

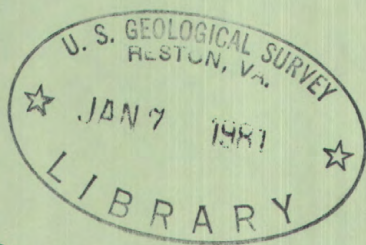
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Water Resources Data for Virginia

- Part 1. Surface Water Records
- Part 2. Water Quality Records
- Part 3. Ground Water Records



**UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**

Prepared in cooperation with the State of Virginia
and with other agencies

CALENDAR FOR WATER YEAR 1972

OCTOBER 1971

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AUGUST 1972

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SEPTEMBER 1972

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1972

Water Resources Data for Virginia

Part 1. Surface Water Records

Part 2. Water Quality Records

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**UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**

**Prepared in cooperation with the State of Virginia
and with other agencies**

Prepared in cooperation with

Virginia Department of Conservation and Economic Development

Virginia State Water Control Board

Virginia Department of Highways

City of Alexandria

County of Chesterfield

County of Fairfax

City of Newport News

City of Norfolk

City of Roanoke

City of Staunton

Corps of Engineers, U.S. Army

Tennessee Valley Authority

Forest Service, U.S. Department of Agriculture

Water Quality Office, Environmental Protection Agency

Copies of this report may be obtained from
District Chief, Water Resources Division
U.S. Geological Survey
Room 304, 200 West Grace Street
Richmond, Virginia 23220

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WATER RESOURCES DATA FOR VIRGINIA, 1972

- PART 1. SURFACE-WATER RECORDS
- PART 2. WATER-QUALITY RECORDS
- PART 3. GROUND-WATER RECORDS

INTRODUCTION

Water resources data for the 1972 water year for Virginia, including records of streamflow or reservoir storage at gaging stations, partial-record stations, and miscellaneous sites, records of water-quality data on the chemical and physical characteristics of surface water, and records of ground-water levels at index wells, are given in this report. In Part 1, records are included for 183 gaging stations of which 173 are streamflow discharge stations and 10 are reservoir or lake stations; also are included records for 165 crest-stage partial-record stations and 45 miscellaneous sites. Locations of gaging stations are shown in Figure 2. Locations of partial-record stations are shown in Figure 3. In Part 2, there are included data on the quality of surface water (chemical, temperature, and sediment) collected from designated sampling sites at predetermined intervals such as once daily, weekly, or monthly. Records are given for 24 sampling stations. Locations of water-quality stations are shown in Figure 2. In Part 3, records are included for 33 wells. At 21 of these, the records are obtained from a water-level recorder that gives a continuous graph of the fluctuations while at 12, the records are from direct readings made on the days indicated. Locations of index wells are shown in Figure 2. A few pertinent stations (not included above) in bordering States are also included in this report. The records were collected and computed by the Water Resources Division of the U.S. Geological Survey under the direction of J. W. Gambrell, district chief. These data represent that portion of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Virginia.

Beginning with the 1961 water year, streamflow records and related data have been released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records beginning with the 1964 water year have been similarly released either in separate reports or in conjunction with streamflow records. For some States, records of ground-water levels are similarly released. These reports are for limited distribution and are designed primarily for rapid release of data shortly after the end of the water year.

Records of discharge and stage of streams, and contents and stage of lakes and reservoirs are published in a series of U.S. Geological Survey water-supply papers entitled, "Surface Water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and since then are in a 5-year series. Records of chemical-quality, water temperatures, and suspended sediment have been published since 1941 in an annual series of water-supply papers entitled, "Quality of Surface Waters of the United States." Records of ground-water levels are published in a series of water-supply papers entitled, "Ground-Water Levels in the United States." Through 1955 these were in an annual series but are now in a 5-year series. More information is given under the heading "Publications" on pages 10 and 13.

COOPERATION

The U.S. Geological Survey and organizations of the State of Virginia have had cooperative agreements for the systematic collection of streamflow records since 1925, for water-quality records from 1944 to 1956 and since 1967, and for records of ground-water levels from 1931 to 1956 and since 1967. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

Virginia Department of Conservation and Economic Development, M. M. Sutherland, director.

Virginia State Water Control Board, E. T. Jensen, executive secretary.

Virginia Department of Highways, D. B. Fugate, commissioner.

City of Alexandria, Wayne F. Anderson, city manager.

County of Chesterfield, M. W. Burnett, executive secretary.

County of Fairfax, Robert W. Wilson, acting county executive.

City of Newport News, J. M. Pharr, director, Department of Public Utilities.

City of Norfolk, S. M. Hodges, utilities administrator.

City of Roanoke, J. F. Hirst, city manager.

City of Staunton, E. D. Martin, city manager.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army, in collecting records for 65 gaging stations and 2 water-quality stations published in this report.

Under a cooperative agreement covering the Tennessee River basin, the Tennessee Valley Authority furnished financial assistance for the operation of 9 gaging stations, the records for which are published herein.

Assistance was also furnished by the Forest Service of the United States Department of Agriculture and by the Water Quality Office, Environmental Protection Agency.

The Appalachian Power Company and the City of Radford aided in collecting records.

Organizations that supplied data are acknowledged in station descriptions.

RECORDS COLLECTED BY THE STATE OF VIRGINIA

In addition to data collected by the U.S. Geological Survey, there are included herein records for 78 gaging stations and 13 index wells operated by agencies of the State of Virginia.

Prior to July 1, 1972, these records were computed and furnished by the Virginia Department of Conservation and Economic Development, M. M. Sutherland, director, through the Division of Water Resources, J. M. Alexander, commissioner. Subsequent to that date, the records were computed and furnished by the Virginia State Water Control Board, E. T. Jensen, executive secretary, through the Bureau of Water Resources, J. M. Alexander, director.

The records are published as furnished and are acknowledged individually.

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined as follows:

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons.

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, approximately 1.9835 acre-feet, or about 646,000 gallons, and represents a runoff of approximately 0.0372 inch from 1 square mile.

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

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, an artificial structure, or a uniform cross section over a long reach of the channel.

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.

Cubic foot per second (cfs) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or approximately 448.8 gallons per minute.

Discharge is the volume of water (or more broadly, total fluids), that passes a given point within a given period of time.

Mean discharge is the arithmetic average of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time. If this discharge is reported instead of the daily mean, the heading of the discharge column in the tables is "Discharge (cfs)."

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

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the general term "stage," although gage height is more appropriate when used with a reading on a gage. The elevation of the water surface above mean sea level may be determined by adding the gage height to the datum of the gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of gage height or discharge are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is computed.

Hardness of water is a physical-chemical characteristic attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate (CaCO_3).

Land surface datum (lsd) is a precise datum plane that is approximately at land surface at each ground-water observation well.

Measuring point (MP) is a permanent point from which the distance to the water surface in a well is measured to obtain the water level.

Micrograms per liter ($\mu\text{g/l}$, UG/L) is a unit expressing the concentration of chemical constituents in solution as the weight (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (mg/l , MG/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the weight of solute per unit volume of water. Milligrams or micrograms per liter may be converted to milliequivalents (one thousandth of a gram-equivalent weight of a constituent) per liter by multiplying by the factors in table 1. Concentration of suspended sediment also is expressed in mg/l , and is based on the weight of sediment per liter of water-sediment mixture. In the range of concentration of suspended sediment reported herein, concentration expressed in parts per million is essentially equivalent to that in mg/l .

TABLE 1.--Factors for conversion of chemical constituents in milligrams or micrograms per liter to milliequivalents per liter based on 1961 atomic weights

<u>Ion</u>	<u>Multi- ply by</u>	<u>Ion</u>	<u>Multi- ply by</u>
Bicarbonate (HCO_3^{-1})..	0.01639	Nitrate (NO_3^{-1}).....	0.01613
Calcium (Ca^{+2}).....	.04990	Phosphate (PO_4^{-3})....	.03159
Chloride (Cl^{-1}).....	.02821	Potassium (K^{+1}).....	.02557
Fluoride (F^{-1}).....	.05264	Sodium (Na^{+1}).....	.04350
Iron (Fe^{+3})*.....	.05372	Sulfate (SO_4^{-2}).....	.02082
Magnesium (Mg^{+2}).....	.08226		

* Constituent reported in micrograms per liter; multiply by factor and divide results by 1,000.

Partial-record station is a particular site where limited streamflow data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined by sieve and sedimentation methods.

Particle-size classification, used in this report, agrees closely with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology (Lane and others, 1947, p. 937). The classification is as follows:

Clay:	Smaller than 0.004 mm.
Silt:	Between 0.004 and 0.062 mm.
Sand:	Between 0.062 and 2.0 mm.
Gravel:	Between 2.0 and 64.0 mm.

The particle-size distributions given in this report are not necessarily representative of the particle sizes of sediment in transport in the natural stream. Most of the organic matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis of the silt and clay.

Runoff in inches (IN.) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment discharge is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight, or by volume, that is discharged in a given time. It is computed by multiplying discharge times mg/l times 0.0027.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/l).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current and is expressed in micromhos per centimeter at 25°C. Because the specific conductance is related to the number and specific chemical types of ions in solution, it can be used for approximating the dissolved-solids content in the water. Commonly, the amount of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream or from well to well, and it may even vary in the same source with changes in the composition of the water.

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

Thermograph is a thermometer that continuously and automatically records, on a chart, the water temperature of a stream. "Temperature recorder" is the term used to indicate the presence of a thermograph or a digital mechanism that automatically records water temperatures on paper tape.

Tons per day is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour day.

WRD is used as an abbreviation for "Water-Resources Data" in the summary REVISIONS paragraph to refer to previously published State annual basic-data reports.

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

SPECIAL NETWORKS AND PROGRAMS

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

DOWNSTREAM ORDER AND STATION NUMBER

Stations are listed in a downstream direction along the main stream, and stations on tributaries are listed between stations on the main stream in the order in which those tributaries enter the main stream. Stations on tributaries entering above all mainstream stations are listed before the first mainstream station. Stations on tributaries to tributaries are listed in a similar manner. In the lists of gaging stations and water-quality stations in the front of this report the rank of tributaries is indicated by indention, each indention representing one rank.

As an added means of identification, each gaging station, partial-record station, and water-quality station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and gaging stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Water-quality stations located at gaging stations or partial-record stations have the same number as the gaging or partial-record station. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station, such as 01667500, which appears just to the left of the station name, includes the 2-digit part number "01" plus the 6-digit downstream order number "667500." In this report, the records are listed in downstream order by parts. The part number refers to an area whose boundaries coincide with certain natural drainage lines. Records in this report are in Part 1 (North Atlantic slope basins), Part 2 (South Atlantic slope basins), and Part 3 (Ohio River basin). All records for a drainage basin encompassing more than one State can be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

WELL NUMBER

The well-numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The first 6 digits denote the degrees, minutes, and seconds of latitude followed by a letter denoting north or south. Seven digits following the letter denote degrees, minutes, and seconds of longitude. The last digit is a sequential number for wells within a 1-second grid. The system provides the geographic location of the well and a unique number for each well.

A second well-numbering system used in Virginia utilizes 7 1/2-minute quadrangles within the State. The quadrangles are numbered from west to east, and lettered from south to north, omitting the letters "I" and "O." The designation for each quadrangle is determined by the method "Read Right, Up." Wells are numbered serially within each quadrangle. This local well number is shown immediately after the U.S. Geological Survey well number.

Well records furnished by the State of Virginia also include the well number based on an indexing system used by that agency.

SURFACE-WATER RECORDS

Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from direct readings on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at 15-, 30-, or 60-minute intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in standard textbooks, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6. Surface areas of lakes or reservoirs are determined from instrument surveys using standard methods. The configuration of the reservoir bottom is determined by sounding at many points.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, 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), velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables; then the monthly and yearly mean discharge are computed from the daily figures. 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 computed by the shifting-control method, in which adjustment 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 basically the shifting-control method.

At some stream-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 computing discharge. 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; at these stations the rate of change in stage is used as a factor in computing discharge.

At some stream-gaging stations the stage-discharge relation is affected by ice in 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 hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between

reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some gaging stations there are periods when no gage-height record is obtained or the recorder gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise daily contents may be estimated on the basis of operator's log, adjoining good record, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on most lakes and reservoirs a monthly and yearly summary table of stage and contents or a table showing the daily gage height is given. Records are published for the water year, which begins on October 1 and ends on September 30. A calendar for the current water year is shown on the reverse side of the front cover to facilitate finding the day of the week for any date.

The description of the gaging station gives the location, drainage area, period of record, type and history of gages, average discharge, extremes of discharge or contents, general remarks, and notations of revisions of previously published records. 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 by the Geological Survey, the Corps of Engineers, or the Tennessee Valley Authority. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD." The type of gage currently in use, the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." In references to datum of gage, the phrase "mean sea level" denotes "Sea Level Datum of 1929" as used by the Topographic Division of the Geological Survey unless otherwise qualified. The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. The maximum discharge (or contents) and the maximum gage height, the minimum discharge if there is little or no regulation (or minimum contents) and the minimum gage height if it is significant are given under "EXTREMES." The minimum daily discharge is given if there is extensive regulation (also the minimum discharge and gage height if they are abnormally low). In the first paragraph under "EXTREMES" headed "Current year:" the data given are for the complete current water year unless otherwise specified. In the second paragraph headed "Period of record:" the data given are for the period of record given in PERIOD OF RECORD paragraph. Reliable information concerning major floods that occurred outside the period of record is given in the third or last paragraph under "EXTREMES." Unless otherwise qualified, the maximum discharge (or contents) corresponds to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, 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 (or contents), it is given separately. Information pertaining to the accuracy of the discharge records, to conditions that affect the natural flow at the gaging station, and availability of Water-Quality records, is given under "REMARKS"; for reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir, is also given under "REMARKS." Those records which have been computed and furnished by other agencies are identified under "COOPERATION."

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 or compilation 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, 1965 stands for the water year October 1, 1964, to September 30, 1965. If no daily, monthly, or annual figures of discharge were revised 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.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN").

In the yearly summary below the monthly summary, the figures following "MAX" are the maximum daily discharges for the calendar and water years; likewise, those following "MIN" are the minimum daily discharges.

Footnotes to the table of daily discharges are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

Peak discharges and their times of occurrence and corresponding gage heights for many stations are listed below the yearly summary. 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 can be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subjected to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330.

Data collected at partial-record stations and miscellaneous sites are given in tables at the end of the surface-water records in this report. The first is a table of annual maximum stage and discharge at crest-stage stations and the second is a table of discharge measurements at miscellaneous sites.

Accuracy of data

The accuracy of discharge 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 under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges is within 5 percent of the true discharge; "good" within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 cfs; to tenths between 1.0 and 10 cfs; to whole numbers between 10 and 1,000 cfs; and to 3 significant figures above 1,000 cfs. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, 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 if adjustments or losses are large in comparison with the observed discharge.

Publications

In each water-supply paper entitled, "Surface Water Supply of the United States" there is a list of the numbers of preceding water-supply papers containing streamflow information for the area covered by that report. In addition, there is a list of numbers of water-supply papers containing detailed information on major floods in the area. Records for stations in Virginia for the period October 1960 to September 1965 are in Water-Supply Papers 1903, 1904, 1908, and 1910. Records for Ohio River basin stations in Virginia for the period October 1965 to September 1970 are in Water-Supply Paper 2108.

Two series of summary reports entitled, "Compilation of Records of Surface Waters of the United States" have been published; the first series covers the entire period of record through September 1950 and the second series covers the period October 1950 to September 1960. These reports contain summaries of monthly and annual discharge and monthend storage for all previously published records, as well as some records not contained in the annual series of water-supply papers. All records were reexamined and revised where warranted. Estimates of discharge were made to fill short gaps whenever practical. The yearly summary table for each gaging station lists the numbers of the water-supply papers in which daily records were published for that station. Records for stations in Virginia are compiled in Water-Supply Papers 1302, 1303, 1305, and 1306 through September 1950, and in 1722, 1723, 1725, and 1726 for October 1950 to September 1960.

Special reports on major floods or droughts or of other hydrologic studies for the area have been issued in publications other than water-supply papers. Information relative to these reports may be obtained from the district office.

Other data available

Information of a more detailed nature than that published for most of the gaging stations, such as discharge measurements, gage-height records, and rating tables, is on file in the district office. Also most gaging-station records are available in computer-usable form and many statistical analyses have been made.

Records of discharge collected by agencies other than the Geological Survey

Records of discharge not published by the Geological Survey were collected in Virginia at 5 sites during the 1972 water year by the Research Division, Agricultural Engineering Department, Virginia Polytechnic Institute and State University, Blacksburg, Va. 24060. Information on records at these sites can be obtained from that agency.

WATER-QUALITY RECORDS

Collection and examination of data

Water samples for analyses usually are collected at or near gaging stations. The discharge records at these stations are used in conjunction with the computations of the chemical constituents and sediment loads in this report.

Descriptive statements are given for water-quality stations located at or near streamflow stations. Given are location, drainage area, periods of record for the various water-quality data, extremes of pertinent data, and general remarks, in a format similar to that used for streamflow gaging stations.

Water-quality information is presented for chemical quality, water temperature, and fluvial sediment. Chemical quality includes concentrations of individual dissolved constituents and certain properties or characteristics such as hardness, specific conductance, and pH. Water-temperature data represent once-daily observations except for stations where a continuous temperature recorder furnished information from which daily minimums and maximums are obtained. Fluvial-sediment information is given for suspended-sediment discharges and concentrations.

Prior to the 1968 water year, data for chemical constituents and concentration of suspended sediment were reported in parts per million (ppm) and water temperatures were reported in degrees Fahrenheit (°F). In October 1967 the U.S. Geological Survey began to use the metric system; data for chemical constituents and concentrations of suspended sediment are now reported in milligrams per liter (mg/l) and water temperatures are given in degrees Celsius (centigrade, °C). In waters with a density of 1.000 g/ml (grams per milliliter), parts per million and milligrams per liter can be considered equal. In waters with a density greater than 1.000 g/ml, values in parts per million should be multiplied by the density to convert to milligrams per liter. To convert temperatures in degrees Celsius to degrees Fahrenheit, see table 2 on page 12.

In October 1968, the Geological Survey began reporting many of the chemical constituents as well as the minor elements in micrograms per liter instead of milligrams per liter. (See "Definition of Terms," p. 4).

Solutes

The methods of collecting and analyzing water samples for determining the kinds and concentrations of solutes are described by Brown, Skougstad, and Fishman (1970). One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled at several verticals across the channel to determine accurately the solute concentration.

Temperature

Water temperatures are measured at most of the water-quality stations. For daily stations, the water temperatures are taken about the same time each day when sample is collected.

At stations where continuously recording thermographs are present, the records consist of maximum and minimum temperatures for each day and the monthly averages.

TABLE 2.--Degrees Celsius (°C) to degrees Fahrenheit (°F)*
(Temperature reported to nearest 0.5° C)

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
0.0	32	10.0	50	20.0	68	30.0	86	40.0	104
.5	33	10.5	51	20.5	69	30.5	87	40.5	105
1.0	34	11.0	52	21.0	70	31.0	88	41.0	106
1.5	35	11.5	53	21.5	71	31.5	89	41.5	107
2.0	36	12.0	54	22.0	72	32.0	90	42.0	108
2.5	36	12.5	54	22.5	72	32.5	90	42.5	108
3.0	37	13.0	55	23.0	73	33.0	91	43.0	109
3.5	38	13.5	56	23.5	74	33.5	92	43.5	110
4.0	39	14.0	57	24.0	75	34.0	93	44.0	111
4.5	40	14.5	58	24.5	76	34.5	94	44.5	112
5.0	41	15.0	59	25.0	77	35.0	95	45.0	113
5.5	42	15.5	60	25.5	78	35.5	96	45.5	114
6.0	43	16.0	61	26.0	79	36.0	97	46.0	115
6.5	44	16.5	62	26.5	80	36.5	98	46.5	116
7.0	45	17.0	63	27.0	81	37.0	99	47.0	117
7.5	45	17.5	63	27.5	81	37.5	99	47.5	117
8.0	46	18.0	64	28.0	82	38.0	100	48.0	118
8.5	47	18.5	65	28.5	83	38.5	101	48.5	119
9.0	48	19.0	66	29.0	84	39.0	102	49.0	120
9.5	49	19.5	67	29.5	85	39.5	103	49.5	121

* °C = 5/9 (°F - 32) or °F = 9/5 (°C) + 32.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples may be obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

Samples are usually collected daily or, at some stations, weekly. However, during periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the sub-divided day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the sub-divided day method. For periods when no samples are collected, daily loads of suspended sediment are estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

Publications

The annual series of water-supply papers that contain information on quality of surface waters in Virginia are listed below.

Year	WSP No.	Year	WSP No.	Year	WSP No.	Year	WSP No.
1945	1030	1953	1290	1960	1741,	1964	1954,
1946	1050	1954	1350		1742		1955
1947	1102	1955	1400	1961	1881,	1965	1961
1948	1132	1956	1450		1882	1966	1991,
1949	1162	1957	1520	1962	1941,		1992
1950	1186	1958	1571		1942	1967	2011,
1951	1197	1959	1641,	1963	1947,		2012
1952	1250		1642		1948	1968	2091

GROUND-WATER RECORDS

Collection and reporting of data

Water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Unless otherwise indicated, all water levels are below land surface. If known, the altitude of the land-surface datum above mean sea level is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (eom).

Publications

The numbers of water-supply papers containing records of water levels in Virginia are listed below:

Calendar Year	WSP No.	Calendar Year	WSP No.	Calendar Year	WSP No.
1935	777	1943	987	1951	1192
1936	817	1944	1017	1952	1222
1937	840	1945	1024	1953	1266
1938	845	1946	1072	1954	1322
1939	886	1947	1097	1955	1405
1940	907	1948	1127	1956-58	1538
1941	937	1949	1157	1959-63	1803
1942	945	1950	1166	1964-68	1978

HYDROLOGIC CONDITIONS

Mean streamflow for the year varied areally but was generally above normal to excessive throughout the State. Runoff at the four index gaging stations, compared with normal for the reference period 1941-70, was: Rapidan River near Culpeper, 198 percent; Slate River near Arvon, 234 percent; Nottoway River near Stony Creek, 192 percent; and North Fork Holston River near Saltville, 171 percent. Figure 1 shows the variation of monthly runoff throughout the year at these stations.

The year, which was among the wettest of record, began with flooding in the southeastern part of the State in October caused by heavy rain accompanying Hurricane Ginger. Another severe storm near the end of the month caused near-record flooding in the Appomattox and Chowan River basins.

Streamflow continued above normal during November but receded to near normal in December except in the southwest where it was below normal.

Streamflow was generally above normal to excessive during the winter period through February but receded during March to about normal rates where they remained through April. Heavy rains at mid-April caused floods in the Bristol area.

Precipitation during May was well above normal throughout the State and flash flooding occurred in many sections. Runoff was excessive at three of the four index stations.

Torrential rains accompanying tropical storm Agnes fell on saturated ground and caused major flooding throughout the State in June. Flooding on the James River exceeded the 1969 flood at all mainstem stations. Flood peaks at some stations in the Roanoke River basin exceeded those of 1940. Some 22 deaths and an estimated \$300,000,000 in damages were attributed to the floods.

Streamflow continued to be excessive during July and August, with some flash flooding. Flows in September receded to the high-normal range except in the southeast where heavy rains at month-end caused some flooding and excessive runoff.

Runoff during the year was the maximum of record at the index stations on Slate River and North Fork Holston River and the second highest at the other two index stations.

Ground-water levels in the State, with the exception of the Coastal Plain south of Fredericksburg, were generally above average throughout the year. New all-time high water levels were recorded in 14 wells. Six of these new highs were recorded in June. In many of these wells, water levels remained above the previous high water level of record for periods of time up to 10 months.

Water levels in Coastal Plain wells near the Fall Line and in Arlington and Prince William Counties were above average and some reached new highs. The sediments in these areas are relatively thin and are not used significantly for ground-water supplies. However, in the rest of the Coastal Plain in Virginia, artesian water levels generally declined; a continuance of a long-term trend caused by increasing withdrawals of ground water from Coastal Plain sediments for industrial and public supplies. In the Franklin area in particular, heavy pumping of ground water has created a large cone of depression in the artesian head in the Lower Cretaceous aquifer. At the center of the cone, water levels during 1972 remained about the same as 1971, but in outlying wells, water levels continued to decline and new all-time lows were recorded.

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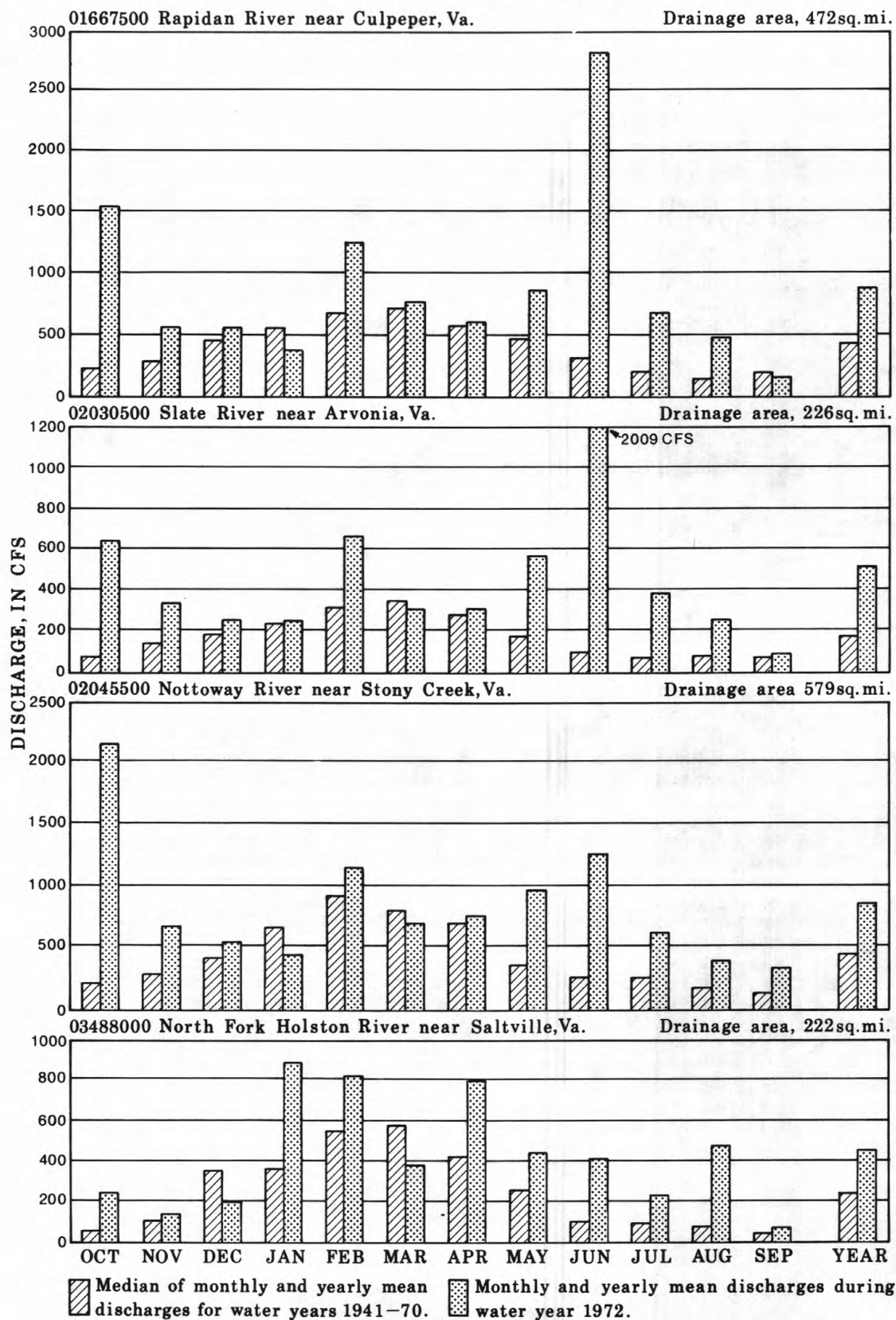


Figure 1. Runoff during 1972 water year compared with median runoff for period 1941-70 for four representative gaging stations

PART 1. SURFACE-WATER RECORDS

GAGING-STATION RECORDS
NORTH ATLANTIC SLOPE BASINS
NASSAWADOX CREEK BASIN

01484800 GUY CREEK NEAR NASSAWADOX, VA.

LOCATION.--Lat 37°30'08", long 75°52'22", Northampton County, on left bank 25 ft upstream from bridge on State Highway 606, 1.9 miles northwest of Nassawadox, and 2.1 miles upstream from mouth.

DRAINAGE AREA.--1.72 sq mi.

PERIOD OF RECORD.--November 1963 to current year.

GAGE.--Water-stage recorder and wooden control. Datum of gage is 11.67 ft above mean sea level.

AVERAGE DISCHARGE.--8 years (1964-72), 1.12 cfs (8.84 inches per year).

EXTREMES.--Current year: Maximum discharge, 29 cfs June 14 (gage height, 3.85 ft); minimum, 0.27 cfs Aug. 27 (gage height, 1.68 ft).

Period of record: Maximum discharge, 60 cfs July 10, 1970 (gage height, 4.81 ft); no flow at times in 1964 and 1966.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.42	1.1	.72	.51	1.2	1.9	2.4	1.5	.80	.86	.48	.30
2	.84	.98	.60	.91	4.7	1.9	1.8	1.3	.72	.66	.45	2.0
3	.45	2.2	.60	.91	4.9	2.0	1.5	12	.60	.60	.42	.56
4	.36	1.9	.55	1.4	4.5	1.9	1.4	20	.56	.56	.42	.42
5	.32	1.4	.55	2.9	2.6	2.3	1.3	7.6	.56	.56	.56	.42
6	.98	1.2	.50	2.4	2.4	2.4	1.2	3.6	.60	.56	.45	.39
7	.42	1.1	1.2	1.9	2.3	1.9	1.3	2.3	.72	.52	.42	.33
8	.39	1.1	1.7	1.6	1.9	1.8	2.6	1.8	.60	.48	.39	.32
9	.36	.98	1.2	1.5	1.8	1.8	1.9	10	.56	.45	.39	.30
10	1.3	.98	1.1	1.7	1.7	1.5	1.7	4.5	.48	.45	.36	.30
11	.91	.91	1.1	1.8	1.5	1.4	1.5	2.5	.45	.45	.33	.30
12	.60	.91	1.1	1.7	1.6	1.4	1.4	1.7	.45	.45	.32	.30
13	.50	.84	.98	2.8	4.6	1.3	1.4	1.4	.45	.45	.32	.30
14	.45	.72	.98	3.0	3.4	1.2	1.3	6.7	12	.42	.32	.30
15	.50	.72	.98	2.2	2.4	1.2	1.5	10	4.0	.36	.32	.30
16	.45	.72	.98	1.6	2.0	1.3	1.5	5.6	1.8	.36	.30	.32
17	.45	.72	1.1	1.4	4.3	3.4	1.3	2.7	1.8	.33	.30	.32
18	.45	.72	.98	1.4	6.8	4.0	1.2	1.8	1.8	.33	.30	.30
19	.45	.66	.91	1.4	10	2.4	1.1	3.0	1.2	.32	.30	.30
20	.45	.66	1.5	1.3	5.4	1.9	1.1	4.3	.93	.32	.30	.30
21	.45	.60	1.6	1.5	3.2	1.8	.98	2.6	1.0	.33	.30	.33
22	.45	.60	1.3	1.5	2.6	2.9	8.4	2.0	1.5	.33	.30	.32
23	2.5	.55	1.2	1.4	2.3	3.0	13	1.6	2.2	.33	.30	.30
24	3.6	.72	1.2	1.3	3.0	2.3	5.7	1.6	1.9	.32	.30	.30
25	2.4	1.5	1.2	1.2	4.7	1.8	4.6	1.4	1.1	.45	.28	.30
26	2.8	.91	1.1	1.2	5.4	1.6	3.0	1.2	.86	.56	.28	.30
27	1.9	1.5	1.1	.98	3.8	1.5	2.3	1.0	.72	.45	.28	.30
28	1.5	1.7	1.1	1.2	3.0	1.3	1.9	.86	.66	.45	.42	.30
29	1.2	1.2	.98	1.2	2.4	1.2	1.8	.86	2.9	.48	.32	.36
30	1.2	1.1	.98	1.4	-----	1.4	1.6	.86	1.5	.60	.30	.48
31	1.2	-----	.98	1.3	-----	2.4	-----	.80	-----	.52	.28	-----
TOTAL	30.25	30.90	32.07	48.91	100.8	60.1	73.68	119.08	45.42	14.31	10.81	11.67
MEAN	.98	1.03	1.03	1.58	3.48	1.94	2.46	3.84	1.51	.46	.35	.39
MAX	3.6	2.2	1.7	3.0	10	4.0	13	20	12	.86	.56	2.0
MIN	.32	.55	.50	.91	1.2	1.2	.98	.80	.45	.32	.28	.30
CFSM	.57	.60	.60	.92	2.02	1.13	1.43	2.23	.88	.27	.20	.23
IN.	.65	.67	.69	1.06	2.18	1.30	1.59	2.58	.98	.31	.23	.25

CAL YR 1971 TOTAL 355.43 MEAN .97 MAX 11 MIN .18 CFSM .56 IN 7.69
WTR YR 1972 TOTAL 578.00 MEAN 1.58 MAX 20 MIN .28 CFSM .92 IN 12.50

PEAK DISCHARGE (BASE, 20 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5- 4	0030	3.78	28	6-14	0830	3.85	29

POTOMAC RIVER BASIN

19

01613900 HOGUE CREEK NEAR HAYFIELD, VA.

LOCATION.--Lat 39°12'52", long 78°17'18", Frederick County, on right bank 15 ft upstream from bridge on State Highway 614, 0.8 mile upstream from Gap Run, and 1.3 miles southeast of Hayfield.

DRAINAGE AREA.--15.0 sq mi.

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 668.60 ft above mean sea level.

AVERAGE DISCHARGE.--12 years, 13.2 cfs (11.95 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,760 cfs June 22 (gage height, 8.85 ft), from rating curve extended above 870 cfs; minimum, 1.0 cfs Sept. 23 (gage height, 0.82 ft).

Period of record: Maximum discharge, 2,760 cfs June 22, 1972 (gage height, 8.85 ft), from rating curve extended above 870 cfs; no flow for part of Sept. 14, 1968, cause unknown.

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	14	31	4.6	5.6	57	12	15	30	37	3.9	2.2
2	4.3	12	21	17	5.9	42	17	14	18	25	3.8	2.2
3	4.3	12	17	15	15	33	12	34	15	20	3.7	2.2
4	3.3	10	14	13	30	26	11	139	17	14	3.8	2.5
5	3.0	8.4	11	20	18	22	10	91	28	25	3.9	2.5
6	3.0	8.0	12	17	11	18	8.9	37	17	21	3.3	2.2
7	2.6	7.6	26	14	9.1	17	12	28	14	15	3.6	2.2
8	2.5	7.1	28	13	7.4	14	16	26	11	12	3.9	2.2
9	2.5	6.2	22	12	6.5	12	18	81	9.4	9.4	3.6	2.2
10	7.1	5.9	19	14	5.8	11	19	69	8.4	7.7	2.9	2.2
11	4.9	5.6	16	12	5.2	10	18	44	6.6	6.6	2.8	2.1
12	3.6	5.6	12	12	5.4	10	17	33	6.6	6.1	3.0	2.2
13	3.0	5.6	11	11	34.9	25	38	26	7.6	6.3	2.9	2.2
14	3.0	5.2	9.4	11	14.3	40	46	24	9.4	5.5	2.9	2.2
15	2.8	4.9	8.4	8.4	7.8	49	41	25	8.0	5.4	2.8	2.2
16	2.8	4.9	8.0	7.6	5.6	46	39	23	8.0	5.2	2.7	2.2
17	3.6	4.6	7.1	8.4	4.2	57	65	23	6.2	5.9	2.8	2.2
18	3.3	4.3	6.6	8.4	3.6	43	46	27	5.9	8.8	3.1	2.1
19	2.8	4.3	5.6	8.9	3.3	33	36	25	4.9	7.4	2.8	2.1
20	2.8	4.3	5.9	8.9	3.0	28	32	176	5.6	6.1	2.7	2.0
21	2.8	4.3	5.6	8.9	2.8	26	26	76	58.4	5.4	2.6	2.2
22	3.3	4.0	5.2	8.0	3.6	34	109	52	996	4.8	2.6	2.2
23	4.6	4.0	4.6	7.6	3.9	34	82	42	554	4.3	3.2	1.7
24	50	4.6	4.9	10	3.6	28	56	27	162	3.7	3.3	1.5
25	142	6.6	4.6	8.4	6.7	23	41	21	74	3.3	3.0	1.5
26	62	5.9	4.9	7.1	29.3	20	33	17	42	3.2	2.8	1.4
27	28	7.1	4.9	6.6	126	18	26	15	24	3.3	2.7	1.3
28	19	14	4.6	7.1	82	17	22	13	15	3.7	2.7	1.5
29	14	84	4.3	7.1	76	15	19	12	57	3.6	2.6	1.8
30	11	61	4.3	7.6	-----	14	17	11	80	3.8	2.2	1.8
31	13	-----	4.9	6.2	-----	12	-----	38	-----	4.0	2.2	-----
TOTAL	417.0	336.0	343.8	320.8	1,674.9	834	944.9	1,284	2,824.6	292.5	94.8	61.0
MEAN	13.5	11.2	11.1	10.3	57.8	26.9	31.5	41.4	94.2	9.44	3.06	2.03
MAX	142	84	31	20	349	57	109	176	996	37	3.9	2.5
MIN	2.1	4.0	4.3	4.6	5.2	10	8.9	11	4.9	3.2	2.2	1.3
CFSM	.90	.75	.74	.69	3.85	1.79	2.10	2.76	6.28	.63	.20	.14
IN.	1.03	.83	.85	.80	4.15	2.07	2.34	3.18	7.01	.73	.24	.15

CAL YR 1971 TOTAL 6,239.8 MEAN 17.1 MAX 358 MIN 1.1 CFSM 1.14 IN 15.47
WTR YR 1972 TOTAL 9,428.3 MEAN 25.8 MAX 996 MIN 1.3 CFSM 1.72 IN 23.38

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1400	4.44	518	2-26	0400	4.26	468
2-13	1430	6.06	1,040	6-22	0300	8.85	2,760

POTOMAC RIVER BASIN

01615000 OPEQUON CREEK NEAR BERRYVILLE, VA.

LOCATION.--Lat 39°10'40", long 78°04'20", Frederick County, on left bank 35 ft downstream from bridge on State Highway 7, 0.2 mile upstream from Abrams Creek, and 5.0 miles west of Berryville.

DRAINAGE AREA.--57.4 sq mi.

PERIOD OF RECORD.--October 1943 to current year.

GAGE.--Water-stage recorder. Datum of gage is 503.24 ft above mean sea level. Prior to July 26, 1949, non-recording gage at same site and datum.

AVERAGE DISCHARGE.--29 years, 38.1 cfs (9.01 inches per year).

EXTREMES.--Current year: Maximum discharge, 9,870 cfs June 22 (gage height, 12.59 ft), from rating curve extended above 4,800 cfs; minimum daily, 9.2 cfs Sept. 17, 18.

Period of record: Maximum discharge, 10,600 cfs Nov. 13, 1970 (gage height, 12.82 ft), from rating curve extended above 4,800 cfs; minimum daily, 0.20 cfs Sept. 12, 13, 1966.

Flood in October 1942 reached a stage of 18.4 ft, from information by local residents.

REVISIONS.--The maximum discharge for the water year 1971 has been revised to 10,600 cfs Nov. 13, 1970 (gage height, 12.82 ft), superseding the figure published in WRD Va. 1971.

REMARKS.--Records good. Diurnal fluctuation at low flow caused by mills above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS.--WRD Va. 1970: Drainage area. The figures of peak discharge for the water year 1971 have been revised as shown in the following table. They supersede figures published in WRD Va. 1971.

REVISED PEAK DISCHARGE.--1971: Nov. 13 (0200) 10,600 cfs (12.82 ft); Feb. 13 (2100) 3,160 cfs (9.06 ft); May 30 (1730) 2,650 cfs (8.50 ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	24	98	13	15	151	35	32	55	169	26	12
2	16	22	53	18	15	113	35	30	31	196	24	12
3	27	21	38	20	28	339	33	34	25	287	23	12
4	19	20	31	18	178	124	33	215	24	107	23	12
5	16	16	27	32	56	86	31	97	74	207	26	12
6	15	18	27	27	42	64	30	55	33	168	22	12
7	14	18	106	22	34	58	35	43	27	93	64	12
8	13	12	104	19	28	51	45	39	23	69	71	11
9	12	12	61	22	25	43	50	134	21	59	32	11
10	43	12	47	57	22	42	41	126	19	50	22	11
11	40	12	40	43	20	39	39	67	18	45	20	10
12	24	12	32	33	19	38	35	48	17	41	18	11
13	19	12	29	28	763	54	76	39	18	44	18	11
14	16	11	26	25	278	111	80	39	21	48	18	10
15	15	11	24	21	128	119	56	39	19	69	18	11
16	14	11	23	18	94	90	58	37	19	56	18	11
17	14	10	21	19	72	148	237	33	22	86	17	9.2
18	13	10	20	19	62	87	85	30	19	68	18	9.2
19	14	9.8	17	17	64	62	59	28	18	46	16	11
20	13	10	18	17	56	52	50	190	19	36	15	10
21	12	11	18	17	74	49	45	95	676	33	13	11
22	13	9.3	17	17	69	79	324	60	4,670	30	14	11
23	13	9.5	16	16	90	79	199	64	2,000	28	14	10
24	283	10	16	24	73	57	107	43	402	26	15	10
25	435	13	16	22	196	49	72	34	155	26	14	10
26	242	12	15	17	718	45	55	29	101	24	14	10
27	70	13	15	16	266	42	46	27	78	24	14	9.6
28	42	24	15	17	183	41	40	24	64	26	12	11
29	32	291	14	17	202	39	35	23	751	24	13	11
30	27	262	14	17	-----	38	33	22	996	25	12	12
31	22	-----	14	15	-----	36	-----	46	-----	28	11	-----
TOTAL	1,561	938.6	1,012	683	3,870	2,425	2,099	1,822	10,415	2,238	655	326.0
MEAN	50.4	31.3	32.6	22.0	133	78.2	70.0	58.8	347	72.2	21.1	10.9
MAX	435	291	106	57	763	339	324	215	4,670	287	71	12
MIN	12	9.3	14	13	15	36	30	22	17	24	11	9.2
CFSM	.88	.55	.57	.38	2.32	1.36	1.22	1.02	6.05	1.26	.37	.19
IN.	1.01	.61	.66	.44	2.51	1.57	1.36	1.18	6.75	1.45	.42	.21
CAL YR 1971	TOTAL 19,438.7	MEAN 53.3	MAX 1,150	MIN 6.3	CFSM .93	IN 12.60						
WTR YR 1972	TOTAL 28,044.6	MEAN 76.6	MAX 4,670	MIN 9.2	CFSM 1.33	IN 18.18						

PEAK DISCHARGE (BASE, 850 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1800	5.58	953	2-26	0830	5.68	988
11-29	2200	5.35	872	6-22	0630	12.59	9,870
2-13	1730	7.24	1,740	6-30	0100	9.43	3,530

01620500 NORTH RIVER NEAR STOKESVILLE, VA.

LOCATION.--Lat 38°20'15", long 79°14'25", Augusta County, on left bank 575 ft upstream from highway bridge, 2.8 miles upstream from city of Staunton dam, 3.8 miles upstream from Broad Run, 5.0 miles west of Stokesville, and 7.8 miles upstream from Skidmore Fork.

DRAINAGE AREA.--17.2 sq mi.

PERIOD OF RECORD.--October 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,054.57 ft above mean sea level. Prior to June 10, 1958, at site 575 ft downstream at datum 6.0 ft lower.

AVERAGE DISCHARGE.--26 years, 25.1 cfs (19.82 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,650 cfs June 21 (gage height, 5.86 ft); minimum daily, 2.1 cfs Sept. 24.

Period of record: Maximum discharge, 11,100 cfs June 17, 1949 (gage height, 10.9 ft, from floodmarks, site and datum then in use), from rating curve extended above 900 cfs on basis of computation of peak flow over dam; minimum, 0.10 cfs Sept. 15, 16, 19-22, 1962, Sept. 7-13, 1966.

Flood in October 1942 reached a stage of 8.4 ft, from information by local resident.

REMARKS.--Records good except those for January, June, July, and August, which are fair. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1903: 1960. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	28	23	9.4	14	133	15	20	23	73	92	3.2
2	100	26	20	11	14	162	14	18	22	48	80	3.1
3	121	20	18	11	15	125	13	18	18	36	69	3.2
4	91	18	16	11	18	98	12	36	15	29	65	3.5
5	66	16	14	12	21	84	11	62	14	143	69	3.5
6	40	16	13	12	16	51	11	52	12	181	55	3.5
7	28	15	118	11	15	34	11	39	11	126	45	3.3
8	22	12	180	12	14	28	14	34	9.6	82	37	3.2
9	18	11	112	12	13	24	13	34	8.6	53	29	3.0
10	17	11	75	14	13	21	13	31	8.1	37	23	3.0
11	15	11	48	14	11	18	13	30	7.6	30	19	2.9
12	13	11	35	15	11	17	13	29	7.1	31	15	2.7
13	11	12	29	15	34	16	14	25	6.6	34	13	2.7
14	11	9.4	24	15	42	16	16	24	7.2	25	12	2.6
15	10	9.0	21	15	34	14	16	24	7.4	21	11	2.6
16	9.6	8.8	19	14	40	13	18	24	6.6	19	10	2.5
17	9.6	9.1	16	13	36	14	22	26	7.6	18	9.8	2.4
18	9.3	9.3	15	13	30	13	22	29	8.1	15	9.6	2.4
19	8.7	9.5	13	12	25	13	23	30	7.5	12	8.2	2.3
20	8.5	10	13	12	21	12	23	43	19	9.9	8.9	2.3
21	8.5	9.5	12	12	17	13	21	49	1,070	9.0	7.6	2.3
22	8.5	7.9	11	11	17	22	28	45	486	7.9	6.4	2.3
23	10	7.6	11	11	19	36	50	32	231	7.1	5.3	2.2
24	87	7.5	10	13	22	39	61	26	138	5.7	4.6	2.1
25	178	7.6	10	13	55	32	55	22	77	4.8	4.0	2.2
26	179	7.3	10	14	249	29	43	17	41	4.0	4.1	2.2
27	110	7.4	10	14	208	26	34	15	28	4.1	3.6	2.3
28	80	7.5	9.8	15	116	23	30	13	25	5.7	3.4	2.7
29	48	9.8	9.7	15	100	20	26	11	108	19	3.5	2.9
30	36	23	9.5	15	-----	18	23	11	115	77	3.4	3.4
31	31	-----	9.4	15	-----	16	-----	19	-----	107	3.2	-----
TOTAL	1,402.7	367.2	934.4	401.4	1,240	1,180	678	888	2,545.0	1,274.2	729.6	82.5
MEAN	45.2	12.2	30.1	12.9	42.8	38.1	22.6	28.6	84.8	41.1	23.5	2.5
MAX	179	28	180	15	249	162	61	62	1,070	181	92	3.5
MIN	8.5	7.3	9.4	9.4	11	12	11	11	6.6	4.0	3.2	2.1
CFSM	2.63	.71	1.75	.75	2.49	2.22	1.31	1.66	4.93	2.39	1.37	.16
IN.	3.03	.79	2.02	.87	2.68	2.55	1.47	1.92	5.50	2.76	1.58	.18

CAL YR 1971 TOTAL 10,540.4 MEAN 28.9 MAX 758 MIN 1.2 CFSM 1.68 IN 22.80
WTR YR 1972 TOTAL 11,723.0 MEAN 32.0 MAX 1,070 MIN 2.1 CFSM 1.86 IN 25.35

PEAK DISCHARGE (BASE, 200 CFS)

A AT 1915.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	2115	3.05	218	6-21	1300	45.86	1,650
12-7	2015	3.05	218	7-6	0100	4.23	200
2-26	1500	3.35	330				

POTOMAC RIVER BASIN

01622000 NORTH RIVER NEAR BURKETOWN, VA.

LOCATION.--Lat 38°20'25", long 78°54'50", Rockingham County, on right bank 0.8 mile downstream from Pleasant Run, 2.8 miles northeast of Burkettown, and 8.5 miles upstream from Middle River.

DRAINAGE AREA.--379 sq mi.

PERIOD OF RECORD.--October 1925 to October 1972 (discontinued). Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 1,103.49 ft above mean sea level. Prior to Dec. 12, 1938, non-recording gage at site 3.0 miles downstream at different datum.

AVERAGE DISCHARGE.--47 years, 361 cfs (12.94 inches per year).

EXTREMES.--Water year 1972: Maximum discharge, 12,900 cfs June 22 (gage height, 16.58 ft); minimum, 90 cfs Sept. 26 (gage height, 2.05 ft).

October 1972: Maximum discharge during period, 17,500 cfs Oct. 6 (gage height, 20.03 ft); minimum, 87 cfs Oct. 4 (gage height, 2.04 ft).

Period of record: Maximum discharge, 62,600 cfs June 18, 1949 (gage height, 36.3 ft, from floodmarks), from rating curve extended above 16,000 cfs on basis of one slope-area measurement at gage height 32.4 ft, two at gage height 36.3 ft, and one contracted-opening measurement at gage height 36.3 ft; minimum, 16 cfs Nov. 23, 1965, result of temporary dam upstream.

Maximum stage since at least 1852, that of June 18, 1949.

REMARKS.--Records good. Occasional diurnal fluctuation at low flow caused by mills above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1171: 1936(M). WSP 1302: 1928-29(M), 1932-34(M), 1937-38(M). WSP 2103: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER 1972

DAY	DISCH	DAY	DISCH	DAY	DISCH	DAY	DISCH	DAY	DISCH	DAY	DISCH
1	105	6	10,700	11	789	16	341	21	279	26	227
2	96	7	4,910	12	594	17	318	22	263	27	216
3	94	8	2,920	13	481	18	291	23	255	28	324
4	90	9	1,810	14	417	19	332	24	245	29	295
5	2,250	10	1,090	15	371	20	302	25	233	30	286
										31	286
TOTAL.....											31,210
MEAN.....											1,007
MAX.....											10,700
MIN.....											90
CFM.....											2.66
IN.....											3.06

PEAK DISCHARGE (BASE, 2,500 CFS).--Oct. 6 (0430) 17,500 cfs (20.03 ft).

POTOMAC RIVER BASIN

23

01622000 NORTH RIVER NEAR BURKETOWN, VA.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166	360	301	138	143	1,310	264	339	338	1,530	1,110	147
2	476	330	211	149	146	1,390	251	309	334	1,090	1,060	143
3	829	310	299	142	183	1,280	237	310	297	824	911	142
4	622	315	281	142	265	1,000	223	794	258	631	624	151
5	475	275	261	146	222	787	213	812	233	1,610	744	141
6	278	240	244	138	238	624	203	770	210	1,930	508	136
7	307	225	344	128	239	522	202	665	193	1,430	453	130
8	258	210	930	138	217	455	252	576	174	1,070	407	126
9	226	200	843	142	211	408	245	630	158	815	361	123
10	245	190	684	149	198	370	250	580	147	638	321	118
11	202	185	549	151	192	338	259	540	136	528	297	117
12	177	178	452	150	187	317	267	500	130	524	305	116
13	162	170	385	152	1,240	299	283	456	128	658	264	116
14	152	165	339	155	1,210	295	307	442	135	472	251	112
15	144	160	315	152	863	283	319	433	131	413	238	112
16	140	150	286	137	776	277	330	473	123	381	231	108
17	153	146	262	135	737	303	382	471	163	373	238	106
18	135	143	261	142	642	273	439	504	151	449	229	103
19	131	140	227	141	594	258	465	477	137	385	225	103
20	127	140	218	139	484	246	450	648	138	430	226	98
21	126	135	205	138	429	238	410	754	2,810	379	204	99
22	125	130	191	137	421	292	503	759	8,580	357	195	101
23	155	130	191	137	444	349	777	661	4,380	333	189	97
24	599	135	175	140	493	406	850	550	2,970	296	182	95
25	1,300	139	170	137	685	422	770	459	1,920	266	184	96
26	1,600	132	163	134	1,750	406	665	386	1,180	244	201	93
27	1,000	137	156	136	2,300	376	565	329	986	234	181	100
28	700	140	152	148	1,650	349	483	290	846	248	171	102
29	560	195	147	149	1,200	324	423	258	3,500	356	164	105
30	475	250	144	148	-----	303	378	237	2,240	1,070	155	136
31	410	-----	141	145	-----	280	-----	266	-----	1,560	150	-----
TOTAL	12,558	5,755	9,597	4,428	18,476	14,780	11,665	15,678	33,126	21,524	10,979	3,472
MEAN	405	192	310	143	637	477	389	506	1,104	694	354	116
MAX	1,600	360	930	165	2,300	1,390	850	812	8,580	1,930	1,110	151
MIN	125	130	141	134	142	238	202	237	123	234	150	93
CFSM	1.07	.51	.82	.38	1.68	1.26	1.03	1.34	2.91	1.83	.93	.31
IN	1.23	.56	.94	.43	1.81	1.45	1.14	1.54	3.25	2.11	1.08	.34

CAL YR 1971 TOTAL 152,641 MEAN 418 MAX 5,510 MIN 74 CFSM 1.10 IN 14.98
WTR YR 1972 TOTAL 162,038 MEAN 443 MAX 8,580 MIN 93 CFSM 1.17 IN 15.90

PEAK DISCHARGE (BASE, 2,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-27	0130	6.49	2,570	6-29	0630	9.69	5,300
6-22	0400	16.58	12,900	8- 2	2200	6.41	2,510

POTOMAC RIVER BASIN

01624300 MIDDLE RIVER NEAR VERONA, VA.

LOCATION.--Lat 38°14'36", long 79°02'08", Augusta County, on right bank at downstream side of bridge on State Highway 742, 2.7 miles downstream from Moffett Creek, and 3.2 miles northwest of Verona.

DRAINAGE AREA.--178 sq mi.

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,260.78 ft above mean sea level.

AVERAGE DISCHARGE.--5 years, 152 cfs (11.60 inches per year).

EXTREMES.--current year: Maximum discharge, 6,590 cfs June 21 (gage height, 13.10 ft), from rating curve extended above 4,200 cfs; minimum, 44 cfs Oct. 1 (gage height, 1.20 ft).

Period of record: Maximum discharge, 7,220 cfs May 30, 1971 (gage height, 13.79 ft), from rating curve extended above 4,200 cfs; minimum, 19 cfs Sept. 21, 29, 1968; minimum gage height, 0.90 ft Oct. 3, 4, 1970.

