19, 1945 (gage height, 16.98 ft); minimum, 33 cfs Oct. 11, 1951; minimum daily, 92 cfs Oct. 7, 1951.

Maximum stage known, 21.33 ft in August 1940, from floodmarks (discharge, 34,000 cfs).

Remarks.--Records good. Considerable diurnal fluctuation and slight regulation for short periods at low flow caused by powerplant above station. City of Gastonia diverted an average of 6.5 cfs during water year 1953 for water supply from Long Creek. For diversion by town of Morganton see Henry Fork near Henry River.

Revisions (water years).--WSP 1002: 1943(m).

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

1.5	103	5.0	1,720
2.0	211	6.0	2,500
2.5	365	8.0	4,500
3.0	547	10.0	7,200
4.0	1,040		

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	317	304	324	1,160	606	737	838	950	324	430	154	190
2	311	289	314	838	606	980	810	737	280	306	270	165
3	330	317	*348	668	566	1,070	760	609	304	422	501	172
4	264	290	365	542	566	1,320	736	*613	299	785	459	193
5	247	267	356	549	528	1,350	681	539	305	393	*319	204
6	352	309	389	465	528	1,160	709	574	284	392	303	973
7	279	300	327	469	1,290	950	764	754	320	397	258	1,160
8	218	314	381	634	950	838	741	810	1,360	658	236	606
9	345	239	317	*1,490	838	785	674	626	1,810	397	218	422
10	459	304	381	2,560	714	737	646	547	796	358	255	306
11	399	317	679	1,990	647	760	626	554	2,420	333	214	292
12	346	353	601	1,250	691	1,160	604	509	920	302	179	253
13	349	339	533	865	*737	1,250	699	509	668	351	186	838
14	331	380	414	714	647	1,220	634	470	512	272	205	788
15	330	295	419	626	3,170	1,100	626	450	820	181	214	425
16	325	320	358	583	1,560	1,680	626	454	586	258	147	308
17	337	353	396	570	1,220	1,520	606	411	*509	284	*146	286
18	314	280	347	556	920	1,070	586	462	461	244	210	262
19	298	289	363	568	785	920	586	528	425	227	425	254
20	353	374	365	615	1,020	838	626	701	400	275	1,800	205
21	263	542	340	1,350	5,540	760	566	528	371	273	1,070	519
22	262	454	404	1,250	4,990	838	586	458	864	240	443	691
23	311	337	330	950	3,870	2,850	536	440	509	304	340	429
24	267	407	304	2,540	1,860	5,660	520	386	526	274	283	517
25	345	296	362	1,520	1,250	3,170	528	411	466	257	256	298
26	268	365	358	1,160	1,070	*2,030	580	393	382	197	261	330
27	314	340	351	865	950	1,320	606	390	351	244	241	582
28	297	358	307	760	865	1,130	547	379	483	212	230	519
29	266	330	382	737	-	980	528	317	398	176	240	551
30	298	311	354	691	-	920	626	354	499	235	156	366
31	304	-	1,130	626	-	892	-	317	-	208	157	-
Total	9,697	9,973	12,619	30,141	38,984	41,995	19,201	16,180	18,652	9,685	10,376	12,904
Mean	313	332	407	972	1,392	1,355	640	522	622	319	335	430
Cfsm	0.497	0.527	0.646	1.54	2.21	2.15	1.02	0.829	0.987	0.506	0.532	0.683
In.	0.57	0.59	0.74	1.78	2.30	2.48	1.13	0.96	1.10	0.58	0.61	0.76
Calendar year 1952: Max			16,600	Min	122	Mean	878	Cfsm	1.39	In.	18.96	
Water year 1952-53: Max			5,660	Min	146	Mean	632	Cfsm	1.00	In.	13.60	

Peak discharge (base, 8,000 cfs).--Mar. 24 (12:30 a.m.) 8,190 cfs (10.58 ft).

\* Discharge measurement made on this day.

## Catawba River near Rock Hill, S. C.

Location.--Lat 34°59', long. 80°58', on right bank at downstream side of bridge on U. S. Highway 21, 3½ miles downstream from Catawba Dam, 5 miles northeast of Rock Hill, York County, and 7½ miles upstream from Sugar Creek.

Drainage area.--3,050 sq mi, approximately.

Records available.--September 1895 to July 1903, April 1942 to September 1953. Revised records for period September 1895 to July 1903 published in North Carolina Department of Conservation and Development Bulletin 34 and South Carolina Research, Planning and Development Board Bulletin 17.

Gage.--Water-stage recorder. Altitude of gage is 492 ft (by barometer). Sept. 23, 1895, to July 31, 1903, chain gage at Southern Railway bridge, 2 miles downstream at different datum.

Average discharge.--18 years (1895-1902, 1942-53), 4,740 cfs.

Extremes.--Maximum discharge during year, 38,900 cfs Mar. 24 (gage height, 13.49 ft); minimum, 386 cfs July 12 (gage height, 2.93 ft); minimum daily, 899 cfs July 12, 1895-1903, 1942-53: Maximum discharge, 151,000 cfs May 23, 1901 (gage height, 24.15 ft, site and datum then in use); minimum, 42 cfs Apr. 25, 1943 (gage height, 2.59 ft); minimum daily, 815 cfs Sept. 2, 1945.

Remarks.--Records good except those for period of no gage height record, which are fair. Flow regulated by Catawba Reservoir (usable capacity, 6,542,000,000 cu ft) and by other powerplants above station.

Revisions.--See Records available.

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

3.3	890	5.0	4,670
3.5	1,210	8.0	15,600
4.0	2,120	11.0	27,600

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	4,720	1,070	1,720	1,080	1,230	1,340	6,250	1,700	3,270	1,030	988	4,110
2	4,690	1,230	2,180	1,050	4,330	5,330	6,370	2,170	2,410	1,090	970	2,920
3	3,150	1,900	1,820	1,100	5,880	8,340	*5,140	986	2,080	1,000	4,260	2,840
4	4,410	2,140	2,790	1,050	5,100	6,250	1,180	2,670	2,080	938	2,230	1,900
5	1,070	1,960	2,000	1,380	5,990	6,220	1,100	3,640	1,640	1,000	2,220	954
6	4,820	2,400	1,200	1,840	4,340	5,880	5,090	6,490	1,170	1,520	1,830	1,020
7	5,170	1,810	1,200	2,260	1,430	2,760	6,610	4,410	1,000	1,840	1,650	970
8	5,720	1,510	2,600	3,700	1,100	1,130	5,440	3,340	1,530	1,860	1,020	1,970
9	4,620	1,020	2,200	2,580	5,840	5,580	5,980	1,100	2,220	2,880	*1,050	1,880
10	2,750	2,370	2,400	1,150	3,710	7,800	5,200	1,000	2,790	1,490	3,040	3,140
11	1,230	1,930	1,600	1,230	3,680	8,070	2,220	4,460	6,680	964	1,820	2,680
12	1,150	2,130	1,500	2,620	3,260	7,550	1,970	5,640	6,680	899	1,850	958
13	2,120	1,960	1,100	4,070	2,980	3,750	2,310	5,170	930	3,010	2,720	986
14	3,240	1,670	1,300	3,740	1,540	3,300	3,910	4,290	970	2,460	2,190	2,520
15	3,370	1,130	2,600	5,690	1,680	4,130	4,120	*3,430	3,000	4,070	1,000	2,680
16	2,840	1,100	2,400	4,160	1,280	7,980	4,020	998	2,540	*3,490	1,090	2,990
17	2,000	*1,460	2,000	1,420	2,560	8,350	2,590	1,050	2,870	3,190	1,100	1,970
18	1,230	2,240	1,680	1,070	7,190	9,400	1,140	4,090	3,080	1,040	2,860	1,300
19	1,070	2,130	2,200	3,350	9,570	7,810	1,810	3,340	2,860	1,020	2,090	1,040
20	2,540	1,590	1,000	5,140	9,130	5,560	4,640	2,570	970	3,010	2,100	970
21	2,480	1,340	1,200	4,810	12,700	2,200	4,320	2,690	970	3,890	1,240	1,750
22	2,540	1,000	1,700	4,850	16,700	1,160	2,970	2,680	3,100	2,520	922	1,410
23	1,520	1,110	1,100	4,570	21,200	6,530	3,080	1,220	4,570	3,680	970	1,410
24	1,480	1,700	1,200	1,670	11,700	25,900	2,730	1,070	4,200	2,350	2,370	1,310
25	1,680	1,760	900	1,150	3,260	16,500	1,000	4,220	3,930	948	3,280	1,340
26	1,330	1,280	1,100	6,250	8,540	14,400	1,000	3,960	1,810	1,020	2,580	1,020
27	1,840	1,170	1,200	6,520	4,760	10,800	3,600	4,230	986	3,310	2,960	1,200
28	1,790	1,740	1,100	5,950	2,600	8,770	4,070	2,030	909	3,630	2,590	1,160
29	1,960	1,130	2,200	5,830	-	8,480	3,190	1,850	1,080	3,860	994	1,210
30	2,350	1,080	*1,770	4,690	-	11,200	3,190	1,030	1,360	4,710	1,070	1,510
31	1,900	-	1,620	2,400	-	7,350	-	1,050	-	3,920	3,910	-
Total	81,760	48,060	52,700	98,370	167,280	229,820	106,240	88,574	73,465	71,669	60,944	53,098
Mean	2,637	1,602	1,700	3,173	5,974	7,414	3,541	2,857	2,449	2,312	1,966	1,770
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 46,800 Min 860 Mean 4,159 Cfsm - In. -  
 Water year 1952-53: Max 25,900 Min 899 Mean 3,101 Cfsm - In. -

\* Discharge measurement made on this day.

Note.--No gage-height record Dec. 5-29; discharge estimated on basis of weather records and powerplant records at Catawba Reservoir.

## Little Sugar Creek near Charlotte, N. C.

Location.--Lat 35°09'20", long. 80°51'10", on right bank 50 ft downstream from tributary on right, 500 ft downstream from Briar Creek, 600 ft upstream from sewage-disposal plant of city of Charlotte, and 4.7 miles south of city hall, Charlotte, Mecklenburg County.

Drainage area.--41.4 sq mi.

Records available.--July 1924 to September 1953.

Gage.--Water-stage recorder and concrete control. Datum of gage is 571.6 ft above mean sea level (city of Charlotte datum). Prior to Apr. 21, 1927, staff gage at same site and datum.

Average discharge.--29 years, 44.7 cfs.

Extremes.--Maximum discharge during year, 2,850 cfs Feb. 20 (gage height, 9.40 ft); minimum, 3.9 cfs Sept. 14 (gage height, 1.57 ft).

1924-53: Maximum discharge, 8,370 cfs Apr. 6, 1936 (gage height, 16.2 ft, from floodmarks), from rating curve extended above 2,000 cfs on basis of slope-area determinations of peak flow at 10.42, 11.47, and 12.00 ft; minimum, 1.6 cfs July 30, 31, Aug. 1, 1925.

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

Revisions (water years).--WSP 1052: 1939-44.

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

Oct. 1 to June 22				June 23 to Sept. 30	
1.6	4.1	2.5	126	1.6	4.6
1.7	9.0	3.0	277	1.7	9.0
1.8	16	4.0	570	Note.--Same as preceding table above 1.7 ft.	
2.0	35	5.0	897		
2.2	62				

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	8.5	9.7	59	24	31	32	58	12	10	215	6.8
2	10	7.5	30	39	22	195	30	153	12	10	74	5.9
3	12	8.5	18	43	23	*101	29	38	12	15	12	*15
4	9.7	8.5	*13	27	23	150	28	37	12	16	10	8.1
5	8.5	8.5	75	23	21	67	26	94	12	8.1	9.0	28
6		9.7	*9.0	35	22	45	36	125	82	8.1	10	34
7	10	9.7	22	20	403	39	37	156	79	11	8.5	7.7
8	10	8.5	22	47	77	36	28	45	28	10	25	7.2
9	40	8.0	21	182	42	32	27	32	17	9.0	9.4	5.9
10	a20	11	148	150	34	32	26	27	24	8.1	6.8	6.4
11	a12	30	81	45	34	79	23	25	22	6.8	6.8	5.5
12	a11	16	24	33	56	277	150	24	15	5.9	6.8	5.5
13	a10	12	19	*28	*40	90	69	22	61	6.8	7.2	6.2
14	a9.0	12	15	24	35	54	36	21	14	7.2	5.9	4.6
15	a10	14	15	22	823	336	30	19	14	7.2	5.9	5.5
16	a9.0	12	15	21	94	82	49	19	14	7.2	5.5	5.5
17	a8.0	13	15	20	52	53	28	18	*20	6.8	22	5.5
18	a8.0	13	14	33	39	47	25	18	12	6.4	15	5.0
19	a8.0	56	14	24	35	42	25	23	15	5.9	57	4.6
20	a8.0	60	17	21	339	37	24	20	12	5.9	15	4.6
21	a8.0	16	24	110	728	33	23	18	22	6.4	9.0	6.4
22	a8.0	13	15	34	202	71	23	17	106	20	7.7	6.8
23	8.5	10	23	38	76	455	22	15	15	10	6.4	6.4
24	9.0	10	19	357	66	282	22	15	14	6.8	6.8	5.5
25	8.5	12	15	67	58	84	20	15	12	5.9	7.2	6.8
26	7.5	13	14	39	50	53	19	15	12	4.6	8.1	41
27	8.5	12	14	33	40	43	19	13	12	5.0	7.2	120
28	9.0	11	12	40	34	39	19	13	9.7	5.5	6.8	9.0
29	8.5	10	12	33	-	34	19	14	10	5.9	5.5	7.2
30	8.5	9.0	14	27	-	33	145	13	10	*5.5	4.6	6.8
31	8.5	-	442	25	-	33	-	12	-	6.8	5.9	-
Total	325.4	441.7	1,227.7	1,666	3,492	2,985	1,089	1,134	711.7	253.8	602.0	393.4
Mean	10.5	14.7	39.6	53.7	125	96.3	36.3	36.6	23.7	8.19	19.4	13.1
Cfsm	0.254	0.355	0.957	1.30	3.02	2.33	0.877	0.864	0.572	0.198	0.469	0.316
In.	0.29	0.40	1.10	1.50	3.14	2.68	0.98	1.02	0.64	0.23	0.54	0.35

Calendar year 1952: Max 2,080 Min 5.9 Mean 48.3 Cfsm 1.17 In. 15.88

Water year 1952-53: Max 823 Min 4.6 Mean 39.2 Cfsm 0.947 In. 12.87

Peak discharge (base, 2,100 cfs).--Feb. 15 (4 a.m.) 2,170 cfs (8.00 ft); Feb. 20 (12 p.m.) 2,850 cfs (9.40 ft); Aug. 1 (9 p.m.) 2,750 cfs (9.21 ft).

\* Discharge measurement made on this day.

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

## Rocky Creek at Great Falls, S. C.

Location.--Lat 34°34', long. 80°55', on left bank 350 ft downstream from Turkey Branch, 1 mile west of Great Falls, Chester County, and 1.6 miles upstream from mouth.

Drainage area.--194 sq mi.

Records available.--February 1951 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 299 ft (by barometer).

Extremes.--Maximum discharge during year, 5,230 cfs Feb. 21 (gage height, 7.71 ft); minimum, 2.2 cfs Sept. 19, 20 (gage height, 0.30 ft).  
1951-53: Maximum discharge, 8,880 cfs Mar. 4, 1952 (gage height, 9.77 ft); minimum, that of Sept. 19, 20, 1953.

Remarks.--Records good.

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

0.3	2.2	1.1	33	4.0	1,080
.4	3.4	1.5	72	5.0	1,880
.5	5.0	2.0	155	7.0	4,210
.6	7.6	2.5	289		
.8	15	3.0	477		

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	39	31	35	1,250	98	166	*110	447	31	20	8.4	4.1
2	37	31	47	248	91	419	103	160	28	15	10	8.4
3	33	32	86	213	88	809	96	228	26	15	5.5	6.8
4	32	32	56	161	84	762	91	368	26	38	5.6	21
5	32	31	50	118	77	649	86	268	26	26	16	16
6	32	32	71	100	75	295	85	579	28	18	18	20
7	32	32	59	*92	270	218	97	1,900	38	16	94	32
8	31	31	48	100	407	184	84	836	32	19	32	15
9	37	31	46	755	182	153	78	265	30	16	17	8.8
10	42	*32	46	1,130	129	137	77	175	35	15	13	6.6
11	38	38	201	414	256	380	73	136	37	20	10	6.3
12	35	47	121	208	778	1,640	741	114	30	12	8.6	5.3
13	35	38	69	146	423	877	1,100	*98	28	*10	7.6	5.3
14	33	35	60	122	215	359	306	85	25	8.6	6.8	3.9
15	33	35	54	110	2,930	564	181	77	41	9.0	5.5	3.2
16	33	35	49	100	*2,570	631	151	72	30	*9.0	4.7	3.9
17	33	34	49	92	388	268	122	68	27	9.0	*12	3.3
18	33	33	48	100	235	213	110	62	24	8.3	18	2.8
19	32	35	47	126	184	192	107	62	22	8.3	34	2.3
20	31	77	47	105	177	155	92	70	21	8.6	125	2.3
21	28	69	57	137	3,200	137	86	62	20	7.9	29	3.2
22	27	46	54	190	1,580	147	81	56	41	10	15	4.8
23	30	39	50	107	552	251	78	51	43	16	11	5.3
24	31	38	51	1,230	332	845	75	47	24	13	10	*2.4
25	31	36	50	912	402	380	70	46	22	8.6	9.0	2.8
26	31	37	49	231	368	221	68	42	20	6.3	7.6	7.9
27	30	40	47	166	270	174	64	39	25	5.5	6.6	695
28	31	39	46	143	203	151	61	36	21	8.2	5.5	96
29	30	36	44	131	-	133	59	35	45	10	4.7	32
30	29	36	44	112	-	119	109	35	*29	8.6	4.2	21
31	30	-	1,350	102	-	114	-	34	-	8.8	4.0	-
Total	1,011	1,138	3,131	9,131	16,564	11,743	4,641	6,551	875	403.7	558.3	1,045.7
Mean	32.6	37.9	101	295	592	379	155	211	29.2	13.0	18.0	34.9
Cfs/m	0.168	0.195	0.521	1.52	3.05	1.95	0.799	1.09	0.151	0.067	0.093	0.180
In.	0.19	0.22	0.60	1.75	3.18	2.25	0.89	1.26	0.17	0.08	0.11	0.20

Calendar year 1952: Max 7,100 Min 5.3 Mean 177 Cfs/m 0.912 In. 12.40

Water year 1952-53: Max 3,200 Min 2.3 Mean 156 Cfs/m 0.804 In. 10.90

Peak discharge (base, 2,600 cfs).--Feb. 16 (3:30 a.m.) 4,780 cfs (7.41 ft); Feb. 21 (7 p.m.) 5,230 cfs (7.71 ft).

\* Discharge measurement made on this day.

## Wateree River near Camden, S. C.

Location.--Lat 34°14'40", long. 80°39'15", in pier of bridge on U. S. Highway 1, 1,500 ft downstream from Twentyfivemile Creek, 4,000 ft upstream from Seaboard Air Line Railroad bridge, 2.2 miles west of Camden, Kershaw County, and 7.4 miles downstream from Wateree Dam.

Drainage area.--5,070 sq mi, approximately.

Records available.--January to December 1903 (gage heights only), September 1904 to June 1910, October 1929 to September 1953. Gage-height records collected at site  $\frac{1}{2}$  miles downstream 1891-1934, at site 1,000 ft upstream January 1935 to September 1942, and at present site since October 1942, are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 119.36 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. January 1903 to June 1910 staff or chain gages at site  $\frac{1}{2}$  miles downstream at different datum. Oct. 1, 1929, to Sept. 1, 1942, water-stage recorder at site 1,000 ft upstream at present datum.

Average discharge.--24 years (1929-53), 5,875 cfs.

Extremes.--Maximum discharge during year, 24,500 cfs Feb. 24 (gage height, 20.82 ft); minimum daily, 179 cfs Apr. 26.

1904-10, 1929-53: Maximum discharge uncertain, occurred Aug. 26, 1908 (gage height, 39.7 ft, site and datum then in use, from records of U. S. Weather Bureau); minimum daily, 170 cfs June 3, 1941.

Maximum stage known, 40.4 ft July 18, 1916, at site  $\frac{1}{2}$  miles downstream, from records of U. S. Weather Bureau (discharge uncertain).

Remarks.--Records fair. Flow regulated by Wateree Reservoir (capacity, 7,626,000,000 cu ft) and by other powerplants above station.

Cooperation.--Gage-height record collected in cooperation with U. S. Weather Bureau.

Revisions (water years).--WSP 802: 1930. WSP 952: Drainage area. WSP 1082: 1908(M), 1934(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	5,770	1,560	2,900	3,820	1,520	4,110	13,600	4,260	3,190	1,550	2,080	4,050
2	5,360	520	3,490	2,560	5,840	8,160	11,000	2,240	2,800	993	364	3,630
3	4,060	2,580	2,860	884	8,600	14,900	5,660	1,510	2,930	256	4,020	5,980
4	1,720	2,760	4,370	508	8,070	16,000	2,020	8,680	3,390	340	4,350	4,450
5	454	2,720	4,080	4,840	7,780	16,100	782	8,220	2,760	311	4,040	1,140
6	4,280	2,710	1,240	5,490	7,720	16,000	4,820	11,500	889	981	3,470	1,160
7	4,520	2,070	494	4,860	7,000	13,100	5,830	14,800	240	2,480	2,420	578
8	4,970	830	2,700	*5,510	1,430	3,640	4,680	16,200	1,540	3,360	721	1,130
9	6,060	348	3,430	5,940	4,310	6,160	6,590	14,300	2,660	5,540	444	3,900
10	5,840	4,120	2,520	5,540	5,690	9,160	6,790	3,430	3,370	3,830	1,990	4,900
11	2,880	3,260	1,880	2,570	5,960	9,300	1,930	5,520	2,360	536	3,220	1,670
12	821	2,280	950	5,200	6,560	11,500	877	7,100	3,640	210	2,850	326
13	4,140	2,390	716	6,380	6,930	11,500	6,620	6,840	1,430	3,870	2,040	326
14	4,380	1,500	403	6,540	5,670	13,500	8,590	6,520	274	5,930	1,700	2,390
15	4,660	610	2,360	7,400	9,430	10,600	7,060	6,010	1,800	7,040	442	3,760
16	4,990	371	2,680	7,540	12,100	12,000	6,570	2,340	2,350	5,570	354	4,030
17	4,890	2,310	2,510	4,980	13,000	11,500	5,660	349	2,920	4,040	1,940	3,570
18	1,060	3,410	2,770	780	12,900	11,300	2,720	3,520	*3,640	885	3,060	3,280
19	4,460	3,310	2,120	5,510	12,800	11,400	851	3,940	2,580	247	3,290	966
20	2,850	*3,140	708	7,140	12,900	10,100	3,900	3,560	838	3,560	3,210	385
21	3,650	3,270	416	7,730	14,300	6,640	4,520	3,280	243	5,440	2,110	1,380
22	4,790	1,030	3,710	7,320	11,400	1,620	*5,150	3,360	2,660	5,640	*684	1,480
23	4,840	404	3,890	8,090	19,600	6,470	3,080	1,160	3,980	4,160	369	992
24	5,010	2,260	960	10,500	23,800	14,800	3,070	409	4,380	3,290	2,460	1,180
25	1,820	2,910	354	4,550	20,200	15,800	1,030	3,940	4,190	865	3,320	824
26	578	1,860	340	5,850	18,200	16,000	179	4,460	3,550	316	3,330	471
27	3,130	1,380	321	8,580	17,000	16,000	2,540	2,620	1,920	3,010	2,610	2,940
28	3,360	3,470	316	8,270	13,700	16,000	3,340	2,290	264	3,340	2,210	2,130
29	2,950	1,130	4,290	8,780	-	13,800	3,450	2,020	1,190	3,820	670	1,960
30	2,980	450	4,690	8,280	-	14,100	4,620	615	2,010	6,900	326	3,670
31	2,140	-	5,650	6,870	-	15,300	-	228	-	7,110	3,170	-
Total	109,413	60,963	70,118	178,612	294,410	356,560	137,509	155,221	69,988	95,220	67,204	68,268
Mean	3,529	2,032	2,262	5,762	10,510	11,500	4,584	5,007	2,333	3,072	2,168	2,276
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-
Calendar year 1952: Max	72,200			Min 316		Mean 6,247	Cfsm -	In. -				
Water year 1952-53: Max	23,800			Min 179		Mean 4,557	Cfsm -	In. -				

\* Discharge measurement made on this day.

## Broad River near Chimney Rock, N. C.

Location.--Lat 35°25'35", long. 82°10'45", 1,000 ft downstream from Lake Lure Dam, 1.5 miles downstream from Buffalo Creek, and 3 miles east of Chimney Rock, Rutherford County.

Drainage area.--97 sq mi, approximately.

Records available.--May 1907 to June 1909 (fragmentary), March 1927 to September 1953. Published as "at Uree" 1907-9.

Gage.--Water-stage recorder. Altitude of gage is 860 ft (from topographic map). May 17, 1907, to June 30, 1909, staff gage at site 1 1/8 miles downstream at different datum.

Average discharge.--26 years (1927-53), 175 cfs.

Extremes.--Maximum discharge during year, 1,300 cfs Mar. 23 (gage height, 3.05 ft); minimum, 2.9 cfs Apr. 17 (gage height, 0.50 ft); minimum daily, 3.5 cfs Dec. 13, 20, Apr. 17-23.  
1927-53: Maximum discharge, 26,000 cfs Aug. 15, 1928 (gage height, 16.8 ft), from rating curve extended above 4,200 cfs on basis of computation of peak flow over Lake Lure Dam at gage heights 12.2 and 16.8 ft; minimum, 0.7 cfs Sept. 13, 1928 (gage height, 0.26 ft); minimum daily, 0.8 cfs Sept. 13, 14, 1928.

Remarks.--Records good. Large diurnal fluctuation and complete regulation at low flow caused by powerplants above station.

Revisions (water years).--WSP 892: 1927(M), 1928-30, 1933, 1935-39(M).

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

0.5	2.9	1.1	64
.6	5.9	1.3	115
.7	10	1.5	183
.8	18	2.0	420
.9	30	2.5	750

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	4.4	88	92	7.3	4.4	309	298	89	90	7.3	82
2	85	50	91	57	154	145	277	176	87	87	42	50
3	88	94	86	5.3	152	203	160	172	80	8.2	95	5.3
4	5.0	92	89	46	142	293	88	172	91	7.7	94	5.3
5	5.0	89	49	52	157	215	12	*172	91	82	93	5.9
6	46	47	4.1	80	151	208	265	176	8.7	87	53	5.9
7	90	4.4	44	*88	83	70	388	172	10	86	11	5.9
8	93	4.7	89	81	7.3	4.4	475	172	157	7.7	11	41
9	93	50	90	118	220	217	475	132	150	82	45	85
10	93	95	89	327	222	309	488	6.4	148	86	90	86
11	92	96	87	400	211	224	434	225	161	7.7	88	50
12	47	94	54	273	220	220	277	151	154	32	86	5.6
13	93	94	3.5	215	219	214	176	147	82	79	52	39
14	*91	43	39	219	70	146	95	149	8.2	90	6.8	84
15	90	4.7	88	220	7.7	5.0	13	85	155	*89	7.3	89
16	93	54	87	152	220	219	*6.9	42	149	89	40	*51
17	52	89	89	74	217	216	3.5	9.1	83	90	86	6.8
18	4.1	92	89	8.2	218	258	3.5	80	86	58	*86	6.8
19	42	95	54	220	219	265	3.5	126	83	37	50	7.3
20	88	95	3.5	218	334	218	3.5	156	7.7	86	52	8.7
21	89	42	42	218	587	109	3.5	153	7.7	88	5.9	85
22	94	5.0	86	217	656	5.3	3.5	91	88	89	5.9	153
23	88	50	90	180	483	617	3.5	51	90	89	39	85
24	55	92	92	172	458	676	3.8	9.1	89	88	82	84
25	3.8	106	95	167	458	568	4.4	156	89	57	83	83
26	39	91	59	267	458	509	5.0	157	89	36	49	130
27	90	90	4.4	155	415	481	5.0	88	86	87	5.3	53
28	90	52	36	218	158	383	10	85	87	87	39	147
29	86	4.7	93	238	-	22	5.3	88	152	87	50	86
30	91	41	94	149	-	315	101	9.1	89	54	37	83
31	54	-	94	151	-	396	-	7.7	-	7.3	83	-
Total	2,159.9	1,860.9	2,096.5	5,077.5	6,904.3	7,735.1	4,097.9	3,713.4	2,747.3	2,048.6	1,574.5	1,709.5
Mean	69.7	62.0	67.6	164	247	250	137	120	91.6	66.1	50.8	57.0
Cfsm	0.719	0.639	0.697	1.69	2.55	2.58	1.41	1.24	0.944	0.681	0.524	0.588
In.	0.83	0.71	0.80	1.95	2.65	2.97	1.57	1.42	1.05	0.79	0.60	0.66

Calendar year 1952: Max 1,520 Min 3.5 Mean 148 Cfsm 1.53 In. 20.71  
Water year 1952-53: Max 676 Min 3.5 Mean 114 Cfsm 1.18 In. 16.00

\* Discharge measurement made on this day.

## SANTEE RIVER BASIN

Green River near Mill Spring, N. C.

Location--Lat 35°20'10", long. 82°04'50", on right bank at abandoned ford 1.5 miles northeast of Pea Ridge Church, 2 miles downstream from Walnut Creek, and 5.2 miles northeast of Mill Spring, Polk County.

Drainage area--174 sq mi.

Records available--December 1939 to September 1953.

Gage--Water-stage recorder. Altitude of gage is 770 ft (by barometer).

Average discharge--14 years, 387 cfs.

Extremes--Maximum gage height during year, 7.43 ft Feb. 21 (maximum discharge at gage not determined); maximum discharge at Turner Shoals Dam, 9 miles upstream, drainage area, 135 sq mi, 4,180 cfs Feb. 21, by computation of flow over dam; minimum discharge, 36 cfs Sept. 13 (gage height, 1.48 ft); minimum daily, 38 cfs July 5.  
1939-53: Maximum gage height, 22.15 ft Aug. 13, 1940 (maximum discharge at gage not determined); maximum discharge at Turner Shoals Dam, 12,000 cfs Aug. 28, 1949, by computation of peak flow over dam; minimum and minimum daily, 25 cfs July 6, 1940 (gage height, 1.42 ft).  
Maximum stage known, 24.2 ft in July 1916, from flood crest reference mark placed by local resident.

Remarks--Records good except those above 2,000 cfs, which are poor. Large diurnal fluctuation caused by powerplants above station; considerable regulation by Lake Summitt and Turner Shoals Reservoirs (combined usable storage, 338,875,000 cu ft).

Revisions (water years)--WSP 1233: 1940(M).

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

1.6	49	1.5	38	3.0	720
1.8	92	1.7	69	3.5	1,120
2.0	150	2.0	150	4.0	1,570
2.3	275	2.3	275	5.0	2,280
		2.6	450	6.0	2,900

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	142	90	132	174	85	104	644	546	179	247	237	133
2	173	73	154	140	284	567	499	395	246	174	232	141
3	202	147	240	160	312	610	369	154	*179	176	156	232
4	49	151	188	60	*287	522	302	574	215	44	199	182
5	79	*144	*235	267	302	472	76	*489	242	38	149	184
6	162	*115	77	282	295	361	556	394	66	255	158	47
7	143	148	48	*280	333	259	360	813	684	314	256	58
8	143	129	132	300	162	50	647	564	941	345	246	84
9	173	133	246	396	271	622	398	513	360	266	232	46
10	141	147	347	948	300	*598	326	67	336	275	148	44
11	61	144	431	274	474	619	198	282	522	94	142	42
12	49	140	467	292	336	481	67	358	309	92	135	42
13	134	105	78	301	307	777	590	511	160	367	153	54
14	*156	101	51	343	214	278	607	321	68	162	237	80
15	156	91	296	294	144	111	360	504	282	290	219	68
16	184	99	212	303	334	538	*332	178	307	298	223	*61
17	155	98	287	221	566	625	351	55	288	165	145	124
18	74	103	317	76	526	369	252	384	259	95	*151	96
19	51	138	250	282	327	364	65	496	267	142	*180	42
20	136	176	141	318	803	611	515	558	80	161	215	118
21	163	260	72	364	2,810	259	332	460	48	167	210	371
22	146	122	181	384	1,720	349	320	218	272	153	241	102
23	144	55	281	439	1,150	1,710	315	53	189	232	237	48
24	146	205	82	890	907	1,940	290	47	155	150	155	44
25	108	193	53	191	434	1,200	170	205	165	118	146	88
26	87	276	48	308	648	1,080	65	261	163	95	140	290
27	138	168	48	548	652	896	291	284	296	161	232	197
28	126	244	48	411	540	600	319	184	71	181	237	167
29	157	204	180	340	-	375	328	151	271	155	146	143
30	169	55	232	322	-	589	634	51	290	141	223	227
31	154	-	559	300	-	597	-	46	-	232	138	-
Total	4,101	4,254	6,113	10,208	15,523	18,513	10,578	9,916	7,900	5,785	5,898	3,555
Mean	132	142	197	329	554	597	353	320	263	187	190	118
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 5,000 Min 44 Mean 368 Cfsm 2.11 In. 28.72  
Water year 1952-53: Max 2,810 Min 38 Mean 280 Cfsm 1.61 In. 21.86

\* Discharge measurement made on this day.

Second Broad River at Cliffside, N. C.

Location.--Lat 35°14', long. 81°46', on left bank a quarter of a mile downstream from dam of Cliffside Mills, at Cliffside, Rutherford County, and 1½ miles upstream from mouth.

Drainage area.--211 sq mi.

Records available.--June 1925 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 670 ft (by barometer). Prior to June 21, 1934, at site 50 ft upstream at same datum.

Average discharge.--28 years, 294 cfs.

Extremes.--Maximum discharge during year, 3,070 cfs Feb. 22 (gage height, 5.20 ft); minimum, 7.6 cfs June 19 (gage height, 0.51 ft); minimum daily, 15 cfs Aug. 28.  
1925-53: Maximum discharge, 15,000 cfs Aug. 14, 1940 (gage height, 17.93 ft), from rating curve extended above 9,100 cfs on basis of computation of peak flow over Cliffside Mills dam; minimum, 4 cfs July 24, 1943; minimum daily, 6 cfs June 9, 1940.

Remarks.--Records good except those below 100 cfs, which are fair, and those for period of no gage-height record, which are poor. Considerable diurnal fluctuation and some regulation caused by mills above station.

Revisions (water years).--WSP 892: 1928(M), drainage area.

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

0.6	13	2.0	445
.7	22	2.5	735
.8	35	3.0	1,160
1.0	67	4.0	2,030
1.3	138	5.0	2,900
1.6	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	126	76	148	*426	210	268	184	402	133	130	111	90
2	97	92	135	262	223	336	254	228	137	127	62	41
3	99	130	137	221	211	375	244	216	130	106	90	17
4	63	126	132	204	204	344	233	229	140	95	121	178
5	33	126	169	216	186	462	229	212	167	88	107	1,990
6	145	108	144	191	207	378	238	*360	67	88	*93	1,230
7	129	110	141	182	372	281	256	426	185	100	107	367
8	152	95	159	191	405	286	234	305	417	126	95	254
9	103	84	135	304	325	289	219	199	239	125	93	109
10	176	121	199	*786	252	233	213	216	429	132	144	154
11	138	131	436	521	260	254	191	232	334	100	109	130
12	109	111	231	373	305	372	227	170	137	69	96	109
13	125	132	188	293	232	374	248	186	154	121	91	62
14	110	115	168	230	242	319	192	168	178	111	17	132
15	115	103	182	228	707	547	201	175	520	105	39	115
16	107	105	154	207	716	553	200	157	200	40	141	124
17	124	134	154	202	453	386	190	161	201	95	236	92
18	109	117	148	230	380	344	170	193	167	88	100	98
19	100	112	148	337	582	326	190	190	220	98	105	91
20	132	416	164	256	534	238	208	188	56	138	145	273
21	*121	210	132	508	2,340	239	188	169	126	154	102	336
22	160	171	198	412	2,420	386	172	176	*158	a110	91	109
23	92	112	149	339	785	864	185	148	158	a100	67	126
24	64	151	148	544	511	*1,200	174	135	129	a100	107	169
25	103	196	135	467	430	741	158	175	111	a100	93	94
26	95	112	146	366	369	491	201	154	148	a80	95	94
27	141	110	140	306	343	402	216	149	100	a70	94	314
28	119	151	124	233	250	344	160	131	100	61	15	230
29	105	126	154	275	-	325	169	89	124	104	53	173
30	160	116	137	234	-	328	234	126	129	100	83	163
31	78	-	444	216	-	343	-	126	-	131	112	-
Total	3,530	3,999	5,389	9,760	14,454	12,628	6,198	6,191	5,495	3,212	3,014	7,464
Mean	114	133	174	315	516	407	207	200	183	104	97.2	249
Cfsm	0.540	0.630	0.825	1.49	2.45	1.93	0.981	0.948	0.867	0.493	0.461	1.18
In.	0.62	0.70	0.95	1.72	2.55	2.23	1.09	1.09	0.97	0.57	0.53	1.32

Calendar year 1952: Max 4,560 Min 33 Mean 288 Cfsm 1.36 In. 18.60

Water year 1952-53: Max 2,420 Min 15 Mean 223 Cfsm 1.06 In. 14.34

Peak discharge (base, 3,000 cfs).--Feb. 22 (3 a.m.) 3,070 cfs (5.20 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for nearby stations.

## Broad River near Boiling Springs, N. C.

Location.--Lat 35°12'35", long. 81°41'50", on right bank half a mile upstream from Sandy Run Creek, 3 miles downstream from Second Broad River, and 3½ miles southwest of Boiling Springs, Cleveland County.

Drainage area.--864 sq mi.

Records available.--June 1925 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 639.92 ft above mean sea level (Duke Power Co. benchmark). Prior to July 20, 1934, at site 500 ft upstream at datum 1 ft higher.

Average discharge.--28 years, 1,423 cfs.

Extremes.--Maximum discharge during year, 10,600 cfs Feb. 21 (gage height, 8.62 ft); minimum, 186 cfs Oct. 5 (gage height, 1.44 ft); minimum daily, 271 cfs Oct. 5.

1925-53: Maximum discharge, 73,300 cfs Aug. 16, 1928 (gage height, 24.3 ft, former site, present datum); minimum, 61 cfs July 21, 1940 (gage height, 1.06 ft); minimum daily, 157 cfs Oct. 12, 1941.

Remarks.--Records good. Considerable diurnal fluctuation and some regulation caused by powerplants above station.

Revisions (water years).--WSP 892: 1928, drainage area.

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

1.5	271	3.0	1,900
1.6	346	4.0	3,300
1.8	508	6.0	6,240
2.0	690	8.0	9,480
2.5	1,250		

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	570	526	508	1,700	1,080	1,510	1,700	2,110	442	770	570	425
2	508	425	671	954	750	1,200	1,840	1,970	615	710	500	401
3	508	425	730	886	1,020	1,840	1,590	1,420	681	705	508	362
4	508	561	780	780	1,050	1,900	1,320	1,050	645	570	543	642
5	271	596	780	645	1,010	2,110	1,150	1,540	690	435	605	3,080
6	401	561	811	886	1,010	1,770	897	*1,710	643	458	*534	2,720
7	466	534	545	876	1,560	1,480	1,670	2,110	927	770	739	908
8	500	475	517	931	1,560	1,180	1,610	1,840	2,180	811	740	634
9	660	458	662	1,320	987	954	1,900	1,600	1,920	710	671	450
10	931	475	976	3,080	1,210	1,640	1,590	1,150	2,070	681	852	517
11	662	605	1,770	2,580	1,310	1,560	1,580	801	1,690	700	561	475
12	543	596	1,250	1,470	1,560	1,970	1,390	1,110	1,150	586	517	442
13	442	596	1,020	*1,390	1,290	1,770	1,170	1,070	954	477	491	286
14	552	552	605	1,240	1,260	1,900	1,480	1,050	801	671	433	370
15	587	517	578	1,200	2,130	1,510	1,410	1,050	1,480	*578	425	466
16	578	433	844	1,140	1,900	1,440	1,080	1,180	1,170	690	627	458
17	643	466	780	1,080	1,770	1,770	1,050	730	1,060	730	885	417
18	578	517	844	920	1,700	1,770	1,010	645	897	596	517	401
19	409	526	865	954	1,610	1,510	886	1,110	905	645	578	362
20	401	1,380	790	1,200	2,270	1,410	750	1,240	750	561	710	794
21	*534	1,020	596	1,900	9,320	1,590	1,170	1,350	578	615	552	942
22	606	908	570	1,770	7,780	1,630	942	1,010	596	615	552	801
23	561	578	690	1,590	4,020	3,520	954	811	844	615	500	578
24	508	534	822	2,650	2,940	6,540	942	587	690	596	526	526
25	552	791	596	2,380	2,440	*4,170	886	570	671	552	491	450
26	442	750	570	1,340	2,040	3,080	865	780	700	475	475	591
27	450	865	561	1,500	2,180	2,580	750	854	662	370	491	1,370
28	552	750	450	1,560	1,970	2,180	908	770	770	491	393	920
29	526	790	483	1,390	-	1,970	942	643	662	534	417	730
30	615	652	671	1,290	-	1,300	1,150	624	865	534	433	662
31	552	-	1,740	1,150	-	1,970	-	483	-	652	491	-
Total	16,616	18,862	24,073	43,750	60,727	62,724	56,582	54,968	28,706	18,699	17,127	22,180
Mean	536	629	777	1,411	2,169	2,023	1,219	1,128	957	603	552	739
Cfs/m	0.620	0.728	0.899	1.63	2.51	2.34	1.41	1.31	1.11	0.698	0.639	0.855
In.	0.72	0.81	1.04	1.88	2.61	2.70	1.57	1.51	1.24	0.80	0.74	0.95
Calendar year 1952: Max	16,500			Min	271	Mean	1,366	Cfs/m	1.59	In.	21.54	
Water year 1952-53: Max	9,320			Min	271	Mean	1,055	Cfs/m	1.22	In.	16.57	

Peak discharge (base, 9,000 cfs).--Feb. 21 (5:30 p.m.) 10,600 cfs (8.62 ft).

\* Discharge measurement made on this day.

SANTEE RIVER BASIN

193

First Broad River near Lawndale, N. C.

Location.--Lat 35°22'50", long. 81°32'40", on left bank 0.2 mile upstream from Shoal Rock Creek, 0.4 mile downstream from highway bridge at Double Shoals, and 2½ miles southeast of Lawndale, Cleveland County.

Drainage area.--198 sq mi.

Records available.--February 1940 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 750 ft (from topographic map).

Average discharge.--13 years, 271 cfs.

Extremes.--Maximum discharge during year, 6,880 cfs Sept. 4 (gage height, 15.48 ft); minimum, 22 cfs Oct. 5; minimum daily, 52 cfs Aug. 30.  
1940-53: Maximum discharge, 32,500 cfs Aug. 14, 1940 (gage height, 37.8 ft), from rating curve extended above 12,000 cfs on basis of records for nearby streams; minimum, 16 cfs June 23, 30, 1940, July 25, 1943; minimum daily, 29 cfs July 29, 1940.  
Flood of July 1916 reached a stage of 37.8 ft, from floodmark established by local resident.

Remarks.--Records good. Considerable diurnal fluctuation and slight regulation at low flow caused by powerplants and mills above station.

Revisions (water years).--WSP 952: Drainage area. WSP 1142: 1945-46(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				
1.8	81	4.0	1,240		1.6	49	3.0	625	
2.0	134	5.0	1,640		1.8	85	4.0	1,240	
2.2	208	7.0	2,450		2.0	138	5.0	1,640	
2.5	350	10.0	3,950		2.2	209	7.0	2,450	
3.0	625				2.5	350	10.0	3,950	

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	109	106	115	330	181	243	252	266	115	118	86	62
2	106	103	*115	236	181	286	243	194	112	109	99	*65
3	103	109	128	189	170	281	230	190	112	99	97	60
4	103	109	119	181	170	345	213	182	109	104	75	2,630
5	88	103	125	166	159	385	218	*179	107	121	*168	3,640
6	99	103	134	156	166	320	222	197	128	109	104	1,730
7	101	106	122	145	291	248	248	679	350	112	79	452
8	99	106	118	188	310	248	222	262	344	166	79	323
9	145	103	115	275	254	239	209	209	383	104	82	190
10	156	112	179	1,140	217	222	205	198	243	102	76	186
11	128	131	312	482	204	222	190	182	252	79	63	179
12	112	128	200	*310	213	286	205	175	158	73	63	188
13	109	118	152	240	208	286	222	164	145	81	63	143
14	103	112	138	217	185	257	194	161	132	83	62	109
15	109	109	138	200	584	498	190	161	138	83	59	129
16	109	111	125	193	472	457	194	145	129	85	63	126
17	122	116	122	166	345	340	186	145	129	87	175	118
18	112	106	122	174	272	295	175	151	129	85	81	112
19	103	112	115	222	*231	262	186	190	124	118	400	102
20	*109	371	112	189	520	239	179	190	115	109	151	605
21	106	178	112	561	2,760	222	175	161	109	90	102	352
22	103	128	118	350	1,100	346	171	145	159	90	85	198
23	103	122	122	342	565	929	171	145	*132	112	77	151
24	106	122	118	554	416	1,060	171	145	121	102	77	138
25	106	118	112	385	360	*571	164	132	121	77	75	141
26	109	122	106	291	320	433	190	132	112	69	71	186
27	106	138	109	249	290	365	182	132	107	69	67	325
28	106	128	109	245	230	300	164	124	102	77	67	230
29	106	112	109	249	-	295	164	124	115	69	57	201
30	103	106	109	217	-	276	222	115	135	69	52	182
31	109	-	392	193	-	257	-	118	-	102	60	-
Total	3,388	3,748	4,321	9,035	11,374	11,013	5,957	5,693	4,667	2,953	2,915	13,253
Mean	109	125	139	291	406	355	199	184	156	95.3	94.0	442
Cfsm	0.550	0.631	0.702	1.47	2.05	1.79	1.00	0.929	0.788	0.481	0.475	2.23
In.	0.64	0.70	0.81	1.70	2.14	2.07	1.12	1.07	0.88	0.55	0.55	2.49

Calendar year 1952: Max 7,410 Min 75 Mean 284 Cfsm 1.43 In. 19.52  
Water year 1952-53: Max 3,640 Min 52 Mean 215 Cfsm 1.09 In. 14.72

Peak discharge (base, 5,000 cfs).--Sept. 4 (5 p.m.) 6,880 cfs (15.48 ft).

\* Discharge measurement made on this day.

## Broad River near Gaffney, S. C.

Location.--Lat 35°05'20", long. 81°34'20", on right bank at downstream side of bridge on U. S. Highway 29A, 0.3 mile upstream from Cherokee Creek, 4.4 miles downstream from Gaston Shoals Dam, and 4.5 miles east of Gaffney, Cherokee County.

Drainage area.--1,490 sq mi, approximately.

Records available.--July 1896 to December 1899, December 1938 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 539.10 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. July 12, 1896, to Dec. 31, 1899, chain or staff gages at sites 1.1 miles upstream at different datum.

Average discharge.--16 years (1896-98, 1939-53), 2,540 cfs.

Extremes.--Maximum discharge during year, 21,900 cfs Feb. 21 (gage height, 10.13 ft); minimum, 445 cfs Aug. 30; minimum daily, 466 cfs Aug. 30.  
1896-99, 1938-53: Maximum discharge, 119,000 cfs Aug. 14, 1940 (gage height, 19.78 ft), by computation of flow over Gaston Shoals Dam; minimum, 242 cfs Sept. 18, Oct. 30, 1939; minimum daily, 443 cfs July 2, 1940.

Remarks.--Records good. Some regulation at medium and low flow by powerplants above station. Capacity of reservoirs insufficient to affect monthly figures of runoff.

Revisions.--WSP 972: Drainage area.

Rating table, water year 1952-53 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 2 to Feb. 14)

2.7	423	5.0	4,200
3.0	670	7.0	9,360
3.5	1,250	10.0	21,400
4.0	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	1,260	1,020	1,180	3,650	1,960	2,800	3,120	3,540	893	1,210	1,050	734
2	1,110	1,020	910	2,180	1,580	2,800	2,910	4,090	832	1,210	966	688
3	872	1,100	1,300	1,540	1,610	3,120	2,690	2,860	1,050	1,080	898	682
4	1,170	842	1,180	1,490	1,820	3,440	2,320	2,120	1,180	1,830	1,000	1,360
5	808	1,270	1,440	1,290	1,790	3,760	2,160	2,320	961	957	1,040	9,930
6	885	1,160	1,290	1,310	1,740	3,220	1,710	2,500	1,180	936	1,040	8,620
7	824	943	1,100	1,430	1,230	2,800	2,480	4,180	1,700	1,130	872	3,080
8	950	958	1,050	1,830	3,120	2,340	2,800	3,440	4,900	1,250	1,240	1,720
9	1,200	980	988	3,450	2,360	2,040	2,800	2,600	4,840	1,420	900	1,260
10	1,750	1,180	1,650	8,130	2,180	2,590	2,600	2,380	2,650	932	1,140	1,100
11	1,250	974	2,700	5,400	2,230	2,200	2,400	1,600	5,060	1,130	794	1,040
12	1,140	1,400	2,360	3,330	2,600	3,120	2,300	1,830	2,460	834	822	1,030
13	1,140	1,110	1,860	2,600	2,430	3,120	2,140	1,890	1,880	816	759	848
14	870	1,180	1,250	2,310	2,190	3,220	2,320	*1,700	1,480	897	*754	788
15	1,240	1,040	1,170	*2,140	4,540	2,600	2,270	1,720	2,600	1,070	688	776
16	1,200	904	1,230	2,030	4,420	3,220	1,920	1,850	2,070	891	619	794
17	1,080	*1,040	1,470	1,890	*3,540	3,120	1,680	1,480	1,750	1,130	1,700	730
18	1,160	1,150	1,280	1,510	3,220	3,020	1,680	1,360	1,670	1,140	945	902
19	1,030	992	1,380	1,750	2,910	2,600	1,540	1,600	1,510	875	820	781
20	1,030	2,150	1,460	1,950	3,700	2,420	1,420	2,240	1,230	1,270	1,970	2,280
21	855	2,020	1,020	4,030	17,800	2,600	1,840	2,050	1,130	950	978	3,400
22	1,250	1,490	1,250	3,440	15,500	2,700	1,520	1,840	1,240	1,010	920	1,610
23	1,110	1,210	1,010	2,950	7,050	5,680	1,810	1,360	*1,380	1,040	774	1,030
24	1,000	1,020	1,510	6,040	5,220	11,000	1,580	1,100	1,360	1,000	810	1,260
25	1,140	1,220	1,100	4,640	4,420	7,230	1,560	1,190	1,180	823	788	916
26	900	1,350	1,030	3,020	3,650	5,220	1,600	1,100	1,240	900	788	1,310
27	1,120	1,320	992	2,600	3,540	4,530	1,360	1,360	1,180	750	813	2,850
28	889	1,280	1,050	2,600	3,530	3,980	1,440	1,250	1,120	741	732	2,340
29	1,260	1,180	925	2,460	-	3,440	1,490	1,180	1,370	858	672	*1,450
30	1,060	1,150	1,060	2,320	-	2,700	2,120	1,020	1,470	822	456	1,350
31	1,080	-	2,690	2,000	-	*3,020	-	978	-	1,220	818	-
Total	35,633	35,633	41,845	87,310	111,680	110,150	61,160	61,728	54,366	32,122	28,531	56,639
Mean	1,085	1,188	1,350	2,816	3,989	3,553	2,039	1,991	1,812	1,036	920	1,888
Cfsm	0.728	0.797	0.906	1.89	2.68	2.38	1.37	1.54	1.22	0.695	0.617	1.27
In.	0.84	0.89	1.04	2.18	2.79	2.74	1.55	1.54	1.36	0.80	0.71	1.42
Calendar year 1952: Max			35,600									
Water year 1952-53: Max			17,800									
Min			808									
Mean			466									
Cfsm			1.71									
In.			1.31									

Peak discharge (base, 16,000 cfs).--Feb. 21 (8:15 p.m.) 21,900 cfs (10.13 ft).

\* Discharge measurement made on this day.

## North Pacolet River at Fingerville, S. C.

Location.--Lat 35°07', long. 81°59', on right bank at McMillin Mill, about 400 ft downstream from Obed Creek and 1 mile south of Fingerville, Spartanburg County.

Drainage area.--116 sq mi.

Records available.--November 1929 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 715.56 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Nov. 23, 1933, at site 400 ft downstream at datum 5.60 ft higher.

Average discharge.--23 years (1930-53), 206 cfs.

Extremes.--Maximum discharge during year, 2,360 cfs Feb. 21 (gage height, 10.01 ft), from rating curve extended above 1,400 cfs on basis of computation of peak flow over dam; minimum discharge, 19 cfs Aug. 3, 18; minimum daily, 42 cfs Sept. 18.  
1929-53: Maximum discharge, 12,500 cfs Aug. 14, 1940 (gage height, 27.13 ft), from rating curve extended above 1,400 cfs as explained above; minimum, 10 cfs Oct. 7, 1940, June 22, 1941; minimum daily, 34 cfs Oct. 1, 2, 1931.

Remarks.--Records fair. Some diurnal fluctuation at low and medium flow caused by mill above station. Records of chemical analyses for the water year 1952 are given in WSP 1250.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 20, Dec. 11, 31, Jan. 1, 9-14, 21, 22, 24-28, Feb. 7, 8, 15, 16, 20-28, Mar. 1-6, 12, 13, 22-28, May 1-9, June 7-12, 15-17, Sept. 20, 21)

2.9	41	4.0	238
3.0	52	5.0	484
3.5	132	9.0	1,720

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	77	96	286	150	201	*203	312	94	105	65	44
2	71	78	109	183	144	276	196	468	86	100	64	44
3	72	78	114	186	140	272	190	419	86	91	62	49
4	70	77	105	144	132	331	185	284	90	91	68	77
5	68	80	109	*128	127	322	181	252	86	101	72	92
6	65	77	118	121	130	240	183	276	114	105	62	96
7	66	78	107	119	302	207	198	346	291	101	131	76
8	66	74	101	154	225	187	181	260	304	107	98	62
9	163	78	101	245	183	179	176	209	906	98	88	56
10	170	82	183	474	168	172	172	174	353	88	74	55
11	109	88	336	398	179	196	166	164	216	77	68	55
12	98	91	172	298	209	281	183	154	179	85	*64	50
13	91	83	140	245	179	252	176	*148	144	75	57	49
14	88	82	127	192	162	212	162	140	150	76	57	46
15	88	78	118	174	500	236	154	136	582	80	55	46
16	86	83	110	144	358	220	162	132	310	118	59	45
17	85	82	103	138	*223	192	158	132	190	91	82	43
18	83	78	103	160	194	187	152	134	140	85	59	42
19	82	*93	103	162	181	181	154	158	121	86	62	43
20	78	276	98	142	472	170	152	158	127	83	68	203
21	74	156	101	256	1,510	166	146	142	119	77	64	164
22	77	121	100	203	1,500	350	144	125	148	86	58	87
23	80	110	100	191	614	614	142	121	116	132	58	a70
24	78	103	100	484	582	1,040	138	119	a100	93	55	a55
25	78	100	94	362	334	727	142	118	a110	78	52	a70
26	77	101	94	255	284	419	164	112	*103	76	49	a130
27	80	128	93	229	248	322	144	105	153	74	48	a260
28	80	114	91	203	227	262	136	98	130	74	46	a170
29	77	100	91	174	-	234	134	101	114	70	44	a110
30	77	100	90	158	-	207	209	100	112	65	43	*93
31	78	-	332	150	-	205	-	96	-	65	43	-
Total	2,626	2,948	3,839	6,738	9,457	9,060	4,983	5,693	5,776	2,733	1,955	2,492
Mean	84.7	98.2	124	217	338	292	166	184	193	88.2	63.1	83.1
Cfsm	0.730	0.847	1.07	1.87	2.91	2.52	1.43	1.59	1.66	0.760	0.544	0.716
In.	0.84	0.94	1.23	2.16	3.03	2.90	1.60	1.83	1.85	0.88	0.63	0.80

Calendar year 1952: Max 2,440 Min 65 Mean 213 Cfsm 1.84 In. 24.97  
Water year 1952-53: Max 1,510 Min 42 Mean 160 Cfsm 1.38 In. 18.69

Peak discharge (base, 1,600 cfs).--Feb. 21 (9 p.m.) 2,360 cfs (10.01 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for Pacolet River near Fingerville and records of powerplant operation on South Pacolet River.