REMARKS.--Records good. Diurnal fluctuation at low flow caused by mill above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	171	262	80	114	325	139	169	152	435	550	99
2	95	156	213	86	112	272	136	162	136	328	235	101
3	87	164	192	87	131	260	133	167	120	278	325	98
4	82	156	175	86	162	216	131	255	119	242	288	96
5	72	147	158	88	228	192	127	295	120	1,140	275	86
6	61	143	149	92	211	171	123	268	114	867	245	86
7	64	138	264	95	187	156	127	232	111	532	223	90
8	63	133	492	93	162	145	211	216	99	390	204	78
9	62	119	328	96	145	141	187	270	96	315	189	87
10	75	114	245	123	133	135	173	305	95	272	175	73
11	75	127	211	138	125	127	169	280	90	238	167	80
12	69	122	178	141	120	122	162	242	88	270	160	78
13	66	135	160	135	812	127	171	211	88	405	154	81
14	63	101	145	135	812	125	220	201	92	315	152	80
15	52	99	135	127	480	122	240	204	87	260	145	75
16	54	104	125	103	420	117	250	199	81	242	143	80
17	62	109	122	106	345	141	268	189	88	240	145	77
18	70	106	117	107	292	127	252	182	96	201	139	92
19	68	104	111	104	252	122	232	175	92	192	131	80
20	65	103	114	101	206	119	216	194	119	178	131	81
21	66	101	112	104	182	123	194	194	3,170	169	125	81
22	66	99	104	98	180	156	318	263	3,430	178	122	84
23	81	98	99	98	184	216	585	965	1,000	216	119	82
24	357	103	96	107	194	230	450	568	585	164	112	80
25	667	103	87	122	328	218	375	375	435	156	111	99
26	602	103	88	123	832	156	298	278	348	147	111	92
27	375	106	88	125	810	178	255	218	300	143	111	84
28	275	109	87	130	515	164	225	189	268	149	114	90
29	228	131	84	131	375	162	204	171	1,200	409	109	93
30	194	298	84	125	-----	154	189	156	655	1,080	104	114
31	182	-----	82	120	-----	145	-----	178	-----	959	99	-----
TOTAL	4,464	3,802	4,907	3,406	9,049	5,204	6,760	7,971	13,474	11,110	5,413	2,597
MEAN	144	127	158	110	312	168	225	257	449	358	175	86.6
MAX	667	298	492	141	832	325	585	965	3,430	1,140	550	114
MIN	52	98	82	80	112	117	123	156	81	143	99	73
CFSM	.81	.71	.89	.62	1.75	.94	1.26	1.44	2.52	2.01	.98	.49
IN.	.93	.79	1.03	.71	1.89	1.09	1.41	1.67	2.82	2.32	1.13	.54

CAL YR 1971 TOTAL 72,485 MEAN 199 MAX 4,700 MIN 42 CFSM 1.12 IN 15.15
WTR YR 1972 TOTAL 78,157 MEAN 214 MAX 3,430 MIN 52 CFSM 1.20 IN 16.33

PEAK DISCHARGE (BASE, 1,400 CFS, REVISED)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-13	2000	5.78	1,620	7- 5	0530	5.86	1,680
6-21	2230	13.10	6,590	7-30	2000	5.67	1,570
6-29	0400	6.03	1,730				

01624800 CHRISTIANS CREEK NEAR FISHERSVILLE, VA.

LOCATION.--Lat 38°07'42", long 78°59'41", Augusta County, on right bank at upstream side of bridge on State Highway 794, 2.2 miles northwest of Fishersville, and 5.6 miles upstream from mouth.

DRAINAGE AREA.--70.1 sq mi.

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,230 ft (from topographic map).

AVERAGE DISCHARGE.--5 years, 61.2 cfs (11.86 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,630 cfs June 21 (gage height, 12.50 ft), from rating curve extended above 2,100 cfs on basis of velocity-area study; minimum, 22 cfs Oct. 1 (gage height, 1.24 ft).
Period of record: Maximum discharge, 3,800 cfs Aug. 20, 1969 (gage height, 12.78 ft), from rating curve extended above 2,100 cfs on basis of velocity-area study; minimum, 4.3 cfs Jan. 11, 1969 (gage height, 0.90 ft), result of freezeup.

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the State of Virginia.

DISCHARGE, IN CURIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	93	71	34	37	127	51	67	68	137	220	51
2	129	86	61	46	40	122	52	64	62	124	182	51
3	63	101	57	40	124	118	48	74	59	126	159	66
4	50	81	53	42	152	104	47	159	66	113	147	55
5	44	73	51	48	77	97	45	85	71	562	139	51
6	40	70	51	42	71	88	44	72	59	223	125	49
7	36	67	86	39	71	86	82	67	56	168	116	44
8	35	63	76	38	59	80	204	71	53	143	106	43
9	34	62	67	41	55	72	89	88	50	130	100	42
10	57	59	63	62	54	71	80	68	49	120	94	39
11	44	57	59	51	52	67	73	63	47	112	91	39
12	36	55	55	48	51	67	69	59	46	334	88	39
13	35	54	54	47	865	65	86	58	47	291	94	38
14	32	52	50	49	234	68	95	67	54	160	85	38
15	31	52	51	45	156	63	85	98	48	135	78	39
16	30	51	49	37	126	68	91	86	44	123	77	36
17	43	48	47	44	114	81	91	102	95	122	79	35
18	41	48	43	44	106	66	77	92	68	108	76	35
19	35	48	43	43	106	62	73	81	85	101	82	33
20	40	48	50	43	91	60	70	113	122	96	74	32
21	44	46	45	44	87	59	67	86	2,380	92	67	35
22	41	43	43	41	117	72	190	109	1,220	96	64	36
23	191	43	41	43	97	65	131	228	455	104	63	33
24	620	47	42	46	144	61	105	117	313	88	60	33
25	733	51	40	43	182	59	95	97	244	82	59	33
26	280	47	40	39	522	57	87	85	204	77	59	32
27	186	52	40	39	225	56	78	77	190	76	59	32
28	144	61	38	44	176	55	74	72	178	93	66	34
29	122	142	36	40	144	53	71	70	211	290	56	37
30	110	114	36	40	-----	54	69	68	156	834	55	58
31	100	-----	35	37	-----	51	-----	93	-----	335	51	-----
TOTAL	3,473	1,914	1,573	1,339	4,335	2,274	2,519	2,736	6,800	5,595	2,871	1,218
MEAN	112	63.8	50.7	43.2	149	73.4	84.0	88.3	227	180	92.6	40.6
MAX	733	142	86	62	865	127	204	228	2,380	834	220	66
MIN	30	43	35	34	37	51	44	58	44	76	51	32
CFSM	1.60	.91	.72	.62	2.13	1.05	1.20	1.26	3.24	2.57	1.32	.58
IN	1.84	1.02	.83	.71	2.30	1.21	1.34	1.45	3.61	2.97	1.52	.65

CAL YR 1971 TOTAL 31,742 MEAN 87.0 MAX 2,020 MIN 20 CFSM 1.24 IN 16.84
WTR YR 1972 TOTAL 36,647 MEAN 100 MAX 2,380 MIN 30 CFSM 1.43 IN 19.45

PEAK DISCHARGE (BASE, 1,000 CFS, REVISED)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	0500	7.30	1,340	6-21	1630	12.50	3,630
10-25	1100	8.85	1,820	7-5	0800	6.77	1,180
2-13	1000	8.97	1,900	7-30	1430	9.27	2,030

POTOMAC RIVER BASIN

01625000 MIDDLE RIVER NEAR GROTTOS, VA.

LOCATION.--Lat 38°15'42", long 78°51'44", Augusta County, on left bank at upstream side of bridge on State Highway 769 at Mount Meridian, 1.8 miles upstream from mouth, and 2.0 miles west of Grottoes.

DRAINAGE AREA.--375 sq mi.

PERIOD OF RECORD.--April 1927 to current year. Records for February 1925 to September 1926, published in WSP 601 and 621, are unreliable and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 1,061.51 ft above mean sea level. Prior to Sept. 1, 1938, non-recording gage at same site and datum.

AVERAGE DISCHARGE.--45 years, 297 cfs (10.76 inches per year).

EXTREMES.--Current year: Maximum discharge, 16,300 cfs June 22 (gage height, 21.51 ft); minimum, 86 cfs Jan. 17 (gage height, 3.75 ft), result of freezeup.
Period of record: Maximum discharge, 24,500 cfs Mar. 18, 1936 (gage height, 28.57 ft, from floodmarks), from rating curve extended above 15,000 cfs; minimum observed, 22 cfs Sept. 21, Oct. 3, 12, 1930 (gage height, 1.90 ft).
Maximum stage since at least 1877, that of Mar. 18, 1936.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Small diurnal fluctuation at low flow caused by mills above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1051: 1928-29, 1930(M), 1932, 1935-37, 1938(M), 1940. WSP 1171: 1933. WSP 1302: 1928-29(M), 1931-34(M). WRD Va. 1970: Drainage area. See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	333	444	149	194	702	225	285	333	844	1,130	192
2	558	299	346	162	197	634	215	265	276	646	822	192
3	308	346	299	168	243	598	210	285	254	546	678	197
4	212	314	271	160	758	538	205	606	229	479	578	254
5	185	271	251	180	482	468	200	486	294	1,570	570	207
6	162	257	238	173	423	423	195	419	238	1,750	482	194
7	143	243	330	166	392	398	195	369	222	1,040	440	185
8	137	227	618	164	342	372	400	336	209	766	412	185
9	135	222	562	164	302	342	365	416	194	618	375	173
10	192	202	419	202	282	327	320	451	189	526	349	175
11	209	199	365	235	265	311	305	412	180	472	327	160
12	162	202	314	235	251	302	300	365	173	522	314	168
13	145	197	288	227	1,960	291	310	324	171	1,270	302	166
14	141	202	262	229	1,750	294	330	311	199	718	330	164
15	133	171	248	222	970	291	350	362	189	562	291	164
16	122	168	235	170	770	279	370	382	171	489	279	157
17	129	171	219	185	682	349	400	311	192	472	282	149
18	145	168	207	209	622	302	395	369	273	454	299	149
19	141	166	197	194	582	273	385	299	217	389	273	160
20	137	164	199	185	496	259	375	346	246	362	352	145
21	145	160	209	187	444	254	365	346	3,190	339	265	149
22	141	153	194	185	482	282	450	333	12,700	339	248	157
23	212	149	177	177	500	324	780	1,610	2,500	375	238	151
24	1,910	155	175	202	530	349	740	1,030	1,350	356	229	149
25	2,350	173	175	204	876	339	600	670	979	302	222	153
26	1,390	164	164	204	1,670	314	520	514	790	285	227	155
27	804	166	166	204	1,570	294	460	409	670	273	217	151
28	578	197	164	212	1,080	279	400	362	610	282	229	147
29	468	271	157	219	826	265	350	330	1,350	634	222	153
30	398	526	153	209	-----	250	310	305	1,200	2,050	207	187
31	356	-----	153	202	-----	235	-----	346	-----	2,110	197	-----
TOTAL	12,381	6,636	8,199	5,984	19,941	10,938	11,025	13,654	29,788	21,840	11,386	5,088
MEAN	399	221	264	193	688	353	368	440	993	705	367	170
MAX	2,350	526	618	235	1,960	702	780	1,610	12,700	2,110	1,130	254
MIN	122	149	153	149	194	235	195	265	171	273	197	145
CFSM	1.06	.59	.70	.51	1.83	.94	.98	1.17	2.65	1.88	.98	.45
IN.	1.23	.66	.81	.59	1.98	1.09	1.09	1.35	2.95	2.17	1.13	.50
CAL YR 1971	TOTAL 143,685		MEAN 394		MAX 7,840		MIN 105		CFSM 1.05		IN 14.25	
WTR YR 1972	TOTAL 156,860		MEAN 429		MAX 12,700		MIN 122		CFSM 1.14		IN 15.56	

PEAK DISCHARGE (BASE, 2,000 CFS)

NOTE.--NO GAGE-HEIGHT RECORD MAR. 29 TO MAY 1.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1800	12.12	4,610	6-22	0500	21.51	16,300
2-13	1800	10.99	3,690	6-29	1500	8.56	2,080
2-26	1330	8.84	2,240	7- 5	1800	9.46	2,620
5-23	0430	8.89	2,270	7-30	2400	10.55	3,380

POTOMAC RIVER BASIN

27

01626000 SOUTH RIVER NEAR WAYNESBORO, VA.

LOCATION.--Lat 38°03'27", long 78°54'30", Waynesboro City, on right bank 80 ft downstream from bridge on State Highway 664, 1.3 miles southwest of post office at Waynesboro, and 2.4 miles downstream from Back Creek.

DRAINAGE AREA.--127 sq mi, of which 41 sq mi is above flood-detention structures.

PERIOD OF RECORD.--October 1952 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,296.20 ft above mean sea level.

AVERAGE DISCHARGE.--20 years, 128 cfs (13.69 inches per year).

EXTREMES.--Current year: Maximum discharge, 14,400 cfs June 21 (gage height, 14.25 ft), from rating curve extended as explained below; minimum, 43 cfs Oct. 1 (gage height, 2.50 ft).

Period of record: Maximum discharge, 17,400 cfs Aug. 20, 1969 (gage height, 15.27 ft), from rating curve extended above 4,200 cfs on basis of contracted-opening measurement at gage height 13.95 ft; minimum, 7.0 cfs July 18, 1966; minimum daily, 17 cfs Aug. 8, 1966.

Flood in October 1942 reached a stage of 14.3 ft, from floodmarks (discharge, 14,500 cfs).

REMARKS.--Records good. Flow from 41 sq mi above station slightly regulated by flood-detention reservoirs (sixteen of which were built by Soil Conservation Service between 1954 and 1961). Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	172	313	188	88	86	344	147	159	202	321	311	70
2	1,230	261	170	97	89	312	148	150	180	241	278	69
3	955	241	156	95	113	315	138	183	163	218	230	69
4	594	232	146	92	212	284	134	616	166	194	193	79
5	393	201	136	102	168	261	128	458	172	412	175	74
6	257	187	131	75	161	236	124	328	145	514	159	75
7	199	179	195	90	158	221	131	272	137	385	151	69
8	161	169	252	86	141	207	267	246	125	312	142	66
9	142	161	223	87	130	190	219	259	116	262	131	64
10	191	155	200	111	122	181	190	224	107	227	121	62
11	199	148	193	107	117	172	180	169	100	199	115	61
12	155	141	167	102	115	168	171	185	96	346	112	61
13	139	135	155	101	894	164	184	175	93	897	142	60
14	128	128	145	102	824	166	207	185	102	720	181	59
15	118	124	141	96	473	159	194	200	95	518	120	59
16	110	123	136	90	374	159	195	195	87	406	110	58
17	159	115	129	97	322	195	194	184	142	334	109	57
18	156	112	120	91	290	175	176	190	165	288	110	56
19	137	110	115	90	272	161	166	193	347	246	103	56
20	155	109	126	90	234	155	161	335	763	216	106	55
21	191	107	125	93	214	150	154	338	7,430	195	96	56
22	183	102	112	91	229	281	209	323	7,390	180	91	57
23	494	97	105	92	229	293	281	444	2,590	185	86	55
24	2,100	100	104	101	239	242	255	373	1,530	161	82	55
25	2,230	111	103	95	306	218	232	297	1,060	145	80	54
26	1,470	102	102	97	564	199	212	245	792	133	82	53
27	899	107	99	87	636	185	195	215	628	125	78	54
28	598	126	97	93	484	176	182	195	478	135	80	55
29	475	167	93	93	400	166	173	181	453	202	77	56
30	407	260	93	91	-----	158	165	170	406	359	73	105
31	358	-----	91	88	-----	151	-----	237	-----	383	71	-----
TOTAL	15,144	4,623	4,339	2,900	8,596	6,444	5,513	7,954	26,260	9,459	3,995	1,879
MEAN	489	154	140	93.5	296	208	184	257	875	305	129	62.6
MAX	2,230	313	252	111	894	344	291	616	7,430	897	311	105
MIN	110	97	91	90	86	150	124	150	87	125	71	53
CFSM	3.85	1.21	1.10	.74	2.33	1.64	1.45	2.02	6.89	2.40	1.02	.49
IN.	4.44	1.35	1.27	.85	2.52	1.89	1.61	2.33	7.69	2.77	1.17	.55

CAL YR 1971 TOTAL 73,618 MEAN 202 MAX 4,430 MIN 41 CFSM 1.59 IN 21.56
WTR YR 1972 TOTAL 97,106 MEAN 265 MAX 7,430 MIN 53 CFSM 2.09 IN 28.44

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-2	1030	6.05	1,360	2-13	0930	6.03	1,350
10-25	1030	8.27	3,500	6-21	1800	14.25	14,400

POTOMAC RIVER BASIN

01627500 SOUTH RIVER AT HARRISTON, VA.

LOCATION.--Lat 38°13'07", long 78°50'13", Augusta County, on left bank 100 ft downstream from bridge on State Highway 778, 0.3 mile northwest of Harriston, 0.6 mile downstream from Paine Run, and 7.2 miles upstream from confluence with North River.

DRAINAGE AREA.--212 sq mi (revised).

PERIOD OF RECORD.--February 1925 to September 1951, October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,129.87 ft above mean sea level. Prior to Sept. 1, 1938, non-recording gage at same site and datum.

AVERAGE DISCHARGE.--30 years, 243 cfs (15.57 inches per year).

EXTREMES.--Current year: Maximum discharge, 21,300 cfs June 21 (gage height, 15.25 ft), from rating curve extended above 11,000 cfs; minimum, 82 cfs Sept. 26; minimum gage height, 2.43 ft Oct. 1.

Period of record: Maximum discharge, 23,100 cfs Oct. 15, 1942 (gage height, 17.2 ft), from rating curve extended above 7,300 cfs; minimum, 17 cfs Nov. 14, 1941; minimum gage height, 2.20 ft Oct. 31, Nov. 3, 4, 9, 1968.

Floods in 1870 and 1877 reached a stage of about 18.8 ft, from information by observer in 1925.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1171: 1926(M), 1927-28, 1929-32(M), 1933, 1934(M), 1935, 1937. WSP 1302: 1937(M), 1938(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	169	555	373	158	155	500	255	279	341	630	530	120
2	1,800	475	316	168	158	484	255	269	296	520	450	120
3	1,550	443	282	170	188	535	237	313	272	400	431	118
4	1,100	427	262	165	355	475	225	1,130	249	370	373	128
5	700	377	246	178	306	431	216	940	296	670	348	122
6	460	348	231	172	286	388	210	645	243	840	306	120
7	337	330	279	168	279	355	213	516	228	670	292	114
8	272	306	399	162	255	334	427	455	210	530	275	110
9	243	289	384	158	234	309	388	484	198	440	258	100
10	323	279	352	180	219	292	334	431	190	400	240	98
11	330	265	323	188	210	275	313	370	180	380	225	98
12	265	255	292	180	204	262	292	341	170	540	219	96
13	243	246	272	178	1,350	255	303	320	165	1,400	216	94
14	225	228	252	178	1,250	265	330	334	185	1,100	309	93
15	207	219	243	172	800	262	327	373	175	900	231	98
16	192	213	234	152	650	255	341	391	162	680	201	93
17	237	204	225	150	560	320	388	348	231	560	201	91
18	255	201	207	160	500	309	337	359	279	480	201	89
19	222	195	198	158	460	279	299	363	404	420	198	87
20	222	192	204	160	420	262	286	506	857	360	204	85
21	275	190	216	162	375	255	272	565	10,400	330	178	87
22	272	182	198	162	380	363	366	664	12,300	320	165	91
23	506	172	188	162	390	484	511	730	4,800	315	162	87
24	3,210	178	188	178	400	427	484	640	2,980	285	152	85
25	3,270	190	185	172	500	381	435	595	2,200	260	150	85
26	2,670	185	182	162	800	352	388	463	1,640	245	143	84
27	1,600	188	180	158	910	323	359	391	1,310	240	145	85
28	1,100	207	178	165	750	306	330	352	1,050	270	145	87
29	850	255	170	165	580	286	309	320	860	370	141	91
30	730	443	168	162	-----	272	292	292	750	570	134	130
31	620	-----	165	162	-----	269	-----	373	-----	620	122	-----
TOTAL	24,455	8,237	7,592	5,165	13,924	10,565	9,722	14,552	43,621	16,115	7,345	2,986
MEAN	789	275	245	167	480	341	324	469	1,454	520	237	99.5
MAX	3,270	555	399	188	1,350	535	511	1,130	12,300	1,400	530	130
MIN	169	172	165	150	155	255	210	269	162	240	122	84
CFSM	3.72	1.30	1.16	.79	2.26	1.61	1.53	2.21	6.86	2.45	1.12	.47
IN.	4.29	1.45	1.33	.91	2.44	1.85	1.71	2.55	7.65	2.83	1.29	.52

CAL YR 1971 TOTAL 127,764 MEAN 350 MAX 7,220 MIN 78 CFSM 1.65 IN 22.42
WTR YR 1972 TOTAL 164,279 MEAN 449 MAX 12,300 MIN 84 CFSM 2.12 IN 28.83

PEAK DISCHARGE (BASE, 1,200 CFS)

NOTE.--NO GAGE-HEIGHT RECORD JUNE 28 TO AUG. 2.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-2	UNKNOWN	6.40	2,080	5-22	2300	5.46	1,560
10-25	1700	9.02	4,610	6-21	2100	15.25	21,300
2-13	UNKNOWN	UNKNOWN	UNKNOWN	7-13	UNKNOWN	UNKNOWN	UNKNOWN
5-4	1030	5.28	1,450				

POTOMAC RIVER BASIN

29

01628500 SOUTH FORK SHENANDOAH RIVER NEAR LYNNWOOD, VA.

LOCATION.--Lat 38°19'20", long 78°45'30", Rockingham County, on left bank 1.2 miles northeast of Lynnwood and 3.3 miles downstream from confluence of North and South Rivers.

DRAINAGE AREA.--1,084 sq mi.

PERIOD OF RECORD.--September 1930 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,013.17 ft above mean sea level.

AVERAGE DISCHARGE.--42 years, 954 cfs (11.95 inches per year).

EXTREMES.--Current year: Maximum discharge, 50,700 cfs June 22 (gage height, 23.45 ft), from rating curve extended as explained below; minimum, 350 cfs Oct. 1 (gage height, 2.45 ft).

Period of record: Maximum discharge, 80,000 cfs Oct. 15, 1942 (gage height, 27.2 ft), from rating curve extended above 20,000 cfs on basis of computations of flow over dam at gage heights 23.60 and 27.2 ft; minimum, 32 cfs Sept. 20, 1932 (gage height, 1.63 ft); minimum daily, 93 cfs Sept. 21, 29, 1930. Maximum stage since at least 1870, that of Oct. 15, 1942.

REMARKS.--Records good. Diurnal fluctuation at low flow prior to 1960 caused by mill at Lynnwood. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1171: 1933(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	400	1,320	1,180	447	481	2,780	789	947	1,070	3,250	3,050	510
2	2,160	1,170	1,020	467	486	2,740	764	869	973	2,450	2,290	508
3	2,740	1,140	929	486	561	2,690	717	921	879	1,970	2,380	512
4	1,920	1,100	860	464	1,410	2,340	674	2,580	778	1,630	1,650	609
5	1,410	950	795	495	1,060	1,970	647	2,480	855	3,580	1,770	534
6	1,050	871	740	481	964	1,670	614	2,050	722	4,730	1,390	509
7	815	925	894	460	924	1,470	613	1,730	655	3,380	1,270	489
8	569	766	1,790	454	831	1,320	1,170	1,500	597	2,610	1,170	477
9	587	728	1,090	455	747	1,190	1,080	1,680	550	2,090	1,060	465
10	726	690	1,540	507	693	1,110	920	1,670	518	1,730	968	453
11	785	657	1,390	554	651	1,030	879	1,480	486	1,480	912	439
12	603	642	1,180	547	627	981	860	1,340	468	1,530	896	437
13	532	619	1,040	537	4,740	947	872	1,210	456	3,270	834	440
14	496	609	927	543	5,300	938	974	1,160	494	2,520	928	430
15	470	559	856	535	3,140	928	1,020	1,270	540	1,920	815	432
16	444	542	806	476	2,480	889	1,060	1,350	475	1,600	759	423
17	494	528	740	421	2,200	1,070	1,210	1,230	520	1,450	761	413
18	523	519	681	485	1,990	972	1,200	1,330	750	1,420	807	405
19	478	507	638	490	1,870	877	1,170	1,220	640	1,260	739	410
20	458	499	624	474	1,580	823	1,120	1,570	750	1,190	869	398
21	505	489	641	478	1,390	794	1,050	1,820	6,950	1,110	705	397
22	510	468	594	476	1,400	953	1,280	1,780	41,500	1,060	660	412
23	652	455	547	481	1,510	1,210	2,200	3,560	15,100	1,060	640	406
24	5,750	467	530	515	1,570	1,230	2,170	2,680	8,180	1,010	616	394
25	7,360	508	526	518	2,440	1,210	1,910	1,930	5,290	872	598	399
26	6,200	489	504	482	4,370	1,150	1,670	1,520	3,770	810	626	395
27	3,800	486	498	480	5,270	1,060	1,430	1,240	2,830	761	598	401
28	2,730	547	485	495	2,930	998	1,260	1,080	2,600	792	598	407
29	2,090	681	472	514	3,110	933	1,120	974	5,780	1,170	578	404
30	1,710	1,280	461	505	-----	882	1,030	892	4,490	3,530	545	474
31	1,480	-----	460	493	-----	835	-----	496	-----	4,760	524	-----
TOTAL	50,547	21,111	26,438	15,215	57,725	39,990	33,473	48,059	109,666	61,995	32,006	13,382
MEAN	1,631	704	853	491	1,991	1,290	1,116	1,550	3,656	2,000	1,032	446
MAX	7,360	1,320	1,990	554	5,300	2,780	2,200	3,560	41,500	4,760	3,050	609
MIN	400	455	460	421	481	794	613	869	456	761	524	394
CFSM	1.50	.65	.79	.45	1.84	1.19	1.03	1.43	3.37	1.85	.95	.41
IN.	1.73	.72	.91	.52	1.98	1.37	1.15	1.65	3.76	2.13	1.10	.46

CAL YR 1971 TOTAL 449,880 MEAN 1,233 MAX 21,300 MIN 277 CFSM 1.14 IN 15.44
WTR YR 1972 TOTAL 509,607 MEAN 1,392 MAX 41,500 MIN 394 CFSM 1.28 IN 17.49

PEAK DISCHARGE (BASE, 7,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	2100	12.24	11,900	6-22	0900	23.45	50,700
2-13	1900	11.13	9,920	6-29	0900	9.58	7,570

POTOMAC RIVER BASIN

01631000 SOUTH FORK SHENANDOAH RIVER AT FRONT ROYAL, VA.

LOCATION.--Lat 38°54'50", long 78°12'40", Warren County, on left bank 0.7 mile downstream from bridge on State Highway 619, 1.0 mile west of Front Royal, and 3.5 miles upstream from confluence with North Fork.

DRAINAGE AREA.--1,642 sq mi.

PERIOD OF RECORD.--June 1899 to September 1906, September 1930 to current year. Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 469.38 ft above mean sea level. June 1899 to July 1906, non-recording gage at site 1.0 mile upstream at different datum.

AVERAGE DISCHARGE.--49 years, 1,554 cfs (12.85 inches per year).

EXTREMES.--Current year: Maximum discharge, 75,100 cfs June 22 (gage height, 23.98 ft); minimum, 486 cfs Sept. 12 (gage height, 1.34 ft).

Period of record: Maximum discharge, 130,000 cfs Oct. 16, 1942 (gage height, 34.8 ft, from floodmark in gage well), from rating curve extended above 92,000 cfs on basis of slope-area measurement of peak flow; minimum, 59 cfs Jan. 30, 1934 (gage height, 0.56 ft); minimum daily, 103 cfs Sept. 30, 1930. Maximum stage since at least 1870, that of Oct. 16, 1942.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Large diurnal fluctuation at low and medium flow caused by powerplants above station prior to 1954; occasional large diurnal fluctuation thereafter. Water-quality records for the current year are included in this report.

REVISIONS (WATER YEARS).--WSP 951: 1936(M). WSP 1171: 1935(M), 1937(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	720	2,600	2,090	770	84C	4,880	1,420	1,710	1,450	7,020	5,350	720
2	2,340	2,300	1,920	830	840	4,430	1,350	1,600	1,560	5,100	3,600	680
3	6,140	2,100	1,690	830	87C	4,590	1,320	1,550	1,470	3,940	2,730	660
4	4,880	2,000	1,530	860	1,150	4,380	1,250	2,160	1,340	3,090	2,800	710
5	3,400	1,900	1,400	890	1,920	3,790	1,200	4,840	1,330	2,770	2,080	710
6	2,510	1,750	1,350	890	1,770	3,160	1,140	4,090	1,220	4,970	2,100	770
7	1,980	1,600	1,390	900	1,550	2,710	1,150	3,260	1,240	5,830	1,810	700
8	1,610	1,500	1,690	850	1,480	2,390	1,240	2,730	1,060	4,390	1,610	660
9	1,350	1,400	2,460	800	1,350	2,160	1,480	2,640	1,010	3,400	1,470	640
10	1,360	1,300	2,800	880	1,220	1,930	1,730	2,770	930	2,740	1,330	630
11	1,530	1,250	2,400	940	1,150	1,820	1,550	2,650	890	2,320	1,230	610
12	1,580	1,200	2,080	970	1,10C	1,730	1,430	2,360	850	2,080	1,160	540
13	1,370	1,150	1,840	980	3,450	1,670	1,760	2,160	800	2,020	1,170	580
14	1,110	1,100	1,660	970	11,200	1,680	1,810	2,010	780	3,870	1,110	570
15	1,050	1,050	1,530	960	7,62C	1,620	1,700	1,910	800	3,120	1,090	600
16	1,010	1,050	1,390	900	5,010	1,600	1,720	2,090	850	2,470	1,130	570
17	910	1,000	1,340	890	3,94C	1,720	2,190	2,100	820	2,130	1,000	560
18	870	950	1,230	860	3,430	1,890	2,100	2,030	820	1,950	1,030	560
19	940	920	1,180	790	3,240	1,820	2,010	2,030	960	1,820	1,030	540
20	920	920	1,160	880	2,830	1,710	1,900	3,330	1,050	1,710	1,030	513
21	860	900	1,040	870	2,460	1,450	1,810	3,850	2,510	1,560	1,000	522
22	840	880	1,090	840	2,280	1,600	2,220	3,620	54,200	1,510	1,020	570
23	910	860	1,050	840	2,400	1,790	3,090	3,260	57,000	1,430	860	580
24	2,670	850	970	860	2,550	2,010	3,840	4,700	19,300	1,380	850	570
25	11,400	880	930	880	3,550	1,970	3,530	3,720	10,400	1,370	830	560
26	13,500	940	930	880	6,25C	1,920	3,000	2,740	7,320	1,210	840	540
27	8,780	900	920	860	8,72C	1,830	2,580	2,230	5,350	1,130	940	540
28	5,870	900	890	820	7,860	1,730	2,250	1,910	4,570	1,090	860	570
29	4,390	1,000	880	830	5,960	1,640	2,020	1,700	5,710	1,070	790	570
30	3,450	1,600	860	850	-----	1,550	1,820	1,570	9,980	1,280	770	600
31	3,000	-----	840	860	-----	1,450	-----	1,490	-----	3,870	750	-----
TOTAL	93,250	38,750	44,530	27,030	97,990	70,670	57,610	80,810	197,570	83,640	45,370	18,145
MEAN	3,008	1,292	1,436	872	3,379	2,280	1,920	2,607	6,586	2,698	1,464	605
MAX	13,500	2,600	2,800	980	11,200	4,880	3,840	4,840	57,000	7,020	5,350	770
MIN	720	850	840	770	840	1,450	1,140	1,490	780	1,070	750	513
CFSM	1.83	.79	.87	.53	2.06	1.39	1.17	1.59	4.01	1.64	.89	.37
IN.	2.11	.98	1.01	.61	2.22	1.60	1.31	1.83	4.48	1.89	1.03	.41

CAL YR 1971 TOTAL 710,445 MEAN 1,946 MAX 41,600 MIN 399 CFSM 1.19 IN 16.10
WTR YR 1972 TOTAL 855,365 MEAN 2,337 MAX 57,000 MIN 513 CFSM 1.42 IN 19.38

PEAK DISCHARGE (BASE, 8,500 CFS)

NOTE.--NO GAGE-HEIGHT RECORD OCT. 30 TO NOV. 30.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-26	1615	9.44	15,800	6-22	1645	23.98	75,100
2-14	1345	8.85	14,100	6-30	0415	7.84	11,300
2-27	1145	6.86	9,220				

01632000 NORTH FORK SHENANDOAH RIVER AT COOTES STORE, VA.

LOCATION.--Lat 38°38'13", long 78°51'11", Rockingham County, on right bank at Cootes Store, 300 ft upstream from bridge on State Highway 259, and 3.7 miles upstream from Linville Creek.

DRAINAGE AREA.--210 sq mi.

PERIOD OF RECORD.--February 1925 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,051.8 ft above mean sea level (Corps of Engineers bench mark). Prior to Nov. 15, 1937, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--47 years, 183 cfs (11.83 inches per year).

EXTREMES.--Current year: Maximum discharge, 13,900 cfs June 22 (gage height, 14.98 ft), from rating curve extended as explained below; minimum, 4.2 cfs Sept. 27 (gage height, 2.02 ft).
Period of record: Maximum discharge, 50,000 cfs Oct. 15, 1942 (gage height, 25.3 ft, from floodmark), from rating curve extended above 9,000 cfs on basis of contracted-opening measurement of peak flow; minimum, 0.20 cfs Aug. 28, 29, Sept. 4, 1957, Sept. 7-10, 1966; minimum gage height, 1.74 ft Sept. 7-10, 1966.
Maximum stage since at least 1836, that of Oct. 15, 1942.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 726: 1928-31. WSP 951: 1936, 1939(M). WSP 1171: 1935, 1937, 1938(M). WSP 1502: 1926, 1927-28(M), 1929, 1930-34(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	136	451	39	41	1,120	103	183	203	962	194	13
2	268	116	316	41	45	954	97	160	137	544	129	13
3	485	105	235	38	59	719	88	199	103	377	121	12
4	213	93	192	40	234	509	81	1,940	82	252	110	12
5	204	79	156	43	195	388	76	1,180	72	572	110	11
6	147	68	135	37	174	298	69	700	61	830	83	11
7	112	60	180	35	168	240	88	492	53	577	70	10
8	87	54	400	34	129	206	258	385	45	393	62	9.5
9	70	49	370	34	126	176	344	480	39	270	50	8.8
10	64	46	200	35	110	152	352	495	36	191	41	8.1
11	54	43	240	36	102	132	332	431	32	145	36	7.6
12	44	41	200	37	90	121	290	360	29	119	32	7.6
13	39	39	170	38	1,000	113	800	294	27	111	33	7.4
14	34	36	150	39	877	114	700	279	28	83	32	7.0
15	30	35	135	39	683	112	580	358	27	67	28	7.0
16	28	33	124	31	765	107	500	519	24	71	27	6.7
17	20	32	110	33	601	126	520	449	27	117	29	6.1
18	29	30	100	34	457	117	500	371	26	95	29	6.2
19	26	29	92	36	379	107	390	338	52	81	47	5.5
20	24	28	85	36	284	99	310	1,120	42	178	41	5.0
21	24	27	79	37	230	94	250	839	3,580	80	31	5.1
22	22	26	73	36	210	166	400	617	6,780	62	26	5.1
23	23	25	68	36	250	240	1,000	456	5,130	53	23	4.6
24	2,150	27	63	38	350	228	700	341	1,890	43	21	4.4
25	2,030	29	59	38	1,460	202	540	255	821	37	20	4.4
26	1,580	27	55	36	3,760	182	440	192	503	32	22	4.4
27	737	29	51	35	2,210	166	360	150	336	31	20	5.3
28	439	36	48	37	1,080	155	300	122	358	31	19	5.8
29	287	199	45	39	928	140	250	103	4,010	38	17	7.0
30	207	622	42	41	-----	128	210	88	2,630	295	15	9.4
31	166	-----	40	42	-----	114	-----	180	-----	360	14	-----
TOTAL	9,793	2,199	4,764	1,149	16,997	7,725	10,928	14,076	27,183	7,047	1,532	230.0
MEAN	316	73.3	154	37.1	586	249	364	454	906	227	49.4	7.67
MAX	2,150	622	451	43	3,760	1,120	1,000	1,940	6,780	962	194	13
MIN	27	25	40	31	41	94	69	88	24	31	14	4.4
CFSM	1,500	335	673	618	2,79	1,19	1,73	2,16	4,31	1,08	24	0.04
IN,	1,73	639	884	620	3,01	1,37	1,94	2,49	4,82	1,25	27	0.04

CAL YR 1971 TOTAL 84,413.9 MEAN 231 MAX 6,520 MIN 4.2 CFSM 1.10 IN 14.95
WTR YR 1972 TOTAL 103,623.0 MEAN 293 MAX 6,780 MIN 4.4 CFSM 1.35 IN 18.36

PEAK DISCHARGE (BASE, 3,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	1245	8.20	3,550	6-22	0045	14.98	13,900
2-26	1145	9.18	4,640	6-29	0715	10.50	6,300

POTOMAC RIVER BASIN

01632900 SMITH CREEK NEAR NEW MARKET, VA.

LOCATION.--Lat 38°41'36", long 78°38'35", Shenandoah County, on left bank 25 ft upstream from bridge on State Highway 616, 3.6 miles north of New Market, and 4.4 miles upstream from mouth.

DRAINAGE AREA.--93.2 sq mi.

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 881.50 ft above mean sea level. Prior to Aug. 2, 1963, on right bank a short distance downstream, at datum 0.71 ft higher.

AVERAGE DISCHARGE.--12 years, 63.1 cfs (9.19 inches per year).

EXTREMES.--Current year: Maximum discharge, 6,280 cfs June 22 (gage height, 13.22 ft), from rating curve extended as explained below; minimum, 27 cfs Sept. 21; minimum gage height, 1.57 ft Sept. 19, 20, 21.

Period of record: Maximum discharge, 6,280 cfs June 22, 1972 (gage height, 13.22 ft), from rating curve extended above 2,300 cfs on basis of contracted opening measurement; minimum, 7.2 cfs Jan. 20, 1966; minimum gage height, 1.34 ft Aug. 4, 1966, July 6, 1969.

Flood of Oct. 1, 1959, reached a stage of 10.7 ft, from information by local residents.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	103	94	42	32	156	64	66	62	305	76	36
2	219	95	76	44	33	142	62	64	56	215	70	37
3	194	93	70	45	39	136	60	72	54	180	76	36
4	138	87	66	43	78	129	56	322	52	160	72	38
5	117	78	64	45	62	118	56	176	56	255	68	36
6	104	76	62	44	54	106	54	128	50	222	64	36
7	94	74	80	41	52	102	58	111	49	165	62	35
8	87	68	98	40	48	95	89	105	46	147	62	34
9	83	68	83	41	47	87	72	125	45	135	56	34
10	123	66	76	44	43	84	64	108	43	123	54	34
11	113	64	74	44	42	82	62	93	42	114	52	33
12	92	62	70	41	42	80	60	87	41	112	52	33
13	85	60	66	40	834	76	91	82	40	118	52	33
14	80	58	64	40	324	78	78	83	42	104	52	32
15	76	58	62	39	174	78	68	92	41	96	50	32
16	76	56	60	39	143	82	70	95	38	94	49	32
17	74	54	58	38	126	99	86	80	42	105	52	32
18	70	54	56	38	115	84	70	99	42	94	52	32
19	66	52	54	37	120	76	66	90	37	86	49	31
20	64	52	54	36	107	72	64	222	39	80	50	30
21	64	50	54	37	98	70	62	136	544	78	47	31
22	64	50	50	37	128	83	154	116	3,280	74	44	33
23	72	48	49	36	133	94	143	106	971	74	43	30
24	448	49	49	38	143	88	114	91	409	70	42	29
25	470	54	49	37	420	76	99	84	266	66	41	29
26	305	49	48	35	574	74	89	76	208	62	41	29
27	187	52	47	34	306	74	82	72	172	62	41	30
28	155	62	46	35	215	72	87	70	327	64	40	32
29	130	105	44	35	176	68	84	66	1,090	68	38	32
30	120	159	44	35	-----	66	70	62	625	110	37	37
31	110	-----	43	33	-----	64	-----	66	-----	103	37	-----
TOTAL	4,142	2,056	1,910	1,213	4,708	2,791	2,334	3,245	8,809	3,741	1,621	988
MEAN	134	68.5	61.6	39.1	162	90.0	77.8	105	294	121	52.3	32.9
MAX	470	159	98	45	834	156	154	322	3,280	305	76	38
MIN	62	48	43	33	32	64	54	62	37	62	37	29
CFSM	1.44	.74	.66	.42	1.74	.97	.83	1.13	3.15	1.30	.56	.35
IN.	1.65	.82	.76	.48	1.88	1.11	.93	1.30	3.52	1.49	.65	.39

CAL YR 1971 TOTAL 34,051 MEAN 93.3 MAX 1,290 MIN 24 CFSM 1.00 IN 13.59
WTR YR 1972 TOTAL 37,558 MEAN 103 MAX 3,280 MIN 29 CFSM 1.11 IN 14.99

PEAK DISCHARGE (BASE, 650 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1600	6.20	795	6-22	0230	13.22	6,280
2-13	1730	8.76	1,900	6-29	1000	8.37	1,660

01633000 NORTH FORK SHENANDOAH RIVER AT MOUNT JACKSON, VA.

LOCATION.--Lat 38°44'44", long 78°38'21", Shenandoah County, on downstream side near center of span of bridge on State Highway 698 at Mount Jackson and 0.3 mile downstream from Mill Creek.

DRAINAGE AREA.--506 sq mi.

PERIOD OF RECORD.--October 1943 to current year.

GAGE.--Nonrecording gage and crest-stage gage. Datum of gage is 838.55 ft above mean sea level.

AVERAGE DISCHARGE.--29 years, 354 cfs (9.50 inches per year).

EXTREMES.--Current year: Maximum discharge, 21,200 cfs June 22 (gage height, 16.08 ft), from rating curve extended as explained below; minimum observed, 73 cfs Sept. 19, 20, 26, 27.

Period of record: Maximum discharge, 30,000 cfs Aug. 18, 1955 (gage height, 17.32 ft), from rating curve extended above 18,000 cfs on basis of peak runoff for flood in October 1942 for stations at Cootes Store and near Strasburg; minimum, 7.0 cfs Sept. 3, 1966 (gage height, 1.97 ft).

Flood in October 1942 reached a stage of 20.2 ft, from floodmarks (discharge, about 80,000 cfs), from rating curve extended as explained above.

REMARKS.--Records good. Some diversion during low flow by irrigation at points above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1382: 1945, 1948-50(M), 1951-53(P), 1954(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	146	389	740	134	110	1,590	244	366	412	2,070	510	113
2	412	345	538	140	113	1,370	244	303	324	1,300	366	113
3	860	345	485	140	140	1,160	229	345	263	980	345	107
4	620	303	412	140	412	920	222	2,420	240	800	345	119
5	436	282	324	140	324	710	214	1,910	237	1,080	303	116
6	366	244	282	134	303	592	200	1,160	207	1,590	282	107
7	282	244	324	128	280	510	196	860	193	1,160	263	105
8	244	226	282	122	260	460	412	710	179	860	263	102
9	229	214	740	122	244	412	460	860	166	710	222	96
10	282	211	592	134	207	366	460	860	159	565	200	94
11	263	200	485	134	193	345	460	740	146	510	193	94
12	211	190	412	128	186	324	412	650	140	460	179	91
13	186	182	366	128	1,230	303	860	538	134	460	179	94
14	172	176	324	131	1,830	324	1,100	510	143	389	179	83
15	166	172	282	125	1,230	324	860	565	137	345	172	83
16	153	166	282	128	1,160	303	680	860	99	345	153	83
17	153	159	263	122	980	366	800	710	131	510	172	81
18	143	153	233	116	770	324	680	710	140	412	176	78
19	134	150	222	122	740	303	565	592	122	345	153	73
20	128	146	214	119	565	282	510	1,610	156	412	240	73
21	122	140	207	119	460	263	436	1,370	1,270	324	169	81
22	119	137	193	116	565	324	860	1,040	11,100	282	156	91
23	128	131	179	116	800	412	1,510	860	7,700	282	150	78
24	1,580	125	172	116	770	412	1,160	650	4,130	263	143	78
25	2,920	156	169	116	1,600	366	980	510	1,790	237	137	76
26	2,810	146	162	116	4,300	345	770	436	1,160	218	134	73
27	1,300	140	150	110	3,200	324	620	366	860	211	137	78
28	860	166	153	110	1,830	324	510	324	1,300	233	131	88
29	650	222	146	110	1,440	282	436	303	6,560	237	125	88
30	510	1,160	140	113	-----	282	389	263	4,880	565	119	107
31	436	-----	137	116	-----	263	-----	324	-----	710	113	-----
TOTAL	17,021	7,020	9,610	3,845	26,242	14,885	17,479	23,725	44,478	18,865	6,409	2,743
MEAN	549	234	310	124	905	480	583	765	1,483	609	207	91.4
MAX	2,920	1,160	740	140	4,300	1,590	1,510	2,420	11,100	2,070	510	119
MIN	119	125	137	110	110	263	196	263	99	211	113	73
CFSM	1.09	.46	.61	.25	1.79	.95	1.15	1.51	2.93	1.20	.41	.18
IN.	1.25	.52	.71	.28	1.93	1.09	1.29	1.74	3.27	1.39	.47	.20
CAL YR 1971	TOTAL 169,384	MEAN 464	MAX 6,620	MIN 55	CFSM .92	IN 12.45						
WTR YR 1972	TOTAL 192,322	MEAN 525	MAX 11,100	MIN 73	CFSM 1.04	IN 14.14						

PEAK DISCHARGE (BASE, 5,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-26	UNKNOWN	9.10	5,220	6-22	UNKNOWN	16.08	21,200
2-26	UNKNOWN	9.37	5,580	6-29	UNKNOWN	11.62	8,560

POTOMAC RIVER BASIN

01634000 NORTH FORK SHENANDOAH RIVER NEAR STRASBURG, VA.

LOCATION.--Lat 38°58'36", long 78°20'11", Warren County, on right bank at downstream side of bridge on State Highway 55, 1.5 miles southeast of Strasburg, 2.2 miles upstream from Cedar Creek, and 10 miles upstream from confluence with South Fork.

DRAINAGE AREA.--768 sq mi.

PERIOD OF RECORD.--March 1925 to current year.

GAGE.--Water-stage recorder. Datum of gage is 494.03 ft above mean sea level. Prior to Sept. 21, 1930, non-recording gage at same site and datum.

AVERAGE DISCHARGE.--47 years, 558 cfs (9.87 inches per year).

EXTREMES.--Current year: Maximum discharge, 25,100 cfs June 22 (gage height, 20.88 ft); minimum, 159 cfs Sept. 20, 21, 27 (gage height, 2.01 ft).

Period of record: Maximum discharge, 100,000 cfs Oct. 16, 1942 (gage height, 31.2 ft, from high-water mark in gage well), from rating curve extended above 46,000 cfs; minimum, 6.0 cfs Feb. 9, 1934 (gage height, 1.52 ft); minimum daily, 41 cfs Sept. 26, Oct. 1, 1930.

Maximum stage since at least 1870, that of Oct. 16, 1942.

REMARKS.--Records good. Water-quality records for the current year are included in this report.

REVISIONS (WATER YEARS).--WSP 951: 1936(M). WSP 1001: 1931. WSP 1171: 1929(M), 1933(M), 1936-37. WSP 1302: 1928(M), 1930(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	262	688	1,230	250	202	1,920	432	671	661	4,060	945	205
2	297	627	913	266	202	1,960	417	623	724	2,290	624	202
3	502	584	717	259	224	1,750	402	611	592	1,840	516	201
4	949	544	602	267	297	1,450	388	1,160	525	1,390	487	203
5	741	502	535	273	453	1,180	372	3,480	493	1,330	519	200
6	597	459	483	266	511	994	359	2,130	464	1,990	461	204
7	510	431	506	256	469	960	364	1,500	420	1,920	431	197
8	442	404	654	242	440	776	390	1,200	388	1,460	400	191
9	388	380	1,050	246	388	705	516	1,160	360	1,220	385	186
10	416	362	957	283	357	648	634	1,410	338	1,010	359	182
11	411	346	805	275	321	604	665	1,290	316	858	331	178
12	423	333	692	275	299	571	651	1,100	301	765	315	175
13	352	322	610	268	759	554	729	966	291	714	334	174
14	318	310	549	259	3,620	546	1,530	868	288	700	334	176
15	296	296	497	253	2,050	545	1,490	840	287	629	305	178
16	281	284	469	232	1,510	539	1,210	980	292	607	298	175
17	270	276	440	244	1,440	549	1,240	1,180	284	652	290	171
18	259	268	410	255	1,250	585	1,190	1,090	284	981	303	177
19	249	258	378	239	1,120	548	1,010	1,080	289	738	315	166
20	240	254	357	226	977	506	891	1,330	303	572	301	163
21	231	248	347	222	812	481	794	2,320	786	591	304	160
22	227	241	340	219	767	482	998	1,780	15,300	535	290	166
23	238	234	323	218	850	513	2,290	1,590	15,700	485	265	169
24	542	231	303	229	1,100	607	2,060	1,240	9,460	455	255	174
25	3,370	248	293	222	1,420	605	1,660	1,010	3,770	424	248	167
26	3,930	251	295	221	4,230	564	1,350	849	2,260	396	239	163
27	2,490	253	278	212	5,800	537	1,130	730	1,630	378	242	165
28	1,590	251	272	204	3,250	513	946	649	1,290	367	250	174
29	1,170	339	265	202	2,220	495	817	591	2,100	374	230	179
30	929	643	263	205	-----	474	734	546	6,920	398	218	190
31	784	-----	256	203	-----	454	-----	548	-----	656	211	-----
TOTAL	23,683	10,867	16,079	7,491	37,348	23,515	27,669	36,542	67,016	30,795	10,905	5,411
MEAN	764	362	519	242	1,288	759	922	1,179	2,234	993	352	180
MAX	3,930	688	1,230	283	5,800	1,960	2,290	3,480	15,700	4,060	845	205
MIN	227	231	256	202	202	454	359	546	284	367	211	160
CFSM	.99	.47	.68	.32	1.68	.99	1.20	1.54	2.91	1.29	.46	.23
IN.	1.15	.53	.78	.36	1.81	1.14	1.34	1.77	3.25	1.49	.53	.26

CAL YR 1971 TOTAL 255,528 MEAN 700 MAX 12,000 MIN 133 CFSM .91 IN 12.38
WTR YR 1972 TOTAL 297,321 MEAN 812 MAX 15,700 MIN 160 CFSM 1.06 IN 14.40

PEAK DISCHARGE (BASE, 6,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-27	0530	9.45	6,640	6-30	0600	10.46	7,850
6-22	2300	20.88	25,100				

01634500 CEDAR CREEK NEAR WINCHESTER, VA.

LOCATION.--Lat 39°04'52", long 78°19'47", Frederick County, on left bank 0.2 mile upstream from Fawcett Run, 0.3 mile upstream from bridge on State Highway 628, 1.3 miles downstream from Froman Run, and 11.4 miles southwest of Winchester.

DRAINAGE AREA.--103 sq mi.

PERIOD OF RECORD.--June 1937 to current year.

GAGE.--Water-stage recorder. Datum of gage is 647.09 ft above mean sea level.

AVERAGE DISCHARGE.--35 years, 85.5 cfs (11.27 inches per year).

EXTREMES.--Current year: Maximum discharge, 20,300 cfs June 22 (gage height, 23.19 ft, from high-water mark in gage house), from rating curve extended above 3,000 cfs on basis of slope-area measurement of peak flow; minimum, 12 cfs Sept. 20, 21, 24.

Period of record: Maximum discharge, 22,000 cfs Oct. 15, 1942 (gage height, 27.0 ft, from floodmarks), from rating curve extended above 15,000 cfs; minimum, 1.8 cfs Feb. 19, 1941, Dec. 7, 1958, result of freezeups; minimum gage height, 1.04 ft Feb. 19, 1941; minimum daily discharge, 2.8 cfs Sept. 7, 1964, Sept. 3, 4, 7, 8, 1966.

Flood of Mar. 17, 1936, reached a stage of about 25 ft (discharge, about 18,000 cfs), from information by local residents.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	152	207	36	47	414	82	130	214	260	51	15
2	68	130	146	57	52	358	100	120	146	230	41	15
3	141	120	124	63	60	298	82	217	116	200	36	15
4	93	105	108	52	200	236	69	580	124	160	36	17
5	82	91	91	72	105	204	63	386	166	210	46	18
6	70	85	88	68	94	171	60	280	100	230	35	16
7	58	78	152	60	84	152	79	225	84	164	38	15
8	52	72	200	58	73	139	120	200	69	139	47	14
9	46	66	168	79	76	132	126	417	60	120	31	14
10	69	63	152	101	70	118	128	403	56	98	28	13
11	63	60	130	91	65	105	116	313	48	85	26	13
12	49	57	108	78	62	100	106	253	44	79	24	13
13	41	55	100	69	1,310	139	268	210	39	84	25	13
14	38	52	88	68	600	197	283	204	42	70	24	13
15	35	48	84	58	344	214	233	204	40	69	24	17
16	33	47	80	49	274	187	278	192	38	78	24	15
17	34	43	73	52	230	217	620	164	44	996	24	13
18	32	42	65	62	202	183	328	162	37	663	28	13
19	30	41	58	62	187	150	256	139	41	233	24	13
20	29	39	60	57	146	132	217	492	37	150	23	12
21	28	38	58	55	162	128	178	358	970	110	20	12
22	27	36	52	51	183	162	751	310	9,500	85	19	14
23	31	34	46	50	202	159	540	361	3,800	70	19	13
24	608	35	46	68	173	132	400	244	1,500	61	22	12
25	1,080	42	44	63	387	122	310	192	840	52	22	14
26	765	39	43	56	1,480	114	250	152	500	46	22	13
27	424	44	44	52	765	106	210	128	330	43	21	14
28	286	75	43	55	520	101	183	110	250	49	24	18
29	210	329	41	56	476	100	159	96	300	43	20	19
30	173	384	39	56	-----	98	139	86	380	54	18	20
31	157	-----	37	52	-----	85	-----	187	-----	65	16	-----
TOTAL	4,884	2,502	2,775	1,906	8,629	5,153	6,734	7,515	19,915	4,996	858	436
MEAN	158	83.4	89.5	61.5	298	166	224	242	664	161	27.7	14.5
MAX	1,080	384	207	101	1,480	414	751	580	9,500	996	51	20
MIN	27	34	37	36	47	85	60	86	37	43	16	12
CFSM	1.53	.81	.87	.60	2.89	1.61	2.17	2.35	6.45	1.56	.27	.14
IN.	1.76	.90	1.00	.69	3.12	1.86	2.43	2.71	7.19	1.80	.31	.16

CAL YR 1971 TOTAL 47,320 MEAN 130 MAX 1,730 MIN 12 CFSM 1.26 IN 17.09
WTR YR 1972 TOTAL 66,303 MEAN 181 MAX 9,500 MIN 12 CFSM 1.76 IN 23.95

PEAK DISCHARGE (BASE, 1,000 CFS)

NOTE.--NO GAGE-HEIGHT RECORD JUNE 22 TO JULY 6.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1700	7.12	2,300	4-22	1500	5.63	1,440
2-13	1630	8.18	2,960	6-22	UNKNOWN	23.19	20,300
2-26	0700	6.62	2,000	7-17	2200	10.92	4,580

POTOMAC RIVER BASIN

01635500 PASSAGE CREEK NEAR BUCKTON, VA.

LOCATION.--Lat 38°57'29", long 78°16'01", Warren County, on right bank 350 ft upstream from bridge on State Highway 55, 1.2 miles south of Buckton (R. R. station), 1.4 miles upstream from mouth, and 4.2 miles west of River-ton.

DRAINAGE AREA.--87.8 sq mi.

PERIOD OF RECORD.--October 1905 to July 1906 (gage heights only), April 1932 to current year. Prior to October 1966, published as "at Buckton".

GAGE.--Water-stage recorder and concrete control. Datum of gage is 525.14 ft above mean sea level. October 1905 to July 1906, nonrecording gage at site 1 mile downstream at different datum. Apr. 4, 1932, to Oct. 7, 1937, nonrecording gage at site 350 ft downstream at different datum.

AVERAGE DISCHARGE.--40 years, 66.0 cfs (10.21 inches per year).

EXTREMES.--Current year: Maximum discharge, 13,100 cfs June 22 (gage height, 13.56 ft, from high-water mark in well), from rating curve extended above 5,200 cfs; minimum, 4.0 cfs Sept. 15, 16 (gage height, 2.97 ft).
Period of record: Maximum discharge, 21,000 cfs Oct. 15, 1942 (gage height, 15.5 ft), from rating curve extended above 5,200 cfs; minimum observed, 0.1 cfs Aug. 5, 1932.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Occasional diurnal fluctuation during low flow caused by State Fish Hatchery two miles above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.7	52	107	20	23	206	57	102	61	132	21	6.2
2	14	49	76	25	23	178	58	92	49	111	18	6.2
3	34	47	61	30	31	184	53	98	40	120	14	6.5
4	32	44	57	26	125	154	47	258	37	82	16	7.1
5	24	38	47	32	74	139	43	224	42	130	20	6.7
6	20	32	47	33	64	118	40	159	35	149	16	8.8
7	17	30	74	28	56	111	44	137	31	102	13	7.8
8	14	26	139	24	50	102	69	123	26	78	13	6.7
9	13	24	102	27	44	90	61	189	22	63	12	6.0
10	28	23	90	49	42	82	94	189	20	52	10	5.4
11	57	22	80	57	41	74	88	149	17	43	9.1	5.0
12	33	21	67	49	43	71	76	127	16	37	8.3	5.4
13	22	20	63	44	544	71	314	111	16	44	17	6.2
14	18	20	55	39	602	72	279	107	16	38	17	5.6
15	16	19	52	32	234	76	176	109	17	29	13	5.2
16	14	18	49	26	176	71	163	107	16	26	11	4.4
17	14	17	46	29	147	120	316	109	16	33	11	6.5
18	13	17	40	37	132	104	197	125	16	29	12	6.7
19	13	16	35	37	139	86	159	104	16	23	13	6.2
20	11	16	34	33	120	74	139	404	17	19	13	5.8
21	11	16	34	32	114	72	123	279	327	17	15	5.6
22	10	15	32	31	135	100	480	230	7,830	16	11	6.7
23	13	14	28	29	166	144	512	312	7,520	14	8.6	10
24	196	15	26	32	156	109	324	186	856	17	7.3	9.1
25	482	18	26	32	432	94	237	149	356	15	7.3	7.8
26	368	19	24	27	950	88	186	116	215	14	7.3	6.9
27	166	22	25	24	540	80	156	100	161	12	11	6.9
28	118	33	25	24	328	76	135	88	132	11	16	8.6
29	90	74	23	26	254	69	120	74	168	12	10	11
30	72	189	22	25	-----	65	109	67	178	17	7.8	13
31	61	-----	21	25	-----	60	-----	69	-----	37	6.2	-----
TOTAL	2,003.7	966	1,607	984	5,785	3,140	4,855	4,693	18,269	1,522	384.9	210.0
MEAN	64.6	32.2	51.8	31.7	199	101	162	151	609	49.1	12.4	7.00
MAX	482	189	139	57	950	206	512	404	7,830	149	21	13
MIN	9.7	14	21	20	23	60	40	67	16	11	6.2	4.4
CFSM	.74	.37	.59	.36	2.27	1.15	1.85	1.72	6.94	.56	.14	.08
IN.	.85	.41	.68	.42	2.45	1.33	2.06	1.99	7.74	.64	.16	.09
CAL YR 1971	TOTAL 33,325.4	MEAN 91.3	MAX 2,300	MIN 3.2	CFSM 1.04	IN 14.12						
WTR YR 1972	TOTAL 44,419.6	MEAN 121	MAX 7,830	MIN 4.4	CFSM 1.38	IN 18.82						

PEAK DISCHARGE (BASE, 1,000 CFS)

NOTE.--NO GAGE-HEIGHT RECORD JUNE 21-23.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-13	UNKNOWN	6.44	1,140	6-22	UNKNOWN	13.56	13,100
2-26	UNKNOWN	6.40	1,100				

POTOMAC RIVER BASIN

37

01636210 HAPPY CREEK AT FRONT ROYAL, VA.

LOCATION.--Lat 38°54'20", long 78°11'10", Warren County, on left bank 30 ft upstream from highway bridge, 1.0 mile south of Front Royal, 2.3 miles upstream from Leach Run, and 2.9 miles upstream from mouth.

DRAINAGE AREA.--14.0 sq mi.

PERIOD OF RECORD.--June 1948 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 610.12 ft above mean sea level. Prior to Oct. 1, 1949, nonrecording gage at site 0.3 mile downstream at different datum.

AVERAGE DISCHARGE.--24 years, 13.9 cfs (13.48 inches per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 1,600 cfs June 22 (gage height, 6.13 ft), from rating curve extended above 460 cfs; minimum, 0.93 cfs Sept. 18 (gage height, 1.31 ft).

Period of record: Maximum discharge observed, 2,490 cfs Oct. 5, 1948 (gage height, 6.40 ft, site and datum then in use), from rating curve extended above 120 cfs; no flow during several periods between Aug. 25 and Sept. 4, 1953.

Flood in October 1942 reached a stage of about 14 ft, site and datum in use 1948-49, from information by local residents.

REMARKS.--Records good. Some diversion above station for Front Royal municipal water supply. Moderate diurnal fluctuation caused by municipal reservoir operation. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	15	20	5.5	4.0	82	14	21	15	32	6.5	2.2
2	21	13	21	8.0	5.2	74	14	20	13	31	5.5	2.4
3	21	13	16	6.5	18	70	12	23	12	28	5.2	2.2
4	14	11	14	6.9	34	54	12	45	12	21	8.0	2.7
5	11	9.3	12	8.9	27	46	11	38	13	33	7.6	2.6
6	9.1	8.4	12	6.9	20	38	11	33	12	28	5.2	2.4
7	7.2	8.4	16	6.5	16	34	14	29	11	24	4.9	2.0
8	5.6	7.2	16	5.8	15	30	14	28	8.0	21	4.6	1.8
9	5.1	6.9	30	6.9	13	27	14	44	8.4	17	4.0	1.7
10	20	6.9	25	8.9	11	24	15	39	8.0	15	3.3	1.5
11	14	6.5	21	7.6	9.3	21	15	35	7.2	13	3.3	1.4
12	10	6.2	16	7.6	8.4	21	15	31	6.9	13	3.3	1.7
13	8.4	6.2	14	7.2	33.6	19	39	27	6.9	17	6.2	2.0
14	7.1	5.5	12	7.6	137	24	36	29	8.4	12	4.0	1.4
15	5.7	5.5	12	6.5	75	21	31	26	7.6	11	4.9	1.7
16	5.1	5.5	11	5.5	53	23	38	24	7.2	11	4.0	1.5
17	5.1	5.2	10	5.8	43	30	59	21	8.0	11	3.8	1.2
18	4.4	5.2	9.3	7.6	37	27	46	18	7.2	9.3	4.3	1.4
19	4.7	5.2	8.4	8.0	33	24	38	21	6.5	8.0	3.6	2.0
20	4.4	5.2	8.9	6.5	33	22	33	75	8.9	7.6	3.3	1.5
21	3.3	5.2	8.4	6.5	32	21	27	59	205	7.2	2.7	2.7
22	3.7	4.6	7.2	6.2	29	29	68	55	604	7.2	2.6	3.3
23	8.0	4.3	6.5	6.2	27	24	67	50	276	6.2	2.4	2.0
24	103	4.6	6.9	7.2	33	22	58	41	129	5.5	2.4	1.7
25	205	7.6	6.5	6.2	62	21	46	33	80	5.2	4.6	1.7
26	112	4.2	6.9	5.2	133	19	39	27	59	4.6	3.6	1.8
27	60	8.9	4.5	4.9	92	18	33	23	47	5.2	2.9	2.4
28	41	12	6.9	5.8	74	17	29	20	39	5.8	5.8	3.3
29	30	31	6.2	5.5	77	16	26	18	46	6.5	3.6	2.9
30	22	39	6.2	5.2	-----	15	24	16	42	12	2.6	5.2
31	18	-----	5.2	4.9	-----	14	-----	24	-----	8.0	2.2	-----
TOTAL	798.9	278.7	428.0	204.5	1,487.8	927	898	993	1,715.1	436.3	130.9	64.3
MEAN	25.8	9.20	13.8	6.50	51.3	29.9	29.9	32.0	57.2	14.1	4.22	2.14
MAX	205	39	36	8.9	336	82	68	75	604	33	8.0	5.2
MIN	3.7	4.3	6.2	4.9	4.9	14	11	16	6.5	4.6	2.2	1.2
(*)	.75	.83	.84	.84	.77	.76	.86	.76	.81	.73	.54	.53
MEAN#	26.6	10.1	14.6	7.44	52.1	30.7	30.8	32.8	58.0	14.8	4.76	2.67
CFSM#	1.90	.72	1.04	.53	3.72	2.19	2.20	2.34	4.14	1.06	.34	.19
IN#	2.19	.81	1.20	.61	4.01	2.53	2.46	2.70	4.62	1.22	.39	.21

CAL YR 1971 TOTAL 7,525.1 MEAN 20.6 MAX 361 MIN 1.1 MEAN# 21.4 CFSM# 1.53 IN# 20.75
 WTR YR 1972 TOTAL 8,362.5 MEAN 22.8 MAX 604 MIN 1.2 MEAN# 23.6 CFSM# 1.69 IN# 22.95

* DIVERSION, IN CUBIC FEET PER SECOND, BY TOWN OF FRONT ROYAL.
 * ADJUSTED FOR DIVERSION.

POTOMAC RIVER BASIN

01636500 SHENANDOAH RIVER AT MILLVILLE, W. VA.

LOCATION.--Lat 39°16'55", long 77°47'22", Jefferson County, on left bank 0.4 mile downstream from Cattail Run, 1.0 mile upstream from Millville, 5.0 miles upstream from Harpers Ferry, and at mile 5.0.

DRAINAGE AREA.--3,040 sq mi.

PERIOD OF RECORD.--April 1895 to March 1909, August 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 293.00 ft above mean sea level, adjustment of 1912. Apr. 15, 1895, to Mar. 31, 1909, nonrecording gage at site 0.8 mile downstream at datum 0.32 ft higher.

AVERAGE DISCHARGE.--57 years (1895-1908, 1928-72), 2,615 cfs (11.68 inches per year).

EXTREMES.--Current year: Maximum discharge, 103,000 cfs June 23 (gage height, 21.89 ft); minimum, 710 cfs Jan. 18, Aug. 31, Sept. 5; minimum daily, 919 cfs Sept. 22; minimum gage height, 1.65 ft Aug. 31, Sept. 5. Period of record: Maximum discharge, 230,000 cfs Oct. 16, 1942 (gage height, 32.4 ft, from floodmarks); minimum, about 59 cfs Oct. 4, 1930 (gage height, 0.39 ft); minimum daily, 194 cfs July 24, 1930. Flood of 1870 reached practically same stage as flood of Mar. 18, 1936, 26.36 ft (discharge, 151,000 cfs).

REMARKS.--Records good. Regulation by hydroelectric plants, particularly that of Potomac Light and Power Co., 0.5 mile upstream from station.

REVISIONS (WATER YEARS).--WSP 951: 1936(M). WSP 1432: Drainage area at former site, 1895-99, 1901-2, 1905, 1907-8, 1932(M), 1935(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,200	3,950	3,880	1,350	1,310	9,800	2,370	3,310	2,690	16,500	6,210	1,320
2	1,200	3,510	4,160	1,360	1,310	8,480	2,330	3,110	2,730	10,400	5,550	1,160
3	3,990	3,170	3,420	1,390	1,370	8,410	2,240	2,980	2,740	8,170	4,290	1,190
4	6,480	2,910	2,920	1,420	1,720	7,820	2,170	3,400	2,470	6,520	3,840	1,280
5	5,340	2,700	2,580	1,460	2,270	6,880	2,070	7,170	2,350	5,590	3,670	1,070
6	3,970	2,560	2,370	1,490	2,890	5,890	2,000	8,910	2,360	5,980	3,080	1,230
7	3,150	2,320	2,490	1,480	2,660	5,080	1,970	6,650	2,130	9,280	3,140	1,370
8	2,520	2,180	3,020	1,460	2,350	4,480	2,050	5,480	2,020	7,600	2,850	1,220
9	2,130	2,050	3,520	1,420	2,160	4,020	2,190	5,150	1,770	6,140	2,490	1,130
10	2,050	1,940	4,620	1,380	2,010	3,640	2,530	5,640	1,700	5,170	2,310	1,130
11	2,150	1,850	4,390	1,600	1,860	3,310	2,950	5,650	1,610	4,460	2,130	1,080
12	2,210	1,660	3,750	1,620	1,790	3,090	2,720	5,000	1,520	3,930	2,000	1,050
13	2,180	1,770	3,280	1,620	3,100	3,060	2,820	4,420	1,430	3,620	2,010	1,070
14	1,880	1,730	2,900	1,600	14,500	2,980	4,220	4,020	1,460	3,950	1,970	1,050
15	1,620	1,690	2,610	1,560	16,200	3,080	4,640	3,770	1,450	5,070	1,910	1,080
16	1,560	1,670	2,410	1,490	9,440	3,060	4,140	3,680	1,400	4,240	1,830	1,020
17	1,490	1,550	2,240	1,380	7,080	3,190	5,590	3,970	1,510	4,260	1,870	1,060
18	1,420	1,430	2,130	1,200	6,190	3,420	5,540	4,000	1,440	4,240	1,690	982
19	1,300	1,540	1,980	1,410	5,800	3,410	4,620	3,880	1,400	4,350	1,740	1,020
20	1,350	1,450	1,910	1,380	5,100	3,150	4,120	4,660	1,490	3,430	1,730	982
21	1,380	1,400	1,870	1,410	4,500	2,880	3,750	7,520	2,330	3,000	1,730	946
22	1,240	1,350	1,750	1,400	4,050	2,720	3,870	7,260	37,600	2,820	1,660	919
23	1,220	1,350	1,720	1,370	4,090	3,060	7,270	6,820	97,300	2,640	1,720	991
24	1,890	1,300	1,710	1,360	4,380	3,210	7,940	6,520	57,200	2,460	1,490	1,010
25	10,600	1,500	1,560	1,420	5,010	3,370	7,340	6,550	22,300	2,370	1,450	946
26	20,300	1,390	1,550	1,400	10,400	3,250	6,310	5,130	13,900	2,310	1,470	1,010
27	17,400	1,400	1,530	1,370	17,600	3,110	5,370	4,150	9,830	2,130	1,430	928
28	10,300	1,470	1,510	1,370	16,600	2,970	4,640	3,520	7,580	2,050	1,690	973
29	7,310	1,730	1,470	1,300	12,200	2,790	4,080	3,070	8,120	1,960	1,480	982
30	5,630	3,210	1,430	1,310	-----	2,630	3,640	2,770	17,500	1,960	1,420	1,050
31	4,600	-----	1,370	1,340	-----	2,510	-----	2,690	-----	2,490	1,280	-----
TOTAL	131,060	59,730	78,050	44,120	169,980	128,750	117,490	150,850	311,330	149,090	73,130	32,249
MEAN	4,228	1,991	2,518	1,423	5,861	4,153	3,916	4,866	10,380	4,809	2,359	1,075
MAX	20,300	3,950	4,620	1,620	17,600	9,800	7,940	8,910	97,300	16,500	6,210	1,370
MIN	1,200	1,300	1,370	1,200	1,310	2,510	1,970	2,690	1,400	1,960	1,280	919
CFSM	1.39	.65	.83	.47	1.93	1.37	1.29	1.60	3.41	1.58	.78	.35
IN.	1.60	.73	.96	.54	2.08	1.58	1.44	1.85	3.81	1.82	.89	.39

CAL YR 1971 TOTAL 1,205,633 MEAN 3,303 MAX 50,700 MIN 719 CFSM 1.09 IN 14.75
WTR YR 1972 TOTAL 1,445,829 MEAN 3,950 MAX 97,300 MIN 919 CFSM 1.30 IN 17.69

PEAK DISCHARGE (BASE, 15,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-26	0400	10.12	21,500	6-23	1200	21.89	103,000
2-15	0145	9.89	20,600	6-30	1630	10.13	21,600
2-27	2215	9.53	19,100				

POTOMAC RIVER BASIN

39

01638480 CATOCTIN CREEK AT TAYLORSTOWN, VA.

LOCATION.--Lat 39°15'16", long 77°34'36", Loudoun County, on right bank at upstream side of bridge on State Highway 663 at Taylorstown and 3.2 miles downstream from Milltown Creek.

DRAINAGE AREA.--89.6 sq mi.

PERIOD OF RECORD.--August 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is 249.15 ft above mean sea level.

EXTREMES.--August to September 1971: Maximum discharge during period, 4,600 cfs Sept. 12 (gage height, 11.03 ft); minimum daily, 17 cfs Aug. 25, 26.

Water year 1972: Maximum discharge, 23,800 cfs June 22 (gage height, 23.83 ft, from floodmarks), from rating curve extended above 7,400 cfs on basis of contracted-opening measurement of peak flow; minimum daily, 12 cfs Sept. 25.

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

COOPERATION.--Records computed and furnished by the State of Virginia.

DISCHARGE, IN CUBIC FEET PER SECOND, AUGUST AND SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1											39	1,010
2											64	268
3											185	96
4											195	66
5											131	54
6											59	46
7											42	41
8											33	36
9											29	35
10											26	32
11											52	581
12											76	1,820
13											33	348
14											26	218
15											26	155
16											37	102
17											26	192
18											23	124
19											22	105
20											21	105
21											20	84
22											19	69
23											19	64
24											18	60
25											17	54
26											17	60
27											66	70
28											87	58
29											31	52
30											24	48
31		-----			-----		-----		-----		21	-----
TOTAL											1,484	6,053
MEAN											47.9	202
MAX											195	1,820
MIN											17	32
CFSM											.53	2.25
IN.											.62	2.51

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
9- 1	1500	8.60	3,060	9-12	0330	11.03	4,600

POTOMAC RIVER BASIN

01638480 CATOCTIN CREEK AT TAYLORSTOWN, VA.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	150	360	64	63	475	102	131	312	480	50	19
2	60	143	235	118	63	490	124	120	115	330	43	20
3	66	141	188	111	159	689	102	155	94	297	42	20
4	52	113	165	85	428	335	94	536	82	228	49	23
5	48	96	146	146	140	288	90	222	122	292	50	26
6	46	90	146	107	125	230	85	155	84	242	39	22
7	40	87	600	84	110	218	89	134	78	194	70	18
8	37	80	475	77	92	195	113	127	68	156	216	18
9	37	75	335	80	88	165	105	402	62	138	66	17
10	349	74	282	148	86	158	90	290	59	122	48	16
11	170	72	242	115	84	143	85	205	54	106	40	15
12	96	68	202	100	82	138	80	175	54	97	37	16
13	77	68	182	94	928	210	265	155	55	95	42	17
14	70	63	160	92	526	300	228	162	77	85	43	17
15	63	60	150	80	282	255	175	165	63	78	36	21
16	56	60	146	58	240	220	190	146	60	84	32	19
17	54	56	127	70	205	374	530	124	70	93	33	17
18	50	55	113	74	190	248	242	115	60	72	40	16
19	48	55	102	80	258	210	200	109	60	63	36	16
20	44	55	109	80	155	185	175	388	59	56	31	14
21	43	55	109	78	195	172	150	250	3,560	51	27	14
22	41	49	94	78	220	225	482	185	9,530	48	26	15
23	42	45	84	80	200	225	338	190	910	49	24	15
24	342	43	87	100	182	165	288	136	628	46	23	13
25	3,760	45	82	89	215	148	230	118	480	53	23	12
26	937	131	80	77	765	138	200	102	390	48	22	13
27	335	118	80	66	505	129	175	96	324	45	22	13
28	250	150	77	69	417	122	153	90	302	50	96	14
29	205	434	72	69	475	113	143	85	1,290	51	37	14
30	175	595	70	68	-----	111	136	84	2,090	53	27	16
31	158	-----	69	63	-----	105	-----	194	-----	57	22	-----
TOTAL	7,798	3,326	5,369	2,700	7,478	7,179	5,459	5,546	21,192	3,859	1,392	506
MEAN	252	111	173	87.1	258	232	182	179	706	124	44.9	16.9
MAX	3,760	595	600	148	928	689	530	536	9,530	480	216	26
MIN	37	43	69	58	63	105	80	84	54	45	22	12
CFSM	2.81	1.24	1.93	.97	2.88	2.59	2.03	2.00	7.88	1.38	.50	.19
IN.	3.24	1.38	2.23	1.12	3.10	2.98	2.27	2.30	8.80	1.60	.58	.21

WTR YR 1972 TOTAL 71,804 MEAN 196 MAX 9,530 MIN 12 CFSM 2.19 IN 29.81

PEAK DISCHARGE (BASE, 1,200 CFS)

NOTE.--NO GAGE-HEIGHT RECORD JUNE 22-28.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1630	14.39	7,700	6-22	UNKNOWN	23.83	23,800
2-13	1730	6.17	1,770	6-30	0100	11.84	5,240
5-4	0400	5.46	1,420				

POTOMAC RIVER BASIN

41

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD.

LOCATION.--Lat 39°16'25", long 77°32'35", Frederick County, on left bank at downstream side of bridge on U.S. Highway 15 at Point of Rocks, 0.3 mile downstream from Catoctin Creek (Virginia), 6 miles upstream from Monocacy River, and at mile 159.5.

DRAINAGE AREA.--9,651 sq mi.

PERIOD OF RECORD.--February 1895 to current year.

GAGE.--Water-stage recorder. Datum of gage is 200.54 ft above mean sea level, adjustment of 1912. Prior to Sept. 2, 1902, nonrecording gage on downstream side of bridge at datum about 0.45 ft higher. Sept. 2, 1902, to Oct. 28, 1929, nonrecording gage at same site and present datum.

AVERAGE DISCHARGE.--77 years, 9,167 cfs (12.90 inches per year).

EXTREMES.--Current year: Maximum discharge, 347,000 cfs June 23 (gage height, 37.43 ft); minimum, 2,130 cfs Sept. 26, 28 (gage height, 1.14 ft).

Period of record: Maximum discharge, 480,000 cfs Mar. 19, 1936 (gage height, 41.03 ft), from rating curve extended above 300,000 cfs on basis of adjustment of figure of peak flow at station near Washington for inflow and storage, and slope-area measurement of peak flow; minimum, 530 cfs Sept. 11, 12, 1966 (gage height, 0.27 ft).

Flood of June 2, 1889, reached a stage of 40.2 ft from floodmarks (discharge, about 460,000 cfs, from rating curve extended as explained above).

REMARKS.--Records good. Low flow affected slightly since 1913 by Stony River Reservoir and since December 1950 by Savage River Reservoir. Low flow affected extensively at times by run-of-the-river hydroelectric plants. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 192: 1895-1905. WSP 1432: 1899, 1901-2, 1904-5, 1912, 1914(M), 1915, 1917(M), 1918, 1919(M), 1920, 1921-23(M), 1924, 1925-28(M), 1930(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4,410	11,900	27,600	4,990	7,520	48,900	9,940	14,700	12,400	47,600	8,370	3,520
2	4,270	10,900	25,700	5,350	7,030	52,000	9,890	13,800	12,400	34,700	10,600	3,150
3	5,280	10,700	19,300	6,940	7,330	52,500	9,460	13,500	11,200	25,700	10,300	2,960
4	9,980	10,500	14,900	9,480	9,480	49,200	9,090	23,100	9,700	22,000	9,040	2,990
5	10,800	9,780	12,600	9,790	12,500	41,500	8,650	48,900	9,340	18,900	8,500	2,930
6	10,700	9,330	11,100	9,400	11,700	33,000	8,410	50,000	9,270	19,500	7,400	2,820
7	8,680	8,600	12,700	9,510	10,900	26,600	9,200	35,100	8,370	27,400	7,090	3,100
8	7,250	7,580	21,000	9,530	9,960	21,500	9,360	26,700	7,430	28,000	7,700	3,000
9	6,170	7,040	31,600	8,770	8,760	17,800	9,860	23,700	6,720	21,700	6,990	2,700
10	6,730	6,520	33,200	8,680	7,820	16,100	13,100	27,900	6,110	17,900	6,250	2,500
11	6,290	6,060	28,900	9,030	7,250	14,600	14,700	32,400	5,720	15,700	5,400	2,470
12	6,090	5,470	22,600	9,550	7,140	13,400	14,100	28,400	5,280	15,100	5,010	2,430
13	5,800	5,520	17,300	11,000	12,000	13,100	15,400	22,800	5,070	12,700	4,780	2,460
14	5,110	5,200	14,600	11,500	38,900	18,400	24,400	19,500	5,190	11,300	4,650	2,410
15	4,420	5,020	12,900	10,600	50,000	30,400	36,300	17,900	5,170	12,100	4,400	2,540
16	3,920	4,860	12,000	9,500	32,500	28,700	36,800	17,400	5,180	11,400	4,130	2,410
17	3,700	4,590	11,000	8,000	26,000	25,700	42,200	18,900	5,820	11,500	4,140	2,390
18	3,490	4,340	9,780	6,830	23,500	24,900	42,500	18,700	6,930	10,900	4,060	2,390
19	3,230	4,300	8,850	7,020	21,700	21,900	34,700	17,100	6,790	11,800	4,190	2,370
20	3,100	4,070	8,240	8,180	18,800	18,500	27,300	18,000	6,690	10,300	4,060	2,410
21	3,310	3,970	7,740	8,210	16,100	16,000	22,000	24,300	12,100	9,090	3,970	2,540
22	2,990	3,880	7,260	7,650	14,900	15,200	20,400	26,600	108,000	7,970	3,970	2,410
23	2,890	3,710	7,040	7,270	14,700	15,600	25,300	23,800	296,000	7,410	4,030	2,340
24	3,540	3,780	7,030	7,440	17,700	15,700	35,200	20,700	296,000	6,880	3,720	2,320
25	19,200	4,390	6,700	7,410	19,500	15,100	33,400	19,800	157,000	6,500	3,610	2,270
26	41,900	4,290	6,170	7,220	33,500	14,200	29,400	16,500	60,300	6,090	3,650	2,160
27	48,700	4,250	5,990	7,940	70,200	13,300	24,400	14,800	40,200	5,680	3,640	2,250
28	33,800	4,470	5,870	8,010	73,100	12,500	20,200	12,700	30,600	5,390	4,380	2,160
29	23,400	6,550	5,720	7,480	53,500	11,700	17,400	11,200	26,200	5,170	4,830	2,250
30	17,300	14,500	5,490	7,410	-----	11,100	15,600	10,100	34,900	5,140	4,200	2,340
31	14,100	-----	5,280	7,480	-----	10,400	-----	10,200	-----	5,470	3,910	-----
TOTAL	330,550	196,070	426,160	257,170	643,990	719,500	628,660	679,200	1,212.1M	456,990	170,970	76,990
MEAN	10,660	6,536	13,750	8,296	22,210	23,210	20,960	21,910	40,400	14,740	5,515	2,566
MAX	48,700	14,500	33,200	11,500	73,100	52,500	42,500	50,000	296,000	47,600	10,600	3,520
MIN	2,890	3,710	5,280	4,990	7,030	10,400	8,410	10,100	5,070	5,140	3,610	2,160
CFSM	1.10	.68	1.42	.86	2.30	2.40	2.17	2.27	4.19	1.53	.57	.27
IN.	1.27	.76	1.64	.99	2.48	2.77	2.42	2.62	4.67	1.76	.66	.30

CAL YR 1971 TOTAL 4,365,010 MEAN 11,960 MAX 83,200 MIN 1,810 CFSM 1.24 IN 16.83
WTR YR 1972 TOTAL 5,798,330 MEAN 15,840 MAX 296,000 MIN 2,160 CFSM 1.64 IN 22.35

PEAK DISCHARGE (BASE, 35,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-27	0200	11.29	52,400	4-24	1530	8.70	36,700
12-10	0300	8.50	35,500	5- 6	0030	11.84	56,000
2-15	0230	12.36	59,500	6-23	2330	37.43	347,000
2-27	2330	15.06	79,500	7- 1	1130	11.00	50,500
4-18	0230	9.94	44,100				

POTOMAC RIVER BASIN

01643700 GOOSE CREEK NEAR MIDDLEBURG, VA.

LOCATION.--Lat 38°59'11", long 77°47'49", Loudoun County, on right bank 250 ft upstream from bridge on State Highway 611, 2.0 miles downstream from Panther Skin Creek, and 3.4 miles northwest of Middleburg.

DRAINAGE AREA.--123 sq mi.

PERIOD OF RECORD.--October 1965 to September 1967, July 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 329.80 ft above mean sea level. October 1965 to September 1967 at site 300 ft downstream at datum 0.73 ft lower.

AVERAGE DISCHARGE.--5 years, 123 cfs (13.58 inches per year).

EXTREMES.--Current year: Maximum discharge, 19,200 cfs June 22 (gage height, 27.46 ft, from floodmarks), from rating curve extended as explained below; minimum, 14 cfs Oct. 8.
Period of record: Maximum discharge, 19,200 cfs June 22, 1972 (gage height, 27.46 ft, from floodmarks), from rating curve extended above 2,900 cfs on basis of slope-area measurements at gage height 14.44 ft and at peak flow; minimum, 0.10 cfs Sept. 1-4, 8-12, 1966.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	118	260	66	55	648	138	188	178	695	67	45
2	23	110	190	94	62	636	147	176	130	561	56	42
3	41	116	155	85	98	717	131	255	116	574	101	38
4	27	94	138	78	312	471	126	441	105	423	101	36
5	24	81	122	101	161	399	117	285	174	408	115	36
6	24	77	119	83	159	327	110	240	117	351	62	33
7	18	74	324	76	130	295	123	218	123	288	54	29
8	16	69	345	74	107	263	149	210	95	250	52	27
9	15	68	278	73	125	228	138	348	88	222	38	26
10	124	68	243	92	115	215	126	268	83	200	33	24
11	95	65	205	85	110	193	122	230	77	176	30	22
12	52	64	174	79	88	188	116	210	76	167	28	23
13	40	63	155	77	1,380	195	255	190	74	193	38	25
14	36	61	136	77	870	248	215	203	100	154	34	24
15	32	59	128	68	558	220	193	200	113	135	30	23
16	29	59	122	66	414	208	263	203	91	262	35	22
17	28	56	111	67	333	360	711	181	97	366	28	20
18	27	55	99	78	293	273	384	186	95	230	34	19
19	25	55	94	81	360	245	309	159	119	141	28	19
20	23	55	99	75	268	220	270	657	87	115	24	18
21	21	54	95	71	360	208	230	387	3,630	101	21	18
22	21	49	86	69	280	275	639	315	6,270	91	20	21
23	24	45	79	71	238	250	501	265	1,470	83	19	21
24	244	46	82	80	225	210	492	220	1,080	71	18	18
25	887	62	80	73	315	195	372	190	780	65	17	18
26	502	130	78	63	852	183	309	168	570	58	16	19
27	268	81	77	61	753	174	270	151	420	56	1,020	19
28	193	92	75	63	645	166	240	140	390	65	517	22
29	151	200	72	62	624	155	220	131	1,050	64	119	22
30	138	360	72	63	-----	149	203	125	1,560	85	81	26
31	126	-----	70	59	-----	144	-----	258	-----	91	56	-----
TOTAL	3,289	2,586	4,363	2,310	10,290	8,658	7,619	7,398	19,358	6,741	2,892	755
MEAN	106	86.2	141	74.5	355	279	254	239	645	217	93.3	25.2
MAX	887	360	345	101	1,380	717	711	657	6,270	695	1,020	45
MIN	15	45	70	59	55	144	110	125	74	56	16	18
CFSM	.86	.70	1.15	.61	2.89	2.27	2.07	1.94	5.24	1.76	.76	.20
IN.	.99	.78	1.32	.70	3.11	2.62	2.30	2.24	5.85	2.04	.87	.23

CAL YR 1971 TOTAL 52,695.6 MEAN 144 MAX 1,360 MIN 4.6 CFSM 1.17 IN 15.94
WTR YR 1972 TOTAL 76,259.0 MEAN 208 MAX 6,270 MIN 15 CFSM 1.69 IN 23.06

PEAK DISCHARGE (BASE, 1,350 CFS)

NOTE.--NO GAGE-HEIGHT RECORD JUNE 21-25.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1730	9.40	2,100	6-29	2300	12.55	3,830
2-13	1830	10.01	2,460	8-27	2030	14.00	4,750
6-22	UNKNOWN	27.46	19,200				

01644000 GOOSE CREEK NEAR LEESBURG, VA.

LOCATION.--Lat 39°01'10", long 77°34'40", Loudoun County, on left bank 400 ft upstream from bridge on State Highway 621 at Evergreen Mills, 1.4 miles downstream from Little River, 6.7 miles south of Leesburg, and 10.9 miles upstream from mouth.

DRAINAGE AREA.--332 sq mi.

PERIOD OF RECORD.--July 1909 to April 1911, September 1911 to December 1912, January 1930 to current year.

GAGE.--Water-stage recorder. Datum of gage is 248.93 ft above mean sea level. July 12, 1909, to Dec. 31, 1912, nonrecording gage at site 1,000 ft downstream at different datum. Jan. 21, 1930, to Nov. 28, 1938, nonrecording gage at site 400 ft downstream at datum 4.20 ft lower than present datum.

AVERAGE DISCHARGE.--44 years (1909-10, 1911-12, 1930-72), 299 cfs (12.23 inches per year).

EXTREMES.--Current year: Maximum discharge, 78,100 cfs June 22 (gage height, 30.59 ft, from high-water mark in gage house), from rating curve extended as explained below; minimum, 46 cfs Sept. 25 (gage height, 1.62 ft). Period of record: Maximum discharge, 78,100 cfs June 22, 1972 (gage height, 30.59 ft, from high-water mark in gage house), from rating curve extended above 11,000 cfs on basis of slope-area measurement of peak flow; minimum daily, 0.40 cfs Sept. 27-30, 1941.

Flood in May or June 1889 reached a stage of about 29 ft (discharge, about 45,000 (revised) cfs), site and datum in use 1930-38, from information by local residents.

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)
821, 951, 1302	1937	Aug. 26, 1937	35,600	26.86
971, 1302	1943	Oct. 16, 1942	35,600	22.9
1202, 1722	1951	Dec. 4, 1950	18,600	18.25
1432, 1722	1956	July 21, 1956	27,600	20.9

a Site and datum then in use.

REMARKS.--Records good except those for periods of no gage-height record, which are fair. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 851: 1935-37. WSP 951: 1933(M), 1937. WSP 1302: 1934-35(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	357	1,050	170	153	1,450	348	485	813	1,790	224	118
2	97	329	705	270	177	1,430	383	442	397	1,330	191	108
3	143	335	550	240	355	1,800	339	615	326	1,920	198	101
4	115	329	470	220	1,210	1,120	314	1,020	284	1,140	357	96
5	92	253	408	200	587	953	297	767	369	991	283	94
6	86	229	376	230	592	776	279	588	304	970	210	88
7	75	220	1,240	205	476	714	304	517	284	792	176	80
8	64	198	1,430	200	368	650	426	489	248	690	188	74
9	50	187	1,000	190	309	560	407	953	228	614	160	69
10	485	187	838	250	206	530	347	849	215	536	137	64
11	492	185	702	230	283	482	324	649	197	481	123	60
12	242	175	574	220	274	469	305	567	190	442	117	58
13	192	171	506	210	2,600	495	660	505	190	479	121	62
14	155	161	439	220	2,750	615	677	508	231	439	137	64
15	134	152	409	200	1,210	649	533	536	275	367	117	64
16	118	152	285	155	936	528	596	514	230	394	116	61
17	110	146	345	200	757	1,160	1,880	448	256	626	113	56
18	103	140	303	225	687	808	985	455	256	845	126	52
19	95	130	266	230	1,010	670	784	398	316	297	122	52
20	86	140	275	240	723	595	675	1,280	252	327	102	50
21	82	137	275	225	632	555	584	943	5,270	288	89	49
22	90	126	249	220	750	710	1,440	752	53,600	263	82	51
23	83	115	218	225	653	786	1,420	640	7,300	243	78	54
24	635	117	220	245	617	581	1,230	527	3,050	219	74	50
25	3,430	123	220	235	770	514	957	465	1,750	204	71	47
26	2,200	259	208	215	2,100	485	801	410	1,250	190	68	48
27	888	297	208	184	1,840	455	682	370	1,000	178	398	48
28	641	339	205	189	1,470	431	604	348	950	202	3,630	52
29	502	753	190	194	1,480	400	549	326	1,180	194	329	59
30	429	1,400	185	186	-----	383	501	305	5,400	219	190	66
31	384	-----	180	179	-----	362	-----	491	-----	263	141	-----
TOTAL	12,359	7,850	14,629	6,692	26,365	22,116	19,631	18,162	86,610	18,033	8,468	1,995
MEAN	399	262	472	216	909	713	654	586	2,887	582	273	66.5
MAX	3,430	1,400	1,430	200	2,750	1,800	1,880	1,280	53,600	1,920	3,630	118
MIN	59	115	180	155	153	362	279	305	190	178	68	47
CFSM	1.20	.79	1.42	.65	2.74	2.15	1.97	1.77	8.70	1.75	.82	.20
IN.	1.38	.88	1.64	.75	2.95	2.48	2.20	2.04	9.70	2.02	.95	.22

CAL YR 1971 TOTAL 144,699 MEAN 396 MAX 3,760 MIN 24 CFSM 1.19 IN 16.21
WTR YR 1972 TOTAL 242,909 MEAN 664 MAX 53,600 MIN 47 CFSM 2.00 IN 27.22

PEAK DISCHARGE (BASE, 4,000 CFS)

NOTE.--NO GAGE-HEIGHT RECORD DEC. 28 TO JAN. 25, JUNE 22-29.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	2000	10.17	6,610	6-30	1000	13.08	9,230
2-13	2400	9.16	5,800	8-28	0730	10.99	7,260
6-22	0800	30.59	78,100				

POTOMAC RIVER BASIN

01644291 STAVE RUN NEAR RESTON, VA.

LOCATION.--Lat 38°56'56", long 77°22'16", Fairfax County, on left bank 0.31 mile upstream from mouth and 1.4 miles southwest of Sunset Hills in Reston.

DRAINAGE AREA.--0.08 sq mi (49.1 acres).

PERIOD OF RECORD.--October 1971 to September 1972.

GAGE.--Water-stage recorder and trapezoidal flume. Datum of gage is 367.25 ft above mean sea level.

EXTREMES.--Current year: Maximum discharge, 87 cfs June 21 (gage height, 1.84 ft), from rating curve extended above 41 cfs; no flow Aug. 23-25.

Period of record: Maximum discharge, 87 cfs June 21, 1972 (gage height, 1.84 ft), from rating curve extended above 41 cfs; no flow Aug. 23-25, 1972.

REMARKS.--Records poor. Water-quality records for the current year are included in this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.06	.07	.07	.07	.06	.08	.08	.05	.04	.01	.03
2	.04	.05	.07	.08	.05	.06	.05	.08	.05	.05	.01	.03
3	.02	.06	.07	.08	.93	.14	.10	.17	.05	.74	.12	.03
4	.05	.05	.07	.22	.28	.05	.05	.80	.10	.03	.19	.04
5	.20	.05	.07	.34	.06	.05	.06	.10	.05	.03	.02	.03
6	.15	.05	.08	.09	.06	.08	.05	.10	.04	.03	.01	.03
7	.08	.07	.07	.07	.09	.05	.09	.09	.04	.03	.01	.03
8	.08	.06	.08	.07	.06	.05	.25	.12	.04	.02	.01	.06
9	.04	.06	.09	.18	.06	.05	.05	.25	.04	.02	.03	.03
10	.59	.06	.08	.11	.06	.05	.05	.08	.04	.02	.06	.03
11	.09	.06	.07	.09	.06	.05	.10	.07	.04	.02	.02	.03
12	.04	.06	.07	.08	.06	.05	.05	.09	.04	.02	.02	.02
13	.03	.06	.09	.08	1.3	.08	.53	.07	.15	.02	.05	.09
14	.02	.06	.07	.15	.18	.08	.17	.10	.04	.02	.02	.10
15	.02	.06	.07	.06	.06	.06	.06	.13	.04	.02	.02	.04
16	.32	.06	.07	.06	.06	.47	.67	.06	.04	.02	.02	.03
17	.02	.06	.07	.09	.06	.52	.41	.06	.12	.01	.05	.03
18	.23	.06	.07	.09	.35	.07	.07	.12	.05	.01	.02	.15
19	.05	.06	.07	.05	.24	.06	.07	.28	.04	.01	.02	.06
20	.05	.05	.07	.06	.08	.10	.07	.46	.15	.01	.01	.06
21	.05	.05	.08	.06	.10	.09	.07	.07	12	.01	.03	.07
22	.06	.05	.07	.06	.18	.29	.76	.05	3.7	.01	.01	.04
23	.05	.05	.07	.07	.11	.07	.19	.05	1.7	.01	0	.04
24	.07	.30	.07	.16	.20	.06	.13	.05	.10	.01	0	.02
25	3.0	.69	.07	.07	.48	.06	.09	.05	.05	.01	0	.02
26	.05	.24	.07	.05	.83	.06	.09	.07	.05	.01	.30	.02
27	.05	.17	.09	.05	.14	.06	.09	.05	.05	.01	.15	.02
28	.05	.08	.07	.05	.07	.05	.08	.05	.04	.01	.05	.02
29	.05	.48	.07	.05	.12	.05	.08	.05	1.9	.01	.03	.02
30	.05	.12	.07	.05	-----	.05	.08	.05	.82	.03	.03	.09
31	.05	-----	.07	.07	-----	.05	-----	.10	-----	.02	.03	-----
TOTAL	5.67	3.39	2.87	2.86	6.40	3.07	4.69	3.95	21.62	1.31	1.35	1.31
MEAN	.18	.11	.093	.092	.22	.099	.16	.13	.72	.042	.044	.044
MAX	3.0	.69	.67	.34	1.3	.52	.76	.80	12	.74	.30	.15
MIN	.02	.05	.07	.05	.05	.05	.05	.05	.04	.01	0	.02
CFSM	2.25	1.38	1.16	1.15	2.75	1.24	2.00	1.63	9.00	.53	.55	.55
IN.	2.64	1.58	1.33	1.33	2.98	1.43	2.18	1.84	10.05	.61	.63	.61

CAL YR 1971 TOTAL 29.92 MEAN .082 MAX 3.0 MIN 0 CFSM 1.03 IN 13.91
WTR YR 1972 TCTAL 58.49 MEAN .16 MAX 12 MIN 0 CFSM 2.00 IN 27.20

PEAK DISCHARGE (BASE, 20 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	0630	1.61	55	6-30	1545	1.45	38
6-21	1930	1.84	87	7- 3	1645	1.64	59
6-29	1930	1.75	73	8-26	1815	1.25	24

POTOMAC RIVER BASIN

45

01644295 SMILAX BRANCH AT RESTON, VA.

LOCATION (revised).--Lat 38°57'10", long 77°22'04", Fairfax County, on right bank 100 ft upstream from Dulles Airport Road, 0.4 mile upstream from mouth, 1.0 mile west of Sunset Hills in Reston, and 4.3 miles east of Dulles International Airport.

DRAINAGE AREA.--0.32 sq mi.

PERIOD OF RECORD.--March 1967 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 356.59 ft above mean sea level.

AVERAGE DISCHARGE.--5 years, 0.39 cfs (16.55 inches per year).

EXTREMES.--Current year: Maximum discharge, 230 cfs June 21 (gage height, 5.79 ft), from rating curve extended as explained below; no flow Sept. 9-12, 14, 16-17, 20, 23-24, 26-27.

Period of record: Maximum discharge, 230 cfs June 21, 1972 (gage height, 5.79 ft), from rating curve extended above 79 cfs on basis of computation of peak flow through culvert; no flow for many days most years.

REMARKS.--Records good. Water-quality records for the current year are included in this report.

REVISIONS (WATER YEARS).--WRD Va. 1971: 1968(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.24	.53	.20	.22	.60	.37	.39	.22	1.5	.08	.02
2	.29	.22	.40	.60	.24	.56	.65	.44	.12	.76	.06	.02
3	.06	.52	.37	.31	2.5	1.0	.37	1.3	.09	1.5	.09	.02
4	.07	.24	.34	.60	1.6	.56	.34	3.9	.31	.81	.31	.03
5	2.5	.20	.29	1.5	.54	.49	.29	1.2	.21	.57	.12	.02
6	1.4	.18	.31	.53	.43	.43	.29	.63	.13	.46	.07	.02
7	.18	.26	3.1	.37	.40	.40	.70	.47	.12	.35	.07	.01
8	.12	.20	1.2	.31	.27	.37	.90	.60	.08	.28	.06	.01
9	.26	.16	.65	.56	.24	.31	.65	1.8	.07	.25	.04	0
10	7.8	.15	.53	.75	.24	.31	.53	.90	.07	.22	.03	0
11	1.5	.15	.43	.49	.27	.29	.43	.51	.07	.17	.03	0
12	.34	.15	.37	.40	.31	.31	.37	.41	.07	.19	.03	0
13	.18	.15	.37	.40	5.4	.34	2.4	.33	.24	.20	.04	.01
14	.15	.12	.31	.56	1.4	.60	.95	.53	.16	.16	.03	0
15	.12	.15	.31	.37	.72	.46	.60	.55	.11	.13	.03	.01
16	.09	.13	.31	.27	.53	1.1	1.9	.42	.08	.14	.02	0
17	.09	.12	.29	.27	.54	3.9	1.8	.32	.27	.14	.06	0
18	.09	.13	.24	.34	.87	.90	.75	.30	.18	.12	.05	.10
19	.09	.18	.22	.37	2.6	.56	.56	.56	.12	.11	.04	.02
20	.09	.18	.31	.34	.95	.46	.49	2.0	.34	.10	.02	0
21	.09	.20	.27	.37	.64	.43	.40	.72	42	.08	.02	.01
22	.13	.18	.22	.37	1.0	1.3	3.3	.46	19	.07	.01	.02
23	.22	.16	.20	.43	.74	.85	1.3	.33	6.8	.06	.02	0
24	.71	1.1	.22	.80	.83	.53	1.5	.24	1.5	.06	.01	0
25	13	4.0	.20	.46	2.3	.43	.75	.20	.92	.05	.01	.01
26	2.2	1.4	.20	.37	4.4	.40	.56	.18	.91	.04	.41	0
27	.79	1.4	.20	.34	1.6	.40	.49	.16	.45	.05	.21	0
28	.43	1.0	.20	.34	1.1	.34	.45	.14	.42	.06	.26	.01
29	.34	2.7	.18	.27	.85	.31	.45	.12	3.9	.06	.03	.01
30	.29	1.2	.20	.27	-----	.31	.42	.16	3.8	.10	.02	.09
31	.27	-----	.18	.24	-----	.29	-----	.32	-----	.09	.02	-----
TOTAL	33.93	17.17	13.15	13.80	33.73	19.54	24.96	20.59	82.76	8.88	2.30	.44
MEAN	1.09	.57	.42	.45	1.16	.63	.83	.66	2.76	.29	.074	.015
MAX	13	4.0	3.1	1.5	5.4	3.9	3.3	3.9	42	1.5	.41	.10
MIN	.04	.12	.18	.20	.22	.29	.29	.12	.07	.04	.01	0
CFSM	3.41	1.78	1.31	1.41	3.63	1.97	2.59	2.06	8.63	.91	.23	.05
IN.	3.94	2.00	1.53	1.60	3.92	2.27	2.90	2.39	9.62	1.03	.27	.05
CAL YR 1971	TOTAL 196.05	MEAN .54	MAX 13	MIN 0	CFSM 1.69	IN 22.79						
WTR YR 1972	TOTAL 271.25	MEAN .74	MAX 42	MIN 0	CFSM 2.31	IN 31.53						

PEAK DISCHARGE (BASE, 20 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-5	1845	4.16	46	6-21	2015	5.79	230
10-10	0100	4.09	39	6-29	2015	4.38	71
10-25	1445	4.34	66				

POTOMAC RIVER BASIN

01646000 DIFFICULT RUN NEAR GREAT FALLS, VA.

LOCATION.--Lat 38°58'33", long 77°14'46", Fairfax County, on right bank 300 ft downstream from Rocky Run, 0.7 mile upstream from mouth, and 1.5 miles southeast of Great Falls.

DRAINAGE AREA.--57.9 sq mi.

PERIOD OF RECORD.--October 1934 to current year. Monthly discharge only October to December 1934, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 151.30 ft above mean sea level.

AVERAGE DISCHARGE.--38 years, 57.2 cfs (13.42 inches per year).

EXTREMES.--Current year: Maximum discharge, 32,200 cfs June 22 (gage height, 21.40 ft, from floodmarks), from rating curve extended as explained below; minimum, 18 cfs Oct. 1.
Period of record: Maximum discharge, 32,200 cfs June 22, 1972 (gage height, 21.40 ft, from floodmarks), from rating curve extended above 1,600 cfs on basis of contracted-opening measurement at gage height 13.18 ft and slope-area measurement of peak flow; minimum, 0.05 cfs Sept. 9, 10, 1966 (gage height, 1.65 ft).

REMARKS.--Records good except those for period of no gage-height record, which are fair. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 951: 1936(M), 1937-38, 1939-40(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	50	77	40	50	136	72	77	103	332	53	34
2	46	50	62	78	56	96	100	75	64	128	47	34
3	33	92	59	61	207	167	85	160	56	183	52	34
4	22	64	58	62	326	109	72	625	59	141	69	34
5	26	48	52	217	116	92	64	169	97	113	75	34
6	166	46	52	93	88	80	61	109	63	101	49	33
7	31	60	290	75	77	79	85	93	62	91	48	31
8	24	48	147	74	63	76	122	89	52	85	51	29
9	22	44	85	78	61	69	98	211	49	79	44	28
10	524	44	72	128	59	69	85	125	46	75	41	28
11	120	44	65	91	58	68	75	90	44	70	40	28
12	62	43	60	79	59	71	69	82	43	70	40	28
13	47	43	56	78	67C	74	283	77	45	82	42	30
14	42	41	52	87	257	90	122	93	67	76	40	31
15	39	41	52	62	120	80	97	97	52	66	38	34
16	37	40	52	46	99	103	139	119	46	88	37	29
17	37	38	51	44	90	630	417	81	52	103	46	27
18	36	37	46	50	91	146	112	78	56	65	44	28
19	34	38	44	54	407	108	93	89	50	60	40	42
20	33	39	61	55	153	96	87	320	52	57	37	29
21	32	37	55	58	112	91	80	125	2,520	57	36	28
22	32	34	47	58	138	149	417	93	25,000	56	34	30
23	34	32	44	67	106	110	217	82	4,200	54	33	28
24	92	44	47	86	125	95	207	70	900	52	33	27
25	805	978	46	67	232	90	118	64	500	49	32	28
26	639	186	46	58	471	85	98	60	400	46	42	27
27	114	110	45	55	190	80	88	58	300	46	72	27
28	79	94	44	61	136	77	82	57	251	48	68	31
29	64	203	42	58	128	75	80	56	321	47	42	28
30	57	192	43	56	-----	73	77	72	753	54	38	39
31	52	-----	43	52	-----	72	-----	109	-----	57	35	-----
TOTAL	3,401	2,860	1,995	2,228	4,745	3,436	3,802	3,705	36,303	2,631	1,398	918
MEAN	110	95.3	64.4	71.9	164	111	127	120	1,210	84.9	45.1	30.6
MAX	805	978	290	217	670	630	417	625	25,000	332	75	42
MIN	20	32	42	40	50	68	61	56	43	46	32	27
CFSM	1.90	1.65	1.11	1.24	2.83	1.92	2.19	2.07	20.9	1.47	.78	.53
IN	2.19	1.84	1.28	1.43	3.05	2.21	2.44	2.38	23.32	1.69	.90	.59

CAL YR 1971 TOTAL 30,365 MEAN 83.2 MAX 978 MIN 18 CFSM 1.44 IN 19.51
WTR YR 1972 TOTAL 67,422 MFAN 184 MAX 25,000 MIN 20 CFSM 3.18 IN 43.32

PEAK DISCHARGE (BASE, 1,000 CFS, REVISED)

NOTE.--NO GAGE-HEIGHT RECORD JUNE 22-27.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	2200	9.40	2,030	5-4	0930	7.35	1,040
11-25	0900	7.98	1,290	6-22	UNKNOWN	21.40	32,200
2-13	1630	7.61	1,120	6-30	0400	7.94	1,240
3-17	0830	7.35	1,040				

01646500 POTOMAC RIVER NEAR WASHINGTON, D. C.

LOCATION.--Lat 38°56'58", long 77°07'40", Montgomery County, Maryland, on left bank just above Little Falls Dam, 1 mile upstream from District of Columbia boundary line, 1.2 miles upstream from Chain Bridge, 1.8 miles east of Langley, Fairfax County, Virginia, and at mile 117.4.