## SANTEE RIVER BASIN

South Pacolet River Reservoir near Fingerville, S. C.

Location.--Lat 35°07', long. 81°59', on downstream side of right pier of highway bridge, 1 mile upstream from dam and 1½ miles south of Fingerville, Spartanburg County.

Drainage area.--92 sq mi, approximately.

Records available.--March 1930 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 761.18 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum gage height during year, 15.93 ft Feb. 22; minimum, 7.09 ft Sept. 18. 1930-53: Maximum gage height, 17.68 ft Oct. 19, 1937; minimum, 2.76 ft Oct. 8, 1930.

Remarks.--Reservoir is formed by concrete dam completed in 1926. Capacity, 879,000,000 gal between gage heights 0.0 ft (limit of drawdown) and 15.0 ft (top of flashboards). Dead storage is about 350,000,000 gal. Figures given herein represent usable contents. Spillway crest is at gage height 12.0 ft. City of Spartanburg diverted about 9,750,000 gal daily (15.1 cfs) from reservoir for municipal supply during water year 1953. Surplus water is used for generation of power.

Mean gage height, in feet, water year October 1952 to September 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10.63	9.04	10.43	12.43	11.44	12.20	13.30	13.57	10.75	12.50	10.36	8.24
2	10.51	9.05	10.42	13.19	11.19	13.60	13.14	14.72	10.58	12.53	10.13	7.90
3	10.22	9.05	10.47	13.12	11.10	13.06	12.93	15.22	10.41	12.49	9.90	7.74
4	9.97	9.01	10.43	12.91	10.98	12.88	12.70	15.17	10.28	12.11	9.74	7.72
5	9.75	8.99	10.52	12.65	10.94	12.89	12.59	14.89	10.29	12.31	9.80	7.67
6	9.56	8.96	10.63	12.15	10.95	13.48	12.55	14.29	10.22	12.91	9.80	8.02
7	9.34	8.95	10.76	11.58	11.19	13.61	12.33	13.81	9.91	13.00	9.65	8.20
8	9.12	8.94	10.82	11.34	11.95	13.77	12.10	13.53	10.40	12.76	10.19	8.16
9	8.92	8.91	10.77	11.58	12.31	13.78	11.73	12.97	10.95	12.73	10.55	8.11
10	9.26	8.94	10.87	12.38	12.18	13.71	11.54	12.93	12.85	12.65	10.62	8.01
11	9.74	9.03	11.76	13.90	11.97	13.37	11.52	12.98	14.17	12.50	10.39	7.91
12	9.88	9.15	12.83	14.80	12.03	12.61	11.56	12.71	15.00	12.39	10.15	7.84
13	9.74	9.18	12.92	13.97	12.36	12.41	11.85	12.22	14.32	12.24	9.90	7.92
14	9.78	9.14	12.78	13.03	12.56	12.48	11.84	12.00	13.82	12.11	9.75	7.93
15	9.81	9.11	12.65	12.70	13.18	12.75	11.90	11.79	14.13	11.95	9.69	7.76
16	9.81	9.08	12.53	12.41	14.61	13.11	12.02	11.81	14.88	12.04	9.80	7.55
17	9.77	9.03	12.40	11.99	14.86	13.24	12.23	11.66	13.80	12.28	9.45	7.32
18	9.75	9.06	12.20	11.63	14.19	13.23	12.39	11.51	12.37	12.26	9.19	7.12
19	9.74	9.16	12.09	11.40	13.26	13.14	12.42	11.55	11.39	12.17	9.21	7.12
20	9.67	9.49	11.98	10.96	12.47	12.88	12.40	11.80	10.87	11.85	9.18	7.52
21	9.58	10.83	11.86	10.91	14.52	12.55	12.44	12.03	10.59	11.75	9.15	8.95
22	9.50	11.20	11.72	11.33	15.73	12.70	12.41	12.04	10.19	11.64	9.10	9.85
23	9.44	11.21	11.56	11.46	15.23	14.18	12.48	11.97	10.14	11.75	9.29	10.03
24	9.41	11.13	11.41	12.00	14.97	15.13	12.54	11.86	10.28	11.80	9.37	10.08
25	9.35	10.97	11.31	13.56	14.59	15.10	12.59	11.71	10.31	11.70	9.25	10.28
26	9.32	10.84	11.27	14.29	14.11	14.84	12.75	11.51	10.35	11.50	9.09	10.61
27	9.28	10.83	11.26	13.58	13.44	14.28	12.94	11.28	10.52	11.33	8.93	11.22
28	9.23	10.77	11.14	12.56	12.59	13.56	13.00	11.09	11.50	11.17	8.73	12.15
29	9.16	10.70	11.01	12.12	-	13.31	13.04	10.99	12.10	10.99	8.61	12.64
30	9.11	10.59	11.00	11.85	-	13.56	13.05	10.92	12.36	10.77	8.66	12.68
31	9.07	-	11.32	11.60	-	13.46	-	10.85	-	10.55	8.64	-

Monthly gage height and contents, water year October 1952 to September 1953

Date	Gage height (feet)†	Contents (millions of gallons)	Change in contents during month (equivalent, in cubic feet per second)
Sept. 30.....	10.68	512	-
Oct. 31.....	9.04	403	-5.4
Nov. 30.....	10.54	502	+5.1
Dec. 31.....	11.74	590	+4.4
Calendar year 1952..	-	-	-4
Jan. 31.....	11.58	578	-6
Feb. 28.....	12.08	617	+2.2
Mar. 31.....	13.38	725	+5.4
Apr. 30.....	13.15	705	-1.0
May 31.....	10.81	521	-9.2
June 30.....	12.46	647	+6.5
July 31.....	10.45	496	-7.5
Aug. 31.....	8.46	367	-6.4
Sept. 30.....	12.66	663	+15.3
Water year 1952-53..	-	-	+6.4

† Gage height at 12 p.m.

## Pacolet River near Fingerville, S. C.

Location.--Lat 35°07', long. 81°58', on right bank 100 ft upstream from bridge on State Highway 55, a quarter of a mile downstream from confluence of North Pacolet and South Pacolet Rivers, and  $2\frac{1}{2}$  miles southeast of Fingerville, Spartanburg County.

Drainage area.--212 sq mi.

Records available.--November 1929 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 706.33 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--23 years (1930-53), 338 cfs.

Extremes.--Maximum discharge during year, 3,710 cfs Feb. 31 (gage height, 6.27 ft); minimum daily, 66 cfs Aug. 30, Sept. 13, 17-19.

1929-53: Maximum discharge, 22,800 cfs Aug. 14, 1940 (gage height, 22.43 ft), from rating curve extended above 9,600 cfs by velocity-area studies; minimum daily, 38 cfs Oct. 4, 1931.

Maximum stage known, 46 ft in June 1903, from floodmark (discharge not determined).

Remarks.--Records good. Some regulation by South Pacolet River Reservoir (see preceding page). Some diurnal fluctuation caused by mill on North Pacolet River. About 9,750,000 gal a day (15.1 cfs) diverted above station for city of Spartanburg water supply during water year 1953. Records of chemical analyses 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. 1-10, Jan. 1 to Aug. 16				Oct. 11 to Dec. 31, Aug. 17 to Sept. 30	
0.3	72	2.0	697	0.3	66
.5	111	3.0	1,340	.5	102
1.0	248	5.0	2,740	1.0	233
1.5	446			1.5	419
				2.0	674

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	118	122	148	369	283	309	*364	456	156	156	125	83
2	125	126	150	324	258	421	352	628	149	152	119	74
3	127	122	179	324	258	497	340	784	149	161	126	74
4	116	120	153	280	248	590	328	708	136	177	126	93
5	124	124	153	*275	207	515	302	474	127	164	118	112
6	116	120	169	283	223	394	313	550	194	164	118	101
7	118	117	148	280	457	368	360	603	399	178	192	104
8	116	115	143	253	373	309	336	526	380	195	145	87
9	251	122	158	369	336	336	328	394	1,020	159	109	80
10	290	124	243	653	320	309	276	298	479	149	138	78
11	174	131	404	571	328	421	256	291	356	136	127	76
12	151	138	287	530	373	540	309	298	529	140	*125	69
13	148	131	243	492	348	406	278	*290	364	133	103	66
14	134	134	221	381	320	356	262	259	296	129	96	69
15	134	126	196	293	624	356	245	226	724	141	76	69
16	134	134	185	302	648	348	241	210	545	173	137	69
17	129	126	194	294	*600	324	229	242	446	146	139	66
18	129	120	182	294	506	328	229	232	381	146	92	66
19	126	*131	171	316	478	324	252	223	269	161	96	66
20	122	336	171	298	737	320	226	246	229	155	100	225
21	122	197	177	392	2,160	309	229	219	222	132	96	194
22	122	187	180	322	2,710	470	220	207	245	136	78	113
23	124	166	177	346	1,180	775	210	201	162	191	69	102
24	124	169	177	658	697	1,430	210	201	154	149	80	96
25	124	156	166	501	600	1,110	213	198	162	144	83	102
26	122	158	158	460	550	688	235	192	*165	144	76	172
27	124	177	151	497	511	585	210	181	206	134	74	350
28	122	169	161	442	483	540	204	164	192	139	71	223
29	122	156	166	348	-	360	207	164	170	129	68	161
30	122	153	151	320	-	364	338	164	164	125	66	*151
31	124	-	431	286	-	373	-	159	-	122	74	-
Total	4,234	4,407	5,993	11,793	16,796	14,775	8,102	9,990	9,170	4,660	3,242	3,391
Mean	137	147	193	380	600	477	270	322	306	150	105	113
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 4,220

Min 115

Mean 350

Cfsm -

In. -

Water year 1952-53: Max 2,710

Min 66

Mean 265

Cfsm -

In. -

\* Discharge measurement made on this day.

## Pacolet River near Clifton, S. C.

Location.--Lat 34°58'10", long. 81°48'05", on left bank 1.2 miles downstream from dam at Clifton Mill 2, 1.3 miles southeast of Clifton, Spartanburg County, 2.7 miles up-stream from Lawson Fork, and 2.7 miles northeast of Glendale.

Drainage area.--320 sq mi.

Records available.--November 1939 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 540 ft (from topographic map).

Average discharge.--13 years (1940-53), 485 cfs.

Extremes.--Maximum discharge during year, 4,800 cfs Feb. 21 (gage height, 6.12 ft); minimum daily, 66 cfs Aug. 31.

1939-53: Maximum discharge, 26,800 cfs Aug. 14, 1940 (gage height, 21.19 ft), from rating curve extended above 4,400 cfs on basis of computation of peak flow over dam at Clifton Mill 2; minimum daily, 17 cfs Oct. 19, 1941.

Remarks.--Records fair. Some regulation at low and medium flow by powerplants above station and South Pacolet River Reservoir (see p. 196). City of Spartanburg diverts water above station from South Pacolet River Reservoir for municipal supply.

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

0.8	50	2.0	706
1.0	97	3.0	1,600
1.2	164	5.0	3,580
1.5	306		

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	156	196	228	632	340	482	504	715	241	233	160	102
2	170	158	220	430	412	704	496	1,350	197	222	140	124
3	179	222	240	417	346	724	478	948	197	210	232	130
4	174	193	226	359	335	820	456	944	201	287	168	133
5	142	189	208	*372	298	820	364	671	180	209	198	267
6	198	197	260	338	299	600	490	671	206	262	160	183
7	174	193	167	336	734	522	492	1,120	326	231	173	174
8	173	175	220	374	502	449	480	724	912	272	210	155
9	242	152	224	680	530	510	452	594	1,080	200	142	134
10	398	190	320	1,170	446	430	442	428	1,150	234	182	130
11	288	193	572	725	501	537	445	429	958	155	159	133
12	174	198	392	653	583	724	354	586	566	172	155	134
13	262	180	323	809	530	671	507	*402	570	205	146	69
14	183	202	261	556	466	518	410	361	366	174	*144	142
15	193	194	288	379	1,010	510	364	346	648	188	142	97
16	193	146	246	382	900	566	408	318	715	217	133	121
17	197	202	238	348	820	470	350	294	530	196	507	119
18	188	184	244	358	688	461	376	363	496	264	216	108
19	168	*176	240	442	636	426	314	347	376	362	147	126
20	216	392	203	363	*1,270	453	408	392	310	641	164	360
21	180	316	225	781	3,120	447	331	304	292	220	152	382
22	178	258	259	548	3,560	889	344	292	507	198	158	191
23	193	202	234	520	1,600	1,120	326	302	260	247	94	164
24	184	244	227	1,050	979	1,460	344	225	*212	224	160	154
25	186	234	204	741	820	1,420	324	288	224	206	130	170
26	174	225	244	609	732	952	262	268	244	154	131	233
27	227	225	242	627	688	794	344	248	238	202	125	600
28	189	230	160	609	632	713	295	238	278	180	124	398
29	201	227	236	479	-	565	301	219	278	179	130	*246
30	188	184	210	444	-	546	466	244	222	164	131	223
31	194	-	592	394	-	*521	-	190	-	160	66	-
Total	6,162	6,277	8,153	16,725	23,797	20,824	11,927	14,621	12,980	7,068	5,079	5,702
Mean	199	209	263	540	850	672	398	472	433	228	164	190
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-
Calendar year 1952: Max	8,460			Min	110	Mean	498	Cfsm	-	In.	-	
Water year 1952-53: Max	3,560			Min	66	Mean	382	Cfsm	-	In.	-	

\* Discharge measurement made on this day.

## Broad River near Carlisle, S. C.

Location.--Lat 34°36', long. 81°25', on right bank at downstream side of bridge on State Highway 72, 2 miles upstream from Sandy River, 2 miles downstream from Seaboard Air Line Railroad bridge, 2½ miles east of Carlisle, Union County, and 5 miles downstream from Neals Shoals Dam.

Drainage area.--2,790 sq mi, approximately.

Records available.--November 1938 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 290.70 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--14 years (1939-53), 3,772 cfs.

Extremes.--Maximum discharge during year, 33,200 cfs Feb. 22 (gage height, 15.77 ft, from graph based on records for U. S. Weather Bureau station at Blairs); minimum, 57 cfs Aug. 31 (gage height, 1.14 ft); minimum daily, 460 cfs Aug. 30.

1938-53: Maximum discharge, 103,000 cfs Aug. 15, 1940 (gage height, 29.41 ft), from rating curve extended above 52,000 cfs on basis of computation of peak flow over Neals Shoals Dam; minimum, 47 cfs July 28, 1952; minimum daily, 57 cfs July 28, 1952.

Remarks.--Records good except those for periods of doubtful or no gage-height record, which are fair. Some regulation at low and medium flow by powerplants above station. Capacity of reservoirs insufficient to affect monthly figures of runoff.

Revisions (water years).--WSP 892: 1939(m), drainage area.

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

1.8	400	4.0	3,540
2.0	565	10.0	17,400
2.5	1,090	15.0	30,900
3.0	1,770		

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	1,590	1,620	1,480	5,420	1,960	3,540	4,600	5,200	1,620	1,860	1,270	987
2	1,170	866	2,180	4,870	3,640	5,310	4,200	10,000	1,580	2,220	981	1,080
3	1,710	1,420	2,170	3,740	2,830	6,300	4,600	11,800	1,630	2,060	1,410	1,100
4	1,200	1,650	1,410	1,520	2,460	6,740	3,600	6,520	1,620	2,290	2,050	981
5	1,020	1,460	2,190	2,550	2,790	6,960	2,600	4,980	1,600	2,100	1,210	3,440
6	1,100	1,350	2,100	2,220	2,660	6,080	4,200	4,540	1,870	2,090	1,330	10,900
7	1,740	1,610	1,130	2,350	4,430	4,870	2,800	3,940	1,280	1,240	1,500	7,420
8	1,470	1,580	1,710	2,130	6,080	3,220	3,800	7,620	4,040	1,840	1,390	3,340
9	1,190	1,140	1,980	5,630	5,090	4,440	3,800	5,090	5,860	1,860	1,030	1,390
10	1,930	1,120	1,980	13,000	3,580	3,540	4,200	3,480	5,320	1,760	1,220	1,600
11	2,280	1,540	3,080	11,300	3,900	4,220	3,800	*3,840	5,530	1,630	*1,410	1,280
12	1,030	1,550	3,940	6,740	4,980	5,090	2,600	2,960	5,860	821	1,570	1,470
13	1,480	1,750	2,950	5,080	4,870	5,420	3,880	2,610	3,720	1,580	1,140	1,180
14	2,060	1,690	1,450	3,490	3,940	5,090	3,400	2,990	1,990	1,220	1,140	950
15	1,370	1,470	1,990	3,020	9,370	5,530	2,910	2,650	3,750	1,220	1,100	1,190
16	1,780	1,120	2,270	3,540	*11,300	5,640	3,240	2,630	3,240	1,150	568	1,040
17	1,880	1,580	1,920	2,840	6,960	5,090	2,850	1,980	3,040	1,440	1,400	940
18	1,410	1,750	1,960	1,840	5,310	4,870	2,840	2,940	2,270	1,390	3,360	992
19	916	1,820	1,600	3,240	4,870	4,180	1,900	2,670	2,670	1,160	1,460	1,110
20	1,530	1,520	1,900	3,070	5,600	3,540	2,790	2,080	2,250	2,080	1,350	934
21	1,430	*2,380	1,750	3,720	18,000	3,940	2,390	3,300	1,030	2,600	1,860	4,340
22	1,690	2,490	1,820	6,080	30,000	3,640	2,380	2,530	2,210	1,400	1,420	3,470
23	1,600	1,320	2,490	5,310	27,000	9,050	2,420	3,040	2,590	1,660	762	1,880
24	1,200	1,900	1,760	10,500	17,000	26,000	2,540	1,830	1,870	1,780	1,050	1,150
25	1,630	2,120	1,410	10,400	12,000	19,000	2,580	1,710	1,660	1,750	1,420	1,400
26	1,010	1,470	1,390	6,520	7,180	9,500	2,020	2,110	1,920	840	1,500	1,840
27	1,410	2,050	1,820	4,870	5,640	7,000	2,460	1,890	1,650	1,020	1,190	2,930
28	1,520	1,640	1,250	4,040	4,870	6,500	2,450	2,020	774	1,420	944	4,650
29	1,950	2,460	1,930	3,940	-	5,000	2,160	1,570	1,890	1,260	828	2,440
30	1,210	1,090	1,840	3,440	-	5,500	2,800	2,640	2,080	1,090	460	2,140
31	1,640	-	3,720	3,540	-	4,000	-	817	-	903	636	-
Total	45,826	48,506	62,580	149,940	218,210	198,800	92,810	113,977	77,614	48,734	39,939	69,544
Mean	1,478	1,617	2,019	4,837	7,793	6,413	3,094	3,677	2,587	1,572	1,288	2,318
Cfsm	0.530	0.580	0.724	1.73	2.79	2.30	1.11	1.32	0.927	0.563	0.462	0.831
In.	0.61	0.65	0.83	1.99	2.90	2.65	1.24	1.52	1.03	0.65	0.53	0.93

Calendar year 1952: Max 53,800 Min 57 Mean 3,929 Cfsm 1.41 In. 19.17

Water year 1952-53: Max 30,000 Min 460 Mean 3,196 Cfsm 1.15 In. 15.53

Peak discharge (base, 25,000 cfs).--Feb. 22 (6 p.m.) 33,200 cfs (15.77 ft); Mar. 24 (7 p.m.) 29,000 cfs (14.35 ft).

\* Discharge measurement made on this day.

Note.--Doubtful or no gage-height record Feb. 20-25, Mar. 24 to Apr. 12; discharge estimated on basis of recorder graph, powerplant records, and daily gage readings for U. S. Weather Bureau station at Blairs.

## North Tyger River near Fairmont, S. C.

Location--Lat 34°55'45", long. 82°02'40", on left bank 80 ft downstream from Frey Creek and 2.2 miles north of Fairmont, Spartanburg County.

Drainage area--44 sq mi, approximately.

Records available--October 1950 to September 1953.

Gage--Water-stage recorder and concrete control. Altitude of gage is 680 ft (from topographic map).

Extremes--Maximum discharge during year, 722 cfs Feb. 21 (gage height, 4.91 ft); minimum, 11 cfs Sept. 1; minimum daily, 12 cfs Sept. 1.  
1950-53: Maximum discharge, 2,280 cfs Mar. 4, 1952 (gage height, 10.56 ft); minimum, 10 cfs Sept. 4, 1951; minimum daily, 11 cfs Sept. 2-5, 1951.

Remarks--Records good except those for period of doubtful or 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. 20, Feb. 21 to  
Apr. 29, May 21 to July 16)

0.4	12	2.0	172
.6	18	3.0	418
.9	33	4.0	619
1.2	54	5.0	722
1.5	89		

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	25	31	76	42	58	*54	100	40	26	22	12
2	20	25	32	53	40	78	53	260	37	26	17	14
3	19	26	38	53	39	84	51	180	38	24	16	14
4	20	25	37	45	38	92	50	90	38	23	20	35
5	20	25	36	43	38	88	49	65	38	27	33	24
6	20	26	38	42	36	66	50	80	48	26	19	24
7	21	26	36	40	131	58	55	200	55	24	17	24
8	21	26	34	67	72	54	49	95	251	24	20	19
9	59	25	38	128	54	51	49	80	134	22	20	18
10	46	26	59	258	46	49	48	65	133	21	17	17
11	35	28	79	91	52	60	46	55	*506	19	16	17
12	31	29	45	62	74	74	48	50	103	19	*16	16
13	29	29	42	53	62	69	63	46	69	19	15	15
14	28	28	40	48	48	62	50	*44	71	19	14	15
15	26	28	37	*46	245	69	48	42	186	26	14	15
16	27	28	35	44	*105	60	50	40	70	43	14	14
17	26	26	35	41	75	54	50	40	55	28	19	13
18	26	26	34	48	63	53	48	40	48	22	22	13
19	26	29	34	45	59	52	48	65	45	22	20	14
20	25	*59	34	40	210	49	42	55	42	23	21	54
21	23	42	35	132	635	48	40	44	38	*22	19	35
22	24	38	34	62	277	151	40	44	38	21	18	36
23	24	35	34	75	128	174	38	44	35	27	18	24
24	24	34	34	220	106	126	38	42	*32	22	18	22
25	24	32	34	87	95	102	38	44	29	19	16	24
26	24	32	33	68	81	82	40	42	32	18	15	38
27	24	33	32	59	71	71	38	42	35	18	15	99
28	25	32	32	56	63	66	38	42	35	17	14	47
29	25	31	32	53	-	61	36	42	31	17	14	33
30	24	31	32	48	-	57	65	42	29	16	13	*29
31	24	-	154	44	-	54	-	40	-	16	13	-
Total	811	905	1,280	2,227	2,985	2,272	1,412	2,160	2,341	694	545	774
Mean	26.2	30.2	41.3	71.8	107	73.3	47.1	69.7	78.0	22.4	17.6	25.8
Cfs/m	0.595	0.686	0.939	1.63	2.43	1.67	1.07	1.58	1.77	0.509	0.400	0.586
In.	0.69	0.77	1.08	1.88	2.53	1.92	1.19	1.82	1.98	0.59	0.46	0.65

Calendar year 1952: Max 1,510 Min 17 Mean 63.9 Cfs/m 1.45 In. 19.79  
Water year 1952-53: Max 635 Min 12 Mean 50.4 Cfs/m 1.15 In. 15.56

Peak discharge (base, 700 cfs)--Feb. 21 (3 p.m.) 722 cfs (4.91 ft); June 11 (1:30 p.m.) 712 cfs (4.46 ft).

\* Discharge measurement made on this day.

Note--Doubtful or no gage-height record Apr. 14 to May 31; discharge estimated on basis of reconstructed gage-height graph and record for station near Moore.

## Middle Tyger River at Lyman, S. C.

Location.--Lat 34°56'35", long. 82°08'00", on left bank 200 ft upstream from bridge on State Highway 292 at Lyman, Spartanburg County, 600 ft downstream from Southern Railway bridge, and 0.8 mile northeast of Duncan.

Drainage area.--68.3 sq mi.

Records available.--January 1938 to September 1953.

Gage.--Water-stage recorder and masonry control. Datum of gage is 776.05 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--15 years, 97.1 cfs.

Extremes.--Maximum discharge during year, 1,840 cfs Feb. 21 (gage height, 6.92 ft); minimum, 8 cfs Oct. 19; minimum daily, 20 cfs Sept. 18.

1938-53: Maximum discharge, 4,800 cfs Aug. 14, 1940 (gage height, 16.16 ft), from rating curve extended above 2,900 cfs on basis of computation of peak flow over dam; minimum, 1 cfs Sept. 25, 1940; minimum daily, 13 cfs Oct. 12, 18, 26, 1941.

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

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

Oct. 1 to June 10

June 11 to Sept. 30

1.2	29	2.5	198	0.9	19	2.5	205
1.4	42	3.0	310	1.2	33	3.0	315
1.7	70	4.0	620	1.4	46	4.0	620
2.0	111	6.0	1,440	1.7	73	5.0	1,020
				2.0	113		

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	41	43	199	80	104	*96	240	53	64	37	24
2	*32	41	55	108	76	134	92	306	49	59	39	28
3	30	39	60	92	74	152	92	405	46	53	35	31
4	31	41	54	80	70	159	85	187	44	53	71	39
5	34	40	56	68	68	177	85	137	41	57	105	36
6	30	41	59	66	69	132	82	124	45	53	47	40
7	30	41	54	64	190	116	98	186	94	52	53	33
8	30	41	47	75	146	108	83	137	139	56	47	30
9	84	41	50	170	100	98	82	108	201	52	48	27
10	98	40	84	458	89	98	78	98	302	48	42	26
11	59	46	165	470	104	118	78	88	705	46	40	26
12	48	47	103	162	147	139	89	82	248	45	*38	25
13	41	44	71	114	141	116	99	76	100	40	36	26
14	43	44	63	99	108	105	85	*74	87	40	34	22
15	40	45	57	89	264	116	77	75	73	44	34	23
16	43	46	57	*82	329	108	81	66	73	70	35	22
17	40	43	54	78	154	98	77	69	68	52	36	21
18	42	42	54	85	115	95	75	64	65	49	41	20
19	43	44	54	77	104	96	76	82	59	49	41	21
20	38	*122	52	74	*204	89	70	111	76	46	45	103
21	36	73	57	131	1,170	88	69	74	60	43	40	91
22	38	58	52	111	877	162	69	68	60	47	41	48
23	41	54	51	108	290	272	69	66	60	61	34	38
24	41	49	53	284	183	303	68	62	53	49	34	36
25	40	48	52	209	159	217	68	59	*52	42	33	37
26	41	50	51	119	139	147	91	56	59	44	32	66
27	38	54	50	102	122	125	69	54	85	38	31	126
28	40	52	50	96	111	117	67	53	107	37	27	78
29	40	48	46	100	-	110	64	54	104	37	31	53
30	41	48	49	85	-	99	114	52	68	35	32	47
31	42	-	169	82	-	102	-	57	-	38	22	-
Total	1,307	1,463	1,972	4,137	5,683	4,100	2,428	3,370	3,276	1,499	1,261	1,243
Mean	42.2	48.8	63.6	133	203	132	80.9	109	106	48.4	40.7	41.4
Cfs/m	0.618	0.714	0.951	1.95	2.97	1.93	1.18	1.60	1.60	0.709	0.596	0.606
In.	0.71	0.80	1.07	2.25	3.09	2.22	1.52	1.84	1.78	0.82	0.69	0.68

Calendar year 1952: Max 1,870 Min 30 Mean 113 Cfs/m 1.65 In. 22.58

Water year 1952-53: Max 1,170 Min 20 Mean 87.0 Cfs/m 1.27 In. 17.27

Peak discharge (base, 1,000 cfs).--Feb. 21 (7:30 p.m.) 1,840 cfs (6.92 ft).

\* Discharge measurement made on this day.

## North Tyger River near Moore, S. C.

Location.--Lat 34°48'10", long. 81°57'57", on right bank at Ott Shoals, 2.0 miles upstream from Wards Creek, 2.6 miles southeast of Moore, Spartanburg County, and 5.3 miles upstream from confluence with South Tyger River.

Drainage area.--162 sq mi.

Records available.--April 1934 to September 1953.

Gage.--Water-stage recorder and concrete control. Datum of gage is 564.79 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--19 years, 228 cfs.

Extremes.--Maximum discharge during year, 2,160 cfs Feb. 22 (gage height, 3.43 ft); minimum, 26 cfs Sept. 12; minimum daily, 29 cfs Aug. 31, Sept. 11, 12, 14, 18.  
1934-53: Maximum discharge, 12,300 cfs Aug. 14, 1940 (gage height, 7.15 ft), from rating curve extended above 7,800 cfs by velocity-area studies; minimum, 9.2 cfs (estimated) Dec. 29, 1935; minimum daily, 31 cfs Oct. 12, 1941, Sept. 3, 1951.

Remarks.--Records good. Some regulation at low flow by powerplants above station.

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	*82	82	117	407	117	194	201	389	132	125	90	68
2	89	71	93	288	215	321	220	512	146	115	57	46
3	133	111	170	240	180	319	199	803	134	115	47	46
4	76	76	93	133	179	368	208	650	110	93	51	79
5	67	124	152	205	156	368	131	362	93	104	218	88
6	65	76	143	155	152	332	222	329	140	127	89	79
7	67	118	90	158	348	248	210	514	120	113	79	97
8	101	76	150	217	315	201	196	400	462	112	60	126
9	128	68	84	492	282	265	192	306	332	104	68	103
10	275	132	199	630	233	204	194	162	419	96	109	35
11	207	82	288	785	247	241	174	240	965	98	102	29
12	94	151	259	591	319	278	119	*239	1,180	61	55	29
13	108	76	180	306	298	304	246	188	397	78	*85	31
14	64	101	96	*229	286	257	219	188	166	93	50	29
15	60	127	150	198	581	228	192	188	381	97	75	66
16	114	88	147	181	698	288	188	163	208	124	43	40
17	80	108	123	190	491	256	185	117	181	112	44	33
18	122	*76	139	141	322	205	164	199	165	107	97	29
19	76	119	85	232	*235	219	117	201	144	65	98	60
20	67	145	167	183	388	192	191	228	125	105	59	86
21	111	231	88	414	1,110	205	181	205	103	172	82	197
22	74	106	126	311	1,950	419	185	188	152	125	85	147
23	118	89	87	291	1,100	664	173	180	146	133	52	98
24	76	133	161	638	541	588	184	104	*142	107	40	53
25	130	121	90	568	393	507	150	166	104	107	83	93
26	78	82	79	355	338	350	96	175	106	60	46	135
27	72	137	107	256	293	309	192	145	132	54	65	227
28	130	111	111	240	252	254	179	137	130	98	43	238
29	107	133	144	231	-	196	175	137	183	92	60	*153
30	79	76	104	209	-	*256	267	118	144	100	42	115
31	119	-	355	187	-	229	-	82	-	88	29	-
Total	3,169	3,226	4,377	9,661	12,019	9,265	5,528	7,995	7,352	3,180	2,203	2,655
Mean	102	108	141	312	429	298	184	258	245	103	71.1	88.5
Cfsm	0.630	0.667	0.870	1.93	2.65	1.85	1.14	1.59	1.51	0.636	0.439	0.546
In.	0.73	0.74	1.00	2.22	2.76	2.13	1.27	1.83	1.68	0.73	0.51	0.61

Calendar year 1952: Max 3,940 Min 48 Mean 247 Cfsm 1.52 In. 20.74  
Water year 1952-53: Max 1,950 Min 29 Mean 194 Cfsm 1.20 In. 16.21

Peak discharge (base, 1,800 cfs).--Feb. 22 (1:30 p.m.) 2,160 cfs (3.43 ft).

\* Discharge measurement made on this day.

## South Tyger River near Reidville, S. C.

Location.--Lat 34°52'35", long. 82°05'10", on left bank 0.4 mile upstream from bridge on State Highway 296, 1.2 miles downstream from Berry Shoals, 1.8 miles northeast of Reidville, Spartanburg County, and 4 miles upstream from Bens Creek.

Drainage area.--106 sq mi.

Records available.--April 1934 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 626.28 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--19 years, 157 cfs.

Extremes.--Maximum discharge during year, 1,570 cfs Feb. 22 (gage height, 5.44 ft); minimum, 7.3 cfs Aug. 13, 14 (gage height, 0.68 ft); minimum daily, 8.0 cfs Aug. 14.  
1934-53: Maximum discharge, 6,420 cfs Oct. 7, 1949 (gage height, 14.23 ft); minimum, 4.6 cfs June 5, 6, 1941 (gage height, 0.60 ft); minimum daily, 5.5 cfs June 6, 1941.

Remarks.--Records good. Some regulation at low and medium flow by powerplants above station.

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

0.6	4.5	1.5	104
.7	8.5	2.0	209
.8	14	3.0	517
1.0	30	5.0	1,370
1.2	54		

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	9.6	71	328	37	15	146	367	75	77	59	78
2	12	10	67	312	204	237	298	285	140	90	69	12
3	*143	54	62	174	61	303	273	418	242	84	133	13
4	67	11	60	19	56	254	53	480	66	81	81	31
5	27	38	126	161	106	103	15	398	70	79	80	163
6	79	9.0	89	77	205	307	96	317	18	218	14	39
7	73	52	26	134	198	175	203	381	33	232	14	133
8	73	174	88	188	115	118	297	93	628	108	72	49
9	84	38	70	232	274	238	105	112	482	70	30	47
10	224	110	153	567	229	71	87	120	598	207	118	15
11	83	76	212	234	208	236	79	214	939	56	79	15
12	18	70	131	329	266	368	28	*262	464	13	79	28
13	85	59	174	330	177	250	158	255	220	64	*12	17
14	73	*10	45	*196	83	56	211	77	141	61	8.0	51
15	62	138	158	101	247	18	263	69	258	59	90	53
16	13	29	67	220	400	95	85	87	100	88	25	80
17	100	100	157	53	395	135	84	49	289	100	98	15
18	70	69	73	18	382	279	73	185	69	48	81	15
19	34	64	76	100	*234	258	26	82	67	29	84	90
20	110	82	88	196	197	204	154	258	36	138	12	72
21	81	151	21	204	869	56	89	159	26	76	12	129
22	73	182	92	200	1,350	26	236	71	162	62	58	137
23	12	49	153	216	639	334	246	42	185	222	24	276
24	39	85	189	295	437	402	82	27	65	86	88	90
25	89	70	15	209	335	353	47	161	*60	43	81	16
26	34	63	18	290	266	305	16	232	188	15	80	60
27	96	101	20	310	317	366	86	124	52	66	12	32
28	192	214	20	139	262	162	216	66	76	68	11	180
29	77	36	136	171	-	39	140	61	46	61	12	240
30	67	13	80	151	-	229	98	13	44	16	12	146
31	60	-	206	82	-	*87	-	13	-	15	78	-
Total	2,304	2,186.6	2,923	6,296	8,547	6,079	3,990	5,478	5,839	2,632	1,706.0	2,322
Mean	74.3	72.2	94.3	203	305	196	133	177	195	84.9	55.0	77.4
Cfsm	0.701	0.681	0.890	1.92	2.88	1.85	1.25	1.67	1.84	0.801	0.519	0.730
In.	0.81	0.76	1.03	2.21	3.00	2.13	1.40	1.92	2.05	0.92	0.60	0.81

Calendar year 1952: Max 2,830 Min 9.0 Mean 167 Cfsm 1.58 In. 21.48  
Water year 1952-53: Max 1,350 Min 8.0 Mean 138 Cfsm 1.30 In. 17.64

Peak discharge (base, 1,400 cfs).--Feb. 22 (6:45 a.m.) 1,570 cfs (5.44 ft).

\* Discharge measurement made on this day.

## South Tyger River near Woodruff, S. C.

Location.--Lat 34°45'21", long. 81°56'19", on left bank at Chesnee Shoals, 0.5 mile upstream from confluence with North Tyger River and 5½ miles east of Woodruff, Spartanburg County.

Drainage area.--174 sq mi.

Records available.--March 1934 to September 1953.

Gage.--Water-stage recorder and concrete control. Datum of gage is 508.35 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--19 years, 232 cfs.

Extremes.--Maximum discharge during year, 1,800 cfs Feb. 23 (gage height, 4.62 ft); minimum, 26 cfs Aug. 30, 31 (gage height, 1.54 ft); minimum daily, 28 cfs Aug. 29-31.

1934-53: Maximum discharge, 9,510 cfs Apr. 6, 1936 (gage height, 9.78 ft), from rating curve extended above 7,700 cfs by velocity-area studies; minimum, 13 cfs Oct. 17, 18, 1941 (gage height, 1.40 ft); minimum daily, 14 cfs Oct. 17, 1941.

Remarks.--Records good. Some regulation at low and medium flow by powerplants above station. Records of chemical analyses for the water year 1953 are given in WSP 1290.

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

1.5	22	3.0	431
1.8	59	3.5	721
2.1	111	4.0	1,120
2.5	221	5.0	2,350

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	*85	87	56	408	126	157	191	365	61	72	44	81
2	80	49	113	375	150	237	305	664	106	102	100	85
3	52	49	109	391	210	438	376	376	245	102	80	55
4	161	82	86	102	119	555	281	611	187	98	122	40
5	84	48	105	107	112	324	129	524	97	94	96	144
6	59	69	180	181	183	296	106	383	106	145	89	139
7	95	46	107	129	443	369	199	712	86	184	38	81
8	93	141	72	239	240	289	341	320	351	212	43	124
9	115	123	115	615	221	225	292	208	629	111	79	87
10	140	78	146	1,100	297	245	173	234	524	128	54	64
11	234	129	325	640	356	228	174	215	778	185	113	38
12	95	105	163	291	368	452	132	*264	814	71	88	37
13	57	97	242	425	383	412	143	345	427	42	*89	46
14	103	88	138	*369	231	282	205	229	194	80	*34	37
15	96	107	98	170	754	234	336	133	224	79	46	65
16	87	104	174	201	474	164	250	151	194	83	76	86
17	51	72	133	240	552	206	150	123	218	107	46	87
18	123	*119	166	115	487	305	161	161	255	106	105	35
19	97	98	109	102	*373	358	129	182	103	72	94	50
20	67	106	132	165	482	345	121	206	102	81	94	108
21	121	127	107	469	1,270	218	186	291	74	145	37	107
22	102	251	71	282	1,430	675	179	180	96	98	38	119
23	97	130	149	358	1,390	592	313	121	186	135	67	226
24	51	81	246	737	690	623	248	93	*181	204	42	185
25	80	111	113	466	526	541	138	102	90	102	92	106
26	104	102	64	267	379	400	105	201	104	85	87	86
27	80	96	64	360	403	508	81	248	191	46	87	162
28	189	174	64	329	514	380	155	137	128	85	30	98
29	133	197	70	216	-	178	278	101	85	86	28	250
30	101	74	157	248	-	*221	268	98	75	77	28	228
31	91	-	332	218	-	236	-	64	-	45	28	-
Total	3,123	3,140	4,216	10,313	13,161	10,691	6,145	8,043	6,872	3,242	2,094	2,976
Mean	101	105	136	333	470	345	205	259	229	105	67.5	99.2
Cfsm	0.580	0.603	0.782	1.91	2.70	1.98	1.18	1.49	1.32	0.603	0.388	0.570
In.	0.67	0.67	0.90	2.20	2.81	2.28	1.32	1.72	1.47	0.70	0.45	0.64
Calendar year 1952: Max	3,340			Min 41		Mean 248		Cfsm 1.43		In. 19.38		
Water year 1952-53: Max	1,430			Min 28		Mean 203		Cfsm 1.17		In. 15.83		

Peak discharge (base 1,800 cfs).--Feb. 23 (1:45 a.m.) 1,800 cfs (4.62 ft).

\* Discharge measurement made on this day.

## Tyger River near Woodruff, S. C.

Location.--Lat 34°45'15", long. 81°55'30", on left bank at upstream side of Nesbitts Bridge on State Highway 49, 0.5 mile downstream from confluence of North Tyger and South Tyger Rivers and 6½ miles east of Woodruff, Spartanburg County.

Drainage area.--351 sq mi.

Records available.--October 1929 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 489.44 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--23 years (1930-53), 478 cfs.

Extremes.--Maximum discharge during year, 3,710 cfs Feb. 22 (gage height, 5.40 ft); minimum, 61 cfs Aug. 31; minimum daily, 63 cfs Aug. 31.

1929-53: Maximum discharge, 19,200 cfs Aug. 14, 1940 (gage height, 13.27 ft), from rating curve extended above 11,000 cfs on basis of rating curves for North Tyger River near Moore and South Tyger River near Woodruff; minimum, 37 cfs Oct. 18, 1941; minimum daily, 40 cfs Oct. 17, 1941.

Flood on June 6, 1903, reached a stage of 20.4 ft, from floodmark set by local resident, at site 0.3 mile below gage; that of August 1928, 20.0 ft (present site); that of September 1929, 14.65 ft, from floodmarks (discharge, 19,600 cfs).

Remarks.--Records good. Some regulation at low and medium flow by powerplants above station.

Revisions.--WSP 742: Drainage area.

Rating table, water year 1952-53 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 1, 9-13, 21-28,  
Feb. 7-18, 20, 21, Mar. 4, 22-28)

1.7	55	3.0	695
1.9	100	4.0	1,770
2.2	196	6.0	4,800
2.5	332		

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	156	174	157	830	254	357	403	776	164	204	137	135
2	*156	114	220	696	338	559	*536	1,200	252	228	176	156
3	164	127	272	656	442	774	502	1,180	379	240	134	88
4	264	182	200	238	296	944	500	1,280	291	208	187	121
5	150	154	250	333	286	711	291	895	170	200	301	220
6	120	149	332	362	337	638	308	729	240	265	182	257
7	163	152	205	298	811	634	418	1,270	208	332	129	168
8	182	222	206	434	574	491	548	748	739	349	115	231
9	229	196	210	*1,120	473	499	510	520	1,040	241	151	226
10	427	195	337	1,850	533	468	372	396	955	222	147	120
11	471	224	642	1,480	601	482	352	438	1,750	302	218	78
12	220	254	450	939	726	757	272	*498	2,080	166	152	74
13	162	187	442	752	729	734	365	540	928	114	*152	88
14	179	170	232	616	556	554	439	423	386	180	93	72
15	160	224	242	378	1,420	480	568	312	567	182	100	128
16	185	233	331	388	1,190	482	466	309	433	204	152	130
17	142	166	248	434	1,070	477	323	246	399	224	98	136
18	258	*212	317	264	856	528	320	331	427	226	192	74
19	187	207	207	318	*632	614	257	368	254	156	214	103
20	131	224	290	346	892	561	294	423	232	152	182	230
21	228	370	218	898	2,500	429	366	502	174	338	113	318
22	188	400	186	602	3,470	1,140	380	365	238	216	122	282
23	200	219	241	637	2,590	1,320	510	279	328	269	140	336
24	128	212	388	1,420	1,290	1,240	417	198	334	317	93	280
25	168	239	228	1,100	945	1,100	290	245	*206	214	168	202
26	198	188	141	649	724	752	196	381	211	146	160	218
27	144	228	157	634	688	838	250	400	336	100	146	419
28	320	281	167	587	771	662	336	272	272	170	96	*370
29	244	336	183	461	-	370	464	232	268	185	76	422
30	188	162	294	478	-	466	578	214	232	182	96	367
31	195	-	708	421	-	476	-	241	-	139	63	-
Total	6,307	6,399	8,701	20,599	25,974	20,517	11,911	16,131	14,491	6,673	4,485	6,049
Mean	203	213	281	664	928	662	397	520	483	215	145	202
Cfs/m	0.578	0.607	0.801	1.89	2.64	1.89	1.13	1.48	1.38	0.613	0.413	0.575
In.	0.67	0.68	0.92	2.18	2.75	2.18	1.26	1.71	1.54	0.71	0.48	0.64

Calendar year 1952: Max 7,280 Min 103 Mean 508 Cfs/m 1.45 In. 19.69  
Water year 1952-53: Max 3,470 Min 63 Mean 406 Cfs/m 1.16 In. 15.72

Peak discharge (base, 3,000 cfs).--Feb. 22 (3:20 p.m.) 3,710 cfs (5.40 ft).

\* Discharge measurement made on this day.

## Fairforest Creek near Union, S. C.

Location.--Lat 34°41', long. 81°41', on right bank at downstream side of bridge on State Highway 92, 0.3 mile downstream from Buffalo Creek and 4.3 miles southwest of Union, Union County.

Drainage area.--183 sq mi.

Records available.--June 1940 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 393.91 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--13 years, 200 cfs.

Extremes.--Maximum discharge during year, 3,710 cfs May 2 (gage height, 5.57 ft); minimum, 17 cfs Sept. 18 (gage height, 1.88 ft).

1940-53: Maximum discharge, 8,690 cfs Nov. 29, 1948 (gage height, 7.61 ft), from rating curve extended above 4,300 cfs by velocity-area studies and logarithmic plotting; minimum, 13 cfs Sept. 5, 1951 (gage height, 1.81 ft).

Remarks.--Records good except those for periods of no gage-height record, which are fair. Discharge includes some water diverted from South Pacolet River Reservoir (see p. 196) which is discharged into this stream after use.

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

1.8	15	2.7	264
1.9	23	3.0	458
2.0	34	3.5	830
2.2	68	4.0	1,300
2.4	124	5.0	2,670

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	51	58	62	a420	124	190	176	540	68	55	37	20
2	51	58	74	a200	118	289	167	2,260	64	86	34	24
3	*48	58	99	a150	115	624	158	1,210	64	145	31	31
4	48	58	80	a120	112	607	154	564	66	158	31	32
5	48	58	76	a100	108	535	147	364	64	98	44	40
6												
7	49	60	88	a100	102	384	147	512	64	65	38	43
8	49	60	80	a95	469	264	158	1,050	80	68	34	49
9	49	58	76	a120	424	220	151	814	83	66	32	36
10	65	60	70	*445	264	195	139	306	108	51	30	31
11	80	62	79	1,040	167	181	135	209	86	46	28	27
12												
13	68	68	121	716	276	277	132	*176	100	42	*26	26
14	62	78	147	293	438	458	132	158	177	40	25	28
15	60	70	102	181	390	384	147	139	107	37	24	25
16	57	68	86	143	253	282	132	132	86	36	23	22
17	58	66	78	128	956	490	124	121	76	37	21	21
18												
19	62	68	78	118	*915	444	124	118	76	42	21	21
20	60	66	78	112	530	313	128	112	73	46	59	20
21	58	66	78	112	264	248	121	112	68	57	93	19
22	57	66	76	124	200	226	124	118	64	133	77	19
23	55	83	76	115	301	195	118	135	62	67	49	96
24												
25	51	*90	78	250	1,110	a180	118	124	58	51	42	128
26	51	76	78	325	1,780	a380	118	108	82	62	37	67
27	58	73	76	442	1,090	a1,000	115	102	*83	70	36	49
28	58	66	a75	1,000	530	1,420	115	96	64	67	34	38
29	58	64	a70	806	377	807	108	90	57	48	33	40
30												
31	58	64	a70	367	313	397	108	88	60	43	31	56
1	58	66	a70	209	258	288	108	83	71	40	30	137
2	58	64	a70	176	220	242	106	78	78	40	28	*130
3	57	60	a70	182	-	214	105	78	78	38	28	110
4	55	62	a70	143	-	*195	366	78	60	36	24	66
5	57	-	a380	132	-	181	-	76	-	33	22	-
Total	1,754	1,972	2,811	8,844	12,204	12,110	4,180	9,949	2,327	1,903	1,100	1,568
Mean	56.6	65.7	90.7	285	436	391	139	321	77.6	61.4	35.5	52.3
Cfsm	0.309	0.359	0.496	1.56	2.38	2.14	0.760	1.75	0.424	0.336	0.194	0.286
In.	0.36	0.40	0.57	1.80	2.48	2.47	0.85	2.02	0.47	0.39	0.22	0.32
Calendar year 1952: Max			4,720	Min	38	Mean	207	Cfsm	1.13	In.	15.40	
Water year 1952-53: Max			2,260	Min	19	Mean	166	Cfsm	0.907	In.	12.35	

Peak discharge (base, 2,500 cfs).--May 2 (9:15 p.m.) 3,710 cfs (5.57 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.

Enoree River near Enoree, S. C.

Location.--Lat 34°36', long. 81°54', on left bank at upstream side of bridge on State Highway 30, three-quarters of a mile upstream from Warrior Creek and 4 miles south-east of Enoree, Spartanburg County.

Drainage area.--307 sq mi.

Records available.--August 1929 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 448.07 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Nov. 20, 1929, staff gage at same site and datum.

Average discharge.--24 years, 415 cfs.

Extremes.--Maximum discharge during year, 4,110 cfs Feb. 22 (gage height, 4.29 ft); minimum, 15 cfs Sept. 19, 20; minimum daily, 51 cfs Sept. 19.

1929-53: Maximum discharge, 30,000 cfs Oct. 2, 1929 (gage height, 10.5 ft, from floodmark), from rating curve extended above 17,000 cfs by logarithmic plotting; minimum, about 4 cfs Oct. 20, 1935; minimum daily, 32 cfs Oct. 15, 1941.

Remarks.--Records good. Some regulation at low and medium flow by powerplants above station.

Revisions (water years).--WSP 802: 1930(M). WSP 892: 1929-30, 1931(M), 1932-33, 1935. WSP 1112: 1934(M).

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

1.7	37	2.5	545
1.8	61	3.0	1,200
1.9	95	3.5	2,120
2.0	144	4.0	3,320
2.2	275	5.0	6,120

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	129	187	139	727	331	475	400	788	219	181	86	71
2	*129	156	162	485	323	545	*391	1,960	187	174	198	75
3	129	168	186	391	315	801	382	1,300	174	239	222	81
4	124	168	187	347	307	856	373	958	174	600	129	280
5	74	156	168	307	299	834	364	622	162	471	108	237
6	145	181	199	283	299	622	364	567	187	355	139	234
7	150	181	181	268	621	525	382	1,020	240	261	120	192
8	150	181	168	268	691	495	382	667	319	240	115	134
9	133	181	181	*1,010	485	475	364	495	455	205	141	115
10	347	158	165	1,980	400	436	364	418	461	193	162	105
11	225	212	377	1,050	494	505	347	*391	763	174	*199	100
12	168	215	331	589	715	844	355	364	634	168	120	95
13	174	186	247	436	*679	578	373	339	382	144	110	92
14	191	168	205	373	525	515	364	323	299	144	105	88
15	168	162	187	339	1,700	747	339	307	307	144	95	85
16	168	156	181	323	1,470	622	323	291	291	168	91	74
17	125	150	174	307	788	515	347	291	268	204	176	78
18	187	*139	174	291	567	475	331	291	247	186	150	68
19	168	144	168	339	485	475	347	299	226	168	150	51
20	168	179	162	315	715	436	339	373	212	162	134	109
21	168	211	174	712	2,960	418	331	339	212	214	124	302
22	150	185	174	603	3,840	1,560	323	283	226	168	110	206
23	150	168	168	496	2,230	2,360	323	261	219	187	106	153
24	150	144	212	1,600	943	1,160	323	254	130	205	105	108
25	181	144	133	983	763	840	315	240	*162	174	100	117
26	181	150	205	578	644	633	323	233	174	113	95	118
27	181	142	112	465	578	545	355	219	174	138	92	422
28	181	156	205	418	515	495	362	205	193	139	85	*460
29	174	169	109	400	-	455	331	205	233	129	72	285
30	174	139	219	364	-	436	524	205	219	124	73	233
31	181	-	519	339	-	418	-	212	-	120	75	-
Total	5,123	5,036	6,172	17,396	24,682	20,876	10,741	14,720	8,149	6,292	3,787	4,768
Mean	165	168	199	561	882	673	358	475	272	203	122	159
Cfs/m	0.537	0.547	0.648	1.83	2.87	2.19	1.17	1.55	0.886	0.661	0.397	0.518
In.	0.62	0.61	0.75	2.11	2.99	2.52	1.30	1.79	0.99	0.76	0.46	0.58
Calendar year 1952: Max	6,740			Min	74	Mean	434	Cfs/m	1.41	In.	19.22	
Water year 1952-53: Max	3,840			Min	51	Mean	350	Cfs/m	1.14	In.	15.46	

Peak discharge (base, 3,500 cfs).--Feb. 22 (5 a.m.) 4,110 cfs (4.29 ft).

\* Discharge measurement made on this day.

## Broad River at Richtex, S. C.

Location.--Lat 34°11'05", long. 81°11'48", on right bank 0.8 mile west of Richtex, Fairfield County, 1.2 miles upstream from Little River, and 11 miles downstream from Parr Shoals Dam.

Drainage area.--4,850 sq mi, approximately.

Records available.--November 1925 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 184.84 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--25 years (1926-27, 1929-53), 5,859 cfs.

Extremes.--Maximum discharge during year, 42,000 cfs Feb. 23 (gage height, 11.15 ft); minimum daily, 962 cfs Oct. 5.

1925-53: Maximum discharge, 228,000 cfs Oct. 3, 1929 (gage height, 30.7 ft, from floodmarks), on basis of computation of flow over Parr Shoals Dam; minimum daily, 149 cfs Oct. 13, 1935, from rating curve extended below 320 cfs.

Remarks.--Records good. Some regulation at low and medium flow by powerplants above station. Capacity of reservoirs insufficient to affect monthly figures of runoff.

Revisions (water years).--WSP 757: 1930(M). WSP 972: Drainage area.

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

0.9	910	3.0	5,300
1.0	1,040	5.0	12,100
1.5	1,860	8.0	24,600
2.0	2,840	11.0	40,800

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	2,200	2,080	2,150	8,230	3,800	6,690	4,580	6,350	1,690	2,410	1,530	1,150
2	1,890	1,540	2,290	8,050	3,640	6,130	5,710	9,110	1,840	2,390	1,500	1,190
3	1,580	1,930	2,670	6,580	4,200	8,390	5,440	18,000	2,060	2,990	1,590	1,480
4	2,160	2,080	2,780	4,070	3,920	11,300	5,300	16,800	2,220	3,310	2,550	1,450
5	962	1,880	2,160	*2,750	3,840	*12,800	4,780	11,000	2,500	4,680	1,680	2,340
6	1,860	1,940	2,880	3,580	3,610	11,000	3,720	8,750	2,180	3,100	1,830	7,330
7	1,790	1,880	2,360	3,360	4,650	8,390	4,650	12,800	2,220	2,790	2,130	10,600
8	1,870	1,860	2,060	3,030	7,880	6,690	4,350	17,600	3,610	2,460	2,040	5,390
9	2,040	1,920	2,540	5,000	8,220	5,300	5,030	10,600	5,300	2,690	1,460	2,590
10	1,760	1,810	2,560	15,900	6,580	5,710	4,560	6,890	6,580	2,580	1,550	1,910
11	3,100	1,830	3,210	18,900	4,690	5,850	4,910	5,160	5,990	2,130	1,800	1,820
12	2,040	*2,070	4,500	14,000	7,050	8,930	4,420	4,630	7,370	2,020	2,010	1,680
13	2,210	2,100	4,500	8,390	8,390	10,600	5,850	4,070	7,210	1,730	1,960	1,620
14	2,400	2,370	3,030	6,730	7,540	8,930	4,820	4,110	4,810	2,140	1,270	1,360
15	2,030	2,210	2,360	3,970	14,000	7,370	4,410	3,960	3,300	1,510	1,450	1,370
16	2,040	1,630	2,740	4,800	22,800	10,200	4,490	3,670	4,290	1,880	1,340	1,680
17	1,890	2,020	2,370	4,140	16,800	8,390	3,790	3,150	4,090	1,740	1,170	1,240
18	2,530	2,230	2,620	3,770	11,000	7,210	3,830	3,410	3,520	2,270	3,430	1,150
19	1,210	2,210	2,730	3,550	7,540	6,730	3,580	3,500	3,200	1,450	2,490	1,420
20	1,980	2,470	2,490	3,900	6,890	5,890	3,310	3,460	3,110	2,300	2,310	1,180
21	1,780	2,580	2,110	4,460	18,800	5,470	3,620	3,840	2,050	3,240	2,090	3,390
22	1,820	3,290	2,460	6,610	37,200	5,150	3,280	3,700	2,290	2,390	2,050	4,570
23	2,200	2,080	2,780	7,880	38,400	7,550	*3,040	3,910	3,320	2,290	1,610	2,850
24	1,670	2,630	2,900	14,400	25,400	29,800	3,480	3,200	2,760	2,390	1,340	2,260
25	1,750	2,330	1,670	19,700	17,200	35,600	3,540	2,200	2,720	2,420	1,600	1,700
26	1,610	2,370	2,420	13,600	12,100	19,000	3,330	2,560	2,160	1,790	1,850	2,560
27	2,010	2,210	2,400	8,220	9,830	11,500	2,710	2,850	2,660	1,720	1,790	4,420
28	1,890	2,530	1,370	6,580	8,220	9,470	3,130	2,560	1,650	1,670	1,510	4,660
29	2,090	2,550	2,360	5,710	-	7,710	3,030	2,550	2,510	1,920	1,180	4,820
30	2,290	2,200	2,480	5,160	-	6,890	3,610	2,350	3,020	1,250	1,010	2,900
31	1,650	-	4,750	4,800	-	6,730	-	2,850	-	1,600	1,280	-
Total	60,032	64,810	82,710	229,820	324,190	307,670	124,500	189,590	102,230	71,250	54,200	84,080
Mean	1,937	2,160	2,668	7,414	11,580	9,925	4,143	6,116	3,408	2,298	1,748	2,603
Cfsm	0.399	0.445	0.550	1.53	2.39	2.05	0.854	1.26	0.703	0.474	0.360	0.578
In.	0.46	0.50	0.63	1.76	2.49	2.36	0.95	1.45	0.78	0.55	0.42	0.64
Calendar year 1952: Max	75,300	Min	900	Mean	5,866	Cfsm	1.21	In.	16.45			
Water year 1952-53: Max	38,400	Min	962	Mean	4,644	Cfsm	0.958	In.	12.99			

Peak discharge (base, 35,000 cfs).--Feb. 23 (1:30 a.m.) 42,000 cfs (11.15 ft); Mar. 25 (7 a.m.) 37,200 cfs (10.42 ft).

\* Discharge measurement made on this day.

## Saluda River near Greenville, S. C.

Location.--Lat 34°50'30", long. 82°28'50", on right bank 500 ft upstream from bridge on U. S. Highway 123 alternate, 1.5 miles downstream from Saluda Lake Dam, 2.5 miles upstream from George Creek, and 4.6 miles west of county courthouse in Greenville, Greenville County.

Drainage area.--293 sq mi.

Records available.--January 1942 to September 1953. Prior to October 1948, published as "near West Greenville."

Gage.--Water-stage recorder. Altitude of gage is 810 ft (from topographic map).

Average discharge.--11 years, 628 cfs.

Extremes.--Maximum discharge during year, 4,360 cfs Feb. 22 (gage height, 8.87 ft); minimum, 36 cfs Nov. 13 (gage height, 1.93 ft); minimum daily, 158 cfs Nov. 7.  
1942-53: Maximum discharge, 11,000 cfs Oct. 7, 1949 (gage height, 19.38 ft), from rating curve extended above 7,500 cfs on basis of computation of peak flow over dam at Saluda Lake; minimum, 8 cfs July 21, 1946 (gage height, 1.67 ft); minimum daily, 107 cfs Oct. 7, 1951.

Remarks.--Records good. Some regulation at low and medium flow by powerplant at Saluda Lake. Capacity of reservoir insufficient to affect monthly figures of runoff.

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

2.4	150	4.0	962
2.5	180	5.0	1,760
3.0	370	7.0	3,210
3.5	630	9.0	4,420

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	177	184	231	764	416	775	782	1,150	382	426	315	193
2	174	224	231	403	460	774	749	1,180	*323	370	299	*196
3	174	168	268	379	455	976	729	1,420	319	375	311	196
4	174	177	295	411	450	927	679	1,000	311	375	268	352
5	174	*224	300	319	370	1,180	628	892	319	379	257	530
6	177	165	295	340	398	927	691	1,040	323	375	263	524
7	177	158	279	319	749	871	679	1,340	654	375	218	323
8	180	171	235	362	818	743	729	1,380	1,260	381	406	299
9	180	208	227	748	571	691	630	973	1,500	431	456	260
10	288	235	374	1,150	539	691	544	755	1,110	361	348	249
11	287	198	1,080	1,110	544	*685	667	775	901	340	244	206
12	238	228	644	756	.720	815	561	648	808	303	236	190
13	174	196	394	601	932	802	589	556	572	346	244	193
14	216	235	418	512	660	723	595	601	534	*187	252	193
15	242	190	352	407	1,060	749	556	526	539	306	300	193
16	245	162	*235	455	1,300	822	540	544	528	348	190	193
17	218	162	244	593	836	736	657	515	431	370	196	193
18	200	186	299	376	723	685	442	497	460	311	279	190
19	180	235	323	630	629	667	501	601	416	299	340	193
20	177	591	291	470	1,020	592	556	538	455	344	444	378
21	180	545	287	550	3,450	595	*427	528	457	311	344	486
22	180	319	268	648	4,000	814	510	436	522	311	303	290
23	177	272	238	578	2,260	1,550	435	465	379	896	260	190
24	174	257	242	889	1,500	2,310	475	384	370	520	249	190
25	174	245	249	1,050	1,260	2,080	475	450	315	370	242	237
26	177	249	291	768	962	1,500	507	393	370	370	238	434
27	218	260	279	*694	927	1,180	526	384	404	353	190	528
28	226	299	235	843	843	962	384	379	602	307	193	522
29	174	295	238	624	-	962	445	375	530	307	193	379
30	177	260	227	561	-	802	600	379	486	265	193	307
31	177	-	462	499	-	815	-	331	-	250	193	-
Total	6,086	7,298	10,031	18,609	28,872	29,401	17,288	21,435	16,580	11,262	8,464	8,807
Mean	196	243	324	600	1,031	948	576	691	553	363	273	294
Cfs/m	0.669	0.829	1.11	2.05	3.52	3.24	1.97	2.36	1.89	1.24	0.932	1.00
In.	0.77	0.92	1.28	2.36	3.66	3.74	2.20	2.72	2.11	1.43	1.07	1.12

Calendar year 1952: Max 4,780 Min 158 Mean 589 Cfs/m 2.01 In. 27.35  
Water year 1952-53: Max 4,000 Min 158 Mean 504 Cfs/m 1.72 In. 23.38

Peak discharge (base, 2,800 cfs).--Feb. 22 (6 a.m.) 4,360 cfs (8.87 ft).

\* Discharge measurement made on this day.

## SANTÉE RIVER BASIN

Saluda River near Pelzer, S. C.

Location.--Lat 34°40', long. 82°28', on right bank half a mile downstream from Hurricane Creek and 2 miles north of Pelzer, Anderson County.

Drainage area.--405 sq mi.

Records available.--September 1929 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 727.75 ft above mean sea level, unadjusted.

Average discharge.--24 years, 787 cfs.

Extremes.--Maximum discharge during year, 5,720 cfs Feb. 22 (gage height, 5.82 ft); minimum, 26 cfs Nov. 9 (gage height, 0.82 ft); minimum daily, 190 cfs Oct. 5.  
1929-53: Maximum discharge, 13,600 cfs Oct. 7, 1949 (gage height, 10.53 ft); minimum, 6 cfs Oct. 8, 1951 (gage height, 0.65 ft); minimum daily, 62 cfs Oct. 25, 1931.

Remarks.--Records good. Some regulation at low and medium flow by powerplants above station. Capacity of reservoirs insufficient to affect monthly figures of runoff.

Revisions.--WSP 872: Drainage area.

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

1.3	162	3.0	1,480
1.5	250	4.0	2,860
2.0	546	6.0	6,040
2.5	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	232	249	327	1,080	568	1,020	1,030	1,530	428	561	362	230
2	236	280	332	776	613	1,120	914	1,540	*430	477	536	240
3	222	285	360	525	605	1,250	951	1,780	378	380	420	269
4	242	236	384	583	583	1,220	843	1,550	384	498	363	368
5	190	*256	401	528	532	1,400	782	1,140	384	777	439	600
6	241	280	407	464	505	1,360	887	1,260	395	638	342	717
7	222	241	389	484	966	1,020	878	1,660	526	491	296	494
8	236	229	360	475	757	1,060	869	1,720	1,210	491	430	380
9	275	241	322	1,080	886	*905	878	1,390	1,460	561	590	343
10	294	322	431	1,760	699	878	707	1,060	1,670	477	471	305
11	372	332	1,080	1,660	826	933	765	896	1,030	439	384	290
12	332	300	1,040	1,210	1,050	998	774	826	1,110	378	252	250
13	275	316	580	860	1,210	1,040	774	716	745	468	318	260
14	241	294	481	716	988	960	786	707	660	*293	281	248
15	311	311	484	598	1,680	887	706	692	667	326	372	229
16	311	265	*388	620	1,920	1,030	716	644	660	432	274	246
17	311	218	354	580	1,390	951	740	667	576	451	264	236
18	269	250	354	546	988	887	818	594	576	417	378	250
19	270	305	419	712	914	869	530	749	561	402	413	257
20	227	464	389	740	1,670	740	732	873	590	434	544	416
21	250	814	389	749	5,240	799	*649	600	576	426	461	620
22	236	497	395	869	5,720	1,050	586	667	837	384	377	463
23	241	384	341	910	4,170	1,850	689	512	740	689	354	298
24	241	354	322	1,440	2,330	2,600	572	546	491	908	310	243
25	265	338	327	1,480	1,780	3,080	620	526	458	458	*300	274
26	222	327	360	1,080	1,440	2,130	667	525	439	432	302	510
27	245	316	384	*951	1,230	1,660	724	484	484	445	265	834
28	311	372	338	804	1,180	1,230	571	477	664	395	258	691
29	270	372	332	742	-	1,180	553	458	723	372	266	525
30	250	360	322	786	-	1,140	891	446	644	366	232	395
31	236	-	751	675	-	952	-	445	-	268	224	-
Total	8,076	9,808	13,523	26,483	42,440	38,199	22,602	27,680	20,494	14,534	11,058	11,481
Mean	261	327	436	854	1,516	1,232	753	893	683	469	357	363
Cfsm	0.644	0.807	1.08	2.11	3.74	3.04	1.86	2.20	1.69	1.16	0.881	0.946
In.	0.74	0.90	1.24	2.45	3.90	3.50	2.08	2.54	1.89	1.34	1.02	1.06

Calendar year 1952: Max 7,860 Min 190 Mean 801 Cfsm 1.98 In. 26.69  
Water year 1952-53: Max 5,720 Min 190 Mean 675 Cfsm 1.67 In. 22.64

Peak discharge (base, 3,000 cfs).--Feb. 22 (2:30 a.m.) 5,720 cfs (5.82 ft); Mar. 25 (5:45 a.m.) 3,320 cfs (4.32 ft).

\* Discharge measurement made on this day.

## Saluda River near Ware Shoals, S. C.

Location.--Lat 34°23', long. 82°14', on right bank 2 miles southeast of Ware Shoals, Greenwood County, 2½ miles downstream from Ware Shoals Dam, and 5 miles upstream from Turkey Creek.

Drainage area.--569 sq mi.

Records available.--March 1939 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 448 ft (by barometer).

Average discharge.--14 years, 980 cfs.

Extremes.--Maximum discharge during year, 8,180 cfs Feb. 21 (gage height, 13.59 ft), from rating curve extended above 6,300 cfs as explained below; minimum, 32 cfs July 2; minimum daily, 148 cfs Nov. 13.

1939-53: Maximum discharge, 20,600 cfs Aug. 13, 1940 (gage height, 20.48 ft), from rating curve extended above 6,300 cfs on basis of computation of peak flow over dam; minimum, 3 cfs Sept. 18, 1939; minimum daily, 11 cfs Oct. 12, 19, 1941.

Remarks.--Records good. Some regulation at low and medium flow by powerplants above station. Capacity of reservoirs insufficient to affect monthly figures of runoff.

Revisions (water years).--WSP 892: 1939.

Rating table, water year 1952-53 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 25 to Feb. 20)

0.6	141	3.0	1,120
1.0	273	5.0	2,190
1.5	459	8.0	3,960
2.0	667	13.0	7,630

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	316	323	360	1,240	500	1,640	1,410	1,640	*624	912	532	259
2	412	375	408	1,270	667	1,860	1,330	2,350	646	262	1,030	277
3	321	420	414	778	540	1,860	975	2,460	583	496	664	273
4	238	322	374	404	436	1,970	1,360	3,060	483	623	500	530
5	224	259	396	614	468	1,860	928	2,140	495	788	410	580
6	238	238	388	775	507	1,970	1,040	1,920	509	1,180	313	532
7	248	262	344	582	814	1,800	1,370	2,480	428	686	323	920
8	248	242	405	479	1,020	1,640	1,100	2,460	588	463	316	520
9	316	218	378	1,320	1,370	*1,420	1,070	2,300	1,640	688	324	266
10	424	262	590	1,970	934	1,320	1,200	1,860	1,920	648	774	280
11	402	403	878	2,360	890	1,370	841	1,700	1,800	498	624	412
12	360	598	1,370	2,020	1,370	1,580	707	1,320	1,270	474	440	420
13	282	148	948	1,480	1,320	1,270	1,140	1,160	1,250	*502	273	341
14	248	*211	518	1,020	1,320	1,480	1,180	819	710	447	252	349
15	245	395	*454	841	2,110	1,420	775	1,100	863	487	280	277
16	410	348	487	560	2,760	1,480	914	908	863	467	345	207
17	400	348	586	844	2,140	1,420	998	826	797	491	534	259
18	412	224	470	797	1,530	1,200	908	960	488	499	438	259
19	333	225	337	838	1,120	1,180	892	975	736	452	462	262
20	256	471	408	797	1,520	1,240	*724	1,250	594	1,200	540	709
21	235	506	532	1,400	6,240	930	930	1,120	695	692	646	767
22	244	822	463	1,120	7,360	2,280	732	775	748	561	624	438
23	199	376	401	1,070	6,120	3,760	667	753	1,000	511	371	432
24	208	360	405	2,190	3,840	3,120	906	672	812	1,090	305	447
25	250	371	432	1,800	2,880	3,780	667	732	503	946	*248	356
26	379	358	514	*1,700	2,520	3,300	646	753	459	375	259	491
27	408	392	412	1,320	2,080	2,520	819	732	542	510	447	1,040
28	323	279	352	1,020	1,920	2,140	902	732	660	481	397	554
29	*242	392	451	785	-	1,800	688	503	775	490	390	582
30	248	546	436	546	-	1,800	1,100	532	863	475	242	646
31	291	-	1,000	885	-	1,480	-	443	-	432	262	-
Total	9,340	10,692	15,907	34,425	56,096	56,890	28,919	41,415	24,744	18,826	13,565	14,085
Mean	301	358	513	1,110	2,003	1,835	964	1,336	825	607	438	470
Cfsm	0.529	0.626	0.902	1.95	3.52	5.22	1.69	2.35	1.45	1.07	0.770	0.826
In.	0.61	0.70	1.04	2.25	3.66	5.71	1.89	2.71	1.62	1.23	0.89	0.92

Calendar year 1952: Max 11,800 Min 148 Mean 1,034 Cfsm 1.82 In. 24.74  
Water year 1952-53: Max 7,360 Min 148 Mean 890 Cfsm 1.56 In. 21.23

Peak discharge (base, 4,000 cfs).--Feb. 21 (10:45 p.m.) 8,180 cfs (13.59 ft); Mar. 25 (8 p.m.) 4,030 cfs (8.10 ft).

\* Discharge measurement made on this day.

Reedy River near Greenville, S. C.

Location.--Lat 34°48'00", long. 82°21'55", on right bank 200 ft upstream from State Highway bridge, 0.5 mile upstream from Brushy Creek, 2.5 miles upstream from dam at Conestee, and 3.9 miles southeast of county courthouse in Greenville, Greenville County.

Drainage area.--48.6 sq mi.

Records available.--November 1941 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 800 ft (from topographic map).

Average discharge.--11 years (1942-53), 82.9 cfs.

Extremes.--Maximum discharge during year, 1,250 cfs Feb. 20 (gage height, 3.90 ft); minimum, 7 cfs Aug. 17.

1941-53: Maximum discharge, 3,590 cfs Oct. 7, 1949 (gage height, 7.88 ft), from rating curve extended above 2,000 cfs by velocity-area studies; minimum, that of Aug. 17, 1953.

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

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

0.6	7	1.5	242
.7	20	2.0	426
.8	37	3.0	945
1.0	82	4.0	1,300

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	16	32	23	126	48	70	65	186	34	30	73	a10
2	16	23	49	90	43	133	63	249	*34	30	35	*17
3	17	23	34	75	45	101	60	251	28	30	47	40
4	30	*23	27	54	41	132	65	155	28	148	31	118
5	25	22	40	45	37	109	56	106	27	69	38	30
6	25	19	39	41	66	82	65	138	44	40	30	23
7	25	17	28	39	220	77	68	165	45	30	51	17
8	22	26	27	127	124	70	60	120	37	36	30	15
9	72	22	32	217	77	63	58	87	75	36	38	16
10	35	22	154	254	60	*65	58	70	136	27	23	25
11	32	32	97	161	134	120	60	60	72	23	32	27
12	23	22	63	97	157	96	73	58	43	20	27	20
13	22	19	48	70	118	82	63	56	41	22	25	16
14	22	19	36	58	93	84	56	56	41	*30	21	15
15	19	31	34	52	333	84	52	54	39	86	15	16
16	19	23	*30	48	221	70	64	58	48	44	12	15
17	20	22	28	52	118	68	52	50	45	28	44	15
18	28	22	28	95	82	69	56	50	37	25	41	14
19	23	39	28	60	70	65	56	122	38	23	34	40
20	20	59	37	*50	611	56	50	108	50	29	30	195
21	22	33	32	141	958	68	*50	58	36	36	23	38
22	19	34	28	82	457	215	48	50	46	67	17	27
23	19	25	34	190	197	190	48	56	54	47	a19	19
24	20	22	30	216	142	200	48	45	37	27	a24	17
25	32	23	27	143	115	149	62	43	32	23	a34	42
26	25	28	27	87	101	104	63	41	39	19	a26	75
27	27	27	28	68	85	82	48	35	57	19	a22	142
28	28	23	25	70	82	80	43	34	65	34	a19	56
29	19	30	25	60	-	70	45	35	37	34	a15	37
30	19	25	37	54	-	68	245	45	34	30	a11	32
31	20	-	298	56	-	65	-	35	-	23	a10	-
Total	761	787	1,473	2,978	4,835	2,989	1,900	2,676	1,379	1,165	897	1,169
Mean	24.5	26.2	47.5	96.1	173	96.4	63.3	86.3	46.0	37.6	28.9	39.0
Cfsm	0.504	0.559	0.977	1.96	3.56	1.98	1.30	1.78	0.947	0.774	0.595	0.802
In.	0.58	0.60	1.13	2.28	3.71	2.28	1.45	2.05	1.06	0.89	0.69	0.89

Calendar year 1952: Max 1,440 Min 16 Mean 80.3 Cfsm 1.65 In. 22.51  
Water year 1952-53: Max 958 Min 10 Mean 63.0 Cfsm 1.30 In. 17.61

Peak discharge (base, 1,000 cfs).--Feb. 20 (3:15 p.m.) 1,250 cfs (3.90 ft).

\* Discharge measurement made on this day.

a Doubtful or no gage-height record; discharge estimated on basis of recorder graph, weather records, together with gage readings and miscellaneous discharge measurements at Hudson Street Bridge in Greenville.

## Reedy River near Ware Shoals, S. C.

Location.--Lat 34°27', long. 82°12', on left bank  $1\frac{1}{2}$  miles downstream from dam at Boyd's mill, 4.5 miles northeast of Ware Shoals, Greenwood County, and 10.5 miles upstream from Redburn Creek.

Drainage area.--228 sq mi.

Records available.--March 1939 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 489 ft (by barometer).

Average discharge.--14 years, 295 cfs.

Extremes.--Maximum discharge during year, 3,200 cfs Feb. 22 (gage height, 5.31 ft, from graph based on partly estimated gage-height record), from rating curve extended above 2,700 cfs on basis of computations of peak flow over dam at gage heights 7.56 and 13.32 ft; minimum, 18 cfs Apr. 24 (gage height, 0.88 ft); minimum daily, 22 cfs Sept. 13.

1939-53: Maximum discharge, 7,750 cfs Aug. 14, 1940 (gage height, 13.32 ft), by computation of peak flow over dam at Boyd's mill; minimum, 6 cfs Nov. 11, 1948 (gage height, 0.54 ft); minimum daily, 10 cfs Oct. 14, 18, Dec. 31, 1950, Mar. 4, 1951.

Remarks.--Records good except those for period of fragmentary gage-height record, which are fair. Some regulation at low and medium flow by powerplants above station. Capacity of reservoirs insufficient to affect monthly figures of runoff.

Revisions (water years).--WSP 892: 1939. WSP 922: Drainage area.

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

0.9	22	2.0	240
1.0	30	2.5	516
1.3	66	3.0	960
1.5	100	4.0	1,980
1.7	142	5.0	2,960

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	145	28	99	627	31	372	262	602	*217	198	27	74
2	145	68	133	498	250	270	266	878	242	150	94	104
3	150	112	164	394	279	492	266	1,250	195	54	293	117
4	93	138	147	288	262	592	145	582	168	35	247	110
5	37	140	156	282	268	682	147	684	131	256	201	52
6	115	138	102	221	166	562	283	516	103	479	195	28
7	142	138	162	153	194	342	279	787	26	326	153	108
8	95	73	255	161	692	324	307	717	216	279	83	131
9	108	26	140	376	431	399	279	489	214	178	31	129
10	147	112	140	940	407	325	274	480	197	145	168	125
11	153	138	150	950	288	379	274	370	147	90	210	128
12	145	140	289	554	470	531	273	262	258	35	202	81
13	152	147	303	471	612	482	274	262	235	*154	154	22
14	150	142	258	455	509	475	274	262	117	198	105	102
15	150	91	*161	332	979	406	274	257	220	163	28	100
16	145	34	182	236	1,550	*561	196	95	216	140	36	96
17	138	116	156	119	758	516	214	127	192	147	128	116
18	128	142	158	30	509	475	274	262	143	101	133	91
19	39	161	164	225	386	359	278	262	131	36	129	23
20	143	147	158	293	f389	372	*274	266	88	191	137	28
21	173	145	78	396	f991	157	270	270	35	394	145	94
22	150	128	66	516	f2,870	754	266	274	250	263	95	140
23	140	40	202	509	1,780	1,630	266	270	217	213	34	147
24	138	136	262	859	926	1,100	103	91	206	192	135	147
25	93	164	118	1,160	675	617	35	211	202	119	138	142
26	32	194	115	*539	577	617	210	270	195	31	136	150
27	130	150	164	475	475	319	266	266	128	160	140	150
28	145	144	156	462	468	456	258	155	195	131	446	
29	*153	138	135	320	-	494	257	114	157	165	86	314
30	148	76	135	257	-	414	262	153	202	122	23	249
31	88	-	181	96	-	262	-	28	-	108	76	-
Total	3,910	3,546	5,089	13,194	18,192	15,936	7,306	11,912	5,068	5,337	3,893	3,744
Mean	126	118	164	426	650	514	244	384	169	172	126	125
Cfsm	0.553	0.518	0.719	1.87	2.85	2.25	1.07	1.88	0.741	0.754	0.553	0.548
In.	0.64	0.58	0.83	2.16	2.97	2.59	1.19	1.94	0.83	0.87	0.64	0.61

Calendar year 1952: Max 4,500 Min 22 Mean 326 Cfsm 1.43 In. 19.45

Water year 1952-53: Max 2,870 Min 22 Mean 266 Cfsm 1.17 In. 15.85

Peak discharge (base, 2,200 cfs)--Feb. 22 (time unknown) 3,200 cfs (5.31 ft).

\* Discharge measurement made on this day.

f Fragmentary gage-height record; discharge computed from partly estimated gage heights.

## SANTEE RIVER BASIN

Lake Greenwood near Chappells, S. C.

Location.--Lat 34°10', long. 81°54', at left upstream end of dam on Saluda River, 0.7 mile upstream from Wilson Creek and 2.4 miles west of Chappells, Newberry County.

Drainage area.--1,150 sq mi, approximately.

Records available.--May 1940 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 400.00 ft above mean sea level, datum of 1929 (levels by Dan T. Duncan Engineering Co.); gage readings have been reduced to elevations above mean sea level. Prior to June 11, 1940, staff gage at same site and datum.

Extremes.--Maximum elevation during year, 441.34 ft Feb. 24; minimum, 424.70 ft Dec. 24. 1940-53: Maximum elevation, 442.02 ft Mar. 5, 1952; minimum elevation since normal reservoir level was first reached, 424.42 ft Oct. 16, 1947.

Remarks.--Lake is formed by earth dam; storage began in May 1940; dam completed in 1940. Usable capacity, about 8,330,000,000 cu ft between elevations 420.0 ft (limit of draw-down) and 441.5 (top of 12-foot flashboards on top of spillway gates) above mean sea level. Dead storage is about 3,500,000,000 cu ft. Figures given herein represent usable contents. Elevation of spillway crest is 415.0 ft above mean sea level. Water is used for generation of power.

Revisions.--WSP 972: Drainage area.

Mean elevation, in feet, water year October 1952 to September 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33.90	30.04	27.26	25.17	32.79	40.68	39.26	38.08	37.74	36.53	34.21	29.67
2	33.78	30.06	27.03	25.49	32.83	40.60	38.94	38.46	37.58	36.60	34.26	29.48
3	33.64	29.92	26.87	25.77	32.87	40.37	38.63	39.20	37.49	36.58	34.28	29.23
4	33.51	29.79	26.68	25.89	32.82	40.17	38.28	39.82	37.37	36.67	34.05	28.96
5	33.43	29.64	26.50	25.90	32.76	40.00	38.14	39.95	37.22	36.78	33.84	28.85
6	33.34	29.48	26.40	25.80	32.71	39.76	38.10	39.91	37.10	36.79	33.58	28.95
7	33.14	29.26	26.41	25.70	32.85	39.49	38.14	40.05	37.08	36.74	33.33	29.01
8	32.95	29.15	26.35	25.57	33.20	39.51	38.16	40.05	37.02	36.62	33.15	28.93
9	32.80	29.14	26.15	25.68	33.52	39.42	38.15	39.99	37.03	36.47	33.12	28.66
10	32.66	29.09	25.99	26.24	33.67	39.02	38.18	39.99	37.10	36.40	33.03	28.35
11	32.59	28.96	25.97	27.07	33.71	38.66	38.00	39.93	37.23	36.34	32.91	28.03
12	32.60	28.82	25.99	27.78	33.85	38.51	37.86	39.61	37.26	36.35	32.78	27.94
13	32.56	28.64	26.21	28.10	34.14	38.27	37.81	39.26	37.29	36.29	32.60	27.95
14	32.40	28.44	26.39	28.29	34.38	38.03	37.78	39.18	37.58	36.14	32.36	27.81
15	32.24	28.36	26.41	28.40	35.18	38.13	37.72	39.12	37.44	36.00	32.15	27.50
16	32.10	28.39	26.16	28.44	35.99	38.29	37.72	39.13	37.40	35.88	32.08	27.14
17	31.99	28.37	25.92	28.50	36.63	38.39	37.66	39.08	37.31	35.71	32.00	26.75
18	31.91	28.19	25.75	28.67	36.91	38.45	37.69	39.00	37.19	35.59	31.83	26.39
19	31.92	28.00	25.54	28.78	37.06	38.50	37.84	39.00	37.01	35.60	31.86	26.14
20	31.84	27.90	25.33	28.75	37.16	38.52	37.77	39.00	36.90	35.60	31.54	26.34
21	31.60	27.85	25.32	28.93	37.75	38.56	37.66	39.01	36.89	35.55	31.38	26.42
22	31.35	27.84	25.29	29.25	39.42	38.69	37.62	38.95	36.94	35.46	31.32	26.23
23	31.15	27.92	24.92	29.51	40.81	39.17	37.58	38.89	36.85	35.37	31.38	25.95
24	30.98	27.90	24.75	30.52	41.28	39.67	37.53	38.86	36.81	35.19	31.28	25.76
25	30.87	27.73	24.89	31.31	41.27	39.83	37.51	38.74	36.65	35.19	31.01	25.60
26	30.84	27.57	25.01	31.88	41.24	39.96	37.55	38.58	36.52	35.21	30.74	25.55
27	30.79	27.44	25.16	32.06	41.06	39.90	37.49	38.42	36.28	35.13	30.48	25.89
28	30.68	27.38	25.24	32.34	40.82	39.82	37.41	38.26	36.11	34.98	30.27	26.14
29	30.46	27.24	25.19	32.51	-	39.88	37.36	38.12	36.18	34.79	30.13	26.15
30	30.24	27.29	24.92	32.52	-	39.89	37.50	37.99	36.41	34.60	30.11	26.04
31	30.09	-	24.99	32.63	-	39.58	-	37.90	-	34.38	29.96	-

Note.--Add 400 ft to obtain elevation above mean sea level.

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

Date	Elevation (feet)†	Contents (billions of cubic feet)	Change in contents during month (equivalent, in cubic feet per second)
Sept. 30.....	433.97	4.93	-
Oct. 31.....	430.05	3.33	-597
Nov. 30.....	427.35	2.36	-374
Dec. 31.....	425.01	1.54	-306
Calendar year 1952..	-	-	-191
Jan. 31.....	432.70	4.38	+1,060
Feb. 28.....	440.67	7.95	+1,486
Mar. 31.....	439.40	7.36	-220
Apr. 30.....	437.84	6.65	-274
May 31.....	437.83	6.64	-4
June 30.....	436.49	6.04	-231
July 31.....	434.24	5.05	-370
Aug. 31.....	429.77	3.23	-680
Sept. 30.....	425.97	1.87	-525
Water year 1952-53..	-	-	-97

† Elevation at 12 p.m.

## Saluda River at Chappells, S. C.

Location.--Lat 34°11', long. 81°52', on left bank at downstream side of bridge on State Highway 39 at Chappells, Newberry County, 7 miles downstream from dam at Lake Greenwood and 8½ miles upstream from Little River.

Drainage area.--1,350 sq mi, approximately.

Records available.--May 1927 to September 1953. Gage-height records collected at practically same site since 1905 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 363.89 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Oct. 1, 1939, at site 300 ft downstream at datum 0.10 ft lower.

Average discharge.--26 years, 1,983 cfs.

Extremes.--Maximum discharge during year, 6,380 cfs Feb. 25 (gage height, 13.70 ft); minimum, 286 cfs Oct. 6; minimum daily, 312 cfs Dec. 26.

1927-53: Maximum discharge, 63,700 cfs Oct. 2, 1929 (gage height, 31.5 ft), from rating curve extended above 27,000 cfs on basis of velocity-area studies; minimum, 8 cfs Oct. 29, 1939; minimum daily, 8 cfs Oct. 29, 1939, caused by construction work above station.

Maximum stage known, 35.7 ft Aug. 26, 1908 (present datum), from reports of U. S. Weather Bureau.

Remarks.--Records good. Flow regulated by Lake Greenwood (see preceding page).

Revisions.--WSP 972: Drainage area.

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

Oct. 1 to Dec. 29		Dec. 30 to Feb. 24		Feb. 25 to Sept. 30					
1.6	312	2.1	501	5.0	1,520	1.4	332	6.0	2,090
2.0	410	2.5	616	8.0	2,900	1.5	360	9.0	3,540
4.0	1,020	3.0	774	12.0	5,150	2.0	510	12.0	5,210
6.0	1,850					4.0	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	1,110	659	1,240	1,750	558	2,840	3,740	2,870	1,940	526	1,040	1,350
2	1,130	435	1,510	1,520	1,130	3,620	3,590	2,150	1,580	558	874	1,350
3	1,080	943	1,380	1,040	2,260	4,740	3,840	1,590	1,390	522	1,660	1,860
4	804	1,050	1,440	639	1,370	4,910	3,340	3,580	1,480	343	2,040	1,740
5	488	1,040	1,270	1,380	1,430	5,030	1,800	4,240	1,480	512	1,790	1,040
6	1,010	1,100	901	*1,560	1,430	4,620	1,970	4,050	1,190	1,860	1,820	509
7	1,240	1,160	454	1,550	1,140	4,080	1,780	4,620	1,020	1,960	1,700	1,080
8	1,290	558	1,420	1,400	782	1,920	1,720	4,570	1,420	1,820	1,010	1,600
9	1,260	370	1,270	1,610	1,310	3,300	1,680	3,550	1,720	1,720	570	1,680
10	1,220	843	1,320	1,450	1,470	4,400	1,690	2,650	1,830	1,640	1,360	1,570
11	766	1,120	1,280	801	1,510	4,570	2,790	3,270	1,740	774	1,490	1,530
12	453	1,470	1,100	1,280	1,300	4,850	2,890	3,740	1,750	505	1,430	899
13	969	*1,140	724	1,410	1,380	4,430	2,860	3,200	1,400	1,120	1,450	450
14	1,120	1,080	462	1,310	1,220	3,440	1,930	*1,800	747	1,490	1,500	1,360
15	1,150	604	1,210	1,200	2,710	2,210	1,820	1,790	1,160	1,460	1,060	1,660
16	1,170	387	1,570	1,100	2,970	2,470	1,670	1,300	1,600	1,570	460	1,780
17	1,150	955	1,500	841	*2,100	2,110	1,500	1,480	1,640	1,780	1,190	1,810
18	678	1,130	1,330	512	1,690	2,090	966	1,960	1,770	981	1,550	1,720
19	458	1,180	1,560	1,160	1,770	2,180	1,260	1,830	1,770	504	*1,400	720
20	1,090	1,140	1,080	1,370	1,860	2,040	2,000	1,790	1,330	1,540	1,320	433
21	1,400	1,110	541	1,270	3,240	1,450	1,610	1,760	706	1,850	1,410	1,420
22	1,320	744	1,470	1,270	3,040	2,440	1,570	1,770	1,510	1,770	746	1,540
23	1,110	425	1,720	1,270	3,920	3,650	1,590	1,360	1,710	1,680	345	1,460
24	1,070	983	712	1,850	4,970	4,520	1,570	1,300	1,590	1,920	1,320	1,330
25	689	1,230	336	1,610	5,210	4,020	958	2,060	*1,610	1,120	1,540	1,360
26	435	1,410	312	1,540	4,460	*3,910	1,180	2,020	1,530	483	1,550	860
27	947	826	336	1,530	4,350	3,860	1,830	1,870	2,500	1,280	1,540	856
28	1,190	983	360	1,380	4,130	3,310	1,500	1,770	1,150	1,610	1,520	1,400
29	1,180	766	1,330	1,330	-	1,760	1,530	1,680	620	1,690	850	1,500
30	1,200	434	1,610	1,260	-	3,100	1,810	1,510	498	1,780	421	1,470
31	1,100	-	2,000	874	-	3,910	-	1,240	-	1,860	1,310	-
Total	31,277	27,276	34,548	40,077	63,710	105,780	59,774	74,170	43,371	40,428	39,087	39,337
Mean	1,009	909	1,114	1,293	2,275	3,412	1,992	2,393	1,446	1,304	1,260	1,311
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 27,400 Min 312 Mean 2,016 Cfsm - In. -

Water year 1952-53: Max 5,210 Min 312 Mean 1,641 Cfsm - In. -

\* Discharge measurement made on this day.

## Saluda River near Silverstreet, S. C.

Location.--Lat 34°11', long. 81°44', on left bank 200 ft upstream from Higgins Ferry Bridge on State Highway 19, 1 mile downstream from Little River, and 2½ miles south of Silverstreet, Newberry County.

Drainage area.--1,620 sq mi, approximately.

Records available.--January 1927 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 345.13 ft above mean sea level, unadjusted. Prior to Oct. 15, 1929, staff gage at same site and datum. Since Mar. 8, 1939, water-stage recorder for station on Lake Murray near Columbia has been used as an auxiliary gage for this station.

Average discharge.--26 years, 2,270 cfs.

Extremes.--Maximum discharge during year, 6,860 cfs Feb. 25 (gage height, 14.20 ft); minimum daily, 372 cfs Aug. 23.

1927-53: Maximum discharge, 83,800 cfs Oct. 3, 1929 (gage height, 33.97 ft), from rating curve extended above 19,000 cfs on basis of discharge measurements made at Chappells and near Chapin; minimum daily, 49 cfs July 4, 1940.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Flow regulated by Lake Greenwood (see p. 214).

Revisions.--WSP 972: 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	1,180	846	873	3,000	636	3,360	3,960	3,900	1,780	560	1,300	1,490
2	1,140	486	1,590	1,900	812	3,470	3,960	3,400	1,710	579	800	1,380
3	1,100	634	1,620	1,200	1,320	5,490	3,900	2,360	1,420	552	1,500	1,770
4	979	1,160	1,550	800	1,380	5,920	3,900	3,840	1,410	429	2,200	1,930
5	587	1,110	1,490	1,100	1,460	6,090	2,430	5,580	1,490	464	1,900	1,450
6	664	1,110	1,160	*1,490	1,460	5,250	1,640	4,930	1,390	1,590	1,900	684
7	1,260	1,270	630	1,650	1,400	4,640	1,900	6,270	1,050	2,030	1,800	914
8	1,360	782	1,070	1,540	1,240	2,420	1,820	6,360	1,130	2,020	1,200	1,540
9	1,340	375	1,490	2,160	1,200	2,830	1,700	4,440	1,740	1,860	700	1,790
10	1,370	545	1,440	2,480	1,620	4,640	1,700	3,260	1,920	1,700	1,100	1,700
11	1,020	1,210	1,470	1,460	1,640	5,010	2,740	3,080	1,820	1,000	1,500	1,590
12	544	1,450	1,260	1,210	1,520	5,830	3,340	4,160	1,800	850	1,500	1,250
13	648	*1,880	936	1,550	1,560	5,090	3,760	3,980	1,620	850	1,300	552
14	1,220	1,160	650	1,400	1,440	4,230	2,190	*1,960	928	1,500	1,500	974
15	1,180	810	950	1,310	3,840	2,610	1,890	1,910	792	1,500	1,300	1,760
16	1,210	436	1,600	1,190	4,780	2,570	1,750	1,620	1,570	1,600	600	1,820
17	1,250	624	1,600	982	*3,250	2,310	1,550	1,330	1,700	1,800	900	1,930
18	964	1,210	1,500	596	1,920	2,130	1,150	1,920	1,730	1,200	1,600	1,800
19	500	1,220	1,500	892	1,760	2,240	1,090	1,940	1,710	650	*1,510	1,240
20	722	1,290	1,300	1,510	1,940	2,050	1,820	1,950	1,600	1,300	1,370	525
21	1,440	1,260	800	1,430	4,270	1,630	1,650	1,880	850	1,900	1,410	1,130
22	1,450	975	1,300	1,530	4,560	2,130	1,570	1,870	1,300	1,900	1,040	1,800
23	1,260	561	1,800	1,460	4,710	3,940	1,530	1,650	1,800	2,000	372	1,600
24	1,150	672	1,000	3,200	5,420	6,360	1,540	1,290	1,700	2,000	822	1,460
25	888	1,240	550	3,400	6,360	5,170	1,440	1,820	*1,610	1,300	1,640	1,450
26	495	1,430	440	1,970	5,330	*4,320	972	2,080	1,540	650	1,620	1,150
27	858	1,210	400	1,720	5,010	4,180	1,670	1,970	2,430	1,000	1,570	1,380
28	1,210	850	420	1,640	4,640	3,680	1,590	1,800	1,790	1,700	1,580	1,350
29	1,290	928	1,000	1,440	-	2,170	1,550	1,720	770	1,700	1,150	1,710
30	1,280	562	1,800	1,400	-	2,580	1,730	1,460	558	1,800	495	1,650
31	1,190	-	2,800	1,020	-	4,110	-	1,200	-	1,900	927	-
Total	32,557	29,296	37,989	49,630	76,478	118,450	63,432	86,930	44,656	41,684	40,406	42,779
Mean	1,050	977	1,225	1,601	2,731	3,821	2,114	2,804	1,489	1,345	1,303	1,426
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-
Calendar year 1952: Max	24,600				Min 375	Mean 2,267	Cfsm -	In. -				
Water year 1952-53: Max	6,360				Min 372	Mean 1,820	Cfsm -	In. -				

\* Discharge measurement made on this day.

Note.--No gage-height record Dec. 14 to Jan. 5, June 20-24, July 10 to Aug. 18; discharge estimated on basis of recorded range in stage, weather records, and records for station at Chappells.

## Lake Murray near Columbia, S. C.

Location.--Lat 34°03'05", long. 81°13'15", in intake tower 500 ft upstream from dam on Saluda River, 10 miles upstream from confluence of Saluda and Broad Rivers at Columbia, Richland County.

Drainage area.--2,420 sq mi, approximately.

Records available.--August 1929 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 0.64 ft below mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Oct. 31, 1930, staff gage at same site and datum.

Extremes.--Maximum gage height during year, 348.32 ft May 19; minimum, 326.58 ft Dec. 30. 1929-53: Maximum gage height, 361.51 ft Apr. 10, 1936; minimum gage height since generation of power was started, 320.96 ft Dec. 23, 1941.

Remarks.--Lake is formed by earth dam; storage began Aug. 31, 1929; dam completed in 1930. Usable capacity, 70,300,000 cu ft between gage heights 300.0 ft (limit of drawdown) and 360.0 ft (maximum normal lake level). Dead storage, about 21,800,000,000 cu ft. Figures given herein represent usable contents. Gage height of one spillway crest (completed in 1946), 330 ft with top of gates 362 ft; gage height of other spillway crest 340 ft with top of gates 365 ft. Water is used for generation of power.

Revisions.--WSP 972: Drainage area.

Mean gage height, in feet, water year October 1952 to September 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41.68	35.97	30.89	26.97	28.62	35.57	43.97	45.15	47.34	46.32	44.63	41.04
2	41.42	35.93	30.63	27.05	28.64	35.85	44.17	45.36	47.20	46.21	44.62	40.80
3	41.14	35.88	30.57	27.08	28.60	36.25	44.35	45.52	47.10	46.11	44.51	40.62
4	40.95	35.64	30.13	27.11	28.61	36.77	44.53	45.79	46.92	46.07	44.30	40.55
5	40.92	35.37	29.62	27.05	28.55	37.27	44.67	46.03	46.76	46.05	44.16	40.44
6	40.84	35.09	29.62	26.94	28.53	37.62	44.76	46.25	46.63	46.06	43.96	40.60
7	40.60	34.79	29.58	26.92	28.61	37.93	44.82	46.93	46.62	46.05	43.76	40.67
8	40.43	34.60	29.50	26.92	28.73	38.18	44.81	47.40	46.61	46.10	43.71	40.66
9	40.22	34.57	29.19	26.99	28.83	38.32	44.82	47.65	46.52	46.11	43.77	40.56
10	39.99	34.53	28.90	27.27	28.85	38.51	44.82	47.85	46.41	46.12	43.68	40.40
11	39.83	34.36	28.72	27.47	28.87	38.82	44.84	47.94	46.34	46.13	43.47	40.25
12	39.79	34.13	28.48	27.50	28.94	39.51	45.07	48.07	46.30	46.13	43.31	40.10
13	39.75	33.92	28.40	27.46	28.99	40.00	45.44	48.20	46.31	46.08	43.17	40.04
14	39.53	33.72	28.37	27.45	29.06	40.30	45.52	48.26	46.36	46.01	43.02	39.96
15	39.30	33.62	28.27	27.44	29.69	40.56	45.51	48.23	46.37	45.95	42.87	39.74
16	39.07	33.62	27.95	27.44	30.41	40.72	45.53	48.19	46.38	45.88	42.84	39.53
17	38.87	33.47	27.70	27.46	30.80	40.88	45.51	48.21	46.40	45.80	42.78	39.26
18	38.72	33.19	27.47	27.57	30.99	41.03	45.50	48.23	46.39	45.78	42.65	38.99
19	38.71	32.92	27.23	27.58	31.12	41.18	45.55	48.19	46.39	45.82	42.59	38.76
20	38.61	32.77	27.13	27.55	31.24	41.30	45.42	48.19	46.41	45.79	42.56	38.74
21	38.32	32.51	27.16	27.57	31.88	41.42	45.40	48.15	46.46	45.78	42.49	38.70
22	38.05	32.23	27.09	27.59	32.51	41.55	45.28	48.09	46.48	45.69	42.44	38.55
23	37.85	32.13	26.88	27.64	32.87	41.80	45.18	48.05	46.46	45.63	42.44	38.34
24	37.64	32.03	26.85	27.99	33.28	42.23	45.09	48.02	46.42	45.54	42.35	38.14
25	37.39	31.75	26.95	28.34	33.95	42.66	45.08	48.02	46.37	45.46	42.17	37.98
26	37.27	31.50	26.97	28.51	34.50	42.89	45.12	47.89	46.34	45.48	41.99	37.99
27	37.18	31.34	27.02	28.57	34.96	43.09	45.13	47.77	46.33	45.43	41.81	38.55
28	36.94	31.25	27.02	28.57	35.27	43.31	45.06	47.66	46.41	45.22	41.62	38.69
29	36.69	31.07	26.95	28.55	-	43.47	44.98	47.56	46.47	45.05	41.46	38.65
30	36.39	30.98	26.95	28.52	-	43.56	44.95	47.48	46.43	44.86	41.42	38.54
31	36.13	-	26.79	28.56	-	43.73	-	47.43	-	44.70	41.32	-

Note.--Add 300 ft to obtain gage heights. Gage heights for Feb. 27 to Mar. 13, Mar. 15-20, 23-31 computed from 4 gage readings daily at powerhouse.

Monthly gage height and contents, water year October 1952 to September 1953

Date	Gage height (feet)†	Contents (billions of cubic feet)	Change in contents during month (equivalent, in cubic feet per second)
Sept. 30.....	341.77	37.90	-
Oct. 31.....	335.98	30.23	-2,864
Nov. 30.....	330.98	24.41	-2,245
Dec. 31.....	326.86	20.10	-1,609
Calendar year 1952...	-	-	-115
Jan. 31.....	328.57	21.84	+650
Feb. 28.....	335.44	29.57	+3,195
Mar. 31.....	343.84	40.90	+4,230
Apr. 30.....	345.02	42.68	+687
May 31.....	347.42	46.46	+1,411
June 30.....	346.37	44.78	-648
July 31.....	344.63	42.09	-1,004
Aug. 31.....	341.11	36.97	-1,912
Sept. 30.....	338.43	33.34	-1,400
Water year 1952-53	-	-	-145

† Gage height at 12 p.m.

## Saluda River near Columbia, S. C.

Location.--Lat 34°00'50", long. 81°05'17", on left bank 0.4 mile upstream from site of old Saluda mill, 1.6 miles upstream from confluence with Broad River, and 3.3 miles west of State Capitol in Columbia, Richland County.

Drainage area.--2,510 sq mi, approximately.

Records available.--August 1925 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 149.46 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Sept. 1, 1929, at datum 1.00 ft higher.

Average discharge.--28 years, 2,888 cfs.

Extremes.--Maximum discharge during year, 9,600 cfs Sept. 3 (gage height, 6.13 ft); minimum, 118 cfs Dec. 15; minimum daily, 141 cfs Dec. 26.

1925-53: Maximum discharge, 67,000 cfs Oct. 2, 1929 (gage height, 15.22 ft), from rating curve extended above 26,000 cfs on basis of discharge measurements made at Wise Ferry Bridge near Chapin; minimum, 11 cfs July 13, 1930; minimum daily, 12 cfs July 13, 1930, caused by construction work above station.

Remarks.--Records good. Flow regulated by Lake Murray (see preceding page) and Lake Greenwood (see p. 214).

Revisions.--WSP 972: Drainage area.

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

1.2	131	2.5	975
1.3	155	3.0	1,620
1.5	220	4.0	3,440
1.7	320	5.0	6,050
2.0	521		

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	5,280	2,170	4,050	1,040	242	213	356	984	4,170	2,580	1,210	5,840
2	5,120	271	5,220	2,910	1,630	291	346	515	2,920	2,430	310	5,800
3	4,760	3,910	4,900	1,140	1,650	811	319	271	3,350	1,390	4,900	5,880
4	1,950	4,560	5,440	428	1,640	795	375	1,200	4,220	750	4,500	5,480
5	402	*4,610	5,460	2,920	2,240	959	412	2,740	4,430	604	4,620	923
6	4,630	5,130	2,010	2,060	1,820	759	1,300	2,560	2,390	1,430	5,130	304
7	5,170	4,490	334	1,860	562	354	1,610	1,370	850	2,180	4,270	404
8	5,100	1,980	4,780	1,800	258	216	1,560	864	2,690	2,020	742	2,500
9	5,020	238	4,770	1,350	1,130	712	1,450	808	3,720	1,710	242	3,200
10	4,550	3,310	4,850	904	1,320	868	1,860	322	3,800	1,850	3,730	3,980
11	2,230	4,090	4,640	533	1,560	1,030	495	749	3,930	421	4,770	3,870
12	308	4,390	3,140	1,700	1,260	1,140	465	1,440	1,540	158	3,420	2,140
13	3,590	4,100	1,180	1,980	1,120	843	1,170	1,160	933	2,000	3,510	422
14	4,270	4,010	326	1,500	448	360	1,780	2,320	200	2,570	4,530	3,580
15	4,860	1,840	4,400	1,720	757	363	2,060	2,900	726	2,490	2,070	4,340
16	4,500	386	4,830	1,300	798	414	1,590	1,120	890	3,000	521	5,210
17	4,190	3,850	4,520	426	650	461	1,880	374	1,340	2,840	3,780	5,720
18	1,800	4,560	4,200	266	571	426	1,010	2,770	1,730	566	2,440	5,770
19	251	4,680	3,680	1,200	760	292	236	2,320	1,550	182	2,860	2,280
20	4,130	4,540	1,940	1,910	610	271	3,150	2,790	494	2,860	2,060	270
21	5,170	4,780	344	1,390	416	220	*3,900	2,350	155	3,600	2,320	3,750
22	4,920	3,580	3,680	1,080	638	205	3,130	3,060	1,290	3,680	950	3,610
23	4,060	400	3,680	1,100	1,140	423	3,200	2,340	2,310	3,010	292	3,560
24	5,440	4,140	484	374	1,360	861	2,360	423	2,080	3,670	3,300	3,970
25	3,480	4,630	158	380	958	859	940	3,220	1,800	949	4,250	2,650
26	408	4,990	141	1,350	830	577	276	3,950	2,160	163	4,050	1,120
27	4,150	1,250	214	1,850	455	406	2,170	3,820	960	3,910	4,550	1,500
28	4,500	3,820	271	2,140	310	278	2,900	3,080	269	4,730	4,870	2,100
29	4,800	2,720	2,930	1,910	-	348	2,640	3,510	788	4,260	2,530	3,000
30	4,820	308	4,450	1,340	-	528	3,250	1,890	2,390	5,310	657	3,740
31	4,020	-	2,820	677	-	464	-	1,760	-	4,520	4,800	-
Total	117,879	97,933	93,842	42,538	27,133	16,747	48,191	58,980	60,265	71,833	92,184	96,913
Mean	3,803	3,264	3,027	1,372	969	540	1,606	1,903	2,009	2,317	2,974	3,230
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-
Calendar year 1952: Max	6,800			Min	120	Mean	2,729	Cfsm	-	In.	-	
Water year 1952-53: Max	5,880			Min	141	Mean	2,259	Cfsm	-	In.	-	

\* Discharge measurement made on this day.

Lakes Marion-Moultrie diversion canal near Pineville, S. C.

Location.--Lat 33°23'15", long. 80°08'25", on right bank 0.6 mile upstream from bridge on State Highway 45 and 7.0 miles southwest of Pineville, Berkeley County.

Records available.--February 1944 to September 1953.

Gage.--Water-stage recorder. Auxiliary water-stage recorder 3.9 miles downstream from base gage. Datum of gage is 60.0 ft above mean sea level, datum of 1929, supplementary adjustment of 1936 (levels by South Carolina Public Service Authority).

Average discharge.--9 years, 14,480 cfs.

Extremes.--Maximum daily discharge during year, 28,100 cfs Feb. 28; minimum daily, 1,170 cfs July 5.

1944-53: Maximum daily discharge, 40,200 cfs Mar. 10, 1952; maximum daily reverse flow, 12,100 cfs Feb. 9, 1947.

Remarks.--Records good except those for periods of very low fall between gages, which are poor. Canal diverts water from Lake Marion to Lake Moultrie for generation of power and for navigation. Water is discharged from powerplant and navigation lock into West Branch Cooper River.

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	13,000	12,900	12,100	a9,800	11,600	27,900	25,700	12,300	e5,230	e5,390	9,400	11,200
2	14,400	10,800	11,600	a10,500	10,900	27,200	25,600	8,470	6,890	e4,540	8,160	11,000
3	14,700	10,800	12,100	a11,500	11,000	27,000	25,000	6,790	7,730	6,640	8,570	*11,500
4	13,500	11,600	12,800	a11,200	11,100	26,800	24,200	8,220	8,160	e1,580	7,690	12,000
5	9,450	12,300	13,500	a11,200	*10,900	26,200	23,700	12,200	10,300	*e1,170	11,200	11,800
6	9,450	*13,000	13,700	a11,000	10,400	25,700	22,200	15,200	9,380	e5,000	12,900	10,800
7	10,700	12,900	13,400	a10,800	10,800	25,500	22,500	17,900	e4,640	9,610	12,600	9,390
8	12,200	12,400	12,600	a10,900	9,860	25,200	21,700	19,700	7,730	8,760	12,500	10,100
9	13,300	11,100	12,400	a10,900	8,800	24,300	21,200	21,000	8,530	10,500	7,570	11,400
10	13,900	8,500	12,600	10,400	10,100	24,500	21,200	21,600	11,000	9,970	8,770	12,300
11	15,500	10,700	13,700	10,300	11,200	23,600	20,700	21,500	11,900	7,020	9,840	12,100
12	10,500	11,100	13,700	10,100	11,900	23,900	19,800	*22,300	11,900	e4,100	12,300	11,500
13	7,830	12,000	13,500	10,700	11,900	23,700	20,600	21,900	11,900	e3,660	13,400	9,990
14	11,700	12,400	13,000	11,400	11,200	23,300	18,800	21,000	10,400	e5,310	13,200	7,230
15	13,500	12,400	12,500	12,000	11,800	22,800	17,300	18,100	6,890	e4,040	13,400	9,160
16	14,000	10,700	12,300	12,300	9,830	22,800	19,300	15,600	9,450	8,220	11,800	9,890
17	14,100	9,580	12,500	12,200	12,800	23,100	17,300	13,800	11,100	11,000	11,300	10,800
18	13,800	10,300	13,000	11,400	14,600	23,300	16,600	8,960	8,960	9,040	12,400	11,300
19	10,200	10,400	13,400	10,700	14,700	23,700	17,300	9,410	9,380	e4,470	12,200	11,400
20	8,840	11,500	13,600	10,400	15,800	23,000	16,200	8,510	7,230	5,760	14,500	10,900
21	11,900	11,700	13,500	10,200	17,800	22,200	14,700	*10,300	e2,040	9,110	14,600	10,900
22	12,900	11,800	a13,400	9,890	18,400	21,100	14,200	12,500	6,360	8,630	14,100	9,730
23	13,700	11,000	a13,000	9,730	18,800	20,500	14,900	13,400	e4,640	11,500	12,900	9,930
24	13,800	9,710	*a12,700	11,000	19,900	*21,400	14,500	8,010	6,360	11,500	11,200	10,600
25	14,100	10,800	a12,200	10,800	21,800	22,600	13,500	8,450	10,200	8,220	11,800	10,800
26	12,500	11,900	10,700	10,100	24,700	21,700	14,400	*11,900	11,000	6,970	12,400	9,690
27	11,800	12,300	9,640	11,500	27,000	22,800	13,100	11,800	8,470	e4,890	13,000	9,470
28	13,200	12,000	8,380	12,500	28,100	24,500	7,130	10,600	6,740	7,750	13,300	9,000
29	13,000	11,800	7,750	13,200	-	25,700	8,760	6,990	6,320	8,980	13,000	10,100
30	13,000	13,000	a8,540	13,100	-	24,500	11,700	8,780	8,830	10,900	11,500	11,500
31	13,300	-	a9,270	13,000	-	24,800	-	e5,230	-	11,300	10,300	-
Total	387,770	343,390	377,080	344,720	407,890	745,300	543,590	412,420	249,660	225,530	361,800	317,480
Mean	12,510	11,450	12,160	11,120	14,560	24,040	18,120	13,300	8,322	7,275	11,670	10,580
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 40,200 Min 5,570 Mean 14,470 Cfsm - In. -

Water year 1952-53: Max 28,100 Min 1,170 Mean 12,920 Cfsm - In. -

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of fall between Lake Marion near Pineville and Lake Moultrie near Pinopolis.

e Very low fall between gages.