DRAINAGE AREA.--11,560 sq mi.

PERIOD OF RECORD.--March 1930 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 37.95 ft above mean sea level. Prior to June 7, 1930, nonrecording gage, and June 7, 1930, to Jan. 22, 1965, water-stage recorder at site 1 mile upstream on right bank at same datum.

AVERAGE DISCHARGE.--42 years, 19,030 cfs (12.83 inches per year), adjusted for diversions.

EXTREMES.--Current year: Maximum discharge, 359,000 cfs June 24 (gage height, 22.03 ft); minimum daily, 2,170 cfs Sept. 27 (does not include diversion of 466 cfs for municipal use).

Period of record: Maximum discharge, 484,000 cfs Mar. 19, 1936 (gage height, 28.1 ft, site then in use); minimum daily observed at gaging station, 121 cfs Sept. 9, 1966 (does not include diversion of 489 cfs for municipal use); minimum daily (adjusted), 601 cfs Sept. 10, 1966 (includes diversion of 449 cfs for municipal use).

Flood of June 2, 1889, was of approximately the same magnitude as that of Mar. 19, 1936.

REMARKS.--Records good. Diversions at Great Falls through aqueducts, and since June 1959, from gage pool at Little Falls Dam, for municipal supply of Washington, D. C.; since October 1958, at Rockville Filtration Plant, for municipal supply of city of Rockville; since April 1961, at Potomac Filtration Plant, for water supply of Washington Suburban Sanitary District; since October 1961, at Fairfax Water Treatment Plant for water supply of city of Fairfax (from Goose Creek); and since April 1964, at Violets Lock, to Chesapeake and Ohio Canal. Low flow affected slightly by Stony River Reservoir and since December 1950 by Savage River Reservoir. Low flow affected extensively at times by run-of-the-river hydroelectric plants. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS.--WSP 726: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4,820	14,300	36,500	5,910	8,650	56,600	11,400	16,800	13,900	49,700	6,840	3,940
2	4,730	13,500	33,400	6,070	7,900	59,300	11,400	15,700	14,900	43,600	10,500	3,710
3	4,750	13,100	25,500	7,450	8,290	61,400	11,300	15,500	12,900	35,700	10,900	3,450
4	6,730	12,700	19,400	10,500	16,600	58,200	10,600	21,000	11,200	27,900	10,600	3,150
5	9,530	11,700	15,900	12,100	17,700	49,600	10,100	47,600	11,000	23,300	9,610	3,150
6	11,300	10,500	13,800	12,100	14,800	39,400	9,640	56,800	12,600	23,000	8,890	3,140
7	9,620	9,690	15,400	11,100	13,700	31,900	9,840	43,300	10,000	25,800	7,720	2,980
8	7,990	8,920	27,300	10,800	12,300	26,400	10,800	32,500	8,690	32,500	8,080	3,150
9	6,750	7,960	35,600	10,400	10,700	21,800	11,000	29,200	7,800	26,100	8,080	3,120
10	9,950	7,450	40,700	10,700	9,550	19,000	12,000	31,200	6,680	21,200	7,270	2,900
11	12,100	6,970	35,400	11,400	8,800	17,200	15,400	36,700	6,310	18,000	6,280	2,660
12	9,120	6,540	28,400	11,400	8,330	15,600	15,500	34,000	5,980	15,600	5,720	2,680
13	7,290	6,010	21,800	11,700	12,700	14,600	17,400	27,900	5,620	14,300	5,330	2,680
14	6,430	5,910	18,000	12,700	36,400	15,500	28,700	23,200	5,600	13,000	5,120	2,710
15	5,650	5,660	15,600	12,000	61,100	29,800	40,500	21,000	5,730	12,700	5,120	2,930
16	4,990	5,350	14,100	10,500	44,100	34,000	42,700	19,800	5,790	13,000	4,840	2,720
17	4,570	5,220	13,100	9,650	33,000	35,300	54,100	19,900	5,810	13,000	4,700	2,570
18	4,270	5,060	11,400	8,390	28,500	32,000	50,400	20,900	6,400	13,600	4,700	2,550
19	4,040	4,770	10,500	7,760	29,500	27,600	42,800	19,900	7,490	12,900	4,640	2,540
20	3,770	4,710	9,770	8,280	24,900	23,100	33,300	21,900	7,160	12,100	4,700	2,450
21	3,620	4,490	9,220	9,220	21,000	19,800	26,800	28,800	12,000	10,800	4,570	2,540
22	3,740	4,180	8,610	9,080	18,700	18,100	26,700	31,100	172,000	9,520	4,380	2,720
23	3,570	4,230	8,080	8,580	18,000	20,900	32,000	29,000	268,000	8,800	4,250	2,620
24	3,780	4,330	7,810	8,660	18,000	20,100	39,800	24,800	334,000	8,170	4,250	2,520
25	20,100	10,000	7,810	8,710	23,100	17,900	40,700	22,000	200,000	7,720	4,000	2,480
26	61,600	10,200	7,410	8,400	33,600	16,800	35,000	19,600	79,800	7,180	3,880	2,330
27	57,300	9,820	6,970	8,250	66,200	15,700	29,900	16,400	47,600	6,920	3,820	2,170
28	42,100	8,690	6,680	8,830	80,200	14,600	24,600	14,200	35,600	6,600	3,820	2,350
29	28,900	9,700	6,540	8,660	66,000	13,800	21,100	12,500	30,700	6,440	4,770	2,260
30	21,400	23,900	6,360	8,170	-----	13,000	18,500	11,200	47,500	6,440	4,900	2,530
31	17,000	-----	5,940	8,020	-----	12,200	-----	11,000	-----	6,440	4,320	-----
TOTAL	401,710	255,560	523,000	295,490	751,760	851,200	743,980	775,400	1,398,800	532,030	186,600	83,720
MEAN	12,960	8,519	16,870	9,532	25,920	27,460	24,800	25,010	46,630	17,160	6,019	2,791
MAX	61,600	23,900	40,700	12,700	80,200	61,400	54,100	56,800	334,000	49,700	10,900	3,940
MIN	3,570	4,180	5,940	5,910	7,900	12,200	9,640	11,000	5,600	6,440	3,820	2,170
(*)	417	418	418	425	440	429	410	436	487	510	528	479
MEAN#	13,380	8,937	17,290	9,957	26,360	27,890	25,210	25,450	47,120	17,670	6,547	3,270
CFSM#	1.16	.77	1.50	.86	2.28	2.41	2.18	2.20	4.08	1.53	.57	.28
IN#	1.34	.86	1.73	.99	2.46	2.78	2.43	2.54	4.55	1.76	.66	.31
CAL YR 1971	TOTAL 5,116,440	MEAN 14,020	MAX 89,500	MIN 1,850	MEAN# 14,460	CFSM# 1.25	IN# 16.97					
WTR YR 1972	TOTAL 6,799,210	MEAN 18,580	MAX 334,000	MIN 2,170	MEAN# 19,030	CFSM# 1.65	IN# 22.46					

PEAK DISCHARGE (BASE, 45,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-26	0145	8.17	70,100	5-6	0645	7.55	59,100
2-15	1030	7.88	64,800	6-24	0330	22.03	359,000
2-28	0800	8.85	82,300	7-1	1745	7.11	51,600
4-17	0815	7.39	56,300				

* DIVERSION, IN CFS, TO CHESAPEAKE AND OHIO CANAL AND FOR MUNICIPAL SUPPLY OF WASHINGTON, D. C.; WASHINGTON SUBURBAN SANITARY DISTRICT, CITY OF ROCKVILLE, AND CITY OF FAIRFAX (FROM GOOSE CREEK); RECORDS FURNISHED BY CORPS OF ENGINEERS, WASHINGTON SUBURBAN SANITARY COMMISSION, CITY OF ROCKVILLE, AND CITY OF FAIRFAX.
ADJUSTED FOR DIVERSION.

POTOMAC RIVER BASIN

01653000 CAMERON RUN AT ALEXANDRIA, VA.

LOCATION.--Lat 38°48'23", long 77°06'35", Alexandria City, on left bank 25 ft downstream from bridge on Southern Railway at Alexandria, 800 ft downstream from confluence of Holmes Run and Backlick Run, 0.5 mile east of the U.S. Army Quartermaster Depot, and 3.4 miles upstream from mouth.

DRAINAGE AREA.--33.7 sq mi.

PERIOD OF RECORD.--June 1955 to current year.

GAGE.--Water-stage recorder. Datum of gage is 36.51 ft above mean sea level. Prior to Sept. 20, 1965, at same site at datum 2.34 ft higher.

AVERAGE DISCHARGE.--17 years, 34.6 cfs (13.94 inches per year).

EXTREMES.--Current year: Maximum discharge, 19,900 cfs June 22 (gage height, 18.14 ft), from rating curve extended as explained below; minimum daily, 2.8 cfs Sept. 26, 29.

Period of record: Maximum discharge, 19,900 cfs June 22, 1972 (gage height, 18.14 ft), from rating curve extended above 2,500 cfs on basis of culvert computations of peak flow for main channel and bypass channels; minimum, 1.1 cfs Aug. 15, 1957, Sept. 22-25, 1964.

REMARKS.--Records good prior to June 24, 1972, and poor thereafter. Some regulation by Lake Barcroft, formerly Alexandria Reservoir, on Holmes Run 3.6 miles upstream (usable capacity, 2,380 acre-ft). Water-quality records have been collected at this location and are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	35	40	9.0	16	34	27	26	38	76	9.4	6.2
2	64	34	30	34	32	33	45	25	27	34	20	7.0
3	24	44	26	12	322	235	14	109	15	26	17	7.0
4	12	30	13	43	230	49	23	172	69	24	20	7.0
5	10	15	12	98	82	42	13	82	50	18	17	7.0
6	20	8.2	14	23	24	36	13	29	26	26	16	5.7
7	8.9	14	276	16	21	34	47	27	19	34	17	6.0
8	8.4	7.0	96	15	18	31	47	61	14	21	30	5.4
9	8.4	13	56	34	17	29	21	72	33	19	15	4.9
10	465	23	39	42	16	28	17	46	33	19	9.0	4.2
11	71	21	33	30	15	26	15	36	11	17	11	3.5
12	28	6.7	39	21	16	27	14	26	9.9	15	22	3.7
13	24	6.7	30	30	630	26	134	26	18	47	128	4.9
14	21	6.5	15	39	130	44	31	46	24	19	37	4.9
15	20	6.2	30	26	36	26	23	65	13	13	16	5.2
16	20	15	11	30	30	77	78	38	11	32	9.4	3.9
17	20	14	11	30	38	460	161	49	20	82	26	4.2
18	18	6.0	9.8	26	122	47	34	32	160	17	13	10
19	18	6.0	10	2	738	38	32	83	23	12	9.8	7.8
20	18	6.2	36	21	123	34	30	287	34	10	16	5.2
21	17	6.2	13	21	47	43	26	51	2,160	9.0	14	10
22	16	6.5	10	21	48	123	469	38	3,680	9.0	8.2	4.2
23	35	8.6	9.8	26	32	105	83	30	734	9.0	8.2	3.7
24	43	141	10	23	150	81	75	22	88	8.0	7.8	3.3
25	522	595	10	22	230	90	38	19	57	7.0	6.0	3.1
26	312	114	11	16	285	77	32	17	49	6.2	6.2	2.8
27	68	61	10	15	49	50	30	16	46	6.0	8.2	6.0
28	42	38	10	25	38	41	30	15	46	6.0	8.2	4.9
29	38	143	9.4	17	34	39	28	14	59	6.0	7.8	2.8
30	37	81	9.8	17	-----	30	32	38	385	17	9.4	5.4
31	36	-----	9.0	16	-----	15	-----	67	-----	13	6.0	-----
TOTAL	2,053.9	1,511.8	938.8	819.0	3,569	2,050	1,662	1,664	7,951.9	657.2	548.6	159.9
MEAN	66.3	50.4	30.3	26.4	123	66.1	55.4	53.7	265	21.2	17.7	5.33
MAX	522	595	276	98	738	460	469	287	3,680	82	128	10
MIN	8.4	6.0	9.0	9.0	15	15	13	14	9.9	6.0	6.0	2.8
CFSM	1.97	1.50	.90	.78	3.65	1.96	1.64	1.59	7.86	.63	.53	.16
IN.	2.27	1.67	1.04	.90	3.94	2.26	1.83	1.84	8.78	.73	.61	.18

CAL YR 1971 TOTAL 17,906.4 MEAN 49.1 MAX 821 MIN 4.7 CFSM 1.46 IN 19.77
WTR YR 1972 TOTAL 23,586.1 MEAN 64.4 MAX 3,680 MIN 2.8 CFSM 1.91 IN 26.04

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-10	0530	6.12	2,040	6-18	1600	6.55	2,360
10-25	1515	6.44	2,280	6-22	0030	18.14	19,900
11-25	0300	6.23	2,120	8-13	1900	6.97	2,680
2-19	0245	6.42	2,260				

NOTE.--FRAGMENTARY GAGE-HEIGHT RECORD JUNE 24 TO SEPT. 30.

01654000 ACCOTINK CREEK NEAR ANNANDALE, VA.

LOCATION.--Lat 38°48'46", long 77°13'43", Fairfax County, on left bank 800 ft upstream from bridge on State Highway 620, 0.2 mile upstream from Long Branch, and 2.3 miles southwest of Annandale.

DRAINAGE AREA.--23.5 sq mi.

PERIOD OF RECORD.--March 1947 to current year (fragmentary prior to October 1947).

GAGE.--Water-stage recorder. Datum of gage is 190.91 ft above mean sea level (levels by Stone and Webster Engineering Corp.). Prior to May 12, 1949, nonrecording gage at site 800 ft downstream at same datum. May 12, 1949, to June 4, 1970, water-stage recorder at site 800 ft downstream at same datum.

AVERAGE DISCHARGE.--25 years, 27.4 cfs (15.83 inches per year).

EXTREMES.--Current year: Maximum discharge, 12,000 cfs June 22 (gage height, 15.96 ft, from high-water mark in gage house), from rating curve extended as explained below; minimum daily, 3.1 cfs Sept. 11, 17.
Period of record: Maximum discharge, 12,000 cfs June 22, 1972 (gage height, 15.96 ft, from high-water mark in gage house), from rating curve extended above 1,200 cfs on basis of contracted-opening and flow-over-road measurement of peak flow; minimum, 0.10 cfs Sept. 25, 26, 1954.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Slight diurnal fluctuation during low flow caused by sewage disposal plant above station near Fairfax. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1502: 1952. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	12	25	12	15	32	19	22	32	37	12	4.0
2	32	13	22	35	21	31	31	22	16	26	10	4.5
3	13	25	19	18	192	68	20	66	15	28	10	6.2
4	10	14	18	34	118	34	23	152	32	23	11	5.6
5	9.4	11	17	98	25	29	20	33	32	27	19	5.9
6	9.4	11	18	28	21	26	19	25	17	22	10	4.2
7	8.4	16	178	20	22	25	42	23	14	20	12	3.8
8	8.1	11	39	17	18	25	56	24	14	19	13	3.7
9	8.6	11	26	25	16	23	31	81	14	18	8.8	3.5
10	272	11	23	45	16	23	27	32	12	18	7.4	3.3
11	23	11	21	30	15	22	24	23	12	16	7.0	3.1
12	15	11	18	23	15	22	22	22	12	17	7.7	3.3
13	13	10	18	27	489	23	151	20	18	26	12	3.8
14	13	10	16	32	52	37	37	36	23	17	8.5	3.5
15	12	10	16	20	31	26	29	32	14	15	7.4	5.3
16	12	11	16	17	26	39	116	32	12	187	7.0	3.5
17	11	10	15	15	27	375	275	21	18	132	18	3.1
18	11	11	14	16	48	38	33	25	14	23	11	14
19	11	11	14	16	301	31	28	36	12	18	8.5	10
20	11	12	32	16	54	28	26	128	26	18	7.0	4.2
21	11	12	19	20	42	27	23	36	2,240	14	6.7	4.7
22	11	11	14	19	63	46	224	28	3,300	13	6.7	4.0
23	15	12	14	26	38	29	51	24	100	12	5.6	3.5
24	40	78	14	29	87	24	69	22	50	12	5.0	3.7
25	772	685	14	23	128	22	33	21	35	11	5.0	3.7
26	88	42	14	17	202	22	28	19	28	10	6.4	3.3
27	21	34	14	16	46	22	26	18	25	10	11	4.2
28	16	28	14	22	38	21	25	17	24	11	23	8.1
29	14	118	13	17	34	20	24	17	58	11	5.6	4.0
30	13	44	14	16	-----	19	24	18	150	23	4.5	17
31	12	-----	13	15	-----	19	-----	31	-----	15	4.2	-----
TOTAL	1,523.0	1,306	722	764	2,200	1,228	1,556	1,106	6,369	849	291.0	154.7
MEAN	49.1	43.5	23.3	24.6	75.9	39.6	51.9	35.7	212	27.4	9.39	5.16
MAX	772	685	178	98	489	375	275	152	3,300	187	23	17
MIN	7.1	10	13	12	15	19	19	17	12	10	4.2	3.1
CFSM	2.09	1.85	.99	1.05	3.23	1.69	2.21	1.52	9.02	1.17	.40	.22
IN	2.41	2.07	1.14	1.21	3.48	1.94	2.46	1.75	10.08	1.34	.46	.24

CAL YR 1971 TOTAL 13,572.2 MEAN 37.2 MAX 772 MIN 4.4 CFSM 1.58 IN 21.48
WTR YR 1972 TOTAL 18,068.7 MEAN 49.4 MAX 3,300 MIN 3.1 CFSM 2.10 IN 28.60

PEAK DISCHARGE (BASE, 1,400 CFS)

NOTE.--NO GAGE-HEIGHT RECORD JUNE 22-25.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1900	9.02	2,270	6-22	UNKNOWN	15.96	12,000
11-25	0530	8.20	1,620				

POTOMAC RIVER BASIN

01655500 CEDAR RUN NEAR WARRENTON, VA.

LOCATION.--Lat 38°44'25", long 77°47'16", Fauquier County, on right bank at downstream side of bridge on State Highway 672, 1.9 miles north of Warrenton, and 14.5 miles upstream from Licking Run.

DRAINAGE AREA.--12.3 sq mi.

PERIOD OF RECORD.--July 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 419.40 ft above mean sea level.

AVERAGE DISCHARGE.--22 years, 12.1 cfs (13.36 inches per year).

EXTREMES.--Current year: Maximum discharge, 7,840 cfs June 21 (gage height, 12.87 ft), from rating curve extended as explained below; minimum, 0.65 cfs Nov. 22.

Period of record: Maximum discharge, 7,840 cfs June 21, 1972 (gage height, 12.87 ft), from rating curve extended above 600 cfs on basis of areal study of flood of 1942; no flow part of each day Aug. 11-14, 1967, probably caused by dam 400 ft above gage.

Flood in October 1942 reached a stage of about 13 ft, from information by local residents.

REMARKS.--Records good. Some regulation by Warrenton municipal water-supply reservoir 400 ft above station.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1382: 1951-53. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	9.5	49	7.1	6.7	54	12	18	13	39	9.8	1.3
2	4.9	8.7	35	12	7.4	47	17	15	9.2	33	6.9	1.4
3	5.8	11	27	9.2	31	54	12	24	7.9	37	6.4	1.4
4	3.7	8.4	22	10	54	40	12	31	7.4	23	6.2	1.7
5	3.3	7.1	19	20	33	35	9.5	22	7.9	23	5.5	1.5
6	3.0	6.9	18	14	28	27	9.2	18	7.1	20	4.5	1.6
7	2.2	7.4	41	11	24	24	12	16	6.7	18	4.7	1.4
8	1.3	6.7	47	10	18	21	15	17	5.8	14	4.5	1.3
9	1.4	6.2	40	11	15	18	13	29	5.8	12	4.5	1.6
10	28	6.2	33	16	13	18	12	22	5.3	9.8	2.8	1.2
11	12	5.8	28	13	12	15	12	18	4.3	9.0	2.6	1.2
12	6.9	5.8	22	13	12	15	12	16	4.9	9.0	2.7	1.2
13	4.9	5.8	20	12	166	15	40	15	5.1	8.7	3.3	1.3
14	4.3	5.1	17	13	85	20	30	19	8.1	5.8	2.7	1.6
15	3.5	5.1	16	11	55	18	25	19	7.1	4.9	3.3	2.4
16	3.0	5.3	14	6.9	40	18	33	16	6.2	9.0	2.8	1.7
17	3.2	4.7	13	7.4	34	71	49	14	6.9	44	2.7	1.6
18	3.5	4.7	10	8.4	34	44	34	13	9.5	35	3.2	2.0
19	3.2	4.9	10	9.0	70	37	27	18	9.8	16	3.0	2.7
20	2.8	4.7	12	8.7	45	28	24	83	8.4	11	2.8	1.5
21	2.8	5.8	12	9.2	40	24	19	46	1,500	9.5	2.2	2.2
22	2.8	3.7	9.5	9.2	37	29	69	35	927	8.1	2.0	2.4
23	4.9	1.0	9.0	9.8	33	24	58	26	229	7.4	2.0	1.5
24	32	6.8	9.5	10	33	20	60	21	107	6.7	1.8	1.6
25	155	34	8.7	8.7	58	18	42	18	70	5.8	1.8	1.5
26	52	18	8.7	7.4	143	17	34	15	49	5.1	1.8	1.5
27	27	19	9.8	7.4	92	16	28	13	37	5.5	2.4	2.0
28	19	26	9.2	7.9	73	15	23	11	36	6.2	2.2	2.2
29	15	66	7.4	7.6	61	14	21	9.8	52	6.0	1.8	2.0
30	12	72	8.1	7.6	-----	13	19	9.5	65	10	1.6	5.1
31	10	-----	7.9	7.1	-----	12	-----	14	-----	10	1.3	-----
TOTAL	435.5	382.3	592.8	314.6	1,353.1	821	782.7	661.3	3,218.4	461.5	105.8	53.6
MEAN	14.0	12.7	19.1	10.1	46.7	26.5	26.1	21.3	107	14.9	3.41	1.79
MAX	155	72	49	20	166	71	69	83	1,500	44	9.8	5.1
MIN	1.3	1.0	7.4	6.9	6.7	12	9.2	9.5	4.3	4.9	1.3	1.2
CFSM	1.14	1.03	1.55	.82	3.80	2.15	2.12	1.73	8.70	1.21	.28	.15
IN.	1.32	1.16	1.79	.95	4.09	2.48	2.37	2.00	9.73	1.40	.32	.16

CAL YR 1971 TOTAL 5,877.90 MEAN 16.1 MAX 216 MIN .70 CFSM 1.31 IN 17.78
WTR YR 1972 TOTAL 9,182.60 MEAN 25.1 MAX 1,500 MIN 1.0 CFSM 2.04 IN 27.77

PEAK DISCHARGE (BASE, 250 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1300	6.70	462	6-21	1630	12.87	7,840
2-13	1130	6.14	355				

01656000 CEDAR RUN NEAR CATLETT, VA.

LOCATION.--Lat 38°38'12", long 77°37'31", Fauquier County, on right bank 100 ft downstream from bridge on State Highway 806, 0.9 mile downstream from Licking Run, and 1.4 miles southeast of Catlett.

DRAINAGE AREA.--93.4 sq mi.

PERIOD OF RECORD.--July 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 199.15 ft above mean sea level.

AVERAGE DISCHARGE.--22 years, 81.8 cfs (11.89 inches per year).

EXTREMES.--Current year: Maximum discharge, 38,600 cfs June 22 (gage height, 27.66 ft, from floodmarks), from rating curve extended as explained below; minimum, 1.2 cfs Sept. 14 (gage height, 2.17 ft).

Period of record: Maximum discharge, 38,600 cfs June 22, 1972 (gage height, 27.66 ft, from floodmarks), from rating curve extended above 5,000 cfs on basis of contracted-opening measurement of peak flow; no flow on many days in 1954, 1957, 1959, 1963, 1964, and 1966.

Flood of Oct. 15, 1942, 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. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	42	207	30	35	182	49	63	79	150	68	2.4
2	7.7	37	134	46	39	152	79	54	36	103	28	2.0
3	37	74	103	57	302	235	61	126	28	103	22	1.7
4	18	61	90	57	763	150	51	408	24	79	20	2.9
5	11	36	79	347	179	124	46	136	40	77	17	4.1
6	8.8	30	76	167	124	96	42	82	28	83	16	4.4
7	6.9	30	344	96	118	86	53	66	25	72	15	3.0
8	4.6	27	269	76	83	77	126	62	20	80	17	2.7
9	4.1	23	167	73	82	66	130	197	17	69	13	2.0
10	222	23	136	175	74	63	91	120	15	53	10	1.4
11	100	22	112	134	67	56	74	76	12	43	8.4	1.4
12	42	20	91	107	58	58	65	62	10	41	7.7	1.4
13	25	18	80	90	1,300	57	298	51	11	54	7.7	1.3
14	19	16	67	96	685	76	177	69	21	43	8.4	1.4
15	16	15	65	73	257	90	114	96	24	36	7.7	4.9
16	13	15	63	65	177	83	112	134	17	40	17	5.8
17	11	15	58	58	138	867	400	69	17	51	11	3.0
18	11	13	52	53	162	247	144	63	34	95	12	2.9
19	11	14	43	51	809	154	105	73	52	45	11	4.1
20	8.4	14	58	51	343	116	86	1,070	31	36	8.8	9.2
21	7.3	13	62	53	221	101	73	257	4,460	28	8.4	5.8
22	9.2	14	50	53	343	136	720	150	18,500	25	6.9	11
23	11	12	41	66	233	142	409	94	2,060	22	5.5	8.4
24	191	37	41	83	221	91	283	66	614	23	5.2	4.6
25	1,040	995	42	69	606	77	173	52	300	15	5.2	4.1
26	249	307	40	50	1,170	70	124	44	197	13	4.6	4.1
27	129	223	40	44	493	65	96	37	144	11	4.6	4.1
28	79	233	39	46	293	61	80	33	190	14	5.2	6.1
29	60	462	37	52	226	54	73	31	255	15	4.9	7.7
30	49	519	33	45	-----	53	67	29	235	27	3.8	12
31	43	-----	35	41	-----	51	-----	34	-----	40	3.0	-----
TOTAL	2,447.5	3,360	2,754	2,504	9,601	3,936	4,401	3,904	27,496	1,586	383.0	166.8
MEAN	79.0	112	88.8	80.8	331	127	147	126	917	51.2	12.4	5.56
MAX	1,040	995	344	347	1,300	867	720	1,070	18,500	150	68	41
MIN	3.5	12	33	30	35	51	42	29	10	11	3.0	1.3
CFSM	.85	1.20	.95	.87	3.54	1.36	1.57	1.35	9.82	.55	.13	.06
IN-	.97	1.34	1.10	1.00	3.82	1.57	1.75	1.55	10.95	.63	.15	.07
CAL YR 1971	TOTAL 40,082.60	MEAN 110	MAX 1,570	MIN .52	CFSM 1.18	IN 15.96						
WTR YR 1972	TOTAL 62,539.30	MEAN 171	MAX 18,500	MIN 1.3	CFSM 1.83	IN 24.91						

PEAK DISCHARGE (BASE, 1,800 CFS)

NOTE.--NO GAGE-HEIGHT RECORD JUNE 21-25.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	2000	9.24	2,000	6-22	UNKNOWN	27.66	38,600
2-13	2130	9.72	2,250				

POTOMAC RIVER BASIN

01656500 BROAD RUN AT BUCKLAND, VA.

LOCATION.--Lat 38°46'50", long 77°40'22", Prince William County, on right bank at downstream side of bridge on U.S. Highway 29 at Buckland and 1.1 miles upstream from South Run.

DRAINAGE AREA.--50.5 sq mi.

PERIOD OF RECORD.--July 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 284.58 ft above mean sea level.

AVERAGE DISCHARGE.--22 years, 47.6 cfs (12.80 inches per year).

EXTREMES.--Current year: Maximum discharge, 16,800 cfs June 21 (gage height, 13.92 ft), from rating curve extended as explained below; minimum, 8.3 cfs Sept. 18.

Period of record: Maximum discharge, 16,800 cfs June 21, 1972 (gage height, 13.92 ft), from rating curve extended above 3,200 cfs on basis of two slope-area measurements at gage heights 13.08 and 13.92 ft; minimum, 0.20 cfs Oct. 10, 1954.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	37	165	26	26	198	52	68	63	134	35	11
2	23	34	119	40	28	181	66	63	42	126	32	11
3	38	43	93	40	113	212	53	93	36	455	36	11
4	21	40	83	37	225	152	49	118	32	136	37	11
5	17	30	73	81	104	132	45	89	37	120	38	11
6	15	27	64	58	85	113	44	69	33	106	29	12
7	13	27	188	42	76	106	53	62	33	83	26	11
8	11	25	190	39	60	92	75	61	26	66	27	11
9	11	23	146	40	57	83	74	122	24	59	23	10
10	128	23	124	67	48	79	63	94	23	55	21	9.8
11	73	23	107	54	42	73	58	74	21	52	20	9.8
12	36	21	88	46	42	73	55	64	20	51	19	10
13	26	21	78	43	714	73	156	56	21	59	22	11
14	23	20	68	46	372	93	118	68	27	48	22	11
15	19	20	66	40	172	86	94	78	27	42	25	10
16	17	20	62	29	136	84	116	72	24	50	25	9.0
17	16	18	50	25	118	258	220	61	32	101	25	9.0
18	15	18	47	30	113	140	118	60	39	232	23	9.8
19	14	18	41	36	200	107	94	60	48	55	21	15
20	13	19	45	35	132	94	86	384	34	44	20	11
21	13	18	43	37	152	89	75	152	3,590	46	18	11
22	13	17	39	36	128	110	234	114	3,960	52	16	13
23	16	15	34	41	108	112	167	90	1,340	45	15	11
24	144	18	35	42	108	89	196	75	478	33	16	12
25	462	108	34	40	176	78	135	66	248	30	15	11
26	198	73	32	34	514	73	110	56	168	27	15	10
27	96	76	31	31	316	69	96	50	140	27	15	11
28	69	94	30	33	212	66	85	45	136	28	60	12
29	54	199	29	33	208	61	78	41	156	30	21	12
30	45	225	29	31	-----	58	73	40	356	40	18	18
31	40	-----	29	30	-----	54	-----	62	-----	39	15	-----
TOTAL	1,688.2	1,350	2,262	1,242	4,785	3,288	2,938	2,607	11,214	2,471	750	335.4
MEAN	54.5	45.0	73.0	40.1	165	106	97.9	84.1	374	79.7	24.2	11.2
MAX	462	225	190	81	714	258	234	384	3,960	455	60	18
MIN	9.2	15	29	25	26	54	44	40	20	27	15	9.0
CFSM	1.08	.89	1.45	.79	3.27	2.10	1.94	1.67	7.41	1.58	.48	.22
IN	1.24	.99	1.67	.91	3.52	2.42	2.16	1.92	8.26	1.82	.55	.25

CAL YR 1971	TOTAL 22,605.6	MEAN 61.9	MAX 556	MIN 5.8	CFSM 1.23	IN 16.65
WTR YR 1972	TOTAL 34,930.6	MEAN 95.4	MAX 3,960	MIN 9.0	CFSM 1.89	IN 25.73

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1530	5.06	975	6-21	2200	13.92	16,800
2-13	1530	5.79	1,360				

POTOMAC RIVER BASIN

53

01656700 OCCOQUAN RIVER NEAR MANASSAS, VA.

LOCATION.--Lat 38°42'19", long 77°26'46", Prince William County, on right bank 200 ft downstream from bridge on State Highway 234 at Lake Jackson, 3.3 miles southeast of Manassas, and 3.7 miles upstream from Bull Run.

DRAINAGE AREA.--343 sq mi.

PERIOD OF RECORD.--April 1968 to current year. Prior to October 1970, published as Occoquan Creek near Manassas.

GAGE.--Water-stage recorder. Datum of gage is 119.53 ft above mean sea level.

EXTREMES.--Current year: Maximum discharge, 56,400 cfs June 22 (gage height, 50.31 ft, from floodmarks); minimum, 0.60 cfs Sept. 18 (gage height, 0.66 ft), caused by repair work at dam 650 ft above gage.
Period of record: Maximum discharge, 56,400 cfs June 22, 1972 (gage height, 50.31 ft, from floodmarks); minimum, 0.60 cfs Sept. 18, 1972 (gage height, 0.66 ft), caused by repair work at dam 650 ft above gage.

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

COOPERATION.--Records computed and furnished by the State of Virginia.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	ALG	SEP
1	16	180	890	110	135	755	193	315	253	645	186	25
2	26	164	522	165	135	625	240	264	204	417	141	25
3	34	194	388	240	363	770	266	391	137	452	82	25
4	65	302	329	370	4,100	730	218	3,090	105	480	69	25
5	57	189	289	1,080	1,000	530	204	1,120	103	346	69	25
6	45	139	256	700	548	432	172	498	123	324	65	24
7	33	126	1,060	480	480	360	184	360	170	292	57	24
8	25	124	1,570	360	374	329	388	297	114	256	57	24
9	21	96	730	320	276	295	530	601	71	282	45	20
10	444	84	548	620	237	256	432	730	58	197	37	16
11	639	87	448	540	216	242	346	417	57	163	34	16
12	265	85	374	448	209	228	297	310	41	144	26	15
13	150	79	313	360	4,230	230	829	252	30	151	23	15
14	98	77	269	402	7,110	249	1,010	256	45	168	22	3.7
15	71	71	237	360	1,310	346	548	360	60	141	22	.90
16	59	66	228	244	780	313	448	432	61	325	28	.70
17	51	70	209	164	565	3,620	1,610	346	63	385	35	.80
18	42	65	191	161	530	1,570	788	374	67	295	45	.90
19	37	60	159	176	3,310	685	480	374	127	256	34	1.1
20	33	63	151	202	1,780	496	388	4,980	124	155	29	1.2
21	30	63	211	206	930	417	332	2,480	3,800	144	27	2.0
22	26	69	191	216	1,120	402	1,770	830	50,900	91	26	4.8
23	31	77	150	244	1,180	530	3,040	496	35,400	82	25	15
24	253	66	132	295	780	402	1,240	360	11,800	75	23	20
25	2,520	3,560	135	297	2,220	324	830	279	1,370	61	24	17
26	3,970	1,860	132	228	5,220	287	548	223	755	49	25	14
27	748	708	128	174	3,630	259	417	182	530	40	24	18
28	402	665	125	168	1,290	244	360	174	480	32	24	24
29	297	826	120	172	930	228	313	142	480	34	24	20
30	237	2,390	115	163	-----	209	289	132	805	54	25	31
31	202	-----	105	155	-----	202	-----	139	-----	88	25	-----
TOTAL	10,927	12,605	10,705	9,820	44,988	16,565	18,710	21,204	108,333	6,624	1,378	454.10
MEAN	352	420	345	317	1,551	534	624	684	3,611	214	44.5	15.1
MAX	3,970	3,560	1,570	1,080	7,110	3,620	3,040	4,980	50,900	645	186	31
MIN	16	60	105	110	135	202	172	132	30	32	22	.70
CFSM	1.03	1.22	1.01	.92	4.52	1.56	1.82	1.99	10.5	.62	.13	.04
IN	1.19	1.37	1.16	1.07	4.88	1.80	2.03	2.30	11.75	.72	.15	.05

CAL YR 1971 TOTAL 184,854.30 MEAN 506 MAX 14,800 MIN 8.4 CFSM 1.48 IN 20.05
WTR YR 1972 TOTAL 262,313.10 MEAN 717 MAX 50,900 MIN .70 CFSM 2.09 IN 28.45

PEAK DISCHARGE (BASE, 5,500 CFS)

NOTE.--NO GAGE-HEIGHT RECORD JUNE 21-25.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1430	10.37	6,200	5-20	1200	10.54	6,350
2-13	2300	12.38	9,870	6-22	UNKNOWN	50.31	56,400
2-26	2100	10.73	6,670				

POTOMAC RIVER BASIN

01656725 BULL RUN NEAR CATHARPIN, VA.

LOCATION.--Lat 38°53'21", long 77°34'14", Prince William County, on right bank 20 ft downstream from bridge on State Highway 705, 0.7 mile downstream from Chestnut Lick, 2.5 miles north of Catharpin, and 6.7 miles north-east of Gainesville.

DRAINAGE AREA.--25.8 sq mi.

PERIOD OF RECORD.--May 1969 to current year. Prior to October 1970, published as "on State Highway 705".

GAGE.--Water-stage recorder. Datum of gage is 237.78 ft above mean sea level.

EXTREMES.--Current year: Maximum discharge, 39,400 cfs June 22 (gage height, 18.92 ft, from floodmarks), from rating curve extended as explained below; minimum, 0.02 cfs Sept. 12.

Period of record: Maximum discharge, 39,400 cfs June 22, 1972 (gage height, 18.92 ft, from floodmarks), from rating curve extended above 3,000 cfs on basis of slope-area measurement of peak flow; no flow Sept. 8 to Oct. 10, 1970.

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

COOPERATION.--Records computed and furnished by the State of Virginia.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	18	113	7.2	9.8	79	21	26	23	90	6.6	.80
2	52	15	77	22	12	67	30	23	12	30	4.9	1.1
3	29	29	62	17	210	82	22	45	8.8	80	4.9	1.3
4	11	16	55	21	163	53	20	65	7.2	45	7.4	1.3
5	9.1	10	48	81	56	45	17	37	8.5	24	9.5	1.5
6	30	9.1	48	29	40	36	16	25	8.2	22	5.3	1.3
7	5.5	9.8	141	22	32	34	25	22	8.5	18	4.5	1.0
8	4.4	8.2	88	15	25	29	46	22	5.5	19	3.8	.63
9	4.0	7.2	70	17	20	24	43	114	4.4	18	2.9	.37
10	242	6.9	61	44	18	24	33	59	4.2	13	2.1	.10
11	56	6.6	53	29	18	22	27	36	3.2	10	2.0	.04
12	28	6.6	44	22	18	22	23	27	3.6	8.0	2.0	.02
13	18	5.8	36	20	465	25	160	22	3.8	10	2.6	.04
14	15	5.0	32	23	140	44	67	34	5.8	10	2.9	.18
15	12	4.4	32	15	84	41	45	35	5.8	8.5	2.1	.20
16	9.4	4.4	30	8.8	62	36	117	32	4.4	11	2.0	.37
17	9.1	4.2	27	9.1	52	231	169	30	8.2	15	2.1	.37
18	8.2	4.0	21	10	53	68	63	45	8.5	10	4.9	.22
19	6.6	4.0	19	13	190	51	48	38	9.0	8.0	2.9	.80
20	5.8	4.7	22	13	102	41	40	269	9.4	7.0	1.8	1.3
21	5.8	4.2	22	14	70	37	33	75	1,000	6.6	1.3	.72
22	5.8	3.6	17	15	74	75	224	53	9,500	4.9	1.1	.80
23	6.9	2.8	13	20	67	64	101	36	3,000	4.2	.80	1.6
24	136	4.0	14	35	63	43	130	27	800	3.8	.72	1.0
25	620	142	14	23	182	36	70	22	270	3.5	.58	.42
26	118	87	13	15	399	32	52	18	60	2.9	.37	.22
27	57	97	13	13	176	29	42	16	34	2.3	.37	.30
28	38	156	11	16	108	26	36	14	18	3.8	17	.72
29	29	349	9.8	15	95	24	31	13	31	4.5	2.3	1.2
30	25	211	9.8	15	-----	23	29	13	150	7.0	1.5	4.5
31	20	-----	9.8	13	-----	22	-----	22	-----	7.9	1.3	-----
TOTAL	1,619.4	1,235.5	1,225.4	632.1	3,003.8	1,465	1,780	1,315	15,015.0	507.9	104.54	24.42
MEAN	52.2	41.2	39.5	20.4	104	47.3	59.3	42.4	501	16.4	3.37	.81
MAX	620	349	141	81	465	231	224	269	9,500	90	17	4.5
MTN	2.8	2.8	9.8	7.2	9.8	22	16	13	3.2	2.3	.37	.02
CFSM	2.02	1.60	1.53	.79	4.03	1.83	2.30	1.64	19.4	.64	.13	.03
IN	2.33	1.78	1.77	.91	4.33	2.11	2.57	1.90	21.65	.73	.15	.04

CAL YR 1971 TOTAL 13,852.03 MEAN 38.0 MAX 620 MIN .14 CFSM 1.47 IN 19.97
WTP YR 1972 TOTAL 27,928.06 MEAN 76.3 MAX 9,500 MIN .02 CFSM 2.96 IN 40.27

PEAK DISCHARGE (BASE, 820 CFS)

NOTE.--NO GAGE-HEIGHT RECORD JUNE 19 TO JULY 21.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1430	7.27	1,890	2-13	1200	6.02	1,050
11-29	1900	6.20	1,150	6-22	UNKNOWN	18.92	39,400
2-3	2200	5.89	1,000				

01657000 BULL RUN NEAR MANASSAS, VA.

LOCATION.--Lat 38°47'50", long 77°27'28", Fairfax County, on left bank at upstream side of bridge on State Highway 616, 0.5 mile downstream from Cub Run, and 3.2 miles north of Manassas.

DRAINAGE AREA.--148 sq mi.

PERIOD OF RECORD.--October 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 138.76 ft above mean sea level. Prior to Dec. 14, 1967, at downstream side of former highway bridge at same datum.

AVERAGE DISCHARGE.--22 years, 147 cfs (13.49 inches per year).

EXTREMES.--Current year: Maximum discharge, 76,100 cfs June 22 (gage height, 37.80 ft, from floodmarks), from rating curve extended as explained below; minimum, 3.0 cfs Sept. 12.
Period of record: Maximum discharge, 76,100 cfs June 22, 1972 (gage height, 37.80 ft, from floodmarks), from rating curve extended above 10,600 cfs on basis of contracted-opening measurement at gage-height 19.27 ft and slope-area measurement of peak flow; minimum, 0.10 cfs many days in September, Oct. 14, 1954; minimum gage height, 0.96 ft July 15, 1966.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	97	350	54	56	282	78	98	111	746	31	8.0
2	26	89	220	78	61	229	152	86	60	202	24	7.1
3	147	131	176	128	410	340	110	220	42	618	19	6.8
4	55	141	154	104	2,480	226	92	925	35	246	18	6.8
5	36	90	138	658	275	174	86	310	47	147	26	8.0
6	146	72	136	330	180	141	76	162	39	148	25	8.9
7	59	76	566	183	150	128	92	114	36	114	17	8.3
8	29	72	552	144	130	115	219	99	34	127	17	7.4
9	23	62	264	132	115	99	273	572	26	120	14	6.2
10	2,060	59	215	330	97	93	190	360	24	75	11	4.8
11	330	55	186	238	82	87	142	182	22	59	9.5	4.0
12	107	55	153	190	76	84	117	121	20	50	8.9	3.6
13	69	52	140	156	2,500	87	1,020	94	20	56	8.9	4.4
14	47	47	121	198	1,840	111	420	108	32	56	9.2	5.3
15	37	44	113	162	390	154	226	150	32	39	9.5	5.9
16	31	41	111	90	282	132	370	238	30	80	9.5	5.0
17	28	40	103	75	219	2,460	1,540	118	31	115	9.5	5.0
18	27	37	92	80	221	400	320	147	42	56	16	10
19	25	37	84	82	1,410	227	206	202	47	40	14	20
20	22	38	90	87	545	170	162	1,550	47	31	14	13
21	20	44	97	88	380	148	132	442	5,450	29	9.5	14
22	20	36	86	93	431	250	1,650	264	54,500	26	8.0	11
23	23	30	73	111	400	361	956	180	9,600	23	6.8	9.2
24	205	60	70	154	310	166	814	121	1,460	20	6.8	8.9
25	3,000	1,740	70	136	1,060	129	350	94	428	13	6.2	7.4
26	4,080	658	68	100	3,200	115	229	76	238	16	5.0	7.7
27	291	370	64	83	944	104	168	61	165	15	11	10
28	182	340	62	81	442	99	135	53	134	16	7.7	12
29	138	676	58	82	350	89	120	47	320	17	24	9.8
30	118	1,370	56	75	-----	84	104	46	1,170	28	13	18
31	106	-----	57	71	-----	81	-----	59	-----	32	9.8	-----
TOTAL	11,500	6,659	4,725	4,573	19,036	7,365	10,549	7,299	74,242	3,360	418.8	256.5
MEAN	371	222	152	148	656	238	352	235	2,475	108	13.5	8.55
MAX	4,080	1,740	566	658	3,200	2,460	1,650	1,550	54,500	746	31	20
MIN	13	30	56	54	56	81	76	46	20	13	5.0	3.6
CFSM	2.51	1.50	1.03	1.00	4.43	1.61	2.38	1.59	16.7	.73	.09	.06
IN	2.89	1.67	1.19	1.15	4.78	1.85	2.65	1.83	18.66	.84	.11	.06
CAL YR 1971												
TOTAL	87,685.2											
MEAN												
240												
MAX												
4,620												
MIN												
5.3												
CFSM												
1.62												
IN												
22.04												
WTR YR 1972												
TOTAL	149,983.3											
MEAN												
410												
MAX												
54,500												
MIN												
3.6												
CFSM												
2.77												
IN												
37.70												

PEAK DISCHARGE (BASE, 4,000 CFS)

NOTE.--NO GAGE-HEIGHT RECORD JUNE 22-25.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-26	0230	15.61	8,520	2-13	1130	12.69	5,170
2-4	0800	11.81	4,200	6-22	UNKNOWN	37.80	76,100

POTOMAC RIVER BASIN

01658500 SOUTH FORK QUANTICO CREEK NEAR INDEPENDENT HILL, VA.

LOCATION.--Lat 38°35'14", long 77°25'44", Prince William County, on left bank at upstream side of bridge on State Highway 619, 3.4 miles south of Independent Hill, 5.6 miles west of Dumfries, and 6.5 miles upstream from mouth.

DRAINAGE AREA.--7.64 sq mi.

PERIOD OF RECORD.--May 1951 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 238.88 ft above mean sea level.

AVERAGE DISCHARGE.--21 years, 6.50 cfs (11.55 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,940 cfs June 21 (gage height, 11.35 ft); minimum daily, 0.03 cfs Aug. 26-Sept. 2, Sept. 8; minimum gage height, 1.98 ft Aug. 30, 31.

Period of record: Maximum discharge, 3,940 cfs June 21, 1972 (gage height, 11.35 ft); no flow at times in 1954, 1957, 1962-66.

REMARKS.--Records good prior to June 28, 1972, and poor thereafter. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.94	2.9	8.3	2.9	3.7	13	5.5	9.9	6.5	20	3.4	.03
2	2.6	2.8	5.6	5.9	4.4	12	7.2	7.0	4.1	10	.93	.03
3	2.0	3.7	4.9	4.8	32	18	5.9	24	3.2	19	.78	.07
4	1.0	3.4	4.6	6.5	47	15	6.6	45	2.6	10	.70	.12
5	.94	2.5	4.2	32	12	12	6.1	14	2.7	6.0	.84	.11
6	.85	2.3	4.2	12	9.1	11	5.6	8.6	3.9	4.5	.63	.12
7	.76	2.4	45	7.7	9.2	9.4	9.7	7.0	4.7	3.6	.50	.08
8	.57	2.2	19	5.5	6.1	8.5	15	6.2	2.9	7.1	.38	.03
9	.49	2.2	11	5.7	5.1	8.0	14	19	2.3	5.9	.30	.10
10	28	2.2	7.0	10	4.7	7.5	13	13	1.9	2.9	.22	.17
11	6.4	2.3	6.4	8.6	4.7	7.0	9.3	7.6	1.5	2.1	.19	.19
12	2.4	2.1	5.2	6.6	5.0	7.3	7.8	5.9	1.7	2.2	.17	.13
13	1.4	2.2	5.0	6.5	138	8.0	26	4.9	1.6	4.5	.18	.27
14	1.2	2.0	4.5	7.9	34	8.8	17	9.2	1.9	2.6	.16	.46
15	1.1	2.0	4.5	5.9	15	7.5	11	9.8	2.0	1.6	.18	.62
16	.97	2.0	4.5	4.0	9.9	15	9.8	6.9	1.7	1.1	.18	.62
17	.91	2.0	4.3	3.8	8.7	25	17	5.1	1.7	.98	.17	.62
18	.86	2.0	3.5	4.5	12	18	9.5	4.7	2.2	.95	.33	.39
19	.86	2.0	3.4	5.6	87	14	7.8	9.7	2.4	.85	.23	.62
20	.80	2.1	7.2	5.1	22	10	7.6	118	3.0	.75	.17	.39
21	.87	2.1	6.3	5.4	14	9.0	6.2	27	423	.65	.13	.46
22	.90	1.9	4.2	5.0	19	11	63	17	770	.59	.11	1.4
23	2.8	1.7	3.6	6.6	16	11	28	11	95	.48	.07	.32
24	14	6.8	3.9	7.2	21	8.1	16	7.5	28	.38	.05	.22
25	176	73	3.7	5.7	37	7.1	11	6.0	17	.36	.05	.22
26	29	17	3.7	4.5	78	6.7	8.9	5.3	11	.35	.03	.22
27	9.6	11	3.6	4.2	26	6.5	7.8	5.4	7.7	.30	.03	.32
28	5.4	7.8	3.4	4.7	17	6.2	7.2	5.3	9.9	.46	.03	.62
29	3.8	25	3.2	4.5	14	6.0	6.8	4.7	13	.52	.03	.39
30	3.3	22	3.4	4.4	-----	5.7	7.2	4.4	35	1.7	.03	1.2
31	3.1	-----	3.2	4.1	-----	5.7	-----	4.2	-----	2.7	.03	-----
TOTAL	303.82	215.6	204.5	207.8	711.6	318.0	373.5	433.3	1,464.1	115.12	11.23	10.54
MEAN	9.80	7.19	6.60	6.70	24.5	10.3	12.5	14.0	48.8	3.71	.36	.35
MAX	176	73	45	32	138	25	63	118	770	20	3.4	1.4
MIN	.49	1.7	3.2	2.9	3.7	5.7	5.5	4.2	1.5	.30	.03	.03
CFSM	1.28	.94	.86	.88	3.21	1.35	1.64	1.83	6.39	.49	.05	.05
IN.	1.48	1.05	1.00	1.01	3.46	1.55	1.82	2.11	7.13	.56	.05	.05

CAL YR 1971 TOTAL 3,345.82 MEAN 9.17 MAX 176 MIN .22 CFSM 1.20 IN 16.29
WTR YR 1972 TOTAL 4,365.11 MEAN 11.9 MAX 770 MIN .03 CFSM 1.56 IN 21.27

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1300	6.51	340	5-20	0615	5.72	249
2-13	1445	6.17	294	6-21	2315	11.35	3,940

POTOMAC RIVER BASIN

57

01660400 AQUIA CREEK NEAR GARRISONVILLE, VA.

LOCATION.--Lat 38°29'25", long 77°26'02", Stafford County, on right bank at bridge on State Highway 641, 1.1 miles northwest of Garrisonville, and 3.0 miles upstream from Beaver Dam Run.

DRAINAGE AREA.--34.9 sq mi.

PERIOD OF RECORD.--September 1971 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 120 ft (from topographic map).

EXTREMES.--September 1971: Maximum discharge during period, 42 cfs Sept. 13 (gage height, 1.10 ft); minimum, 1.8 cfs Sept. 11 (gage height, 0.63 ft).

Water year 1972: Maximum discharge, 11,600 cfs June 22 (gage height, 16.32 ft), from rating curve extended above 410 cfs on basis of contracted-opening measurement of peak flow; minimum daily, 0.40 cfs Sept. 2.

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the State of Virginia.

DISCHARGE, IN CUBIC FEET PER SECOND, SEPTEMBER 1971

CAY	CCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												4.0
2												4.0
3												4.0
4												3.4
5												2.8
6												2.8
7												2.4
8												2.4
9												2.4
10												2.1
11												2.4
12												14
13												25
14												11
15												7.0
16												4.6
17												4.6
18												4.0
19												3.7
20												3.7
21												3.7
22												4.0
23												4.0
24												4.0
25												4.0
26												4.0
27												4.6
28												5.2
29					-----							4.6
30					-----							4.0
31		-----			-----		-----		-----			-----
TOTAL												152.4
MEAN												5.08
MAX												25
MIN												2.1
CFSM												.15
IN.												.16

PEAK DISCHARGE (BASE, 500 CFS).--NO PEAK ABOVE BASE.

POTOMAC RIVER BASIN

01660400 AQUIA CREEK NEAR GARRISONVILLE, VA.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	14	60	24	24	60	32	40	29	90	20	.90
2	15	13	43	34	26	53	40	34	24	65	13	.40
3	16	17	37	38	104	119	36	138	19	75	10	.58
4	10	20	35	36	184	101	35	171	16	50	8.2	.90
5	7.6	16	31	109	70	70	36	80	30	35	32	2.1
6	5.8	14	31	78	54	54	34	50	105	27	11	3.0
7	9.4	13	138	49	52	49	40	44	77	22	7.6	2.4
8	9.4	13	117	43	43	47	70	40	35	44	5.8	1.5
9	16	13	64	37	39	42	62	82	23	35	5.2	1.5
10	146	13	52	50	36	41	53	64	17	28	3.4	1.8
11	68	13	46	48	34	37	47	43	14	17	3.1	1.8
12	37	13	41	44	34	38	41	36	13	22	2.8	2.1
13	24	13	37	42	322	38	98	31	12	30	2.8	3.1
14	18	12	35	49	165	46	80	42	14	25	28	4.0
15	16	12	32	43	78	48	52	54	16	20	12	4.0
16	14	12	32	37	57	47	47	46	23	15	8.2	3.1
17	13	12	31	32	49	230	48	41	31	12	5.8	1.5
18	14	12	29	30	54	95	41	68	20	10	7.6	1.8
19	14	12	28	36	360	62	36	69	22	9.5	7.6	5.2
20	12	13	36	34	131	49	34	364	22	8.6	4.6	4.6
21	12	13	42	35	80	47	31	107	1,210	8.1	3.1	3.4
22	12	12	35	34	99	49	235	70	3,900	7.6	2.4	4.0
23	32	12	29	37	95	52	149	50	458	7.0	1.8	3.1
24	101	28	29	42	119	43	77	41	250	7.6	1.5	2.8
25	320	272	29	37	175	38	56	35	170	7.6	1.2	2.8
26	127	109	29	30	289	37	48	30	105	5.2	.80	3.2
27	53	65	29	29	143	36	42	25	70	4.0	.70	3.4
28	37	53	28	29	89	35	38	24	72	4.6	3.1	5.2
29	29	94	25	29	72	34	35	23	85	4.6	1.5	7.0
30	22	125	24	28	-----	34	35	22	140	16	.80	28
31	18	-----	24	26	-----	32	-----	22	-----	28	.90	-----
TOTAL	1,233.4	1,053	1,278	1,249	3,077	1,763	1,708	1,986	7,022	740.4	216.50	109.18
MEAN	39.8	35.1	41.2	40.3	106	56.9	56.9	64.1	234	23.9	6.98	3.64
MAX	320	272	138	109	360	230	235	364	3,900	90	32	28
MIN	5.2	12	24	24	24	32	31	22	12	4.0	.70	.40
CFSM	1.14	1.01	1.18	1.15	3.04	1.63	1.63	1.84	6.70	.68	.20	.10
IN.	1.31	1.12	1.36	1.33	3.28	1.88	1.82	2.12	7.48	.79	.23	.12

WTR YR 1972 TOTAL 21,435.48 MEAN 58.6 MAX 3,900 MIN .40 CFSM 1.68 IN 22.85

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	0600	3.45	620	5-20	0200	3.43	620
2-13	1430	3.15	527	6-22	0200	16.32	11,600
2-19	0400	3.25	557				

GREAT WICOMICO RIVER BASIN

59

01661800 BUSH MILL STREAM NEAR HEATHSVILLE, VA.

LOCATION.--Lat 37°52'36", long 76°29'42", Northumberland County, on right bank 12 ft upstream from bridge on State Highway 601, 2.2 miles northwest of Howland, 3.0 miles southwest of Heathsville, and 3.5 miles upstream from mouth.