## Lake Marion near Pineville, S. C.

Location.--Lat 33°27'00", long. 80°09'50", at right upstream end of spillway, 2.8 miles upstream from old Santee Canal, 5.4 miles upstream from Dead River, and 8 miles west of Pineville, Berkeley County.

Drainage area.--14,700 sq mi, approximately.

Records available.--January 1942 to September 1953. Prior to October 1942, published as Santee Reservoir near Pineville.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936 (levels by Harza Engineering Co.). Prior to May 6, 1942, staff gage at same site and datum.

Extremes.--Maximum elevation during year, 76.66 ft Apr. 1; minimum, 64.40 ft Dec. 30, 1951.  
1942-53: Maximum elevation, 77.12 ft Mar. 11, 1952; minimum, 61.36 ft Oct. 17, 1951.

Remarks.--Lake is formed by earth dam. Storage began in November 1941; dam completed in 1941. Usable capacity, 39,640,000,000 cu ft between elevations 60.0 ft (limit of draw-down) and 75.0 ft (maximum normal lake elevation). Dead storage, about 15,250,000,000 cu ft. Figures given herein represent usable contents. Elevation of spillway crest, 63.0 ft; top of spillway gates, 76.8 ft. Water is diverted from Lake Marion through canal to Lake Moultrie (see p. 219) for generation of power and for navigation.

Elevation at 12 p.m., in feet, water year October 1952 to September 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	74.48	71.77	68.55	64.60	69.61	75.67	76.63	74.15	74.39	73.77	73.41	69.76
2	74.47	71.68	68.44	64.80	69.74	75.84	76.57	74.14	74.37	73.73	73.43	69.70
3	74.33	71.60	68.31	65.09	69.75	75.99	76.48	74.28	74.32	73.75	73.35	69.63
4	74.29	71.37	68.23	65.07	69.79	76.15	76.50	74.45	74.24	73.77	73.23	69.59
5	74.26	71.28	68.21	65.10	69.87	76.10	76.34	74.60	74.21	73.84	73.20	69.64
6	74.17	71.14	68.11	65.01	69.99	76.12	76.25	74.77	74.20	73.80	73.16	69.73
7	74.00	70.99	68.01	65.03	70.23	76.17	76.08	74.90	74.26	73.95	73.10	69.66
8	74.00	70.87	67.82	65.06	70.37	76.23	75.88	74.97	74.25	73.85	73.10	69.68
9	74.00	70.77	67.61	75.10	70.52	76.20	75.76	75.04	74.20	73.79	73.10	69.58
10	73.92	70.69	67.62	65.17	70.60	76.19	75.68	75.17	74.16	73.70	72.96	69.48
11	73.86	70.62	67.40	65.39	70.70	76.20	75.50	75.27	74.22	73.66	72.80	69.38
12	73.86	70.48	67.28	65.58	70.86	76.21	75.42	75.27	74.27	73.65	72.70	69.30
13	73.79	70.38	67.14	65.87	70.80	76.19	75.26	75.20	74.40	73.64	72.60	69.19
14	73.67	70.26	67.01	66.13	70.93	76.20	75.04	75.07	74.38	73.54	72.44	69.09
15	73.58	70.17	66.81	66.40	71.23	76.28	74.99	75.00	74.37	73.60	72.29	68.98
16	73.50	70.07	66.57	66.58	71.42	76.30	74.90	74.99	74.29	73.59	72.15	68.86
17	73.39	69.92	66.44	66.70	71.62	76.29	74.81	75.01	74.24	73.57	72.10	68.79
18	73.35	69.78	66.33	66.90	71.81	76.32	74.79	74.97	74.18	73.61	71.92	68.70
19	73.32	69.74	66.19	66.93	72.06	76.31	74.71	74.97	74.13	73.60	71.94	68.64
20	73.11	69.79	66.14	66.88	72.33	76.23	74.56	75.00	74.12	73.76	71.84	68.62
21	72.95	69.71	65.97	67.04	72.69	76.11	74.41	74.96	74.19	73.64	71.64	68.47
22	72.84	69.61	65.69	67.15	72.86	76.18	74.35	74.93	74.18	73.70	71.46	68.23
23	72.76	69.60	65.45	67.39	73.08	76.20	74.32	74.89	74.10	73.65	71.30	68.14
24	72.66	69.47	65.35	67.69	73.45	76.17	74.24	74.85	74.04	73.60	71.09	68.08
25	72.57	69.34	65.33	67.85	73.86	76.17	74.20	74.85	74.09	73.56	70.87	67.98
26	72.51	69.29	65.14	68.09	74.50	76.07	74.16	74.75	74.04	73.55	70.70	68.00
27	72.40	69.22	64.93	68.42	75.05	76.14	73.96	74.82	74.02	73.55	70.57	68.15
28	72.29	68.99	64.76	68.79	75.40	76.40	73.88	74.59	74.03	73.48	70.44	68.18
29	72.07	68.86	64.61	69.02	-	76.47	73.86	74.59	73.95	73.41	70.30	68.20
30	71.96	68.70	64.41	69.22	-	76.57	73.96	74.60	73.84	73.39	70.17	68.23
31	71.87	-	64.57	69.42	-	76.60	-	74.54	-	73.36	69.93	-

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

Date	Elevation (feet)†	Contents, (billions of cubic feet)	Change in contents during month (equivalent, in cubic feet per second)
Sept. 30.....	74.53	37.65	-
Oct. 31.....	71.87	27.30	-3,864
Nov. 30.....	68.70	17.41	-3,816
Dec. 31.....	64.57	7.85	-3,569
Calendar year 1952..	-	-	-176
Jan. 31.....	69.42	19.43	+4,323
Feb. 28.....	75.40	41.43	+9,094
Mar. 31.....	76.60	46.98	+2,072
Apr. 30.....	73.96	35.26	-4,522
May 31.....	74.54	37.70	+911
June 30.....	73.84	34.78	-1,127
July 31.....	73.36	32.88	-709
Aug. 31.....	69.93	20.92	-4,465
Sept. 30.....	68.23	16.16	-1,836
Water year 1952-53..	-	-	-681

† Elevation at 12 p.m.

## Santee River near Pineville, S. C.

Location.--Lat 33°27'15", long. 80°09'25", on right bank 3.0 miles upstream from Dead River, 3.3 miles downstream from Lake Marion Dam, and 6.7 miles west of Pineville, Berkeley County.

Drainage area.--14,700 sq mi, approximately.

Records available.--April 1942 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 23.00 ft above mean sea level (levels by South Carolina Public Service Authority).

Average discharge.--11 years, 2,430 cfs.

Extremes.--Maximum discharge during year, 2,830 cfs Mar. 25 (gage height, 7.15 ft); minimum daily, 403 cfs Nov. 19.

1942-53: Maximum discharge, 155,000 cfs Sept. 23, 1945 (gage height, 31.1 ft, from floodmarks), from rating curve extended above 13,000 cfs by computations of flow over spillway at Lake Marion and by logarithmic plotting; minimum daily, 9 cfs Feb. 23, 1947.

Remarks.--Records good. Flow completely regulated by Lake Marion (see preceding page). Water is diverted above station from Lake Marion through canal (see p. 219) into Lake Moultrie (see p. 222) for generation of power and for navigation, then discharged into Cooper River basin.

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	528	458	492	510	510	782	1,080	617	581	510	528	510
2	510	458	510	528	528	782	1,190	635	617	528	545	510
3	510	458	492	528	528	800	818	671	599	*528	528	510
4	510	458	475	528	492	837	800	635	528	492	528	510
5	510	458	492	510	510	1,070	989	635	528	510	528	510
6	510	458	475	528	510	744	800	635	528	528	528	510
7	510	458	475	510	510	782	782	617	528	528	528	528
8	*528	458	475	*510	545	875	782	617	528	528	528	510
9	528	440	492	528	528	782	782	599	528	510	545	528
10	528	440	475	528	528	763	*708	617	528	510	528	528
11	528	433	510	545	528	782	545	617	528	510	528	528
12	528	433	492	545	528	818	561	617	528	510	528	528
13	510	440	492	528	492	800	799	617	528	510	528	528
14	510	433	528	510	510	782	653	617	528	510	*510	510
15	492	426	510	492	492	782	599	617	528	510	528	528
16	492	423	458	492	475	782	784	617	545	510	528	510
17	510	420	420	510	528	782	617	617	545	528	528	510
18	528	*416	510	510	492	816	599	599	492	528	528	510
19	510	403	528	510	510	837	689	617	528	528	563	510
20	510	413	492	528	492	818	726	617	545	528	563	510
21	528	420	492	528	492	763	635	*599	545	528	510	492
22	475	423	510	510	510	763	599	599	545	528	492	492
23	492	416	492	510	581	763	599	599	545	528	492	510
24	492	420	510	545	726	763	617	599	545	528	492	510
25	475	437	528	528	744	1,870	617	617	545	510	492	492
26	475	492	510	492	763	1,870	617	617	545	528	492	492
27	475	510	510	492	*782	875	635	617	528	528	492	528
28	475	510	528	492	782	915	599	599	492	528	492	492
29	475	492	510	510	-	1,760	581	599	528	528	510	510
30	475	492	492	492	-	905	617	617	528	528	510	510
31	475	-	528	510	-	837	-	599	-	545	510	-
Total	15,602	13,396	15,403	15,987	15,816	28,302	21,439	19,091	16,134	16,151	16,236	15,354
Mean	503	447	497	516	558	913	715	616	538	521	524	512
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 63,800 Min 403 Mean 2,143 Cfsm - In. -  
 Water year 1952-53: Max 1,870 Min 403 Mean 572 Cfsm - In. -

\* Discharge measurement made on this day.

## Lake Moultrie near Pinopolis, S. C.

Location.--Lat 33°14'40", long. 79°59'30", at powerplant, 0.7 mile upstream from Atlantic Coast Line Railroad bridge and 2.8 miles northeast of Pinopolis, Berkeley County.

Records available.--January 1942 to September 1953. Prior to October 1942, published as Pinopolis Reservoir near Pinopolis.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936 (levels by Harza Engineering Co.). Prior to May 16, 1942, staff gage at same site and datum.

Extremes.--Maximum elevation during year, 75.58 ft Apr. 5; minimum, 62.96 ft Jan. 20. 1942-53: Maximum elevation, 76.18 ft Feb. 24, 1946 (caused by high wind); minimum, 58.52 ft Dec. 31, 1951.

Remarks.--Lake is formed by earth dikes and dam, with concrete navigation lock; dikes and dam completed in 1941. Storage began in November 1941. Water is diverted through canal from Lake Marion (see p. 219) and discharged through tailrace canal into West Branch Cooper River. Usable capacity, 28,314,000,000 cu ft between elevations 60.0 ft (limit of drawdown) and 75.0 ft (maximum normal elevation). Dead storage, about 19,600,000,000 cu ft. Figures given herewith represent usable contents. Water is used for generation of power and for navigation.

Elevation at 12 p.m., in feet, water year October 1952 to September 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	74.22	71.53	67.80	63.18	69.21	73.78	75.40	73.83	74.42	73.74	73.36	69.50
2	74.09	71.57	67.56	62.99	69.26	74.18	75.40	74.10	74.29	73.69	73.41	69.16
3	74.01	71.32	67.27	63.19	69.30	74.33	75.40	74.26	74.22	73.96	73.26	69.06
4	74.07	70.99	66.96	63.44	69.40	74.55	75.46	74.28	74.10	73.88	73.13	68.94
5	74.25	70.71	66.71	63.36	69.45	74.63	75.53	74.32	74.00	73.87	72.96	69.10
6	74.02	70.53	66.65	63.41	69.54	74.70	75.53	74.24	74.05	73.74	72.86	69.51
7	73.84	70.32	66.85	63.46	70.00	74.81	75.30	74.18	74.29	73.70	72.79	69.53
8	73.78	70.32	66.61	63.44	70.31	75.03	75.10	74.08	74.13	73.72	73.08	69.25
9	73.69	70.62	66.50	63.51	70.27	75.00	75.02	74.01	74.08	73.69	73.09	68.99
10	73.56	70.36	65.99	63.91	70.26	75.01	74.95	74.21	74.03	73.65	72.86	68.85
11	73.63	70.20	65.68	64.41	70.28	75.12	74.80	74.21	74.04	73.72	72.62	68.75
12	73.85	69.92	65.44	64.41	70.40	75.13	74.79	74.20	74.01	73.82	72.45	68.84
13	73.62	69.71	65.46	64.49	70.40	75.11	74.72	74.20	74.15	73.69	72.51	69.16
14	73.42	69.52	65.57	64.61	70.70	75.12	74.54	74.29	74.38	73.61	72.08	68.89
15	73.26	69.63	65.27	64.78	71.13	75.35	74.41	74.51	74.30	73.58	71.99	68.63
16	73.09	69.82	64.94	64.96	71.06	75.35	74.41	74.63	74.18	73.50	72.00	68.42
17	72.98	69.56	64.59	65.41	71.18	75.30	74.31	74.86	74.17	73.47	71.84	68.19
18	73.06	69.40	64.27	65.99	71.15	75.30	74.32	74.88	74.09	73.58	71.60	68.01
19	73.31	69.27	63.88	66.12	71.24	75.33	74.51	74.89	74.00	73.67	71.42	67.99
20	73.03	69.16	63.72	66.25	71.38	75.28	74.34	74.87	74.14	73.66	71.20	68.30
21	72.74	68.96	63.82	66.42	71.66	75.26	74.13	74.80	74.20	73.59	70.98	68.08
22	72.51	68.97	63.45	66.50	71.94	75.42	74.01	74.74	74.18	73.54	70.97	67.77
23	72.33	69.31	63.16	66.54	71.96	75.41	74.00	74.77	74.03	73.51	71.04	67.59
24	72.15	68.99	63.23	67.05	72.08	75.39	73.98	74.90	73.91	73.49	70.81	67.36
25	72.13	68.68	63.64	67.43	72.23	75.38	73.90	74.73	73.91	73.51	70.49	67.33
26	72.36	68.41	63.85	67.46	72.52	75.22	73.91	74.61	73.89	73.65	70.31	67.67
27	72.12	68.52	64.02	67.55	72.80	75.10	73.91	74.49	73.91	73.54	69.96	68.02
28	71.98	68.21	64.17	67.81	73.21	75.21	73.81	74.50	74.00	73.39	69.75	67.77
29	71.70	68.04	63.71	68.03	-	75.40	73.71	74.46	73.88	73.27	69.78	67.54
30	71.46	68.15	63.57	68.25	-	75.40	73.78	74.51	73.80	73.21	69.85	67.39
31	71.29	-	63.17	68.72	-	75.40	-	74.62	-	73.21	69.51	-

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

Date	Elevation (feet)†	Contents (billions of cubic feet)	Change in contents during month (equivalent, in cubic feet per second)
Sept. 30.....	74.33	26.59	-
Oct. 31.....	71.29	19.30	-2,722
Nov. 30.....	68.15	12.67	-2,558
Dec. 31.....	65.17	4.22	-3,155
Calendar year 1952....	-	-	+13
Jan. 31.....	68.72	13.81	+3,580
Feb. 28.....	73.21	23.78	+4,121
Mar. 31.....	75.40	29.38	+2,091
Apr. 30.....	73.78	25.20	-1,613
May 31.....	74.62	27.34	+799
June 30.....	73.80	25.25	-806
July 31.....	73.21	23.78	-849
Aug. 31.....	69.51	15.44	-3,114
Sept. 30.....	67.39	11.20	-1,636
Water year 1952-53....	-	-	-488

† Elevation at 12 p.m.

## South Fork Edisto River near Montmorenci, S. C.

Location.--Lat 33°34'35", long. 81°30'50", near center of span on downstream side of bridge on State Highway 215, 0.4 mile upstream from Cedar Creek, 1 mile upstream from Shaw Creek, and 7.6 miles northeast of Montmorenci, Aiken County.

Drainage area.--198 sq mi.

Records available.--April 1940 to September 1953.

Gage.--Wire-weight gage read twice daily. Datum of gage is 250.18 ft above mean sea level, datum of 1929, supplementary adjustment of 1936 (levels by Corps of Engineers).

Average discharge.--13 years, 241 cfs.

Extremes.--Maximum discharge during year, 1,400 cfs May 8, Sept. 28; maximum gage height, 7.62 ft May 8, from graph based on gage readings; minimum discharge, 82 cfs Sept. 1 (gage height, 2.10 ft).  
1940-53: Maximum discharge, 2,460 cfs Aug. 15, 1940, July 19, 1941 (gage height, 8.81 ft, from graph based on gage readings); minimum observed, 58 cfs June 8, 1941 (gage height, 1.52 ft).

Remarks.--Records good.

Revisions.--WSP 1032: Drainage area.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 12 to Jan. 2, Jan. 4 to Feb. 15)

Oct. 1 to Feb. 15				Feb. 16 to Sept. 30			
2.6	102	5.5	249	2.1	82	5.5	281
3.0	118	6.0	334	2.5	98	6.0	372
4.0	158	6.5	502	3.0	118	6.5	580
5.0	204			4.0	166	7.0	935
				5.0	226	7.5	1,320

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	108	122	138	211	182	490	230	340	118	168	104	84
2	110	130	142	275	187	380	230	450	114	158	120	102
3	106	130	172	358	198	360	230	650	110	138	*122	116
4	106	126	187	313	198	446	214	450	110	122	112	194
5	102	126	187	262	198	615	211	414	110	118	118	240
6	*106	126	170	238	182	550	208	470	112	116	118	305
7	106	126	162	204	182	430	218	566	134	118	108	385
8	110	126	154	187	166	332	228	1,240	164	124	104	220
9	134	126	150	192	132	274	245	1,080	166	164	106	168
10	150	130	150	211	192	274	222	580	230	229	122	136
11	162	146	154	228	178	303	218	385	385	285	120	124
12	146	158	162	262	174	360	226	320	360	162	106	116
13	130	166	166	238	182	475	235	288	311	131	100	112
14	122	166	158	211	198	685	286	250	235	118	94	106
15	114	154	150	187	239	487	339	*222	186	110	90	100
16	110	150	142	187	*429	372	288	208	176	110	88	102
17	114	*146	142	187	685	320	226	198	164	110	90	100
18	110	138	138	187	510	295	204	186	164	110	96	102
19	122	144	138	187	339	281	201	184	166	122	113	100
20	118	174	146	174	288	288	192	181	151	164	164	112
21	102	174	162	182	274	288	186	204	136	174	148	168
22	110	187	178	219	429	281	178	235	*131	176	131	195
23	114	187	192	228	685	288	176	211	154	161	118	181
24	118	158	182	228	550	303	176	176	184	141	110	128
25	118	142	178	238	495	349	174	161	171	122	104	122
26	118	142	182	277	520	372	171	148	156	110	94	166
27	114	142	187	294	580	320	176	136	181	108	92	418
28	118	150	182	221	650	281	176	126	195	112	90	898
29	118	146	162	192	-	250	166	120	201	120	90	935
30	118	142	162	*187	-	*240	174	120	181	110	88	450
31	118	-	182	182	-	226	-	118	-	102	88	-
Total	3,650	4,380	5,057	6,947	9,282	11,175	6,402	10,517	5,356	4,313	3,346	6,685
Mean	118	146	163	224	332	360	213	339	179	139	108	223
Cfsm	0.596	0.737	0.823	1.13	1.68	1.82	1.08	1.71	0.904	0.702	0.545	1.13
In.	0.69	0.82	0.95	1.30	1.75	2.10	1.20	1.97	1.01	0.81	0.63	1.26

Calendar year 1952: Max 1,650 Min 86 Mean 219 Cfsm 1.11 In. 15.04  
Water year 1952-53: Max 1,240 Min 84 Mean 211 Cfsm 1.07 In. 14.49

Peak discharge (base, 900 cfs).--May 8 (6 a.m.) 1,400 cfs (7.62 ft); Sept. 28 (11:30 p.m.) 1,400 cfs (7.56 ft).

\* Discharge measurement made on this day.

## South Fork Edisto River near Denmark, S. C.

Location--Lat 33°23'35", long. 81°08'00", on left bank at downstream side of bridge on U. S. Highway 321, 200 ft downstream from Seaboard Air Line Railroad bridge, 1.8 miles downstream from Little River, and 4.8 miles north of Denmark, Bamberg County.

Drainage area--720 sq mi, approximately.

Records available--August 1931 to September 1953.

Gage--Water-stage recorder. Datum of gage is 155.68 ft above mean sea level, datum of 1929, supplementary adjustment of 1936 (levels by Corps of Engineers). Prior to Oct. 27, 1931, chain gage at same site and datum.

Average discharge--22 years, 768 cfs.

Extremes--Maximum discharge during year, 2,600 cfs Sept. 29 (gage height, 7.56 ft); minimum, 266 cfs Aug. 17.

1931-53: Maximum discharge, 13,500 cfs Apr. 11, 1936 (gage height, 10.91 ft), from rating curve extended above 4,800 cfs on basis of velocity-area studies and logarithmic plotting; minimum, 183 cfs June 30 to July 3, 1935.

Remarks--Records good.

Rating table, water year 1952-53 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used May 9 to Sept. 30)

4.0	272	6.0	565
4.5	330	6.5	780
5.0	397	7.0	1,330
5.5	472	7.7	2,600

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	376	369	521	774	720	2,110	825	557	318	*541	306	272
2	356	369	512	832	694	1,880	768	694	312	593	306	306
3	343	376	541	855	669	1,840	768	306	579	312	318	
4	324	376	565	855	669	1,750	694	909	300	531	330	330
5	318	376	579	818	648	1,680	669	967	294	565	343	376
6	*312	383	593	795	627	1,560	648	1,110	288	553	343	397
7	312	390	610	810	648	1,430	669	1,290	306	565	383	442
8	318	390	610	818	669	1,330	*669	1,710	312	553	362	464
9	383	390	610	795	669	1,300	648	2,070	330	512	356	487
10	412	404	610	780	648	1,270	648	1,880	336	457	330	521
11	427	450	593	732	627	1,270	648	1,750	350	427	324	593
12	434	503	593	694	627	1,460	669	2,030	369	412	324	669
13	434	521	579	669	627	1,560	694	1,710	397	412	318	627
14	434	531	565	627	610	1,560	720	1,290	442	434	300	495
15	434	541	553	627	684	1,470	669	1,000	480	442	283	390
16	427	541	541	627	832	1,320	648	818	512	376	272	362
17	412	541	531	648	927	1,300	627	694	553	336	272	350
18	404	531	551	669	1,000	1,380	627	627	585	324	318	336
19	390	531	521	694	989	1,330	627	*579	512	318	336	318
20	383	541	521	669	956	1,210	648	551	457	343	457	312
21	369	*553	541	769	1,160	1,060	648	503	412	376	495	312
22	362	565	565	855	1,440	1,000	593	487	450	397	503	318
23	362	565	565	810	1,440	1,010	553	472	464	450	495	330
24	362	593	579	864	1,350	1,060	551	464	457	472	472	362
25	356	593	610	872	*1,360	1,090	512	457	464	464	420	383
26	356	593	648	825	1,590	1,090	495	464	450	434	356	420
27	356	593	669	*795	2,110	1,060	480	450	487	390	*324	964
28	362	593	669	788	2,370	989	472	397	512	383	300	2,120
29	356	579	669	756	-	956	457	369	464	369	294	2,600
30	356	553	648	732	-	918	464	350	457	336	283	2,320
31	362	-	694	726	-	882	-	356	-	318	278	-
Total	11,592	14,634	18,136	23,581	27,360	41,105	18,746	27,753	12,356	13,662	10,795	18,494
Mean	374	494	585	761	977	1,326	625	895	412	441	348	616
Cfsm	0.519	0.686	0.812	1.06	1.36	1.84	0.868	1.24	0.572	0.612	0.483	0.856
In.	0.60	0.77	0.94	1.22	1.42	2.12	0.97	1.43	0.64	0.71	0.56	0.96

Calendar year 1952: Max 2,370 Min 245 Mean 653 Cfsm 0.907 In. 12.37  
Water year 1952-53: Max 2,600 Min 272 Mean 653 Cfsm 0.907 In. 12.34

\* Discharge measurement made on this day.

## North Fork Edisto River at Orangeburg, S. C.

Location.--Lat 33°29'00", long. 80°52'25", on left bank at downstream side of bridge on U. S. Highway 301 at Orangeburg, Orangeburg County, 0.5 mile upstream from Atlantic Coast Line Railroad bridge and  $1\frac{1}{2}$  miles downstream from Caw Caw Swamp.

Drainage area.--683 sq mi.

Records available.--December 1938 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 149.02 ft above mean sea level, datum of 1929, supplementary adjustment of 1936 (levels by Corps of Engineers). Prior to Feb. 23, 1939, wire-weight gage at same site and datum.

Average discharge.--14 years (1939-53), 739 cfs.

Extremes.--Maximum discharge during year, 2,160 cfs Sept. 29 (gage height, 8.43 ft); minimum, 271 cfs June 5-7.

1938-53: Maximum discharge, 9,500 cfs Sept. 18, 1945 (gage height, 14.28 ft), from rating curve extended above 3,900 cfs by velocity-area studies and logarithmic plotting; minimum, 286 cfs July 3, 1945.

Remarks.--Records good.

Revisions.--WSP 1032: Drainage area.

Rating table, water year 1952-53 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Jan. 2, May 10  
to June 15)

2.9	264	6.0	785
3.0	278	7.0	1,080
3.5	350	8.0	1,760
4.0	425	9.0	2,720

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	395	530	775	755	1,520	815	656	306	*380	320	299
2	473	402	539	850	725	1,370	785	765	299	395	320	320
3	441	402	584	912	735	1,340	755	862	292	380	350	335
4	418	402	629	888	745	1,400	735	888	285	410	380	365
5	402	402	685	875	745	<u>1,630</u>	725	940	278	473	395	433
6	*410	402	665	*850	725	1,480	715	1,120	271	497	380	441
7	402	410	656	858	725	1,300	735	1,180	278	513	365	425
8	418	410	647	815	755	1,150	*765	1,240	285	530	365	418
9	489	410	638	805	775	1,050	745	1,340	306	530	388	425
10	548	418	638	805	755	1,030	725	1,210	313	489	372	433
11	557	481	638	785	715	*1,030	725	1,080	306	441	*358	457
12	521	557	629	765	695	1,100	775	955	320	418	350	481
13	505	611	611	745	695	1,210	805	955	335	418	335	489
14	489	<u>629</u>	593	725	695	1,240	805	862	388	441	320	449
15	473	564	575	<u>705</u>	795	1,210	765	765	465	481	306	395
16	473	566	575	705	888	1,180	725	685	497	465	313	358
17	465	548	566	705	990	1,100	695	593	481	395	313	342
18	449	539	557	725	955	1,080	695	539	465	358	313	328
19	433	521	557	765	940	1,080	705	*497	433	350	393	320
20	425	*539	548	775	925	1,010	725	481	402	342	539	313
21	410	566	566	862	1,010	940	725	465	388	335	584	313
22	402	620	611	900	1,270	912	685	441	365	358	656	313
23	402	611	629	925	1,400	912	638	418	358	395	505	313
24	402	593	629	1,030	1,370	990	602	410	358	388	410	306
25	395	602	665	<u>1,050</u>	1,400	1,030	584	402	358	365	365	306
26	395	602	695	1,010	1,590	972	575	402	365	358	335	358
27	395	611	725	900	<u>1,710</u>	925	575	388	388	342	320	629
28	395	602	715	850	1,710	940	566	358	395	342	313	1,100
29	395	575	685	815	-	925	<u>548</u>	342	395	335	313	*2,120
30	388	548	656	795	-	888	<u>548</u>	328	380	320	306	1,800
31	388	-	715	775	-	850	-	<u>320</u>	-	<u>313</u>	<u>299</u>	-
Total	13,663	15,558	19,351	25,725	27,193	34,794	20,966	21,887	10,755	12,557	11,581	15,384
Mean	441	519	624	830	971	1,122	699	706	358	405	374	513
Cfsm	0.646	0.760	0.914	1.22	1.42	1.64	1.02	1.03	0.524	0.593	0.548	0.751
In.	0.74	0.85	1.05	1.41	1.48	1.89	1.14	1.19	0.58	0.68	0.63	0.84
Calendar year 1952: Max	2,360			Min	285		Mean	703	Cfsm	1.03	In.	14.00
Water year 1952-53: Max	2,120			Min	271		Mean	629	Cfsm	0.921	In.	12.48

\* Discharge measurement made on this day.

## EDISTO RIVER BASIN

Edisto River near Branchville, S. C.

Location.--Lat 33°10'35", long. 80°48'05", on right bank 400 ft downstream from bridge on U. S. Highway 21, 4.7 miles downstream from Brier Branch, and 5.2 miles south of Branchville, Orangeburg County.

Drainage area.--1,720 sq mi, approximately.

Records available.--November 1945 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 80.02 ft above mean sea level (levels by Corps of Engineers). Prior to May 19, 1949, at datum 1.00 ft higher.

Average discharge.--7 years (1946-53), 1,922 cfs.

Extremes.--Maximum discharge during year, 4,950 cfs Mar. 3 (gage height, 8.27 ft); minimum, 614 cfs Sept. 2 (gage height, 0.84 ft).  
1945-53: Maximum discharge, 10,000 cfs Oct. 6, 1948 (gage height, 10.21 ft, present datum); minimum, 544 cfs Aug. 1, 1952.

Remarks.--Records good.

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

Oct. 1 to Mar. 2

Mar. 3 to Sept. 30

1.6	743	7.0	3,220
2.0	855	8.0	4,430
4.0	1,470	9.0	6,490
6.0	2,400		

0.8	614	4.0	1,500
1.0	662	6.0	2,400
2.0	914		

Note.--Same as preceding table 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	1,340	743	1,220	1,580	2,050	4,770	2,280	1,110	784	*888	686	638
2	1,180	771	1,180	1,610	1,950	4,770	2,220	1,140	758	836	662	614
3	1,040	771	1,220	1,690	1,900	4,950	2,100	1,230	734	836	662	836
4	915	771	1,180	1,810	1,850	4,770	2,000	1,320	710	914	662	662
5	855	771	1,220	1,850	1,810	4,590	1,900	1,410	710	970	662	686
6	*799	771	1,220	*1,950	1,810	4,590	1,770	1,560	686	1,030	686	710
7	771	771	1,240	1,950	1,770	4,430	1,730	1,770	686	1,030	710	784
8	771	771	1,240	1,950	1,850	4,270	*1,660	2,220	686	1,030	734	784
9	855	771	1,280	1,900	2,000	3,870	1,620	2,690	686	1,050	758	784
10	885	799	1,280	1,850	2,050	3,640	1,620	2,770	710	1,080	758	810
11	975	827	1,280	1,850	2,050	3,420	1,620	2,850	734	1,080	734	810
12	1,000	855	1,280	1,850	2,000	3,320	1,620	3,030	734	1,030	710	810
13	1,000	915	1,280	1,850	1,900	3,320	1,590	2,940	734	914	*686	862
14	1,000	1,000	1,280	1,810	1,770	3,420	1,590	2,850	758	862	686	888
15	975	1,060	1,240	1,730	1,730	3,530	1,560	2,770	810	836	662	914
16	975	1,100	1,220	1,650	1,770	3,420	1,590	2,690	836	862	662	914
17	945	1,120	1,180	1,580	1,850	3,420	1,590	2,400	862	862	638	836
18	945	1,160	1,160	1,500	2,000	3,320	1,560	2,160	914	836	638	734
19	915	1,160	1,120	1,500	2,160	3,120	1,530	*1,850	914	810	662	710
20	885	*1,160	1,120	1,500	2,280	3,030	1,470	1,620	914	734	784	686
21	855	1,120	1,120	1,580	2,340	2,940	1,410	1,470	914	710	914	662
22	827	1,120	1,160	1,730	2,470	2,940	1,380	1,290	888	710	942	638
23	799	1,160	1,160	1,950	2,690	2,940	1,380	1,170	862	734	970	638
24	799	1,180	1,180	2,220	3,120	3,030	1,380	1,080	836	758	970	638
25	799	1,180	1,240	2,470	*3,640	2,940	1,380	998	836	784	970	638
26	771	1,180	1,300	2,690	4,130	2,850	1,320	970	862	784	888	662
27	771	1,180	1,360	2,770	4,590	2,850	1,230	914	888	810	810	810
28	771	1,180	1,440	2,770	4,770	2,690	1,200	914	888	810	734	942
29	771	1,220	1,470	2,540	-	2,610	1,140	888	914	784	710	*1,080
30	771	1,220	1,500	2,340	-	2,470	1,110	862	914	758	662	1,260
31	743	-	1,340	2,220	-	2,400	-	810	-	710	662	
Total	27,703	29,807	38,910	60,240	66,300	108,630	47,550	53,746	24,162	26,842	23,074	23,242
Mean	894	994	1,255	1,943	2,368	3,504	1,585	1,734	805	866	744	775
Cfsm	0.520	0.578	0.730	1.13	1.38	2.04	0.922	1.01	0.468	0.503	0.433	0.451
In.	0.60	0.64	0.84	1.30	1.44	2.35	1.03	1.16	0.52	0.58	0.50	0.50

Calendar year 1952: Max 5,000 Min 557 Mean 1,540 Cfsm 0.895 In. 12.18  
Water year 1952-53: Max 4,950 Min 614 Mean 1,453 Cfsm 0.845 In. 11.46

\* Discharge measurement made on this day.

## Edisto River near Givhans, S. C.

Location.--Lat 33°01'40", long. 80°23'30", on left bank at downstream side of bridge on State Highway 61 (revised), 2.3 miles downstream from Four Hole Swamp and 2.8 miles west of Givhans, Dorchester County.

Drainage area.--2,730 sq mi, approximately.

Records available.--January 1939 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 20.46 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--14 years, 2,510 cfs.

Extremes.--Maximum discharge during year, 10,400 cfs Mar. 7 (gage height, 12.26 ft); minimum, 560 cfs Sept. 25 (gage height, 1.57 ft).  
1939-53: Maximum discharge, 24,300 cfs Sept. 21, 1945 (gage height, 17.28 ft), from rating curve extended above 14,000 cfs by logarithmic plotting; minimum, 442 cfs June 3, 1941 (gage height, 1.12 ft).

Remarks.--Records good. About 44,310,000 gal a day (68.6 cfs) diverted above station for Charleston water supply during year.

Revisions.--WSP 1032: Drainage area.

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

Oct. 1 to Mar. 7				Mar. 8 to Sept. 30			
2.4	875	6.0	2,500	1.6	574	8.0	2,380
2.5	910	8.0	3,790	2.0	690	8.0	3,700
3.0	1,080	10.0	6,160	2.5	846	10.0	6,160
4.0	1,500	13.0	12,100	3.0	1,020	13.0	12,100
				4.0	1,420		

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	2,380	910	1,450	2,120	3,340	7,100	3,790	1,200	766	846	660	660
2	2,280	910	1,450	2,220	3,340	7,800	3,810	1,160	735	*814	645	660
3	2,160	875	1,500	2,280	3,270	8,160	3,440	1,160	705	798	616	660
4	2,020	875	1,540	2,380	3,200	8,940	3,280	1,240	675	766	660	660
5	1,760	875	1,540	2,380	3,080	9,760	3,140	1,320	660	814	660	660
6	1,540	875	1,540	2,440	2,960	10,200	3,000	1,420	645	878	675	660
7	*1,360	875	1,580	2,500	2,960	10,200	2,820	1,500	645	910	750	660
8	1,280	875	1,580	2,550	3,080	9,980	2,650	1,640	630	945	798	690
9	1,400	875	1,580	2,600	3,270	9,340	*2,480	1,780	616	980	798	735
10	1,580	910	1,630	2,600	3,340	8,740	2,330	1,980	616	980	782	735
11	1,630	980	1,630	2,660	3,410	8,160	2,230	2,180	616	1,020	*766	735
12	1,630	1,050	1,630	2,660	3,480	7,800	2,180	2,430	645	1,020	798	735
13	1,630	1,080	1,630	2,600	3,410	7,620	2,130	2,600	680	980	782	750
14	1,540	1,120	1,630	2,600	3,410	7,440	2,130	2,760	690	810	735	766
15	1,500	1,160	1,630	2,600	3,340	6,940	2,080	2,880	690	814	720	782
16	1,400	1,200	1,630	2,550	3,340	6,460	1,980	2,880	705	798	675	814
17	1,320	1,280	1,580	2,500	3,340	6,160	1,930	2,880	750	782	645	846
18	1,280	1,320	1,540	2,380	3,270	6,160	1,930	2,820	782	798	630	846
19	1,240	1,320	1,540	2,330	3,270	6,010	1,880	2,760	814	798	630	766
20	1,200	*1,360	1,500	2,220	3,200	5,720	1,880	*2,650	846	782	645	690
21	1,120	1,380	1,500	2,160	3,270	5,440	1,830	2,480	846	735	766	660
22	1,080	1,360	1,540	2,160	3,340	5,170	1,730	2,230	846	705	945	616
23	1,050	1,360	1,540	2,220	3,410	4,910	1,640	1,830	846	720	1,020	588
24	1,010	1,360	1,540	2,330	3,480	4,780	1,600	1,460	798	720	1,080	574
25	1,010	1,400	1,580	2,500	3,630	4,780	1,550	1,200	798	720	1,080	574
26	980	1,400	1,680	2,720	*4,060	4,660	1,500	1,050	798	735	1,080	616
27	945	1,400	1,760	2,840	4,810	4,540	1,460	945	814	735	1,020	690
28	945	1,450	1,860	2,960	5,010	4,420	1,370	878	846	750	910	782
29	945	1,450	1,920	3,080	-	4,310	1,280	878	846	750	814	910
30	910	1,450	1,960	3,200	-	4,090	1,200	846	846	735	735	*980
31	910	-	2,020	3,340	-	3,890	-	798	-	690	675	-
Total	43,035	34,715	50,230	78,680	97,320	209,680	66,050	55,835	22,175	25,428	24,195	21,500
Mean	1,388	1,157	1,620	2,538	3,476	6,764	2,202	1,801	739	820	780	717
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 7,770 Min 565 Mean 2,134 Cfsm - In. -  
Water year 1952-53: Max 10,200 Min 574 Mean 1,997 Cfsm - In. -

\* Discharge measurement made on this day.  
Note.--Discharge for Feb. 27 to Apr. 8, Sept. 1-8, 26-29, computed on basis of recorded range in stage and once-daily gage readings by U. S. Weather Bureau.

## Salkehatchie River near Miley, S. C.

Location.--Lat 32°59'20", long. 81°03'10", near right bank at downstream side of bridge on U. S. Highway 601, 2.6 miles downstream from Savannah Creek, 3.1 miles upstream from Hampton and Branchville Railroad bridge, and 3.1 miles northwest of Miley, Hampton County.

Drainage area.--341 sq mi.

Records available.--February 1951 to September 1953.

Gage.--Staff gage read twice daily. Datum of gage is 64.35 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge during year, 950 cfs Sept. 30 (gage height, 4.04 ft, from graph based on gage readings); minimum, 43 cfs June 3-5.  
1951-53: Maximum discharge, that of Sept. 30, 1953; minimum, 38 cfs July 14, 1951.

Remarks.--Records good.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 21 to Dec. 27, June 27 to Aug. 22)

1.3	37	3.0	262
1.5	51	3.4	422
2.0	98	4.0	860
2.5	163		

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	128	98	*188	422	329	774	372	171	48	*262	121	72
2	115	98	188	422	*293	*732	311	196	44	214	109	82
3	104	104	205	397	293	732	293	214	43	171	98	77
4	98	104	205	372	293	732	262	262	43	141	134	77
5	92	104	214	372	311	774	249	293	*44	148	121	82
6	87	104	225	397	329	817	236	311	44	148	92	98
7	87	109	236	397	350	691	249	488	48	134	82	115
8	116	109	249	372	397	652	249	614	59	134	87	115
9	163	109	262	350	422	652	249	511	64	163	109	109
10	179	128	249	311	450	614	262	450	64	188	104	98
11	171	179	249	278	479	578	278	397	82	205	92	87
12	179	214	236	262	450	614	293	350	77	179	87	72
13	188	225	225	249	397	614	293	311	72	128	82	64
14	188	225	214	236	329	652	278	278	98	115	87	59
15	171	236	205	236	311	732	249	214	134	98	98	59
16	163	249	196	236	329	732	236	156	115	92	92	55
17	148	262	196	236	329	691	225	128	104	92	82	55
18	134	262	196	236	350	652	205	109	115	87	115	55
19	128	249	196	262	372	578	188	104	115	115	131	51
20	128	249	196	278	372	511	179	104	98	141	262	64
21	115	249	214	278	422	422	171	115	87	156	262	72
22	104	236	225	278	511	450	163	121	77	188	225	68
23	98	225	225	311	543	511	163	109	87	264	214	59
24	98	225	236	397	543	614	163	98	121	397	225	59
25	92	214	262	511	578	691	156	87	179	372	225	64
26	92	225	293	543	652	691	156	77	236	311	179	98
27	92	236	329	578	774	614	156	*68	262	225	115	294
28	92	225	350	578	774	578	148	64	329	249	98	479
29	*92	214	*329	543	-	543	*141	55	329	*196	92	*450
30	92	205	350	450	-	*511	134	55	293	156	82	753
31	92	-	397	372	-	450	-	51	-	141	*77	-
Total	3,826	5,671	7,540	11,160	11,982	19,599	6,707	6,561	3,511	5,610	3,979	3,942
Mean	123	189	243	360	428	632	224	212	117	181	128	131
Cfsm	0.361	0.554	0.713	1.06	1.26	1.85	0.657	0.622	0.343	0.531	0.375	0.384
In.	0.42	0.62	0.82	1.22	1.51	2.13	0.73	0.72	0.38	0.61	0.43	0.43

Calendar year 1952: Max 905 Min 44 Mean 251 Cfsm 0.736 In. 10.02  
Water year 1952-53: Max 817 Min 43 Mean 247 Cfsm 0.724 In. 9.82

\* Discharge measurement made on this day.

## COMBAHEE RIVER BASIN

229

Combahee River near Yemassee, S. C.

Location.--Lat 32°42'25", long. 80°49'35", near left bank on downstream side of pile bent of bridge on U. S. Highway 15, 0.2 mile upstream from Atlantic Coast Line Railroad bridge, 1.8 miles northeast of Yemassee, Hampton County, and 5 miles downstream from Black Creek.

Drainage area.--1,100 sq mi, approximately.

Records available.--June 1951 to September 1953.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936. Auxiliary water-stage recorder 10.2 miles downstream from base gage.

Extremes.--Maximum discharge during year, 3,110 cfs Mar. 7, 8; maximum gage height, 7.32 ft Mar. 8; minimum daily discharge, 37 cfs Sept. 19.  
1951-53: Maximum discharge, 3,530 cfs Feb. 19, 1952 (gage height, 7.51 ft); minimum daily, 37 cfs Oct. 20, 1951, Sept. 19, 1953.

Remarks.--Records fair.

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	555	131	311	588	710	2,430	1,910	239	70	210	284	150
2	*524	128	311	610	740	2,750	1,650	266	50	239	239	123
3	473	128	348	634	790	2,930	1,420	284	56	248	189	104
4	404	121	338	622	825	3,020	1,260	302	*54	239	138	86
5	329	107	329	634	808	3,020	1,080	376	54	320	124	82
6	257	109	348	634	755	*3,020	905	386	58	357	129	96
7	203	104	329	634	740	3,110	825	414	56	275	152	103
8	210	98	320	634	808	3,110	740	443	63	191	179	101
9	414	98	*320	610	928	3,020	669	463	61	153	179	72
10	443	106	320	610	1,000	2,930	634	473	67	150	165	68
11	433	131	320	610	1,110	2,750	645	503	75	133	140	70
12	414	180	320	610	1,140	2,590	657	577	68	114	*109	68
13	386	210	338	610	1,080	2,510	657	657	70	106	88	78
14	348	239	348	610	1,050	2,510	*634	710	134	99	98	56
15	311	248	357	588	1,050	2,510	599	740	186	101	93	47
16	293	248	357	566	1,050	2,430	577	695	192	95	80	47
17	275	257	357	534	1,080	2,360	544	599	165	78	72	44
18	266	275	357	513	1,020	2,290	524	503	162	70	131	48
19	275	293	348	534	1,000	2,220	503	414	143	77	145	37
20	275	302	338	544	928	2,090	483	329	126	90	172	78
21	212	311	386	544	885	1,970	463	320	123	86	199	98
22	184	311	395	555	905	1,970	414	293	114	86	175	61
23	175	320	404	544	975	2,090	357	221	114	107	180	*74
24	179	320	414	534	1,020	2,290	320	168	106	124	216	92
25	157	329	424	513	1,080	2,430	293	141	106	124	257	87
26	136	348	453	534	1,260	2,430	284	133	146	140	257	99
27	128	348	473	555	1,560	2,590	248	114	177	177	239	289
28	138	329	493	577	1,970	2,750	230	98	184	217	221	443
29	136	329	513	599	-	2,670	225	92	174	257	239	453
30	123	320	524	645	-	2,430	210	90	184	284	266	424
31	119	-	544	682	-	2,220	-	84	-	302	205	-
Total	8,775	6,778	11,737	18,211	28,267	79,440	19,960	11,127	3,338	5,249	5,360	3,682
Mean	283	226	379	587	1,010	2,563	665	359	111	169	173	123
Cfsm	0.257	0.205	0.345	0.534	0.918	2.33	0.605	0.326	0.101	0.154	0.157	0.112
In.	0.30	0.23	0.40	0.62	0.96	2.69	0.68	0.38	0.11	0.18	0.18	0.12

Calendar year 1952: Max 3,530 Min 43 Mean 575 Cfsm 0.523 In. 7.13

Water year 1952-53: Max 3,110 Min 37 Mean 553 Cfsm 0.503 In. 6.85

\* Discharge measurement made on this day.

## Coosawhatchie River near Hampton, S. C.

Location.--Lat 32°50'10", long. 81°07'55", near left bank on downstream side of bridge on U. S. Highway 601, 1.6 miles downstream from Black Creek and 2.5 miles southwest of Hampton, Hampton County.

Drainage area.--203 sq mi.

Records available.--February 1951 to September 1953.

Gage.--Wire-weight gage read twice daily. Datum of gage is 50.30 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge during year, 2,750 cfs Mar. 24 (gage height, 5.78 ft, from graph based on gage readings); no flow for part of June 6, July 19, 1951-53: Maximum discharge, that of Mar. 24, 1953; no flow Aug. 31, Sept. 1, 1951, and for part of July 31, 1952, June 6, July 19, 1953.

Remarks.--Records fair.

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. 21)

1.5	0	2.5	16
1.6	.2	2.6	23
1.7	.6	2.8	41
1.8	1.0	3.1	88
1.9	1.5	3.4	163
2.0	2.0	3.8	321
2.1	2.8	4.3	649
2.2	4.5	4.8	1,160
2.3	7.2	5.3	1,850
2.4	11	5.7	2,550

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	37	9.5	*35	154	132	649	404	64	0.9	*53	4.8	42
2	29	14	31	157	*134	*534	375	117	.8	37	2.2	41
3	22	13	35	166	163	534	337	213	.6	25	1.3	38
4	18	12	41	169	195	534	311	321	.3	16	1.1	48
5	14	12	45	169	195	803	287	466	1.1	8.0	13	70
6	12	11	51	146	176	*829	273	404	.1	8.3	20	96
7	9.5	11	53	126	212	735	273	307	.1	8.7	20	122
8	9.9	11	54	116	364	649	283	287	.5	8.3	17	82
9	107	12	50	109	404	498	278	343	.9	7.9	37	39
10	185	17	45	116	364	404	278	404	1.3	4.2	75	42
11	189	39	44	124	283	466	321	337	1.5	2.6	56	34
12	178	84	45	129	239	711	359	210	1.4	2.0	33	19
13	154	101	42	129	202	829	370	143	1.6	1.6	18	11
14	112	107	41	107	182	735	337	105	7.3	1.1	17	4.6
15	64	107	41	98	206	692	292	70	44	.8	17	3.8
16	56	84	40	105	239	570	244	50	90	.5	11	3.0
17	46	86	39	124	256	498	220	45	77	.4	6.7	2.5
18	44	70	35	143	252	433	182	41	44	.2	7.9	2.2
19	42	59	35	146	235	375	169	35	30	.2	18	2.2
20	39	53	36	151	220	353	173	24	22	29	88	4.3
21	30	64	95	179	209	412	179	20	5.4	56	129	5.0
22	25	81	119	202	256	631	169	19	2.8	51	132	7.2
23	20	86	134	224	332	1,390	134	16	2.2	44	109	8.0
24	17	84	134	256	364	2,550	116	14	2.9	36	59	7.6
25	14	70	146	283	433	2,050	107	8.0	6.1	21	26	9.6
26	14	56	173	265	649	1,360	101	4.8	11	12	15	50
27	12	46	189	231	782	1,040	103	*3.3	27	17	11	394
28	9.9	42	182	202	782	782	92	2.2	50	14	9.1	735
29	*9.1	40	*169	169	-	610	*81	1.8	67	*19	16	*735
30	9.1	38	160	148	-	*534	68	1.4	67	19	35	534
31	8.7	-	154	129	-	466	-	1.2	-	10	*39	-
Total	1,534.2	1,519.5	2,493	4,972	8,460	23,656	6,916	4,077.7	565.8	513.8	1,044.1	3,192.0
Mean	49.5	50.6	80.4	160	302	763	231	132	18.9	16.6	33.7	106
Cfsm	0.244	0.249	0.396	0.788	1.49	3.76	1.14	0.650	0.093	0.082	0.166	0.522
In.	0.28	0.28	0.46	0.91	1.55	4.34	1.27	0.75	0.10	0.09	0.19	0.58
Calendar year 1952: Max	1,560			Min	0.1	Mean	147	Cfsm	0.724	In.	9.84	
Water year 1952-53: Max	2,550			Min	0.1	Mean	161	Cfsm	0.793	In.	10.80	

\* Discharge measurement made on this day.

## Chattooga River near Clayton, Ga.

Location.--Lat 34°49', long. 83°18', on left bank 150 ft downstream from new bridge on U. S. Highway 76, 2½ miles upstream from Stekoa Creek, 7 miles southeast of Clayton, Rabun County, 9 miles downstream from War Woman Creek, and 9 miles upstream from confluence with Tallulah River.

Drainage area.--203 sq mi.

Records available.--May 1907 to June 1908, November 1939 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 1,165.6 ft above mean sea level, datum of 1929, supplementary adjustment of 1936 (levels by State Highway Department of Georgia). May 1907 to June 1908 staff gage at site 400 ft upstream at different datum.

Average discharge.--14 years (1939-53), 611 cfs.

Extremes.--Maximum discharge during year, 6,020 cfs Feb. 21 (gage height, 5.4 ft); minimum, 133 cfs Nov. 8, 9.

1907-8, 1939-53: Maximum discharge, 29,000 cfs Aug. 30, 1940 (gage height, 13.8 ft), from rating curve extended above 4,700 cfs on basis of slope-area determinations at gage heights 9.9 and 13.8 ft; minimum, 122 cfs Oct. 6, 7, 1947.

Remarks.--Records good.

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

0.9	130	2.5	1,260
1.2	238	3.0	1,900
1.5	398	4.0	3,410
2.0	760	5.0	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	167	145	285	509	624	940	*832	1,020	362	502	398	217
2	160	145	322	410	586	1,130	798	805	344	441	368	213
3	157	145	*368	423	565	1,030	769	704	338	593	344	234
4	151	142	322	374	544	1,280	744	895	338	474	366	285
5	154	142	338	333	516	1,170	720	970	333	423	350	333
6	154	139	368	322	516	1,000	728	1,200	356	404	317	350
7	160	139	322	322	696	922	814	1,490	558	410	312	280
8	160	136	296	772	704	886	720	1,010	429	467	374	238
9	262	136	296	1,480	593	832	688	850	398	366	410	234
10	276	151	888	2,240	551	796	680	760	380	344	306	221
11	204	178	1,080	1,380	744	877	648	704	481	333	*296	217
12	185	178	640	922	1,260	904	696	672	374	322	285	213
13	174	154	502	744	980	859	688	*624	350	306	280	209
14	171	148	429	*648	805	814	632	600	460	301	271	196
15	167	145	380	586	990	931	616	579	404	296	262	192
16	160	145	344	537	886	850	640	558	386	481	252	*192
17	160	142	327	502	814	796	593	551	380	410	296	185
18	157	139	312	736	752	787	593	537	350	333	356	182
19	154	497	296	680	704	769	600	579	350	728	368	182
20	148	1,420	285	593	2,050	720	565	586	410	696	608	238
21	145	530	296	814	4,740	712	558	523	435	565	398	234
22	*145	380	276	720	2,540	1,080	551	495	398	832	317	196
23	148	322	276	769	1,760	2,620	544	481	368	960	301	185
24	151	280	271	1,700	1,490	1,900	530	464	*374	616	280	178
25	148	262	262	1,130	1,340	1,380	530	448	586	502	296	230
26	148	338	247	895	*1,220	1,170	551	435	586	448	266	495
27	148	565	238	796	1,080	1,060	502	417	704	417	252	600
28	148	392	238	814	1,000	990	495	398	680	386	238	362
29	145	338	234	805	-	940	495	392	624	374	230	266
30	145	312	234	696	-	895	1,140	386	632	374	234	234
31	145	-	565	648	-	859	-	374	-	495	223	-
Total	5,097	8,285	11,537	24,300	31,050	31,899	19,658	20,507	13,168	14,619	9,876	7,591
Mean	164	276	372	784	1,109	1,029	655	662	439	472	319	253
Cfs/m	0.808	1.36	1.83	3.86	5.46	5.07	3.23	3.26	2.16	2.33	1.57	1.25
In.	0.93	1.52	2.11	4.45	5.69	5.84	3.60	3.76	2.41	2.69	1.81	1.40

Calendar year 1952: Max 6,820 Min 136 Mean 581 Cfs/m 2.86 In. 38.94

Water year 1952-53: Max 4,740 Min 136 Mean 541 Cfs/m 2.66 In. 36.21

Peak discharge (base, 3,400 cfs).--Feb. 21 (1 p.m.) 6,020 cfs (5.4 ft).

\* Discharge measurement made on this day.

## Panther Creek near Toccoa, Ga.

Location.--Lat 34°41', long. 83°21', on left bank at Yonah Dam Settlement, a quarter of a mile upstream from mouth and 7 miles north of Toccoa, Stevens County.

Drainage area.--31.4 sq mi.

Records available.--January 1943 to September 1953.

Gage.--Water-stage recorder; Datum of gage is 673.53 ft above mean sea level, datum of 1929 (levels by Georgia Power Co.).

Average discharge.--10 years, 75.3 cfs.

Extremes.--Maximum discharge during year, 3,740 cfs July 22 (gage height, 8.78 ft); minimum, 20 cfs Oct. 3.

1943-53: Maximum discharge, 15,100 cfs June 16, 1949 (gage height, 18.0 ft, from floodmark), from rating curve extended above 800 cfs on basis of slope-area determination of peak flow; minimum, 14 cfs Sept. 6, 7, Oct. 7, 1947.

Remarks.--Records good.