DRAINAGE AREA.--6.82 sq mi.

PERIOD OF RECORD.--October 1963 to March 1969, October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 23.78 ft above mean sea level. Prior to Mar. 19, 1969, 52 ft downstream at datum 0.74 ft lower.

AVERAGE DISCHARGE.--8 years (1963-68, 1969-72), 6.48 cfs (12.90 inches per year).

EXTREMES.--Current year: Maximum discharge, 165 cfs June 22 (gage height, 5.42 ft), from rating curve extended above 62 cfs; minimum, 1.9 cfs Aug. 27.
Period of record: Maximum discharge, 276 cfs June 20, 1968, from rating curve extended above 109 cfs; maximum gage height, 5.42 ft June 22, 1972; no flow many days in August and September 1966.
Flood of Aug. 20, 1969, reached a stage of 6.13 ft, present datum, from floodmarks (discharge, about 450 cfs).

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.3	5.7	5.9	4.4	4.5	9.4	9.6	7.6	22	13	6.5	2.2
2	6.4	5.3	5.5	4.6	11	9.0	8.9	7.2	9.6	9.2	4.9	11
3	5.0	8.6	5.5	4.6	14	20	8.2	17	7.9	8.3	4.7	5.0
4	3.4	6.2	5.5	5.7	13	14	7.9	14	7.0	8.3	4.2	3.1
5	2.8	4.8	5.2	12	7.6	12	7.8	9.0	8.3	15	6.0	3.4
6	4.6	4.6	5.3	7.8	7.1	11	7.5	8.1	8.9	12	4.7	3.3
7	2.6	4.9	7.3	6.0	8.2	10	7.9	7.5	11	8.3	3.9	2.7
8	2.1	4.4	6.4	5.5	6.2	10	13	7.8	7.5	8.3	3.6	2.5
9	2.0	4.2	5.5	5.5	6.2	9.6	9.5	15	6.3	9.2	3.4	2.4
10	11	4.4	5.3	7.3	6.3	9.5	7.9	9.0	6.2	7.2	3.1	2.2
11	6.3	4.5	5.3	6.2	5.5	9.0	7.5	8.1	5.6	6.6	2.8	2.2
12	3.5	4.4	5.0	5.5	5.6	9.0	7.4	7.1	5.1	9.8	2.8	2.2
13	2.9	5.7	4.9	5.9	17	9.0	8.9	6.7	5.0	14	4.9	2.2
14	2.6	4.2	4.8	8.0	8.9	9.0	7.8	20	7.5	8.5	4.4	2.2
15	2.5	4.0	4.6	6.0	7.0	8.9	8.9	15	5.4	6.6	3.6	2.2
16	2.5	3.9	4.9	4.5	6.3	9.2	9.8	9.8	4.6	5.8	3.2	2.2
17	2.6	3.7	4.8	4.2	7.7	22	8.3	8.2	5.0	5.4	3.1	2.3
18	2.5	3.7	4.6	5.3	12	13	7.0	14	17	5.2	3.5	2.2
19	2.5	3.7	4.1	5.9	36	10	6.7	18	8.9	4.8	3.4	2.3
20	2.5	4.2	7.7	5.3	15	9.0	6.7	24	6.8	4.7	3.0	2.2
21	2.5	3.9	6.7	6.7	11	9.0	6.6	13	10	4.6	2.5	8.6
22	2.5	3.7	5.2	5.5	11	11	35	13	91	4.3	2.3	4.1
23	13	3.6	4.6	5.3	9.8	9.6	16	11	26	4.1	2.3	3.0
24	24	6.6	4.8	6.0	17	8.8	11	9.8	16	3.9	2.3	2.8
25	42	27	4.6	5.2	18	8.5	9.6	9.2	12	3.8	2.3	2.8
26	44	8.3	5.0	4.8	18	8.3	8.9	8.5	10	3.8	2.2	2.5
27	11	9.7	4.9	4.6	14	8.3	8.6	8.1	8.9	3.8	2.0	2.3
28	7.8	8.9	4.9	5.2	12	8.1	8.2	7.6	8.2	4.1	3.8	4.6
29	6.7	6.9	4.6	4.8	10	7.6	8.1	7.2	8.8	5.5	2.9	9.5
30	6.9	6.9	4.6	5.3	-----	12	7.8	7.1	20	7.9	2.4	14
31	6.2	-----	4.6	4.8	-----	11	-----	20	-----	7.9	2.2	-----
TOTAL	245.2	180.6	162.6	178.4	325.9	324.8	287.0	347.6	376.5	223.9	106.9	114.2
MEAN	7.91	6.02	5.25	5.75	11.2	10.5	9.57	11.2	12.6	7.22	3.45	3.81
MAX	44	27	7.7	12	36	22	35	24	91	15	6.5	14
MIN	2.0	3.6	4.1	4.2	4.5	7.6	6.6	6.7	4.6	3.8	2.0	2.2
CFSM	1.16	.88	.77	.84	1.64	1.54	1.40	1.64	1.85	1.06	.51	.56
IN.	1.34	.99	.89	.97	1.78	1.77	1.57	1.90	2.05	1.22	.58	.62

CAL YR 1971 TOTAL 2,484.89 MEAN 6.81 MAX 54 MIN .71 CFSM 1.00 IN 13.55
WTR YR 1972 TOTAL 2,873.60 MEAN 7.85 MAX 91 MIN 2.0 CFSM 1.15 IN 15.67

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	2400	5.07	127	6-22	0730	5.42	165

RAPPAHANNOCK RIVER BASIN

01662000 RAPPAHANNOCK RIVER NEAR WARRENTON, VA.

LOCATION.--Lat 38°41'05", long 77°54'15", Fauquier County, on left bank 50 ft downstream from bridge on U.S. Highway 211, 0.9 mile downstream from Carter Run, 6.2 miles southwest of Warrenton, 15 miles upstream from Hazel River, and at mile 53.0.

DRAINAGE AREA.--195 sq mi.

PERIOD OF RECORD.--August 1942 to current year.

GAGE.--Water-stage recorder. Datum of gage is 312.57 ft above mean sea level. Oct. 8, 1942, to Dec. 17, 1944, nonrecording gage 50 ft upstream at present datum.

AVERAGE DISCHARGE.--30 years, 184 cfs (12.81 inches per year).

EXTREMES.--Current year: Maximum discharge, 21,900 cfs June 22 (gage height, 20.87 ft); minimum, 27 cfs Sept. 11, 18, 21; minimum gage height, 1.95 ft Oct. 1.

Period of record: Maximum discharge, 32,000 cfs Oct. 15, 1942 (gage height, 23.5 ft, from floodmark), from rating curve extended above 24,000 cfs; minimum daily, 0.70 cfs Oct. 4, 5, 1954.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1302: 1944(M). WRD Va, 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	164	431	98	85	700	203	290	308	796	213	38
2	51	154	302	134	98	640	218	270	216	532	161	40
3	114	164	239	145	148	780	198	438	191	1,550	154	150
4	73	164	208	124	588	553	191	660	181	584	154	49
5	62	132	186	169	278	476	183	504	287	483	145	54
6	62	122	176	154	241	399	176	389	191	469	132	125
7	49	122	308	136	216	364	191	338	178	382	124	115
8	44	112	438	132	166	329	244	314	152	354	122	120
9	40	106	329	126	178	308	241	490	141	302	102	33
10	176	108	284	161	171	300	223	424	132	275	91	31
11	193	106	247	154	171	290	213	341	122	250	82	28
12	106	102	213	141	157	280	201	308	118	235	80	30
13	78	100	196	132	1,900	275	459	281	116	287	106	35
14	67	98	176	136	1,440	329	427	299	141	270	100	39
15	61	94	169	122	704	317	329	323	145	225	94	54
16	54	94	166	80	511	311	329	399	126	195	104	37
17	51	91	154	112	410	576	872	332	154	424	85	32
18	49	91	143	122	364	413	515	296	171	410	91	35
19	47	91	130	126	494	332	417	270	150	239	83	48
20	44	91	141	128	371	311	364	1,270	130	195	73	32
21	43	87	141	118	371	311	317	784	3,890	170	64	33
22	43	82	128	116	350	347	808	568	14,300	155	58	43
23	51	76	114	120	335	364	836	452	3,600	145	55	38
24	406	82	120	130	323	290	772	364	1,650	135	52	32
25	956	183	120	122	476	267	580	314	920	125	49	30
26	983	218	116	104	1,630	255	476	276	664	115	47	30
27	424	128	116	98	1,240	241	406	253	522	105	46	33
28	293	159	112	102	844	233	357	236	483	125	87	43
29	231	299	108	104	744	221	326	221	620	125	62	47
30	198	600	106	100	-----	216	305	211	2,180	160	47	64
31	178	-----	106	98	-----	208	-----	314	-----	228	40	-----
TOTAL	5,263	4,220	5,923	3,844	15,004	11,236	11,377	12,229	32,179	10,045	2,903	1,518
MEAN	170	141	191	124	517	362	379	394	1,073	324	93.6	50.6
MAX	983	600	438	169	1,900	780	872	1,270	14,300	1,550	213	150
MIN	36	76	106	80	85	208	176	211	116	105	40	28
CFSM	.87	.72	.98	.64	2.65	1.86	1.94	2.02	5.50	1.66	.48	.26
IN.	1.00	.81	1.13	.63	2.86	2.14	2.17	2.33	6.14	1.92	.55	.29

CAL YR 1971 TOTAL 80,356 MEAN 220 MAX 2,470 MIN 22 CFSM 1.13 IN 15.33
WTR YR 1972 TOTAL 115,741 MEAN 316 MAX 14,300 MIN 28 CFSM 1.62 IN 22.08

PEAK DISCHARGE (BASE, 1,800 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	2200	7.17	1,980	6-22	0230	20.87	21,900
2-13	2000	10.49	3,950	6-30	0600	10.87	4,260
2-26	1130	7.39	2,100	7- 3	0600	8.22	2,510
5-20	1030	6.95	1,880				

RAPPAHANNOCK RIVER BASIN

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01662500 RUSH RIVER AT WASHINGTON, VA.

LOCATION.--Lat 38°42'50", long 78°09'05", Rappahannock County, on left bank 20 ft upstream from bridge on old U.S. Highways 211 and 522 and 0.5 mile east of Washington.

DRAINAGE AREA.--14.7 sq mi.

PERIOD OF RECORD.--August 1953 to current year.

GAGE.--Water-stage recorder. Datum of gage is 597.97 ft above mean sea level.

AVERAGE DISCHARGE.--19 years, 16.0 cfs (14.78 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,460 cfs June 22 (gage height, 6.44 ft); minimum, 0.56 cfs Sept. 19, 20, 26, 27.

Period of record: Maximum discharge, 2,500 cfs Aug. 18, 1955 (gage height, 8.14 ft); no flow Sept. 4, 1953, and many days in 1954, 1963-66.

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

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	28	22	8.4	8.3	75	26	36	24	41	12	.71
2	23	23	17	9.0	7.6	68	24	37	19	28	8.7	.80
3	35	23	14	10	22	67	21	41	16	26	9.5	1.3
4	30	20	13	11	79	52	21	82	15	23	10	4.4
5	27	17	12	14	25	43	19	60	17	24	9.5	3.1
6	24	15	12	12	20	37	19	50	13	19	7.5	2.3
7	20	14	19	11	19	32	24	43	12	16	7.5	1.5
8	16	13	26	10	15	32	26	47	11	14	7.1	.90
9	15	12	27	10	14	27	25	70	9.4	12	5.8	.74
10	40	12	20	11	13	25	26	66	9.0	10	5.3	.65
11	30	9.7	15	13	13	22	26	58	8.3	10	4.3	.65
12	24	9.4	12	12	13	21	24	50	7.9	10	4.6	.71
13	20	9.0	11	12	192	21	61	45	8.3	12	22	.90
14	19	8.3	11	12	128	26	52	48	11	10	9.5	1.1
15	16	7.9	11	9.4	82	24	47	51	9.4	9.5	8.9	3.7
16	14	7.9	11	10	56	26	58	47	8.7	10	7.8	1.9
17	13	7.9	10	11	45	42	90	48	11	9.8	7.8	1.0
18	12	7.6	9.8	11	38	34	68	54	11	10	8.0	.68
19	12	7.2	9.8	10	52	35	60	61	8.7	10	7.3	.62
20	11	7.2	10	9.0	37	32	52	169	17	10	6.8	.59
21	11	5.9	11	9.4	29	32	46	118	334	10	5.3	1.1
22	10	5.3	10	9.4	30	50	112	90	613	11	4.9	1.9
23	20	5.0	9.8	10	26	47	101	70	242	10	4.7	1.0
24	168	5.9	10	12	27	42	97	55	158	10	3.9	.74
25	246	9.7	10	11	48	40	78	46	106	10	4.9	.77
26	154	9.0	11	9.4	149	36	64	40	67	9.8	4.2	.74
27	101	10	11	8.7	121	34	54	34	48	10	1.4	1.2
28	68	12	10	9.0	94	32	47	30	43	9.5	2.1	3.2
29	51	28	10	9.0	82	36	42	29	60	9.5	1.3	4.1
30	42	34	9.8	9.7	-----	30	38	34	55	12	.71	6.8
31	35	-----	9.4	9.4	-----	28	-----	38	-----	66	.65	-----
TOTAL	1,318	383.9	404.6	322.8	1,484.9	1,148	1,448	1,747	1,972.7	482.1	203.96	49.80
MEAN	42.5	12.8	13.1	10.4	51.2	37.0	48.3	56.4	65.8	15.6	6.58	1.66
MAX	246	34	27	14	192	75	112	169	613	66	22	6.8
MIN	10	5.0	9.4	8.4	7.6	21	19	29	7.9	9.5	.65	.59
CFSM	2.89	.87	.89	.71	3.48	2.52	3.29	3.84	4.48	1.06	.45	.11
IN.	3.34	.97	1.02	.82	3.76	2.91	3.66	4.42	4.99	1.22	.52	.13

CAL YR 1971 TOTAL 8,369.84 MEAN 22.9 MAX 246 MIN .12 CFSM 1.56 IN 21.18
WTR YR 1972 TOTAL 10,965.76 MEAN 30.0 MAX 613 MIN .59 CFSM 2.04 IN 27.75

PEAK DISCHARGE (BASE, 350 CFS).--JUNE 22 (0230) 1,460 CFS (6.44 FT).

NOTE.--NO GAGE-HEIGHT RECORD DEC. 9 TO JAN. 12.

RAPPAHANNOCK RIVER BASIN

01662800 BATTLE RUN NEAR LAUREL MILLS, VA.

LOCATION.--Lat 38°39'20", long 78°04'27", Rappahannock County, on left bank just upstream from bridge on State Highway 729, 0.8 mile upstream from mouth, and 1.0 mile northeast of Laurel Mills.

DRAINAGE AREA.--27.6 sq mi.

PERIOD OF RECORD.--April 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 374.62 ft above mean sea level.

AVERAGE DISCHARGE.--14 years, 22.7 cfs (11.17 inches per year).

EXTREMES.--Water year 1971: Maximum discharge, 840 cfs (revised) Aug. 4 (gage height, 10.16 ft); minimum, 0.76 cfs Oct. 6 (gage height, 1.84 ft).

Water year 1972: Maximum discharge, 1,230 cfs June 21 (gage height, 11.53 ft), from rating curve extended above 700 cfs; minimum, 5.4 cfs Sept. 27 (gage height, 2.49 ft).

Period of record: Maximum discharge, 1,230 cfs June 21, 1972 (gage height, 11.53 ft), from rating curve extended above 700 cfs; no flow many days in September 1966.

REVISIONS.--The maximum discharge for the water year 1971 has been revised to 840 cfs Aug. 4, 1971 (gage height, 10.16 ft), superseding figure published in WRD Va. 1971.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area. Revised figures of discharge for the water year 1971, superseding those published in WRD Va. 1971, are given herein.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	29	17	29	20	40	18	16	98	24	10	7.5
2	1.2	22	16	26	19	38	20	17	78	23	11	8.0
3	1.1	76	16	31	20	47	20	16	72	16	29	7.8
4	1.0	44	16	38	26	57	18	16	65	14	140	7.5
5	.98	40	14	53	31	50	18	15	63	14	26	7.5
6	.98	28	15	54	41	49	25	15	58	15	20	6.5
7	.98	23	14	46	68	46	62	16	70	18	16	6.5
8	.92	20	14	38	117	41	43	20	57	14	14	6.8
9	.98	20	15	38	62	38	37	16	47	12	13	6.8
10	1.1	30	14	33	49	37	31	14	42	13	12	6.8
11	1.2	148	14	34	43	35	28	14	39	12	16	8.2
12	1.3	164	17	34	40	32	28	14	43	12	15	14
13	1.6	162	17	34	232	31	26	45	57	11	12	14
14	1.7	67	14	38	106	30	24	31	52	9.9	11	8.2
15	3.2	81	14	41	71	30	23	24	56	8.5	11	7.2
16	3.8	56	22	38	59	28	22	52	53	8.5	9.9	5.6
17	2.2	45	52	35	53	26	23	41	44	8.2	9.8	9.9
18	1.9	38	34	35	49	24	24	32	39	8.0	9.9	6.8
19	2.4	33	30	29	46	30	22	28	36	10	11	7.5
20	2.0	43	26	27	45	30	21	88	34	8.8	9.6	7.5
21	16	37	29	25	42	26	20	104	32	6.0	9.6	6.0
22	19	31	95	28	58	24	19	30	30	6.0	9.6	6.0
23	5.3	28	69	38	75	24	19	20	33	4.0	9.6	5.8
24	4.0	24	59	35	60	22	19	16	30	4.9	8.0	6.0
25	3.4	22	50	34	53	21	18	13	27	5.1	8.0	5.6
26	3.4	22	45	37	49	22	17	9.2	23	7.5	8.0	7.6
27	3.2	21	41	35	49	22	17	8.2	22	7.8	19	6.8
28	3.0	20	36	40	42	22	18	7.5	21	6.5	14	6.0
29	6.0	19	34	31	-----	22	18	15	21	7.2	9.2	5.6
30	38	18	31	32	-----	20	21	153	20	12	8.0	6.0
31	61	-----	29	28	-----	19	-----	162	-----	14	7.5	-----
TOTAL	194.14	1,411	909	1,094	1,625	983	719	1,067.9	1,362	340.9	516.7	222.0
MEAN	6.26	47.0	29.3	35.3	58.0	31.7	24.0	34.4	45.4	11.0	16.7	7.40
MAX	61	164	95	54	232	57	62	162	98	24	140	14
MIN	.92	18	14	25	19	19	17	7.5	20	4.0	7.5	5.6
CFSM	.23	1.70	1.06	1.28	2.10	1.15	.87	1.25	1.64	.40	.61	.27
IN.	.26	1.90	1.23	1.47	2.19	1.32	.97	1.44	1.84	.46	.70	.30

CAL YR 1970 TOTAL 9,089.34 MEAN 24.9 MAX 249 MIN .92 CFSM .90 IN 12.25
WTR YR 1971 TOTAL 10,444.64 MEAN 28.6 MAX 232 MIN .92 CFSM 1.04 IN 14.08

PEAK DISCHARGE (BASE, 310 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
11-11	2200	7.66	480	5-20	2100	7.92	540
11-12	2400	9.30	740	5-30	0930	6.29	341
2- 8	1830	6.41	330	8- 4	0100	10.16	840
2-13	1600	7.86	525				

RAPPAHANNOCK RIVER BASIN

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01662800 BATTLE RUN NEAR LAUREL MILLS, VA.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	26	43	15	14	58	26	50	36	39	29	12
2	11	24	36	19	14	54	26	49	32	40	24	12
3	12	27	33	17	25	62	25	59	30	40	25	12
4	10	23	30	17	27	51	24	66	30	32	23	14
5	10	23	29	20	20	50	24	56	30	34	21	13
6	9.5	22	29	17	16	47	23	52	26	32	20	13
7	8.6	22	33	17	15	43	26	50	24	29	19	11
8	8.5	21	32	16	14	41	30	52	22	27	18	11
9	8.8	22	32	16	14	39	30	62	22	25	18	11
10	22	22	30	18	13	39	28	54	21	23	17	10
11	15	22	28	17	12	38	28	52	21	22	17	10
12	13	22	26	16	11	38	27	50	21	22	16	11
13	11	22	26	16	276	36	43	48	21	24	29	11
14	11	22	25	16	108	40	38	51	23	22	20	12
15	11	21	25	15	78	36	36	52	21	20	20	13
16	11	21	22	14	65	38	45	52	21	26	18	10
17	13	21	21	13	59	49	57	65	25	99	18	8.8
18	13	21	22	15	57	38	47	55	23	43	18	10
19	13	21	22	15	73	36	43	56	21	32	17	8.2
20	13	21	23	15	63	36	41	102	22	27	16	7.3
21	13	20	20	15	59	34	39	62	317	24	15	9.0
22	14	20	19	15	58	38	84	51	404	23	14	7.3
23	20	22	18	15	55	36	74	46	122	21	14	6.4
24	52	24	19	16	57	32	68	42	68	20	13	6.0
25	110	26	19	15	71	32	59	39	51	19	13	6.0
26	62	23	18	13	121	30	54	37	43	18	13	6.0
27	41	24	18	13	85	30	54	36	38	18	13	6.7
28	34	28	18	14	71	29	51	35	37	19	13	7.8
29	30	50	17	14	64	29	49	34	47	20	13	7.8
30	28	50	17	14	-----	27	48	34	58	28	12	9.5
31	26	-----	17	13	-----	26	-----	53	-----	33	12	-----
TOTAL	661.5	733	767	481	1,615	1,212	1,247	1,602	1,677	901	548	292.8
MEAN	21.3	24.4	24.7	15.5	55.7	39.1	41.6	51.7	55.9	29.1	17.7	9.76
MAX	110	50	43	20	276	62	84	102	404	99	29	14
MIN	7.1	20	17	13	11	26	23	34	21	18	12	6.0
CFSM	.77	.88	.89	.56	2.02	1.42	1.51	1.87	2.03	1.05	.64	.35
IN.	.89	.99	1.03	.65	2.18	1.63	1.68	2.16	2.26	1.21	.74	.39

CAL YR 1971 TOTAL 10,092.0 MEAN 27.6 MAX 232 MIN 4.0 CFSM 1.00 IN 13.60
WTR YR 1972 TOTAL 11,737.3 MEAN 32.1 MAX 404 MIN 6.0 CFSM 1.16 IN 15.82

PEAK DISCHARGE (BASE, 310 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1500	6.54	319	6-21	1900	11.53	1,230
2-13	1100	9.59	800	7-17	1900	8.64	615

RAPPAHANNOCK RIVER BASIN

01663500 HAZEL RIVER AT RIXEYVILLE, VA.

LOCATION.--Lat 38°35'30", long 77°57'55", Culpeper County, on right bank at downstream side of bridge on State Highway 229, 0.4 mile upstream from Waterford Run, 1.1 miles northeast of Rixeyville, 2.8 miles downstream from Thornton River, and 9.1 miles upstream from mouth.

DRAINAGE AREA.--287 sq mi.

PERIOD OF RECORD.--August 1942 to current year.

GAGE.--Water-stage recorder. Datum of gage is 288.30 ft above mean sea level.

AVERAGE DISCHARGE.--30 years, 320 cfs (15.14 inches per year).

EXTREMES.--Current year: Maximum discharge, 25,000 cfs June 22 (gage height, 23.40 ft); minimum, 56 cfs Sept. 21 (gage height, 2.17 ft).

Period of record: Maximum discharge, 60,000 cfs Oct. 15, 1942 (gage height, 31.8 ft), from rating curve extended above 27,000 cfs; minimum, 1.1 cfs Sept. 10-13, 1966 (gage height, 1.69 ft).

Flood of Apr. 26, 1937, reached a stage of 28.4 ft, from floodmarks (discharge, 43,500 cfs), from information by local residents.

REMARKS.--Records good except those for periods of no gage-height record, which are fair. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 971: 1942. WSP 1622: 1957-58. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	431	579	165	152	830	317	430	554	1,080	421	79
2	407	386	449	170	170	762	344	400	365	826	265	85
3	603	383	377	200	226	890	303	600	323	766	269	87
4	437	359	330	220	802	708	290	800	290	622	285	99
5	359	303	295	300	425	631	280	685	332	601	269	129
6	300	283	270	235	368	551	270	557	288	628	226	106
7	244	275	480	203	326	515	285	503	283	532	209	91
8	209	250	500	195	260	476	370	467	244	478	231	79
9	189	241	470	189	230	428	370	663	228	442	193	75
10	437	237	440	226	230	407	345	617	217	393	168	69
11	440	230	400	217	248	380	325	521	201	363	152	63
12	278	219	360	205	222	371	310	476	195	345	148	64
13	226	215	325	199	3,980	362	600	440	191	493	335	72
14	207	207	305	203	2,310	419	560	467	219	385	235	70
15	187	199	290	187	1,220	416	500	512	217	328	182	70
16	172	197	275	138	902	377	475	530	197	300	182	69
17	167	189	260	159	722	698	1,100	437	217	403	162	63
18	159	185	245	203	638	542	740	554	283	610	184	59
19	150	185	230	195	902	467	600	488	222	333	170	82
20	140	185	220	191	698	425	540	1,800	203	288	193	67
21	136	178	240	182	569	404	480	1,310	4,670	269	154	61
22	134	168	225	178	572	506	1,000	1,020	19,800	249	131	96
23	159	159	210	187	579	551	1,200	810	4,690	233	122	91
24	1,630	168	195	203	548	482	1,000	659	2,380	222	117	70
25	2,830	268	195	197	834	449	830	560	1,630	203	109	65
26	2,460	253	190	178	1,500	428	690	488	1,190	188	127	65
27	1,270	241	185	168	1,400	404	600	440	934	176	117	67
28	878	285	180	176	1,100	383	520	407	1,010	199	106	99
29	659	494	175	178	930	353	480	377	1,450	212	101	96
30	542	906	170	172	-----	341	450	356	1,470	323	91	133
31	476	-----	170	167	-----	326	-----	557	-----	430	82	-----
TOTAL	16,618	8,279	9,235	5,986	23,063	15,282	16,174	18,931	44,493	12,920	5,736	2,421
MEAN	536	276	298	193	795	493	539	611	1,483	417	185	80.7
MAX	2,830	906	579	300	3,980	890	1,200	1,800	19,800	1,080	421	133
MIN	133	159	170	138	152	326	270	356	191	176	82	59
CFSM	1.87	.96	1.04	.67	2.77	1.72	1.88	2.13	5.17	1.45	.64	.28
IN.	2.15	1.07	1.20	.78	2.99	1.98	2.10	2.45	5.77	1.67	.74	.31

CAL YR 1971 TOTAL 142,573 MEAN 391 MAX 2,970 MIN 53 CFSM 1.36 IN 18.48
WTR YR 1972 TOTAL 179,138 MEAN 489 MAX 19,800 MIN 59 CFSM 1.70 IN 23.22

PEAK DISCHARGE (BASE, 2,500 CFS)

NOTE.--NO GAGE-HEIGHT RECORD DEC. 4 TO JAN. 5.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	2100	13.42	5,290	5-20	1000	9.02	2,660
2-13	1930	16.48	8,850	6-22	0530	23.40	25,000

RAPPAHANNOCK RIVER BASIN

65

01664000 RAPPAHANNOCK RIVER AT REMINGTON, VA.

LOCATION.--Lat 38°31'50", long 77°48'50", Fauquier County, on left bank 80 ft upstream from bridge on U.S. Highway 29 at Remington, 0.3 mile upstream from Tinpot Run, 0.4 mile downstream from Ruffans Run, 2.5 miles downstream from Hazel River, and at mile 35.2.

DRAINAGE AREA.--620 sq mi.

PERIOD OF RECORD.--October 1942 to current year.

GAGE.--Water-stage recorder. Datum of gage is 252.53 ft above mean sea level. Prior to Nov. 21, 1951, non-recording gage at bridge 80 ft downstream at same datum.

AVERAGE DISCHARGE.--30 years, 637 cfs (13.95 inches per year).

EXTREMES.--Current year: Maximum discharge, 52,900 cfs June 22 (gage height, 24.82 ft); minimum, 95 cfs Sept. 18 (gage height, 3.14 ft).

Period of record: Maximum discharge, 90,000 cfs Oct. 16, 1942 (gage height, 30.0 ft, from floodmarks), from rating curve extended above 43,000 cfs on basis of slope-area determination of peak flow; minimum, 2.8 cfs Sept. 13, 1966 (gage height, 2.31 ft).

Maximum flood since at least 1828, that of Oct. 16, 1942.

REMARKS.--Records good. Water-quality records for the current year are included in this report.

REVISIONS (WATER YEARS).--WSP 1171: 1944. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECCND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	170	761	1,600	379	311	1,880	638	922	1,260	2,720	798	134
2	256	683	1,160	391	331	1,710	701	852	764	1,820	494	136
3	709	670	937	486	459	1,940	642	1,040	651	2,420	446	143
4	586	716	820	466	2,080	1,660	593	1,680	581	1,640	466	145
5	448	592	729	631	1,130	1,420	570	1,520	784	1,250	445	195
6	381	540	677	675	898	1,240	540	1,170	631	1,400	394	175
7	319	528	891	487	818	1,130	556	1,030	575	1,100	340	151
8	267	492	1,450	439	641	1,050	813	946	495	963	370	132
9	238	456	1,170	430	590	950	816	1,250	452	872	329	121
10	437	438	1,020	526	624	898	728	1,290	425	781	284	112
11	844	426	924	543	575	826	693	1,060	394	720	253	104
12	493	403	826	499	504	800	654	951	361	664	245	99
13	354	385	768	465	3,710	781	1,000	870	353	808	361	108
14	304	374	709	479	7,690	820	1,360	871	398	757	399	116
15	276	353	670	442	2,750	989	1,040	1,030	445	621	295	127
16	249	348	657	322	1,930	839	969	1,110	398	552	308	124
17	236	339	618	378	1,530	1,990	2,140	949	400	726	276	107
18	226	329	560	524	1,360	1,450	1,600	977	582	1,290	281	97
19	213	324	516	463	2,160	1,130	1,280	904	548	693	282	141
20	200	329	516	412	1,620	989	1,140	3,870	439	556	276	123
21	189	320	547	389	1,270	924	1,020	2,920	7,160	495	249	101
22	188	306	510	387	1,340	995	1,950	2,010	45,800	452	215	130
23	203	284	456	404	1,310	1,220	3,230	1,560	17,500	412	200	150
24	1,650	288	444	444	1,240	975	2,180	1,270	7,010	386	190	120
25	3,890	703	450	444	1,810	887	1,750	1,100	3,850	351	182	106
26	5,390	800	438	379	4,100	841	1,450	976	2,730	329	182	103
27	2,230	631	432	349	3,940	790	1,250	881	2,060	303	185	108
28	1,490	761	420	352	2,630	762	1,120	825	1,910	331	179	139
29	1,180	1,170	408	366	2,110	716	1,030	776	2,660	357	199	157
30	976	2,470	391	350	-----	689	959	730	3,970	476	162	189
31	846	-----	391	343	-----	663	-----	816	-----	748	143	-----
TOTAL	25,438	17,219	22,105	13,664	51,461	33,954	34,412	38,156	105,586	26,993	9,428	3,893
MEAN	821	574	713	441	1,775	1,095	1,147	1,231	3,520	871	304	130
MAX	5,390	2,470	1,600	675	7,690	1,990	3,230	3,870	45,800	2,720	798	195
MIN	170	284	391	322	311	663	540	730	353	303	143	97
CFSM	1.32	.93	1.15	.71	2.86	1.77	1.85	1.99	5.68	1.40	.49	.21
IN.	1.53	1.03	1.33	.82	3.09	2.04	2.06	2.29	6.34	1.62	.57	.23

CAL YR 1971 TOTAL 278,678 MEAN 764 MAX 9,820 MIN 83 CFSM 1.23 IN 16.72
WTR YR 1972 TOTAL 382,309 MEAN 1,045 MAX 45,800 MIN 97 CFSM 1.69 IN 22.94

PEAK DISCHARGE (BASE, 6,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-26	0430	12.58	7,540	6-22	1030	24.82	52,900
2-14	0445	15.16	11,400				

RAPPAHANNOCK RIVER BASIN

01665000 MOUNTAIN RUN NEAR CULPEPER, VA.

LOCATION.--Lat 38°28'50", long 78°03'10", Culpeper County, on left bank 30 ft upstream from bridge on State Highway 641, 3.0 miles west of Culpeper, and 14.5 miles upstream from Jonas Run.

DRAINAGE AREA.--15.9 sq mi, of which 10.9 sq mi are above flood-detention structures.

PERIOD OF RECORD.--September 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 389.46 ft above mean sea level.

AVERAGE DISCHARGE.--23 years, 15.0 cfs (12.81 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,040 cfs June 21 (gage height, 9.86 ft), from rating curve extended as explained below; minimum, 2.3 cfs Sept. 21.

Period of record: Maximum discharge, 5,440 cfs Aug. 18, 1955, from rating curve extended above 910 cfs on basis of slope-area measurement of peak flow; maximum gage height, 11.20 ft Dec. 4, 1950; minimum discharge, 0.09 cfs Sept. 30, Oct. 1, 1954.

REMARKS.--Records good. Some regulation since 1959 by two reservoirs (combined flood storage, 2,240 acre-ft; 531 acre-ft additional storage used for low-water regulation for municipal supply for town of Culpeper). Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1332: 1950-51. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	16	42	11	9.8	25	16	17	47	71	10	4.2
2	31	15	28	14	10	23	17	17	20	65	10	4.4
3	21	24	22	15	26	35	16	30	14	53	18	4.7
4	13	22	19	15	54	27	15	43	12	18	15	5.1
5	8.7	16	17	22	26	22	15	27	13	16	19	4.9
6	7.6	15	17	18	20	20	14	22	11	17	14	4.7
7	6.3	15	27	15	18	19	14	18	10	15	11	4.2
8	5.4	13	27	13	14	18	18	18	8.7	13	9.6	3.8
9	5.2	12	22	14	13	16	18	28	8.0	12	8.5	3.7
10	48	12	20	20	12	16	20	24	7.6	11	7.4	3.5
11	29	12	18	18	12	15	18	18	6.5	10	6.9	2.9
12	15	12	16	16	12	15	16	16	6.5	12	6.7	3.2
13	10	12	15	15	31.6	15	30	14	6.5	14	10	3.7
14	8.7	11	14	15	17.6	20	25	18	7.6	11	9.3	3.5
15	7.8	11	14	14	98	19	22	22	7.8	9.3	7.8	3.3
16	7.4	11	14	10	70	19	40	21	7.6	8.5	7.4	3.2
17	7.2	10	13	10	30	66	49	18	8.7	25	7.6	3.0
18	7.7	10	13	11	26	36	23	15	15	27	8.0	2.6
19	6.3	11	13	13	49	27	20	25	11	14	9.6	2.8
20	6.0	11	14	13	34	23	19	134	10	11	11	2.4
21	6.0	10	14	14	27	21	22	54	555	9.3	8.0	2.6
22	6.1	11	13	14	29	24	84	31	331	8.5	6.7	3.5
23	17	9.0	12	15	30	23	62	22	218	8.0	6.0	3.2
24	90	11	13	16	31	20	38	18	200	7.6	5.8	3.0
25	176	29	13	14	60	18	29	15	200	7.2	5.6	3.0
26	134	26	13	11	105	18	24	13	189	6.3	5.8	3.0
27	61	27	13	11	55	17	23	12	184	6.0	6.0	3.7
28	27	34	13	11	36	16	21	11	119	6.1	6.0	5.4
29	20	73	12	11	30	16	19	11	96	7.4	5.1	4.9
30	17	84	12	10	-----	16	18	11	81	14	4.7	15
31	16	-----	12	10	-----	16	-----	30	-----	14	4.2	-----
TOTAL	827.7	585.0	525	429	1,428.8	681	765	773	2,411.5	527.2	270.7	121.1
MEAN	26.7	19.5	16.9	13.8	49.3	22.0	25.5	24.9	80.4	17.0	8.73	4.04
MAX	176	84	42	22	316	66	84	134	555	71	19	15
MIN	5.2	9.0	12	10	9.8	15	14	11	6.5	6.0	4.2	2.4
CFSM	1.68	1.23	1.06	.87	3.10	1.38	1.60	1.57	5.06	1.07	.55	.25
IN.	1.94	1.37	1.23	1.00	3.34	1.59	1.79	1.81	5.64	1.23	.63	.28

CAL YR 1971 TOTAL 7,340.6 MEAN 20.1 MAX 204 MIN 2.8 CFSM 1.26 IN 17.17
WTR YR 1972 TOTAL 9,345.0 MEAN 25.5 MAX 555 MIN 2.4 CFSM 1.60 IN 21.86

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1230	5.16	330	6-21	1630	9.86	3,040
2-13	0900	5.45	378				

RAPPAHANNOCK RIVER BASIN

67

01665500 RAPIDAN RIVER NEAR RUCKERSVILLE, VA.

LOCATION.--Lat 38°16'50", long 78°20'25", Madison County, on left bank at upstream side of bridge on U.S. Highway 29, 0.2 mile downstream from Elk Run, 1.7 miles upstream from White Run, 2.1 miles downstream from South River, 3.6 miles northeast of Ruckersville, and at mile 63.5.

DRAINAGE AREA.--114 sq mi.

PERIOD OF RECORD.--September 1942 to current year.

GAGE.--Water-stage recorder. Datum of gage is 439.44 ft above mean sea level.

AVERAGE DISCHARGE.--30 years, 138 cfs (16.44 inches per year).

EXTREMES.--Current year: Maximum discharge, 17,600 cfs June 21 (gage height, 16.87 ft), from rating curve extended above 3,700 cfs on basis of slope-area measurement at gage height 17.78 ft; minimum, 24 cfs Sept. 18 (gage height, 0.65 ft).

Period of record: Maximum discharge, 30,700 cfs Oct. 15, 1942 (gage height, 20.8 ft, from floodmark in gage house), from rating curve extended above 12,000 cfs on basis of slope-area measurement at gage height 17.78 ft; minimum daily, 0.90 cfs Sept. 12, 1966.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1171: 1944-45(M). WSP 1382: 1943(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	238	260	195	82	80	345	151	170	305	720	163	43
2	1,370	230	165	95	83	342	161	161	206	547	313	45
3	694	240	149	88	130	405	142	213	171	451	233	41
4	459	220	138	86	238	339	136	349	150	374	156	41
5	357	188	129	104	190	309	129	261	143	367	195	42
6	285	173	125	94	170	278	123	228	131	325	131	42
7	233	165	193	86	153	258	129	209	122	280	113	37
8	198	149	200	83	131	235	158	202	109	248	102	35
9	173	140	185	86	121	213	127	268	103	220	92	33
10	348	136	183	111	113	198	123	230	96	200	83	31
11	243	129	173	101	107	183	121	206	90	183	79	30
12	190	121	158	95	106	175	117	194	86	223	76	32
13	165	117	151	95	1,080	165	138	182	83	304	248	33
14	151	109	140	97	571	183	131	209	90	220	133	30
15	136	106	136	91	405	165	125	223	84	185	99	29
16	127	102	133	76	330	168	151	221	77	188	89	29
17	121	99	125	62	288	268	215	205	100	203	91	26
18	111	95	117	92	273	218	183	263	102	180	89	32
19	102	94	113	86	381	198	173	314	87	156	80	37
20	95	92	115	85	278	185	168	549	121	138	77	28
21	94	91	111	88	255	178	156	440	5,770	127	67	32
22	92	86	102	85	250	270	309	388	6,720	117	62	49
23	233	82	97	91	238	278	351	333	2,470	111	59	35
24	1,020	86	97	102	248	258	315	280	1,450	101	57	32
25	1,910	149	97	95	333	243	280	246	1,020	94	57	31
26	1,110	117	95	88	571	223	255	214	740	88	62	30
27	698	121	94	86	487	208	230	192	564	85	61	29
28	515	125	91	89	423	195	210	175	495	89	69	39
29	408	200	86	88	372	180	195	160	1,340	121	53	41
30	342	253	85	86	-----	170	185	152	977	203	48	111
31	293	-----	83	83	-----	158	-----	414	-----	220	44	-----
TOTAL	12,511	4,275	4,061	2,776	8,505	7,191	5,387	7,851	24,002	7,068	3,281	1,125
MEAN	404	143	131	89.5	293	232	180	253	800	228	106	37.5
MAX	1,910	260	200	111	1,080	405	351	549	6,720	720	313	111
MIN	92	82	83	62	80	158	117	152	77	85	44	26
CFSM	3.54	1.25	1.15	.79	2.57	2.04	1.58	2.22	7.02	2.00	.93	.33
IN.	4.08	1.40	1.33	.91	2.78	2.35	1.76	2.56	7.83	2.31	1.07	.37

CAL YR 1971 TOTAL 68,263 MEAN 187 MAX 2,230 MIN 23 CFSM 1.64 IN 22.28
WTR YR 1972 TOTAL 88,033 MEAN 241 MAX 6,720 MIN 26 CFSM 2.11 IN 28.73

PEAK DISCHARGE (BASE, 1,400 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-2	0500	6.36	2,050	6-21	1930	16.87	17,600
10-25	1400	9.25	3,780	6-29	0930	5.30	1,960
2-13	1030	7.00	2,400	8-2	2030	5.61	2,180

RAPPAHANNOCK RIVER BASIN

01666500 ROBINSON RIVER NEAR LOCUST DALE, VA.

LOCATION.--Lat 38°19'30", long 78°05'45", Madison County, on right bank 100 ft upstream from bridge on State Highway 614, 1.1 miles upstream from Great Run, 1.7 miles upstream from mouth, 2.0 miles southeast of Locust Dale, and 3.4 miles downstream from Crooked Run.

DRAINAGE AREA.--179 sq mi.

PERIOD OF RECORD.--July 1943 to current year. Prior to October 1965, published as Robertson River near Locust Dale.

GAGE.--Water-stage recorder. Datum of gage is 283.70 ft above mean sea level.

AVERAGE DISCHARGE.--29 years, 202 cfs (15.32 inches per year).

EXTREMES.--Current year: Maximum discharge, 24,500 cfs June 22 (gage height, 20.92 ft), from rating curve extended as explained below; minimum, 67 cfs Sept. 18, 20, 27 (gage height, 1.41 ft).

Period of record: Maximum discharge, 24,500 cfs June 22, 1972 (gage height, 20.92 ft), from rating curve extended above 9,100 cfs on basis of records for other stations in Rappahannock River basin; minimum, 1.2 cfs Sept. 7, 13, 1954; minimum daily, 1.8 cfs Sept. 13, 27, 1954.

Flood of Oct. 15, 1942, reached a stage of 23.9 ft, from floodmarks (discharge, about 44,000 cfs).

REMARKS.--Records good. Small diurnal fluctuation at low flow caused by Banco Mill 9 miles upstream at State Highway 231. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1171: 1948(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	281	331	351	132	128	448	209	230	434	780	237	98
2	1,740	301	284	163	137	440	222	215	251	588	333	103
3	746	323	249	154	267	570	203	318	215	476	490	98
4	476	296	228	150	546	448	197	451	189	401	226	95
5	369	251	209	219	254	401	187	333	215	390	253	97
6	301	233	205	186	249	356	182	282	180	372	193	98
7	242	226	346	165	228	333	195	258	172	326	170	91
8	205	205	351	154	195	311	265	246	154	294	159	86
9	182	195	296	152	187	284	215	343	143	267	143	84
10	672	191	277	213	172	272	203	298	138	244	132	79
11	409	182	260	189	165	255	199	258	128	226	126	76
12	272	174	237	176	161	251	193	239	125	230	123	78
13	219	170	226	170	3,050	242	242	224	120	338	1,550	84
14	197	159	207	172	1,300	265	242	246	130	249	351	78
15	178	155	203	157	642	258	224	267	128	217	230	74
16	163	152	199	130	490	249	226	262	117	203	195	73
17	157	147	186	155	415	499	390	237	133	239	184	71
18	149	143	176	182	375	351	303	217	180	390	180	70
19	140	143	168	152	645	303	277	251	140	226	180	82
20	128	143	180	145	437	279	258	1,160	133	195	174	68
21	128	138	174	147	359	265	235	660	4,920	178	143	71
22	125	128	161	143	367	313	537	511	14,700	168	133	88
23	249	123	152	157	346	331	579	418	2,700	159	125	79
24	1,640	138	155	174	356	301	448	346	1,370	150	120	74
25	3,990	346	154	157	543	284	380	303	952	142	115	73
26	2,170	253	150	142	859	270	331	270	681	133	145	72
27	888	249	149	140	700	255	296	246	537	126	126	71
28	621	274	145	143	570	244	274	228	579	133	143	95
29	488	443	140	140	490	230	258	213	1,460	155	117	88
30	407	543	138	138	-----	224	244	203	1,100	242	107	191
31	367	-----	137	133	-----	215	-----	318	-----	249	100	-----
TOTAL	18,299	6,755	6,493	4,930	14,713	9,747	8,214	10,051	32,424	8,486	7,003	2,585
MEAN	590	225	209	159	507	314	274	324	1,081	274	226	86.2
MAX	3,990	543	351	219	3,090	570	579	1,160	14,700	780	1,550	191
MIN	125	123	137	130	128	215	182	203	117	126	100	68
CFSM	3.30	1.26	1.17	.89	2.83	1.75	1.53	1.81	6.04	1.53	1.26	.48
IN.	3.80	1.40	1.35	1.02	3.06	2.03	1.71	2.09	6.74	1.76	1.46	.54

CAL YR 1971 TOTAL 105,525 MEAN 289 MAX 3,990 MIN 60 CFSM 1.61 IN 21.93
WTR YR 1972 TOTAL 129,700 MEAN 354 MAX 14,700 MIN 68 CFSM 1.98 IN 26.95

PEAK DISCHARGE (BASE, 1,700 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-2	0630	9.04	2,420	6-22	0300	20.92	24,500
10-25	2000	14.63	6,220	6-29	1330	7.58	1,870
2-13	1530	14.26	5,730	8-13	0630	12.47	4,080

RAPPAHANNOCK RIVER BASIN

69

01667500 RAPIDAN RIVER NEAR CULPEPER, VA.

LOCATION.--Lat 38°21'01", long 77°58'31", Culpeper County, on left bank 0.7 mile upstream from Cedar Run and bridge on U.S. Highway 522, 8.5 miles south of Culpeper, and at mile 29.6.

DRAINAGE AREA.--472 sq mi.

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 241.36 ft above mean sea level.

AVERAGE DISCHARGE.--42 years, 499 cfs (14.36 inches per year).

EXTREMES.--Current year: Maximum discharge, 55,600 cfs June 22 (gage height, 29.53 ft, from high-water mark in gage house), from rating curve extended as explained below; minimum, 126 cfs Sept. 18, 25, 26 (gage height, 0.94 ft).
Period of record: Maximum discharge, 58,100 cfs Oct. 16, 1942 (gage height, 30.3 ft, from floodmark), from rating curve extended above 43,000 cfs on basis of slope-area measurement of peak flow; minimum, 2.1 cfs Oct. 4, 5, 11, 1954; minimum daily, 2.2 cfs Oct. 4, 1954.

REMARKS.--Records good. Diurnal fluctuation at low flow caused by mills at Rapidan and on Robinson River at State Highway 231. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 741: 1931. WSP 801: 1934(M), 1936(M). WSP 1081: 1943-46. WSP 1171: 1932(M), 1933-35. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	416	860	960	308	303	1,130	514	562	1,290	1,820	730	187
2	4,980	740	744	359	313	1,070	534	520	702	1,430	520	194
3	2,430	840	653	387	548	1,380	495	765	576	1,160	1,550	194
4	1,400	750	590	348	1,770	1,170	470	1,380	495	992	730	184
5	1,020	680	541	514	832	1,030	451	1,000	562	976	779	187
6	800	610	520	470	674	912	428	765	476	960	611	194
7	653	570	928	392	618	832	445	681	445	816	476	180
8	548	530	1,080	359	507	772	660	632	404	730	422	170
9	482	495	816	342	457	702	527	928	376	667	370	161
10	2,020	465	737	476	433	660	476	880	359	604	327	151
11	1,440	445	688	451	404	618	463	702	327	555	298	145
12	808	430	625	416	398	597	451	646	313	576	284	148
13	632	410	590	398	4,950	583	514	597	303	1,060	1,600	161
14	555	395	541	422	4,410	604	562	625	332	723	786	154
15	489	380	520	381	1,730	632	501	751	337	590	501	148
16	445	370	507	313	1,280	576	501	751	308	520	398	139
17	422	360	476	235	1,070	1,210	737	667	318	604	359	137
18	398	350	445	381	984	936	646	611	470	751	392	131
19	364	350	416	370	1,670	751	590	758	404	548	359	161
20	337	345	439	337	1,220	681	555	2,540	364	470	404	148
21	332	340	445	342	944	639	527	1,650	5,740	433	318	134
22	322	322	404	342	1,000	702	1,020	1,300	43,100	404	275	158
23	555	303	364	376	976	848	1,510	1,290	10,200	381	256	173
24	4,060	318	370	463	968	758	1,090	936	3,430	353	243	148
25	6,660	880	370	410	1,500	702	928	793	2,430	332	239	142
26	6,900	716	359	353	2,270	667	808	702	1,870	313	275	139
27	2,480	632	359	337	1,910	625	716	632	1,630	288	260	134
28	1,800	723	348	342	1,500	597	660	583	1,430	303	285	158
29	1,450	984	342	337	1,270	569	618	548	2,680	348	237	170
30	1,150	1,670	332	332	-----	562	583	514	2,460	660	212	322
31	970	-----	327	322	-----	534	-----	716	-----	786	194	-----
TOTAL	47,318	17,263	16,836	11,615	36,949	24,049	18,980	26,425	84,131	21,153	14,690	4,952
MEAN	1,526	575	543	375	1,274	776	633	852	2,804	682	474	165
MAX	6,900	1,670	1,080	514	4,950	1,380	1,510	2,540	43,100	1,820	1,600	322
MIN	322	303	327	235	303	534	428	514	303	288	194	131
CFSM	3.23	1.22	1.15	.79	2.70	1.64	1.34	1.81	5.94	1.44	1.00	.35
IN.	3.73	1.36	1.33	.92	2.51	1.90	1.50	2.08	6.63	1.67	1.16	.39

CAL YR 1971 TOTAL 262,819 MEAN 720 MAX 7,390 MIN 111 CFSM 1.53 IN 20.71
WTR YR 1972 TOTAL 324,361 MEAN 886 MAX 43,100 MIN 131 CFSM 1.88 IN 25.56

PEAK DISCHARGE (BASE, 4,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-2	0945	9.42	6,290	2-13	2330	13.01	9,210
10-26	0300	14.22	10,400	6-22	0930	29.53	55,600

RAPPAHANNOCK RIVER BASIN

01668000 RAPPAHANNOCK RIVER NEAR FREDERICKSBURG, VA.

LOCATION.--Lat 38°19'20", long 77°31'05", Spotsylvania County, on right bank 1.6 miles upstream from dam of Virginia Electric & Power Co., 2.2 miles downstream from Motts Run, 3.8 miles upstream from Fredericksburg, and at mile 4.4.

DRAINAGE AREA.--1,596 sq mi.

PERIOD OF RECORD.--September 1907 to current year. Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 55.18 ft above mean sea level. Prior to Jan. 15, 1922, non-recording gage, and Jan. 15, 1922, to Aug. 2, 1966, water-stage recorder at same site at datum 1.0 ft higher.

AVERAGE DISCHARGE.--65 years, 1,612 cfs (13.72 inches per year).

EXTREMES.--Current year: Maximum discharge, 107,000 cfs June 22 (gage height, 22.56 ft, from floodmarks), from rating curve extended as explained below; minimum, 289 cfs Sept. 20 (gage height, 1.93 ft).

Period of record: Maximum discharge, 140,000 cfs Oct. 16, 1942 (gage height, 26.9 ft, present datum, from floodmarks), from rating curve extended above 76,000 cfs on basis of flow over dam and slope-area measurements at gage heights 26.1 and 26.9 ft, present datum; minimum, 5 cfs Oct. 11, 12, 1930.

Flood in June 1889 was probably several feet lower than that of Oct. 16, 1942.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Water-quality records for the current year are included in this report.