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

1.5	15	2.4	165
1.7	36	3.0	350
2.0	77	4.0	730

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	26	53	52	77	81	124	54	53	56	36
2	22	24	*37	52	48	106	77	102	52	49	53	48
3	22	24	34	52	47	90	75	90	52	49	54	43
4	22	23	32	44	46	122	74	102	51	58	*58	52
5	22	23	40	40	44	102	72	111	51	52	52	43
6	22	23	34	37	51	90	77	152	56	47	49	40
7	22	23	32	35	69	83	*77	162	57	54	49	40
8	22	23	30	61	58	81	72	115	54	61	49	35
9	51	23	30	194	52	77	69	98	134	49	49	34
10	33	28	72	248	53	75	69	90	64	44	47	53
11	27	32	58	113	91	100	67	83	64	44	47	34
12	26	27	43	74	124	98	83	*77	54	42	44	33
13	26	25	37	61	86	90	72	75	52	42	43	32
14	25	24	34	*54	75	85	69	72	57	41	42	30
15	25	24	33	51	150	86	66	71	54	48	41	30
16	25	24	32	48	106	81	72	69	54	115	41	*29
17	24	24	30	46	83	77	66	69	53	60	69	28
18	25	23	29	58	72	79	66	69	49	52	54	28
19	24	67	28	48	67	79	66	81	48	55	54	30
20	24	78	33	47	322	72	64	72	69	343	52	44
21	23	36	34	74	402	74	64	67	60	100	47	34
22	*23	32	30	54	176	128	63	64	53	634	46	30
23	24	30	32	96	124	223	63	63	*49	276	44	29
24	25	28	32	135	111	145	63	63	47	117	43	29
25	25	28	29	85	100	115	63	61	53	86	42	60
26	24	34	28	67	*92	102	64	60	53	75	41	68
27	24	30	28	61	85	96	61	58	66	69	40	77
28	24	28	28	63	79	90	60	57	61	64	40	48
29	24	27	27	57	-	83	60	57	78	60	40	40
30	24	27	30	53	-	81	180	56	66	63	38	36
31	24	-	96	52	-	*81	-	54	-	61	37	-
Total	777	886	1,118	2,213	2,665	2,968	2,173	2,544	1,765	2,963	1,461	1,170
Mean	25.1	29.5	36.1	71.4	102	95.7	72.4	82.1	58.8	95.6	47.1	39.0
Cfsm	0.799	0.939	1.15	2.27	3.25	3.05	2.31	2.61	1.87	3.04	1.50	1.24
In.	0.92	1.05	1.33	2.62	3.38	3.52	2.58	3.01	2.09	3.50	1.73	1.38

Calendar year 1952: Max 1,120 Min 22 Mean 71.8 Cfsm 2.29 In. 31.15  
 Water year 1952-53: Max 634 Min 22 Mean 62.7 Cfsm 2.00 In. 27.11

Peak discharge (base, 900 cfs).--July 20 (3 a.m.) 1,830 cfs (6.15 ft); July 22 (8 p.m.) 3,740 cfs (8.78 ft).

\* Discharge measurement made on this day.

## Tugaloo River near Hartwell, Ga.

Location.--Lat 34°29', long. 82°55', on right bank three-quarters of a mile upstream from Beaverdam Creek, 5 miles upstream from confluence with Seneca River, and 10 miles north of Hartwell, Hart County.

Drainage area.--905 sq mi.

Records available.--April 1925 to September 1927, February 1940 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 570 ft (by barometer). April 1925 to September 1927 at datum about 1 ft higher.

Average discharge.--15 years (1925-27, 1940-53), 2,014 cfs (unadjusted).

Extremes.--Maximum discharge during year, 15,300 cfs Feb. 21 (gage height, 8.25 ft); minimum daily, 318 cfs Oct. 27.

1925-27, 1940-53: Maximum discharge, 28,600 cfs Aug. 31, 1940 (gage height, 10.8 ft); minimum daily, 189 cfs Oct. 6, 1941.

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow regulated by powerplants above station and by Burton and Mathis Reservoirs on Tallulah River. Burton Reservoir, completed in 1920, and Mathis Reservoir, completed in 1914, have combined usable capacity of 129,000 acre-ft and regulate the flow from 150 sq mi of Tallulah River basin.

Cooperation.--Records of monthly reservoir contents furnished by Georgia Power Co.

Revisions (water years).--WSP 1142: 1926.

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

1.8	299	4.0	2,630
2.0	370	5.0	4,740
2.5	652	7.0	10,600
3.0	1,180	8.0	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	916	982	368	3,230	948	1,130	2,910	4,780	800	1,390	1,340	1,290
2	1,010	348	*920	1,130	662	2,440	2,700	4,330	1,600	1,510	524	1,590
3	1,320	331	1,450	2,800	1,330	3,620	3,030	1,640	960	1,530	641	1,650
4	1,320	561	1,050	1,230	1,960	3,800	2,340	2,280	1,000	1,630	*1,970	2,070
5	462	943	1,710	566	1,370	3,580	968	3,430	1,000	1,210	2,140	1,170
6	338	1,110	1,820	1,280	1,550	3,870	841	4,620	1,900	538	2,090	678
7	932	1,040	512	1,200	2,500	3,080	2,470	6,090	1,000	1,290	1,250	458
8	644	906	402	1,530	1,160	1,490	2,620	4,660	660	1,870	1,460	480
9	866	870	1,740	5,180	1,270	1,560	2,530	3,430	2,000	1,630	506	960
10	1,660	351	1,950	8,150	1,890	3,470	2,360	1,920	2,100	1,660	429	1,280
11	1,030	935	3,280	4,480	2,060	2,790	1,660	1,420	2,100	1,690	1,190	916
12	394	800	2,620	2,210	3,220	3,010	1,160	2,190	1,600	570	1,070	960
13	358	901	2,460	*3,250	3,410	3,230	1,000	2,260	1,100	471	1,420	394
14	755	914	1,670	2,140	2,030	2,280	2,400	2,350	720	766	922	353
15	1,300	1,020	512	1,910	3,680	1,270	1,830	2,680	1,100	1,510	742	*653
16	1,040	415	2,020	1,850	2,880	1,480	2,210	1,900	1,300	1,270	385	1,240
17	1,010	328	1,870	1,780	3,280	2,860	1,920	1,300	1,800	1,710	559	978
18	366	700	1,900	1,210	2,610	2,590	1,840	1,040	1,100	1,400	1,880	1,430
19	576	733	1,610	1,060	2,500	2,930	1,600	2,090	1,700	774	1,420	1,920
20	340	2,970	1,640	1,570	6,590	2,970	925	2,900	2,200	3,080	1,700	480
21	1,060	2,430	616	1,670	14,000	2,470	2,210	2,600	1,600	1,610	1,280	436
22	*1,220	2,240	463	1,980	9,240	2,100	1,600	2,340	1,300	2,330	1,320	808
23	1,120	441	1,450	2,550	4,940	3,500	1,820	1,930	*1,700	5,550	440	701
24	952	381	1,860	4,340	3,830	5,790	1,770	754	1,690	2,180	404	918
25	890	930	1,740	3,000	*5,070	4,840	1,660	710	1,930	1,830	1,280	1,260
26	610	1,160	438	1,580	4,010	3,590	1,030	2,460	2,030	706	551	2,590
27	318	1,150	1,820	2,100	3,220	3,870	1,530	1,870	1,130	566	1,270	1,720
28	469	573	438	2,080	2,470	3,270	1,440	1,750	2,220	1,630	1,240	708
29	555	1,650	430	1,800	-	1,540	2,080	1,560	1,550	1,600	1,050	1,270
30	1,440	571	2,180	1,900	-	1,840	3,570	1,710	1,070	1,470	422	873
31	1,470	-	3,540	1,630	-	*3,000	-	840	-	1,490	370	-
Total	26,741	28,684	46,479	72,386	94,280	89,060	58,024	75,834	43,960	48,451	33,265	32,234
Mean	863	956	1,499	2,335	3,367	2,873	1,934	2,446	1,465	1,563	1,073	1,074
(+)	-202	-37	-218	+314	+407	+107	+91	+52	-119	+67	-145	-114

Adjusted for change in reservoir contents

	Mean	661	919	1,281	2,649	3,774	2,980	2,025	2,498	1,346	1,630	928	960
Cfsm	0.750	1.02	1.42	2.93	4.17	3.29	2.24	2.76	1.49	1.80	1.03	1.06	
In.	0.84	1.14	1.64	3.38	4.34	3.79	2.50	3.18	1.66	2.08	1.19	1.18	

	Observed				Adjusted			
Calendar year 1952:	Max	20,300	Min	318	Mean	2,119	Mean	2,111
Water year 1952-53:	Max	14,000	Min	318	Mean	1,779	Mean	1,793
							Cfsm	2.33
							Cfsm	1.98
							In.	31.08
							In.	26.93

Peak discharge (base, 10,000 cfs).--Feb. 21 (8 a.m.) 15,300 cfs (8.25 ft).

\* Discharge measurement made on this day.

† Change in contents, equivalent in cubic feet per second, in Burton and Mathis Reservoirs, furnished by Georgia Power Co.

Note.--No gage-height record May 31 to June 23; discharge estimated on basis of power output at Yonah Dam.

## SAVANNAH RIVER BASIN

Keowee River near Newry, S. C.

Location.--Lat 34°44', long. 82°53', on left bank 0.4 mile upstream from Six Mile Creek, 1 mile downstream from Little River, and 1.5 miles east of Newry, Oconee County.

Drainage area.--455 sq mi.

Records available.--December 1939 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 625.00 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--13 years (1940-53), 1,193 cfs.

Extremes.--Maximum discharge during year, 16,300 cfs Feb. 21; maximum gage height, 18.89 ft Feb. 21; minimum discharge, 199 cfs Oct. 21; minimum daily, 248 cfs Nov. 17.  
1939-53: Maximum discharge, 25,200 cfs Aug. 13, 1940; maximum gage height, 24.60 ft Aug. 13, 1940; minimum discharge, 164 cfs July 26, 1952; minimum gage height, 175 cfs July 30, 1952.

Remarks.--Records good. Some regulation at low flow by powerplant above station.

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	333	310	550	1,420	842	1,590	1,590	2,440	723	1,080	774	399
2	306	315	655	1,040	766	2,140	1,550	2,100	672	944	622	356
3	308	327	757	1,050	714	1,890	1,420	1,630	*664	1,010	698	396
4	280	308	614	902	672	2,360	1,380	1,890	647	748	961	614
5	278	327	647	816	606	2,270	1,290	2,700	647	791	816	1,380
6	315	*333	732	757	614	1,800	1,380	4,130	698	800	622	1,420
7	416	288	589	748	1,550	1,590	1,550	4,620	2,440	664	581	952
8	321	304	550	1,290	1,290	1,460	1,340	2,700	1,350	927	782	690
9	588	298	526	2,860	1,040	1,390	1,210	2,140	2,060	689	970	589
10	622	333	1,600	4,640	868	1,250	1,210	1,840	1,120	622	689	534
11	375	369	2,520	3,200	1,210	*1,460	1,120	1,680	1,500	630	581	488
12	315	396	1,380	1,930	2,360	1,840	1,250	1,550	1,080	581	518	473
13	369	350	1,020	1,500	1,890	1,500	1,250	1,460	927	451	511	466
14	350	333	876	1,210	1,380	1,380	1,080	1,340	1,040	495	495	458
15	350	458	774	1,050	3,120	1,720	1,050	1,290	1,550	*526	542	444
16	344	311	698	944	2,100	1,460	1,020	1,250	1,120	1,460	451	396
17	350	248	*655	842	1,550	1,290	978	1,160	1,060	952	766	376
18	294	327	630	1,380	1,290	1,210	952	1,210	910	748	622	389
19	315	464	598	1,290	1,160	1,250	1,020	1,210	884	2,020	655	402
20	327	3,630	581	1,070	5,480	1,060	927	1,340	944	1,340	664	714
21	281	1,340	622	1,800	14,900	1,030	884	1,120	944	1,050	842	639
22	327	816	589	1,550	5,580	2,610	*868	1,080	986	1,760	698	429
23	333	689	573	1,460	3,380	6,190	850	1,020	927	2,360	565	382
24	311	598	573	3,800	2,700	4,540	834	970	986	1,380	589	363
25	301	557	550	2,270	2,360	3,120	782	970	927	1,080	534	644
26	321	698	534	1,590	2,100	2,520	893	927	1,420	936	*503	1,420
27	327	1,120	511	1,290	1,890	2,270	800	834	1,840	918	488	1,680
28	327	766	495	*1,250	1,760	2,080	748	834	1,720	800	451	1,050
29	290	655	485	1,250	-	1,840	714	800	1,250	757	369	655
30	321	589	488	1,010	-	1,760	1,900	842	1,340	732	376	630
31	309	-	1,720	876	-	1,680	-	698	-	689	402	-
Total	10,604	17,877	24,102	46,085	65,172	61,520	33,840	49,955	34,406	29,940	19,137	19,808
Mean	342	596	777	1,551	2,328	1,985	1,128	1,611	1,147	966	617	660
Cfsm	0.752	1.31	1.71	3.41	5.12	4.36	2.48	3.54	2.52	2.12	1.36	1.45
In.	0.87	1.46	1.97	3.93	5.33	5.03	2.77	4.08	2.81	2.44	1.57	1.62

Calendar year 1952: Max 17,100 Min 175 Mean 1,160 Cfsm 2.65 In. 34.70

Water year 1952-53: Max 14,900 Min 248 Mean 1,135 Cfsm 2.49 In. 33.88

Peak discharge (base, 10,000 cfs).--Feb. 21 (2 p.m.) 16,300 cfs.

\* Discharge measurement made on this day.

## Seneca River near Anderson, S. C.

Location.--Lat 34°30', long. 82°50', on right bank a quarter of a mile downstream from bridge on State Highway 80, 1½ miles downstream from Deep Creek, 4 miles upstream from confluence with Tugaloo River, and 10½ miles west of Anderson, Anderson County.

Drainage area.--1,026 sq mi.

Records available.--October 1931 to September 1953 in reports of Geological Survey. May 1928 to September 1931 in House Document 64, 74th Congress, 1st session.

Gage.--Water-stage recorder. Altitude of gage is 520 ft (from Corps of Engineers profile). Prior to Oct. 13, 1933, water-stage recorder at site 15 ft downstream at same datum.

Average discharge.--22 years (1931-53), 2,050 cfs.

Extremes.--Maximum discharge during year, 23,200 cfs Feb. 22 (gage height, 13.21 ft), from rating curve extended above 18,000 cfs by logarithmic plotting; minimum, 275 cfs July 5; minimum daily, 583 cfs Aug. 31.

1931-53: Maximum discharge, 55,200 cfs Oct. 1, 1936 (gage height, 20.07 ft), from rating curve extended above 18,000 cfs by logarithmic plotting; minimum, about 90 cfs Nov. 18, 1934; minimum daily, 326 cfs Oct. 13, 1941.

Flood of Aug. 17, 18, 1928, reached a stage of 25 ft, observed (discharge, 77,000 cfs, from rating curve extended above 18,000 cfs by logarithmic plotting).

Remarks.--Records good. Some regulation at low flow by powerplants above station.

Revisions.--WSP 757: Drainage area.

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

3.0	536	5.0	2,870
3.2	699	7.0	6,170
3.5	980	10.0	13,000
4.0	1,540	13.0	22,600

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	665	657	835	3,080	1,570	2,440	2,240	4,990	1,110	1,670	892	665
2	657	682	931	1,780	1,450	2,870	2,170	4,020	1,070	1,230	932	607
3	623	640	1,150	1,640	1,440	3,320	2,100	3,640	1,060	1,230	816	*632
4	607	682	990	1,450	1,380	3,240	1,980	3,400	*1,050	1,160	1,040	699
5	607	623	951	1,260	1,330	4,040	1,910	3,400	1,030	865	1,040	1,040
6	599	640	1,110	1,180	1,310	3,020	1,910	4,280	1,090	1,300	931	2,300
7	640	655	1,010	1,080	1,580	2,650	2,100	7,550	2,180	1,160	835	1,460
8	702	623	892	1,300	2,940	2,440	2,040	4,480	2,220	1,280	930	931
9	738	665	902	4,550	2,240	2,240	1,850	3,020	2,420	1,100	1,320	844
10	1,020	623	1,360	6,170	1,850	2,170	1,780	2,440	2,700	1,030	1,030	779
11	854	726	3,920	5,770	1,960	2,300	1,720	2,240	1,780	931	882	744
12	699	788	2,030	3,320	3,960	*3,020	1,780	1,980	1,610	941	807	735
13	699	752	1,520	2,240	3,720	2,650	1,980	1,850	1,360	862	770	699
14	699	691	1,240	1,910	2,580	2,370	1,780	1,780	1,360	854	735	682
15	682	726	1,110	1,640	5,500	2,510	1,660	1,720	1,660	921	770	674
16	691	802	1,050	1,540	5,380	2,510	1,660	1,620	1,780	*1,120	752	691
17	691	599	1,020	1,420	3,100	2,240	1,660	1,570	1,400	1,510	854	632
18	691	632	*1,000	1,550	2,370	2,100	1,600	1,610	1,280	1,110	1,270	623
19	672	735	980	2,040	2,100	2,240	1,660	1,850	1,220	1,620	921	640
20	615	3,310	960	1,650	5,580	1,980	1,620	2,170	1,460	1,660	1,400	860
21	657	2,110	980	1,950	18,400	1,980	1,540	1,660	1,400	1,300	1,270	1,150
22	599	1,180	1,010	2,440	19,600	3,620	1,540	1,540	1,460	1,230	976	835
23	649	993	960	2,300	7,250	7,140	*1,510	1,450	1,290	2,900	835	674
24	674	882	980	5,290	4,440	8,460	1,480	1,370	1,450	1,770	854	674
25	623	844	951	4,210	3,960	4,780	1,450	1,370	1,430	1,360	807	768
26	699	854	911	2,800	3,400	3,640	1,570	1,310	1,350	1,080	744	1,780
27	640	1,210	902	2,170	3,020	3,100	1,540	1,260	2,370	1,400	735	2,580
28	*674	1,080	844	1,980	2,720	2,800	1,400	1,200	2,240	990	744	1,930
29	657	951	835	*2,040	-	2,580	1,400	1,190	1,650	980	699	1,110
30	626	931	854	1,780	-	2,440	2,220	1,180	1,500	941	657	970
31	665	-	2,360	1,650	-	2,300	-	1,170	-	911	563	-
Total	21,014	27,256	36,546	75,180	117,710	95,390	52,850	74,510	47,160	38,016	27,831	29,408
Mean	678	909	1,179	2,425	4,204	3,077	1,762	2,404	1,572	1,226	898	980
Cfs/m	0.661	0.886	1.15	2.36	4.10	3.00	1.72	2.34	1.53	1.19	0.875	0.955
In.	0.76	0.99	1.33	2.72	4.27	3.46	1.92	2.70	1.71	1.37	1.01	1.07
Calendar year 1952: Max	24,900			Min 599		Mean 1,996		Cfs/m 1.95		In. 26.49		
Water year 1952-53: Max	19,600			Min 583		Mean 1,761		Cfs/m 1.72		In. 23.31		

Peak discharge (base, 13,000 cfs).--Feb. 22 (12:45 a.m.) 23,200 cfs (13.21 ft).

\* Discharge measurement made on this day.

## Savannah River near Iva, S. C.

Location.--Lat 34°15', long. 82°45', on left bank at downstream side of bridge on State Highway 184, half a mile upstream from Little Generostee Creek, 5.8 miles southwest of Iva, Anderson County, and at mile 281.5 upstream from Savannah, Ga.

Drainage area.--2,231 sq mi.

Records available.--May 1950 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 432.255 ft above mean sea level (levels by Corps of Engineers).

Extremes.--Maximum discharge during year, 36,800 cfs Feb. 22 (gage height, 10.44 ft); minimum, 980 cfs Sept. 1; minimum gage height, 2.43 ft Oct. 7; minimum daily discharge, 1,080 cfs Aug. 31.

1950-53: Maximum discharge, 54,400 cfs Mar. 12, 1952 (gage height, 12.74 ft); minimum, 809 cfs Oct. 15, 1951 (gage height, 2.26 ft); minimum daily, 874 cfs Oct. 15, 1951.

Remarks.--Records good. Some regulation by Burton and Mathis Reservoirs (see p. 233 for monthly change in contents) and powerplants above station.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 23 to May 7, Sept. 3, 4)

Oct. 1-10

Oct. 11 to Sept. 30

2.5	1,140	2.5	1,040	5.0	6,710
3.0	1,910	3.0	1,690	7.0	15,200
3.5	2,970	3.5	2,590	10.0	34,000
		4.0	3,740		

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	1,830	1,970	1,680	7,240	3,020	4,550	5,560	11,700	2,460	3,300	2,450	1,640
2	1,960	1,300	1,910	3,740	2,490	5,100	5,350	9,300	2,870	3,080	2,030	2,400
3	2,070	1,120	2,800	4,990	3,540	8,280	5,500	7,440	2,410	3,020	1,510	*2,510
4	2,180	1,280	2,490	3,490	3,630	8,130	5,430	7,580	2,450	2,920	2,890	3,310
5	1,360	1,680	2,800	2,510	3,320	8,850	3,620	7,540	2,400	2,640	3,450	2,440
6	1,250	1,850	3,170	2,900	3,200	8,120	3,140	8,800	2,920	1,900	3,290	3,120
7	1,580	1,830	2,110	2,770	5,710	7,350	4,970	14,200	2,530	2,520	2,500	2,740
8	1,590	1,780	1,660	3,020	4,980	4,830	5,090	10,200	3,620	3,460	2,490	1,730
9	2,030	1,660	2,460	9,490	4,270	4,000	5,120	7,530	4,060	3,090	2,160	1,780
10	2,600	1,340	2,910	14,100	4,230	6,370	4,460	5,130	*5,430	2,970	1,940	2,020
11	2,200	1,610	6,890	11,600	4,130	6,020	4,350	3,740	4,080	2,820	2,180	1,710
12	1,500	1,960	5,530	6,230	6,400	7,080	3,450	4,860	3,760	1,980	2,150	1,730
13	1,200	1,790	3,990	5,910	7,820	*6,930	3,490	4,340	5,270	1,680	2,160	1,450
14	1,400	1,760	3,200	4,840	5,590	6,100	4,750	4,630	2,590	1,580	1,900	1,150
15	2,000	1,980	2,030	4,200	9,400	4,410	4,090	4,590	3,430	2,540	1,780	1,240
16	1,900	1,540	2,900	3,870	9,450	4,690	4,250	4,100	3,530	2,370	1,370	1,880
17	1,700	1,300	3,000	3,980	7,220	5,640	4,290	3,250	3,390	*3,700	1,280	1,630
18	1,400	1,230	2,760	3,140	5,910	5,620	3,980	2,760	3,700	2,790	3,070	2,020
19	1,300	1,570	*3,040	3,760	5,400	6,140	3,750	4,150	2,980	2,370	2,800	1,910
20	1,200	3,980	2,610	3,250	10,500	5,650	2,910	5,580	3,650	4,450	2,810	1,640
21	1,500	5,810	2,000	4,520	33,400	5,820	4,100	4,540	2,550	4,020	3,020	1,800
22	1,900	3,880	1,690	5,020	32,600	7,090	3,840	4,420	2,260	3,290	2,500	1,710
23	1,900	2,050	2,400	4,930	15,100	11,400	*3,680	3,780	5,330	7,800	1,750	1,470
24	1,800	1,580	2,910	10,500	9,500	15,800	3,790	2,550	3,540	4,940	1,360	1,600
25	1,700	1,870	2,740	8,440	10,100	10,500	3,610	2,300	3,320	3,670	1,960	2,000
26	1,400	2,220	1,720	5,130	8,900	8,110	2,800	3,890	3,790	2,390	1,640	4,260
27	1,200	2,500	2,590	4,930	7,490	7,320	3,600	3,300	3,300	2,000	1,870	5,080
28	*1,130	2,180	1,680	4,620	6,580	7,400	3,180	3,110	4,430	2,830	2,130	3,590
29	1,390	2,720	1,390	4,560	-	4,830	3,790	2,870	4,120	2,830	1,770	2,930
30	2,050	1,930	2,750	*4,190	-	4,270	5,870	3,060	2,740	2,600	1,420	2,210
31	2,130	-	5,870	3,900	-	6,200	-	2,510	-	2,890	1,080	-
Total	52,330	61,270	87,480	165,770	233,780	212,600	125,810	167,920	98,680	94,440	66,710	66,700
Mean	1,688	2,042	2,822	5,347	8,349	6,858	4,194	5,417	3,289	3,046	2,152	2,223
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-
Calendar year 1952: Max	47,200	47,200	47,200	Min 1,120	Mean 4,480	Cfsm 2.01	In. 27.32					
Water year 1952-53: Max	33,400	33,400	33,400	Min 1,080	Mean 3,927	Cfsm 1.76	In. 23.89					

Peak discharge (base, 22,000 cfs).--Feb. 22 (3:30 a.m.) 36,800 cfs (10.44 ft).

\* Discharge measurement made on this day.

Note.--No gage-height record Oct. 10-27; discharge estimated on basis of records for nearby stations.

## Rocky River near Calhoun Falls, S. C.

Location.--Lat 34°08', long. 82°38', on right bank 2,000 ft upstream from Swanigan Mill bridge on county road, 3 $\frac{1}{4}$  miles northwest of Calhoun Falls, Abbeville County, and 3 $\frac{1}{4}$  miles upstream from mouth.

Drainage area.--267 sq mi.

Records available.--February 1950 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 403.04 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Extremes.--Maximum discharge during year, 2,240 cfs Mar. 23 (gage height, 4.54 ft); minimum, 17 cfs Aug. 31; minimum daily, 44 cfs Aug. 24.

1950-53: Maximum discharge, 9,450 cfs Mar. 25, 1952 (gage height, 9.44 ft), from rating curve extended above 3,300 cfs by velocity-area studies and logarithmic plotting; minimum, 14 cfs Sept. 10, 1951; minimum daily, 24 cfs Sept. 3, 1951.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Flow regulated by Lake Secession (usable capacity, about 1,742,000,000 cu ft).

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

1.0	41	2.5	625
1.3	98	3.0	925
1.6	183	4.0	1,700
2.0	354		

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	151	89	200	153	229	*454	563	227	175	113	67
2	175	116	155	178	176	332	426	473	387	170	93	51
3	170	91	156	184	265	528	421	274	382	174	62	61
4	168	159	148	132	258	550	422	665	362	187	75	85
5	127	152	152	201	262	550	208	550	379	76	75	61
6	99	152	153	161	255	500	258	685	383	148	70	91
7	172	151	110	159	313	460	416	753	197	209	*70	54
8	170	154	92	*177	183	300	413	513	108	209	71	47
9	183	121	148	361	194	362	410	461	191	181	56	*48
10	*187	94	157	423	270	443	401	239	207	178	49	49
11	176	152	171	231	274	491	391	274	199	169	66	50
12	121	183	156	152	283	614	197	420	191	98	72	46
13	101	162	153	191	287	576	263	416	188	82	70	52
14	172	151	110	186	240	559	392	*416	110	122	73	50
15	164	148	94	179	661	395	393	412	110	148	67	47
16	171	116	150	178	322	437	395	447	189	141	50	46
17	168	87	150	172	328	462	392	200	193	128	51	46
18	171	149	150	154	321	466	398	244	186	125	73	50
19	123	152	150	172	*326	473	177	427	167	98	90	48
20	96	*160	150	253	512	456	227	437	197	97	85	70
21	150	150	120	464	1,110	449	389	423	117	146	53	67
22	154	146	120	304	952	1,290	385	410	106	125	46	55
23	157	110	150	324	889	1,560	369	416	198	127	51	90
24	158	89	150	576	695	716	378	214	187	121	44	140
25	154	149	150	219	650	674	408	240	179	122	48	200
26	115	151	150	213	620	603	170	403	*179	96	73	300
27	93	145	150	286	581	570	229	399	195	74	49	240
28	153	144	120	281	564	559	380	397	110	121	56	230
29	152	148	120	276	-	554	376	402	110	121	54	280
30	154	112	150	265	-	402	603	391	160	118	54	280
31	152	-	150	226	-	437	-	200	-	118	69	-
Total	4,679	4,145	4,324	7,378	11,930	16,997	10,741	12,762	6,134	4,204	2,028	2,981
Mean	151	138	139	238	426	548	358	412	204	136	65.4	99.4
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-
Calendar year 1952: Max	7,080			Min	54	Mean	303	Cfsm	-	In.	-	
Water year 1952-53: Max	1,560			Min	44	Mean	242	Cfsm	-	In.	-	

\* Discharge measurement made on this day.

Note.--No gage-height record Dec. 16-31, Mar. 4-8, June 28-30, Aug. 4-7, Sept. 18-20, 22-30; discharge estimated on basis of recorded range in stage, weather records, and records of powerplant operation at Lake Secession.

## SAVANNAH RIVER BASIN

South Beaverdam Creek at Dewy Rose, Ga.

Location.--Lat 34°11', long. 82°57', on left bank 50 ft upstream from highway bridge, 1 mile northeast of Dewy Rose, Elbert County, and 3 miles upstream from confluence with North Beaverdam Creek.

Drainage area.--36.6 sq mi.

Records available.--October 1942 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 581.07 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Nov. 20, 1952, staff gage at same site and datum.

Average discharge.--11 years, 54.1 cfs.

Extremes.--Maximum discharge during year, 760 cfs Feb. 21 (gage height, 6.5 ft); minimum daily, 9.0 cfs Aug. 31, Sept. 1.  
1942-53: Maximum discharge, 2,600 cfs Jan. 18, 1943 (gage height, 13.4 ft, from graph based on gage readings); minimum observed, 6.5 cfs Sept. 9, 1947.

Remarks.--Records good except those for periods of doubtful 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	9.0	3.0	192
1.2	13	5.0	490
1.4	26	6.0	666
2.0	80		

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	13	18	107	39	66	53	150	23	17	41	9.0
2	12	13	*22	55	37	80	52	73	22	17	18	11
3	12	13	26	80	36	122	50	59	21	15	15	18
4	12	13	19	43	36	148	49	200	22	16	14	22
5	12	13	20	38	33	159	46	100	22	21	*14	17
6	12	13	22	34	34	80	48	95	22	17	13	16
7	12	13	19	32	111	70	52	116	24	15	13	16
8	12	13	18	38	78	63	46	75	25	38	17	14
9	16	13	18	239	56	59	45	60	24	40	22	13
10	18	17	22	506	47	56	45	51	31	24	14	12
11	18	19	35	210	46	71	42	47	30	19	13	11
12	17	19	22	*75	52	79	56	*45	24	17	13	11
13	15	19	20	*63	47	*87	60	42	22	15	12	16
14	13	18	19	53	44	61	48	40	30	15	11	13
15	12	17	18	49	216	66	43	38	26	22	11	*11
16	12	17	18	44	109	57	48	37	25	42	9.8	11
17	12	17	18	42	66	54	43	37	25	22	9.8	11
18	12	17	18	53	55	59	42	36	23	20	9.8	11
19	12	17	18	47	47	91	43	42	20	21	20	11
20	12	28	20	43	146	69	41	51	33	20	25	34
21	*12	18	26	90	648	57	40	39	25	20	17	18
22	12	18	22	53	311	141	40	36	*22	20	14	15
23	12	16	22	*84	106	282	40	33	20	25	14	14
24	12	16	22	359	*95	123	38	32	19	19	13	14
25	12	15	21	96	96	85	38	30	18	17	12	26
26	12	16	20	66	100	73	40	28	20	15	12	51
27	12	17	19	56	84	66	36	26	22	15	11	89
28	12	17	19	51	74	61	36	26	22	15	11	36
29	12	16	18	46	-	57	35	26	21	15	11	25
30	12	16	21	42	-	*56	96	26	20	14	11	22
31	13	-	142	40	-	54	-	24	-	26	9.0	-
Total	401	485	760	2,814	2,849	2,612	1,391	1,720	703	634	450.4	598
Mean	12.9	16.2	24.5	90.8	102	84.3	46.4	55.5	23.4	20.5	14.5	19.9
Cfsm	0.352	0.443	0.669	2.48	2.79	2.30	1.27	1.52	0.639	0.560	0.396	0.544
In.	0.41	0.49	0.77	2.86	2.90	2.65	1.42	1.75	0.71	0.65	0.46	0.61
Calendar year 1952: Max			1,000		Min 12		Mean 43.8		Cfsm 1.20		In. 16.28	
Water year 1952-53: Max			648		Min 9.0		Mean 42.2		Cfsm 1.15		In. 15.68	

Peak discharge (base, 700 cfs).--Feb. 21 (11 a.m.) 760 cfs (6.5 ft).

\* Discharge measurement made on this day.

Note.--Doubtful gage-height record Oct. 15-20, 22-30; discharge estimated on basis of 1 discharge measurement and records for Broad River near Bell.

## Savannah River near Calhoun Falls, S. C.

Location.--Lat 34°04', long. 82°38', on left bank 150 ft upstream from bridge on State Highway 72, 1 mile downstream from Seaboard Air Line Railroad bridge, 1½ miles downstream from Rocky River, 3 miles southwest of Calhoun Falls, Abbeville County, and at mile 264.7 upstream from Savannah, Ga.

Drainage area.--2,876 sq mi.

Records available.--August 1896 to December 1900 (fragmentary), January to December 1903, March 1930 to July 1932, April 1938 to September 1953. Gage-height records collected at original site 1 mile upstream during 1899-1928 and at present site since 1928 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 363.53 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to March 1930, chain gage at railroad bridge 1 mile upstream at different datum.

Average discharge.--17 years (1896-97, 1930-31, 1938-53), 5,009 cfs.

Extremes.--Maximum discharge during year, 38,400 cfs Feb. 22 (gage height, 6.94 ft); minimum, 970 cfs Sept. 1; minimum daily, 1,190 cfs Sept. 15.

1896-1900, 1903, 1930-32, 1938-53: Maximum discharge, 96,500 cfs Aug. 13, 1940 (gage height, 11.52 ft), from rating curve extended above 50,000 cfs by velocity-area studies and logarithmic plotting; minimum, 660 cfs Oct. 14, 1941; minimum daily, 845 cfs Oct. 14, 1941.

Maximum stage known, 28.2 ft Aug. 25, 1908, original site and datum, from records of U. S. Weather Bureau.

Remarks.--Records good. Some regulation by Burton and Mathis Reservoirs (see p. 233 for monthly change in contents) and powerplants above station.

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

Oct. 1-11			Oct. 12 to Sept. 30		
1.0	1,290	1.0	1,160	4.0	13,400
1.5	2,350	1.5	2,090	6.0	29,400
2.0	3,890	2.0	3,490	7.0	39,400
		3.0	7,600		

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	2,280	2,400	1,940	8,600	4,990	4,990	6,430	14,000	2,980	3,660	2,620	1,200
2	2,200	1,680	1,860	4,860	6,860	5,060	*5,200	10,200	3,580	3,560	2,480	2,380
3	2,230	1,380	2,860	5,300	4,000	8,860	5,950	9,220	3,180	3,260	1,770	2,230
4	2,500	1,370	2,850	4,030	4,180	9,420	5,040	9,060	3,160	3,170	2,540	3,000
5	1,920	1,610	2,880	3,010	3,970	10,200	4,150	9,150	3,320	3,170	3,550	2,680
6	1,400	1,960	3,340	2,930	3,560	9,150	3,520	9,900	3,410	2,250	*3,420	2,690
7	1,330	2,020	2,620	3,020	6,100	8,100	5,190	16,300	3,120	2,670	2,900	3,090
8	2,070	2,080	1,960	*3,280	6,460	5,550	5,710	13,100	4,110	3,730	2,570	1,940
9	*2,210	1,810	2,220	10,100	5,070	4,430	5,550	9,420	4,320	3,610	2,380	1,680
10	2,620	1,880	3,040	16,100	4,900	6,520	5,090	6,420	6,270	3,340	2,180	2,000
11	2,820	1,580	6,520	14,800	4,820	6,650	4,950	4,800	4,990	3,100	1,980	1,860
12	2,000	2,260	6,700	7,980	6,880	7,750	3,940	5,980	4,490	2,520	2,370	1,710
13	1,430	1,950	4,740	6,880	9,420	7,840	4,080	5,550	3,880	1,730	2,180	1,800
14	1,450	2,050	3,700	5,550	6,650	6,880	5,090	*5,550	3,020	1,670	2,220	1,270
15	2,120	2,210	2,820	4,840	11,200	5,550	4,840	5,560	3,650	2,400	1,960	1,190
16	2,320	1,940	2,670	4,460	12,500	5,310	4,820	5,150	4,120	3,080	1,610	1,630
17	1,960	1,600	3,450	4,350	9,880	5,980	4,940	4,270	3,830	3,750	1,350	1,830
18	1,950	1,370	3,200	3,510	6,880	6,200	4,540	3,490	4,010	3,050	2,620	1,890
19	1,430	1,810	3,330	4,300	*6,650	6,500	4,180	5,020	3,580	2,670	3,350	2,090
20	1,600	*3,180	2,840	3,390	9,440	6,380	3,460	6,650	4,000	3,870	2,840	2,250
21	1,420	7,060	2,820	5,920	34,400	6,270	4,340	5,750	3,250	5,120	3,110	1,850
22	2,140	4,220	2,140	5,750	36,300	9,680	4,480	5,590	2,590	3,400	2,670	1,710
23	2,120	2,640	2,540	5,420	18,800	15,400	4,290	4,710	3,610	7,720	2,190	1,700
24	2,080	1,610	3,260	13,000	10,800	17,100	4,480	3,530	3,840	5,890	1,500	1,610
25	2,000	1,760	3,180	10,800	10,600	13,400	4,260	2,930	*3,700	4,020	1,620	2,070
26	1,650	2,320	2,670	6,500	10,200	10,200	3,360	4,430	4,340	2,850	2,050	4,350
27	1,580	2,600	2,490	5,750	8,200	8,600	3,980	4,230	3,590	2,110	1,640	5,750
28	1,320	2,560	2,560	5,550	7,100	8,240	3,790	3,830	4,800	2,660	2,270	4,540
29	1,540	2,540	1,730	5,350	-	5,750	4,200	3,910	4,780	3,070	1,880	3,340
30	1,900	2,470	2,540	4,920	-	4,990	6,500	3,910	3,150	2,840	1,750	2,560
31	2,320	-	6,280	4,490	-	6,760	-	5,140	-	3,090	1,270	-
Total	59,910	68,120	97,950	195,050	268,450	243,570	142,340	204,770	114,670	103,030	70,780	69,890
Mean	1,933	2,271	3,160	6,292	9,588	7,857	4,745	6,605	3,822	3,324	2,283	2,330
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-
Calendar year 1952: Max	53,100	Min	1,320	Mean	5,013	Cfsm	1.74	In.	25.74			
Water year 1952-53: Max	36,300	Min	1,190	Mean	4,493	Cfsm	1.56	In.	21.19			

Peak discharge (base, 25,000 cfs).--Feb. 22 (4 a.m.) 38,400 cfs (6.94 ft).

\* Discharge measurement made on this day.

## Broad River near Bell, Ga.

Location.--Lat 33°58', long. 82°46', at downstream side of main channel pier of bridge on State Highway 17, half a mile downstream from Long Creek, 1 mile south of Bell's Cross-roads, and 12 miles southeast of Elberton, Elbert County.

Drainage area.--1,420 sq mi.

Records available.--November 1926 to July 1932, August 1937 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 357.16 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to October 1928, staff gage at railroad bridge about 1 mile downstream at datum 1.12 ft lower. October 1928 to July 1932 and August 1937 to January 1939, staff gage at present site and datum.

Average discharge.--19 years (1928-31, 1937-53), 1,754 cfs.

Extremes.--Maximum discharge during year, 12,500 cfs Feb. 23 (gage height, 16.5 ft); minimum daily, 358 cfs Oct. 5.

1926-32, 1937-53: Maximum discharge, 79,400 cfs Oct. 2, 1929 (gage height, 34.8 ft), from rating curve extended above 27,000 cfs on basis of slope-conveyance studies; minimum daily, 217 cfs Oct. 13, 1941.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Moderate diurnal fluctuation at low flow caused by small powerplants above station.

Revisions (water years).--WSP 1172: 1928-30.

Rating table, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used June 11-15, June 22 to Sept. 30)

2.9	340	9.0	4,240
4.0	790	12.0	7,150
6.0	1,940	16.0	11,800

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	403	482	550	3,810	1,120	2,010	1,490	9,540	815	865	940	418
2	395	466	570	2,140	1,090	1,940	1,490	10,000	768	790	730	418
3	387	470	745	1,680	1,040	2,950	1,370	7,150	722	745	745	426
4	364	470	790	1,580	990	3,560	1,341	5,560	722	768	700	610
5	358	470	678	1,230	965	5,180	1,280	4,990	722	1,060	*655	678
6	364	470	722	1,040	940	3,180	1,280	3,560	722	1,020	632	590
7	372	474	768	940	1,870	2,280	1,370	6,950	768	815	570	530
8	387	462	655	940	3,250	2,010	1,370	6,450	815	840	578	506
9	432	470	632	3,880	2,010	1,810	1,250	3,400	815	1,090	632	462
10	550	482	632	8,310	1,520	1,650	1,200	2,350	815	890	655	432
11	550	550	1,260	9,190	1,340	1,680	1,260	1,940	1,370	722	550	411
12	498	570	1,370	5,560	1,340	2,730	1,490	*1,720	1,040	655	518	403
13	470	570	940	*2,500	1,550	2,350	3,250	1,550	840	610	502	395
14	458	526	790	1,810	1,430	1,940	1,940	1,430	865	610	478	387
15	458	518	700	1,490	4,370	2,140	1,450	1,340	1,250	590	470	367
16	482	514	678	1,310	5,750	2,010	1,310	1,260	a920	722	462	387
17	470	506	655	1,200	3,330	1,680	1,430	1,230	a870	1,230	462	375
18	458	506	655	1,200	2,010	1,620	1,260	1,200	a830	890	478	364
19	450	514	632	1,490	1,680	1,810	1,200	1,260	a900	815	722	361
20	446	632	610	1,310	1,880	2,070	1,200	a1,600	a920	1,720	632	482
21	*429	1,040	700	2,210	8,090	1,680	1,120	a2,000	a1,000	1,200	550	965
22	407	745	790	2,140	11,700	3,730	1,090	a1,900	1,190	1,150	510	655
23	415	610	722	1,680	11,000	1,760	1,090	a1,200	a890	1,190	462	514
24	443	570	745	5,650	4,510	6,550	1,040	1,120	1,230	1,750	478	470
25	450	570	745	4,240	*4,420	3,640	1,040	1,060	940	1,230	470	474
26	454	570	700	2,280	3,810	2,500	1,040	990	890	890	462	940
27	446	570	655	1,750	3,030	2,070	1,040	940	1,650	745	450	2,500
28	440	590	655	1,520	2,350	1,880	990	915	1,810	722	446	2,730
29	443	570	632	1,430	-	1,750	965	865	1,280	722	440	1,280
30	443	550	632	1,280	-	1,620	2,430	865	1,020	678	432	865
31	446	-	1,740	1,160	-	*1,520	-	840	-	655	426	-
Total	13,568	16,487	23,748	77,970	88,395	81,500	41,085	86,775	29,229	28,369	17,417	20,395
Mean	438	550	766	2,515	3,157	2,623	1,370	2,799	974	915	562	680
Cfs/m	0.308	0.587	0.539	1.77	2.22	1.88	0.965	1.97	0.686	0.644	0.396	0.479
In.	0.36	0.43	0.62	2.04	2.31	2.13	1.08	2.27	1.76	0.74	0.46	0.53

Calendar year 1952: Max 26,400 Min 358 Mean 1,666 Cfs/m 1.17 In. 15.94

Water year 1952-53: Max 11,700 Min 358 Mean 1,438 Cfs/m 1.01 In. 13.73

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 records for Middle Oconee River near Athens.

## SAVANNAH RIVER BASIN

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Little River near Mount Carmel, S. C.

Location.--Lat 34°04', long. 82°30', on right bank 480 ft downstream from Island Ford Bridge, 2.8 miles upstream from Calhoun Creek, and 4.5 miles north of Mount Carmel, McCormick County.

Drainage area.--217 sq mi.

Records available.--December 1939 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 353.97 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--13 years (1940-53), 214 cfs.

Extremes.--Maximum discharge during year, 2,970 cfs May 1 (gage height, 12.68 ft); minimum, 17 cfs Sept. 1, 2.  
1939-53: Maximum discharge, 20,800 cfs Aug. 14, 1940 (gage height, 29.60 ft, from high-water mark), from rating curve extended above 13,000 cfs by logarithmic plotting; minimum, that of Sept. 1, 2, 1953.

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	31	40	46	556	96	242	200	1,870	56	51	36	17
2	30	41	50	218	86	244	*190	826	51	44	59	17
3	28	41	72	166	82	501	170	734	46	42	139	30
4	27	41	71	134	78	711	158	1,100	47	99	61	243
5	27	41	58	100	72	895	146	1,180	47	70	57	160
6	28	40	63	91	70	446	140	932	48	53	*46	88
7	28	41	63	*88	504	298	155	1,440	48	54	34	76
8	29	41	56	94	501	246	144	987	52	56	34	51
9	*34	41	53	655	214	200	126	468	52	98	36	*40
10	44	43	54	649	134	174	123	330	64	72	46	35
11	43	46	69	600	112	420	117	260	126	47	31	33
12	39	47	91	277	138	826	202	216	108	42	28	32
13	37	48	63	160	168	490	236	184	71	38	27	33
14	36	46	57	117	121	340	154	160	70	36	27	30
15	38	46	53	100	1,500	403	119	*136	72	37	24	29
16	39	47	52	91	1,200	757	115	121	70	90	23	29
17	41	47	52	84	457	382	123	112	71	71	21	28
18	38	46	52	98	*256	298	108	105	70	50	26	27
19	38	*48	52	188	178	319	108	118	58	46	42	38
20	37	53	53	112	273	275	103	204	53	49	62	600
21	34	56	61	533	1,350	214	96	142	51	57	71	355
22	33	51	62	578	1,840	1,350	92	105	111	47	37	81
23	34	47	59	465	1,160	1,960	91	90	81	53	32	53
24	36	46	62	1,150	644	1,240	90	82	64	58	30	46
25	37	46	62	688	622	600	86	75	*53	42	29	47
26	37	47	59	288	556	424	91	70	56	34	26	84
27	37	48	57	194	457	340	88	66	88	33	24	545
28	37	48	54	156	319	288	81	62	66	36	22	278
29	36	47	53	148	-	256	78	61	62	40	21	90
30	38	47	56	117	-	228	863	64	54	33	20	56
31	38	-	428	100	-	212	-	62	-	30	19	-
Total	1,089	1,367	2,193	9,213	13,210	15,579	4,594	12,362	1,966	1,608	1,209	3,271
Mean	35.1	45.6	70.7	297	472	503	153	399	65.5	51.9	39.0	109
Cfs/m	0.162	0.210	0.326	1.37	2.18	2.32	0.705	1.84	0.302	0.239	0.180	0.502
In.	0.19	0.23	0.38	1.58	2.27	2.68	0.79	2.12	0.34	0.28	0.21	0.56

Calendar year 1952: Max 6,070 Min 24 Mean 205 Cfs/m 0.945 In. 12.89  
Water year 1952-53: Max 1,960 Min 17 Mean 165 Cfs/m 0.853 In. 11.63

Peak discharge (base, 2,500 cfs).--May 1 (12:30 a.m.) 2,970 cfs (12.68 ft).

\* Discharge measurement made on this day.

## SAVANNAH RIVER BASIN

Little River near Washington, Ga.

Location.--Lat 33°36'40", long. 82°44'40", near left bank on downstream side of highway bridge pier, 700 ft downstream from Reedy Creek, 4 miles downstream from Georgia Railroad bridge, 6 miles upstream from Williams Creek, and 9 miles south of Washington, Wilkes County.

Drainage area.--292 sq mi.

Records available.--October 1949 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 360 ft (by barometer).

Extremes.--Maximum discharge during year, 9,880 cfs May 1 (gage height, 24.8 ft); minimum, 13 cfs Sept. 17, 18, 19.  
1949-53: Maximum discharge, 13,100 cfs Mar. 4, 1952 (gage height, 27.6 ft); minimum, 10 cfs Sept. 11, 12, 1951.

Remarks.--Records good.

Rating table, water year 1951-52 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used July 6 to Sept. 30)

2.0	14	12.0	1,760
2.4	34	17.0	3,480
3.0	79	22.0	7,100
4.0	184	24.0	9,000
6.0	488		

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	28	35	560	123	332	178	9,700	72	68	44	18
2	22	28	38	202	127	292	166	8,590	67	61	41	21
3	20	30	55	166	116	930	160	2,830	63	56	39	24
4	18	30	56	138	109	1,170	149	1,870	60	54	36	25
5	18	29	53	111	102	1,260	144	1,440	80	71	37	44
6	18	28	55	*95	99	710	144	1,050	61	83	35	35
7	18	28	53	85	202	348	154	1,510	63	60	33	29
8	22	28	46	89	257	278	144	1,350	73	129	29	26
9	*46	28	42	250	172	229	132	578	73	222	29	24
10	54	30	44	750	138	202	154	380	76	100	30	22
11	38	34	51	730	127	340	196	*285	149	62	28	19
12	32	39	47	404	132	710	300	222	107	52	26	18
13	29	40	44	202	144	388	650	190	78	47	*24	17
14	26	38	40	154	132	285	316	166	75	44	22	*15
15	26	36	39	132	1,510	285	184	154	84	47	20	14
16	38	35	38	119	1,630	278	160	144	78	38	18	14
17	46	36	38	111	*790	222	138	132	*76	121	18	14
18	36	36	38	109	292	215	127	127	74	87	21	14
19	30	38	38	117	222	324	127	138	68	88	144	14
20	28	48	41	111	196	324	119	178	64	84	115	18
21	24	52	67	154	271	229	112	144	70	71	47	21
22	22	50	68	184	850	910	109	127	73	86	35	21
23	22	44	59	323	578	1,630	107	114	78	85	30	18
24	24	40	60	1,110	632	1,930	102	106	79	68	28	16
25	26	*37	68	850	1,280	790	99	98	82	57	26	18
26	28	36	72	257	1,370	340	103	92	75	51	24	48
27	28	36	61	190	1,210	285	99	87	105	48	22	196
28	27	36	54	160	560	243	92	85	92	74	21	190
29	*25	36	50	149	-	215	98	79	91	87	20	95
30	24	35	50	132	-	196	1,580	78	84	*63	19	63
31	24	-	536	119	-	*184	-	74	-	50	18	-
Total	862	1,069	2,036	8,063	15,171	16,074	6,333	29,116	2,350	2,314	1,079	1,139
Mean	27.8	35.6	65.7	260	470	519	211	939	78.3	74.6	34.8	38.0
Cfsm	0.095	0.122	0.225	0.890	1.61	1.78	0.723	3.22	0.268	0.256	0.119	0.130
In.	0.11	0.14	0.28	1.03	1.68	2.05	0.81	3.71	0.30	0.30	0.14	0.14
Calendar year 1952: Max	10,100	Min	15	Mean	275	Cfsm	0.940	In.	12.80			
Water year 1952-53: Max	9,700	Min	14	Mean	229	Cfsm	0.784	In.	10.67			

Peak discharge (base, 3,000 cfs).--May 1 (2 p.m.) 9,880 cfs (24.8 ft).

\* Discharge measurement made on this day.

## Clark Hill Reservoir near Clarks Hill, S. C.

Location.--Lat 33°39'40", long. 82°12'00", in left spillway elevator tower of dam on Savannah River, 1.6 miles west of Clarks Hill, McCormick County, 3.7 miles upstream from Kiokee Creek, and at mile 222.3 upstream from Savannah, Ga.

Drainage area.--6,150 sq mi, approximately.

Records available.--October 1951 to September 1952 (elevations and contents at end of month), October 1952 to September 1953.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1936 (levels by Corps of Engineers). Prior to Oct. 1, 1952, staff gage at same site and datum.

Extremes.--1952-53: Maximum elevation during water year, 333.20 ft May 7; minimum, 300.73 ft Nov. 19.

Remarks.--Lake is formed by concrete dam with earth dam at each end; dam completed in 1952. Storage began in December 1951. Usable capacity, 75,360,000,000 cu ft between elevations 305.0 ft (limit of drawdown) and 335.0 ft (top of spillway gates). Dead storage, 50,960,000,000 cu ft. Figures given herein represent usable contents. Elevation of spillway crest, 300.0 ft. Water is used for flood control, generation of power, and navigation.

Cooperation.--Capacity table furnished by Corps of Engineers. Records for October 1951 to September 1952 furnished by Corps of Engineers.

Capacity table (elevation, in feet, and contents, in  
billions of cubic feet)  
(Computed from table prepared by Corps of Engineers)

305	0	325	43.12
310	8.93	330	58.37
315	18.73	335	75.36
320	30.06	338	85.81

Elevation at 12 p.m., in feet, water year October 1952 to September 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	304.08	302.56	300.81	302.99	312.70	324.97	328.54	331.30	329.78	329.29	328.34	325.85
2	304.03	302.52	300.85	303.26	312.78	325.08	328.60	331.97	329.70	329.25	328.37	325.50
3	303.87	302.50	300.80	303.51	312.86	325.43	328.70	332.35	329.61	329.18	328.25	325.39
4	303.81	302.40	300.81	303.60	312.97	325.85	328.82	332.65	329.55	329.19	328.20	325.35
5	303.71	302.34	300.89	303.68	313.01	326.22	328.84	332.85	329.48	329.20	328.10	325.35
6	303.59	302.30	300.90	303.70	313.20	326.47	328.86	332.96	329.43	329.11	328.10	325.33
7	303.55	302.20	300.95	303.75	313.44	326.66	328.92	333.10	329.38	329.11	328.01	325.21
8	303.47	302.10	300.90	303.86	313.80	326.68	328.98	333.05	329.37	329.15	328.00	324.99
9	303.45	301.97	300.85	304.47	313.96	326.69	329.12	332.72	329.35	329.12	328.00	324.79
10	303.45	301.82	300.95	305.69	314.10	326.78	329.14	332.26	329.41	329.05	327.67	324.61
11	303.44	301.69	301.09	306.95	314.24	327.15	329.12	331.72	329.47	329.00	327.75	324.40
12	303.45	301.53	301.41	307.51	314.54	327.45	329.29	331.20	329.47	328.97	327.65	324.31
13	303.40	301.39	301.52	307.82	314.80	327.68	329.45	330.96	329.50	328.85	327.54	324.20
14	303.33	301.25	301.61	308.05	315.19	327.71	329.52	330.98	329.48	328.71	327.42	323.98
15	303.31	301.10	301.64	308.21	316.20	327.74	329.55	330.98	329.50	328.62	327.33	323.78
16	303.32	300.98	301.61	308.36	317.01	327.74	329.57	330.99	329.47	328.62	327.27	323.57
17	303.24	300.91	301.62	308.46	317.50	327.72	329.56	330.98	329.47	328.61	327.14	323.36
18	303.25	300.81	301.69	308.60	317.75	327.73	329.57	330.92	329.51	328.67	327.08	323.15
19	303.19	300.77	301.71	308.72	317.99	327.76	329.51	330.97	329.51	328.72	327.02	323.15
20	303.09	300.77	301.71	308.80	318.30	327.79	329.47	331.05	329.38	328.67	326.94	323.24
21	303.01	301.07	301.81	309.04	319.93	327.80	329.43	331.05	329.28	328.67	326.84	323.10
22	302.99	301.11	301.80	309.27	321.80	328.11	329.40	330.95	329.28	328.62	326.80	322.88
23	302.96	301.15	301.79	309.69	322.86	328.60	329.37	330.87	329.15	328.71	326.78	322.66
24	302.93	301.08	301.82	310.77	323.49	328.69	329.32	330.83	329.20	328.74	326.63	322.47
25	302.92	300.98	301.91	311.41	324.06	328.88	329.34	330.39	329.22	328.76	326.49	322.47
26	302.88	300.99	301.95	311.67	324.55	328.69	329.25	330.16	329.24	328.76	326.36	322.56
27	302.79	300.96	301.93	311.91	324.79	328.60	329.12	329.97	329.26	328.68	326.21	322.77
28	302.74	300.94	301.94	312.13	324.94	328.55	329.07	329.93	329.30	328.60	326.09	322.79
29	302.65	300.90	301.90	312.25	-	328.53	329.02	329.89	329.35	328.53	326.02	322.68
30	302.59	300.90	301.97	312.44	-	328.45	330.05	329.88	329.33	328.45	325.99	322.57
31	302.58	-	302.41	312.59	-	328.49	-	329.83	-	328.38	325.82	-

Note.--Elevations for periods Oct. 7-9, 1952, Feb. 22-25, May 15 to June 24, July 10-15, Aug. 15-24, Aug. 26 to Sept. 3, Sept. 14-30, 1953, obtained from powerplant log.

## Clark Hill Reservoir near Clarks Hill, S. C.--Continued

Monthly elevation and contents, water years October 1951 to September 1953

Date	Elevation (feet)*	Contents (billions of cubic feet)	Change in contents during month (equiva- lent, in cubic feet per second)
Sept. 30, 1951.....	†206.7	-	-
Oct. 31.....	†199.6	-	-90
Nov. 30.....	†206.5	-	+90
Dec. 31.....	†267.9	-	+5,447
Calendar year 1951...	-	-	-
Jan. 31, 1952.....	†270.8	-	+601
Feb. 29.....	†290.0	-	+6,050
Mar. 31.....	†311.8	-	+11,810
Apr. 30.....	†299.8	-	-7,762
May 31.....	†301.6	-	+378
June 30.....	†303.3	-	+972
July 31.....	†303.1	-	-112
Aug. 31.....	†305.0	-	+1,049
Sept. 30.....	†304.1	-	-513
Water year 1951-52...	-	-	+1,556
Oct. 31, 1952.....	302.58	-	-840
Nov. 30.....	300.90	-	-961
Dec. 31.....	302.41	-	+836
Calendar year 1952...	-	-	+1,015
Jan. 31, 1953.....	312.59	14.01	+6,661
Feb. 28.....	324.94	42.97	+11,970
Mar. 31.....	328.49	53.77	+4,032
Apr. 30.....	330.05	58.54	+1,840
May 31.....	329.83	57.85	-258
June 30.....	329.33	56.33	-586
July 31.....	328.38	53.43	+1,083
Aug. 31.....	325.82	45.62	-2,916
Sept. 30.....	322.57	36.77	-3,414
Water year 1952-53...	-	-	+1,208

\* Elevation at 12 p.m.

† Elevation interpolated between 4 p.m. and 8 a.m. readings.

Note.--Contents not published until dam construction was completed in December 1952.

## Stevens Creek near Modoc, S. C.

Location.--Lat 33°43'45", long. 82°10'55", on left bank at bridge on State Highway 23, 1.4 miles east of Modoc, McCormick County, and 3.2 miles downstream from Turkey Creek.

Drainage area.--545 sq mi.

Records available.--February 1940 to September 1953 in reports of Geological Survey. October 1929 to September 1931 in House Document 64, 74th Congress, 1st session.

Gage.--Water-stage recorder. Datum of gage is 197.34 ft above mean sea level, datum of 1929, supplementary adjustment of 1936 (levels by Southeastern Power Administration).

Average discharge.--13 years, 380 cfs.

Extremes.--Maximum discharge during year, 8,360 cfs Feb. 15; maximum gage height, 21.51 ft Feb. 15; minimum discharge, 1.4 cfs Sept. 1.  
1940-53: Maximum discharge, 35,100 cfs Aug. 14, 1940; maximum gage height, 41.08 ft Aug. 14, 1940; minimum discharge, 1.2 cfs Sept. 11, 1951.

Remarks.--Records good. Slight diurnal fluctuation during low flow caused by small mills above station.

Revisions.--WSP 1032: Drainage area.

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

0.1	1.0	1.2	88
.2	2.2	1.5	161
.3	4.0	2.0	290
.4	6.6	4.0	815
.5	10	8.0	1,900
.7	21	14.0	3,850
.9	40	19.0	6,210

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	18	8.5	16	896	118	420	*174	4,570	44	36	14	1.6
2	12	3.6	21	287	116	381	176	2,700	36	24	9.0	1.6
3	7.1	3.3	28	166	114	2,410	161	690	31	27	32	1.8
4	8.0	4.3	30	174	109	2,070	146	3,040	23	19	33	50
5	5.4	14	41	124	100	2,080	136	1,320	31	20	*27	97
6	4.1	14	36	88	90	761	128	1,480	21	25	21	104
7	*11	4.5	40	*72	284	472	136	5,590	28	76	21	184
8	10	10	39	67	802	368	144	1,980	33	483	17	92
9	5.3	7.6	31	130	311	300	128	761	49	264	98	48
10	12	5.0	24	1,110	191	259	124	446	84	119	69	32
11	14	10	37	511	154	1,590	114	*324	185	67	44	25
12	11	15	62	248	144	3,600	1,200	267	194	44	28	19
13	20	14	61	166	181	1,330	2,720	228	104	241	19	12
14	14	12	40	124	176	880	761	199	62	28	13	10
15	17	19	30	104	5,360	524	324	178	49	29	11	12
16	12	20	26	90	3,400	511	241	156	45	25	8.6	24
17	9.0	16	25	84	788	368	204	144	40	27	8.3	13
18	9.3	20	20	84	*342	303	171	126	39	50	8.6	7.6
19	9.0	*18	24	86	256	355	158	118	44	35	25	6.1
20	9.0	19	21	102	225	339	151	136	43	35	20	24
21	8.8	63	31	100	1,980	264	131	161	32	41	12	26
22	13	63	26	132	1,650	550	118	131	309	28	10	39
23	14	43	33	255	869	707	111	109	*189	22	6.3	42
24	4.0	25	41	2,780	1,460	1,140	109	100	72	25	8.5	24
25	5.5	23	32	1,420	3,290	576	102	78	46	27	8.4	20
26	5.3	18	33	446	2,220	355	80	71	41	24	7.6	28
27	3.8	23	36	230	1,510	274	86	73	44	26	5.6	538
28	3.5	15	36	184	641	241	78	52	42	35	4.3	355
29	11	14	33	164	-	217	72	50	44	44	27	171
30	16	16	31	154	-	194	1,180	33	36	19	4.5	*70
31	5.4	-	566	131	-	184	-	41	-	17	2.6	-
Total	307.5	540.8	1,550	10,709	26,491	23,823	9,574	25,342	2,039	1,987	613.3	2,077.7
Mean	9.92	18.0	50.0	345	946	768	319	817	68.0	64.1	19.8	69.3
Cfsm	0.018	0.033	0.092	0.633	1.74	1.41	0.585	1.50	0.125	0.118	0.038	0.127
In.	0.02	0.04	0.11	0.73	1.81	1.63	0.75	1.73	0.14	0.14	0.04	0.14

Calendar year 1952: Max 14,700 Min 3.3 Mean 361 Cfsm 0.662 In. 9.02  
Water year 1952-53: Max 5,590 Min 1.6 Mean 289 Cfsm 0.528 In. 7.18

Peak discharge (base, 6,000 cfs).--Feb. 15 (8:45 p.m.) 8,360 cfs; May 7 (9 a.m.) 6,550 cfs.

\* Discharge measurement made on this day.

## SAVANNAH RIVER BASIN

Augusta Canal near Augusta, Ga.

Location.--Lat 33°30'50", long. 82°00'15", on left bank 2.7 miles northwest of Thirteenth Street Bridge in Augusta, Richmond County, and 4.6 miles downstream from Stevens Creek power dam.

Records available.--November 1930 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 46.58 ft above city of Augusta datum or 148.92 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Auxiliary water-stage recorder 3.4 miles upstream from base gage.

Average discharge.--22 years (1931-53), 2,740 cfs.

Extremes.--Maximum daily discharge during year, 3,910 cfs May 12; minimum daily, 240 cfs Aug. 8.

1930-53: Maximum daily discharge, 4,380 cfs Jan. 2, 28, 1948; no flow Apr. 8 to May 10, 1936.

Remarks.--Records good except those for periods of fragmentary gage-height record, which are fair. Canal diverts water from Savannah River at dam 1 mile downstream from Stevens Creek Dam for power and municipal supply. Waste water from powerhouses returned to river by three channels above Thirteenth Street Bridge. Water is pumped from canal for municipal supply of Augusta, and a small amount entering Beaverdam ditch is discharged into river about 13 miles below Augusta.

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	2,780	2,560	3,040	f3,200	2,260	2,080	3,590	3,850	3,320	3,530	2,330	3,390
2	2,790	2,430	3,110	f3,200	3,140	3,480	3,510	2,810	3,460	3,090	2,150	3,510
3	3,010	2,830	3,120	f2,400	3,090	3,850	3,120	2,370	3,500	2,810	3,310	3,450
4	2,370	2,810	3,100	f2,200	3,130	3,750	f2,000	3,550	3,500	1,910	*3,530	3,480
5	2,130	2,840	3,040	f3,200	3,360	3,680	f850	3,850	3,500	2,000	3,510	2,280
6	2,910	2,830	2,490	*3,100	3,080	3,630	3,270	3,750	2,530	2,850	3,520	1,810
7	*3,020	2,900	2,100	3,230	2,490	2,620	3,520	3,740	2,120	3,090	3,430	1,930
8	3,160	2,210	3,040	3,130	2,150	2,290	3,290	3,640	3,420	3,120	f240	3,240
9	2,670	1,920	3,190	3,250	3,140	3,400	3,340	2,520	3,620	3,120	f800	3,590
10	2,620	3,280	3,150	2,520	3,340	3,580	3,260	2,080	3,630	2,940	3,200	3,620
11	2,300	3,550	3,200	2,090	3,320	3,660	2,540	*3,600	3,640	2,330	3,490	3,620
12	2,100	3,480	2,940	3,070	3,190	3,700	2,240	3,910	3,610	2,180	3,510	2,280
13	2,500	3,550	2,430	3,340	2,230	3,660	3,290	3,810	2,600	3,240	3,500	1,920
14	2,710	3,510	1,890	3,200	2,620	2,560	3,360	3,530	2,160	3,550	3,490	3,350
15	2,670	2,330	2,950	3,100	2,140	2,320	3,330	3,530	3,260	3,770	2,510	3,570
16	2,600	1,890	3,030	3,280	3,560	3,420	3,270	2,540	3,390	3,710	2,190	3,580
17	2,710	3,010	3,070	2,340	*3,620	3,680	3,340	2,240	3,590	3,710	3,250	3,600
18	2,340	*3,130	3,010	2,130	3,400	3,680	f1,800	3,430	3,550	2,600	3,430	3,590
19	2,150	3,150	3,060	3,080	3,390	3,630	f1,100	3,620	3,530	2,000	3,520	2,390
20	2,780	3,360	2,430	3,430	3,250	3,620	3,130	3,580	2,500	3,180	3,420	2,120
21	2,750	3,250	2,020	3,410	2,540	2,470	3,300	3,630	2,110	3,650	3,460	3,270
22	2,630	2,420	2,950	3,370	2,280	2,220	3,340	3,840	3,410	3,650	2,460	3,450
23	2,660	2,030	2,880	3,450	3,250	3,430	3,370	2,550	3,690	3,630	1,930	3,160
24	2,740	3,050	2,060	2,430	3,580	3,820	3,410	2,230	*3,640	3,670	3,060	3,190
25	2,450	3,050	2,040	1,980	3,810	3,720	2,400	3,440	3,590	2,590	3,430	3,100
26	2,310	3,040	2,110	3,190	3,790	3,710	2,210	3,730	3,640	1,900	3,440	2,510
27	2,720	3,320	2,140	3,190	3,660	3,650	3,220	3,700	2,570	3,170	3,430	2,200
28	2,680	3,220	f2,000	3,320	2,420	f1,900	3,480	3,590	2,050	3,530	3,510	2,870
29	2,670	2,450	f3,200	3,120	-	f1,300	3,580	3,490	3,390	3,530	2,510	*3,160
30	2,610	2,060	f3,000	3,240	-	3,460	3,630	2,600	3,670	3,490	2,120	3,590
31	2,670	-	f3,400	2,610	-	*3,650	-	2,840	-	3,580	3,120	-
Total	81,210	85,460	85,190	91,800	86,230	99,620	89,090	100,990	96,190	95,120	90,780	90,810
Mean	2,620	2,649	2,748	2,961	3,080	3,214	2,970	3,258	3,206	3,068	2,928	3,027
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 3,850 Min 1,810 Mean 2,861 Cfsm - In. -  
 Water year 1952-53: Max 3,910 Min 240 Mean 2,993 Cfsm - In. -

\* Discharge measurement made on this day.

f Fragmentary gage-height record; discharge computed from partly estimated gage heights.

## Savannah River at Augusta, Ga.

Location--Lat 33°22'25", long. 81°56'35", at New Savannah Bluff lock and dam, 0.2 mile upstream from Butler Creek, 12 miles downstream from Augusta, Richmond County, and at mile 188.2 upstream from Savannah.

Drainage area--7,508 sq mi, including that of Butler Creek.

Records available--January 1884 to December 1891, January 1898 to December 1906, June 1927 to July 1932, and October 1938 to September 1953 in reports of Geological Survey. January 1925 to June 1933 in House Document 64, 74th Congress, 1st session. January 1884 to December 1891, January 1898 to December 1906, and January 1925 to September 1946 in report of South Carolina Research, Planning and Development Board. Gage-height records collected at site of Fifth Street gage since 1875 and at New Savannah Bluff lock and dam sites since 1937 are contained in reports of U. S. Weather Bureau.

Gage--Water-stage recorder. Datum of gage is 97.00 ft above mean sea level (Corps of Engineers benchmark). January 1884 to December 1891, January 1898 to December 1906, and June 1927 to July 1932, staff gage or water-stage recorder at Fifth Street Bridge at datum 102.06 ft above mean sea level, datum of 1929, supplementary adjustment of 1936 (levels by Southeastern Engineering Co.). Oct. 1, 1938, to Nov. 10, 1948, water-stage recorder at site 0.2 mile downstream at present datum.

Average discharge--27 years (1898-1906, 1927-31, 1938-53), 10,540 cfs.

Extremes--Maximum discharge during year, 35,200 cfs May 8 (gage height, 20.80 ft); minimum, 2,940 cfs Oct. 4; minimum daily, 3,260 cfs several days in October and November. 1884-91, 1898-1906, 1925-53: Maximum discharge, 350,000 cfs Oct. 3, 1929; maximum gage height, 46.3 ft Sept. 27, 1929 (at site and datum then in use); minimum discharge, 648 cfs Sept. 24, 1939, from rating curve extended below 1,400 cfs; minimum daily, 1,040 cfs Oct. 2, 1927.

Maximum flood known occurred in 1796, discharge, 360,000 cfs (gage height, 40 ft, marked by local residents, at site and datum of Fifth Street gage) by conveyance-slope study.

Remarks--Records good. Flow regulated by Clark Hill Reservoir (see p. 243,244 for monthly change in contents), Stevens Creek powerplant, and New Savannah Bluff lock and dam above station.

Rating tables, water year 1952-53 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 2, July 10 to Sept. 30)

Oct. 1 to Jan. 2,  
May 8 to Sept. 30

Jan. 3 to May 7

2.6	3,260	9.0	9,630	3.2	3,410	8.0	8,100
3.0	3,580	13.0	14,900	3.5	3,650	12.0	13,200
4.0	4,440	17.0	23,100	4.0	4,100	16.0	20,800
6.0	6,330	21.0	36,200	5.0	5,030	20.0	32,200

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	3,500	3,260	3,670	4,800	3,410	10,200	8,870	9,980	5,640	5,550	5,930	5,640
2	3,420	3,260	3,670	4,800	3,570	9,350	7,880	12,600	5,550	5,550	5,550	5,930
3	3,420	3,260	3,840	3,740	3,570	9,230	6,190	17,000	5,550	5,550	5,640	7,700
4	3,580	3,260	3,840	3,570	3,490	9,850	3,740	17,200	5,640	5,550	5,740	8,470
5	3,500	3,260	3,780	4,100	3,490	10,300	4,190	18,800	5,640	5,460	5,740	7,370
6	3,920	3,340	3,780	4,100	3,740	9,950	5,130	18,800	5,740	5,360	5,640	5,930
7	3,580	3,260	3,670	3,410	3,490	9,470	6,130	30,600	5,640	5,740	5,640	6,030
8	3,760	3,500	3,780	3,570	3,570	7,940	5,730	34,800	6,130	6,030	5,740	6,330
9	63,590	4,440	3,840	3,410	4,460	6,030	5,730	31,800	6,830	6,530	5,740	7,700
10	63,420	4,620	3,920	4,190	3,740	7,350	6,030	29,800	6,830	6,930	5,640	7,810
11	3,340	5,550	3,920	4,640	3,740	8,450	6,030	28,900	6,330	5,740	5,740	7,810
12	3,340	4,980	3,840	3,650	3,920	10,500	7,230	28,900	6,730	5,550	5,640	7,370
13	3,340	5,080	3,670	3,410	3,570	11,100	7,880	26,700	5,930	5,550	5,640	5,740
14	63,260	5,080	3,670	3,570	3,570	10,300	7,580	14,500	5,260	5,550	5,640	6,030
15	63,340	5,080	3,670	3,490	7,260	10,700	5,830	8,470	5,360	5,550	5,550	7,480
16	63,340	5,080	3,670	3,410	12,400	11,000	5,830	6,930	5,460	5,840	5,550	7,810
17	63,260	4,190	3,670	3,410	11,600	11,000	5,830	7,040	5,460	5,550	5,740	8,030
18	63,340	4,100	3,670	3,410	4,590	10,800	6,430	7,370	5,460	5,930	5,640	8,030
19	63,260	4,100	3,670	4,010	4,010	10,700	7,440	7,370	5,460	5,550	5,740	7,040
20	3,260	4,100	3,760	4,640	3,920	10,300	7,230	6,930	5,360	5,740	6,030	5,740
21	3,340	4,100	3,760	4,550	5,780	10,100	6,330	7,150	5,550	5,840	6,030	6,130
22	3,340	4,010	3,840	4,640	7,500	10,300	5,830	9,750	6,030	5,740	6,330	7,700
23	3,260	3,840	3,760	4,480	6,630	11,000	6,430	9,870	6,530	5,640	5,550	7,590
24	3,260	3,840	3,670	6,480	6,030	17,900	7,030	10,800	5,740	5,550	5,550	8,030
25	3,260	3,760	3,760	6,730	8,850	21,600	6,430	13,000	5,550	5,930	5,550	7,920
26	3,260	3,670	3,760	4,640	10,600	21,600	6,730	13,200	5,550	5,640	5,640	8,030
27	3,340	3,580	3,670	3,570	13,200	19,500	7,230	13,300	5,550	5,550	5,550	7,480
28	3,260	3,670	3,670	3,570	12,200	16,700	7,990	10,300	5,550	5,550	5,640	7,040
29	3,340	3,670	3,760	3,650	-	12,400	6,430	6,530	5,640	5,640	5,640	8,910
30	3,260	3,580	3,780	3,490	-	8,320	6,430	5,740	5,640	5,640	5,550	8,140
31	3,260	-	3,920	3,490	-	9,110	-	5,550	-	5,740	5,640	-
Total	104,940	120,510	116,270	126,600	164,890	352,990	193,790	469,660	173,330	178,240	176,580	216,960
Mean	3,385	4,017	3,751	4,084	5,889	11,390	6,460	15,150	5,778	5,750	5,696	7,232
Cfs/m	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 38,600 Min 2,280 Mean 8,221 Cfs/m - In. -  
Water year 1952-53: Max 34,800 Min 3,260 Mean 6,561 Cfs/m - In. -

\* Discharge measurement made on this day.

g Computed from graph based on several gage readings daily at lock.

Savannah River at Burtons Ferry Bridge, near Millhaven, Ga.

Location.--Lat 32°56'20", long. 81°30'10", on downstream side of left pier of drawspan of bridge on U. S. Highway 301, 2 miles downstream from Rocky Creek, 9 miles east of Millhaven, Screven County, and at mile 114.5 upstream from Savannah.

Drainage area.--8,650 sq mi, approximately.

Records available.--October 1939 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 52.42 ft above mean sea level, datum of 1929, supplementary adjustment of 1936 (levels by Corps of Engineers).

Average discharge.--14 years, 10,560 cfs.

Extremes.--Maximum discharge during year, 31,800 cfs May 13, 14; maximum gage height, 17.52 ft May 13; minimum daily discharge, 3,850 cfs Oct. 21 to Nov. 2.  
1939-53: Maximum discharge, 141,000 cfs Aug. 18, 1940 (gage height, 27.0 ft); minimum daily, 2,120 cfs Sept. 9, 1951.  
Flood of October 1929 reached a stage of 30.8 ft, from information by Corps of Engineers.

Remarks.--Records good except those for period of no gage-height record, which are fair. Considerable regulation by Clark Hill Reservoir (see p. for change in monthly contents), Stevens Creek powerplant, and New Savannah Bluff lock and dam above station.

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

Oct. 1 to Feb. 16

Feb. 17 to Sept. 30

3.5	3,850	5.9	6,060	10.0	10,400
4.0	4,300	6.2	6,350	12.0	12,900
5.0	5,200	6.5	6,640	14.0	16,600
7.0	7,000	7.0	7,140	16.0	23,000
9.0	8,900	8.0	8,160	18.0	35,000

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	4,680	3,850	4,390	5,110	5,020	13,200	17,400	8,050	7,540	*6,740	6,260	6,260
2	4,300	3,850	4,480	5,740	*5,020	*13,600	15,800	9,700	8,940	6,740	6,350	6,260
3	4,120	3,940	4,570	5,370	5,110	13,200	13,600	11,400	6,740	6,540	6,160	6,350
4	4,030	3,940	4,750	5,920	5,200	12,900	11,400	12,500	6,640	6,440	6,160	7,240
5	4,120	3,940	4,840	5,380	5,110	12,800	8,600	13,400	6,540	6,540	6,350	8,270
6	4,120	3,940	4,840	5,380	5,020	12,900	6,940	14,200	6,540	6,540	6,350	8,270
7	4,300	3,940	4,750	5,650	5,110	12,800	6,740	15,600	6,640	6,350	6,260	7,500
8	4,390	3,940	4,570	5,200	5,290	12,500	7,840	15,600	6,740	6,440	6,350	7,500
9	4,480	3,940	4,570	4,930	5,290	11,700	7,840	18,400	7,140	6,640	6,440	7,000
10	4,570	4,570	4,660	5,020	5,650	9,920	7,540	20,500	7,840	7,040	6,540	7,500
11	4,390	5,110	4,750	5,200	5,560	9,700	7,940	25,700	7,840	7,540	6,440	8,000
12	4,300	5,920	4,750	5,920	5,290	10,800	7,840	30,400	7,540	6,940	6,350	8,000
13	4,120	6,100	4,750	5,650	5,290	12,200	8,600	31,800	7,640	6,350	6,260	8,000
14	4,120	6,010	4,660	5,020	5,110	12,900	9,260	31,800	7,440	6,160	6,060	7,500
15	4,030	5,920	4,480	4,930	5,200	13,200	9,700	31,100	6,840	6,160	6,160	7,000
16	4,030	5,920	4,480	4,930	6,910	13,200	8,600	29,200	6,640	6,260	6,060	7,000
17	4,030	5,830	4,480	4,840	10,600	13,100	7,740	25,200	6,540	6,350	6,060	7,500
18	3,940	5,560	4,480	4,840	12,000	13,100	7,440	20,100	6,440	6,640	6,160	8,000
19	3,940	5,020	4,480	4,840	10,400	13,100	7,540	15,800	6,350	6,640	6,350	8,500
20	3,940	5,020	4,480	5,110	7,640	12,900	8,380	12,600	6,350	6,350	6,640	8,000
21	3,850	5,110	4,570	5,920	6,540	12,900	8,710	10,700	6,350	6,640	6,940	7,500
22	3,850	5,290	4,660	6,260	8,940	12,900	7,270	9,700	6,350	7,040	6,940	7,000
23	3,850	5,200	4,750	6,370	9,040	13,100	7,540	10,100	6,740	7,040	6,940	7,500
24	3,850	5,020	4,750	6,370	8,710	13,200	7,540	10,800	7,340	6,740	6,440	8,000
25	3,850	4,840	4,750	6,910	8,490	13,600	8,160	11,100	7,040	6,350	6,160	9,000
26	3,850	4,660	4,930	8,140	10,000	14,200	8,270	11,700	6,740	6,350	6,060	10,000
27	3,850	4,570	5,020	7,580	11,700	15,000	7,940	*12,400	6,640	6,440	6,060	12,000
28	3,850	4,480	4,930	6,100	12,600	15,800	8,490	12,600	6,740	6,540	6,060	11,000
29	*3,850	4,480	*4,840	5,380	-	16,800	*8,930	12,600	6,740	*6,540	*6,060	*9,920
30	3,850	4,480	4,750	5,200	-	*18,100	8,490	11,100	6,740	6,350	6,160	10,200
31	3,850	-	4,840	5,110	-	18,400	-	8,930	-	6,260	*6,160	-
Total	126,280	144,390	145,000	175,140	199,840	413,720	269,080	515,980	206,340	203,690	195,740	241,770
Mean	4,074	4,813	4,677	5,650	7,137	13,350	8,969	16,640	6,878	6,571	6,314	8,059
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-
Calendar year 1952: Max	37,800				Min 3,060	Mean 9,328	Cfsm -	In. -				
Water year 1952-53: Max	31,800				Min 3,850	Mean 7,773	Cfsm -	In. -				

\* Discharge measurement made on this day.

Note.--No gage-height record Sept. 7-28; discharge estimated on basis of records for station near Clyo.

## Brier Creek at Millhaven, Ga.

Location.--Lat 32°56'00", long. 81°39'05", near right bank on downstream side of pier of highway bridge at Millhaven, Screven County, 8½ miles upstream from Beaver Dam Creek.

Drainage area.--656 sq mi.

Records available.--April 1937 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 95.88 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to June 7, 1950, staff gage at site 200 ft downstream at same datum. June 7, 1950, to Apr. 30, 1951, wire-weight gage at present site and datum.

Average discharge.--16 years, 647 cfs.

Extremes.--Maximum discharge during year, 3,140 cfs May 9 (gage height, 9.9 ft); minimum, 150 cfs Sept. 19, 20.

1937-53: Maximum discharge, 25,400 cfs Aug. 16, 1940 (gage height, 17.4 ft, from graph based on gage readings); minimum observed, 110 cfs June 30, July 2, 1945.

Maximum stage known, 25.1 ft in September or October 1929, from information by Georgia State Highway Department.

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

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

1.2	150	6.0	997
2.0	228	8.0	1,870
4.0	491	9.8	3,060

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	234	213	395	661	933	1,700	817	368	239	355	239	164
2	213	218	368	661	933	1,760	756	381	218	342	218	168
3	208	223	381	637	845	2,220	710	456	213	342	218	173
4	198	223	381	614	762	*2,280	661	548	208	342	213	178
5	188	223	381	591	710	2,040	637	661	203	381	213	208
6	183	223	381	591	661	1,700	614	1,300	213	395	218	223
7	173	223	381	614	661	1,420	637	2,830	239	381	203	234
8	183	228	395	661	710	1,250	637	2,830	261	*355	188	244
9	261	228	395	736	685	1,140	614	3,060	342	318	244	239
10	283	244	*409	762	661	1,100	637	2,890	409	306	266	228
11	278	300	409	710	637	1,250	637	2,040	456	288	288	223
12	278	330	409	685	591	1,600	614	2,160	381	272	318	213
13	268	342	409	661	591	1,510	661	2,100	330	250	300	193
14	318	330	395	614	591	1,420	*685	1,560	409	228	239	173
15	342	330	368	591	756	1,380	685	1,210	424	213	208	168
16	368	330	368	637	873	1,290	661	965	456	198	203	159
17	368	330	368	661	845	1,340	637	789	491	188	193	159
18	330	330	368	710	845	1,510	614	685	409	183	234	154
19	278	330	368	736	873	1,380	637	591	342	183	*306	154
20	256	342	368	685	933	1,210	614	548	306	198	288	154
21	239	355	368	661	1,290	1,060	568	509	294	256	330	178
22	228	395	381	*736	1,870	1,060	528	456	281	306	283	193
23	218	424	381	736	1,700	1,100	473	424	266	342	223	188
24	213	409	395	762	1,420	1,030	440	395	244	368	208	183
25	213	368	424	762	1,380	965	424	381	261	368	203	188
26	213	368	491	762	1,510	965	409	381	306	318	193	234
27	208	381	509	789	1,600	965	395	*368	330	306	183	509
28	208	424	528	789	1,760	933	381	355	424	342	173	661
29	*208	456	548	789	-	997	368	318	409	330	168	685
30	208	440	548	789	-	1,030	368	288	368	330	164	789
31	213	-	591	845	-	933	-	256	-	306	159	-
Total	7,597	9,560	12,861	21,638	27,606	41,538	17,500	31,903	9,712	9,290	7,084	7,617
Mean	245	319	415	698	886	1,340	583	1,029	324	300	229	254
Cfsm	0.373	0.486	0.633	1.06	1.50	2.04	0.889	1.57	0.494	0.457	0.349	0.387
In.	0.43	0.54	0.73	1.22	1.56	2.35	0.99	1.61	0.55	0.53	0.40	0.43

Calendar year 1952: Max 3,600 Min 136 Mean 512 Cfsm 0.780 In. 10.60

Water year 1952-53: Max 3,060 Min 154 Mean 559 Cfsm 0.852 In. 11.54

Peak discharge (base, 2,000 cfs).--Mar. 4 (3 a.m.) 2,340 cfs (8.8 ft); May 9 (5 p.m.) 3,140 cfs (9.9 ft).

\* Discharge measurement made on this day.

## Savannah River near Clio, Ga.

Location.--Lat 32°31'30", long. 81°15'45", on downstream side of center pier of drawspan of bridge on Seaboard Air Line Railroad, 3 miles north of Clio, Effingham County, and at mile 50.1 upstream from Savannah.

Drainage area.--9,850 sq mi, approximately.

Records available.--October 1937 to September 1953 in reports of Geological Survey. April 1930 to June 1933 (below 12,000 cfs only) in House Document 64, 74th Congress, 1st session. Gage-height records collected at same site 1921-43 by U. S. Weather Bureau (unpublished prior to 1933).

Gage.--Water-stage recorder. Datum of gage is 13.41 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to June 12, 1945, staff gage at same site and datum.

Average discharge.--16 years, 11,460 cfs.

Extremes.--Maximum discharge during year, 35,800 cfs May 17 (gage height, 15.80 ft); minimum daily, 4,410 cfs Oct. 23 to Nov. 7.

1937-53: Maximum discharge observed, 128,000 cfs Aug. 21, 22, 1940 (gage height, 23.6 ft); minimum daily, 2,830 cfs Oct. 19, 25-28, 1941.

1921-53: Maximum gage height, 29.7 ft Oct. 6, 1929; minimum, 1.21 ft Sept. 11, 1951.

Remarks.--Records good. Considerable regulation by Clark Hill Reservoir (see p. 243 for change in monthly contents), Stevens Creek powerplant, and New Savannah Bluff lock and dam above station.

Revisions (water years).--WSP 1112: 1940.

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. 14, Jan. 27 to Feb. 21, May 19-23, Aug. 22)

Oct. 1 to May 23, Aug. 23 to Sept. 30				May 24 to Aug. 22			
3.0	4,320	11.0	14,500	5.3	6,100	9.0	10,200
4.0	5,220	13.0	20,800	6.0	6,800	12.0	15,500
5.0	6,160	16.0	37,200	7.0	7,900		
8.0	9,480						

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	*5,400	4,410	5,130	5,580	6,560	13,300	17,700	9,340	11,500	6,910	6,400	*6,560
2	5,400	4,410	5,130	5,760	6,360	13,900	19,000	8,980	10,200	*6,910	6,300	6,660
3	5,130	4,410	5,220	6,160	6,360	*14,500	18,800	9,480	8,560	6,910	6,400	6,660
4	4,860	4,410	5,220	6,660	6,460	15,000	19,200	10,600	7,570	6,800	6,400	6,660
5	4,680	4,410	5,400	6,760	6,560	15,800	19,200	11,500	7,020	6,700	6,400	7,160
6	4,680	4,410	5,400	6,460	6,560	16,000	17,700	12,200	6,800	6,700	6,500	7,930
7	4,680	4,410	5,490	6,260	6,460	16,500	15,400	13,100	6,800	6,700	6,600	8,380
8	4,860	4,500	5,310	6,360	6,660	16,800	12,500	13,900	6,800	6,600	6,600	8,040
9	5,130	4,500	5,220	6,160	6,760	16,800	10,500	14,800	6,800	6,600	6,600	7,490
10	5,130	4,500	5,220	5,860	6,760	16,500	10,000	15,800	7,020	6,700	6,500	7,270
11	5,220	4,860	5,220	5,760	6,860	16,500	9,620	17,400	7,570	6,910	6,600	7,490
12	5,130	5,400	5,310	5,860	7,060	16,000	9,480	19,200	7,790	7,240	6,600	8,040
13	5,040	5,960	5,310	6,360	6,760	15,000	9,480	22,200	7,900	7,130	6,500	8,380
14	4,860	6,360	5,310	6,560	6,660	14,800	9,620	26,500	8,560	6,700	6,400	8,280
15	4,770	6,460	5,220	6,160	6,660	14,600	10,200	31,400	8,560	6,300	6,200	7,710
16	4,770	6,460	5,130	5,960	6,560	15,000	10,500	35,100	8,120	6,200	6,100	7,060
17	4,770	6,460	5,040	5,760	7,380	15,200	10,500	35,800	7,570	6,200	6,100	7,160
18	4,770	6,360	5,040	5,670	9,480	15,500	9,760	35,100	7,240	6,200	6,200	7,710
19	4,770	6,260	5,040	5,670	10,900	15,800	9,100	32,000	7,020	6,600	6,200	8,280
20	4,680	5,860	5,040	5,670	11,900	15,800	8,860	28,500	6,910	6,700	6,600	8,620
21	4,590	5,670	5,040	5,960	11,500	16,000	9,100	25,000	6,800	6,600	6,800	8,620
22	4,590	5,670	5,040	6,460	9,900	16,500	9,480	20,800	6,700	6,600	7,240	7,930
23	4,500	5,760	5,130	6,960	9,100	17,100	9,480	17,100	6,600	6,910	7,490	7,180
24	4,500	5,760	5,220	7,270	9,760	18,000	8,980	14,500	6,800	7,020	7,380	7,380
25	4,500	5,670	5,310	7,380	10,900	18,400	8,620	12,900	7,130	6,910	7,160	7,930
26	4,500	5,490	5,310	7,710	11,500	18,000	8,740	11,800	7,240	6,800	6,760	8,860
27	4,500	5,400	5,400	8,620	11,900	17,700	8,860	11,500	7,020	6,600	6,460	10,500
28	4,410	5,310	5,580	8,980	12,700	17,400	8,740	11,400	6,910	6,700	6,460	11,500
29	4,410	5,220	5,580	8,150	-	17,100	8,860	11,500	6,910	6,700	6,460	12,200
30	*4,410	5,130	5,490	7,270	-	17,100	*9,220	11,800	6,910	*6,700	6,360	*12,500
31	4,410	-	5,490	6,760	-	*17,100	-	11,800	-	6,600	6,460	-
Total	148,050	159,890	162,990	202,970	232,980	499,900	346,100	563,000	225,330	207,650	203,230	245,880
Mean	4,776	5,330	5,258	6,547	8,321	16,130	11,540	18,160	7,511	6,698	6,556	8,196
Cfs/m	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1952: Max 41,300 Min 3,610 Mean 10,410 Cfs/m - In. -  
Water year 1952-53: Max 35,800 Min 4,410 Mean 8,762 Cfs/m - In. -

\* Discharge measurement made on this day.

Measurements of streamflow in the South Atlantic slope basins, James River to Savannah River, 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 279.

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953

## James River basin, Va.

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Sept. 29	Jackson River.....	James River.....	At bridge on U. S. Highway 220, 10 miles north of Warm Springs.	-	22.2
Oct. 14	Falling Springs Creek.	Jackson River.....	Lat 37°52'05", long. 79°56'45", at bridge on U. S. Highway 220, 2.1 miles southeast of town of Falling Spring.	-	5.30
Nov. 20	....do.....	....do.....	....do.....	-	7.07
Dec. 10	....do.....	....do.....	....do.....	-	7.37
Jan. 6	....do.....	....do.....	....do.....	-	9.29
Feb. 10	....do.....	....do.....	....do.....	-	13.0
Mar. 10	....do.....	....do.....	....do.....	-	22.4
Apr. 7	....do.....	....do.....	....do.....	-	21.8
May 26	....do.....	....do.....	....do.....	-	12.8
July 10	....do.....	....do.....	....do.....	-	6.24
Aug. 5	....do.....	....do.....	....do.....	-	5.98
Sept. 9	....do.....	....do.....	....do.....	-	5.28
29	Horse Mountain Run.	....do.....	200 ft above Covington Reservoir, 2.7 miles southeast of Covington.	-	1.02
30	Pounding Mill Creek.	....do.....	At bridge on U. S. Highway 60, 1 mile east of Covington.	-	.05
30	Wilson Creek.....	....do.....	At bridge above Douthat Lake on State Highway 629, 4.5 miles north of Clifton Forge.	-	.19
Jan. 21	Cowpasture River..	James River.....	At bridge on U. S. Highway 250, 1.6 miles west of headwaters.	11	14.3
Mar. 24	....do.....	....do.....	....do.....	-	187
July 1	....do.....	....do.....	....do.....	-	4.03
Sept. 8	....do.....	....do.....	....do.....	-	2.88
29	....do.....	....do.....	250 ft above Bullpasture River at Williamsville.	-	.02
29	Bullpasture River.	Cowpasture River..	300 ft above mouth at Williamsville.	-	27.6
28	Stuart Run.....	....do.....	400 ft above bridge on State Highway 39 at Millboro Springs.	-	.30
30	Sinking Creek.....	James River.....	At bridge on U. S. Highway 220 at Gala.	-	0
30	Mill Creek.	....do.....	....do.....	-	4.28
Jan. 20	Meadow Creek.....	Craig Creek.....	At bridge on State Highway 624, 6 miles southwest of Newcastle.	3.7	2.07
Sept. 1	....do.....	....do.....	....do.....	-	.30
30	Patterson Creek...	....do.....	100 ft above ford on State Highway 825, 1.5 miles west of Eagle Rock.	-	.43
Jan. 20	Looney Mill Creek.	James River.....	At bridge on State Highway 636, 5 miles southwest of Buchanan.	29.6	29.3
Aug. 31	....do.....	....do.....	....do.....	-	11.0
Sept. 23	....do.....	....do.....	At bridge on U. S. Highway 11, 2.5 miles southwest of Buchanan.	-	15.3
23	Back Creek.....	Looney Mill Creek.	At bridge on State Highway 640, 1 mile northwest of Lithia.	-	4.42
30	Purgatory Creek...	James River.....	100 ft below ford on State Highway 611, 5.2 miles north of Buchanan.	-	0
Jan. 21	Calfpasture River.	Maury River.....	At bridge on U. S. Highway 250, 1.5 miles east of West Augusta.	-	12.6
July 1	....do.....	....do.....	....do.....	-	.44
Sept. 28	....do.....	....do.....	400 ft above bridge on State Highway 687, 4.5 miles southwest of Craigsville.	-	3.55
28	Little Calfpasture River.	....do.....	300 ft above bridge on State Highway 665, 0.4 mile east of Craigville.	-	.38
Jan. 20	St Marys River....	South River.....	At bridge on State Highway 608, 2.5 miles northeast of Vesuvius.	15.7	18.6
Feb. 26	....do.....	....do.....	....do.....	-	35.1
Aug. 31	....do.....	....do.....	300 ft above forester's cabin, 1 mile upstream from crest gage on State Highway 608, 3.2 miles northeast of Vesuvius.	-	.92
Sept. 29	Pedlar River.....	James River.....	At bridge on U. S. Highway 60, 1.5 miles west of Oranoco.	-	3.49
29	....do.....	....do.....	500 ft above Lynchburg Reservoir, 5 miles southeast of Buena Vista.	-	4.23
29	Harris Creek.....	....do.....	1,000 ft northwest of Southern Railway depot at Monroe.	-	5.16
29	Wreck Island Creek	....do.....	At bridge on State Highway 613, 5.5 miles northwest of Appomattox.	-	6.78
29	Bent Creek.....	....do.....	At bridge on State Highway 26, at Bent Creek.	-	8.76
29	West Fork Buffalo River.	Buffalo River.....	100 ft above confluence with North Fork Buffalo River at Forks of Buffalo and 11.2 miles west of Amherst.	-	.40

## MISCELLANEOUS DISCHARGE MEASUREMENTS

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## James River basin, Va.--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Sept. 29	Buffalo River.....	James River.....	20 ft below U. S. Highway 60 at Forks of Buffalo, 11.2 miles west of Amherst.	-	1.07
29	....do.....	....do.....	0.3 mile above U. S. Highway 29 bridge, 1.7 miles north-east of Amherst.	-	13.9
30	Spring Reservoir	Rucker Run.....	$\frac{1}{2}$ mile east of Lovingsston.	-	.02
30	Davis Creek.....	Rockfish River...	At Woods Mill, 0.4 mile above mouth.	-	2.98
Mar. 24	Cove Creek.....	....do.....	At bridge on U. S. Highway 29, 1.5 miles southwest of Covesville.	4.0	22.3
June 4	....do.....	....do.....	....do.....	-	2.90
Sept. 11	....do.....	....do.....	....do.....	-	.59
30	....do.....	....do.....	....do.....	-	.44
30	....do.....	....do.....	At bridge on State Highway 6, at Faber.	-	1.85
30	Ivy Creek.....	....do.....	100 ft below bridge on State Highway 800, at Schuyler.	-	.48
Jan. 23	North Fork Hardware River.	Hardware River....	At bridge on U. S. Highway 29, 0.5 mile west of Red Hill.	11	15.2
Feb. 27	....do.....	....do.....	....do.....	-	15.0
Mar. 24	....do.....	....do.....	....do.....	-	69.5
25	....do.....	....do.....	....do.....	-	257
June 4	....do.....	....do.....	....do.....	-	9.79
Sept. 11	....do.....	....do.....	....do.....	-	3.03
30	....do.....	....do.....	....do.....	-	2.49
Jan. 23	South Branch Hardware River.	North Fork Hardware River.	At bridge on U. S. Highway 29, 0.1 mile northwest of Crossroads.	6.6	8.50
Mar. 25	....do.....	....do.....	....do.....	-	99.8
Sept. 11	....do.....	....do.....	....do.....	-	1.25
30	....do.....	....do.....	....do.....	-	.94
30	Slate River.....	James River.....	At bridge on U. S. Highway 60, 0.5 mile west of Buckingham.	-	4.87
30	....do.....	....do.....	At bridge on State Highway 20, 5.5 miles northwest of Dillwyn.	-	17.0
30	Muddy Creek.....	Slate River.....	At culvert on State Highway 20, 4.5 miles south of Centenary.	-	.86
30	Sharp Creek.....	....do.....	At bridge on State Highway 20, 1.5 miles south of Centenary.	-	.11
Nov. 3	South Fork Moormans River.	Moormans River....	1,000 ft above Charlottesville Reservoir, 4.6 miles west of Whitehall.	-	.73
Sept. 4	....do.....	....do.....	....do.....	-	.01
23	Stockton Creek....	Mechum River.....	At Bridge on State Highway 635, $2\frac{1}{2}$ miles south of Crozet.	-	1.21
11	Mechum River.....	South Fork Rivanna River.	At bridge on State Highway 614, 5.5 miles north of Ivy.	-	8.38
11	North Fork Rivanna River.	Rivanna River.....	400 ft above bridge on U. S. Highway 29, 9 miles north-east of Charlottesville.	-	4.89
Sept. 28	Mechunk Creek.....	Rivanna River.....	At bridge on U. S. Highway 250, 5 miles west of Zion Crossroads.	-	1.00
28	Byrd Creek.....	James River.....	At bridge on State Highway 6, 1.8 miles southwest of Georges Tavern.	-	5.68
29	Whispering Creek..	Willis River.....	At bridge on U. S. Highway 60, 4.2 miles southeast of Sprouses Corner.	-	2.64
Jan. 16	Little Willis River.	....do.....	At culvert on U. S. Highway 15, 0.4 mile southwest of Curdsville.	7.1	5.40
Mar. 24	....do.....	....do.....	....do.....	-	37.4
Sept. 4	....do.....	....do.....	....do.....	-	.77
28	....do.....	....do.....	....do.....	-	1.17
30	Willis River.....	James River.....	200 ft above bridge on U. S. Highway 15, 1.0 mile north of Curdsville.	423	4.95
28	Lickinghole Creek.	....do.....	At bridge on State Highway 600, 4 miles west of Goochland.	70	4.88
28	Beaver Dam Creek..	....do.....	1 mile above bridge on State Highway 6, at State Farm.	42	3.20
Nov. 21	Falling Creek.....	....do.....	At bridge on State Highway 653, near Midlothian.	-	272
Jan. 16	....do.....	....do.....	....do.....	-	20.4
Mar. 24	....do.....	....do.....	....do.....	-	69.2
Apr. 24	....do.....	....do.....	....do.....	-	21.5
Sept. 29	....do.....	....do.....	....do.....	20	.74
29	North Branch Appomattox River.	Appomattox River..	At bridge on State Highway 24, 5 miles northeast of Appomattox.	6	1.48
30	Appomattox River..	James River.....	At bridge on U. S. Highway 15, 4.0 miles northwest of Farmville.	-	33.3
29	Bush River.....	Appomattox River..	At bridge on U. S. Highway 460, 2.2 miles southeast of Farmville.	-	4.66
29	Briery Creek.....	Bush River.....	At bridge on U. S. Highway 460, 1.5 miles southeast of Farmville.	-	4.05

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## James River basin, Va.--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Sept. 29	Sandy River.....	Bush River.....	At bridge on U. S. Highway 460, 4.0 miles southeast of Farmville.	-	5.96
29	Flat Creek.....	Appomattox River..	At bridge on State Highway 38, 6 miles northwest of Amelia.	73	4.29
28	Buckskin Creek....	West Creek.....	At bridge on State Highway 640, 3 miles east of Jetersville.	-	.92
29	Swift Creek.....	Appomattox River..	At bridge on State Highway 631, 4.3 miles southwest of Chester.	143	39.6
Jan. 15	Unnamed stream....	Glebe Creek.....	At culvert on State Highway 155, 2 miles north of Charles City.	.7	.34
Apr. 24	....do.....	....do.....	....do.....	-	.26
June 23	Brook Run.....	Chickahominy River	At Henrico County Disposal Plant, 1.5 miles west of Richmond.	-	7.82
July 29	....do.....	....do.....	....do.....	-	2.63
June 23	Chickahominy River	James River.....	At Grapevine Bridge on State Highway 158.	-	22.4
July 29	....do.....	....do.....	....do.....	-	7.92
Jan. 15	Collins Run.....	Chickahominy River	At bridge on State Highway 155, 2½ miles south of Providence Forge.	2.5	2.65
Apr. 24	....do.....	....do.....	....do.....	-	2.34

## Chowan River basin

Sept. 30	Little Nottoway River.	Nottoway River....	At bridge on State Highway 40, 2.6 miles south of Blackstone, Nottoway County, Va.	-	11.2
30	Wagua Creek.....	....do.....	At bridge on U. S. Highway 1, 3.3 miles north of Alberta, Brunswick County, Va.	-	3.15
30	Sturgeon Creek....	....do.....	At bridge on U. S. Highway 1, 1.8 miles north of Alberta, Brunswick County, Va.	-	.44
30	Beaverpond Creek..	....do.....	At bridge on State Highway 612, 2½ miles north of Rawlings, Brunswick County, Va.	-	1.49
29	Sappony Creek.....	....do.....	At bridge on State Highway 40, 2.5 miles west of Stony Creek, Sussex County, Va.	-	.32
29	Stony Creek.....	....do.....	At bridge on U. S. Highway 301, at Stony Creek, Sussex County, Va.	-	14.4
29	Rowanty Creek.....	....do.....	At bridge on U. S. Highway 301, 3.2 miles north of Stony Creek, Sussex County, Va.	-	12.6
29	Raccoon Creek.....	....do.....	At bridge on State Highway 608, 5½ miles west of Sebrell, Southampton County, Va.	-	0
29	Three Creek.....	....do.....	At bridge on U. S. Highway 301, 2.4 miles north of Emporia, Greensville County, Va.	-	1.53
29	....do.....	....do.....	At bridge on State Highway 609, 1 mile west of 653, 3½ miles southwest of Sebrell, Southampton County, Va.	-	3.64
29	Assamoosick Swamp.	....do.....	At bridge on State Highway 35, 1½ miles east of Sebrell, Southampton County, Va.	-	0
16	Blackwater River..	Chowan River.....	At bridge on State Highway 625, 1 mile east of Disputanta, Prince George County, Va.	-	4.34
Jan. 15	Seacock Creek.....	Blackwater River..	At bridge on State Highway 618, 3 miles northwest of Ivor, Southampton County, Va.	-	26.3
Apr. 24	....do.....	....do.....	....do.....	-	15.8
Jan. 15	Cypress Swamp.....	....do.....	At bridge on State Highway 635, 3 miles southwest of Burdette, Southampton County, Va.	-	4.14
Apr. 23	....do.....	....do.....	....do.....	-	4.09
23	Middle Meherrin River.	Meherrin River....	At bridge on State Highway 49, 8 miles southwest of Lunenburg, Lunenburg County, Va.	-	15.5
Sept. 28	....do.....	....do.....	....do.....	-	1.70
Apr. 23	South Meherrin River.	....do.....	At bridge on State Highway 49, 11 miles southwest of Lunenburg, Lunenburg County, Va.	-	12.2
Sept. 28	....do.....	....do.....	....do.....	-	2.28
28	Meherrin River....	Chowan River.....	At bridge on State Highway 635, 8½ miles northwest of South Hill, Mecklenburg County, Va.	-	49.4
28	Flat Rock Creek...	Meherrin River....	At bridge on State Highway 647, 4 miles south of Kenbridge, Lunenburg County, Va.	-	.50

## MISCELLANEOUS DISCHARGE MEASUREMENTS

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## Chowan River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Sept. 28	Great Creek.....	Meherrin River....	At bridge on U. S. Highway 58, at Lawrenceville, Brunswick County, Va.	-	10.7
July 15	Somerton Creek....	Chowan River.....	Lat 36°33'30", long. 76°49'10", at highway bridge, 1 mile below Mill Swamp and 2½ miles northwest of Reynoldson, Gates County, N. C.	87.2	No flow
Aug. 10	....do.....	....do.....	....do.....		.05
Sept. 1	....do.....	....do.....	....do.....		.08
June 16	Cypress Creek.....	Meherrin River....	Lat 36°31'55", long. 77°20'30", at highway bridge, in Margarettsville, Northampton County, N. C., ½ mile upstream from Seaboard Air Line Railroad bridge.	29.8	1.11
July 14	....do.....	....do.....	....do.....		.13
Aug. 4	....do.....	....do.....	....do.....		.014
31	....do.....	....do.....	....do.....		No flow
June 18	Buckhorn Creek....	Chowan River.....	Lat 36°30'55", long. 76°59'00", at bridge on U. S. Highway 258, 1.8 miles northeast of Como, Hertford County, N. C.	7.34	.70
July 15	....do.....	....do.....	....do.....		No flow
Aug. 4	....do.....	....do.....	....do.....		No flow
31	....do.....	....do.....	....do.....		No flow
	Meherrin River....	....do.....	Lat 36°32'20", long. 77°11'17", at bridge on State Highway 35, 1½ miles above Tarpane Creek and ½ miles north of Severn, Northampton County, N. C.	1,120	89.2
31	....do.....	....do.....	....do.....		101
Sept. 15	....do.....	....do.....	....do.....		22.7
June 18	Kirby Creek.....	Meherrin River....	Lat 36°28'05", long. 77°08'40", on county road at site of Worrell Mill Pond, 2 miles upstream from Maple Fork Branch and 3½ miles northwest of Murfreesboro, Hertford County, N. C.	74.6	24.9
July 15	....do.....	....do.....	....do.....		19.5
Aug. 4	....do.....	....do.....	....do.....		.50
10	....do.....	....do.....	....do.....		3.92
31	....do.....	....do.....	....do.....		.41
Mar. 3	Wildcat Swamp.....	Potocasi Creek....	Lat 35°26'30", long. 77°22'30", at culvert on U. S. Highway 158, 4.1 miles northwest of Jackson, Northampton County, N. C.	.68	1.42
Apr. 13	....do.....	....do.....	....do.....		5.19
July 15	Potocasi Creek....	Meherrin River....	Lat 36°22'15", long. 77°01'40", at highway bridge, 2½ miles north of Union, Hertford County, N. C., and 3½ miles upstream from Bells Branch.	191	2.88
Aug. 18	....do.....	....do.....	....do.....		186
Sept. 2	....do.....	....do.....	....do.....		3.21
June 18	Cole Creek.....	Sarem Creek.....	Lat 36°26'30", long. 76°46'30", at bridge on U. S. Highway 158, 3 miles northwest of Gatesville, Gates County, N. C.	30.9	.53
July 15	....do.....	....do.....	....do.....		.17
Aug. 10	....do.....	....do.....	....do.....		2.26
Sept. 1	....do.....	....do.....	....do.....		.10
July 16	Ahoskie Creek....	Wiccacon Creek....	Lat 36°14'45", long. 76°56'50", at bridge on State Highway 350, 1.2 miles north of Powellsville, Bertie County, N. C.	134	11.8
Aug. 18	....do.....	....do.....	....do.....		241
Sept. 2	....do.....	....do.....	....do.....		2.08
Aug. 14	Chinkapin Creek...	....do.....	Lat 36°11'55", long. 76°47'05", at culvert on State Highway 350, 1.0 mile west of Colerain, Bertie County, N. C.	8.89	62.0
July 16	....do.....	....do.....	Lat 36°15'15", long. 76°51'00", on county road at site of old Cessons Mill, 4.6 miles southwest of Harrellsville, Hertford County, N. C.	51.7	.27
Aug. 11	....do.....	....do.....	....do.....		2.43
Sept. 2	....do.....	....do.....	....do.....		No flow
June 18	Duke Swamp.....	Bennetts Creek....	Lat 36°28'10", long. 76°38'10", at highway bridge, 1½ miles below Middle Swamp and 2½ miles northwest of Sunbury, Gates County, N. C.	36.8	.34
July 15	....do.....	....do.....	....do.....		.015
Aug. 5	....do.....	....do.....	....do.....		No flow
Sept. 1	....do.....	....do.....	....do.....		No flow
July 15	Bennetts Creek....	Chowan River.....	Lat 36°25'55", long. 76°42'00", at highway bridge 3½ miles northeast of Gatesville, Gates County, N. C. and 4½ miles below Duke Swamp.	79.6	8.77
Aug. 6	....do.....	....do.....	....do.....		7.74

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## Chowan River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Sept. 1	Bennetts Creek....	Chowan River.....	Lat 36°25'55", long. 76°42'00", at highway bridge 3½ miles northeast of Gatesville, Gates County, N. C., and 4½ miles below Duke Swamp.	79.6	10.3

## Pasquotank River basin, N. C.

Aug. 14	Folly Swamp.....	Pasquotank River..	Lat 36°29'25", long. 76°34'30", at culvert on State Highway 32, 4.0 miles north of Sunbury, Gates County.	3.43	179
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## Cashie River basin, N. C.