REVISIONS (WATER YEARS).--WSP 801: 1924(M). WSP 951: 1937(M). WSP 1302: 1907-12, 1913(M), 1916(M), 1918(M), 1920-21(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	424	2,040	4,170	824	906	3,830	1,340	1,860	2,770	6,200	1,780	378
2	4,570	1,830	2,840	833	878	3,470	1,390	1,660	2,230	4,120	1,510	369
3	6,000	1,720	2,230	1,100	1,070	3,830	1,430	2,260	1,570	3,780	1,680	371
4	4,500	1,980	1,930	1,080	7,070	4,180	1,280	5,770	1,330	3,520	1,750	383
5	2,500	1,630	1,720	1,900	3,910	3,190	1,240	4,550	1,320	2,980	1,380	380
6	1,400	1,350	1,540	2,460	2,430	2,790	1,170	2,780	1,610	3,080	1,420	414
7	1,100	1,260	2,990	1,550	2,170	2,460	1,170	2,230	1,370	2,620	1,010	404
8	900	1,210	5,030	1,260	1,850	2,280	1,650	1,980	1,150	2,250	865	379
9	742	1,090	3,120	1,140	1,420	2,080	2,040	2,450	971	2,030	825	352
10	3,440	1,030	2,510	1,350	1,340	1,880	1,650	3,170	888	1,830	708	330
11	5,230	1,010	2,220	1,710	1,260	1,770	1,470	2,370	821	1,650	623	313
12	2,300	965	1,960	1,510	1,250	1,670	1,390	1,960	754	1,530	572	305
13	1,430	931	1,750	1,330	6,170	1,650	1,630	1,760	727	2,200	1,070	298
14	1,070	903	1,600	1,410	21,600	1,670	2,740	1,740	747	2,260	2,060	306
15	912	864	1,490	1,380	6,620	2,010	2,110	2,200	881	1,690	1,020	318
16	792	836	1,440	1,110	4,370	1,830	1,850	2,350	853	1,400	759	312
17	718	808	1,380	810	3,460	4,970	2,720	2,180	780	1,310	718	316
18	683	782	1,250	750	3,070	4,400	3,070	2,080	870	2,070	689	302
19	645	767	1,140	1,180	7,160	2,740	2,260	2,000	1,480	1,980	701	303
20	601	774	1,140	1,110	5,870	2,250	2,000	9,880	1,090	1,380	683	315
21	560	767	1,240	1,070	3,540	2,010	1,830	7,780	6,380	1,180	681	336
22	549	733	1,170	1,060	3,590	1,950	3,360	4,500	84,200	1,060	566	301
23	640	684	1,020	1,120	3,940	2,450	8,020	3,560	44,500	957	508	311
24	5,900	688	943	1,460	3,250	2,210	4,370	2,900	18,200	892	477	359
25	15,100	5,510	967	1,450	5,320	1,960	3,590	2,360	7,410	832	457	330
26	25,200	4,740	959	1,200	8,650	1,820	2,880	2,030	5,100	757	437	305
27	8,290	2,650	938	1,020	9,480	1,710	2,450	1,790	4,600	705	462	299
28	4,430	2,610	921	975	5,620	1,630	2,150	1,630	4,800	665	457	304
29	3,250	2,680	891	1,010	4,440	1,540	1,960	1,510	6,000	734	458	328
30	2,590	7,060	849	987	-----	1,460	1,830	1,410	7,960	971	457	420
31	2,230	-----	843	952	-----	1,400	-----	1,380	-----	1,750	407	-----
TOTAL	108,696	51,902	54,191	38,101	131,704	75,090	68,040	88,080	213,362	60,383	27,190	10,141
MEAN	3,506	1,730	1,748	1,229	4,542	2,422	2,268	2,841	7,112	1,948	877	338
MAX	25,200	7,060	5,030	2,460	21,600	4,970	8,020	9,880	84,200	6,200	2,060	420
MIN	424	684	843	750	878	1,400	1,170	1,380	727	665	407	298
CFSM	2.20	1.08	1.10	.77	2.85	1.52	1.42	1.78	4.46	1.22	.55	.21
IN.	2.53	1.21	1.26	.89	3.07	1.75	1.59	2.05	4.97	1.41	.63	.24

CAL YR 1971 TOTAL 772,033 MEAN 2,115 MAX 26,300 MIN 249 CFSM 1.33 IN 17.99
WTR YR 1972 TOTAL 926,880 MEAN 2,532 MAX 84,200 MIN 298 CFSM 1.59 IN 21.60

PEAK DISCHARGE (BASE, 16,000 CFS)

A ABOUT.

NOTE.--NO GAGE-HEIGHT RECORD JUNE 22-29.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-26	0800	10.82	28,400	6-22	2100	22.56	107,000
2-14	1200	10.27	25,600				

01668500 CAT POINT CREEK NEAR MONTROSS, VA.

LOCATION.--Lat 38°02'23", long 76°49'38", Richmond County, on right bank 10 ft upstream from bridge on State Highway 637, 1.7 miles west of Farmers Fork, 3.8 miles south of Montross, and 11.4 miles upstream from mouth.

DRAINAGE AREA.--45.6 sq mi.

PERIOD OF RECORD.--September 1943 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2.93 ft above mean sea level. Prior to Aug. 19, 1953, nonrecording gage near right bank at downstream side of highway bridge at same datum.

AVERAGE DISCHARGE.--29 years, 41.6 cfs (12.39 inches per year).

EXTREMES.--Current year: Maximum discharge, 4,200 cfs June 22 (gage height, 9.33 ft, from high-water mark in well), from rating curve extended above 1,400 cfs; minimum, 9.2 cfs Oct. 1 (gage height, 2.15 ft).
Period of record: Maximum discharge, 6,820 cfs Aug. 20, 1969 (gage height, 10.45 ft), from rating curve extended above 1,400 cfs; no flow at times in 1943, 1957, 1959, 1960, and 1966.
Flood in September 1935 was over bridge floor (elevation, 9.3 ft).

REMARKS.--Records good except those for period of no gage-height record, which are fair. Slight diurnal fluctuation at low flow caused by gristmill at Montross. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1382: 1944(M), 1945, 1946-51(M), 1952(P), 1953-54(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	58	57	32	35	97	62	58	280	243	65	26
2	28	51	50	36	43	88	61	59	206	168	56	50
3	30	72	46	38	70	96	58	60	94	112	52	66
4	26	102	45	39	134	94	56	78	66	89	48	49
5	21	82	43	58	114	84	54	90	61	116	64	41
6	26	61	43	71	90	74	51	68	109	160	70	39
7	21	54	48	61	67	69	53	56	392	125	62	34
8	16	49	55	48	60	67	76	51	145	82	50	31
9	13	47	53	44	55	64	72	79	88	65	43	27
10	158	44	48	51	50	62	62	78	70	59	36	24
11	148	42	44	54	46	59	57	64	60	54	32	21
12	86	40	41	50	45	59	53	52	53	57	30	20
13	44	39	40	50	90	58	59	46	49	106	31	19
14	30	38	39	72	114	58	64	74	64	117	31	18
15	24	37	38	62	84	59	62	181	58	92	29	18
16	19	37	38	50	66	62	60	172	50	70	27	17
17	18	36	39	45	63	170	61	91	44	63	26	17
18	16	34	38	41	72	174	63	75	133	60	44	16
19	16	34	36	46	240	107	55	78	186	58	48	17
20	16	35	46	47	290	82	50	180	97	56	42	16
21	15	36	52	50	188	74	47	184	97	52	34	25
22	15	32	48	48	126	79	114	119	2,260	48	30	32
23	28	31	40	46	107	85	199	98	842	45	27	32
24	66	38	38	50	126	73	130	84	426	48	25	27
25	194	166	38	50	146	65	91	70	262	56	22	23
26	920	160	38	43	166	62	80	62	195	50	20	21
27	381	93	36	39	181	60	70	56	154	43	19	19
28	184	73	36	39	141	58	64	52	130	41	32	18
29	104	66	34	38	113	57	60	50	126	47	51	19
30	76	64	34	37	-----	58	58	47	174	70	41	31
31	65	-----	34	36	-----	63	-----	63	-----	74	32	-----
TOTAL	2,817	1,751	1,315	1,471	3,122	2,417	2,102	2,575	6,971	2,526	1,219	813
MEAN	90.9	58.4	42.4	47.5	108	78.0	70.1	83.1	232	81.5	39.3	27.1
MAX	920	166	57	72	290	174	199	184	2,260	243	70	66
MIN	13	31	34	32	35	57	47	46	44	41	19	16
CFSM	1.99	1.28	0.93	1.04	2.37	1.71	1.54	1.82	5.09	1.79	0.86	0.59
IN	2.30	1.43	1.07	1.20	2.55	1.97	1.71	2.10	5.69	2.06	0.99	0.66

CAL YR 1971 TOTAL 17,457.4 MEAN 47.8 MAX 920 MIN 4.5 CFSM 1.05 IN 14.24
WTR YR 1972 TOTAL 29,099.0 MEAN 79.5 MAX 2,260 MIN 13 CFSM 1.74 IN 23.74

PEAK DISCHARGE (BASE, 250 CFS)

NOTE.--NO GAGE-HEIGHT RECORD JUNE 22.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-10	1630	5.22	250	6- 7	0400	6.20	600
10-26	1100	6.88	1,060	6-22	UNKNOWN	9.33	4,200
2-20	0300	5.74	361	7- 1	0200	5.47	270
6- 1	0700	5.68	338				

RAPPAHANNOCK RIVER BASIN

01668800 HOSKINS CREEK NEAR TAPPAHANNOCK, VA.

LOCATION.--Lat 37°55'38", long 76°57'16", Essex County, at bridge on State Highway 717, 0.4 mile upstream from Criddlin Swamp, 2.9 miles downstream from site of Hutchinson Mill Pond (destroyed by flood of August 1969), and 5.0 miles west of Tappahannock.

DRAINAGE AREA.--15.5 sq mi.

PERIOD OF RECORD.--October 1964 to August 1969, June 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 34.30 ft above mean sea level.

AVERAGE DISCHARGE.--7 years, 14.2 cfs (12.44 inches per year).

EXTREMES.--Current year: Maximum discharge, 289 cfs June 22 (gage height, 5.99 ft), from rating curve extended above 120 cfs on basis of velocity-area study; minimum, 2.8 cfs Oct. 18, 19.

Period of record: Maximum discharge, 1,380 cfs Aug. 20, 1969 (gage height, 10.23 ft), from rating curve extended above 100 cfs on basis of velocity-area study; minimum, 0.20 cfs Sept. 12, 13, 1966 (gage height, 0.80 ft).

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	18	19	12	14	31	26	18	90	67	33	11
2	19	16	17	14	18	29	26	17	55	51	26	22
3	1	25	16	14	31	29	24	21	33	41	24	28
4	14	28	16	14	53	28	23	33	26	37	21	20
5	10	22	15	22	34	26	23	27	25	57	34	15
6	11	17	16	22	25	25	22	19	28	71	35	16
7	9.5	17	18	19	24	23	22	16	35	53	26	14
8	7.5	15	19	16	22	24	33	16	26	43	21	13
9	6.3	14	17	17	21	23	29	29	21	49	18	12
10	52	13	15	20	19	22	25	26	19	41	16	11
11	51	13	15	19	18	21	22	19	17	35	15	10
12	22	13	14	18	18	21	21	16	16	38	14	10
13	9.8	13	14	18	45	21	23	15	16	69	15	11
14	6.1	12	13	42	49	22	23	29	19	59	16	10
15	4.8	12	14	36	31	22	23	69	18	41	15	10
16	4.1	12	14	24	24	24	23	55	16	35	15	9.8
17	3.9	11	14	21	24	67	23	30	15	39	15	9.7
18	3.7	11	14	19	29	52	21	29	35	36	18	10
19	3.6	12	13	20	75	33	19	35	53	31	17	14
20	3.4	12	18	20	65	28	18	75	35	28	15	13
21	3.2	12	20	22	41	26	17	57	53	27	14	16
22	3.2	11	17	20	39	32	49	69	242	26	13	18
23	9.1	10	14	19	36	34	63	84	138	24	12	15
24	29	20	14	19	47	28	38	55	104	22	12	13
25	44	69	13	18	53	26	28	40	82	21	12	11
26	104	45	13	16	55	25	24	34	69	20	12	10
27	64	28	13	15	51	24	21	31	61	18	11	9.7
28	34	26	13	15	41	23	20	28	55	18	13	9.7
29	25	22	12	15	35	23	19	27	59	23	14	10
30	21	22	12	15	-----	25	19	25	71	40	13	17
31	20	-----	12	14	-----	28	-----	39	-----	42	12	-----
TOTAL	625.2	571	464	595	1,037	865	767	1,083	1,532	1,202	547	398.9
MEAN	20.2	19.0	15.0	19.2	35.8	27.9	25.6	34.9	51.1	38.8	17.6	13.3
MAX	104	69	20	42	75	67	63	84	242	71	35	28
MIN	3.2	10	12	12	14	21	17	15	15	18	11	9.7
CFSM	1.30	1.23	.97	1.24	2.31	1.80	1.65	2.25	3.30	2.50	1.14	.86
IN.	1.50	1.37	1.11	1.43	2.49	2.08	1.84	2.60	3.68	2.88	1.31	.96

CAL YR 1971 TOTAL 6,038.7 MEAN 16.5 MAX 105 MIN 3.2 CFSM 1.06 IN 14.49
WTR YR 1972 TOTAL 9,687.1 MEAN 26.5 MAX 242 MIN 3.2 CFSM 1.71 IN 23.25

PEAK DISCHARGE (BASE, 80 CFS, REVISED)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-26	0400	4.14	114	6-1	0400	3.96	104
2-19	1300	3.71	92	6-22	0430	5.99	289
4-22	2100	3.43	80	6-30	2000	3.45	80
5-20	0700	3.51	82	7-5	2400	3.53	84
5-22	2200	4.01	107				

RAPPAHANNOCK RIVER BASIN

73

01669000 PISCATAWAY CREEK NEAR TAPPAHANNOCK, VA.

LOCATION.--Lat 37°52'37", long 76°54'03", Essex County, on right bank at upstream side of bridge on State Highway 691, 0.6 mile south of Henley Fork, 2.3 miles downstream from Sturgeon Swamp, and 4.2 miles southwest of Tappahannock.

DRAINAGE AREA.--28.0 sq mi.

PERIOD OF RECORD.--July 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2.50 ft above mean sea level.

AVERAGE DISCHARGE.--21 years, 30.8 cfs (14.94 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,090 cfs June 22 (gage height, 6.04 ft); minimum, 9.0 cfs Oct. 1. Period of record: Maximum discharge, 2,380 cfs Aug. 20, 1969 (gage height, 7.52 ft); minimum, 0.01 cfs Oct. 2, 1954 (gage height, 0.33 ft).

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	40	38	26	27	65	46	41	183	92	53	18
2	35	38	34	27	31	62	43	43	118	76	42	26
3	43	47	33	28	50	61	42	44	77	69	38	52
4	24	68	33	28	88	60	40	69	65	62	36	31
5	16	45	32	36	57	57	40	50	59	91	44	25
6	14	36	32	42	44	55	40	38	62	148	58	26
7	13	36	35	33	44	53	38	35	76	86	40	24
8	11	36	39	29	38	52	63	34	62	73	35	21
9	10	33	36	28	37	50	62	61	48	75	30	20
10	63	32	33	34	35	47	46	58	44	66	27	18
11	92	32	32	36	34	45	44	38	41	59	25	17
12	34	30	31	32	33	45	44	33	40	66	25	17
13	20	30	30	31	76	46	44	31	38	132	42	18
14	16	30	29	54	92	46	46	48	43	109	44	17
15	14	28	29	57	53	47	43	121	44	70	37	17
16	12	28	30	36	43	47	44	106	38	60	30	17
17	12	28	30	32	43	110	43	85	34	61	29	17
18	13	28	30	33	52	108	39	71	46	63	31	18
19	13	28	28	35	128	68	35	79	138	52	32	22
20	12	29	32	34	122	57	34	139	92	47	28	21
21	13	29	40	36	75	54	33	106	99	44	25	24
22	12	28	33	35	70	61	73	143	714	40	24	29
23	19	26	29	33	67	66	132	252	324	38	22	24
24	50	31	28	38	79	53	73	138	197	36	22	20
25	90	131	29	34	109	48	57	102	147	34	21	18
26	352	84	30	29	109	44	50	85	124	33	20	18
27	152	52	28	28	106	43	45	75	108	31	20	17
28	76	52	28	28	82	42	43	70	92	32	20	17
29	55	45	27	29	72	41	41	66	92	37	23	19
30	47	42	26	31	-----	42	40	62	98	70	22	36
31	43	-----	27	29	-----	55	-----	80	-----	71	20	-----
TOTAL	1,388	1,222	971	1,041	1,896	1,730	1,463	2,403	3,343	2,023	965	664
MEAN	44.8	40.7	31.3	33.6	65.4	55.8	48.8	77.5	111	65.3	31.1	22.1
MAX	352	131	40	57	128	110	132	252	714	148	58	52
MIN	10	26	26	26	27	41	33	31	34	31	20	17
CFSM	1.60	1.45	1.12	1.20	2.34	1.99	1.74	2.77	3.96	2.33	1.11	.79
IN	1.84	1.62	1.29	1.38	2.52	2.30	1.94	3.19	4.44	2.69	1.28	.88

CAL YR 1971 TOTAL 11,042.7 MEAN 30.3 MAX 352 MIN 6.4 CFSM 1.08 IN 14.67
WTR YR 1972 TOTAL 19,109.0 MEAN 52.2 MAX 714 MIN 10 CFSM 1.86 IN 25.39

PEAK DISCHARGE (BASE, 250 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-26	0930	4.77	458	6-22	1300	6.04	1,090
5-23	0900	4.15	288				

PIANKATANK RIVER BASIN

01669500 DRAGON SWAMP NEAR CHURCH VIEW, VA.

LOCATION.--Lat 37°41'05", long 76°43'37", Middlesex County, on left bank at downstream side of bridge on State Highway 602, 0.9 mile upstream from Briery Swamp, 1.8 miles downstream from Tim Branch Swamp, 2.6 miles west of Church View, and 2.9 miles east of Dragonville.

DRAINAGE AREA.--84.9 sq mi.

PERIOD OF RECORD.--August 1943 to current year. Prior to October 1965, published as Dragon Run near Church View.

GAGE.--Water-stage recorder. Datum of gage is 34.00 ft above mean sea level. Prior to July 18, 1966, at site 400 ft downstream at same datum.

AVERAGE DISCHARGE.--29 years, 80.2 cfs (12.83 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,610 cfs June 24 (gage height, 7.81 ft); minimum, 8.0 cfs Oct. 1 (gage height, 4.12 ft).

Period of record: Maximum discharge, 3,990 cfs June 4, 1963 (gage height, 10.00 ft); no flow many days in 1954, 1955, 1957, 1959, and 1966.

Flood in September 1935 reached a stage of about 17 ft, from information by local residents.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	180	105	48	52	204	109	82	234	147	98	22
2	20	139	98	47	56	171	111	73	340	120	100	24
3	31	120	93	46	76	162	113	82	280	102	85	34
4	37	113	90	48	111	159	107	111	210	100	74	43
5	40	109	85	54	125	150	98	111	186	107	71	50
6	40	100	83	65	133	136	91	100	153	133	69	59
7	39	96	84	67	136	122	87	98	125	147	67	59
8	35	93	93	67	115	111	98	89	107	153	60	54
9	31	93	96	65	98	104	109	120	96	162	54	45
10	34	87	98	64	85	98	113	133	98	168	46	37
11	43	80	96	64	76	91	113	130	96	153	43	32
12	47	74	91	62	71	89	107	111	74	136	37	29
13	47	67	85	59	89	85	102	102	62	150	35	26
14	52	64	78	59	122	85	100	100	56	171	34	24
15	54	62	71	62	147	85	98	125	55	180	33	22
16	51	64	67	59	165	87	98	144	52	174	32	22
17	42	65	65	54	153	111	96	150	48	162	32	21
18	34	64	64	52	150	165	91	168	52	133	40	20
19	29	66	62	57	180	192	82	177	65	100	47	19
20	26	66	64	69	264	186	74	183	76	109	46	18
21	23	67	74	71	340	159	69	186	91	125	42	20
22	20	67	78	71	316	136	87	195	410	102	36	24
23	24	62	76	69	225	125	150	213	1,040	90	32	26
24	45	75	71	64	195	115	180	237	1,550	80	30	27
25	78	160	69	64	222	111	198	234	1,250	74	28	27
26	294	195	65	59	256	107	192	222	860	68	26	27
27	875	220	59	56	296	102	159	186	560	66	26	27
28	1,010	195	57	56	288	91	128	142	312	66	31	26
29	680	150	54	56	244	87	107	111	210	73	32	27
30	402	125	52	55	-----	85	93	91	165	85	28	32
31	244	-----	51	54	-----	98	-----	100	-----	94	25	-----
TOTAL	4,437	3,118	2,374	1,843	4,786	3,809	3,360	4,306	8,913	3,730	1,439	923
MEAN	143	104	76.6	59.5	165	123	112	139	297	120	46.4	30.8
MAX	1,010	220	105	71	340	204	198	237	1,550	180	100	59
MIN	10	62	51	46	52	85	69	73	48	66	25	18
CFSM	1.68	1.23	.90	.70	1.94	1.45	1.32	1.64	3.50	1.41	.55	.36
IN	1.94	1.37	1.04	.81	2.10	1.67	1.47	1.89	3.91	1.63	.63	.40

CAL YR 1971 TOTAL 25,219.6 MEAN 69.1 MAX 1,010 MIN 6.5 CFSM .81 IN 11.05
WTR YR 1972 TOTAL 43,038.0 MEAN 118 MAX 1,550 MIN 10 CFSM 1.39 IN 18.86

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-28	0200	7.15	1,100	6-24	1000	7.81	1,610

01670000 BEAVERDAM SWAMP NEAR ARK, VA.

LOCATION.--Lat 37°28'14", long 76°33'48", Gloucester County, on right bank 300 ft downstream from bridge on State Highway 606, 1.4 miles upstream from Beech Swamp, 2.3 miles north of Ark, and 4.3 miles northwest of Gloucester.

DRAINAGE AREA.--6.63 sq mi.

PERIOD OF RECORD.--October 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 36.43 ft above mean sea level.

AVERAGE DISCHARGE.--23 years, 6.74 cfs (13.81 inches per year).

EXTREMES.--Current year: Maximum discharge, 84 cfs June 22 (gage height, 3.39 ft); minimum, 0.75 cfs July 24, 25.

Period of record: Maximum discharge, 570 cfs Sept. 12, 1960 (gage height, 5.88 ft), from rating curve extended above 130 cfs; no flow July 30 to Aug. 2, 1953.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1502: 1950, 1951-52(M). WRD Va. 1971: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	9.4	12	13	12	11	7.0	8.1	18	2.9	5.4	1.5
2	44	9.1	11	11	22	9.6	6.6	8.1	10	2.2	5.2	2.4
3	18	10	11	12	24	11	6.5	9.5	5.0	1.8	4.6	6.3
4	13	11	11	14	26	14	6.4	14	3.2	1.6	4.3	3.8
5	9.8	9.6	12	18	15	11	6.4	9.8	3.4	1.8	22	3.3
6	21	8.9	12	18	13	9.8	6.5	8.5	3.7	3.3	11	4.5
7	12	8.6	14	15	13	9.1	6.8	7.8	3.8	2.4	5.5	3.8
8	8.4	8.4	19	13	12	8.6	8.8	7.5	3.3	1.9	3.9	4.0
9	7.4	8.6	14	12	11	8.6	7.2	10	3.2	1.5	2.9	2.0
10	13	7.8	12	16	11	8.2	6.8	13	3.0	1.2	2.0	1.6
11	17	7.6	12	16	11	8.2	6.8	9.5	3.0	1.1	1.6	1.4
12	10	7.6	12	14	11	8.0	6.8	7.8	2.8	2.7	1.5	1.4
13	8.6	7.8	13	14	19	7.6	7.2	7.3	3.0	12	1.8	1.4
14	8.0	7.8	12	16	17	7.6	6.8	8.0	4.1	4.1	3.0	1.3
15	7.4	7.8	11	14	12	8.0	7.2	18	3.9	2.6	2.9	1.5
16	7.6	7.6	11	12	10	8.2	7.5	14	2.9	1.9	2.4	1.6
17	6.5	7.4	11	10	10	17	6.6	8.8	3.0	1.5	2.1	1.6
18	6.5	7.8	12	12	15	22	6.2	7.4	6.0	1.3	2.4	1.6
19	6.9	8.0	15	14	35	11	5.8	10	3.6	1.1	2.2	1.7
20	8.9	9.4	17	14	32	8.0	5.6	16	2.9	.96	1.8	1.7
21	8.4	9.4	20	15	18	7.4	5.6	22	3.8	.94	1.5	12
22	7.4	9.6	14	15	16	8.6	5.6	12	46	.89	1.3	6.4
23	18	9.6	12	13	13	8.4	30	7.0	11	.84	1.3	3.4
24	54	12	13	11	14	6.9	16	5.8	7.4	.80	1.4	2.4
25	22	30	12	11	18	6.5	11	5.1	4.0	.86	1.3	2.0
26	22	17	11	11	21	6.4	9.0	4.6	3.0	1.2	1.2	1.9
27	14	17	11	11	17	6.1	8.5	4.2	2.6	1.5	1.2	1.9
28	11	25	12	12	14	6.0	8.4	3.8	2.5	1.9	3.2	3.6
29	11	16	14	14	12	5.9	8.3	3.6	3.1	3.0	4.2	4.5
30	9.6	13	14	13	-----	6.4	8.2	3.4	3.4	12	2.3	7.8
31	9.4	-----	14	13	-----	8.0	-----	13	-----	8.4	1.7	-----
TOTAL	444.8	328.8	401	417	474	283.1	246.1	287.6	178.6	82.19	113.1	94.3
MEAN	14.3	11.0	12.9	13.5	16.3	9.13	8.20	9.28	5.95	2.65	3.65	3.14
MAX	54	30	20	18	35	22	30	22	46	12	22	12
MIN	6.5	7.4	11	10	10	5.9	5.6	3.4	2.5	.80	1.2	1.3
CFSM	2.16	1.66	1.95	2.04	2.46	1.38	1.24	1.40	.90	.40	.55	.47
IN.	2.50	1.84	2.25	2.34	2.66	1.59	1.38	1.61	1.00	.46	.63	.53

CAL YR 1971 TOTAL 2,722.28 MEAN 7.46 MAX 54 MIN .62 CFSM 1.13 IN 15.27
 WTR YR 1972 TOTAL 3,350.59 MEAN 9.15 MAX 54 MIN .80 CFSM 1.38 IN 18.80

PEAK DISCHARGE (BASE, 65 CFS)

NOTE.--NO GAGE-HEIGHT RECORD MAR. 28 TO JUNE 13.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	0130	3.35	76	6-22	1030	3.39	84

YORK RIVER BASIN

01671000 NORTH ANNA RIVER NEAR DOSWELL, VA.

LOCATION.--Lat 37°53'15", long 77°29'15", Caroline County, on left bank 1.5 miles upstream from bridge on U.S. Highway 1, 2.5 miles northwest of Doswell, and 4.4 miles upstream from Bull Run.

DRAINAGE AREA.--441 sq mi.

PERIOD OF RECORD.--March 1926 to current year. Published as "near Hewlett", 1926-28. Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 55.66 ft above mean sea level. Mar. 23, 1926, to Aug. 11, 1928, nonrecording gage at site 10.2 miles upstream at different datum. Mar. 17, 1929, to Nov. 7, 1930, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--46 years, 375 cfs (11.55 inches per year).

EXTREMES.--Current year: Maximum discharge, 23,300 cfs June 22 (gage height, 31.58 ft); minimum, 59 cfs Oct. 1. Period of record: Maximum discharge, 24,800 cfs Aug. 21, 1969 (gage height, 32.60 ft); maximum gage height, 33.7 ft Aug. 12, 1928, from floodmarks, present site and datum; minimum discharge, 1.0 cfs Sept. 30, Oct. 1, 2, 1932.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1171: 1943. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	457	1,130	265	213	345	239	300	315	319	330	84
2	466	419	770	271	229	353	265	297	262	284	278	86
3	1,500	610	585	326	290	330	262	330	245	262	645	91
4	824	977	497	337	725	370	251	401	234	251	396	88
5	401	640	462	419	472	345	245	448	251	294	953	90
6	251	423	428	665	345	294	239	345	242	358	526	92
7	199	492	506	565	315	274	239	271	236	315	362	86
8	167	378	1,810	443	217	271	322	256	231	274	281	82
9	144	319	1,250	374	268	259	322	337	226	259	256	81
10	793	284	797	387	262	254	281	333	221	251	242	76
11	2,430	287	620	265	256	245	262	300	216	242	229	75
12	1,300	278	536	211	256	248	254	259	213	438	229	76
13	675	268	477	147	482	248	265	242	213	3,020	231	76
14	366	265	438	248	580	254	287	319	221	3,020	239	75
15	278	256	405	248	462	259	271	526	221	595	231	78
16	236	248	401	176	337	268	271	457	218	333	229	76
17	213	251	392	147	311	610	370	366	218	284	236	75
18	202	248	366	147	318	443	304	349	221	265	248	78
19	190	248	307	130	1,010	341	268	345	254	358	239	105
20	181	251	315	132	715	287	254	945	236	251	229	88
21	169	259	405	133	487	271	245	815	1,500	242	223	84
22	165	251	401	132	438	287	370	497	15,700	236	218	82
23	218	231	326	139	448	307	565	591	13,800	234	216	81
24	1,370	245	290	218	526	284	487	302	1,210	229	405	79
25	3,220	1,520	294	229	585	265	396	300	511	251	1,690	78
26	4,760	2,750	294	169	660	254	349	278	358	221	660	76
27	5,730	1,440	287	140	700	248	326	259	311	218	362	76
28	3,210	1,070	284	133	492	248	315	254	501	221	973	78
29	1,010	921	274	130	374	242	307	248	760	242	705	82
30	705	1,200	262	127	-----	242	300	245	401	353	108	157
31	555	-----	268	123	-----	242	-----	290	-----	410	82	-----
TOTAL	31,992	17,426	15,877	7,576	12,843	9,192	9,131	11,564	39,746	14,530	12,251	2,531
MEAN	1,032	581	512	244	443	297	304	373	1,325	469	395	84.4
MAX	5,730	2,750	1,810	665	1,010	610	565	945	15,700	3,020	1,690	157
MIN	64	231	262	123	213	242	239	242	213	218	82	75
CFSM	2.34	1.32	1.16	.55	1.00	.67	.69	.85	3.00	1.06	.90	.19
IN.	2.70	1.47	1.34	.64	1.08	.78	.77	.98	3.35	1.23	1.03	.21

CAL YR 1971 TOTAL 215,266 MEAN 590 MAX 7,100 MIN 46 CFSM 1.34 IN 18.16
WTR YR 1972 TOTAL 184,659 MEAN 505 MAX 15,700 MIN 64 CFSM 1.15 IN 15.58

PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-27	0800	15.12	6,060	7-13	2030	14.11	5,310
6-22	2300	31.58	23,300				

YORK RIVER BASIN

77

01671100 LITTLE RIVER NEAR DOSWELL, VA.

LOCATION.--Lat 37°52'21", long 77°30'48", Hanover County, on left bank at downstream side of bridge on State Highway 685, 0.8 mile southwest of Verdon, 2.9 miles west of Doswell, and 9.6 miles upstream from mouth.

DRAINAGE AREA.--107 sq mi.

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 132.30 ft above mean sea level (levels by La Prade Bros., Engineers).

AVERAGE DISCHARGE.--11 years, 87.3 cfs (11.08 inches per year).

EXTREMES.--Current year: Maximum discharge, 8,300 cfs June 22 (gage height, 9.88 ft), from rating curve extended as explained below; minimum, 19 cfs Oct. 1 (gage height, 2.27 ft).

Period of record: Maximum discharge, 12,000 cfs Aug. 21, 1969 (gage height, 11.09 ft), from rating curve extended above 7,600 cfs on basis of contracted-opening measurement of peak flow; minimum, 0.10 cfs Sept. 25, 26, 1968.

REMARKS.--Records good. Frequent quarry dewatering by the General Crushed Stone Co. above gage adds about 0.5 cfs at times.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WRD Va. 1970: 1969.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	80	175	72	85	202	100	89	162	138	142	26
2	55	76	145	82	91	165	108	85	104	110	135	28
3	93	120	112	97	125	165	118	114	91	89	152	30
4	89	258	100	99	451	208	116	194	76	70	110	31
5	64	261	95	114	505	205	102	224	83	87	388	32
6	46	135	91	145	254	158	91	178	87	130	585	37
7	35	106	100	132	172	132	91	116	83	135	366	36
8	26	95	194	110	145	122	130	97	69	112	142	35
9	26	83	234	97	126	114	170	145	60	85	93	30
10	171	78	160	106	108	108	148	178	52	72	67	28
11	202	74	126	116	104	100	116	155	47	64	54	26
12	247	69	110	122	106	100	104	110	45	90	47	25
13	130	67	106	118	197	102	104	89	41	230	43	23
14	72	64	99	199	528	102	110	119	43	435	57	21
15	55	64	93	289	546	112	116	326	45	382	95	21
16	45	64	93	205	230	112	114	426	43	152	70	21
17	42	60	91	140	162	360	150	310	42	93	55	21
18	42	58	93	116	152	448	162	170	43	70	60	24
19	36	57	91	118	462	289	135	162	48	62	57	50
20	35	55	100	120	820	172	110	326	54	57	54	43
21	36	55	126	122	541	140	97	476	315	52	50	41
22	34	57	122	120	314	138	164	435	6,410	48	45	35
23	56	50	104	122	322	162	334	422	4,840	45	40	29
24	257	55	93	152	358	160	306	282	1,350	41	37	27
25	518	299	89	165	426	124	194	180	605	37	35	27
26	650	510	85	135	458	112	142	130	350	34	31	26
27	444	362	87	110	417	108	118	108	194	30	29	24
28	254	211	85	102	370	104	106	97	151	30	40	23
29	135	194	82	99	261	100	99	87	272	36	42	25
30	102	188	80	95	-----	99	91	82	170	80	34	54
31	89	-----	76	91	-----	100	-----	109	-----	130	29	-----
TOTAL	4,109	3,905	3,437	3,910	8,836	4,823	4,046	6,021	15,975	3,226	3,184	899
MEAN	133	130	111	126	305	156	135	194	533	104	103	30.0
MAX	650	510	234	289	820	448	334	476	6,410	435	585	54
MIN	23	50	76	72	85	99	91	82	41	30	29	21
CFSM	1.24	1.22	1.04	1.18	2.85	1.46	1.26	1.81	4.98	.97	.96	.28
IN.	1.43	1.36	1.19	1.36	3.07	1.68	1.41	2.09	5.55	1.12	1.11	.31

CAL YR 1971 TOTAL 46,753.6 MEAN 128 MAX 1,560 MIN 9.6 CFSM 1.20 IN 16.25
WTR YR 1972 TOTAL 62,371.0 MEAN 170 MAX 6,410 MIN 21 CFSM 1.59 IN 21.68

PEAK DISCHARGE (BASE, 650 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-26	0700	4.42	691	2-20	1430	4.72	850
2-15	0200	4.39	675	6-22	1700	9.88	8,300

YORK RIVER BASIN

01671500 BUNCH CREEK NEAR BOSWELLS TAVERN, VA.

LOCATION.--Lat 38°01'54", long 78°11'30", Louisa County, on right bank at upstream side of bridge on U.S. Highway 15, 2.7 miles south of Boswells Tavern, 4.8 miles north of Zion Crossroads, 5.0 miles upstream from mouth, and 10 miles west of Louisa.

DRAINAGE AREA.--4.37 sq mi.

PERIOD OF RECORD.--October 1948 to current year. Prior to October 1967, published as Hudson Creek near Boswells Tavern.

GAGE.--Water-stage recorder. Datum of gage is 377.14 ft above mean sea level.

AVERAGE DISCHARGE.--24 years, 4.35 cfs (13.52 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,580 cfs June 21 (gage height, 10.44 ft, from high-water mark in well), from rating curve extended as explained below; minimum daily, 0.35 cfs Sept. 11, 14, 17-20.
Period of record: Maximum discharge, 2,750 cfs Aug. 20, 1969 (gage height, 10.64 ft), from rating curve extended above 340 cfs on basis of contracted-opening measurement of peak flow; no flow at times in most years.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	3.4	6.5	2.4	3.2	8.4	4.0	3.4	7.0	4.4	3.0	.41
2	13	5.3	5.2	4.0	3.7	7.9	4.6	3.0	3.4	3.5	2.6	.41
3	3.4	18	4.6	3.7	23	15	4.0	10	2.6	3.0	2.7	.41
4	1.7	7.9	4.4	3.5	16	10	4.4	16	2.6	2.7	2.2	.41
5	1.3	4.8	3.8	7.4	6.5	8.4	4.2	6.0	5.4	8.7	3.3	.51
6	1.1	3.8	4.0	4.4	5.6	7.0	3.7	4.4	3.0	5.2	2.1	.62
7	.74	3.7	33	3.5	5.4	6.7	7.6	3.8	2.6	3.8	1.8	.62
8	.60	3.2	14	3.0	4.4	6.0	16	3.8	2.1	3.0	1.6	.51
9	.99	3.0	9.2	3.5	3.7	5.4	7.0	12	2.0	2.7	1.4	.41
10	46	3.0	7.0	5.6	3.7	5.2	5.6	6.0	1.9	2.4	1.3	.37
11	6.5	2.9	5.8	5.2	3.5	5.0	5.0	4.2	1.8	2.2	1.2	.35
12	2.6	2.7	5.0	4.4	4.0	5.0	4.6	3.7	1.8	3.5	1.1	.37
13	1.8	2.7	4.8	4.6	126	5.0	7.9	3.7	1.8	6.1	1.1	.37
14	1.7	2.4	4.4	6.0	20	6.5	6.0	11	2.4	3.5	1.1	.35
15	1.2	2.4	4.4	4.2	12	6.0	5.2	9.4	2.4	2.7	1.2	.39
16	1.3	2.4	4.4	3.2	9.7	7.8	6.0	6.0	2.1	2.4	1.2	.37
17	1.4	2.7	4.0	2.9	8.9	18	5.2	4.4	2.4	2.2	1.3	.35
18	1.4	2.0	3.4	3.0	9.7	8.4	3.8	3.8	6.0	2.1	1.5	.35
19	1.2	2.4	3.2	3.4	25	6.2	3.5	6.0	18	1.8	1.4	.35
20	1.2	3.0	6.0	3.4	13	4.6	3.4	12	6.0	1.6	1.5	.35
21	1.2	2.6	5.2	4.0	11	5.0	3.2	6.2	331	1.6	1.2	.37
22	1.2	2.1	4.0	3.8	15	6.7	19	6.7	122	1.4	.95	.41
23	25	2.0	3.4	18	12	5.6	11	7.7	26	1.5	.84	.39
24	61	12	3.5	16	16	4.6	6.5	4.2	12	1.6	.73	.39
25	156	33	3.5	7.0	21	4.0	5.4	3.8	7.6	1.5	.84	.39
26	21	12	3.4	4.8	47	4.0	5.2	3.5	4.9	1.3	.73	.37
27	9.4	11	3.2	4.2	16	3.7	4.5	3.2	4.4	1.2	.62	.37
28	5.8	9.2	3.4	4.4	12	3.7	4.4	3.7	4.1	1.4	.62	.41
29	4.8	15	2.9	4.0	9.4	3.5	3.8	3.5	8.4	5.5	.62	.73
30	4.0	12	2.9	3.8	-----	3.5	3.7	3.0	4.4	16	.51	3.8
31	3.8	-----	2.7	3.5	-----	3.4	-----	3.8	-----	5.2	.41	-----
TOTAL	385.13	192.6	174.2	154.8	466.4	200.2	178.4	181.9	602.1	105.7	42.67	15.91
MEAN	12.4	6.42	5.62	4.99	16.1	6.46	5.95	5.87	20.1	3.41	1.38	.53
MAX	156	33	33	18	126	18	19	16	331	16	3.3	3.8
MIN	.60	2.0	2.7	2.4	3.2	3.4	3.2	3.0	1.8	1.2	.41	.35
CFSM	2.84	1.47	1.29	1.14	3.68	1.48	1.36	1.34	4.60	.78	.32	.12
IN.	3.28	1.64	1.48	1.32	3.97	1.70	1.52	1.55	5.13	.90	.36	.14

CAL YR 1971 TOTAL 2,216.29 MEAN 6.07 MAX 171 MIN .22 CFSM 1.39 IN 18.87
WTR YR 1972 TOTAL 2,700.01 MEAN 7.38 MAX 331 MIN .35 CFSM 1.69 IN 22.98

PEAK DISCHARGE (BASE, 160 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	0900	4.06	262	6-21	1800	10.44	2,580
2-13	1100	4.26	288				

YORK RIVER BASIN

79

01672500 SOUTH ANNA RIVER NEAR ASHLAND, VA.

LOCATION.--Lat 37°47'48", long 77°32'57", Hanover County, on right bank at downstream side of bridge on State Highway 54, 4.5 miles northwest of Ashland, and 7.6 miles upstream from Newfound River.

DRAINAGE AREA.--394 sq mi.

PERIOD OF RECORD.--October 1930 to current year.

GAGE.--Water-stage recorder. Datum of gage is 83.74 ft above mean sea level.

AVERAGE DISCHARGE.--42 years, 350 cfs (12.06 inches per year).

EXTREMES.--Current year: Maximum discharge, 12,600 cfs June 21 (gage height, 21.90 ft); minimum, 66 cfs Sept. 16 (gage height, 2.00 ft).

Period of record: Maximum discharge, 17,100 cfs Aug. 23, 1969 (gage height, 24.99 ft); minimum, 0.10 cfs Sept. 12, 1966, caused by diversion above station.

Flood of Aug. 15, 1928, reached a stage of about 24 ft (discharge, about 14,500 cfs).

REMARKS.--Records good. Diversion 150 ft above station since September 1966 for town of Ashland water supply has averaged less than 400,000 gallons per day, equivalent to a mean discharge of less than 0.6 cfs at the station. Capacity of the diversion pickup is 1,000,000 gallons per day, equivalent to about 1.5 cfs. Small diurnal fluctuation at low flow in some years caused by gristmills above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 801: 1935(M). WSP 1502: 1935, 1939. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	343	927	226	286	701	326	345	1,290	493	675	99
2	140	309	657	248	291	597	350	348	558	381	510	104
3	266	672	480	272	423	606	370	470	408	330	402	112
4	384	1,140	370	288	1,260	843	356	942	307	289	594	109
5	221	718	340	338	1,590	854	320	1,570	286	481	696	109
6	162	431	319	440	775	718	305	1,180	281	671	858	121
7	136	370	353	427	575	552	299	543	363	584	496	119
8	117	340	890	322	498	455	605	448	269	384	312	111
9	107	300	1,140	286	416	424	865	635	238	306	251	101
10	604	270	628	323	363	390	569	1,060	219	268	215	94
11	1,170	245	492	378	343	361	451	785	205	241	190	87
12	1,240	250	427	413	333	355	398	518	195	284	172	82
13	418	260	380	398	720	352	385	425	192	659	166	80
14	266	230	345	771	1,810	359	422	584	175	961	207	84
15	210	225	318	834	2,000	379	448	1,460	169	485	182	84
16	182	220	310	551	1,960	403	465	1,820	170	318	169	78
17	167	210	307	385	702	933	445	946	168	276	166	75
18	155	204	299	329	593	1,440	553	614	169	232	167	75
19	148	204	276	340	1,680	1,030	394	530	204	326	165	111
20	142	205	289	350	1,940	581	330	1,090	354	222	162	101
21	137	203	360	388	1,180	487	304	1,810	2,180	198	155	103
22	133	199	379	403	914	482	555	2,100	11,100	182	155	97
23	232	187	304	411	1,020	530	1,130	1,260	7,630	170	143	90
24	1,100	214	269	494	1,150	500	1,210	861	10,100	159	132	85
25	1,840	1,070	262	891	1,340	414	671	562	10,900	156	124	83
26	2,180	1,750	261	560	1,540	376	528	444	7,680	157	113	79
27	2,960	1,910	256	411	1,580	355	455	380	2,530	147	108	76
28	4,490	978	251	360	1,850	343	408	338	530	146	126	77
29	3,570	751	244	341	1,010	334	380	315	556	162	133	85
30	578	676	235	325	-----	327	363	303	538	298	115	133
31	400	-----	229	303	-----	333	-----	885	-----	569	105	-----
TOTAL	23,942	15,084	12,597	12,806	30,142	16,814	14,660	25,571	59,954	10,535	8,164	2,844
MEAN	772	503	406	413	1,039	542	489	825	1,998	340	263	94.8
MAX	4,490	1,910	1,140	891	2,000	1,440	1,210	2,100	11,100	961	858	133
MIN	87	187	229	226	286	327	299	303	168	146	105	75
CFSM	1.96	1.28	1.03	1.05	2.64	1.38	1.24	2.09	5.07	.86	.67	.24
IN.	2.26	1.42	1.19	1.21	2.85	1.59	1.38	2.41	5.66	.99	.77	.27

CAL YR 1971 TOTAL 173,514 MEAN 475 MAX 4,490 MIN 51 CFSM 1.21 IN 16.38
WTR YR 1972 TOTAL 233,113 MEAN 637 MAX 11,100 MIN 75 CFSM 1.62 IN 22.01

(PEAK DISCHARGE (BASE, 2,200 CFS))

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-28	1900	13.61	4,770	6-21	2400	21.90	12,600
5-22	1130	10.00	2,800	6-25	0100	21.13	11,600
6-1	0100	9.69	2,640				

YORK RIVER BASIN

01673000 PAMUNKEY RIVER NEAR HANOVER, VA.

LOCATION.--Lat 37°46'03", long 77°19'57", Hanover-King William County line, near center of span on downstream side of bridge on State Highway 614, 0.3 mile upstream from Mechumps Creek, 2.0 miles east of Hanover, and 7.0 miles upstream from Millpond Creek.

DRAINAGE AREA.--1,081 sq mi.

PERIOD OF RECORD.--October 1941 to current year. Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Nonrecording gage. Datum of gage is 14.72 ft above mean sea level. Since June 11, 1957, auxiliary non-recording gage, 1.2 miles downstream from base gage.

AVERAGE DISCHARGE.--31 years, 938 cfs (11.78 inches per year).

EXTREMES.--Current year: Maximum discharge, 29,900 cfs June 23 (gage height, 29.22 ft, from floodmarks); minimum observed, 212 cfs Sept. 18; minimum gage height, 3.73 ft Oct. 1.

Period of record: Maximum discharge, 40,300 cfs Aug. 23, 1969 (gage height, 31.12 ft, from floodmarks), from rating curve extended above 22,000 cfs; minimum, 12 cfs Sept. 12, 1966.

Flood in August 1928 reached a stage of 32.6 ft, from information by local residents.

REMARKS.--Records good. Some regulation since January 1972 by Lake Anna (capacity, 373,000 acre-ft) and occasional diurnal fluctuation at low flow caused by mill above station. Water-quality records for the current year are included in this report.

REVISIONS (WATER YEARS).--WSP 1302: 1944(M). WSP 1382: 1949. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	248	1,560	2,650	700	688	1,920	905	835	2,740	1,520	1,330	261
2	576	1,170	3,060	735	760	1,600	920	810	2,570	1,160	1,150	279
3	1,510	1,390	2,050	820	908	1,470	965	958	1,120	895	1,420	265
4	1,980	2,550	1,360	948	1,540	1,440	958	1,760	980	743	1,770	273
5	1,110	2,830	1,150	930	2,800	1,440	910	2,480	850	1,040	1,980	239
6	639	1,950	1,300	828	2,740	1,420	863	2,620	825	1,260	2,270	301
7	510	1,270	1,850	780	1,710	1,260	805	1,800	895	1,280	1,930	293
8	436	1,030	2,450	760	1,340	1,190	965	1,100	970	995	1,440	271
9	349	965	2,610	770	1,120	1,150	983	1,500	965	865	1,110	257
10	1,050	888	2,100	795	1,050	1,090	980	1,920	745	765	938	239
11	2,930	833	1,460	878	1,000	1,030	1,070	1,770	581	705	795	232
12	4,110	790	1,290	1,030	1,300	970	1,010	1,270	545	775	705	228
13	2,940	783	1,220	1,160	1,980	943	978	993	555	1,680	605	224
14	1,200	763	1,110	1,570	3,130	955	960	1,020	584	3,570	1,120	221
15	950	718	1,040	1,980	3,560	975	903	2,170	517	4,140	1,340	239
16	853	690	1,010	1,590	3,370	1,010	1,050	2,980	475	3,430	1,110	233
17	810	665	990	1,020	2,240	1,950	1,150	3,010	496	1,940	828	224
18	785	680	975	860	1,750	3,010	1,240	1,880	536	1,320	698	214
19	755	690	960	815	2,890	2,920	1,080	1,210	567	1,050	646	257
20	688	688	943	825	4,360	2,140	975	1,260	1,090	955	588	309
21	598	680	920	870	4,390	1,780	945	2,220	2,370	893	557	273
22	695	656	915	898	3,160	1,580	1,120	3,890	7,680	735	526	254
23	1,110	639	900	928	2,310	1,390	2,010	4,650	25,000	581	471	235
24	1,920	840	890	988	2,660	1,250	2,650	3,500	24,300	550	420	228
25	3,760	2,290	850	1,230	3,140	1,150	2,050	2,190	16,300	512	439	237
26	5,140	3,790	830	1,260	3,330	1,020	1,570	1,640	12,900	478	384	235
27	7,020	4,730	815	970	3,470	958	1,130	1,300	9,480	443	370	228
28	8,620	4,960	800	828	3,330	925	955	1,010	6,370	434	835	223
29	8,570	3,270	783	780	2,830	910	890	820	3,590	526	770	221
30	6,220	2,370	763	748	-----	933	870	755	2,200	795	494	257
31	3,800	-----	723	715	-----	928	-----	870	-----	1,040	257	-----
TOTAL	71,882	47,128	40,767	30,009	68,856	42,707	33,860	56,191	128,796	37,075	29,336	7,500
MEAN	2,319	1,571	1,315	968	2,374	1,378	1,129	1,813	4,293	1,196	946	250
MAX	8,620	4,960	3,060	1,980	4,390	3,010	2,650	4,650	25,000	4,140	2,270	309
MIN	248	639	723	700	688	910	805	755	475	434	297	214
CFSM	2.15	1.45	1.22	.90	2.20	1.27	1.04	1.68	3.97	1.11	.88	.23
IN.	2.47	1.62	1.40	1.03	2.37	1.47	1.17	1.93	4.43	1.28	1.01	.26

CAL YR 1971 TOTAL 520,778 MEAN 1,427 MAX 10,700 MIN 153 CFSM 1.32 IN 17.92
 WTR YR 1972 TOTAL 594,107 MEAN 1,623 MAX 25,000 MIN 214 CFSM 1.50 IN 20.44

YORK RIVER BASIN

81

01673500 TOTOPOTOMOY CREEK NEAR ATLEE, VA.

LOCATION.--Lat 37°40'09", long 77°22'58", Hanover County, on right bank at upstream side of bridge on U.S. Highway 301, 0.7 mile upstream from Opossum Creek, and 1.6 miles northeast of Atlee.

DRAINAGE AREA.--5.89 sq mi.

PERIOD OF RECORD.--October 1948 to current year.

GAGE.--Water-stage recorder. Datum of gage is 116.33 ft above mean sea level. Prior to Aug. 9, 1954, at site 8 ft downstream at datum 0.04 ft higher.

AVERAGE DISCHARGE.--24 years, 5.48 cfs (12.63 inches per year).

EXTREMES.--Current year: Maximum discharge, 308 cfs June 22 (gage height, 6.88 ft); minimum, 0.80 cfs Sept. 14 (gage height, 2.17 ft).
Period of record: Maximum discharge, 748 cfs Aug. 13, 1955 (gage height, 8.62 ft); no flow Aug. 4-7, 15-18, 1963.

Flood, probably in July 1945, reached a stage of 7.5 ft, from floodmarks (discharge, 400 cfs).

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	3.4	7.6	3.6	5.4	12	7.0	4.1	45	7.2	10	1.7
2	2.9	3.3	7.0	4.6	7.0	9.9	7.3	3.7	18	5.4	20	3.2
3	3.3	9.9	6.2	4.6	16	10	7.0	13	9.5	4.7	15	3.5
4	1.7	10	6.2	4.9	38	8.4	6.2	17	3.8	3.9	6.5	2.4
5	.97	4.7	6.2	6.7	17	7.9	5.4	8.7	4.0	54	35	2.4
6	1.4	3.7	5.9	7.0	13	7.9	5.1	6.2	5.1	30	15	2.5
7	1.5	3.7	5.7	5.7	14	6.7	6.2	4.6	4.0	14	8.6	2.1
8	1.1	3.4	7.3	5.4	12	7.0	14	5.4	3.5	9.2	6.2	1.8
9	.97	3.3	6.4	5.7	9.3	6.4	8.7	25	3.0	7.0	4.7	1.7
10	33	3.1	5.9	6.7	8.7	5.9	7.0	16	2.5	6.2	3.7	1.2
11	14	3.3	5.9	6.4	7.6	5.9	6.7	8.4	2.2	5.4	3.5	1.2
12	3.3	2.8	5.7	6.2	7.6	5.9	5.9	6.2	2.0	12	3.2	1.1
13	2.0	3.1	5.4	7.3	22	6.4	5.9	4.6	1.8	18	15	1.0
14	1.5	3.1	5.1	35	22	6.7	6.2	27	2.0	10	36	1.0
15	1.5	2.8	5.1	21	13	6.7	5.7	54	1.9	6.5	10	1.1
16	1.3	2.8	5.1	11	9.3	7.3	6.4	52	1.8	5.7	7.0	1.1
17	2.3	2.8	5.4	8.7	8.7	24	5.4	21	1.6	6.7	6.2	1.0
18	1.3	2.9	5.1	8.4	11	16	4.4	13	2.3	5.7	7.2	1.4
19	.89	3.1	5.1	8.4	68	10	4.1	11	2.8	4.9	5.2	3.0
20	.97	2.4	6.4	7.9	37	8.4	3.9	16	2.2	4.7	3.7	2.2
21	1.0	3.7	6.7	8.7	22	7.6	3.6	12	30	4.2	3.2	2.4
22	1.1	3.4	7.0	8.4	24	14	21	68	173	3.7	2.5	2.4
23	7.1	4.1	6.2	7.9	22	12	24	51	37	3.2	2.5	1.9
24	24	8.8	4.1	7.3	28	8.7	13	21	22	3.0	2.2	1.8
25	30	33	4.1	7.3	38	7.9	8.7	13	14	2.7	2.1	1.7
26	32	16	5.7	6.7	30	7.0	7.0	9.3	9.5	2.4	1.8	1.4
27	12	13	5.9	6.2	24	6.7	5.9	7.3	7.5	2.5	1.7	1.1
28	6.1	13	3.2	6.4	17	6.7	5.4	5.9	12	2.5	2.2	1.4
29	5.7	9.0	4.9	7.9	14	6.2	4.9	5.1	14	3.7	2.4	2.2
30	3.3	9.0	4.6	6.7	-----	6.7	4.4	4.1	8.9	8.9	1.9	6.5
31	3.3	-----	3.4	5.9	-----	7.9	-----	5.0	-----	8.9	1.8	-----
TOTAL	203.30	190.6	174.5	254.6	565.6	270.8	226.4	518.6	446.9	266.9	250.0	59.4
MEAN	6.56	6.35	5.63	8.21	19.5	8.74	7.55	16.7	14.9	8.61	8.06	1.98
MAX	33	33	7.6	35	68	24	24	68	173	54	39	6.5
MIN	.89	2.4	3.2	3.6	5.4	5.9	3.6	3.7	1.6	2.4	1.7	1.0
CFSM	1.11	1.08	.96	1.39	3.31	1.48	1.28	2.84	2.53	1.46	1.37	.34
IN.	1.28	1.20	1.10	1.61	3.57	1.71	1.43	3.28	2.82	1.69	1.58	.38

CAL YR 1971 TOTAL 1,957.81 MEAN 5.36 MAX 63 MIN .32 CFSM .91 IN 12.37
WTR YR 1972 TOTAL 3,427.60 MEAN 9.37 MAX 173 MIN .89 CFSM 1.59 IN 21.65

PEAK DISCHARGE (BASE, 70 CFS, REVISED)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	2230	4.56	78	6-22	0300	6.88	308
2-19	1330	4.88	95	7- 5	1900	4.85	93
5-16	0400	4.57	78	8-14	0230	4.37	73
5-22	1700	5.40	128				

YORK RIVER BASIN

01673800 PO RIVER NEAR SPOTSYLVANIA, VA.

LOCATION.--Lat 38°10'17", long 77°35'42", Spotsylvania County, on right bank at upstream side of bridge on State Highway 208, 1.6 miles north of Snell, 2.0 miles south of Spotsylvania, 4.8 miles downstream from Gladys Run, and 4.9 miles upstream from U.S. Highway 1.