Aug. 18	Roquist Creek.....	Cashie River.....	Lat 35°57', long. 76°56', 3½ miles above mouth and 3½ miles south southeast of Windsor, Bertie County.	62.2	4.00
Sept. 3	....do.....	....do.....	....do.....		No flow

## Roanoke River basin

Sept.24	North Fork Roanoke River.	Roanoke River.....	On State Highway 723, 2½ miles north of Ellett and 3½ miles northwest of Fagg, Montgomery County, Va.	-	5.02
24	South Fork Roanoke River.	....do.....	At U. S. Highway 11, 1½ miles east of Shawsville, Montgomery County, Va.	-	22.4
24	Mason Creek.....	....do.....	On U. S. Highway 460, 1½ miles east of Salem, Roanoke County, Va.	-	.58
24	Carvin Creek.....	....do.....	On State Highway 115, 2½ miles south of Hollins station and 1½ miles north of Roanoke, Roanoke County, Va.	-	2.38
24	Tinker Creek.....	....do.....	On State Highway 115, 2 miles south of Hollins Station and 1½ miles north of Roanoke, Roanoke County, Va.	-	6.94
24	Back Creek.....	....do.....	On U. S. Highway 220, 6½ miles south of Roanoke, Roanoke County, Va.	-	2.97
24	Blackwater River..	....do.....	At bridge on U. S. Highway 220, 4 miles north of Rocky Mount, Franklin County, Va.	-	15.1
24	Maggotty Creek....	Blackwater River..	At bridge on U. S. Highway 220, 2 miles north of Boones Mill, Franklin County, Va.	-	.955
Sept.28	Gills Creek.....	....do.....	At bridge on State Highway 122, 10½ miles northeast of Rocky Mount, Franklin County, Va.	-	3.59
25	Goose Creek.....	Roanoke River.....	At bridge on U. S. Highway 460, 4.7 miles west of Thaxton, Bedford County, Va.	-	8.59
28	....do.....	....do.....	At bridge on State Highway 122, 8½ miles southwest of Bedford, Bedford County, Va.	-	31.8
25	Little Stony Creek	Otter River.....	At bridge on State Highway 43, 6 miles north of Bedford, Bedford County, Va.	-	.075
25	Little Otter River	....do.....	At bridge on State Highway 122, 2 miles northeast of Bedford, Bedford County, Va.	-	4.53
25	Elk Creek.....	....do.....	At bridge on U. S. Highway 460, 9 miles west of Lynchburg, Bedford County, Va.	-	4.33
Jan. 13	Nininger Creek....	....do.....	At bridge on State Highway 43, 4 miles south of Bedford, Bedford County, Va.	-	5.85
Apr. 22	....do.....	....do.....	....do.....		4.50
Sept. 1	....do.....	....do.....	....do.....		1.37
25	....do.....	....do.....	....do.....		1.68
28	Pigg River.....	Roanoke River.....	At bridge on U. S. Highway 220, 1 mile south of Rocky Mount, Franklin County, Va.	-	25.8
28	....do.....	....do.....	At bridge on State Highway 40, 3 miles west of Toshes, Pittsylvania County, Va.	-	115
28	Sycamore Creek....	....do.....	At bridge on U. S. Highway 29, 4½ miles south of Altavista, Pittsylvania County, Va.	-	9.03
29	East Fork Falling River.	Falling River.....	At bridge on State Highway 644, 2 miles southwest of Appomatox, Appomatox County, Va.	-	1.11
29	....do.....	....do.....	At bridge on State Highway 645, 4 miles southwest of Appomatox, Appomatox County, Va.	-	3.08
29	....do.....	....do.....	At bridge on State Highway 647, 3½ miles south of Spout Spring, Appomatox County, Va.	-	5.08

## MISCELLANEOUS DISCHARGE MEASUREMENTS

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

Roanoke River basin--Continued				
Date	Stream	Tributary to or diverting from--	Locality	Discharge (cfs)
Sept. 29	Mountain Branch...	Falling River.....	At bridge on State Highway 647, 3½ miles south of Spout Spring, Appomatox County, Va.	0.75
29	East Fork Falling River.	....do.....	At bridge on State Highway 679, 2½ miles north of Spring Mills, Appomatox County, Va.	6.38
29	Reedy Creek.....	....do.....	At bridge on State Highway 679, 2½ miles north of Spring Mills, Appomatox County, Va.	2.70
29	Martins Creek.....	....do.....	At bridge on State Highway 648, 2½ miles northeast of Spring Mills, Appomatox County, Va.	1.20
30	East Fork Falling River.	....do.....	At bridge on State Highway 650, 1½ miles northeast of Spring Mills, Appomatox County, Va.	10.2
29	Burger Branch.....	....do.....	At bridge on State Highway 646, ½ mile northwest of Spring Mills, Appomatox County, Va.	.84
29	North Fork Falling River.	....do.....	At bridge on State Highway 606, 6 miles east of Rustburg, Campbell County, Va.	7.66
30	....do.....	....do.....	At bridge on State Highway 648, 4 miles southwest of Spring Mills, Campbell County, Va.	10.6
30	Little Falling River.	....do.....	At bridge on State Highway 618, 1 mile northwest of Hot Creek, Campbell County, Va.	5.08
30	Cub Creek.....	Roanoke River.....	At bridge on State Highway 615, 1.6 miles east of Rolling Hill, Charlotte County, Va.	16.7
28	Roanoke Creek.....	....do.....	At bridge on State Highway 40, 2.2 miles east of Charlotte Courthouse, Charlotte County, Va.	11.6
Jan. 13	Nicklas Creek.....	Smith River.....	At bridge on State Highway 623, 5 miles southwest of Ferrum, Franklin County, Va.	12.9
Sept. 1	....do.....	....do.....	....do.....	2.72
29	Towne Creek.....	....do.....	At bridge on State Highway 674, at Philpott, Henry County, Va.	7.29
29	Beaver Creek.....	....do.....	At bridge on State Highway 108, 2 miles north of Martinsville, Henry County, Va.	1.74
29	Jones Creek.....	....do.....	At bridge on eastern limits of city of Martinsville, below city filtration plant, Henry County, Va.	.93
29	Leatherwood Creek.	....do.....	At bridge on State Highway 650, 6 miles southeast of Martinsville, Henry County, Va.	7.79
28	South Mayo River..	Mayo River.....	At bridge on U. S. Highway 58, 1 mile west of Stuart, Patrick County, Va.	4.37
28	North Mayo River..	....do.....	At bridge on U. S. Highway 58, 16 miles east of Stuart, Henry County, Va.	24.4
28	Snow Creek.....	Turkeycock Creek...	Lat 36°53'51", long. 79°39'05", ½ mile northwest of Sago, Franklin County, Va. Drainage area, 60 sq mi.	22.2
28	Turkeycock Creek..	Pigg River.....	At bridge on State Highway 969, 2½ miles east of Sago, Pittsylvania County, Va.	5.45
29	Sandy Creek.....	Dan River.....	At bridge on State Highway 732, 2½ miles northwest of Danville, Pittsylvania County, Va.	5.19
June 9	Dan River Canal...	....do.....	At Dan River Mills in city of Danville, Pittsylvania County, Va.	405
Sept. 28	Bearskin Creek....	Banister River.....	At bridge on State Highway 612, 4½ miles west of Chatham, Pittsylvania County, Va.	3.48
29	Banister River....	Dan River.....	At bridge on U. S. Highway 29, 3½ miles south of Chatham, Pittsylvania County, Va.	20.4
28	Cherrystone Creek.	Banister River.....	At bridge on State Highway 802, 2½ miles northwest of Chatham, Pittsylvania County, Va.	2.72
Jan. 14	Georges Creek.....	....do.....	At bridge on U. S. Highway 29, at Oretna, Pittsylvania County, Va.	4.46
Apr. 22	....do.....	....do.....	....do.....	3.47
Sept. 2	....do.....	....do.....	....do.....	1.37
29	Stinking River....	....do.....	At bridge on State Highway 40, 2½ miles west of Mount Airy, Pittsylvania County, Va.	4.84
29	Banister River....	Dan River.....	At bridge on State Highway 640, 3 miles south of Mount Airy, Pittsylvania County, Va.	50.6
29	Sandy Creek.....	Banister River.....	At bridge on State Highway 57, 9 miles northwest of Halifax, Halifax County, Va.	15.0
Jan. 14	Lawsons Creek.....	Hycro River.....	At bridge on State Highway 658, ½ mile southeast of Turbeville, Halifax County, Va.	6.04
Apr. 22	....do.....	....do.....	....do.....	4.13
23	Jolly Hollow Creek.	Allens Creek.....	At bridge on State Highway 92, 0.5 mile north of Boynton, Mechenburg County, Va.	1.46

## MISCELLANEOUS DISCHARGE MEASUREMENTS

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Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## Roanoke River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Sept. 28	Allens Creek.....	Roanoke River.....	At bridge on road to John H. Kerr Dam, 2 miles north of Buggs Island gage, Mecklenburg County, Va.	-	14.0
Apr. 28	Town Fork Creek...	Dan River.....	Lat 36°17', long. 80°09', at bridge on U. S. Highway 311, at Walnut Cove, Stokes County, N. C., 4 miles above mouth.	114	60.7
Aug. 11	....do.....	....do.....	....do.....	-	20.6
Sept. 10	....do.....	....do.....	....do.....	-	20.6
Apr. 24	South Countryline Creek.	Countryline Creek.	Lat 36°21', long. 79°16', at bridge on first road above State Highway 86, 4½ miles above mouth, 4½ miles southeast of Yanceyville, Caswell County, N. C.	34.8	7.13
Sept. 25	....do.....	....do.....	....do.....	-	No flow
Oct. 29	Hyco River.....	Dan River.....	Lat 36°28', long. 79°07', at bridge on State Highway 57, 1 mile above South Hyco Creek, 2½ miles southeast of Semora, and 9 miles northwest of Roxboro, Person County, N. C.	78.0	3.93
Apr. 24	....do.....	....do.....	....do.....	-	26.2
Sept. 25	....do.....	....do.....	....do.....	-	.09
30	....do.....	....do.....	....do.....	-	No flow
30	South Hyco River..	Hyco River.....	Lat 36°28', long. 79°06', at bridge on State Highway 57, 1 mile above mouth, 2.8 miles northwest of Concord and 5 miles south of Cunningham, Person County, N. C.	76.5	2.05
Oct. 30	Ready Branch.....	Sweetwater Creek..	Lat 35°47'21", long. 77°03'36", at bridge on U. S. Highway 17, just below Dog Branch, 4½ miles south of Williams-ton, Martin County, N. C.	15.5	1.96
Apr. 28	....do.....	....do.....	....do.....	-	6.73
June 4	....do.....	....do.....	....do.....	-	1.21
Aug. 17	....do.....	....do.....	....do.....	-	3.44
Sept. 3	....do.....	....do.....	....do.....	-	1.13

## Pamlico River basin, N. C.

Oct. 29	Shelton Creek.....	Tar River.....	Lat 36°18'47", long. 78°43'15", at bridge on U. S. Highway 158, 1½ miles above mouth and 7½ miles west of Oxford, Granville County.	22.6	1.68
Apr. 24	....do.....	....do.....	....do.....	-	10.2
Aug. 29	....do.....	....do.....	....do.....	-	.11
Sept. 25	....do.....	....do.....	....do.....	-	No flow
Oct. 29	Tabbs Creek.....	....do.....	Lat 36°11', long. 78°27', at bridge on first road above U. S. Highway 1, 1½ miles from mouth, 2½ miles south of Kittrell, Vance County, and 4 miles below Ruin Creek.	69.8	11.0
Apr. 24	....do.....	....do.....	....do.....	-	46.3
Aug. 29	....do.....	....do.....	....do.....	-	1.82
Sept. 25	....do.....	....do.....	....do.....	-	.75
Oct. 28	Swift Creek.....	....do.....	Lat 36°04', long. 77°52', at highway bridge, 3 miles below Sandy Creek, and 3 miles northeast of Red Oak, Nash County.	180	48.0
May 26	....do.....	....do.....	....do.....	-	86.7
Aug. 31	....do.....	....do.....	....do.....	-	23.7
Oct. 28	Fishing Creek.....	....do.....	Lat 36°23', long. 78°11', at bridge on first road above State Highway 59, ½ mile below Phoebe's Creek and 2 miles southwest of Warrenton, Warren County.	44.7	19.1
Apr. 28	....do.....	....do.....	....do.....	-	30.1
Aug. 29	....do.....	....do.....	....do.....	-	3.41
Oct. 30	Town Creek.....	....do.....	Lat 35°48'00", long. 77°35'20", at bridge on U. S. Highway 258, ¼ mile below Bynum Mill Creek and 2½ miles east of Pinetops, Edgecombe County.	192	5.11
Apr. 27	....do.....	....do.....	....do.....	-	34.2
June 4	....do.....	....do.....	....do.....	-	3.55
Aug. 31	....do.....	....do.....	....do.....	-	2.73
Oct. 30	Grindie Creek.....	....do.....	Lat 35°37'28", long. 77°13'20", at bridge on State Highway 30, at Pastolus, Pitt County, 2 miles below Hunting Run and 5½ miles from mouth.	72.4	1.00
Apr. 28	....do.....	....do.....	....do.....	-	14.6

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

Pamlico River basin, N. C.--Continued					
Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
June 4	Grindle Creek....	Tar River.....	Lat 35°39'21", long. 77°16'15", at bridge on county road 1.7 miles above Hunting Run and 3½ miles northeast of Pactolus, Pitt County.	54.7	5.82
July 29	....do.....	....do.....	....do.....		2.37
Sept. 2	....do.....	....do.....	....do.....		1.37
Apr. 19	Collie Swamp.....	Tranters Creek....	Lat 35°49'30", long. 77°11'55", at bridge on U. S. Highway 64, 1.8 miles west of Everett, Martin County.	29.0	23.1
May 1	....do.....	....do.....	....do.....		302
Aug. 14	Upper Goose Creek.	Pamlico River.....	Lat 35°31'30", long. 76°53'20", at bridge on U. S. Highway 264, 5½ miles west of Bath, Beaufort County.	2.01	17.2
Apr. 28	Durham Creek.....	....do.....	Lat 35°19' long. 76°52", at bridge on State Highway 33, at Edward, Beaufort County.	21.2	2.45
June 4	....do.....	....do.....	....do.....		No flow
Sept. 2	....do.....	....do.....	....do.....		1.18
Neuse River basin, N. C.					
Aug. 14	Acre Swamp.....	Pungo Creek.....	Lat 35°35'00", long. 76°50'30", at bridge on State Highway 32, 0.9 mile below Jacks Branch and 2.2 miles southeast of Pinetown, Beaufort County.	-	94.0
Oct. 28	Lower Barton Creek	Neuse River.....	Lat 35°52'01", long. 76°38'08", at highway bridge, ¼ mile above mouth, 1½ miles north of Bayleaf, and 3½ miles northeast of Falls, Wake County.	13.2	4.21
Apr. 23	....do.....	....do.....	....do.....		11.5
July 31	....do.....	....do.....	....do.....		3.74
Aug. 28	....do.....	....do.....	....do.....		2.91
Oct. 28	Horse Creek.....	....do.....	Lat 35°52'01", long. 76°38'08", at bridge on U. S. Highway 264, 1 mile from mouth and 4½ miles west of Wake Forest, Wake County.	21.0	8.18
Apr. 23	....do.....	....do.....	....do.....		20.2
July 31	....do.....	....do.....	....do.....		7.24
Aug. 28	....do.....	....do.....	....do.....		5.98
Sept. 25	....do.....	....do.....	....do.....		5.84
Oct. 28	Crabtree Creek....	....do.....	Lat 35°50' long. 78°40'45", at bridge on U. S. Highway 15A, 1½ miles above Mine Creek and 4½ miles northwest of Raleigh, Wake County.	97.8	9.57
Aug. 28	....do.....	....do.....	....do.....		3.07
Sept. 14	....do.....	....do.....	....do.....		.74
15	....do.....	....do.....	....do.....		1.90
Oct. 28	Mine Creek.....	Crabtree Creek....	Lat 35°51'19", long. 78°39'43", at highway bridge, 1½ miles above mouth and ¾ miles west of Millbrook, Wake County.	8.75	3.01
Apr. 23	....do.....	....do.....	....do.....		7.70
July 31	....do.....	....do.....	....do.....		2.50
Aug. 28	....do.....	....do.....	....do.....		1.95
Sept. 14	....do.....	....do.....	....do.....		.98
Oct. 28	Big Branch.....	....do.....	Lat 35°51'05", long. 78°37'23", at highway bridge, 1 mile west of Millbrook, Wake County and 2½ miles above mouth.	1.29	1.10
Apr. 23	....do.....	....do.....	....do.....		3.43
July 31	....do.....	....do.....	....do.....		1.03
Aug. 28	....do.....	....do.....	....do.....		.86
Sept. 2	Walnut Creek.....	Neuse River.....	Lat 35°46'10", long. 78°43'26", at highway bridge, 0.4 mile above Johnson Lake and 4.8 miles west southwest of State Capitol Bldg., Raleigh, Wake County.	4.75	.08
2	Simmons Branch....	Walnut Creek.....	Lat 35°46'00", long. 78°42'02", at highway bridge 0.3 mile above mouth, 1.2 miles above Lake Raleigh, and 3.6 miles west southwest of State Capitol Bldg., Raleigh, Wake County.	1.04	.29
2	Bushy Creek.....	....do.....	Lat 35°46'11", long. 78°41'22", at highway bridge 0.1 mile above mouth, 0.3 mile above Lake Raleigh, and 2.9 miles west southwest of State Capitol Bldg., Raleigh, Wake County.	1.02	.26
1	Walnut Creek.....	Neuse River.....	Lat 35°45'32", long. 78°39'29", at Norfolk Southern Ry. bridge, 1.3 miles below Lake Raleigh and 1.7 miles south of State Capitol Bldg., Raleigh, Wake County.	-	.55

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## Neuse River basin, N. C.--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Sept. 2	Rocky Branch.....	Walnut Creek.....	Lat 35°45'50", long. 78°38'24", at bridge on U. S. Highway 15A, 0.2 mile above mouth and 1.5 miles south of State Capitol Bldg., Raleigh, Wake County.	2.74	0.90
Nov. 5	Walnut Creek.....	Neuse River.....	Lat 35°45'25", long. 78°38'15", at site just below Rocky Branch and 1.6 miles south of State Capitol Bldg., Raleigh, Wake County.	7.94	3.73
Sept. 3	Wildcat Branch....	Walnut Creek.....	Lat 35°45'22", long. 78°38'07", at mouth, 500 ft above Southern R.R. bridge and 1½ miles south of State Capitol Bldg., Raleigh, Wake County.	2.16	.04
Nov. 5	.....do.....	.....do.....	.....do.....		a.65
5	Big Branch.....	.....do.....	Lat 35°44'27", long. 78°34'05", at highway bridge, 1 mile above mouth and 3½ miles north northwest of Auburn, Wake County.	12.0	a3.30
Aug. 27	Swift Creek.....	Neuse River.....	Lat 35°41', long. 78°39', at highway bridge, 2 miles northeast of Williams Crossroads and 2½ miles northeast of McCollers, Wake County.	53.9	1.21
Sept. 11	.....do.....	.....do.....	.....do.....		.68
15	.....do.....	.....do.....	.....do.....		1.21
1	Buck Branch.....	Swift Creek.....	Lat 35°40'17", long. 78°37'50", at county road, 300 ft below Reedy Branch and 2½ miles south southwest of Garner, Wake County.	5.21	.03
2	Unnamed stream....	.....do.....	Lat 35°39'44", long. 78°36'44", at county road, 300 ft above Rands Mill Dam and 3 miles south of Garner, Wake County.	2.75	.25
Oct. 27	Middle Creek.....	Neuse River.....	Lat 35°30', long. 78°24', at bridge on State Highway 210, 1½ miles above mouth, 2 miles below Steep Hill Branch, and 3 miles west of Smithfield, Johnston County.	124	29.4
Apr. 20	.....do.....	.....do.....	.....do.....		235
July 28	.....do.....	.....do.....	.....do.....		6.82
Sept. 1	.....do.....	.....do.....	.....do.....		3.75
Oct. 27	Black Creek.....	.....do.....	Lat 35°28'08", long. 78°27'25", at highway bridge, 2½ miles northwest of Four Oakes, Johnston County, and 5 miles from mouth.	79.0	11.4
Apr. 20	.....do.....	.....do.....	.....do.....		112
July 28	.....do.....	.....do.....	.....do.....		.005
Oct. 28	Buck Swamp.....	Thoroughfare Swamp	Lat 35°16', long. 78°05', at highway bridge, 1½ miles above mouth and 2½ miles west of Dudley, Wayne County.	17.0	1.67
Apr. 20	.....do.....	.....do.....	.....do.....		7.38
June 3	.....do.....	.....do.....	.....do.....		.89
Sept. 1	.....do.....	.....do.....	.....do.....		.21
Apr. 13	Long Creek.....	Little River.....	Lat 35°38'10", long. 78°15'20", at culvert on State Highway 39, 2½ miles above mouth and 7 miles northeast of Selma, Johnston County.	6.87	124
Oct. 28	Stony Creek.....	Neuse River.....	Lat 35°23', long. 77°58', at bridge on U. S. Highway 70, 2 miles east of Goldsboro, Wayne County, and 3½ miles from mouth.	21.0	3.06
Apr. 20	.....do.....	.....do.....	.....do.....		10.5
June 3	.....do.....	.....do.....	.....do.....		2.28
Sept. 1	.....do.....	.....do.....	.....do.....		.68
Oct. 28	Falling Creek.....	.....do.....	Lat 35°15'40", long. 77°41'30", at bridge on U. S. Highway 70, at Falling Creek, Lenoir County, 4 miles above mouth and 8½ miles west of Kinston.	45.4	6.56
Apr. 20	.....do.....	.....do.....	.....do.....		19.1
June 3	.....do.....	.....do.....	.....do.....		3.50
Sept. 1	.....do.....	.....do.....	.....do.....		3.67
Oct. 28	Deep Run.....	Southwest Creek...	Lat 35°08', long. 77°42', at highway bridge, ½ mile above mouth, 0.7 mile east of Deep Run, Lenoir County, and 1½ miles southwest of Kinston.	6.1	1.17
Apr. 23	.....do.....	.....do.....	.....do.....		2.79
June 3	.....do.....	.....do.....	.....do.....		.64
Sept. 1	.....do.....	.....do.....	.....do.....		2.20

a Discharge measurement furnished by N. C. Stream Sanitation Committee.

## MISCELLANEOUS DISCHARGE MEASUREMENTS

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## Neuse River basin, N. C.--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Oct. 30	Moccasin Creek....	Contentnea Creek..	Lat 35°49', long. 78°15', at bridge on U. S. Highway 264, $\frac{3}{4}$ miles northwest of Middlesex, Nash County, and 9 miles above Turkey Creek.	28.2	3.78
Apr. 27	....do.....	....do.....	....do.....		12.8
June 5	....do.....	....do.....	....do.....		1.84
Aug. 31	....do.....	....do.....	....do.....		.79
Oct. 28	Nahunta Swamp....	....do.....	Lat 35°30'30", long. 77°44'35", at bridge on State Highway 58, $\frac{1}{2}$ mile above mouth and $\frac{5}{8}$ miles northwest of Snow Hill, Greene County.	97.1	14.1
Apr. 23	....do.....	....do.....	....do.....		40.1
27	....do.....	....do.....	....do.....		27.3
June 3	....do.....	....do.....	....do.....		10.9
Sept. 2	....do.....	....do.....	....do.....		5.41
1	Little Contentnea Creek.	Neuse River.....	Lat 35°32'55", long. 77°30'55", at bridge on U. S. Highway 264, $\frac{1}{2}$ miles above Middle Swamp and $\frac{5}{8}$ miles southeast of Farmville, Pitt County.	93.3	.46
Oct. 29	Core Creek.....	....do.....	Lat 35°15'10", long. 77°17'10", at bridge on State Highway 55, $\frac{3}{4}$ miles southeast of Fort Barnwell, Craven County, and about 7 miles above mouth.	59.2	2.16
Apr. 28	....do.....	....do.....	....do.....		5.81
June 4	....do.....	....do.....	....do.....		1.85
Sept. 2	....do.....	....do.....	....do.....		2.05
Mar. 5	Unnamed tributary.	Tuckahoe Creek....	Lat 35°00'50", long. 77°55'40", at culvert on State Highway 41, 2.3 miles east of Hargett and 5.0 miles west of Comfort, Jones County.	3.35	12.7
Apr. 28	Upper Broad Creek.	Neuse River.....	Lat 35°11', long. 76°58', at highway bridge, $\frac{1}{2}$ miles southeast of Springhope, and 3 miles north of Olympia, Pamlico County.	22.0	.06
June 4	....do.....	....do.....	....do.....		No flow
Aug. 14	Unnamed tributary.	Upper Broad Creek.	Lat 35°08'00", long. 76°56'30", at bridge on State Highway 55, $\frac{1}{2}$ miles east of Olympia, Pamlico County.	3.31	76.8

## Newport River basin, N. C.

July 3	Southwest Prong Newport River.	Newport River....	Lat 34°46'45", long. 76°56'00", at highway bridge 1.6 miles above mouth and 4.3 miles west of Newport, Carteret County.	16.4	26.4
22	....do.....	....do.....	....do.....		5.57
Aug. 26	....do.....	....do.....	....do.....		27.6
Sept. 30	....do.....	....do.....	....do.....		37.2
July 22	Northwest Prong Newport River.	....do.....	Lat 34°47'50", long. 76°54'50", at bridge on "Nine Foot" County Road, 0.4 mile above mouth and 5.2 miles west northwest of Newport, Carteret County.	11.3	1.61
Aug. 26	....do.....	....do.....	....do.....		10.1
July 3	Shoe Branch.....	....do.....	Lat 34°47'35", long. 76°53'30", at highway bridge $\frac{1}{2}$ mile above mouth and 1.8 miles west of Newport, Carteret County.	4.11	1.79
21	....do.....	....do.....	....do.....		1.24
Aug. 25	....do.....	....do.....	....do.....		5.18
Sept. 30	....do.....	....do.....	....do.....		11.4
July 3	Cedar Swamp.....	....do.....	Lat 34°46'35", long. 76°53'00", 0.4 mile above mouth at highway bridge 1.5 miles southwest of Newport, Carteret County.	2.22	1.22
22	....do.....	....do.....	....do.....		No flow
Aug. 26	....do.....	....do.....	....do.....		2.49
July 1	Black Creek.....	....do.....	Lat 34°47'15", long. 76°48'05", at highway bridge just below outlet of Carteret Lodge Lake, $\frac{1}{2}$ miles above mouth and 3 miles east of Newport, Carteret County.	10.7	15.6
21	....do.....	....do.....	....do.....		6.33
Aug. 25	....do.....	....do.....	....do.....		27.6
Sept. 30	....do.....	....do.....	....do.....		21.4

## Broad Creek basin, N. C.

July 2	East Prong Broad Creek.	Broad Creek.....	Lat 34°43'50", long. 76°56'10", at highway bridge, $\frac{1}{2}$ mile above mouth and 6 miles southwest of Newport, Carteret County.	1.72	1.24
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Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## Broad Creek basin, N. C.--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
July 22	East Prong Broad Creek.	Broad Creek.....	Lat 34°43'50", long. 76°56'10", at highway bridge, $\frac{1}{2}$ mile above mouth and 6 miles southwest of Newport, Carteret County.	1.72	0.34
Aug. 23	....do.....	....do.....	....do.....		2.34
Sept. 29	....do.....	....do.....	....do.....		7.44

## Whiteoak River basin, N. C.

Oct. 29	Whiteoak River...	Atlantic Ocean....	Lat 34°53'30", long. 77°14'00", at bridge on U. S. Highway 17 at Jones-Onslow County line, 1 mile south of Maysville, Jones County.	53.3	2.56
Apr. 28	....do.....	....do.....	....do.....		8.00
July 23	....do.....	....do.....	....do.....		1.86
Aug. 4	....do.....	....do.....	....do.....		144
27	....do.....	....do.....	....do.....		2.01
27	Starky Creek.....	Whiteoak River....	Lat 34°50'10", long. 77°13'45", at highway bridge $1\frac{1}{2}$ miles above mouth and 5.2 miles south of Belgrade, Onslow County.	14.1	.57
Sept. 29	....do.....	....do.....	....do.....		20.1
July 22	Hunters Creek.....	White Oak Creek..	Lat 34°47'35", long. 77°07'40", at highway bridge at Carteret-Jones County line, 2.0 miles northwest of Stella, Carteret County.	77.2	16.8
Aug. 26	....do.....	....do.....	....do.....		35.8
Sept. 30	....do.....	....do.....	....do.....		52.6

## Queens Creek basin, N. C.

Mar. 5	Queens Creek.....	Atlantic Ocean....	Lat 34°42'10", long. 77°13'55", at culvert on State Highway 172, 1.8 miles south of Hubert, Onslow County.	4.95	9.24
Aug. 14	....do.....	....do.....	....do.....		82.6

## New River basin, N. C.

July 3	Southwest Creek...	New River.....	Lat 34°43'10", long. 77°31'20", at highway bridge, 1 mile below Harris Creek and 6 miles southwest of Jacksonville, Onslow County.	35.2	3.37
23	....do.....	....do.....	....do.....		1.88
Aug. 27	....do.....	....do.....	....do.....		1.40
Sept. 29	....do.....	....do.....	....do.....		226
July 2	Northeast Creek...	....do.....	Lat 34°46'25", long. 77°21'40", at highway bridge, 1.6 miles below Wolf Swamp, and 2.1 miles south of Kellum, Onslow County.	28.3	5.86
23	....do.....	....do.....	....do.....		3.65
Aug. 27	....do.....	....do.....	....do.....		2.67
Sept. 29	....do.....	....do.....	....do.....		70.1

## Cape Fear River basin, N. C.

Apr. 28	Haw River.....	Cape Fear River...	Lat 36°14', long. 79°55', at bridge on U. S. Highway 220, $2\frac{1}{2}$ miles north of Summerfield, Guilford County.	20.2	12.5
Aug. 11	....do.....	....do.....	....do.....		2.74
Sept. 9	....do.....	....do.....	....do.....		4.93
Apr. 28	Troublesome Creek.	Haw River.....	Lat 36°16', long. 79°39', at bridge on U. S. Highway 29, $1\frac{1}{2}$ miles from mouth and $5\frac{1}{2}$ miles south of Reidsville, Rockingham County.	55.1	30.5
Aug. 11	....do.....	....do.....	....do.....		4.61
Sept. 10	....do.....	....do.....	....do.....		4.23
Oct. 17	Buttermilk Creek..	....do.....	Lat 36°11', long. 79°26', at highway bridge, 1.6 miles above Stony Creek, 2 miles southwest of Union Ridge, and $7\frac{1}{2}$ miles northwest of Burlington, Alamance County.	15.3	.76
Oct. 28	....do.....	....do.....	....do.....		1.06
Dec. 1	....do.....	....do.....	....do.....		3.18
May 8	....do.....	....do.....	....do.....		1.75
Aug. 27	....do.....	....do.....	....do.....		No flow
Oct. 17	Jordan Creek.....	Buttermilk Creek..	Lat 36°11', long. 79°24', at highway bridge, 1 mile south of Union Ridge, Alamance County, 2 miles above mouth, and 7 miles north of Burlington, Alamance County.	21.6	.71
28	....do.....	....do.....	....do.....		.83
Dec. 1	....do.....	....do.....	....do.....		5.29
May 8	....do.....	....do.....	....do.....		4.69
July 21	....do.....	....do.....	....do.....		No flow

## MISCELLANEOUS DISCHARGE MEASUREMENTS

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

Cape Fear River basin, N. C.--Continued					
Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq. mi.)	Discharge (cfs)
Aug. 27	Jordan Creek.....	Buttermilk Creek..	Lat 36°11', long. 79°24', at highway bridge, 1 mile south of Union Bridge, Alamance County, 2 miles above mouth, and 7 miles north of Burlington, Alamance County.	21.6	No flow
Apr. 28	Alamance Creek....	Haw River.....	Lat 36°02', long. 79°29', at bridge on State Highway 62, at Alamance, 0.7 mile below Little Alamance Creek, and 4 miles south of Burlington, Alamance County.	144	58.0
Aug. 26	.....do.....	.....do.....	.....do.....		3.00
Apr. 28	Little Alamance Creek.	.....do.....	Lat 36°03', long. 79°38', at highway bridge, 4½ miles west of Whitsett, Guilford County, and 8½ miles east of Greensboro.	36.4	14.0
Aug. 26	.....do.....	.....do.....	.....do.....		1.58
Oct. 29	New Hope Creek....	.....do.....	Lat 35°55'00", long. 78°58'15", at bridge on State Highway 54, 1 mile above Third Creek, 4½ miles east of Chapel Hill, and 5½ miles southwest of Durham, Durham County.	57.1	3.09
Apr. 24	.....do.....	.....do.....	.....do.....		24.6
Aug. 28	.....do.....	.....do.....	.....do.....		1.30
May. 27	Sandy Creek.....	Deep River.....	Lat 35°52', long. 79°39', at highway bridge 0.4 mile southwest of Staley School and 4.2 miles west of Liberty, Randolph County.	8.74	b.033
July 16	.....do.....	.....do.....	.....do.....		b.35
Aug. 12	.....do.....	.....do.....	.....do.....		b.13
Sept. 1	.....do.....	.....do.....	.....do.....		b.09
Aug. 24	.....do.....	.....do.....	.....do.....		b.07
May 27	Unnamed creek.....	Sandy Creek.....	Lat 35°52', long. 79°38', at culvert on county road, 0.4 mile above mouth, 0.7 mile southeast of Staley School, and 3.3 miles west of Liberty, Randolph County.	2.99	b.46
July 16	.....do.....	.....do.....	.....do.....		b.16
Aug. 12	.....do.....	.....do.....	.....do.....		b.08
May 27	.....do.....	.....do.....	Lat 35°52', long. 79°36', at culvert 1.6 miles above Sandy Creek, 1.7 miles north-west of Liberty, Randolph County, and 1.8 miles west of Liberty Grove Church.	.90	b.40
July 15	.....do.....	.....do.....	.....do.....		b.22
Aug. 12	.....do.....	.....do.....	.....do.....		b.22
Sept. 1	.....do.....	.....do.....	.....do.....		b.14
Aug. 24	.....do.....	.....do.....	.....do.....		b.12
May 27	.....do.....	.....do.....	Lat 35°52', long. 79°37', at highway bridge 0.2 mile above Sandy Creek, 1.8 miles east of Randolph Church, 2.6 miles west of Liberty, Randolph County.	5.66	b2.46
July 16	.....do.....	.....do.....	.....do.....		b1.29
Aug. 12	.....do.....	.....do.....	.....do.....		b.93
Sept. 1	.....do.....	.....do.....	.....do.....		b.41
Aug. 24	.....do.....	.....do.....	.....do.....		b.15
Apr. 24	Sandy Creek.....	Deep River.....	Lat 35°51', long. 79°38', at bridge on State Highway 49, ½ mile east of Melancton and 3½ miles west of Liberty, Randolph County.	23.3	17.7
July 16	.....do.....	.....do.....	.....do.....		3.95
Aug. 12	.....do.....	.....do.....	.....do.....		2.64
Aug. 14	.....do.....	.....do.....	.....do.....		2.26
Sept. 1	.....do.....	.....do.....	.....do.....		.47
Aug. 24	.....do.....	.....do.....	.....do.....		.24
Apr. 24	Richland Creek....	.....do.....	Lat 35°38', long. 79°43', at bridge on State Highway 13, 3½ miles above Bachelors Creek and 8 miles southeast of Asheboro, Randolph County.	33.9	22.3
Aug. 13	.....do.....	.....do.....	.....do.....		2.42
Oct. 28	McLendons Creek...	.....do.....	Lat 35°23', long. 79°27', at bridge on State Highway 27, 3 miles northwest of Carthage, Moore County, and 3½ miles below Juniper Creek.	43.1	10.0
Apr. 29	.....do.....	.....do.....	.....do.....		24.7
Aug. 27	.....do.....	.....do.....	.....do.....		.22
May 27	Rocky River.....	.....do.....	Lat 35°49', long. 79°33', at bridge on U. S. Highway 421, 1.2 miles northwest of Kivetts Church, 2.4 miles south of Liberty, Randolph County.	4.68	b.89
July 16	.....do.....	.....do.....	.....do.....		b.27
Aug. 12	.....do.....	.....do.....	.....do.....		b.17
Sept. 1	.....do.....	.....do.....	.....do.....		b.06
Aug. 24	.....do.....	.....do.....	.....do.....		b.019

b Discharge measurement furnished by N. C. Department of Conservation and Development.

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## Cape Fear River basin, N. C.--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Apr. 24	Bear Creek.....	Rocky River.....	Lat 35°38', long. 79°18', at highway bridge, 3 miles northeast of Goldston, Chatham County, 4½ miles below Atlantic & Yadkin Ry., and 6½ miles above mouth.	43.2	7.3
Aug. 27	....do.....	....do.....	....do.....		.49
Sept. 24	....do.....	....do.....	....do.....		.009
Oct. 28	Upper Little River	Cape Fear River...	Lat 35°21' long. 78°51', at bridge on State Highway 210, 3 miles southwest of Lillington, Harnett County, and about 9 miles above mouth.	180	29.9
Apr. 29	....do.....	....do.....	....do.....		82.1
Aug. 31	....do.....	....do.....	....do.....		1.44
Sept. 26	....do.....	....do.....	....do.....		1.31
Oct. 30	Crane Creek.....	Little River.....	Lat 35°17' long. 79°16', at bridge on U. S. Highway 1, 1½ miles below Herds Creek and 2 miles northeast of Vass, Moore County.	32.4	3.58
Apr. 30	....do.....	....do.....	....do.....		16.2
Aug. 31	....do.....	....do.....	....do.....		No flow
Oct. 28	Rockfish Creek...	Cape Fear River...	Lat 35°00', long. 79°13', at highway bridge, 1 mile below Nicholsons Creek, and 1 mile north of Raeford, Hoke County.	90.7	64.3
Apr. 29	....do.....	....do.....	....do.....		87.0
Aug. 31	....do.....	....do.....	....do.....		41.0
Sept. 26	....do.....	....do.....	....do.....		51.3
Oct. 29	Turnbull Creek...	....do.....	Lat 34°42', long. 78°54', at highway bridge, 1½ miles above Jones Lake outlet, 4½ miles northeast of Elizabethtown, Bladen County, and 6 miles from mouth.	64.9	3.52
May 31	....do.....	....do.....	....do.....		2.67
Aug. 26	....do.....	....do.....	....do.....		.46
Oct. 29	Livingston Creek..	....do.....	Lat 34°19', long. 78°14', at bridge on U. S. Highways 74 and 76, 1½ miles southwest of Belco and 1½ miles west of Acme, Columbus County.	104	25.1
May 31	....do.....	....do.....	....do.....		.49
June 8	....do.....	....do.....	....do.....		1.13
Oct. 29	Hood Creek.....	....do.....	Lat 34°17', long. 78°08', at bridge on U. S. Highways 74 and 76, 1 mile southeast of Maco, and 4½ miles northwest of Leland, Brunswick County.	22.9	6.79
May 30	....do.....	....do.....	....do.....		.05
June 8	....do.....	....do.....	....do.....		.11
Oct. 30	Six Runs.....	Black River.....	Lat 34°59', long. 78°14', at bridge on State Highway 24, 1/8 mile above Atlantic Coastline Ry., 1 mile below Turkey Creek and 5 miles east of Clinton, Sampson County.	110	3.27
Apr. 21	....do.....	....do.....	....do.....		39.0
Aug. 26	....do.....	....do.....	....do.....		.28
Mar. 5	Limestone Creek...	Northeast Cape Fear River.	Lat 34°55'40", long. 77°48'20", at bridge on State Highway 24, 1.5 miles west of Beulahville, Duplin County.	49.7	167

## Lockwoods Folly basin, N. C.

Oct. 29	Pinch Gut Creek...	Lockwoods Folly...	Lat 34°02'50", long. 78°10'45", at bridge on U. S. Highway 17, 1½ miles above mouth, and 2 miles southwest of Bolivia, Brunswick County.	20.3	3.70
May 30	....do.....	....do.....	....do.....		.95
June 8	....do.....	....do.....	....do.....		1.20

## Pee Dee River basin

Nov. 7	Elk Creek.....	Yadkin River.....	Lat 36°04'20", long. 81°24'15", at bridge on State Highway 268, at Elkville, Wilkes County, N. C., 0.4 mile above mouth.	50	18.4
Apr. 10	....do.....	....do.....	....do.....		77.4
July 16	....do.....	....do.....	....do.....		25.6
Nov. 3	Middle Fork Reddies River.	Reddies River.....	Lat 36°15'50", long. 81°17'55", at highway bridge, 1 mile east of Wilbar, Wilkes County, N. C., and 2¼ miles above mouth.	13.9	10.6
Apr. 9	....do.....	....do.....	....do.....		38.3
July 20	....do.....	....do.....	....do.....		14.4

## MISCELLANEOUS DISCHARGE MEASUREMENTS

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

Fee Dee River basin--Continued					
Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Sept. 3	Middle Fork Reddies River.	Reddies River.....	Lat 36°15'50", long. 81°17'55", at highway bridge, 1 mile east of Wilbar, Wilkes County, N. C., and 2½ miles above mouth.	13.9	10.7
Oct. 1	Mulberry Creek....	Yadkin River.....	Lat 36°12', long. 81°07', at bridge on State Highway 268, 1.1 miles above mouth and 1½ miles east of city limits of North Wilkesboro, Wilkes County, N. C.	43.0	27.6
Nov. 14	....do.....	....do.....	....do.....		28.8
Aug. 17	....do.....	....do.....	....do.....		28.0
Nov. 4	Roaring River.....	....do.....	Lat 36°15'00", long. 81°01'30", at highway bridge, ¾ mile northwest of Roaring River, Wilkes County, N. C., and 4 miles above mouth.	122	65.6
Apr. 15	....do.....	....do.....	....do.....		184
July 20	....do.....	....do.....	....do.....		76.0
Sept. 3	....do.....	....do.....	....do.....		44.7
Oct. 1	....do.....	....do.....	Lat 36°15', long. 81°01', 0.4 mile above State Highway 268 at Roaring River, Wilkes County, N. C., and 0.6 mile above mouth.	136	69.4
22	Yadkin River.....	Atlantic Ocean....	Lat 36°14'40", long. 80°50'40", at Elkin, Surry County, N. C., 0.2 mile above U. S. Highway 21 and 0.3 mile below Elkin River.	854	449
Nov. 4	Mitchell River....	Yadkin River.....	Lat 36°26'10", long. 80°52'00", at highway bridge, 1½ miles below North Fork, 3 miles north of Mt. Park, Surry County, N. C.	32.8	20.6
Apr. 15	....do.....	....do.....	....do.....		67.4
July 28	....do.....	....do.....	....do.....		23.0
Aug. 17	....do.....	....do.....	....do.....		19.8
Nov. 21	....do.....	....do.....	Lat 36°19'00", long. 80°48'40", at bridge on Guyer Ford, 2 miles below Grass Creek, and 3½ miles east of State Road, Surry County, N. C.	80.4	245
Aug. 17	....do.....	....do.....	....do.....		43.4
Oct. 1	Yadkin River.....	Atlantic Ocean....	Lat 36°16'40", long. 80°33'10", at highway bridge, at Siloam, Surry County, N. C., 75 ft above Hagan Creek and 1.2 miles above Ararat River.	1,230	649
Nov. 25	....do.....	....do.....	....do.....		1,090
Oct. 22	Ararat River.....	Yadkin River.....	Lat 36°30'00", long. 80°35'40", at East Pine Street Bridge on State Highway 103 at Mt. Airy, Surry County, N. C., 2.3 miles upstream from Lovells Creek.	66.6	38.7
Apr. 8	....do.....	....do.....	....do.....		103
Sept. 3	....do.....	....do.....	....do.....		18.8
Oct. 2	Lovells Creek.....	Ararat River.....	Lat 36°29'50", long. 80°37'10", at West Pine Street Bridge on State Highway 89 at Mt. Airy, Surry County, N. C., 2.0 miles above mouth.	27.4	22.2
Nov. 4	Stewarts Creek....	....do.....	Lat 36°27'45", long. 80°37'30", at bridge on U. S. Highway 601, 2 miles above mouth and 3 miles southwest of Mt. Airy, Surry County, N. C.	89.2	49.8
Jan. 6	....do.....	....do.....	....do.....		81.5
Apr. 10	....do.....	....do.....	....do.....		145
July 28	....do.....	....do.....	....do.....		55.4
Aug. 17	....do.....	....do.....	....do.....		35.5
Oct. 2	Ararat River.....	Yadkin River.....	Lat 36°29'00", long. 80°35'40", 1,000 ft below Pilot Mountain Dam 1, 1 mile above Rutledge Creek, and 2 miles south of city limits of Mt. Airy, Surry County, N. C.	203	122
Aug. 16	....do.....	....do.....	....do.....		129
Oct. 2	Toms Creek.....	Ararat River.....	Lat 36°23'50", long. 80°29'20", at bridge on U. S. Highway 52, 1.4 miles northwest of Pilot Mountain, Surry County, N. C.	29.9	13.2
Aug. 16	....do.....	....do.....	....do.....		7.58
Oct. 2	....do.....	....do.....	Lat 36°23'10", long. 80°31'50", at highway bridge, 2.1 miles southeast of Ararat, Surry County, N. C., and 3½ miles west of Pilot Mountain.	37.8	16.4
22	....do.....	....do.....	....do.....		16.6
Nov. 21	Ararat River.....	Yadkin River.....	Lat 36°18'10", long. 80°31'40", at highway bridge at Harlan Ford, 2.2 miles northeast of Siloam, Surry County, N. C., and 2.2 miles above mouth.	309	1,700

## MISCELLANEOUS DISCHARGE MEASUREMENTS

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Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## Pee Dee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Oct. 3	Deep Creek.....	Yadkin River.....	Lat 36°06'20", long. 80°34'40", at highway bridge, $\frac{1}{2}$ mile south of Shacktown, 1.0 mile above Harman Creek, and 4.8 miles southeast of Yadkinville, Yadkin County, N. C.	65.9	25.0
Sept. 2	....do.....	....do.....	....do.....		15.0
Aug. 15	....do.....	....do.....	Lat 36°06'35", long. 80°32'24", at highway bridge 0.5 mile below North Deep Creek, 2.3 miles east of Shacktown, and 6.3 miles east of Yadkinville, Yadkin County, N. C.	122	23.2
Oct. 3	Yadkin River.....	Atlantic Ocean....	Lat 36°05'50", long. 80°30'20", at highway bridge, 500 ft below Deep Creek, and 1.0 mile northeast of Huntsville, Yadkin County, N. C.	1,860	914
Dec. 17	Muddy Creek.....	Yadkin River.....	Lat 36°01'28", long. 80°21'16", at bridge on U. S. Highway 158, $\frac{1}{2}$ miles east of Clemmons, Forsyth County, N. C., and 2 miles above Salem Creek.	111	45.9
Jan. 3	....do.....	....do.....	....do.....		101
Apr. 16	....do.....	....do.....	....do.....		91.6
July 14	....do.....	....do.....	....do.....		36.2
Oct. 3	....do.....	....do.....	Lat 35°56'26", long. 80°21'51", at highway bridge, 1.3 miles above mouth, and 3.0 miles east of Arcadia, Davidson County, N. C.	258	138
23	....do.....	....do.....	....do.....		80.2
Mar. 20	Fifth Creek.....	South Yadkin River	Lat 35°51', long. 80°44' at highway bridge, 0.8 mile west of U. S. Highway 64 and Cooleyspring and 12 miles northeast of Statesville, Iredell County, N. C.	27.0	24.7
Apr. 16	....do.....	....do.....	....do.....		24.4
July 14	....do.....	....do.....	....do.....		9.21
Aug. 15	Bear Creek.....	....do.....	Lat 35°53'20", long. 80°35'09", at highway bridge, 1.2 miles west of Mocksville, Davie County, N. C.	21.2	1.90
15	....do.....	....do.....	Lat 35°52', long. 80°35', at highway bridge, $\frac{1}{2}$ miles southwest of Mocksville, Davie County, N. C., and 4.5 miles above mouth.	23.3	1.85
Apr. 8	Third Creek.....	....do.....	Lat 35°47'40", long. 80°33'50", at bridge on State Highway 801, 1 mile south of Coolee-mee, Davie County, N. C., and 2.9 miles above mouth.	184	145
Jan. 31*	South Yadkin River	Yadkin River.....	Lat 35°46'35", long. 80°30'24", at bridge on U. S. Highway 801, 1.4 miles below Third Creek and $\frac{3}{4}$ miles southeast of Coolee-mee, Davie County, N. C., and 4 miles north of Franklin.	763	737
Nov. 10	Second Creek.....	South Yadkin River	Lat 35°43'00", long. 80°35'45", at bridge on U. S. Highway 70, 1.3 miles below confluence of Withrow and Carrell Creeks, 2.7 miles east of Barber, Rowan County, N. C.	119	38.2
Apr. 15	....do.....	....do.....	....do.....		85.1
July 14	....do.....	....do.....	....do.....		25.3
Nov. 10	Grants Creek.....	Yadkin River.....	Lat 35°40'00", long. 80°30'30", at bridge on State Highway 150, 2 miles west of Salisbury, Rowan County, N. C.	38.8	9.53
Apr. 15	....do.....	....do.....	....do.....		30.6
July 14	....do.....	....do.....	....do.....		6.10
Oct. 21	Swearing Creek....	....do.....	Lat 35°50'14", long. 80°17'28", at highway bridge, 0.7 mile above Indian Grove Creek, 1.3 miles west of Lexington, Davidson County, N. C.	11.5	2.06
Nov. 20	....do.....	....do.....	....do.....		12.8
10	....do.....	....do.....	Lat 35°45'19", long. 80°18'22", at highway bridge, 0.6 mile east of Linwood, Davidson County, N. C., and 2 miles above mouth.	34.9	8.59
Apr. 15	....do.....	....do.....	....do.....		26.2
July 14	....do.....	....do.....	....do.....		7.04
Oct. 23	Abbotts Creek....	....do.....	Lat 36°03'53", long. 80°05'09", at highway bridge, 2.8 miles northeast of Union Cross, and $\frac{3}{4}$ miles south of Kenersville, Forsyth County, N. C.	4.94	1.86

\* Erroneously published in WSP 1233 as Jan. 31, 1952.

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

Pee Dee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Nov. 20	Abbotts Creek.....	Yadkin River.....	Lat 36°03'53", long. 80°05'09", at highway bridge, 2.8 miles northeast of Union Cross, and 3½ miles south of Kennersville, Forsyth County, N. C.	4.94	5.62
Jan. 29	....do.....	....do.....	Lat 35°57'21", long. 80°07'32", at bridge on State Highway 109, 4.2 miles south of Wallburg, Davidson County, N. C.	33.3	46.6
Dec. 17	....do.....	....do.....	Lat 35°54'05", long. 80°11'20", just above Thomasville water supply intake, 400 ft below Brushy Fork Creek and 5½ miles west of Thomasville, Davidson County, N. C.	65.9	32.5
Apr. 15	....do.....	....do.....	....do.....		68.7
July 14	....do.....	....do.....	....do.....		15.6
Aug. 15	....do.....	....do.....	Lat 35°51'21", long. 80°11'46", 0.2 mile above U. S. Highway 70, 1.5 miles above Rich Fork, and 2½ miles north of Holly Grove, Davidson County, N. C.	76.9	12.6
Oct. 23	Rich Fork.....	Abbotts Creek.....	Lat 35°57', long. 80°06', at highway bridge, 4½ miles east of Wallburg, Davidson County, N. C., and 6 miles north of Thomasville.	9.83	1.03
Nov. 20	....do.....	....do.....	....do.....		11.6
Oct. 21	....do.....	....do.....	Lat 35°56'14", long. 80°06'58", at bridge on State Highway 109, 4.2 miles northwest of Thomasville, Davidson County, N. C.	25.5	3.41
Nov. 20	....do.....	....do.....	....do.....		49.0
Oct. 21	....do.....	....do.....	Lat 35°51'15", long. 80°10'57", at bridge on former U. S. Highways 29, 70, 1½ miles above Hamby Creek, 2½ miles north of Holly Grove and 4½ miles northeast of Lexington, Davidson County, N. C.	47.3	3.32
Nov. 20	....do.....	....do.....	....do.....		19.4
Aug. 15	....do.....	....do.....	....do.....		3.95
Apr. 24	Uwharrie River....	Yadkin River.....	Lat 35°47'30", long. 80°00'00", at highway bridge, 2 miles above Little Uwharrie River and 12 miles northwest of Ashboro, Randolph County, N. C.	31.9	16.5
Aug. 13	....do.....	....do.....	....do.....		7.94
Oct. 7	Dye Branch.....	Rocky River.....	Lat 35°32'20", long. 80°48'00", at highway bridge, 1 mile above mouth and 3¼ miles south of Mooresville, Iredell County, N. C.	2.89	a3.45
28	....do.....	....do.....	....do.....		a3.74
Nov. 21	....do.....	....do.....	....do.....		4.28
Oct. 28	Rocky River.....	Pee Dee River.....	Lat 35°28'28", long. 80°46'47", at highway bridge, 1.3 miles above West Branch, and 4½ miles southeast of Davidson, Mecklenburg County, N. C.	13.4	a5.25
28	....do.....	....do.....	Lat 35°27'18", long. 80°45'43", at highway bridge, 0.7 mile below West Branch, and 4½ miles east of Caldwell, Mecklenburg County, N. C.	39.8	10.5
Jan. 9	....do.....	....do.....	....do.....		147
Apr. 9	....do.....	....do.....	....do.....		28.0
Oct. 7	North Prong Clarke Creek.	Clarke Creek.....	Lat 35°25'13", long. 80°47'54", at highway bridge, 1.0 mile above South Prong Clarke Creek and 2½ miles east of Huntersville, Mecklenburg County, N. C.	3.61	a.78
28	....do.....	....do.....	....do.....		a.77
Nov. 21	....do.....	....do.....	....do.....		1.11
Oct. 1	Clarke Creek.....	Rocky River.....	Lat 35°24'50", long. 80°45'08", at highway bridge, 3.0 miles above mouth and 8½ miles northwest of Harrisburg, Cabarrus County, N. C.	21.8	4.32
Sept. 2	....do.....	....do.....	....do.....		1.25
Jan. 9	Rocky River.....	Pee Dee River.....	Lat 35°24'29", long. 80°44'51", at site of old Cox Mill, 1.6 miles above Clarke Creek and 7½ miles northwest of Harrisburg, Cabarrus County, N. C.	47.7	264

a Discharge measurement furnished by N. C. Stream Sanitation Committee.

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## Pee Dee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Oct. 1	Clarke Creek.....	Rocky River.....	Lat 35°23'12", long. 80°43'46" at highway bridge, 0.2 mile above mouth, $\frac{1}{2}$ mile northeast of Pleasant Grove, and $6\frac{1}{2}$ miles northwest of Harrisburg, Cabarrus County, N. C.	28.1	a4.88
7	....do.....	....do.....	....do.....		a3.48
28	....do.....	....do.....	....do.....		a5.55
7	Rocky River.....	Pee Dee River.....	Lat 35°22'59", long. 80°43'15" at highway bridge 0.6 mile below Clarke Creek at Pleasant Grove, $5\frac{1}{2}$ miles northwest of Harrisburg, Cabarrus County, N. C.	77.4	a16.6
1	....do.....	....do.....	Lat 35°21'33", long. 80°40'31" at bridge on U. S. Highway 29, $2\frac{1}{2}$ miles west of Roberta Mills, and $6\frac{1}{2}$ miles southwest of Concord, Cabarrus County, N. C.	87.9	a19.1
28	....do.....	....do.....	....do.....		a17.8
Jan. 15	....do.....	....do.....	....do.....		59.0
Sept. 2	....do.....	....do.....	....do.....		8.87
Jan. 24	Coddle Creek.....	Rocky River.....	Lat 35°26'12", long. 80°41'51" at bridge on U. S. Highway 73, 0.7 mile below Mill Creek and 7.0 miles north northwest of Concord, Cabarrus County, N. C.	46.5	477
Oct. 29	....do.....	....do.....	Lat 35°24'29", long. 80°40'29" at highway bridge, just below Afton Run, $2\frac{1}{2}$ miles below State Highway 73, and 5 miles west of Concord, Cabarrus County, N. C.	56.6	12.9
Sept. 1	....do.....	....do.....	....do.....		8.05
Oct. 29	Rocky River.....	Pee Dee River.....	Lat 35°19'27", long. 81°33'40" at highway bridge, 2.5 miles above Coldwater Creek, $2\frac{1}{2}$ miles northeast of town of Rocky River, and $5\frac{1}{2}$ miles southeast of city limits of Concord, Cabarrus County, N. C.	276	a44.1
Jan. 16	....do.....	....do.....	....do.....		150
Oct. 3	Threemile Branch..	Cold Water Creek..	Lat 35°24'37", long. 80°34'04" at bridge on State Highway 73 at Concord, Cabarrus County, N. C., and 1.4 miles above mouth.	5.69	a1.06
28	....do.....	....do.....	....do.....		a.82
30	Coldwater Creek...	Rocky River.....	Lat 35°20'41", long. 80°31'44" 500 ft above bridge on U. S. Highway 601, 0.9 mile above Irish Buffalo Creek, and $5\frac{1}{2}$ miles southeast of Concord, Cabarrus County, N. C.	63.1	a4.17
Nov. 20	....do.....	....do.....	....do.....		12.5
Sept. 2	....do.....	....do.....	....do.....		2.99
Oct. 1	Irish Buffalo Creek.	Coldwater Creek..	Lat 35°29'15", long. 80°39'12" at bridge on Pine Street extended, 2 miles southwest of Kannapolis, Cabarrus County, N. C.	15.7	a18.3
29	....do.....	....do.....	....do.....		a11.5
Nov. 21	....do.....	....do.....	....do.....		14.1
Oct. 29	....do.....	....do.....	Lat 35°26'40", long. 80°38'27" at highway bridge, 0.9 mile above State Highway 73, and 4 miles south of Kannapolis, Cabarrus County, N. C.	23.9	a13.5
Nov. 21	....do.....	....do.....	....do.....		16.6
Oct. 1	....do.....	....do.....	Lat 35°24'02", long. 80°35'34" at bridge on U. S. Highway 29, 0.9 mile southwest of city hall in Concord, Cabarrus County, N. C., and 6.5 miles above mouth.	34.5	a16.7
29	....do.....	....do.....	Lat 35°20'50", long. 80°32'52" at highway bridge, 1 mile south of Faggarts Crossroads, 2 miles upstream from mouth, and $4\frac{1}{2}$ miles southeast of Concord, Cabarrus County, N. C.	44.7	a22.1
Jan. 9	....do.....	....do.....	....do.....		158
16	Rocky River.....	Pee Dee River.....	Lat 35°19'26", long. 81°30'59" at bridge on State Highway 151, 1.0 mile above Hamby Branch, $1\frac{1}{2}$ miles southeast of Faggarts Crossroad, and 7 miles southeast of Concord, Cabarrus County, N. C.	390	218

a Discharge measurement furnished by N. C. Stream Sanitation Committee.

## MISCELLANEOUS DISCHARGE MEASUREMENTS

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## Pee Dee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Oct. 29	Rocky River.....	Pee Dee River.....	Lat 35°19', long. 80°29', at highway bridge, $\frac{1}{2}$ mile above Dutch Buffalo Creek and 9 miles southeast of Concord, Cabarrus County, N. C.	490	a68.5
Sept. 2	....do.....	....do.....	....do.....		45.6
Oct. 30	Dutch Buffalo Creek.	Rocky River.....	Lat 35°23'20", long. 80°26'20", at highway bridge, 0.8 mile above Adams Creek and 1 mile southwest of Mt. Pleasant, Cabarrus County, N. C.	64.2	a5.97
Jan. 8	....do.....	....do.....	....do.....		32.5
Oct. 24	....do.....	....do.....	....do.....		580
Oct. 30	....do.....	....do.....	Lat 35°10'10", long. 81°27'50", at bridge on State Highway 200, $\frac{1}{2}$ mile west of Georgeville, Cabarrus County, N. C. and 0.5 mile above mouth.	97.4	a7.60
Nov. 20	....do.....	....do.....	....do.....		29.6
Oct. 30	Rocky River.....	Pee Dee River.....	Lat 35°15'20", long. 80°28'20", at bridge on State Highway 27, $\frac{1}{2}$ miles below Dutch Buffalo Creek and 2 $\frac{1}{2}$ miles northeast of Midland, Cabarrus County, N. C.	532	81.5
Jan. 15	....do.....	....do.....	....do.....		298
Oct. 30	....do.....	....do.....	Lat 35°10'20", long. 80°28'20", at highway bridge, 1.5 miles above Crooked Creek, 5 $\frac{1}{2}$ miles southwest of Stanfield, and 7 miles south of Locust, Stanly County, N. C.	624	87.4
Apr. 9	....do.....	....do.....	....do.....		318
Oct. 8	....do.....	....do.....	Lat 35°11'40", long. 80°16'50", at highway bridge, at Union, Anson and Stanly County line, 1.9 miles above Long Creek, and 3 $\frac{1}{2}$ miles southeast of Oakboro, Stanly County, N. C.	757	a96.4
2	Long Creek.....	Rocky River.....	Lat 35°16'50", long. 80°14'50", at highway bridge, 2.0 miles above Little Bear Creek, 2 $\frac{1}{2}$ miles south of Hills, Stanly County, N. C., and 5 $\frac{1}{2}$ miles south of Albemarle.	72.4	a19.9
Jan. 8	....do.....	....do.....	....do.....		56.8
Oct. 30	....do.....	....do.....	Lat 35°16'00", long. 80°15'20", at highway bridge, 0.8 mile above Little Bear Creek, 1 mile east of St. Martin, and 6 $\frac{1}{2}$ miles southwest of Albemarle, Stanly County, N. C.	73.9	a8.64
28	Big Bear Creek....	Long Creek.....	Lat 35°16'45", long. 80°18'10", at bridge on State Highway 27, 2 $\frac{1}{2}$ miles above Stony Run, and 8 miles southwest of Albemarle, Stanly County, N. C.	71.6	3.77
Dec. 9	....do.....	....do.....	....do.....		12.5
Jan. 21	....do.....	....do.....	....do.....		83.9
Mar. 9	....do.....	....do.....	....do.....		56.7
Apr. 22	....do.....	....do.....	....do.....		21.6
June 1	....do.....	....do.....	....do.....		2.14
Nov. 20	Bearskin Creek....	Richardson Creek..	Lat 34°59'50", long. 80°11'50", at bridge on State Highway 200, at the north city limits of Monroe, Union County, N. C. and 1.0 mile above mouth.	21.0	5.89
Oct. 3	Richardson Creek..	Rocky River.....	Lat 35°02'00", long. 80°28'20", at highway bridge 0.5 mile above Stuarts Creek and 3 $\frac{1}{2}$ miles north of Wingate, Union County, N. C.	98.2	a3.14
30	....do.....	....do.....	....do.....		2.20
Sept. 1	....do.....	....do.....	....do.....		1.47
Oct. 3	Niggerhead Creek..	Richardson Creek..	Lat 35°02'40", long. 80°22'10", at highway bridge, 1 $\frac{1}{2}$ miles west of Hamilton Crossroads, 4 miles north of Marshville, Union County, N. C., and 4.4 miles above mouth.	15.4	a.31
30	....do.....	....do.....	....do.....		.12
Jan. 14	....do.....	....do.....	....do.....		5.68
Oct. 28	Little River.....	Pee Dee River.....	Lat 35°23'10", long. 79°49'59", at highway bridge, $\frac{1}{2}$ mile below West Fork Little River, and 3 miles west of Star, Montgomery County, N. C.	97.6	26.4
Apr. 29	....do.....	....do.....	....do.....		76.6
Aug. 27	....do.....	....do.....	....do.....		7.18
Sept. 25	....do.....	....do.....	....do.....		3.22

a Discharge measurement furnished by N. C. Stream Sanitation Committee.

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## Pee Dee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Jan. 13	Little River.....	Pee Dee River.....	Lat 35°20'30", long. 79°51'05", at highway bridge, 1½ miles below Densons Creek and 2½ miles southeast of Troy, Montgomery County, N. C.	156	211
Oct. 28	....do.....	....do.....	Lat 35°19'16", long. 79°51'50", at highway bridge at Calepsie, ½ mile above Big Creek and 3 miles southeast of Troy, Montgomery County, N. C.	168	45.4
Nov. 19	....do.....	....do.....	....do.....		51.0
Oct. 29	....do.....	....do.....	Lat 35°13'30", long. 79°54'50", at highway bridge 0.6 mile above Thickety Creek and 2½ miles northwest of Pekin, Montgomery County, N. C.	220	5.98
Jan. 13	....do.....	....do.....	....do.....		258
Oct. 30	Cartledge Creek...	....do.....	Lat 34°59'35", long. 79°51'30", at highway bridge, ½ mile from mouth, 1½ miles southeast of Blewett Falls Dam, and 5½ miles northwest of Rockingham, Richmond County, N. C.	31.4	4.03
Apr. 29	....do.....	....do.....	....do.....		14.3
Aug. 28	....do.....	....do.....	....do.....		1.58
Oct. 30	Falling Creek.....	....do.....	Lat 34°57'40", long. 79°42'15", at highway bridge, 1 mile south of U. S. Highway 1, and 4 miles east of Rockingham, Richmond County, N. C.	6.0	4.22
Apr. 30	....do.....	....do.....	....do.....		5.40
Aug. 28	....do.....	....do.....	....do.....		2.67
Oct. 2	....do.....	....do.....	Lat 34°55'00", long. 79°50'00", at site 500 ft below highway bridge, 500 ft below dam at Cordova, Richmond County, N. C., and 1.2 miles above mouth.	142	65.9
29	....do.....	....do.....	....do.....		53.0
Jan. 14	....do.....	....do.....	....do.....		202
Oct. 29	South Fork Jones Creek.	Jones Creek.....	Lat 34°53'15", long. 80°01'30", at bridge on U. S. Highway 52, 1½ miles above mouth, 2 miles north of Morven, Anson County, N. C.	33.7	8.07
Aug. 28	....do.....	....do.....	....do.....		.58
Oct. 2	North Fork Jones Creek.	....do.....	Lat 34°54'40", long. 80°02'20", at bridge on U. S. Highway 52, 1.4 miles above Brush Fork and 3½ miles northwest of Morven, Anson County, N. C.	17.4	8.99
29	....do.....	....do.....	....do.....		16.0
2	Brush Fork.....	North Fork Jones Creek.	Lat 34°55'20", long. 80°01'10", at highway bridge, 0.5 mile above mouth and 4½ miles southeast of Wadesboro, Anson County, N. C.	13.3	2.30
29	....do.....	....do.....	....do.....		1.71
2	Marks Creek.....	Pee Dee River.....	Lat 34°49'40", long. 79°48'00", at highway bridge, 2½ miles northwest of Osbourne, Richmond County, and 7 miles southwest of Hamlet, Richmond County, N. C.	29.2	24.1
29	....do.....	....do.....	....do.....		20.9
Nov. 20	....do.....	....do.....	....do.....		69.5
Sept. 1	....do.....	....do.....	....do.....		8.57
Oct. 2	....do.....	....do.....	Lat 34°49'00", long. 79°53'40", at site 500 ft below bridge on U. S. Highway 1 and 7½ miles west of Osbourne, Richmond County, N. C.	41.1	32.5
Nov. 19	....do.....	....do.....	....do.....		46.3
Jan. 21	....do.....	....do.....	....do.....		51.1
June 23	Thompson Creek.....	....do.....	At county highway bridge ½ mile below Seaboard Air Line R. R. bridge and 3.5 miles southwest of Cheraw, S. C.	266	30.1
Apr. 24	Cedar Creek.....	....do.....	At bridge on U. S. Highway 52, at Society Hill, S. C.	55	63.7
June 23	....do.....	....do.....	....do.....		40.8
Apr. 24	Pee Dee River.....	Atlantic Ocean....	At bridge on U. S. Highway 15, near Society Hill, S. C.	7,980	5,420
June 12	....do.....	....do.....	....do.....		6,040
Mar. 18	Little Lynches River.	Lynches River.....	At bridge on U. S. Highway 1, near Bethune, S. C.	163	253
June 23	....do.....	....do.....	....do.....		96.0
24	Lynches River.....	Pee Dee River.....	At bridge on U. S. Highway 1, near Bethune, S. C., and 2½ miles downstream from Cedar Creek.	380	156

## MISCELLANEOUS DISCHARGE MEASUREMENTS

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## Pee Dee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
June 8	Unnamed tributary.	Bridge Creek.....	Lat 34°42'20", long. 79°26'40", at culvert on U. S. Highway 501, 0.2 mile northwest of Johns, Scotland County, N. C., and $\frac{1}{2}$ mile above mouth.	6.72	103
Mar. 10	Jordan Creek.....	Shoeheel Creek....	Lat 34°48'36", long. 79°24'30", at highway bridge, 1 mile below U. S. Highway 15A, 2 $\frac{1}{2}$ miles above mouth, and 4 miles northeast of Laurinburg, Scotland County, N. C.	50	63.8
Oct. 31	Shoeheel Creek....	Little Pee Dee River.	Lat 34°45", long. 79°23', at bridge on U. S. Highway 74, $\frac{1}{2}$ mile below Seaboard Air Line Ry., 2 $\frac{1}{2}$ miles below Jordans Creek, and $\frac{1}{2}$ miles southeast of Laurinburg, Scotland County, N. C.	84.5	36.6
Apr. 30	....do.....	....do.....	....do.....		55.4
Aug. 28	....do.....	....do.....	....do.....		23.4
Sept. 28	....do.....	....do.....	....do.....		24.5
Oct. 30	Browning Creek....	....do.....	Lat 35°11'38", long. 79°58'50", at bridge on State Highway 73, 2 miles southwest of Jackson Springs, Moore County, N. C.	30.5	30.0
Apr. 29	....do.....	....do.....	....do.....		42.6
Aug. 31	....do.....	....do.....	....do.....		8.89
Sept. 25	....do.....	....do.....	....do.....		12.3
Jan. 24	Unnamed creek....	....do.....	Lat 35°00'50", long. 79°28'55", at culvert on U. S. Highway 15, 0.8 mile south of Browning Creek bridge at Hoke, Scotland County line and 8 miles south of Aberdeen, Moore County, N. C.	6	15.0
May 2	....do.....	....do.....	....do.....		46.7
Oct. 31	Lumber River.....	....do.....	Lat 34°42' long. 79°15' at highway bridge, $\frac{1}{2}$ mile above U. S. Highway 74, 3 $\frac{1}{2}$ miles west of Pembroke, Robeson County, N. C.	421	250
Apr. 30	....do.....	....do.....	....do.....		378
Aug. 31	....do.....	....do.....	....do.....		144
May 2	Raft Swamp.....	Lumber River.....	Lat 34°52'00", long. 79°10'30", at bridge on county road, 0.9 mile above Hoke-Robeson County line and 3.5 miles northeast of Red Swamp, Robeson County, N. C.	39.8	246
Oct. 28	....do.....	....do.....	Lat 34°43', long. 79°05', at bridge on State Highway 211, 1 $\frac{1}{2}$ miles above Richland Swamp, and 6 miles northwest of Lumberton, Robeson County, N. C.	107	12.1
Apr. 30	....do.....	....do.....	....do.....		31.7
Aug. 31	....do.....	....do.....	....do.....		2.05
Oct. 30	Big Swamp.....	....do.....	Lat 34°43', long. 78°50', at highway bridge, $\frac{1}{2}$ mile south of Robeson-Bladen County line, 2 $\frac{1}{2}$ miles above Goodman Swamp, and 2 $\frac{1}{2}$ miles southwest of Tarheel, Bladen County, N. C.	225	40.9
May 31	....do.....	....do.....	....do.....		28.5
Aug. 27	....do.....	....do.....	....do.....		4.06

## Santee River basin

July 15	Catawba River....	Wateres River.....	Lat 35°37'30", long. 82°10'30", at bridge on U. S. Highway 64, $\frac{1}{2}$ mile south of Old Fort, McDowell County, N. C., $\frac{1}{2}$ mile above Mill Creek.	14.0	5.75
Sept. 14	....do.....	....do.....	....do.....		2.66
Oct. 13	Curtis Creek.....	Catawba River.....	Lat 35°38'38", long. 82°09'30", at bridge on U. S. Highway 70, 2 miles northeast of Old Fort, McDowell County, N. C.	17.3	8.99
Nov. 4	....do.....	....do.....	....do.....		7.07
Dec. 4	....do.....	....do.....	....do.....		12.1
Feb. 3	....do.....	....do.....	....do.....		25.1
May 4	....do.....	....do.....	....do.....		19.8
June 2	....do.....	....do.....	....do.....		10.6
Aug. 17	....do.....	....do.....	....do.....		6.21
Sept. 14	....do.....	....do.....	....do.....		4.22
Nov. 4	North Fork Catawba River.	....do.....	Lat 35°50'00", long. 82°00'05", at highway bridge, at Pitts, McDowell County, N. C., and 3 $\frac{1}{2}$ miles northeast of Woodlawn.	33.0	8.19
Feb. 3	....do.....	....do.....	....do.....		36.8
May 4	....do.....	....do.....	....do.....		42.5
June 2	....do.....	....do.....	....do.....		12.0
Sept. 14	....do.....	....do.....	....do.....		4.40

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## Santee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Nov. 14	Muddy Creek.....	Catawba River....	Lat 35°42'50", long. 81°51'35", at bridge on U. S. Highways 64, 70, $\frac{1}{2}$ mile south of Bridge-water, Burke County, N. C.	97.3	64.0
Apr. 10	....do.....	....do.....	....do.....		121
July 20	....do.....	....do.....	....do.....		63.9
Nov. 14	Silver Creek.....	....do.....	Lat 35°41'55", long. 81°45'45", at highway bridge just above Clear Creek, 2 $\frac{1}{2}$ miles south-east of Glen Alpine, Burke County, N. C.	25.9	15.1
Apr. 10	....do.....	....do.....	....do.....		27.5
July 20	....do.....	....do.....	....do.....		15.1
Nov. 7	Johns River.....	....do.....	Lat 35°55'25", long. 81°40'40", at highway bridge, at Collettsville, Caldwell County, N. C., $\frac{1}{2}$ mile above Mulberry Creek.	69	19.9
Apr. 10	....do.....	....do.....	....do.....		104
July 16	....do.....	....do.....	....do.....		32.7
Nov. 7	Lower Creek.....	....do.....	Lat 35°54'55", long. 81°31'35", at bridge on U. S. Highway 321, at Lenoir, Caldwell County, N. C., 0.2 mile above Cane Creek.	13.8	5.36
Apr. 10	....do.....	....do.....	....do.....		12.3
July 16	....do.....	....do.....	....do.....		4.89
Sept. 18	....do.....	....do.....	....do.....		3.99
Oct. 7	Lower Little River	....do.....	Lat 35°57', long. 81°14', at highway bridge, 2.2 miles northeast of All Healing Springs, 4 miles northwest of Taylorsville, Alexander County, N. C.	31.2	10.0
30	....do.....	....do.....	....do.....		11.3
Nov. 24	....do.....	....do.....	....do.....		15.7
Dec. 23	....do.....	....do.....	....do.....		14.4
Oct. 7	....do.....	....do.....	Lat 35°55'10", long. 81°12'55", at bridge on State Highway 90, 2 miles west of Taylorsville, Alexander County, N. C.	61.4	24.6
30	....do.....	....do.....	....do.....		26.1
Nov. 24	....do.....	....do.....	....do.....		34.7
Dec. 23	....do.....	....do.....	....do.....		31.2
Jan. 22	....do.....	....do.....	....do.....		106
Mar. 19	....do.....	....do.....	....do.....		89.0
Dec. 18	Lyle Creek.....	....do.....	Lat 35°42'40", long. 81°04'50", at bridge on State Highway 10, at Catawba, Catawba County, N. C., and 1 mile above mouth.	70.7	35.6
Feb. 22	....do.....	....do.....	....do.....		226
May 27	....do.....	....do.....	....do.....		46.7
Aug. 22	....do.....	....do.....	....do.....		29.6
Oct. 2	Davidson Creek....	....do.....	Lat 35°29'22", long. 80°56'04", at bridge on State Highway 73, 0.7 mile above mouth and 4 $\frac{1}{2}$ miles west of Cornelius, Mecklenburg County, N. C.	37.6	6.97
Apr. 9	....do.....	....do.....	....do.....		25.3
July 17	....do.....	....do.....	....do.....		6.02
Sept. 3	....do.....	....do.....	....do.....		3.30
Oct. 1	Dutchmans Creek...	....do.....	Lat 35°22'00", long. 81°01'55", at highway bridge, 1.2 miles below Killian and Leepers Creek and 3 miles east of Stanley, Gaston County, N. C.	112	33.1
Apr. 9	....do.....	....do.....	....do.....		84.6
July 17	....do.....	....do.....	....do.....		27.3
Nov. 18	Jacob Fork.....	South Fork Catawba River.	Lat 35°38'25", long. 81°19'25", at highway bridge, 0.7 mile above confluence with Henry Fork and 3 miles west of Startown, Catawba County, N. C.	100	58.4
Apr. 10	....do.....	....do.....	....do.....		130
July 20	....do.....	....do.....	....do.....		51.9
Oct. 20	Clark Creek.....	....do.....	Lat 35°18'50", long. 81°18'05", at bridge on North Grove St. in town of Lincoln, Lincoln County, N. C., $\frac{1}{2}$ mile above mouth.	92.2	36.8
Apr. 10	....do.....	....do.....	....do.....		75.8
July 22	....do.....	....do.....	....do.....		30.7
Sept. 2	....do.....	....do.....	....do.....		24.7
Oct. 22	Long Creek.....	....do.....	Lat 35°18'22", long. 81°14'05", at highway bridge, $\frac{3}{4}$ miles northeast of Bessemer City, 4.0 miles northwest of Gastonia, Gaston County, N. C., and 8 $\frac{1}{4}$ miles above mouth.	31.4	10.9
30	....do.....	....do.....	....do.....		12.2
Nov. 5	....do.....	....do.....	....do.....		12.3

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## Santee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Oct. 22	Long Creek.....	Catawba River.....	Lat 35°18'15", long. 81°13'40", at bridge on State Highway 275, 3 miles northwest of Gastonia, Gaston County, and 3½ miles northeast of Bessemer City, N. C.	33.1	12.2
Dec. 12	....do.....	....do.....	....do.....		18.6
Feb. 13	....do.....	....do.....	....do.....		37.2
Dec. 18	Crowders Creek.....	....do.....	Lat 35°10'09", long. 81°12'44", at bridge on U. S. Highway 321, ½ mile below South Crowders Creek and 6 miles south of Gastonia, Gaston County, N. C.	70.1	31.7
Apr. 9	....do.....	....do.....	....do.....		66.6
July 22	....do.....	....do.....	....do.....		29.2
Oct. 2	McAlpine Creek....	Sugar Creek.....	Lat 35°03'35", long. 80°52'35", at bridge on U. S. Highway 521, 1 mile below McMullen Creek and 2 miles south of Pineville, Mecklenburg County, N. C.	91.7	11.6
Apr. 10	....do.....	....do.....	....do.....		34.1
July 17	....do.....	....do.....	....do.....		2.22
Sept. 3	....do.....	....do.....	....do.....		1.05
Oct. 2	Twelvemile Creek..	Catawba River.....	Lat 34°57'05", long. 80°45'20", at bridge on State Highway 16, 0.1 mile below West Fork Twelvemile Creek and 2½ miles north of Waxhaw, Union County, N. C.	72.4	3.30
Apr. 10	....do.....	....do.....	....do.....		24.4
July 17	....do.....	....do.....	....do.....		.95
Sept. 3	....do.....	....do.....	....do.....		1.22
Oct. 27	Twentyfivemile Creek,	Wateree River.....	At bridge on State Highway near Lugoff, S. C., 1.6 miles above mouth.	123	23.9
Nov. 28	....do.....	....do.....	....do.....		34.6
Dec. 30	....do.....	....do.....	....do.....		39.9
Jan. 28	....do.....	....do.....	....do.....		79.7
Sept. 24	....do.....	....do.....	....do.....		7.28
Apr. 22	Wateree River.....	Santee River.....	At bridge on U. S. Highway 76, near Eastover, S. C.	5,540	5,480
Oct. 14	Cove Creek.....	Broad River.....	Lat 35°25'30", long. 82°06'35", at bridge on U. S. Highways 64 and 70, 1 mile above mouth and 5 miles east of Lake Lure, Rutherford County, N. C.	77.0	45.0
Nov. 5	....do.....	....do.....	....do.....		43.9
Dec. 5	....do.....	....do.....	....do.....		60.6
Jan. 6	....do.....	....do.....	....do.....		58.6
Feb. 4	....do.....	....do.....	....do.....		70.1
Mar. 9	....do.....	....do.....	....do.....		93.8
Apr. 16	....do.....	....do.....	....do.....		92.2
May 5	....do.....	....do.....	....do.....		196
June 3	....do.....	....do.....	....do.....		50.1
July 14	....do.....	....do.....	....do.....		41.0
Aug. 16	....do.....	....do.....	....do.....		46.0
Sept. 15	....do.....	....do.....	....do.....		36.2
Nov. 5	Mountain Creek....	....do.....	Lat 35°20'45", long. 82°00'40", at bridge on State Highway 108, 3 miles southwest of Rutherfordton, Rutherford County, N. C.	40.6	28.6
Feb. 4	....do.....	....do.....	....do.....		27.0
June 3	....do.....	....do.....	....do.....		44.7
Sept. 15	....do.....	....do.....	....do.....		26.6
Dec. 17	Second Broad River	....do.....	Lat 35°21', long. 81°51', at highway bridge, 1 mile southwest of Bostic, Rutherford County, N. C., and 2 miles north of Forest City.	170	112
July 14	....do.....	....do.....	....do.....		60.4
Sept. 2	....do.....	....do.....	....do.....		40.4
Dec. 17	First Broad River.	....do.....	Lat 35°29', long. 81°40', at highway bridge, 2 miles above Duncan and Ward Creeks, and 3½ miles southwest of Casar, Cleveland County, N. C.	63.2	35.5
May 5	....do.....	....do.....	....do.....		58.2
July 14	....do.....	....do.....	....do.....		21.2
Dec. 17	Buffalo Creek.....	....do.....	Lat 35°20'55", long. 81°28'45", at highway bridge, 2½ miles southwest of Waco, Cleveland County, N. C., and 5 miles northeast of Shelby.	43.5	24.0
Apr. 10	....do.....	....do.....	....do.....		43.2
July 22	....do.....	....do.....	....do.....		17.3
Oct. 15	....do.....	....do.....	At bridge on State Highway 5, near Blacksburg, S. C.	176	91.1
Nov. 17	....do.....	....do.....	....do.....		94.2
Dec. 15	....do.....	....do.....	....do.....		97.8
Jan. 15	....do.....	....do.....	....do.....		186
Feb. 17	....do.....	....do.....	....do.....		312

## MISCELLANEOUS DISCHARGE MEASUREMENTS

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Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## Santee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Mar. 13	Buffalo Creek.....	Broad River.....	At bridge on State Highway 5, near Blacksburg, S. C.	176	255
Apr. 16	....do.....	....do.....	....do.....		171
May 15	....do.....	....do.....	....do.....		125
June 12	....do.....	....do.....	....do.....		206
July 16	....do.....	....do.....	....do.....		70.2
Aug. 14	....do.....	....do.....	....do.....		43.3
Sept. 16	....do.....	....do.....	....do.....		50.8
Oct. 15	Bullock Creek.....	....do.....	At bridge on State Highway 211, near Sharon, S. C.	84	12.5
Apr. 16	....do.....	....do.....	....do.....		49.8
June 12	....do.....	....do.....	....do.....		40.5
Nov. 5	North Pacolet River.	Pacolet River.....	Lat 35°12'55" long. 82°10'50" at highway bridge, 1 mile below Horse Creek and 3 miles east of Tryon, Polk County, N. C.	45.6	33.6
Feb. 4	....do.....	....do.....	....do.....		52.8
June 3	....do.....	....do.....	....do.....		42.2
Sept. 15	....do.....	....do.....	....do.....		20.5
11	Sandy River.....	Broad River.....	At bridge on State Highway 72, near Leeds, S. C.	104	12.2
Apr. 9	Tyger River.....	....do.....	At bridge on State Highway 72, near Delta, S. C., 0.3 mile below Padgetts Creek.	759	940
Feb. 13	Warrior Creek.....	Enoree River.....	At bridge on U. S. Highway 221, at Lanford, S. C., 4½ miles above mouth.	23.0	36.6
June 2	....do.....	....do.....	....do.....		9.75
Nov. 7	Turkey Creek.....	Saluda River.....	At bridge on U. S. Highway 25, near Ware Shoals, S. C., 1.5 miles above Lake Greenwood.	-	11.1
July 20	Reedy River.....	....do.....	At bridge on State road near Travelers Rest, S. C., 8.3 miles above Long Branch.	-	8.65
21	....do.....	....do.....	....do.....		6.88
24	....do.....	....do.....	....do.....		1.70
Sept. 9	....do.....	....do.....	....do.....		9.86
Nov. 4	Unnamed creek.....	Reedy River.....	At bridge on Bleachery Road at Greenville, S. C., 0.35 mile above mouth which is 1.5 miles above Long Branch.	-	3.77
July 20	....do.....	....do.....	....do.....		5.60
21	....do.....	....do.....	....do.....		6.43
24	....do.....	....do.....	....do.....		5.55
Sept. 9	....do.....	....do.....	....do.....		5.77
July 20	Reedy River.....	Saluda River.....	At Hudson Street bridge at Greenville, S. C., 0.6 mile below Long Branch.	-	22.3
21	....do.....	....do.....	....do.....		27.2
24	....do.....	....do.....	....do.....		15.6
Sept. 9	....do.....	....do.....	....do.....		10.0
Apr. 16	North Rabon Creek.	Rabon Creek.....	At bridge on State road near Laurens, S. C., 0.9 mile below Mountain Creek.	-	35.9
27	....do.....	....do.....	....do.....		27.0
Oct. 15	Stockman Branch...	Wilson Creek.....	At culvert on State Highway near Greenwood, S. C., 0.8 mile above mouth.	-	1.41
Nov. 7	....do.....	....do.....	....do.....		1.43
Oct. 15	Rocky Creek.....	Coronooca Creek...	At bridge on U. S. Highway 178, near Greenwood, S. C., 2.7 miles above Turner Branch.	-	.59
Nov. 7	....do.....	....do.....	....do.....		.23
Apr. 22	....do.....	....do.....	....do.....		.55
Oct. 15	Wilson Creek.....	Saluda River.....	At bridge on State highway 246, near Ninety Six, S. C., 6.2 miles above Ninety Six Creek.	-	8.10
Nov. 14	....do.....	....do.....	....do.....		8.95
June 3	....do.....	....do.....	At bridge on State Highway 34, near Ninety Six, S. C., and 3½ miles above mouth.	76	12.1
Sept. 18	....do.....	....do.....	....do.....		4.71
Oct. 15	Ninety Six Creek..	Wilson Creek.....	At bridge on State Highway 246, near Ninety Six, S. C., 4 miles above mouth.	-	2.84
Nov. 21	....do.....	....do.....	....do.....		7.58
Apr. 16	Little River.....	Saluda River.....	At bridge on State Highway near Laurens, S. C., 5 miles above Seaboard Air Line R.R. bridge.	-	29.7
27	....do.....	....do.....	....do.....		19.8
May 14	....do.....	....do.....	At bridge on State Highway 34, near Silverstreet, S. C., 1.25 miles above Southern Ry. bridge.	-	118
June 3	....do.....	....do.....	....do.....		51.0
Apr. 16	Bush Creek.....	....do.....	At bridge on State road near Clinton, S. C., 10.4 miles above Southern Ry. bridge.	-	1.28
27	....do.....	....do.....	....do.....		.76
16	Unnamed creek.....	Bush Creek.....	At bridge on State Highway 72, near Clinton, S. C., 4.4 miles above Bush Creek.	-	1.70
27	....do.....	....do.....	....do.....		1.43

## MISCELLANEOUS DISCHARGE MEASUREMENTS

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## Santee River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Apr. 16	Bush River.....	Saluda River.....	At bridge on State Highway 560, near Kinards, S. C., 10.8 miles above Southern Ry. bridge.	-	12.9
27	...do.....	...do.....	...do.....	-	9.17
20	...do.....	...do.....	At bridge on State Highways 19 and 34, near Newberry, S. C., 5.0 miles above Timothy Creek.	-	26.0
May 4	...do.....	...do.....	...do.....	-	215
Apr. 20	Scotts Creek.....	Bush River.....	At bridge on State highway 19, at Newberry, S. C., 1.5 miles above mouth.	-	1.91
May 4	...do.....	...do.....	...do.....	-	9.87
11	Red Bank Creek....	Little Saluda River.	At bridge on State road near Saluda, S. C., 1.6 miles above Mine Creek.	-	8.68
26	...do.....	...do.....	...do.....	-	2.17
11	Flat Rock Branch..	West Creek.....	At bridge on State road near Batesburg, S. C., 0.3 mile above mouth.	-	1.46
25	...do.....	...do.....	...do.....	-	.63
12	Twelvemile Creek..	Saluda River.....	At bridge on State road near Lexington, S. C., 2.8 miles above mouth.	-	53.4
26	...do.....	...do.....	...do.....	-	45.8
June 17	...do.....	...do.....	...do.....	-	9.78
May 13	Red Bank Creek....	Congaree Creek....	At bridge on State Highway 6, at Red Bank, S. C., 0.3 mile above Crystal Lake.	-	20.0
26	...do.....	...do.....	...do.....	-	13.7
Apr. 2	Congaree Creek....	Congaree River...	At bridge on U. S. Highway 21, near Cayce, S. C.	136	142
June 17	...do.....	...do.....	...do.....	-	147
Sept. 24	...do.....	...do.....	...do.....	-	129
May 13	Six Mile Creek....	Congaree Creek....	At bridge on U. S. Highway 21, near Cayce, S. C., 0.5 mile above mouth.	-	9.04
26	...do.....	...do.....	...do.....	-	2.69
25	Congaree Creek....	Congaree River...	At bridge on State road near Cayce, S. C., 1.9 miles above mouth.	-	171
Aug. 20	...do.....	...do.....	...do.....	-	179
Sept. 15	Gills Creek.....	...do.....	At bridge on State Highway 12 at Columbia, S. C., 1.7 miles above South Fork Creek.	-	4.82
16	...do.....	...do.....	...do.....	-	4.37
18	...do.....	...do.....	...do.....	-	3.66
15	...do.....	...do.....	At bridge on State Highway 760, at Columbia, S. C., 0.5 mile below South Fork Creek.	-	16.6
16	...do.....	...do.....	...do.....	-	12.0
18	...do.....	...do.....	...do.....	-	13.6
Apr. 2	...do.....	...do.....	At bridge on State Highway 48, near Columbia, S. C.	65.7	30.8
June 17	...do.....	...do.....	...do.....	-	44.3
Nov. 18	Little River.....	Santee River.....	Just below Lake Marion Dam near Pineville, S. C.	-	25.8
Feb. 27	...do.....	...do.....	...do.....	-	35.4
May 21	...do.....	...do.....	...do.....	-	33.9
Aug. 14	...do.....	...do.....	...do.....	-	28.4

## Ashley River basin, S. C.

June 15	Sawmill Branch....	Dorchester Creek..	At bridge on State Highway 165, at Summerville, 4.6 miles above Ashley River.	-	0.36
July 21	...do.....	...do.....	...do.....	-	.49

## Edisto River basin, S. C.

Mar. 25	First Branch.....	South Fork Edisto River.	At culvert on State road near Johnston, 0.4 mile above mouth.	-	1.64
Apr. 20	...do.....	...do.....	...do.....	-	.55
Nov. 5	Shaw Creek.....	...do.....	At bridge on State Highway 191, at Eureka.	38	20.3
Dec. 17	...do.....	...do.....	...do.....	-	23.7
Nov. 5	...do.....	...do.....	At bridge on State Highway 215, near Montmorenci.	103	55.6
Dec. 17	...do.....	...do.....	...do.....	-	72.4
May 12	Unnamed creek....	Duncan Creek.....	At bridge on U. S. Highway 178, at Batesburg, 1.4 miles above mouth.	-	2.09
25	...do.....	...do.....	...do.....	-	.25
Apr. 15	North Fork Edisto River.	Edisto River.....	At bridge on U. S. Highway 321, near North.	396	634
June 15	Polk Swamp.....	Indian Fields Swamp.	At bridge on State road near St. George, 3.0 miles above Lee Branch.	-	0
July 21	...do.....	...do.....	...do.....	-	0
June 15	Little Walnut Branch.	Walnut Creek.....	At bridge on State road near Harleyville, 5.0 miles above mouth.	-	0
July 21	...do.....	...do.....	...do.....	-	0

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

Ashepoo River basin, S. C.

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
June 15	Ireland Creek.....	Great Swamp.....	At bridge on Forest Hill Road at Walterboro, 1.7 miles above mouth.	-	48.8
July 21	....do.....	....do.....	....do.....	-	1.52
June 16	Unnamed branch....	....do.....	At culvert on State road near Walterboro, 1.3 miles above mouth.	-	.10
July 21	....do.....	....do.....	....do.....	-	.17

Combahee River basin, S. C.

Nov. 6	Salkehatchie River	Combahee River....	At bridge on State Highway 64, near Barnwell, 3½ miles above Turkey Creek.	64.6	29.8
Dec. 18	....do.....	....do.....	....do.....	-	33.8

Coosawhatchie River basin, S. C.

June 16	Zion Branch.....	Coosawhatchie River.	At bridge on State road at Allendale, 0.5 mile above mouth.	-	0
16	Sanders Creek.....	....do.....	At bridge on State Highway 28, at Hampton, 2.2 miles above House Fork.	-	2.41
July 1	....do.....	....do.....	....do.....	-	1.83

Savannah River basin

Oct. 31	Toccoa Creek.....	Tugaloo River.....	At crossing of State Highway 17, at Toccoa, Ga.	-	8.27
31	Wards Creek.....	....do.....	At county road, 0.1 mile south of State Highway 13, 5 miles east of Toccoa, Ga.	-	5.05
31	Walton Creek.....	Wards Creek.....	At county road, 1 mile above mouth, and 6 miles northeast of Toccoa, Ga.	-	3.12
31	Eastonelle Creek.	Tugaloo River.....	At crossing of State Highway 17, 1 mile north of Eastonelle, Ga.	-	7.97
30	Tugaloo River.....	Savannah River....	At crossing of State Highway 59, 6 miles east of Lavonia, Ga.	-	712
31	Shoal Creek.....	Tugaloo River.....	Lat 34°23', long. 83°04', at county road, 1.5 miles northeast of Bowersville, Ga.	-	1.50
Jan. 20	Cane Creek.....	Little River.....	At bridge on county road, 3 miles southeast of West Union, S. C., and 2.6 miles below Little Cane Creek.	35	42.3
Feb. 5	....do.....	....do.....	....do.....	-	40.6
5	Little River.....	Keowee River.....	At Newry, S. C., 2 miles above mouth.	-	207
18	....do.....	....do.....	....do.....	-	336
6	Twelvemile Creek..	Seneca River.....	At bridge on State Highway 183, near Pickens, S. C., 1½ miles above Wolf Creek.	-	62.1
18	....do.....	....do.....	....do.....	-	108
6	Wolf Creek.....	Twelvemile Creek..	At bridge on State road near Pickens, S. C., 4½ miles above mouth.	-	14.8
18	....do.....	....do.....	....do.....	-	29.7
6	Rice Creek.....	....do.....	At bridge on State Highway 8, near Easley, S. C., 6 miles above mouth.	-	5.12
18	....do.....	....do.....	....do.....	-	8.70
6	Golden Creek.....	....do.....	At bridge on State road near Liberty, S. C., 2½ miles above mouth.	-	12.3
Mar. 4	....do.....	....do.....	....do.....	-	51.0
Feb. 6	Twelvemile Creek..	Seneca River.....	At bridge on State road near Central, S. C., ½ mile below Camp Creek.	-	152
18	....do.....	....do.....	....do.....	-	269
Nov. 5	Seneca River.....	Savannah River....	At bridge on U. S. Highway 123, at Clemson, S. C.	-	462
June 3	....do.....	....do.....	....do.....	-	756
Jan. 21	Martin Creek.....	Seneca River.....	At bridge on county road near Seneca, S. C., 6 miles above mouth.	-	2.38
Feb. 5	....do.....	....do.....	....do.....	-	1.60
Jan. 20	Coneross Creek....	....do.....	At bridge on county road near Walhalla, S. C., 7 miles upstream from Richland Creek.	-	3.68
Feb. 5	....do.....	....do.....	....do.....	20.6	3.29
13	Eighteenmile Creek.	....do.....	At bridge on U. S. Highway 178, at Liberty, S. C., 19.5 miles above mouth.	-	23.1
Mar. 3	....do.....	....do.....	....do.....	-	24.7
Jan. 21	Three and Twenty Creek.	Deep Creek.....	At bridge on county road at LaFrance, S. C., 0.3 mile above Millwee Creek.	-	107
Mar. 3	....do.....	....do.....	....do.....	-	143
Jan. 6	Dye Branch.....	Whitner Creek.....	At Whitner St., Anderson, S. C., 700 ft above mouth.	-	.39
20	....do.....	....do.....	....do.....	-	.42

## MISCELLANEOUS DISCHARGE MEASUREMENTS

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

Savannah River basin--Continued					
Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Oct. 30	Wrights Branch....	Pooles Creek.....	At county road, $\frac{1}{2}$ mile north of State Highway 77, at Lavonia, Ga.	-	1.05
30	Lightwood Log Creek.	Savannah River....	At crossing of State Highway 77, at Hartwell, Ga.	-	4.42
30	Flat Shoals Creek.	Lightwood Log Creek.	Lat 34°22', long. 82°57', at county road, 2 miles northwest of Hartwell, Ga.	-	5.34
Jan. 6	Whitner Creek.....	Big Generostee Creek.	0.3 mile above mouth near Anderson, S. C.	-	7.48
20	...do.....	...do.....	...do.....	-	8.44
Mar. 2	...do.....	...do.....	...do.....	-	17.5
4	Canoe Creek.....	Little Generostee Creek.	At bridge on county road near Iva, S. C., 2.2 miles above mouth.	-	9.92
24	...do.....	...do.....	...do.....	-	4.94
Apr. 21	...do.....	...do.....	...do.....	-	1.43
Oct. 31	Coldwater Creek...	Savannah River....	Lat 34°15', long. 82°56', at county road, 3 miles southwest of Nuberg, Ga.	-	4.97
31	Boyd's Creek.....	Little Coldwater Creek.	At crossing of State Highway 172, 4 miles south of Hartwell, Ga.	-	1.31
30	Coldwater Creek...	Savannah River....	At crossing of State Highway 82, 3.5 miles north of Ruckersville, Ga.	-	22.6
Jan. 7	Rocky River.....	...do.....	At bridge on U. S. Highway 76, at Anderson, S. C., 0.7 mile below Cox Creek.	-	32.0
21	...do.....	...do.....	...do.....	-	137
Mar. 2	...do.....	...do.....	...do.....	-	104
Jan. 6	Cemetery Creek....	Rocky River.....	At Anderson, S. C., 300 ft upstream from Belton St., and 1.1 miles above Piedmont and Northern Ry.	-	.13
21	...do.....	...do.....	...do.....	-	.26
Mar. 3	East Rock Creek...	Broadway Creek....	At bridge on State road near Belton, S. C., 1 mile above mouth.	-	8.88
24	...do.....	...do.....	...do.....	-	8.06
Apr. 21	...do.....	...do.....	...do.....	-	2.79
Mar. 4	Rocky River.....	Savannah River....	At bridge on State Highway 165 near Gluck, S. C., 1.5 miles below Broadway Creek.	-	277
24	...do.....	...do.....	...do.....	-	431
Apr. 21	...do.....	...do.....	...do.....	-	81.3
Feb. 12	Beaver Creek.....	Rocky River.....	At Gluck, S. C., 3.7 miles above Nesbit Creek.	-	2.29
Mar. 2	...do.....	...do.....	...do.....	-	2.93
Feb. 12	Betsey Branch.....	Beaver Creek.....	At culvert on county road near Anderson, S. C., 0.8 mile above mouth.	-	1.07
Mar. 2	...do.....	...do.....	...do.....	-	1.44
Feb. 12	Beaver Creek.....	Rocky River.....	At bridge on county road near Gluck, S. C., and 1.6 miles above Nesbit Creek.	-	6.45
Mar. 2	...do.....	...do.....	...do.....	-	8.79
3	Hen Coop Creek....	...do.....	At bridge on county road near Belton, S. C., 3.5 miles above Cherokee Creek.	-	2.36
24	...do.....	...do.....	...do.....	-	3.41
Apr. 21	...do.....	...do.....	...do.....	-	.98
Mar. 3	Cherokee Creek....	Hen Coop Creek....	At bridge on county road near Belton, S. C., 0.4 mile above mouth.	-	15.0
24	...do.....	...do.....	...do.....	-	20.7
Apr. 21	...do.....	...do.....	...do.....	-	5.44
Mar. 4	East Beards Creek.	Wilson Creek.....	At culvert on county road near Iva, S. C., 2 miles above West Beards Creek.	-	8.69
24	...do.....	...do.....	...do.....	-	3.71
Apr. 21	...do.....	...do.....	...do.....	-	1.29
Oct. 31	Morea Creek.....	South Beaverdam Creek.	At crossing of U. S. Highway 29, 3 miles east of Royston, Ga.	-	2.25
30	Beaverdam Creek...	Savannah River....	Lat 34°06', long. 82°45', at county road at Middleton, Ga.	-	27.5
31	North Fork Broad River.	Broad River.....	At crossing of U. S. Highway 123, 3 miles southwest of Toccoa, Ga.	-	5.02
31	...do.....	...do.....	At crossing of State Route 106, 4 miles west of Eastonellee, Ga.	-	10.1
30	Toms Creek.....	North Fork Broad River.	Lat 34°28', long. 83°13', at county road, 3 miles southwest of Martin, Ga.	-	6.79
30	Bear Creek.....	...do.....	Lat 34°21', long. 83°08', at county road at Canon, Ga.	-	3.09
30	North Fork Broad River.	Broad River.....	At crossing of State Highway 51, 4.5 miles southeast of Carnesville, Ga.	-	62.4

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## Savannah River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Oct. 31	Leatherwood Creek.	Middle Fork Broad River.	Lat 34°30', long. 83°23', at county road, 5 miles south-east of Ayersville, Ga.	-	1.48
30	Middle Fork Broad River.	Broad River.....	At crossing of State Highway 59, 2 miles southwest of Carnesville, Ga.	-	55.5
7	Mountain Creek....	Middle Fork Broad River.	Lat 34°25', long. 83°31', at county road, 1½ miles south of Hollingsworth, Ga.	-	9.93
7	Hudson River.....	Broad River.....	At crossing of State Highway 15, at Homer, Ga.	44.5	34.7
7	Webb Creek.....	Hudson River.....	At crossing of State Highway 51, 1.5 miles northeast of Homer, Ga.	-	6.81
7	Hickory Level Creek.	Grove Creek.....	At crossing of State Highway 98, 3 miles northeast of Maysville, Ga.	-	12.5
30	Nails Creek.....	Hudson River.....	At crossing of State Highway 59, 1.5 miles northeast of Ashland, Ga.	-	9.06
29	Little Bluestone Creek.	Broad River.....	At crossing of State Highway 121, 4 miles northeast of Danielsville, Ga.	-	3.34
30	Broad River.....	Savannah River....	At crossing of State Highway 72, 3 miles northeast of Carlton, Ga.	-	328
30	South Fork Broad River.	Broad River.....	At crossing of State Highway 106, at Ila, Ga.	-	3.08
29	....do.....	....do.....	Lat 34°06', long. 83°12', at county road, 2.5 miles south-east of Davidsville, Ga.	-	15.0
29	....do.....	....do.....	At crossing of State Highway 72, 2 miles west of Comer, Ga.	-	28.8
29	Big Clouds Creek..	South Fork Broad River.	Lat 34°01', long. 83°04', at county road, 3 miles south-west of Carlton, Ga.	-	11.1
29	Fork Creek.....	....do.....	At crossing of State Highway 72, at Carlton, Ga.	-	3.26
30	Little Dove Creek.	Broad River.....	At crossing of State Highway 72, at Ogleby, Ga.	-	2.21
30	Falling Creek.....	....do.....	Lat 34°00', long. 82°49', at county road, 2 miles south-west of Fortson, Ga.	-	4.86
29	Long Creek.....	....do.....	At crossing of U. S. Highway 78, 3.5 miles southeast of Lexington, Ga.	-	8.54
29	Clark Creek.....	Long Creek.....	Lat 33°54', long. 82°49', at county road, 5 miles north-west of Tignall, Ga.	42.6	2.69
29	Chickasaw Creek...	Broad River.....	At crossing of State Highway 17, 4.5 miles north of Tignall, Ga.	5.34	323
Mar. 26	Sawney Creek.....	Little River.....	At bridge on county highway near Calhoun Falls, S. C., 4.5 miles above mouth.	-	.97
Apr. 21	....do.....	....do.....	....do.....	-	.42
Mar. 26	Long Cane Creek...	....do.....	At bridge on State Highway 72, near Abbeville, S. C., 3 miles above McCord Creek.	68.6	77.4
Apr. 21	....do.....	....do.....	....do.....	-	33.0
Mar. 26	Norris Creek.....	Long Cane Creek...	At bridge on county highway near Abbeville, S. C., 0.6 mile above Double Branch.	-	13.6
Apr. 22	....do.....	....do.....	....do.....	-	8.68
Mar. 26	Double Branch.....	Norris Creek.....	At bridge on State road near Abbeville, S. C., 1 mile above mouth.	-	3.86
Apr. 22	....do.....	....do.....	....do.....	-	1.79
Mar. 25	Haw Creek.....	Savannah River....	At bridge on State road near McCormick, S. C., 4.2 miles above mouth.	-	3.34
Apr. 22	....do.....	....do.....	....do.....	-	.95
Oct. 29	Rock Creek.....	Middle Creek.....	At crossing of State Highway 17, 2.5 miles north of Washington, Ga.	6.43	748
29	North Fork Little River.	Little River.....	At crossing of State Highway 22, 7 miles north of Crawfordville, Ga.	65.9	6.88
29	South Fork Little River.	....do.....	At crossing of State Highway 22, 5 miles north of Crawfordville, Ga.	47.5	4.11
29	Kettle Creek.....	....do.....	At crossing of State Highway 44, 6.5 miles southwest of Washington, Ga.	48.2	4.60
28	Harden Creek.....	....do.....	At crossing of State Highway 47, 5.5 miles east of Crawfordville, Ga.	4.49	.478
29	....do.....	....do.....	At crossing of State Highway 47, 4.5 miles north of Sharon, Ga.	24.2	1.71
20	Rocky Creek.....	....do.....	Lat 33°39', long. 82°38', at county road, 1.5 miles south-west of Aonia, Ga.	-	2.01

## MISCELLANEOUS DISCHARGE MEASUREMENTS

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## Savannah River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Oct. 28	Hart Creek.....	Big Creek.....	Lat 33°34', long. 82°36', at county road, 2 miles northwest of Wrightsboro, Ga.	15.5	0.708
28	Mattox Creek.....	Middle Creek.....	At crossing of State Highway 223, 3 miles northwest of Thomson, Ga.	10	.022
31	Kiokee Creek.....	Savannah River....	At crossing of State Highway 47, at Appling, Ga.	43.9	5.23
31	Greenbrier Creek..	Kiokee Creek.....	At crossing of State Highway 47, 2 miles north of Appling, Ga.	33.3	3.96
31	Kiokee Creek.....	Savannah River....	At crossing of State Highway 104, 1.5 miles south of Rosemont, Ga.	106	8.62
31	Little Kiokee Creek.	....do.....	At crossing of State Highway 232, 4 miles east of Appling, Ga.	13.6	.657
31	Uchee Creek.....	....do.....	At crossing of State Highway 104, 4 miles northwest of Evans, Ga.	58.3	1.13
Mar. 25	Hard Labor Creek..	Stevens Creek.....	At bridge on U. S. Highway 378 near McCormick, S. C., 1½ miles above Cuffeytown Creek.	-	80.5
Apr. 22	....do.....	....do.....	....do.....	-	27.1
Mar. 25	Rocky Creek.....	....do.....	At bridge on U. S. Highway 378 near McCormick, S. C., 3.5 miles above mouth.	-	10.4
Apr. 22	....do.....	....do.....	....do.....	-	2.42
Mar. 25	Unnamed branch....	Rocky Creek.....	At bridge on U. S. Highway 378, ½ mile above Rocky Creek.	-	2.60
25	....do.....	....do.....	At culvert on State road near McCormick, S. C., 0.5 mile above mouth.	-	.32
Apr. 22	....do.....	....do.....	....do.....	-	.08
Mar. 25	Beaverdam Creek..	Turkey Creek.....	At bridge on county road near Edgefield, S. C., 2½ miles above Little Beaverdam Creek.	-	17.0
Apr. 20	....do.....	....do.....	....do.....	-	5.95
Oct. 31	Reed Creek.....	....do.....	At crossing of State Highway 104, 1.5 miles southeast of Evans, Ga.	5.81	.944
31	Raes Creek.....	....do.....	At Highland St., 1 mile above State Highway 28 in Augusta, Ga.	16.1	1.99
30	Rocky Creek.....	....do.....	At crossing of U. S. Highway 1, in south Augusta, Ga.	10.5	2.94
Nov. 5	Little Horse Creek	Horse Creek.....	At bridge on county road near Vaulcluse, S. C., 0.8 mile above mouth.	10.5	10.2
Dec. 17	....do.....	....do.....	....do.....	-	10.4
May 6	Wilkinson Creek...	....do.....	At bridge on State Highway 421 at Warrentonville, S. C., 1.5 miles above Horse Creek.	-	19.9
25	....do.....	....do.....	....do.....	-	15.6
Nov. 6	Little Horse Creek	....do.....	At bridge on State road near Clearwater, S. C., 1½ miles above mouth.	41	32.3
Dec. 17	....do.....	....do.....	....do.....	-	33.4
May 11	....do.....	....do.....	At bridge on State Highway 421 at Clearwater, S. C., 1/8 mile above mouth.	-	81.3
25	....do.....	....do.....	....do.....	-	50.4
11	Horse Creek.....	Savannah River....	At bridge on State road near Clearwater, S. C., 2.5 miles above mouth.	-	202
25	....do.....	....do.....	....do.....	-	149
Oct. 30	Butler Creek.....	....do.....	At county road, 1 mile above U. S. Highway 1, 4 miles southwest of Augusta, Ga.	13.2	3.71
30	....do.....	....do.....	At crossing of U. S. Highway 25, 5 miles south of Augusta, Ga.	29.4	12.2
Nov. 6	Holley Creek.....	....do.....	At bridge on State Highway 125 near Kathwood, S. C., 1 mile below Town Creek.	87	65.8
Dec. 18	....do.....	....do.....	....do.....	-	72.0
Nov. 6	Spirit Creek.....	....do.....	At crossing of U. S. Highway 1, 10 miles southwest of Augusta, Ga.	18.0	15.7
Oct. 30	....do.....	....do.....	At crossing of U. S. Highway 25, 3.5 miles northeast of Hephzibah, Ga.	54.0	57.9
30	....do.....	....do.....	At crossing of State Highway 56, 8 miles east of Hephzibah, Ga.	71.1	54.4
30	Little Creek.....	Spirit Creek.....	At crossing of State Highway 56, 8 miles east of Augusta, Ga.	28.3	16.0
29	McBean Creek.....	Savannah River....	At crossing of U. S. Highway 25, 6 miles west of McBean, Ga.	41.4	24.7
30	....do.....	....do.....	At crossing of State Highway 56, at McBean, Ga.	70.0	41.4

Miscellaneous discharge measurements in the South Atlantic slope basins, James River to Savannah River, during water year October 1952 to September 1953--Continued

## Savannah River basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Drainage area (sq mi)	Discharge (cfs)
Oct. 28	Brier Creek.....	Savannah River....	At crossing of State Highway 12, 4 miles east of Warrenton, Ga.	9.4	0.102
27	....do.....	....do.....	At crossing of State Highway 17, 7 miles south of Thomson, Ga.	55	3.31
27	Sweetwater Creek..	Brier Creek.....	At crossing of U. S. Highway 78, 3.5 miles southeast of Thomson, Ga.	7.46	1.28
27	Little Brier Creek	....do.....	At crossing of State Highway 17, 9 miles south of Thomson, Ga.	24	5.34
Mar. 4	....do.....	....do.....	....do.....		294
5	....do.....	....do.....	....do.....		320
May 8	....do.....	....do.....	....do.....		580
Nov. 6	Brier Creek.....	Savannah River....	At crossing of U. S. Highway 1, 5 miles northeast of Keysville, Ga.	171	27.8
6	Sandy Run Creek...	Brier Creek.....	At crossing of U. S. Highway 1, 3 miles west of Blythe, Ga.	33.2	21.4
6	Brier Creek.....	Savannah River....	At crossing of State Highway 88, at Keysville, Ga.	297	119
Oct. 29	Brushy Creek.....	Brier Creek.....	At crossing of State Highway 16, 2 miles north of Stapleton, Ga.	1.38	0
29	....do.....	....do.....	At crossing of U. S. Highway 1, at Wrens, Ga.	9.40	2.92
29	....do.....	....do.....	Lat 33°11', long. 82°15', at county road, 5 miles south of Keysville, Ga.	40.7	16.4
Nov. 7	Brier Creek.....	Savannah River....	At crossing of State Highway 56, 4 miles northeast of Waynesboro, Ga.	473	149
6	McIntosh Creek....	Brier Creek.....	At crossing of State Highway 24, at Waynesboro, Ga.	6.80	1.28

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	Drainage area (sq mi)	Discharge (cfs)
June 13	Marlowe Creek.....	Hyc0 River.....	Lat 36°23'30", long. 78°59'00", at culvert on State Highway 49, 1.0 mile east of Roxboro, Person County, N. C.	1.99	1,460



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