DRAINAGE AREA.--77.4 sq mi.

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 183.76 ft above mean sea level. Prior to Sept. 30, 1964, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--10 years, 70.3 cfs (12.33 inches per year).

EXTREMES.--Current year: Maximum discharge, 10,900 cfs June 22 (gage height, 19.03 ft), from rating curve extended above 3,400 cfs; minimum, 5.6 cfs Sept. 18, 19 (gage height, 1.73 ft).

Period of record: Maximum discharge, 10,900 cfs June 22, 1972 (gage height, 19.03 ft), from rating curve extended above 3,400 cfs; minimum daily, 0.10 cfs Oct. 24-29, 1963, Sept. 6-13, 1966.

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	82	219	56	64	156	70	128	62	81	64	9.1
2	573	75	119	63	67	136	86	91	62	64	47	11
3	1,040	115	96	79	123	186	99	126	51	53	54	14
4	176	174	88	71	445	385	80	475	44	46	51	16
5	81	98	81	138	304	210	81	445	73	58	117	16
6	59	77	78	186	134	146	73	168	76	106	90	16
7	43	77	244	103	137	120	73	110	86	74	50	16
8	32	73	581	82	110	108	139	91	59	57	39	14
9	27	65	279	75	82	97	150	240	44	49	33	12
10	377	63	146	94	79	88	103	240	38	45	28	9.9
11	935	61	120	111	76	84	87	136	33	40	25	7.8
12	222	59	102	97	76	83	80	91	30	75	23	7.5
13	91	58	94	89	259	84	97	79	28	1,400	24	7.5
14	68	57	84	120	640	89	136	124	33	451	23	6.8
15	55	54	80	125	277	114	99	319	40	111	23	6.8
16	45	53	80	83	143	103	100	286	37	73	23	9.5
17	41	51	77	64	116	328	134	198	36	58	23	8.6
18	40	50	73	65	122	368	118	180	40	53	25	7.8
19	36	50	67	75	490	162	83	238	48	48	26	7.5
20	33	53	77	79	666	115	73	895	49	44	25	6.5
21	30	56	105	80	240	102	69	1,120	733	39	22	9.1
22	30	51	84	85	228	115	242	280	8,160	36	18	12
23	78	45	68	110	312	148	675	168	3,500	34	15	14
24	406	85	66	210	292	107	298	119	540	30	14	9.5
25	618	436	69	156	460	88	162	94	186	28	13	8.6
26	1,360	728	66	101	640	82	117	81	119	26	12	8.2
27	667	240	65	81	780	80	94	71	96	23	10	7.5
28	168	198	63	79	319	77	84	66	112	23	13	10
29	114	162	60	77	198	74	79	63	156	31	14	12
30	94	333	58	72	-----	72	80	59	124	97	11	40
31	85	-----	58	70	-----	71	-----	57	-----	131	11	-----
TOTAL	7,660	3,779	3,547	2,976	7,879	4,178	3,861	6,838	14,695	3,484	966	341.2
MEAN	247	126	114	96.0	272	135	129	221	490	112	31.2	11.4
MAX	1,360	728	581	210	780	385	675	1,120	8,160	1,400	117	40
MIN	27	45	58	56	64	71	69	57	28	23	10	6.5
CFSM	3.19	1.63	1.47	1.24	3.51	1.74	1.67	2.86	6.33	1.45	.40	.15
IN.	3.68	1.82	1.70	1.43	3.79	2.01	1.86	3.29	7.06	1.67	.46	.16

CAL YR 1971 TOTAL 44,500.2 MEAN 122 MAX 2,100 MIN 7.1 CFSM 1.58 IN 21.39
WTR YR 1972 TOTAL 60,204.2 MEAN 164 MAX 8,160 MIN 6.5 CFSM 2.12 IN 28.94

PEAK DISCHARGE (BASE, 900 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-3	0700	9.48	1,350	5-21	0300	9.96	1,520
10-11	1230	8.85	1,100	6-22	1600	19.03	10,900
10-26	1800	10.87	1,930	7-13	1330	10.43	1,700

01674000 MATTAPONI RIVER NEAR BOWLING GREEN, VA.

LOCATION.--Lat 38°03'42", long 77°23'10", Caroline County, on left bank 0.1 mile upstream from bridge on State Highway 605, 2.2 miles northwest of Bowling Green, 2.4 miles upstream from South River, and 7.1 miles downstream from confluence of Matta and Poni Rivers.

DRAINAGE AREA.--257 sq mi.

PERIOD OF RECORD.--September 1942 to current year.

GAGE.--Water-stage recorder. Datum of gage is 85.14 ft above mean sea level.

AVERAGE DISCHARGE.--30 years, 229 cfs (12.10 inches per year).

EXTREMES.--Current year: Maximum discharge, 13,400 cfs June 23 (gage height, 18.95 ft, from high-water mark in well), from rating curve extended above 8,100 cfs; minimum, 30 cfs Sept. 16, 17 (gage height, 2.21 ft).

Period of record: Maximum discharge, 13,400 cfs June 23, 1972 (gage height, 18.95 ft, from high-water mark in well), from rating curve extended above 8,100 cfs; no flow at times in September and October 1954, and September 1966.

Flood in August 1928 reached a stage of 19.5 ft, based on relative difference in stage between this flood and flood of Oct. 17, 1942, at Milford 4 miles downstream (discharge, 15,000 cfs, from rating curve extended above 8,100 cfs).

REMARKS.--Records good except those for period of no gage-height record, which are fair. Some diurnal fluctuation from gristmill upstream on Po River. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1382: 1943, 1945(M), 1948(M), 1949, 1953(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	316	652	190	260	980	276	292	292	608	498	49
2	284	282	752	185	252	726	284	308	284	428	368	55
3	613	324	588	215	292	608	316	368	244	300	308	80
4	1,290	453	388	250	508	588	324	488	212	244	408	75
5	1,250	491	324	270	848	700	308	630	205	228	468	73
6	594	434	300	300	1,130	804	284	1,010	220	316	630	79
7	249	324	324	400	804	608	276	804	284	341	726	73
8	154	282	468	310	548	488	341	478	324	332	388	63
9	113	257	726	260	428	428	458	428	244	260	228	55
10	369	233	1,010	280	350	368	478	488	186	212	178	37
11	712	210	600	316	316	341	418	568	150	186	147	35
12	1,540	195	400	350	300	316	341	508	127	190	127	37
13	1,460	195	320	341	324	308	324	350	114	805	115	38
14	738	188	280	388	630	316	368	332	122	4,990	110	37
15	333	177	260	508	1,260	332	398	488	133	3,600	106	34
16	225	172	265	498	1,190	341	388	674	133	1,260	104	32
17	189	165	250	338	778	548	448	830	135	608	103	32
18	166	158	255	284	548	778	508	726	134	341	115	32
19	150	155	240	284	700	1,040	488	700	140	284	115	32
20	141	154	255	300	1,360	830	368	1,010	157	260	109	37
21	128	158	300	316	1,950	548	308	2,310	474	220	99	38
22	120	154	400	316	1,380	438	350	2,880	4,820	190	89	49
23	157	144	330	324	950	468	588	1,700	12,200	168	82	49
24	378	151	280	388	920	508	1,220	1,010	5,120	154	74	46
25	640	406	250	528	1,040	458	1,300	674	3,150	138	67	42
26	1,640	663	220	608	1,190	368	830	448	1,300	127	62	39
27	2,430	1,290	235	468	1,700	324	548	341	778	111	58	37
28	2,310	1,250	230	341	2,000	308	398	300	498	107	61	34
29	1,170	860	215	308	1,500	292	332	268	528	132	62	39
30	663	674	220	292	-----	284	308	252	630	236	58	99
31	415	-----	205	276	-----	276	-----	244	-----	428	55	-----
TOTAL	20,677	10,915	11,542	10,432	25,456	15,720	13,576	21,907	33,338	17,804	6,118	1,457
MEAN	667	364	372	337	878	507	453	707	1,111	574	197	48.6
MAX	2,430	1,290	1,010	608	2,000	1,040	1,300	2,880	12,200	4,990	726	99
MIN	56	144	205	185	252	276	276	244	114	107	55	32
CFSM	2.60	1.42	1.45	1.31	3.42	1.97	1.76	2.75	4.32	2.23	.77	.19
IN.	2.99	1.58	1.67	1.51	3.68	2.28	1.97	3.17	4.83	2.58	.89	.21

CAL YR 1971 TOTAL 136,326 MEAN 373 MAX 3,240 MIN 17 CFSM 1.45 IN 19.73
WTR YR 1972 TOTAL 188,942 MEAN 516 MAX 12,200 MIN 32 CFSM 2.01 IN 27.35

PEAK DISCHARGE (BASE, 2,000 CFS, REVISED)

NOTE.--NO GAGE-HEIGHT RECORD DEC. 11 TO JAN. 10.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-28	0100	11.19	2,690	6-23	0600	18.95	13,400
2-28	0900	10.06	2,070	7-14	1430	14.12	5,720
5-22	0300	11.40	3,060				

YORK RIVER BASIN

01674500 MATTAPONI RIVER NEAR BEULAHVILLE, VA.

LOCATION.--Lat 37°53'18", long 77°09'48", King William County, on right bank 0.4 mile upstream from bridge on State Highway 628, 2.4 miles north of Beulahville, and 2.7 miles downstream from Maracossic Creek.

DRAINAGE AREA.--601 sq mi.

PERIOD OF RECORD.--September 1941 to current year.

GAGE.--Water-stage recorder. Datum of gage is 12.43 ft above mean sea level (levels by Virginia Department of Highways). Prior to Oct. 14, 1942, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--31 years, 570 cfs (12.88 inches per year).

EXTREMES.--Current year: Maximum discharge, 16,900 cfs June 25 (gage height, 23.97 ft, from floodmarks); minimum, 156 cfs Sept. 18 (gage height, 3.75 ft).

Period of record: Maximum discharge, 16,900 cfs June 25, 1972 (gage height, 23.97 ft, from floodmarks); maximum gage height, 24.04 ft Aug. 23, 1969; minimum, 5.9 cfs Sept. 14, 1966 (gage height, 0.94 ft).

REMARKS.--Records good except those for period of no gage-height record, which are fair. Diurnal fluctuation at times during low flow caused by gristmill on Po River. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	217	2,430	1,890	502	641	2,500	766	813	1,230	2,300	1,040	223
2	309	1,800	1,770	506	637	2,630	768	736	1,690	1,800	1,090	226
3	547	1,240	1,530	549	711	2,440	768	740	1,650	1,400	991	259
4	828	1,100	1,350	605	987	2,070	787	1,030	1,310	1,000	776	277
5	954	1,150	1,200	668	1,220	1,760	783	1,340	902	1,090	798	275
6	1,120	1,200	918	787	1,340	1,530	758	1,430	738	1,210	977	274
7	1,320	1,200	783	870	1,440	1,420	719	1,400	713	1,310	1,010	275
8	1,390	1,050	801	888	1,570	1,400	778	1,380	732	1,280	1,040	255
9	729	867	911	885	1,640	1,370	903	1,470	739	1,120	1,030	225
10	611	765	1,030	825	1,520	1,190	992	1,450	673	952	669	203
11	1,080	697	1,140	781	1,120	980	1,010	1,290	551	779	444	186
12	1,400	646	1,270	780	849	885	976	1,160	462	703	377	167
13	1,520	609	1,350	793	880	829	896	1,060	408	1,010	348	162
14	1,610	583	1,170	893	1,140	803	857	985	400	1,370	337	161
15	1,750	560	852	954	1,320	807	887	1,130	431	1,720	323	164
16	1,840	536	745	1,010	1,420	832	922	1,340	460	2,520	319	163
17	1,460	521	712	1,030	1,520	1,040	934	1,430	427	4,460	317	161
18	646	500	697	900	1,680	1,360	978	1,470	471	4,000	341	158
19	475	493	669	780	1,520	1,550	1,060	1,490	727	2,870	363	182
20	430	493	667	751	2,070	1,620	1,070	1,550	703	1,710	348	207
21	402	490	750	768	2,030	1,680	970	1,620	721	881	314	209
22	383	477	813	786	2,070	1,710	898	1,720	2,740	641	287	231
23	402	459	788	799	2,350	1,620	1,140	2,120	5,730	541	270	227
24	663	459	737	803	2,660	1,340	1,390	2,740	10,000	479	254	211
25	978	819	683	856	2,630	1,150	1,500	3,180	16,200	427	238	193
26	1,380	1,150	632	917	2,390	1,070	1,580	2,910	15,800	401	226	181
27	1,720	1,350	599	974	2,210	967	1,720	2,320	12,000	374	213	172
28	1,950	1,490	584	988	2,190	859	1,790	1,740	10,000	357	236	166
29	2,420	1,630	571	866	2,270	794	1,580	1,130	4,900	370	287	171
30	2,960	1,780	554	741	-----	761	1,100	806	3,000	574	303	212
31	2,940	-----	524	682	-----	767	-----	806	-----	879	259	-----
TOTAL	36,434	28,544	28,690	24,947	46,425	41,734	31,280	45,786	96,508	40,528	15,825	6,176
MEAN	1,175	951	925	805	1,601	1,346	1,043	1,477	3,217	1,307	510	206
MAX	2,960	2,430	1,890	1,030	2,660	2,630	1,790	3,180	16,200	4,460	1,090	277
MIN	217	459	524	502	637	761	719	736	400	357	213	158
CFSM	1.96	1.58	1.54	1.34	2.66	2.24	1.74	2.46	5.35	2.17	.85	.34
IN.	2.26	1.77	1.78	1.54	2.87	2.58	1.94	2.83	5.97	2.51	.98	.38

CAL YR 1971 TOTAL 301,511 MEAN 826 MAX 3,460 MIN 82 CFSM 1.37 IN 18.66
WTR YR 1972 TOTAL 442,877 MEAN 1,210 MAX 16,200 MIN 158 CFSM 2.01 IN 27.41

NOTE.--NO GAGE-HEIGHT RECORD JUNE 24 TO JULY 5.

SOUTH ATLANTIC SLOPE BASINS

85

JAMES RIVER BASIN

02011500 BACK CREEK NEAR MOUNTAIN GROVE, VA.

LOCATION.--Lat 38°04'10", long 79°53'50", Bath County, on left bank 0.3 mile downstream from Cummings Run, 0.8 mile downstream from bridge on State Highway 39, and 2.1 miles south of Mountain Grove.

DRAINAGE AREA.--134 sq mi.

PERIOD OF RECORD.--October 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,701.45 ft above mean sea level.

AVERAGE DISCHARGE.--21 years, 170 cfs (17.23 inches per year).

EXTREMES.--Current year: Maximum discharge, 8,270 cfs June 21 (gage height, 9.25 ft), from rating curve extended as explained below; minimum daily, 16 cfs Sept. 18-27.

Period of record: Maximum discharge, 12,700 cfs Mar. 7, 1967 (gage height, 10.77 ft), from rating curve extended above 4,000 cfs on basis of three slope-area measurements at gage heights 7.39, 9.05, and 9.35 ft; minimum, 1.5 cfs Aug. 18, 1967; minimum gage height, 1.67 ft Oct. 14, 1951.

REMARKS.--Records good except those for periods of no gage-height record, which are fair. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	73	312	64	206	1,140	115	148	84	120	230	30
2	64	68	214	97	181	975	108	136	73	110	140	30
3	56	97	166	252	181	983	99	206	64	140	145	29
4	49	154	139	286	175	698	92	674	58	771	240	29
5	44	142	115	444	133	508	88	670	53	4,370	200	28
6	42	115	108	490	122	366	79	450	50	1,440	160	26
7	37	97	2,640	377	115	290	94	341	48	636	125	24
8	34	80	1,440	269	100	252	670	290	45	382	103	23
9	32	71	603	222	96	194	484	388	42	273	84	22
10	32	63	388	260	92	169	341	377	40	202	70	21
11	30	56	277	282	88	145	273	326	36	160	60	20
12	27	52	202	282	99	133	222	269	33	125	70	19
13	26	48	163	264	528	125	264	230	44	105	110	19
14	24	44	133	260	526	130	1,240	218	52	88	165	19
15	23	40	112	218	399	128	755	264	44	80	130	19
16	22	38	103	154	388	125	538	450	47	70	105	18
17	23	36	92	147	366	142	610	394	55	65	80	17
18	38	34	80	140	294	145	538	316	68	60	73	16
19	33	33	70	151	247	139	410	282	55	56	70	16
20	28	33	90	160	184	130	326	252	500	67	65	16
21	27	37	133	181	140	125	264	214	5,340	78	60	16
22	26	37	136	218	172	348	620	224	2,010	85	55	16
23	26	33	118	252	252	544	823	564	792	60	51	16
24	44	33	118	484	475	421	596	341	467	50	50	16
25	172	34	110	490	1,430	316	472	247	316	45	58	16
26	277	31	101	399	4,250	260	366	178	234	42	50	16
27	178	36	94	336	1,850	222	282	142	180	65	44	16
28	125	38	86	346	879	190	230	120	140	120	38	17
29	97	104	79	351	855	166	190	105	170	350	33	18
30	80	427	71	316	-----	148	172	99	135	800	31	24
31	73	-----	71	256	-----	128	-----	97	-----	420	30	-----
TOTAL	1,857	2,184	8,564	8,448	14,823	9,785	11,361	9,012	11,275	11,435	2,925	612
MEAN	59.9	72.8	276	273	511	316	379	291	376	369	94.4	20.4
MAX	277	427	2,640	490	4,250	1,140	1,240	674	5,340	4,370	240	30
MIN	22	31	70	64	88	125	79	97	33	42	30	16
CFSM	45	54	2.06	2.04	3.81	2.36	2.83	2.17	2.81	2.75	6.70	1.15
IN-	52	61	2.38	2.35	4.12	2.72	3.15	2.50	3.13	3.17	8.81	1.17
CAL YR 1971	TOTAL 74,098.6		MEAN 203	MAX 2,950	MIN 8.8	CFSM 1.51	IN 20.57					
WTR YR 1972	TOTAL 92,281.0		MEAN 252	MAX 5,340	MIN 16	CFSM 1.88	IN 25.62					

PEAK DISCHARGE (BASE, 1,400 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-7	1500	7.96	5,510	6-21	1400	9.25	8,270
2-26	1130	8.29	6,160	7-5	UNKNOWN	8.25	5,940
4-14	0930	5.22	1,610				

NOTE.--NO GAGE-HEIGHT RECORD JUNE 11-21, JUNE 23 TO JULY 5, JULY 8-13, JULY 16 TO SEPT. 30.

JAMES RIVER BASIN

02012500 JACKSON RIVER AT FALLING SPRING, VA.

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

DRAINAGE AREA.--411 sq mi.

PERIOD OF RECORD.--April 1925 to current year. 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, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--47 years, 476 cfs (15.73 inches per year).

EXTREMES.--Current year: Maximum discharge, 16,100 cfs June 21 (gage height, 12.72 ft); minimum, 98 cfs Sept. 23, 24, 25 (gage height, 3.15 ft).

Period of record: 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), due to regulation from unknown source; minimum daily, 52 cfs Sept. 8, 1966.

Flood of March 1913 reached a stage of about 20 ft (discharge, about 50,000 cfs).

REMARKS.--Records good. Water-quality records for the current year are included in this report.

REVISIONS (WATER YEARS).--WSP 952: 1927, 1928(M), 1929-30, 1932-40. WSP 1303: 1926(M), 1930-34(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	281	283	842	236	577	2,080	372	501	355	590	1,150	154
2	258	270	608	257	523	1,900	352	462	321	527	796	149
3	246	324	492	430	559	1,880	334	641	296	468	636	146
4	223	409	429	518	742	1,570	319	1,410	275	422	645	146
5	208	397	379	931	537	1,230	313	1,470	257	4,930	730	147
6	196	351	347	990	478	971	291	1,110	243	3,670	626	143
7	185	316	3,110	804	450	821	352	894	241	1,700	535	137
8	174	285	3,490	635	420	715	1,370	782	228	1,130	480	132
9	170	258	1,600	539	383	612	1,090	1,230	215	837	418	128
10	174	240	1,100	664	360	541	819	1,070	210	656	370	121
11	171	227	843	695	345	489	687	899	200	548	328	120
12	163	214	658	657	361	456	602	770	190	482	303	121
13	155	203	567	607	1,580	437	595	673	183	450	286	121
14	152	192	483	592	1,560	435	1,700	644	200	401	367	118
15	150	182	436	528	1,050	440	1,510	667	231	363	399	119
16	150	173	410	430	1,000	416	1,210	929	216	340	336	117
17	150	166	371	330	943	438	1,240	893	252	331	305	113
18	173	160	333	330	818	433	1,150	776	336	312	314	111
19	188	157	304	350	705	412	957	739	266	284	305	108
20	172	156	313	393	588	388	813	751	282	269	299	104
21	165	168	387	470	490	371	698	669	9,620	306	277	102
22	160	176	387	520	518	594	1,490	611	7,330	317	246	102
23	164	162	354	544	643	1,020	1,920	1,120	2,300	338	231	100
24	216	160	338	971	1,150	866	1,470	927	1,450	269	218	99
25	518	167	336	1,050	2,770	708	1,190	709	1,040	240	206	100
26	871	156	320	900	9,010	620	982	580	798	223	258	103
27	623	165	309	770	5,520	551	807	493	638	215	220	103
28	482	185	292	852	2,430	511	682	438	581	368	197	104
29	394	462	271	912	1,910	464	603	405	722	2,390	183	117
30	335	1,080	254	801	-----	431	545	380	621	3,300	173	166
31	301	-----	246	680	-----	396	-----	380	-----	1,970	163	-----
TOTAL	7,968	7,844	20,609	19,386	38,484	23,196	26,463	24,023	30,097	28,646	12,000	3,651
MEAN	257	261	665	625	1,327	748	882	775	1,003	924	387	122
MAX	871	1,080	3,490	1,050	9,010	2,080	1,920	1,470	9,620	4,930	1,150	166
MIN	150	156	246	236	345	371	291	360	183	215	163	99
CFSM	.63	.64	1.62	1.52	3.23	1.82	2.15	1.89	2.44	2.25	.94	.30
IN.	.72	.71	1.87	1.75	3.48	2.10	2.40	2.17	2.72	2.59	1.09	.33

CAL YR 1971 TOTAL 198,787 MEAN 545 MAX 6,080 MIN 87 CFSM 1.33 IN 17.99
WTR YR 1972 TOTAL 242,367 MEAN 662 MAX 9,620 MIN 99 CFSM 1.61 IN 21.94

PEAK DISCHARGE (BASE, 4,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-7	2130	10.05	7,530	7-5	1830	10.65	9,090
2-26	1630	11.78	12,400	7-29	1800	8.94	4,870
6-21	1700	12.72	16,100				

02013000 DUNLAP CREEK NEAR COVINGTON, VA.

LOCATION.--Lat 37°48'10", long 80°02'50", Alleghany County, 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.

DRAINAGE AREA.--164 sq mi.

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for some periods, published in WSP 1303.

GAGE.--Water-stage recorder. Datum of gage is 1,294.70 ft above mean sea level. Prior to Dec. 8, 1949, non-recording gage at same site and datum.

AVERAGE DISCHARGE.--44 years, 158 cfs (13.08 inches per year).

EXTREMES.--Current year: Maximum discharge, 13,400 cfs June 21 (gage height, 15.65 ft), from rating curve extended as explained below; minimum, 12 cfs June 7 (gage height, 1.35 ft); minimum daily, 17 cfs Sept. 23-26. Period of record: Maximum discharge, 13,400 cfs June 21, 1972 (gage height, 15.65 ft), from rating curve extended above 4,500 cfs on basis of contracted-opening measurement at gage height 13.13 ft and slope-area measurement at gage height 15.65 ft; minimum, 2.0 cfs July 4, 1970; minimum daily, 7.0 cfs Sept. 9, 1966; minimum gage height, 0.69 ft June 6, July 14, 1969.

Flood of March 1913 reached a stage of 18 ft, from information by local residents.

REMARKS.--Records good. Occasional diurnal fluctuation caused by dam 7.9 miles above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 972: 1929-30, 1932-34, 1942. WSP 1303: 1929-35(M), 1937-38(M), 1941-48(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CURIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	82	270	73	242	387	118	149	84	130	393	28
2	41	75	186	82	207	327	111	138	77	112	218	27
3	44	82	146	90	227	757	103	408	71	101	159	26
4	40	107	123	127	403	598	98	1,020	66	97	133	26
5	37	105	105	692	288	429	94	700	62	2,060	128	28
6	37	94	93	627	253	322	87	417	58	1,380	109	31
7	36	86	1,160	370	220	270	153	315	54	553	96	28
8	34	78	902	259	150	235	796	285	50	297	86	27
9	33	71	396	211	184	191	471	641	48	203	77	26
10	36	66	272	234	162	166	331	540	47	158	69	24
11	35	62	207	242	149	147	270	375	45	130	60	23
12	32	58	162	233	153	136	243	293	43	117	55	21
13	31	54	139	215	688	128	225	245	43	107	51	21
14	30	51	119	200	766	132	408	234	51	95	51	21
15	29	48	109	168	481	120	697	239	54	85	49	22
16	29	46	176	153	412	116	1,010	241	46	77	45	21
17	34	44	184	110	367	125	651	216	99	77	46	20
18	39	43	156	110	307	119	445	197	224	92	61	20
19	36	42	134	115	268	112	349	195	129	77	67	19
20	33	42	132	125	217	106	293	240	119	65	63	18
21	33	46	128	541	176	104	251	260	8,080	58	52	18
22	35	47	117	504	231	326	1,180	248	2,820	59	48	18
23	45	46	106	371	369	480	1,230	243	1,170	76	45	17
24	185	47	103	294	1,280	346	631	218	592	59	43	17
25	1,130	49	101	265	2,340	274	417	184	352	52	42	17
26	565	46	97	245	5,190	231	319	149	246	48	45	17
27	257	47	94	235	1,930	198	258	123	188	46	41	20
28	171	69	88	404	872	178	217	108	160	68	36	26
29	128	233	83	572	522	158	187	98	175	1,270	33	28
30	104	416	78	415	-----	143	168	95	146	2,310	31	77
31	91	-----	76	307	-----	127	-----	93	-----	1,030	29	-----
TOTAL	3,446	2,382	6,242	8,589	19,094	7,488	11,811	8,907	15,399	11,089	2,461	732
MEAN	111	79.4	201	277	658	242	394	287	513	358	79.4	24.4
MAX	1,130	416	1,160	692	5,190	757	1,230	1,020	8,080	2,310	393	77
MIN	29	42	76	73	149	104	87	93	43	46	29	17
CFSM	.68	.48	1.23	1.69	4.01	1.48	2.40	1.75	3.13	2.18	.48	.15
IN.	.78	.54	1.42	1.95	4.33	1.70	2.68	2.02	3.49	2.52	.56	.17

CAL YR 1971 TOTAL 71,986 MEAN 197 MAX 3,970 MIN 16 CFSM 1.20 IN 16.33
WTR YR 1972 TOTAL 97,640 MEAN 267 MAX 8,080 MIN 17 CFSM 1.63 IN 22.15

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1500	5.44	2,240	4-22	2000	5.53	2,320
12-7	1600	5.31	2,120	6-21	1230	15.65	13,400
2-25	0430	6.31	3,020	7-5	1500	6.10	2,740
2-26	1030	10.24	7,100	7-29	2300	7.05	3,690

JAMES RIVER BASIN

02014000 POTTS CREEK NEAR COVINGTON, VA.

LOCATION.--Lat 37°43'44", long 80°02'33", Alleghany County, on left bank at downstream side of bridge on State Highway 18, 0.8 mile downstream from Blue Spring Creek, and 5.2 miles southwest of Covington.

DRAINAGE AREA.--153 sq mi.

PERIOD OF RECORD.--October 1928 to September 1956, October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,273.93 ft above mean sea level. Prior to Sept. 30, 1956, non-recording gage at site 1.3 miles downstream at different datum.

AVERAGE DISCHARGE.--35 years, 170 cfs (15.09 inches per year).

EXTREMES.--Current year: Maximum discharge, 12,400 cfs June 21 (gage height, 12.33 ft); minimum, 33 cfs July 27. Period of record: Maximum discharge, 12,400 cfs June 21, 1972 (gage height, 12.33 ft); minimum observed, 13 cfs Nov. 29, 1930.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1723: 1935, 1936(M), 1940(M), 1942(M), 1948-49(M), 1951-52(M), 1954(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	162	216	88	272	520	148	201	122	153	361	43
2	121	150	171	101	246	443	141	188	111	118	191	43
3	117	181	151	103	315	537	133	247	100	102	127	42
4	102	231	140	119	501	469	124	446	92	97	103	42
5	98	205	129	276	315	398	117	442	86	725	85	48
6	81	183	121	309	281	330	111	360	81	708	68	55
7	65	163	339	260	255	285	125	304	80	427	59	51
8	57	145	533	219	226	252	413	285	74	280	54	45
9	54	133	401	198	207	219	327	373	69	189	48	42
10	67	124	320	238	192	194	275	344	67	136	45	42
11	62	116	262	228	180	176	244	306	62	109	44	40
12	56	107	216	216	175	164	257	271	58	98	44	39
13	50	100	190	202	675	157	290	243	59	94	46	38
14	48	93	165	193	602	159	367	273	63	79	51	37
15	45	86	155	168	444	148	504	289	63	70	55	40
16	47	81	212	123	408	144	617	284	61	65	56	40
17	61	75	178	130	376	161	533	266	138	61	58	39
18	63	73	157	138	334	152	422	248	195	62	76	38
19	57	72	143	143	304	142	357	235	130	55	77	36
20	56	71	147	165	250	135	310	277	208	49	75	36
21	61	74	146	568	216	131	270	265	8,870	45	66	35
22	69	73	131	475	281	353	987	252	3,990	46	58	35
23	182	66	118	395	342	416	1,070	266	1,630	52	56	34
24	609	66	116	328	676	348	652	241	988	48	54	34
25	1,720	69	116	294	1,610	299	500	215	658	39	54	34
26	949	65	114	259	3,150	258	402	187	461	35	56	34
27	482	70	111	238	2,180	224	327	164	327	35	53	41
28	336	84	107	364	1,040	205	279	150	244	40	51	56
29	255	152	100	456	667	184	245	139	241	59	49	64
30	208	278	95	390	-----	171	222	131	181	619	47	340
31	178	-----	93	327	-----	155	-----	135	-----	762	45	-----
TOTAL	6,430	3,549	5,593	7,711	16,720	7,929	10,759	8,027	19,509	5,457	2,312	1,543
MEAN	207	118	180	249	577	256	359	259	650	176	74.6	51.4
MAX	1,720	278	533	568	3,150	537	1,070	446	8,870	762	361	340
MIN	45	65	93	88	175	131	111	131	58	35	44	34
CFSM	1.35	.77	1.18	1.63	3.77	1.67	2.35	1.69	4.25	1.15	.49	.34
IN.	1.56	.86	1.36	1.87	4.07	1.93	2.62	1.95	4.74	1.33	.56	.38

CAL YR 1971 TOTAL 78,058 MEAN 214 MAX 4,620 MIN 19 CFSM 1.40 IN 18.98
WTR YR 1972 TOTAL 95,539 MEAN 261 MAX 8,870 MIN 34 CFSM 1.71 IN 23.23

PEAK DISCHARGE (BASE, 2,400 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1530	6.53	2,490	6-21	1030	12.33	12,400
2-26	1100	7.87	3,920				

JAMES RIVER BASIN

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02015700 BULLPASTURE RIVER AT WILLIAMSVILLE, VA.

LOCATION.--Lat 38°12'00", long 79°34'21", Bath County, on right bank 324 ft upstream from bridge on State Highway 614 at Williamsville and 0.75 mile upstream from Cowpasture River.

DRAINAGE AREA.--110 sq mi.

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,621.98 ft above mean sea level.

AVERAGE DISCHARGE.--12 years, 128 cfs (15.80 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,720 cfs June 21 (gage height, 4.54 ft), from rating curve extended above 3,300 cfs; minimum, 43 cfs Sept. 17-21 (gage height, 1.17 ft).

Period of record: Maximum discharge, 6,230 cfs Mar. 7, 1967 (gage height, 5.91 ft), from rating curve extended above 3,300 cfs; minimum, 21 cfs Dec. 8, 1965; minimum gage height, 0.95 ft June 30, 1962.

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	112	250	77	135	532	112	156	102	222	228	52
2	233	112	185	128	132	469	105	143	94	171	195	52
3	166	128	151	143	135	404	98	202	88	147	171	52
4	132	120	139	147	143	310	102	474	77	135	176	57
5	120	105	124	195	108	260	98	343	77	1,850	206	52
6	105	102	124	176	107	211	94	277	74	764	151	49
7	94	98	990	156	104	190	108	233	77	420	143	49
8	84	91	677	135	101	171	294	228	71	299	128	47
9	80	88	392	132	95	143	180	310	69	233	112	47
10	91	88	310	135	91	132	161	255	66	200	98	47
11	80	84	250	171	94	120	151	222	63	171	91	45
12	71	80	206	156	94	116	139	195	60	147	88	45
13	69	77	180	151	248	128	182	180	63	147	98	45
14	66	74	156	151	266	135	420	185	77	124	94	45
15	63	71	143	132	260	135	326	240	74	116	80	45
16	63	69	132	94	304	128	282	282	69	112	77	45
17	132	69	120	100	260	147	360	228	94	112	77	43
18	94	69	108	110	222	132	282	200	80	98	80	43
19	80	69	98	116	195	116	244	190	71	91	84	43
20	71	69	132	120	161	108	216	228	74	91	91	43
21	69	77	128	147	139	108	190	195	2,020	102	74	43
22	69	71	105	132	216	285	420	190	1,150	91	69	45
23	88	63	94	147	228	266	395	228	525	88	66	45
24	255	63	98	228	299	222	370	176	338	77	63	45
25	726	71	98	206	525	185	310	151	244	71	60	47
26	310	69	94	180	1,900	171	260	132	200	69	60	45
27	228	71	94	171	958	151	222	116	171	66	57	45
28	176	80	91	195	576	143	200	112	171	102	57	55
29	143	266	88	185	525	132	180	108	321	334	55	57
30	128	382	88	176	-----	124	171	102	266	568	52	77
31	116	-----	84	151	-----	112	-----	124	-----	365	52	-----
TOTAL	4,307	2,988	5,929	4,643	8,621	5,986	6,672	6,405	6,926	7,583	3,133	1,450
MEAN	139	99.6	191	150	297	193	222	207	231	245	101	48.3
MAX	726	382	990	228	1,900	532	420	474	2,020	1,850	228	77
MIN	63	63	84	77	91	108	94	102	60	66	52	43
CFSM	1.26	.91	1.74	1.36	2.70	1.75	2.02	1.88	2.10	2.23	.92	.44
IN.	1.46	1.01	2.01	1.57	2.92	2.02	2.26	2.17	2.34	2.56	1.06	.49

CAL YR 1971 TOTAL 65,483 MEAN 179 MAX 1,910 MIN 34 CFSM 1.63 IN 22.15
WTR YR 1972 TOTAL 64,643 MEAN 177 MAX 2,020 MIN 43 CFSM 1.61 IN 21.86

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-26	1030	3.97	2,660	7- 5	0830	4.10	2,910
6-21	1700	4.54	3,720				

JAMES RIVER BASIN

02016000 COWPASTURE RIVER NEAR CLIFTON FORGE, VA.

LOCATION.--Lat 37°47'30", long 79°45'35", Alleghany County, on 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.

DRAINAGE AREA.--461 sq mi.

PERIOD OF RECORD.--March 1925 to current year. Records for May 1907 to August 1908, published in WSP 242, are unreliable and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 1,006.93 ft above mean sea level (levels by Corps of Engineers). Prior to October 1934, nonrecording gage at site 100 ft upstream at present datum.

AVERAGE DISCHARGE.--47 years, 508 cfs (14.96 inches per year).

EXTREMES.--Current year: Maximum discharge, 15,700 cfs June 22 (gage height, 12.63 ft), from rating curve extended as explained below; minimum, 71 cfs Sept. 22, 26 (gage height, 1.83 ft).

Period of record: Maximum discharge, 34,200 cfs Mar. 18, 1936 (gage height, 18.62 ft), from rating curve extended above 13,000 cfs on basis of slope-area measurement at gage height 15.70 ft; minimum, 38 cfs Sept. 2, 1932; minimum daily, 40 cfs Sept. 1, 1932; minimum gage height, 1.67 ft Sept. 26, 27, 1963, Aug. 27, 28, 1964, July 26, Sept. 8-11, 1966, July 24, 1968.

Flood in March 1913 reached a stage of 20.8 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. Low flow affected by springs and by occasional regulation from unknown source. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 952: 1925-41. WRD Va. 1970: Drainage area. See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	217	294	1,210	203	549	1,700	324	493	403	861	1,760	101
2	217	271	779	223	496	1,570	307	451	336	660	1,040	99
3	575	279	581	305	568	1,370	288	484	293	523	787	99
4	488	336	471	395	1,030	1,100	274	1,360	259	434	678	99
5	354	309	403	692	788	869	260	1,750	237	4,790	637	102
6	275	273	351	796	647	736	249	1,200	220	5,660	610	102
7	225	254	984	664	600	635	273	911	212	2,200	484	99
8	192	235	3,630	557	520	576	1,830	787	201	1,280	423	94
9	172	218	1,760	474	448	509	1,090	1,280	187	872	361	92
10	184	206	1,140	602	413	445	759	1,310	174	671	306	89
11	176	198	857	733	373	404	649	986	161	534	262	86
12	163	188	686	664	368	372	578	813	152	461	234	85
13	144	179	574	593	2,370	358	551	703	148	473	221	85
14	133	170	489	559	2,760	354	1,250	662	234	405	212	83
15	126	160	425	495	1,530	358	1,450	814	220	332	211	84
16	123	153	414	390	1,300	354	1,100	1,270	185	299	187	81
17	121	148	372	302	1,200	371	992	955	266	304	178	80
18	170	143	324	290	994	381	909	851	313	282	179	79
19	228	139	290	300	838	341	757	855	308	242	175	77
20	184	139	294	362	706	312	676	825	601	215	178	74
21	159	143	352	440	572	295	612	795	9,990	198	184	73
22	145	143	348	485	548	400	1,520	715	12,900	235	159	72
23	160	142	296	456	665	826	2,540	1,120	3,480	469	144	73
24	322	140	269	680	870	793	1,620	972	1,750	278	135	73
25	1,190	149	266	822	2,570	672	1,270	738	1,080	208	128	74
26	1,640	139	262	734	7,090	587	999	592	775	177	124	75
27	996	145	255	641	6,300	515	817	478	611	162	128	78
28	662	155	247	705	2,940	469	698	409	510	572	124	78
29	491	395	231	811	1,950	428	614	366	1,280	3,130	114	94
30	390	1,600	217	732	-----	392	551	340	1,220	6,760	109	157
31	331	-----	209	646	-----	355	-----	370	-----	3,930	104	-----
TOTAL	10,953	7,443	18,986	16,751	42,003	18,847	25,807	25,655	38,706	37,617	10,576	2,637
MEAN	353	248	612	540	1,448	608	860	828	1,290	1,213	341	87.9
MAX	1,640	1,600	3,630	822	7,090	1,700	2,540	1,750	12,900	6,760	1,760	157
MIN	121	139	209	203	368	295	249	340	148	162	104	72
CFSM	.77	.54	1.33	1.17	3.14	1.32	1.87	1.80	2.80	2.63	.74	.19
IN.	.88	.60	1.53	1.35	3.39	1.52	2.08	2.07	3.12	3.04	.85	.21

CAL YR 1971 TOTAL 224,291 MEAN 614 MAX 10,200 MIN 75 CFSM 1.33 IN 18.10
WTR YR 1972 TOTAL 255,981 MEAN 699 MAX 12,900 MIN 72 CFSM 1.52 IN 20.66

PEAK DISCHARGE (BASE, 5,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-26	1700	9.74	9,410	7- 6	0030	9.41	8,780
6-22	0830	12.63	15,700	7-29	2230	9.57	9,080

JAMES RIVER BASIN

91

02016500 JAMES RIVER AT LICK RUN, VA.

LOCATION.--Lat 37°46'25", long 79°47'05", Botetourt County, on right bank at community of Lick Run, 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 342.3 (revised).

DRAINAGE AREA.--1,373 sq mi.

PERIOD OF RECORD.--April 1925 to current year.

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, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--47 years, 1,564 cfs (15.47 inches per year).

EXTREMES.--Current year: Maximum discharge, 66,300 cfs June 21 (gage height, 27.01 ft); minimum, 268 cfs many days in September (gage height, 1.40 ft).

Period of record: Maximum discharge, 66,600 cfs Mar. 18, 1936, from rating curve extended above 42,400 cfs on basis of records for other stations in James River basin; maximum gage height, 27.01 ft June 21, 1972; minimum discharge, 148 cfs Sept. 7, 1966 (gage height, 1.42 ft).

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. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 852: 1936-37. WSP 972: 1927, 1930(M), 1932(M), 1935-36. WSP 1303: 1927-28(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	686	993	3,400	694	2,130	5,740	1,140	1,680	1,160	2,790	5,060	390
2	656	934	2,330	744	1,880	5,270	1,080	1,540	1,010	2,340	3,350	381
3	993	941	1,790	910	1,960	5,250	1,010	1,890	899	1,980	2,550	349
4	893	1,200	1,490	1,270	3,570	4,810	960	4,630	827	1,700	2,210	330
5	731	1,220	1,270	2,620	2,620	3,780	907	5,420	765	10,500	2,180	303
6	636	1,090	1,100	3,490	2,140	3,050	858	3,950	716	14,200	2,040	363
7	561	978	3,260	2,780	2,110	2,540	887	3,120	701	6,490	1,720	390
8	507	875	11,800	2,200	1,850	2,270	4,750	2,720	650	4,280	1,530	372
9	473	804	5,690	1,820	1,590	1,970	4,050	4,160	612	3,180	1,330	363
10	506	743	3,810	2,090	1,450	1,700	2,900	4,220	591	2,510	1,150	326
11	488	693	2,890	2,410	1,290	1,520	2,410	3,340	561	2,090	1,020	335
12	463	674	2,270	2,240	1,260	1,370	2,120	2,790	535	1,820	917	330
13	426	642	1,890	2,030	5,250	1,300	2,020	2,400	518	1,770	861	326
14	414	607	1,620	1,930	7,730	1,280	3,370	2,300	798	1,560	810	326
15	387	578	1,410	1,730	4,700	1,270	5,020	2,600	807	1,330	994	330
16	390	550	1,470	1,370	4,000	1,230	4,720	3,440	649	1,200	896	308
17	397	522	1,420	1,030	3,710	1,270	4,160	3,080	920	1,150	810	317
18	427	498	1,210	1,280	3,260	1,290	3,690	2,720	1,540	1,130	816	308
19	514	483	1,070	1,280	2,810	1,180	3,070	2,630	1,160	1,020	854	286
20	471	478	1,040	1,230	2,360	1,100	2,640	2,680	1,760	903	828	286
21	437	490	1,160	2,100	1,910	1,050	2,320	2,580	39,800	868	798	281
22	423	502	1,180	2,600	1,860	1,680	4,860	2,350	35,200	945	696	281
23	485	505	1,050	2,270	2,420	3,330	8,900	3,040	11,200	1,390	638	272
24	1,510	494	975	2,550	3,530	3,080	5,700	3,010	6,520	1,020	583	277
25	4,540	506	963	2,980	11,000	2,520	4,350	2,360	4,590	816	550	281
26	5,420	505	938	2,700	23,500	2,170	3,480	1,920	3,500	696	505	281
27	3,250	487	901	2,350	22,600	1,880	2,850	1,590	2,800	633	545	299
28	2,190	509	860	2,620	9,890	1,720	2,400	1,370	2,430	1,210	535	326
29	1,650	1,100	803	3,510	6,550	1,550	2,090	1,230	3,870	6,270	490	386
30	1,300	4,050	751	3,060	-----	1,410	1,860	1,140	3,390	16,400	441	678
31	1,100	-----	718	2,570	-----	1,250	-----	1,170	-----	9,520	427	-----
TOTAL	33,324	24,651	62,529	64,458	140,930	70,830	90,572	83,070	130,479	103,711	38,134	10,081
MEAN	1,075	822	2,017	2,079	4,860	2,285	3,019	2,680	4,349	3,346	1,230	336
MAX	5,420	4,050	11,800	3,510	23,500	5,740	8,900	5,420	39,800	16,400	5,060	678
MIN	387	478	718	694	1,260	1,050	858	1,140	518	633	427	272
CFSM	.78	.60	1.47	1.51	3.54	1.66	2.20	1.95	3.17	2.44	.90	.24
IN.	.90	.67	1.69	1.75	3.82	1.92	2.45	2.25	3.54	2.81	1.03	.27

CAL YR 1971: TOTAL 690,220 MEAN 1,891 MAX 25,800 MIN 249 CFSM 1.38 IN 18.70
WTR YR 1972: TOTAL 852,769 MEAN 2,330 MAX 39,800 MIN 272 CFSM 1.70 IN 23.10

PEAK DISCHARGE (BASE, 12,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-8	0600	11.88	15,600	7-6	0030	14.46	21,200
2-26	2130	19.84	34,500	7-30	0030	13.68	19,400
6-21	1900	27.01	66,300				

JAMES RIVER BASIN

02017500 JOHNS CREEK AT NEW CASTLE, VA.

LOCATION.--Lat 37°30'22", long 80°06'25", Craig County, on right bank 20 ft downstream from bridge on State Highway 615 at New Castle and 1,700 ft upstream from mouth.

DRAINAGE AREA.--104 sq mi.

PERIOD OF RECORD.--April 1926 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,254.30 ft above mean sea level. Prior to June 7, 1937, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--46 years, 121 cfs (15.80 inches per year).

EXTREMES.--Current year: Maximum discharge, 7,960 cfs June 21 (gage height, 12.48 ft), from rating curve extended as explained below; minimum daily, 14 cfs Sept. 20-25.

Period of record: Maximum discharge, 8,000 cfs Jan. 23, 1935, from rating curve extended above 3,200 cfs on basis of slope-area measurement of peak flow; maximum gage height, 12.48 ft June 21, 1972; minimum discharge, 6.0 cfs Dec. 5, 1946, result of freezeup; minimum daily, 6.6 cfs Oct. 1, 1968; minimum gage height, 2.33 ft July 28, Sept. 7, 1966.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 972: 1935-36(M), 1940(M). WSP 1203: 1928, 1935. WSP 1303: 1927(M), 1928, 1929-34(M), 1935. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	106	170	54	240	441	115	154	87	204	206	18
2	19	89	136	58	216	408	106	142	77	141	151	18
3	20	244	120	60	231	420	97	231	68	107	117	18
4	18	227	108	71	273	378	92	355	60	93	95	18
5	18	187	96	151	153	343	90	296	55	321	80	22
6	20	163	88	157	186	308	82	264	51	284	67	26
7	18	143	231	148	186	279	96	235	49	223	57	22
8	16	120	328	136	162	249	348	222	44	181	50	19
9	17	102	268	129	145	208	246	305	41	134	44	19
10	25	89	235	182	136	177	224	277	37	110	40	18
11	23	77	202	180	131	148	200	249	34	93	36	17
12	20	69	172	163	135	135	246	220	33	83	35	16
13	18	62	147	152	507	125	257	195	31	79	33	16
14	18	56	129	142	423	125	277	244	32	70	31	16
15	17	51	115	124	333	109	320	732	37	63	29	17
16	19	49	111	113	310	107	330	455	36	60	27	16
17	26	45	97	110	286	124	318	387	175	52	29	16
18	25	43	84	105	260	114	279	330	222	48	40	15
19	25	41	78	94	238	106	249	296	187	43	32	15
20	26	39	86	107	200	100	220	305	420	40	47	14
21	32	42	90	358	177	100	189	262	6,040	36	30	14
22	43	42	84	320	212	474	530	233	2,120	60	28	14
23	137	39	77	291	229	390	564	282	1,070	59	26	14
24	282	39	75	260	447	313	432	244	753	39	24	14
25	839	44	74	240	716	273	358	206	592	32	23	14
26	447	39	73	208	1,130	238	308	167	449	28	26	15
27	313	40	71	191	816	208	266	144	395	27	24	19
28	249	54	67	402	605	180	224	129	364	28	21	24
29	196	130	62	378	498	152	195	115	327	72	20	57
30	157	229	58	320	-----	138	175	103	257	456	19	219
31	130	-----	57	275	-----	125	-----	100	-----	343	18	-----
TOTAL	3,230	2,700	3,789	5,679	9,621	6,995	7,433	7,919	14,143	3,609	1,505	760
MEAN	104	90.0	122	183	332	226	248	255	471	116	48.5	25.3
MAX	839	244	328	402	1,130	474	564	732	6,040	456	206	219
MIN	16	39	57	54	131	100	82	100	31	27	18	14
CFSM	1.00	.87	1.17	1.76	3.19	2.17	2.38	2.45	4.53	1.12	.47	.24
IN.	1.16	.97	1.36	2.03	3.44	2.50	2.66	2.83	5.06	1.29	.54	.27

CAL YR 1971 TOTAL 52,939 MEAN 145 MAX 1,940 MIN 11 CFSM 1.39 IN 18.94
WTR YR 1972 TOTAL 67,383 MEAN 184 MAX 6,040 MIN 14 CFSM 1.77 IN 24.10

PEAK DISCHARGE (BASE, 2,100 CFS).--JUNE 21 (1030) 7,960 CFS (12.48 FT).

JAMES RIVER BASIN

93

02018000 CRAIG CREEK AT PARR, VA.

LOCATION.--Lat 37°39'57", long 79°54'42", Botetourt County, on right bank 12 ft upstream from Chesapeake and Ohio Railway bridge, 700 ft downstream from Stony Run, 0.2 mile northeast of Horton, 0.4 mile northwest of Parr, and 12 miles upstream from mouth.

DRAINAGE AREA.--329 sq mi.

PERIOD OF RECORD.--April 1925 to current year.

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, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--47 years, 370 cfs (15.27 inches per year).

EXTREMES.--Current year: Maximum discharge, 20,200 cfs June 21 (gage height, 19.29 ft, from high-water mark in well); minimum, 58 cfs Sept. 23 (gage height, 3.68 ft).
Period of record: Maximum discharge, 20,200 cfs June 21, 1972 (gage height, 19.29 ft, from high-water mark in well); minimum daily, 25 cfs Sept. 4, 1966; minimum gage height, 3.15 ft July 17, 18, 1966.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 852: 1937. WSP 892: 1935-36. WSP 1303: 1929-30(M), 1932-35(M), 1937-38(M).
WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	366	790	183	700	1,180	348	448	274	560	614	78
2	106	325	574	185	624	995	325	400	245	430	518	76
3	108	411	458	194	628	925	301	442	222	350	391	75
4	109	676	395	196	1,220	841	281	964	199	293	309	73
5	102	558	348	274	834	754	266	1,010	183	601	260	78
6	98	492	313	431	654	682	252	750	172	820	217	84
7	96	431	375	412	654	618	248	676	162	584	193	91
8	90	366	978	410	624	568	938	612	152	470	174	84
9	87	321	925	366	552	508	1,090	754	138	377	157	79
10	98	285	748	464	457	448	790	820	130	322	144	75
11	109	259	629	590	442	395	676	730	121	280	135	72
12	109	238	536	568	426	356	634	634	113	249	127	69
13	100	219	464	519	1,400	338	778	558	111	230	129	68
14	95	205	395	480	1,850	334	820	574	117	214	135	66
15	90	191	352	410	1,260	325	960	1,680	117	195	129	65
16	90	180	338	321	1,060	305	995	1,960	111	187	135	68
17	98	170	305	310	960	325	960	1,280	143	174	119	68
18	115	162	278	300	841	366	808	1,010	487	169	131	66
19	115	155	255	290	754	348	718	876	352	157	148	64
20	117	152	255	301	658	325	640	925	504	146	133	63
21	119	150	274	726	552	309	585	834	9,000	135	138	60
22	150	152	255	1,140	536	834	968	808	10,400	129	119	60
23	324	148	238	960	607	1,400	2,150	820	2,980	192	108	60
24	1,880	150	229	808	732	995	1,420	848	1,900	208	102	60
25	2,440	157	226	712	2,110	802	1,100	676	1,350	150	98	60
26	2,820	152	226	624	2,660	694	890	558	1,020	127	97	60
27	1,220	148	226	558	3,090	602	748	453	792	118	106	63
28	827	162	216	790	1,960	541	640	390	714	118	98	78
29	629	272	216	1,260	1,460	475	558	348	1,090	135	89	144
30	508	978	196	1,030	-----	420	497	317	708	610	84	800
31	426	-----	191	834	-----	375	-----	293	-----	799	81	-----
TOTAL	13,377	8,631	12,208	16,646	30,485	18,383	22,384	23,508	34,007	9,529	5,418	2,907
MEAN	432	288	394	537	1,051	593	746	758	1,134	307	175	96.9
MAX	2,820	578	978	1,260	3,090	1,400	2,150	1,960	10,400	820	614	800
MIN	87	148	191	183	426	305	248	293	111	118	81	60
CFSM	1.31	.88	1.20	1.63	3.19	1.80	2.27	2.30	3.45	.93	.53	.29
IN.	1.51	.98	1.38	1.88	3.45	2.08	2.53	2.66	3.85	1.08	.61	.33

CAL YR 1971 TOTAL 172,615 MEAN 473 MAX 5,130 MIN 49 CFSM 1.44 IN 19.52
WTR YR 1972 TOTAL 197,483 MEAN 540 MAX 10,400 MIN 60 CFSM 1.64 IN 22.33

PEAK DISCHARGE (BASE, 4,200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-26	0300	9.25	4,470	6-21	2400	19.29	20,200

JAMES RIVER BASIN

02018500 CATAWBA CREEK NEAR CATAWBA, VA.

LOCATION.--Lat 37°28'05", long 80°00'20", Botetourt County, on right bank 40 ft downstream from highway bridge, 1.0 mile downstream from Little Catawba Creek, 1.9 miles west of Haymakertown, and 8.2 miles northeast of Catawba.

DRAINAGE AREA.--34.3 sq mi.

PERIOD OF RECORD.--September 1943 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,299.96 ft above mean sea level. Prior to Aug. 1, 1953, non-recording gage at site 80 ft downstream at same datum.

AVERAGE DISCHARGE.--29 years, 34.4 cfs (13.62 inches per year), adjusted for pumpage since October 1952.

EXTREMES.--Current year: Maximum discharge, 7,740 cfs June 21 (gage height, 10.35 ft), from rating curve extended as explained below; minimum, 4.4 cfs Sept. 24; minimum daily, 4.7 cfs Sept. 24; minimum gage height, 1.51 ft Oct. 8, 9, 16.

Period of record: Maximum discharge, 7,740 cfs June 21, 1972 (gage height, 10.35 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurement of peak flow; minimum, 0.80 cfs Nov. 21, 1963; minimum daily, 0.90 cfs Nov. 22, 1963; minimum gage height, 0.54 ft Sept. 7-11, 1944, site then in use. Flood in August 1940 reached a stage of 13.26 ft, from information by observer.

REVISIONS.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in WSP 1723 and other water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
1333	1954	Mar. 1, 1954	2,780	6.58
1383	1955	Oct. 15, 1954	1,140	4.72
1503	1957	Apr. 5, 1957	976	4.52
1553	1958	May 5, 1958	1,600	5.30
1623	1959	Sept. 30, 1959	2,290	6.09
1703	1960	Feb. 11, 1960	1,540	5.22
1904	1961	Aug. 25, 1961	1,920	5.70
1904	1962	Dec. 18, 1961	856	4.37
1904	1963	Nov. 9, 1962	2,130	5.93
1904	1964	Apr. 14, 1964	1,190	4.79
1904	1965	Feb. 7, 1965	1,210	4.81
WRD Va. 1966	1966	Feb. 13, 1966	1,290	4.91
WRD Va. 1967	1967	Mar. 7, 1967	1,820	5.57
WRD Va. 1968	1968	Mar. 12, 1968	744	4.23
WRD Va. 1969	1969	Oct. 19, 1968	1,320	4.95
WRD Va. 1970	1970	Dec. 31, 1969	1,210	4.81
WRD Va. 1971	1971	May 30, 1971	1,350	4.99

REMARKS.--Records good. Lone Star Cement Co. pumps about 0.4 cfs below gage and returns it above gage pool. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1303: 1944-45(M). WRD Va. 1970: Drainage area. Revised figures of discharge, in cubic feet per second, for high-water periods in water years 1954, 1959, 1963, 1969, and 1971, superseding figures published in WSP 1333, 1623, 1904, and WRD Va. 1969, 1971, are given below:

Mar. 1, 1954.....	1,110	Oct. 19, 1968.....	792
Sept. 30, 1959.....	792	Oct. 31, 1970.....	630
Nov. 9, 1962.....	560	Feb. 13, 1971.....	690
Nov. 10, 1962.....	702	May 30, 1971.....	816
Mar. 12, 1963.....	640		

Month	Cfs-days	Maximum	Minimum	Mean	#Mean	*Per square mile	*Runoff in inches
March 1954	2,309	1,110	19	74.5	74.1	2.16	2.49
WTR YR 1954	6,336.2	1,110	3.6	17.4	17.0	.50	6.71
CAL YR 1954	8,619.4	1,110	3.6	23.6	23.2	.68	9.19
September 1959	946.6	792	2.6	31.6	31.2	.91	1.01
WTR YR 1959	6,583.2	792	2.6	18.0	17.6	.51	6.98
CAL YR 1959	9,258.4	792	2.6	25.4	25.0	.73	9.88
November 1962	2,018.5	702	6.0	67.3	66.9	1.95	2.18
March 1963	3,727	640	32	120	120	3.50	4.03
CAL YR 1962	15,240.3	702	5.1	41.8	41.4	1.21	16.37
WTR YR 1963	10,751.1	702	2.1	29.5	29.1	.85	11.50
CAL YR 1963	8,011.3	640	.90	21.9	21.5	.63	8.53
October 1968	1,315.4	792	2.3	42.4	42.0	1.22	1.41
CAL YR 1968	10,947.3	792	2.3	29.9	29.5	.86	11.71
WTR YR 1969	11,268.4	792	2.3	30.9	30.5	.89	12.06
October 1970	1,043.4	630	3.0	33.7	33.3	.97	1.12
February 1971	2,756	690	13	98.4	98.0	2.86	2.98
May 1971	2,385	816	17	76.9	76.5	2.23	2.57
CAL YR 1970	9,861.0	630	3.0	27.0	26.6	.78	10.54
WTR YR 1971	15,908.6	816	3.0	43.6	43.2	1.26	17.10

* Adjusted for pumpage.

02018500 CATAWBA CREEK NEAR CATAWBA, VA.--Continued

REVISED PEAK DISCHARGE.--1955: Oct. 15 (1600) 1,140 cfs (4.72 ft); Mar. 6 (1430) 728 cfs (4.21 ft); Mar. 22 (0700) 660 cfs (4.10 ft); Apr. 14 (0430) 575 cfs (3.93 ft).
 1957: Oct. 27 (0300) 760 cfs (4.25 ft); Jan. 29 (1530) 944 cfs (4.48 ft); Feb. 26 (1000) 678 cfs (4.13 ft); Apr. 5 (1030) 976 cfs (4.52 ft); June 2 (1900) 848 cfs (4.36 ft).
 1958: Mar. 31 (1800) 600 cfs (3.98 ft); May 5 (1330) 1,600 cfs (5.30 ft); July 9 (1730) 672 cfs (4.12 ft); Aug. 13 (1400) 620 cfs (4.02 ft).
 1959: Apr. 12 (2000) 595 cfs (3.97 ft); Sept. 30 (1600) 2,290 cfs (6.09 ft).
 1960: Feb. 5 (1800) 856 cfs (4.37 ft); Feb. 11 (0130) 1,540 cfs (5.22 ft); Mar. 30 (0830) 708 cfs (4.18 ft); May 27 (2000) 640 cfs (4.06 ft); Aug. 31 (1700) 1,020 cfs (4.57 ft).
 1961: Apr. 12 (2400) 666 cfs (4.11 ft); Aug. 25 (1830) 1,920 cfs (5.70 ft).
 1962: Dec. 12 (0200) 580 cfs (3.94 ft); Dec. 18 (0930) 856 cfs (4.37 ft); Mar. 12 (0500) 768 cfs (4.26 ft); Aug. 16 (1700) 640 cfs (4.06 ft).
 1963: Nov. 9 (2330) 2,130 cfs (5.93 ft); Mar. 12 (1100) 888 cfs (4.41 ft).
 1965: Feb. 7 (1330) 1,210 cfs (4.81 ft); Mar. 26 (1100) 660 cfs (4.10 ft).
 1966: Feb. 13 (1230) 1,290 cfs (4.91 ft); May 2 (1130) 736 cfs (4.22 ft).
 1967: Oct. 19 (0730) 968 cfs (4.51 ft); Mar. 7 (0530) 1,820 cfs (5.57 ft).
 1969: Oct. 19 (0900) 1,320 cfs (4.95 ft); June 21 (2215) 650 cfs (4.08 ft); July 2 (0215) 1,180 cfs (4.78 ft); July 29 (2115) 1,130 cfs (4.71 ft); Aug. 18 (2015) 550 cfs (3.88 ft); Aug. 20 (0630) 1,180 cfs (4.78 ft).
 1971: Oct. 30 (2345) 1,310 cfs (4.94 ft); Feb. 13 (1230) 1,240 cfs (4.85 ft); May 30 (unknown) 1,350 cfs (4.99 ft); July 11 (0145) 864 cfs (4.38 ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	32	49	11	39	74	30	35	27	44	39	6.3
2	13	30	37	13	37	66	28	33	25	39	28	6.2
3	11	35	32	12	91	62	26	40	24	35	27	6.0
4	10	31	28	15	96	53	25	64	22	33	22	6.0
5	10	26	25	21	61	48	24	54	22	159	20	7.9
6	9.8	25	23	19	56	43	23	48	21	75	17	7.6
7	8.6	23	43	18	50	40	38	43	20	54	16	6.3
8	8.1	21	48	17	45	37	118	44	19	44	14	5.9
9	8.9	20	42	18	43	34	68	52	18	37	13	5.9
10	15	19	38	31	39	32	57	45	17	34	12	5.6
11	12	18	33	29	37	30	50	41	16	31	11	5.5
12	10	17	29	27	36	29	60	37	15	29	11	5.4
13	9.4	16	27	26	365	28	60	35	15	27	10	5.3
14	8.8	15	24	25	184	30	66	50	15	25	10	5.4
15	8.4	14	23	22	110	27	64	131	16	25	11	6.0
16	8.6	13	22	17	88	28	60	98	14	21	11	5.3
17	10	13	20	15	79	36	54	76	36	20	14	5.2
18	11	13	18	16	69	32	47	65	22	19	15	5.1
19	11	13	18	19	62	30	43	60	20	17	11	4.9
20	15	12	20	23	53	29	40	70	128	17	12	4.8
21	27	13	19	70	49	28	38	76	2,970	16	9.2	4.9
22	41	12	17	57	52	102	100	68	520	19	8.5	4.9
23	325	11	15	52	49	78	107	101	228	24	8.2	4.8
24	411	12	15	46	98	62	81	74	137	16	7.7	4.7
25	462	12	15	40	185	54	67	60	97	14	7.5	4.9
26	172	11	14	34	254	48	58	51	77	12	7.3	7.6
27	85	13	14	32	186	43	51	43	61	12	7.3	12
28	62	19	14	68	118	39	45	38	74	11	7.4	15
29	49	65	13	62	88	36	41	35	63	19	6.8	140
30	40	73	12	54	-----	33	38	33	50	46	6.4	234
31	36	-----	11	46	-----	31	-----	31	-----	77	6.2	-----
TOTAL	1,919.6	647	758	955	2,719	1,342	1,607	1,731	4,789	1,051	416.5	549.4
MEAN	61.9	21.6	24.5	30.8	93.8	43.3	53.6	55.8	160	33.9	13.4	18.3
MAX	462	73	49	70	365	102	118	131	2,970	159	39	234
MIN	8.1	11	11	11	36	27	23	31	14	11	6.2	4.7
(*)	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
MEAN#	61.5	21.2	24.1	30.4	93.4	42.9	53.2	55.4	160	33.5	13.0	17.9
CFSM#	1.79	.62	.70	.89	2.72	1.25	1.55	1.62	4.66	.98	.38	.52
IN#	2.06	.69	.81	1.03	2.83	1.44	1.73	1.87	5.20	1.13	.44	.58
CAL YR 1971	TOTAL 15,740.8	MEAN 43.1	MAX 816	MIN 4.9	MEAN# 42.7	CFSM# 1.24	IN# 16.92					
WTR YR 1972	TOTAL 18,484.5	MEAN 50.5	MAX 2,570	MIN 4.7	MEAN# 50.1	CFSM# 1.46	IN# 19.81					

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-23	2045	4.13	678	6-21	0900	10.35	7,740
10-25	1245	4.37	856				

* PUMPAGE, EQUIVALENT IN CUBIC FEET PER SECOND, BY LONE STAR CEMENT CO.
 * ADJUSTED FOR PUMPAGE.

JAMES RIVER BASIN

02019500 JAMES RIVER AT BUCHANAN, VA.

LOCATION.--Lat 37°31'50", long 79°40'45", Botetourt County, on left bank at Chesapeake & Ohio Railway station at Buchanan, 300 ft upstream from bridge on U.S. Highway 11, 1,000 ft upstream from Purgatory Creek, 1.5 miles downstream from Looney Creek, and at mile 306.4 (revised).

DRAINAGE AREA.--2,075 sq mi.

PERIOD OF RECORD.--February 1898 to current year. Monthly discharge only for some periods, published in WSP 1303. Records for August 1895 to Feb. 11, 1898, published in WSP 11, 15, and 27 are in error and should not be used. Gage-height records collected at this site since 1893 are contained in reports of the National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 802.90 ft above mean sea level. Prior to July 1, 1927, non-recording gage at same site and datum.

AVERAGE DISCHARGE.--74 years, 2,438 cfs (15.96 inches per year).

EXTREMES.--Current year: Maximum discharge, 111,000 cfs June 22 (gage height, 30.49 ft, from floodmark); minimum, 515 cfs Sept. 25 (gage height, 2.23 ft).
Period of record: Maximum discharge, 115,000 cfs (revised) Mar. 27, 1913 (gage height, 31 ft, from floodmarks); minimum, 202 cfs Sept. 8, 1966 (gage height, 1.44 ft).
Flood in November 1877 reached a stage of 34.9 ft, from floodmark (discharge, about 142,000 cfs, revised, from rating curve extended above 110,000 cfs).
REVISIONS.--The maximum discharge for the water year 1913 has been revised to 115,000 cfs Mar. 27, 1913 (gage height, 31 ft, from floodmarks), superseding figure published in WSP 352 and 1303.

REMARKS.--Records good. Water-quality records for the current year are included in this report.

REVISIONS (WATER YEARS).--WSP 602: 1917-24. WSP 972: 1935-36. WSP 1303: 1898-1916, 1917-20(M), 1922(M), 1924(M). WSP 1383: 1927. WRD Va. 1970: Drainage area. See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,020	1,710	5,070	1,070	3,290	7,670	1,820	2,240	1,730	3,850	7,000	734
2	961	1,570	3,520	1,080	2,890	7,080	1,720	2,040	1,610	3,230	5,000	713
3	1,000	1,710	2,700	1,150	2,910	6,450	1,620	2,100	1,470	2,760	3,340	698
4	1,260	2,070	2,230	1,430	5,450	6,460	1,530	4,510	1,360	2,400	2,790	683
5	1,080	2,170	1,940	1,980	4,650	5,140	1,460	6,890	1,270	6,510	2,730	718
6	930	1,950	1,700	3,820	3,440	4,240	1,400	5,240	1,190	19,000	2,520	734
7	812	1,740	1,830	3,470	3,200	3,560	1,360	4,000	1,140	9,140	2,200	725
8	733	1,560	11,600	2,890	2,900	3,210	4,090	3,380	1,090	5,630	1,940	717
9	680	1,430	8,300	2,410	2,640	2,870	6,410	4,000	1,030	4,100	1,730	679
10	743	1,330	5,260	2,510	2,370	2,530	4,350	5,300	961	3,280	1,560	651
11	754	1,230	3,980	3,100	2,160	2,280	3,540	4,250	916	2,760	1,420	625
12	715	1,150	3,220	3,060	2,040	2,090	3,170	3,520	874	2,400	1,320	608
13	666	1,080	2,690	2,820	5,770	1,960	3,130	3,040	838	2,260	1,240	598
14	613	1,020	2,330	2,630	12,700	1,910	3,400	2,870	853	2,090	1,210	588
15	584	960	2,040	2,410	7,810	1,880	6,380	5,150	1,380	1,850	1,210	590
16	556	912	1,970	2,050	5,520	1,830	6,200	7,220	1,040	1,700	1,350	591
17	578	867	2,000	1,570	5,350	1,860	5,700	5,650	1,270	1,610	1,210	574
18	573	827	1,780	1,400	4,810	1,940	5,050	4,510	1,980	1,570	1,200	571
19	647	799	1,590	1,500	4,140	1,860	4,230	4,210	2,130	1,500	1,200	560
20	713	778	1,520	1,690	3,570	1,740	3,650	4,190	2,110	1,400	1,240	545
21	672	777	1,580	2,370	3,010	1,650	3,250	4,070	44,400	1,310	1,180	530
22	657	786	1,650	4,180	2,680	2,330	4,130	3,720	92,200	1,300	1,130	524
23	930	784	1,540	3,680	3,000	4,900	12,300	3,690	23,700	1,460	1,020	521
24	3,950	800	1,440	3,380	3,640	4,800	8,740	4,560	10,800	1,660	962	520
25	6,180	815	1,400	3,840	11,100	3,870	6,440	3,600	7,110	1,400	918	519
26	11,100	806	1,380	3,600	22,100	3,310	5,070	3,000	5,290	1,300	888	521
27	6,150	785	1,340	3,190	37,100	2,920	4,160	2,500	4,130	1,200	904	575
28	3,910	816	1,300	3,320	15,600	2,640	3,500	2,160	3,480	1,100	963	632
29	2,920	1,150	1,240	4,930	9,650	2,400	3,050	1,930	5,870	2,500	862	803
30	2,320	4,270	1,170	4,670	-----	2,190	2,690	1,780	4,970	20,000	804	1,740
31	1,950	-----	1,110	3,900	-----	2,000	-----	1,820	-----	11,000	765	-----
TOTAL	56,357	38,652	82,420	85,100	195,930	101,576	123,540	117,140	228,192	123,270	53,806	19,787
MEAN	1,818	1,288	2,659	2,745	6,756	3,270	4,118	3,779	7,606	3,976	1,736	660
MAX	11,100	4,270	11,600	4,930	37,100	7,670	12,300	7,220	92,200	20,000	7,000	1,740
MIN	556	777	1,110	1,070	2,040	1,650	1,360	1,780	838	1,100	765	519
CFSM	.88	.62	1.28	1.32	3.26	1.58	1.98	1.82	3.67	1.92	.84	.32
IN.	1.01	.69	1.48	1.53	3.51	1.82	2.21	2.10	4.09	2.21	.96	.35

CAL YR 1971 TOTAL 1,000,298 MEAN 2,741 MAX 42,400 MIN 352 CFSM 1.32 IN 17.93
WTR YR 1972 TOTAL 1,225,764 MEAN 3,349 MAX 92,200 MIN 519 CFSM 1.61 IN 21.98

PEAK DISCHARGE (BASE, 21,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-27	0645	18.52	44,400	7-6	0900	13.03	23,000
6-22	0900	30.49	111,000	7-30	UNKNOWN	13.08	23,200

JAMES RIVER BASIN

97

02020500 CALFPASTURE RIVER ABOVE MILL CREEK, AT GOSHEN, VA.

LOCATION.--Lat 37°59'16", long 79°29'38", Rockbridge County, on left bank 20 ft upstream from bridge on State Highway 42 at Goshen and 400 ft upstream from Mill Creek.

DRAINAGE AREA.--144 sq mi.

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for some periods, published in WSP 1303.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,384.84 ft above mean sea level.

AVERAGE DISCHARGE.--34 years, 152 cfs (14.33 inches per year).

EXTREMES.--Current year: Maximum discharge, 13,700 cfs June 22 (gage height, 11.43 ft), from rating curve extended as explained below; minimum, 6.6 cfs Sept. 24, 25.

Period of record: Maximum discharge, 16,600 cfs May 30, 1971, from rating curve extended above 9,200 cfs on basis of slope-area measurement of peak flow; maximum gage height, 12.14 ft June 18, 1949; no flow Sept. 5, 6, 1957, and Sept. 28, 1959, result of diversion.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	105	369	50	150	425	96	134	101	400	493	9.0
2	105	94	261	57	141	418	89	120	90	274	340	9.5
3	183	100	204	64	155	366	82	130	78	211	244	9.6
4	159	108	172	68	282	289	75	445	67	175	203	10
5	123	99	144	123	250	236	69	503	60	2,270	188	11
6	94	92	126	173	220	197	64	358	56	1,480	154	11
7	73	86	573	176	195	170	82	277	53	578	119	13
8	60	78	1,030	157	166	149	274	237	46	349	98	12
9	54	71	509	141	149	130	225	335	41	248	79	12
10	58	65	344	183	129	114	195	360	37	193	64	12
11	53	62	264	197	120	102	176	317	32	155	57	11
12	44	59	210	194	112	93	158	261	30	149	52	12
13	38	55	179	182	1,000	87	180	217	28	288	39	12
14	34	52	151	175	921	85	469	201	32	211	35	11
15	31	49	133	150	508	83	420	207	31	158	32	12
16	28	46	120	130	448	81	344	200	28	123	29	12
17	29	42	106	115	380	97	311	184	32	119	26	8.6
18	84	40	94	105	308	92	262	229	39	100	25	8.3
19	80	38	85	98	260	87	231	229	52	80	21	8.5
20	65	37	85	105	213	84	208	209	80	65	21	9.2
21	57	38	85	110	185	82	185	201	4,820	59	19	9.6
22	51	35	75	102	173	153	358	230	5,980	62	15	8.8
23	53	34	67	100	181	296	595	850	1,030	61	14	6.9
24	286	35	63	168	249	281	473	469	488	50	11	6.7
25	609	40	61	208	567	233	368	308	315	49	10	7.1
26	711	35	60	206	1,840	199	297	223	238	48	9.9	7.1
27	377	36	59	196	1,500	172	242	174	193	47	9.0	7.3
28	248	41	58	199	673	152	203	141	168	71	9.1	8.5
29	184	117	55	188	453	134	175	118	629	323	9.6	10
30	146	509	53	178	-----	120	154	103	588	1,370	9.5	19
31	122	-----	52	167	-----	105	-----	111	-----	1,150	8.9	-----
TOTAL	4,297	2,298	5,847	4,465	11,928	5,312	7,060	8,081	15,462	10,916	2,444.0	304.7
MEAN	139	76.6	189	144	411	171	235	261	515	352	78.8	10.2
MAX	711	509	1,030	208	1,840	425	595	850	5,980	2,270	493	19
MIN	28	34	52	50	112	81	64	103	28	47	8.9	6.7
CFSM	.97	.53	1.31	1.00	2.85	1.19	1.63	1.81	3.58	2.44	.55	.07
IN.	1.11	.59	1.51	1.15	3.08	1.37	1.82	2.09	3.99	2.82	.63	.08

CAL YR 1971 TOTAL 72,636.2 MEAN 199 MAX 7,980 MIN 5.0 CFSM 1.38 IN 18.76
WTR YR 1972 TOTAL 78,414.7 MEAN 214 MAX 5,980 MIN 6.7 CFSM 1.49 IN 20.26

PEAK DISCHARGE (BASE, 2,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-26	1800	6.24	2,560	7- 5	1630	6.78	3,400
6-22	0100	11.43	13,700				

JAMES RIVER BASIN

02021500 MAURY RIVER AT ROCKBRIDGE BATHS, VA.

LOCATION.--Lat 37°54'26", long 79°25'20", Rockbridge County, on right bank at Rockbridge Baths, 1200 ft (revised) upstream from bridge on State Highway 39, and 1.0 mile upstream from Hays Creek.

DRAINAGE AREA.--329 sq mi.

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for some periods, published in WSP 1303. 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.--44 years, 353 cfs (14.57 inches per year).

EXTREMES.--Current year: Maximum discharge, 19,000 cfs June 22 (gage height, 10.81 ft); minimum, 46 cfs Sept. 28, 29 (gage height, 1.24 ft).

Period of record: Maximum discharge, 33,000 cfs Mar. 17, 1936 (gage height, 13.07 ft), from rating curve extended above 16,000 cfs; minimum, 5.8 cfs Sept. 10, 1966 (gage height, 0.79 ft).

REMARKS.--Records good. Since 1966, some regulation at times by Lake Merriweather on Little Calpasture River. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 972: 1929-40, 1941(M). WSP 1002: 1930(m). WSP 1553: 1931(m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	201	687	102	314	1,020	208	351	295	746	1,490	70
2	113	180	551	133	296	935	197	333	240	567	974	69
3	255	212	437	164	387	835	180	304	206	437	670	69
4	223	227	360	166	990	665	169	1,210	180	280	497	72
5	179	198	295	311	656	547	158	1,310	159	3,430	455	83
6	144	183	255	386	568	446	146	914	146	3,100	389	82
7	115	173	894	367	512	385	165	656	141	1,440	337	71
8	97	157	2,050	319	404	339	1,210	553	122	837	287	70
9	88	145	1,150	282	354	287	668	926	109	576	233	76
10	108	137	775	425	301	254	583	1,030	100	450	198	70
11	106	127	595	457	277	226	448	847	87	352	172	76
12	87	118	457	434	264	209	342	626	81	357	157	85
13	77	111	380	392	2,360	196	363	519	78	809	151	91
14	70	104	313	378	2,590	195	834	537	85	496	146	80
15	64	97	271	313	1,410	187	827	681	90	394	130	104
16	60	92	255	225	1,130	186	720	912	84	311	122	110
17	58	87	218	210	943	256	930	708	101	289	118	83
18	103	84	189	237	776	227	676	685	131	244	119	80
19	117	82	170	218	672	199	552	798	126	199	112	80
20	99	81	185	211	533	185	520	706	288	169	113	80
21	90	83	194	237	423	179	457	613	7,940	157	108	95
22	84	79	167	220	430	437	1,100	586	10,900	157	99	103
23	100	73	145	210	431	705	1,900	2,510	2,450	257	93	93
24	538	76	139	357	620	646	1,350	1,460	1,370	190	88	68
25	1,130	86	138	461	1,630	532	1,020	923	838	150	89	55
26	1,370	74	133	429	4,310	447	745	672	630	126	88	53
27	774	67	131	392	3,420	379	593	517	430	111	85	51
28	503	77	125	428	1,870	338	500	373	432	159	84	47
29	360	218	116	422	1,250	293	431	273	1,120	1,320	79	51
30	278	921	111	391	-----	262	394	276	990	3,980	75	80
31	230	-----	109	359	-----	229	-----	333	-----	2,940	71	-----
TOTAL	7,705	4,550	11,995	9,636	30,121	12,226	18,386	23,142	29,949	25,030	7,829	2,297
MEAN	249	152	387	311	1,039	394	613	747	998	807	253	76.6
MAX	1,370	921	2,050	461	4,310	1,020	1,900	2,510	10,900	3,980	1,490	110
MIN	58	67	109	102	264	179	146	273	78	111	71	47
CFSM	.76	.46	1.18	.95	3.16	1.20	1.86	2.27	3.03	2.45	.77	.23
IN.	.87	.51	1.36	1.09	3.41	1.38	2.08	2.62	3.39	2.83	.89	.26

CAL Y^o 1971 TOTAL 159,235 MEAN 436 MAX 9,060 MIN 27 CFSM 1.33 IN 18.00
WTR Y^o 1972 TOTAL 182,865 MEAN 500 MAX 10,900 MIN 47 CFSM 1.52 IN 20.68

PEAK DISCHARGE (BASE, 4,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-26	1600	7.02	5,630	7- 5	1530	6.99	5,570
6-22	0300	10.81	19,000	7-30	2030	6.68	4,970

02022500 KERRS CREEK NEAR LEXINGTON, VA.

LOCATION.--Lat 37°49'32", long 79°26'36", Rockbridge County, on right bank 0.2 mile upstream from bridge on State Highway 602, 1.4 miles upstream from mouth, and 2.9 miles north of Lexington.

DRAINAGE AREA.--35.0 sq mi.

PERIOD OF RECORD.--October 1926 to current year. Monthly discharge only for some periods, published in WSP 1303.

GAGE.--Water-stage recorder. Datum of gage is 980.32 ft above mean sea level (levels by Corps of Engineers). Jan. 27, 1927, to Sept. 30, 1953, nonrecording gage at site 1,000 ft downstream at different datum.

AVERAGE DISCHARGE.--46 years, 34.8 cfs (13.50 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,300 cfs June 21 (gage height, 7.92 ft), from rating curve extended above 1,100 cfs on basis of two slope-area measurements at gage heights 8.52 and 13.38 ft; minimum, 6.6 cfs Jan. 16 (gage height, 2.50 ft).

Period of record: Maximum discharge, 23,000 cfs Sept. 10, 1950 (gage height, 13.8 ft, site and datum then in use), from rating curve extended above 800 cfs on basis of contracted-opening and slope-area measurements of peak flow; minimum, 0.90 cfs July 22, 1966 (result of temporary dam upstream); minimum daily, 4.0 cfs many days in August and September 1932, Nov. 21, 1938, and July 22, 1966.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1203: 1927-29, 1930-34(M), 1935-40, 1941(M), 1942, 1943-48(M), 1949. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	18	36	14	28	77	24	27	37	43	160	14
2	11	17	26	17	27	65	24	26	31	37	110	14
3	10	17	22	16	82	58	23	30	33	31	80	14
4	10	17	20	18	92	50	22	82	26	48	62	14
5	10	15	18	26	63	44	21	50	24	422	51	16
6	9.2	14	17	26	50	39	20	42	19	134	44	14
7	9.2	13	52	24	47	37	31	37	16	86	41	13
8	8.9	12	51	22	38	32	100	42	14	65	35	12
9	10	12	41	22	36	30	51	80	16	53	30	12
10	15	12	33	35	30	28	43	57	18	43	28	12
11	12	12	29	30	28	27	38	47	18	37	26	11
12	11	11	25	26	28	26	35	41	17	61	26	11
13	10	11	22	26	370	25	32	36	17	58	37	10
14	10	10	20	26	147	26	30	41	18	41	27	10
15	10	10	20	22	95	24	27	72	17	33	24	10
16	10	10	22	16	78	26	26	64	16	36	24	10
17	12	10	19	19	70	28	28	53	28	30	23	10
18	11	10	17	20	58	24	24	54	24	27	22	10
19	10	10	17	20	53	24	23	54	23	24	21	10
20	10	10	23	20	44	22	22	56	120	22	20	10
21	11	10	24	24	37	22	22	47	1,960	24	18	10
22	11	10	21	23	38	71	140	43	348	37	17	10
23	30	9.2	20	25	36	60	98	50	147	30	17	10
24	83	10	20	31	61	49	71	41	94	24	16	10
25	135	11	19	30	101	42	57	36	71	21	15	10
26	64	10	18	28	512	37	47	30	57	19	15	10
27	39	11	17	27	198	32	39	27	46	23	24	10
28	28	14	16	46	122	31	35	26	41	234	19	11
29	23	52	15	43	90	29	31	24	80	702	16	13
30	20	57	15	38	-----	27	29	37	57	390	16	26
31	18	-----	14	33	-----	26	-----	57	-----	250	14	-----
TOTAL	672.3	445.2	729	793	2,659	1,138	1,213	1,409	3,433	3,085	1,078	357
MEAN	21.7	14.8	23.5	25.6	91.7	36.7	40.4	45.5	114	99.5	34.8	11.9
MAX	135	57	52	46	512	77	140	82	1,960	702	160	26
MIN	8.9	9.2	14	27	22	22	20	24	14	19	14	10
CFSM	.62	.42	.67	.73	2.62	1.05	1.15	1.30	3.26	2.84	.99	.34
IN.	.71	.47	.77	.84	2.83	1.21	1.29	1.50	3.65	3.28	1.15	.38

CAL YR 1971 TOTAL 10,880.5 MEAN 29.8 MAX 539 MIN 7.4 CFSM .85 IN 11.56
WTR YR 1972 TOTAL 17,011.5 MEAN 46.5 MAX 1,960 MIN 8.9 CFSM 1.33 IN 18.08

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-13	0700	5.48	943	7- 5	0300	5.73	1,120
2-26	0600	5.55	976	7-29	1900	6.08	1,370
6-21	1500	7.92	3,300				

JAMES RIVER BASIN

02024000 MAURY RIVER NEAR BUENA VISTA, VA.

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

DRAINAGE AREA.--646 sq mi.

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for some periods, published in WSP 1303. 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.

AVERAGE DISCHARGE.--34 years, 627 cfs (13.18 inches per year).

EXTREMES.--Current year: Maximum discharge, 27,800 cfs June 21 (gage height, 17.10 ft), from rating curve extended as explained below; minimum, 172 cfs Nov. 23, 24, Sept. 26, 27; minimum gage height, 1.58 ft Sept. 26, 27.

Period of record: Maximum discharge, 105,000 cfs Aug. 20, 1969 (gage height, 31.23 ft, from floodmarks), from rating curve extended above 17,000 cfs on basis of slope-area measurement of peak flow; minimum, 20 cfs Oct. 10, 1941, occurred during filling of a small reservoir 2 miles upstream; unqualified minimum, 37 cfs Sept. 9, 1966; minimum gage height, 1.19 ft Oct. 6, 1970.

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

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 952: 1940-41. WRD Va. 1970: Drainage area. WRD Va. 1971: 1970(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	193	418	980	245	518	1,770	470	624	588	1,170	2,500	237
2	613	380	736	264	500	1,600	456	584	508	928	1,660	235
3	600	440	619	301	730	1,450	425	610	457	867	1,280	228
4	501	465	531	307	1,660	1,220	405	1,620	415	635	991	229
5	414	416	470	401	1,200	1,040	386	1,990	384	4,560	942	246
6	343	382	423	517	1,020	883	362	1,470	356	4,300	779	250
7	283	361	702	514	909	782	379	1,130	340	2,180	723	228
8	240	333	2,520	481	749	705	1,650	905	312	1,460	655	216
9	221	308	1,630	443	643	637	1,120	1,240	290	1,050	574	217
10	276	293	1,150	555	584	588	942	1,370	277	861	519	214
11	280	279	887	632	541	547	821	1,220	257	719	475	206
12	244	265	706	619	515	519	658	976	240	756	449	214
13	215	253	605	585	3,950	500	629	787	233	1,450	436	222
14	198	242	531	571	4,290	497	949	790	240	1,100	430	212
15	185	229	483	521	2,400	478	1,250	938	247	825	394	218
16	176	219	471	418	1,870	470	1,050	1,470	240	695	374	237
17	202	208	426	376	1,600	555	1,160	1,120	382	670	366	219
18	204	200	381	435	1,340	534	1,100	959	408	603	367	202
19	251	196	351	423	1,180	491	810	1,180	784	532	356	208
20	243	194	369	403	970	462	783	1,160	972	482	353	191
21	231	193	395	422	803	445	717	1,050	14,100	449	326	206
22	219	187	361	417	762	708	1,250	952	17,500	442	310	221
23	293	177	324	399	752	1,070	2,640	2,530	4,610	613	296	224
24	1,080	184	309	471	857	1,040	1,990	2,060	2,620	490	285	199
25	1,770	199	305	599	1,910	887	1,570	1,350	1,660	422	274	182
26	2,060	198	297	601	5,930	771	1,240	1,020	1,400	380	306	173
27	1,340	187	292	561	5,490	681	949	804	1,010	354	287	193
28	874	202	282	616	3,120	626	853	674	925	747	352	182
29	648	301	270	634	2,190	575	723	533	1,440	1,850	273	189
30	533	1,050	259	592	-----	537	682	512	1,570	5,790	254	384
31	471	-----	252	562	-----	499	-----	671	-----	4,510	243	-----
TOTAL	15,401	8,959	18,317	14,885	48,983	23,567	28,419	34,299	54,765	41,890	17,829	6,582
MEAN	497	299	591	480	1,689	760	947	1,106	1,826	1,351	575	219
MAX	2,060	1,050	2,520	634	5,930	1,770	2,640	2,530	17,500	5,790	2,500	384
MIN	176	177	252	245	500	445	362	512	233	354	243	173
CFSM	.77	.46	.91	.74	2.61	1.18	1.47	1.71	2.83	2.09	.89	.34
IN.	.89	.52	1.05	.86	2.82	1.36	1.64	1.98	3.15	2.41	1.03	.38

CAL YR 1971 TOTAL 255,333 MEAN 700 MAX 10,900 MIN 109 CFSM 1.08 IN 14.70
WTR YR 1972 TOTAL 313,896 MEAN 858 MAX 17,500 MIN 173 CFSM 1.33 IN 18.08

PEAK DISCHARGE (BASE, 6,200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-13	2200	8.43	6,240	7- 5	1730	8.68	6,640
2-26	1630	9.44	7,900	7-30	1730	8.81	6,850
6-21	2300	17.10	27,800				

02025500 JAMES RIVER AT HOLCOMBS ROCK, VA.

LOCATION.--Lat 37°30'04", long 79°15'46", Bedford County, on right bank at Holcombs Rock 0.9 mile downstream from Pedlar River and at mile 268.6 (revised).

DRAINAGE AREA.--3,259 sq mi.

PERIOD OF RECORD.--January 1900 to September 1915 (gage heights only), October 1926 to current year. Published as "at Salt Creek" December 1926 to June 1931. Monthly discharge only for some periods, published in WSP 1303.

GAGE.--Water-stage recorder. Datum of gage is 548.53 ft above mean sea level. January 1900 to September 1915, nonrecording gage in powerhouse of Owens Illinois Glass Company 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.--46 years (1926-72), 3,479 cfs (14.50 inches per year).

EXTREMES.--Current year: Maximum discharge, 126,000 cfs June 22 (gage height, 32.38 ft), from rating curve extended as explained below; minimum, 280 cfs June 13 (gage height, 3.60 ft); minimum daily, 794 cfs Sept. 27. Period of record: Maximum discharge, 150,000 cfs Aug. 20, 1969 (gage height, 35.50 ft), from rating curve extended above 73,000 cfs on basis of records for other stations in James River basin; minimum, 71 cfs Oct. 24, 1963; minimum daily, 223 cfs July 28, 1930; minimum gage height, 2.91 ft Oct. 5, 1970. Flood in March 1913 reached a stage of 31.3 ft, from floodmarks (discharge, 118,000 cfs, from rating curve extended as explained above).

REMARKS.--Records good. Large diurnal fluctuation caused by powerplants above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 972: 1913(M), 1932-33, 1935(M), 1936. WSP 1303: 1928(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,100	2,610	7,130	1,630	4,510	10,400	3,020	3,830	3,280	6,260	13,700	1,450
2	1,350	2,640	5,330	1,700	4,030	9,030	2,860	3,550	3,010	5,130	8,130	1,400
3	2,100	2,700	4,120	1,810	4,170	8,800	2,690	4,210	2,670	4,600	5,940	1,340
4	1,840	3,010	3,460	1,900	7,980	7,210	2,490	8,860	2,400	4,000	4,730	1,280
5	1,720	3,200	3,020	2,300	7,870	6,380	2,450	11,400	2,220	16,300	4,610	1,250
6	1,580	3,020	2,700	4,010	5,680	5,830	2,330	9,240	2,100	26,800	4,090	1,280
7	1,300	2,820	2,910	4,490	5,070	5,310	2,300	7,010	2,030	16,400	4,150	1,290
8	1,200	2,610	10,900	3,910	4,710	4,790	4,120	5,860	1,900	9,670	3,900	1,100
9	1,090	2,260	13,300	3,420	4,050	4,290	8,970	6,090	1,800	6,810	3,720	1,090
10	1,510	2,180	7,890	3,220	3,720	3,930	6,700	7,900	1,720	5,390	3,480	1,100
11	1,440	2,040	5,810	3,850	3,350	3,590	5,410	7,080	1,600	4,490	3,210	1,060
12	1,250	1,910	4,770	4,110	3,190	3,300	4,720	5,860	1,540	4,150	2,990	1,030
13	1,180	1,760	3,860	3,920	12,200	3,090	4,290	5,000	1,430	4,620	2,820	977
14	1,130	1,690	3,510	3,710	21,100	3,060	4,660	4,870	1,480	4,310	2,660	997
15	962	1,580	3,110	3,430	14,000	3,040	7,160	6,700	1,650	4,030	2,500	923
16	849	1,530	2,850	3,050	9,810	2,970	8,230	10,100	2,000	3,440	2,450	881
17	975	1,440	2,750	2,550	8,390	3,130	7,860	8,820	2,570	3,170	2,370	884
18	1,060	1,380	2,650	2,240	7,450	3,130	7,190	7,000	2,960	3,170	2,300	913
19	1,000	1,260	2,500	2,650	6,470	3,100	6,030	6,760	4,030	2,880	2,220	898
20	1,170	1,210	2,450	2,650	5,530	2,920	5,310	7,120	5,850	2,650	2,190	910
21	1,200	1,380	2,430	2,890	4,750	2,770	4,730	6,800	62,100	2,370	2,160	798
22	1,150	1,280	2,400	4,480	4,230	3,270	4,840	6,150	118,000	2,300	2,090	804
23	1,850	1,120	2,420	4,750	4,270	5,940	14,500	6,840	44,500	2,340	2,020	843
24	5,570	1,280	2,200	4,340	5,160	7,010	13,600	8,130	18,300	2,660	1,910	846
25	9,610	1,430	2,100	4,690	12,800	5,900	9,760	6,460	11,800	2,490	1,810	827
26	15,000	1,370	2,150	4,750	31,400	5,030	7,620	5,050	8,620	2,200	1,740	824
27	9,340	1,230	2,060	4,340	41,600	4,460	6,180	4,320	6,630	1,960	1,680	794
28	5,830	1,380	2,020	4,230	20,600	3,980	5,190	3,790	5,530	2,120	1,670	1,030
29	4,370	1,640	1,920	5,350	13,000	3,730	4,610	3,340	7,780	4,690	1,710	1,180
30	3,600	3,880	1,860	6,040	-----	3,370	4,190	3,050	8,250	20,300	1,630	2,410
31	3,130	-----	1,750	5,230	-----	3,210	-----	3,430	-----	23,200	1,540	-----
TOTAL	86,456	58,840	118,330	111,640	281,130	145,970	174,010	194,620	339,750	204,900	102,120	32,409
MEAN	2,789	1,961	3,817	3,601	9,694	4,709	5,800	6,278	11,330	6,610	3,294	1,080
MAX	15,000	3,880	13,300	6,040	41,600	10,400	14,500	11,400	118,000	26,800	13,700	2,410
MIN	849	1,120	1,750	1,630	3,190	2,770	2,300	3,050	1,430	1,960	1,540	794
CFSM	.86	.60	1.17	1.10	2.57	1.44	1.78	1.93	3.48	2.03	1.01	.33
IN.	.99	.67	1.35	1.27	3.21	1.67	1.99	2.22	3.88	2.34	1.17	.37

CAL YR 1971 TOTAL 1,493,505 MEAN 4,092 MAX 55,600 MIN 630 CFSM 1.26 IN 17.05
WTR YR 1972 TOTAL 1,850,175 MEAN 5,055 MAX 118,000 MIN 794 CFSM 1.55 IN 21.12

PEAK DISCHARGE (BASE, 25,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-27	0445	20.26	49,600	7-6	1445	15.85	30,200
6-22	1130	32.38	126,000	7-30	1845	15.09	27,500

JAMES RIVER BASIN

02026000 JAMES RIVER AT BENT CREEK, VA.

LOCATION (revised).--Lat 37°32'10", long 78°49'30", Nelson County, on left bank 575 ft upstream from bridge on U.S. Highway 60 at town of Bent Creek, 150 ft downstream from Bent Creek, 1.3 miles southeast of Gladstone, and at mile 227.8.

DRAINAGE AREA.--3,683 sq mi.

PERIOD OF RECORD.--October 1924 to current year. Monthly discharge only for some periods, published in WSP 1303. Prior to 1926, published as "at Bent Creek, near Gladstone."

GAGE.--Water-stage recorder. Datum of gage is 381.39 ft above mean sea level. Prior to Sept. 12, 1930, non-recording gage at same site and datum.

AVERAGE DISCHARGE.--48 years, 4,086 cfs (15.07 inches per year).

EXTREMES.--Current year: Maximum discharge, 176,000 cfs June 21 (gage height, 27.13 ft, from high-water mark in gage house), from rating curve extended as explained below; minimum daily, 1,030 cfs Sept. 22.

Period of record: Maximum discharge, 176,000 cfs June 21, 1972 (gage height, 27.13 ft, from high-water mark in gage house), from rating curve extended above 89,000 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. Large diurnal fluctuation caused by powerplants above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 742: 1931(m). WSP 972: 1935-36. WSP 1066: 1940. WSP 1203: 1942. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,500	3,760	7,150	2,120	5,710	13,400	3,760	4,900	4,450	7,770	18,400	1,540
2	2,000	3,060	6,950	1,810	5,270	11,700	3,720	4,450	3,870	6,440	10,400	1,440
3	2,900	3,910	5,260	2,320	5,180	10,800	3,490	4,740	3,380	4,960	7,540	1,370
4	2,700	3,890	4,120	2,300	8,530	9,680	2,980	8,050	3,070	4,020	6,140	1,640
5	2,550	3,820	3,830	2,380	8,820	8,730	3,130	11,000	3,090	17,200	5,840	1,350
6	2,300	3,610	3,430	3,420	7,150	7,430	2,890	10,700	2,510	24,400	5,550	1,720
7	1,870	3,520	3,740	5,500	6,240	6,460	2,830	8,470	2,640	20,200	4,620	1,710
8	1,570	3,300	5,470	4,700	5,910	5,960	4,590	7,250	2,370	11,800	4,310	1,390
9	1,450	3,060	13,500	4,270	5,520	5,800	7,840	7,240	2,410	8,520	3,890	1,460
10	2,250	2,370	9,460	3,970	4,630	4,990	8,030	7,800	2,020	6,810	3,660	1,370
11	2,720	2,660	7,260	4,340	4,300	4,650	6,460	8,180	2,200	5,880	3,120	1,340
12	1,580	2,250	5,800	4,790	3,910	4,300	5,880	7,040	2,720	5,340	2,940	1,460
13	1,720	2,000	5,000	4,710	11,900	4,010	5,670	6,580	1,520	6,990	2,910	1,240
14	1,560	1,890	4,400	5,420	21,200	4,010	5,600	6,930	1,620	5,820	2,970	1,300
15	1,570	2,320	3,850	4,340	16,800	3,880	6,390	7,510	1,870	4,910	2,600	1,280
16	1,200	1,650	3,280	4,000	11,800	3,960	9,030	10,300	2,510	4,420	2,510	1,300
17	1,640	2,020	3,490	3,480	9,890	3,800	8,510	10,500	2,420	4,160	2,570	1,300
18	1,240	1,580	3,400	2,710	6,870	4,020	7,860	8,330	3,800	3,970	2,530	1,150
19	1,530	2,090	3,600	2,900	7,790	3,960	7,120	7,660	4,640	3,610	2,420	1,490
20	1,390	1,130	2,450	3,500	6,810	3,790	6,280	8,680	5,230	3,430	2,380	1,350
21	1,530	1,510	3,100	3,440	6,020	3,460	5,860	8,000	69,000	3,010	2,420	1,170
22	1,490	1,970	2,920	4,310	5,730	3,760	5,860	7,430	130,000	2,720	2,230	1,030
23	3,170	1,390	3,060	5,600	5,360	4,860	10,000	7,210	63,800	2,830	2,240	1,170
24	6,910	1,680	2,360	5,440	5,560	7,660	15,000	8,870	22,000	3,080	1,940	1,290
25	8,420	2,040	2,820	5,050	7,680	6,930	11,100	7,940	14,100	3,260	2,000	1,120
26	10,700	2,110	2,390	5,560	20,200	6,100	8,890	6,830	11,300	2,730	1,950	1,170
27	11,700	1,950	2,400	5,440	40,800	5,690	7,410	5,250	8,360	2,450	1,820	1,210
28	7,820	2,000	2,500	5,240	31,300	5,040	6,480	4,830	6,960	2,520	1,890	1,520
29	5,860	2,250	2,430	5,210	18,100	4,860	5,950	4,390	6,960	5,020	2,010	2,260
30	4,770	2,980	2,240	6,500	-----	4,410	5,740	4,230	9,920	13,300	1,810	2,950
31	3,960	-----	2,330	6,200	-----	3,650	-----	3,960	-----	24,300	1,740	-----
TOTAL	104,570	73,770	133,990	130,970	306,980	181,750	194,350	225,250	400,740	225,870	119,350	43,090
MEAN	3,373	2,459	4,322	4,225	10,590	5,863	6,478	7,266	13,360	7,286	3,850	1,436
MAX	11,700	3,910	13,500	6,500	40,800	13,400	15,000	11,000	130,000	24,400	18,400	2,950
MIN	1,200	1,130	2,240	1,810	3,910	3,460	2,830	3,960	1,520	2,450	1,740	1,030
CFSM	.92	.67	1.17	1.15	2.88	1.59	1.76	1.97	3.63	1.98	1.05	.39
IN.	1.06	.75	1.35	1.32	3.10	1.84	1.96	2.28	4.05	2.28	1.21	.44

CAL YR 1971 TOTAL 1,719,050 MEAN 4,710 MAX 49,500 MIN 784 CFSM 1.28 IN 17.36
WTR YR 1972 TOTAL 2,140,680 MEAN 5,849 MAX 130,000 MIN 1,030 CFSM 1.59 IN 21.62

PEAK DISCHARGE (BASE, 26,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-27	1930	14.45	47,200	7- 6	2215	11.19	29,000
6-21	1900	27.13	176,000				

JAMES RIVER BASIN

103

02027000 TYE RIVER NEAR LOVINGSTON, VA.

LOCATION.--Lat 37°42'55", long 78°58'55", Nelson County, on right bank at downstream side of bridge on State Highway 158, 3.5 miles downstream from Hat Creek, 4.8 miles upstream from Piney River, and 6.8 miles southwest of Lovingston.

DRAINAGE AREA.--92.8 sq mi.

PERIOD OF RECORD.--August 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 578.39 ft above mean sea level. Sept. 15, 1969, to Oct. 15, 1970, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--34 years, 147 cfs (21.51 inches per year).

EXTREMES.--Current year: Maximum discharge, 12,200 cfs June 21 (gage height, 14.34 ft), from rating curve extended as explained below; minimum, 38 cfs Sept. 26, 27 (gage height, 1.32 ft).

Period of record: Maximum discharge, 80,000 cfs Aug. 20, 1969 (gage height, 29.0 ft, from floodmarks), from rating curve extended above 7,600 cfs on basis of slope-area measurement of peak flow; minimum, 0.50 cfs Sept. 10, 11, 1966; minimum gage height, 0.29 ft Oct. 4, 1943.

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 892: 1938. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	208	177	96	110	350	156	121	136	368	556	64
2	568	198	156	110	114	327	154	110	116	329	429	65
3	333	251	145	102	254	323	140	145	104	315	337	65
4	240	203	136	108	293	284	140	457	118	286	306	77
5	192	187	125	125	216	268	116	388	163	775	315	77
6	160	175	123	110	203	242	123	302	145	534	248	74
7	134	168	429	104	187	226	146	251	134	429	236	62
8	114	156	384	102	165	216	232	226	121	364	225	59
9	112	145	320	110	154	198	168	248	114	318	190	56
10	245	140	279	154	145	187	160	208	108	280	171	54
11	165	129	248	134	138	175	154	182	100	254	158	52
12	140	123	221	127	136	168	147	213	94	757	145	51
13	125	116	200	132	833	160	156	203	92	967	175	50
14	114	110	182	134	590	168	192	258	102	625	163	48
15	104	104	172	123	421	149	196	276	90	488	138	47
16	98	100	165	108	346	158	213	251	87	400	128	47
17	274	96	149	105	308	198	198	240	291	348	128	44
18	147	92	136	110	276	160	185	229	177	307	124	47
19	121	94	129	114	262	151	175	251	1,200	257	113	44
20	123	92	168	116	226	145	165	276	900	230	113	41
21	134	89	145	125	205	140	156	251	6,200	214	100	42
22	125	83	129	116	213	346	260	269	3,610	288	93	45
23	410	80	123	125	200	327	254	270	1,590	254	89	42
24	1,100	90	121	132	218	284	237	234	1,040	195	83	41
25	991	98	116	123	262	256	218	200	800	171	89	41
26	755	90	114	114	688	231	203	177	650	155	85	40
27	525	102	112	116	612	216	190	154	556	145	83	52
28	388	104	106	138	489	198	175	143	484	210	93	53
29	311	176	104	127	403	185	156	132	513	362	79	87
30	268	224	102	123	-----	175	140	132	433	675	72	261
31	234	-----	100	116	-----	163	-----	198	-----	556	66	-----
TOTAL	8,858	4,023	5,316	3,679	8,667	6,774	5,305	6,995	20,268	11,856	5,330	1,928
MEAN	296	134	171	119	299	219	177	226	676	382	172	60.9
MAX	1,100	251	429	154	833	350	260	457	6,200	967	556	261
MIN	98	80	100	96	110	140	116	110	87	145	66	40
CFSM	3.08	1.44	1.84	1.28	3.22	2.36	1.91	2.44	7.28	4.12	1.85	.66
IN.	3.55	1.61	2.13	1.47	3.47	2.72	2.13	2.80	8.12	4.75	2.14	.73

CAL YR 1971 TOTAL 63,768 MEAN 175 MAX 1,700 MIN 21 CFSM 1.89 IN 25.56
WTR YR 1972 TOTAL 88,899 MEAN 243 MAX 6,200 MIN 40 CFSM 2.62 IN 35.64

PEAK DISCHARGE (BASE, 1,600 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
6-21	1500	14.34	12,200	7-12	2000	5.29	1,700

JAMES RIVER BASIN

02027500 PINEY RIVER AT PINEY RIVER, VA.

LOCATION.--Lat 37°42'08", long 79°01'40", Amherst County, on right bank 20 ft upstream from bridge on State Highway 151, 0.2 mile southwest of Piney River Post Office, 1.7 miles downstream from Indian Creek, and 2.5 miles southeast of Lowesville.

DRAINAGE AREA.--47.6 sq mi.

PERIOD OF RECORD.--July 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 633.58 ft above mean sea level. Prior to May 27, 1969, water-stage recorder, and Nov. 4, 1969, to Feb. 26, 1970, nonrecording gage at site 20 ft downstream from former highway bridge at same datum.

AVERAGE DISCHARGE.--23 years, 88.8 cfs (25.33 inches per year).

EXTREMES.--Current year: Maximum discharge, 10,000 cfs June 21 (gage height, 9.95 ft), from rating curve extended as explained below; minimum daily, 20 cfs Sept. 24-26.
Period of record: Maximum discharge, 38,000 cfs Aug. 20, 1969 (gage height, 13.8 ft, from floodmarks), from rating curve extended above 2,000 cfs on basis of slope-area measurement of peak flow; minimum, 1.1 cfs Sept. 13, 1966; minimum gage height, 0.71 ft Oct. 13, 14, 1954.

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

REVISIONS.--The maximum discharge for the water year 1971 has been revised to 2,890 cfs Oct. 31, 1970 (gage height, 6.12 ft), superseding figure published in WRD Va. 1971.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. Periodic dewatering of upstream quarries adds small amount of inflow. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	123	97	52	64	232	83	88	108	176	290	32
2	128	118	93	56	66	211	79	84	103	160	226	32
3	114	140	92	52	129	202	73	167	97	142	188	32
4	99	116	86	56	132	179	74	619	93	128	163	37
5	90	112	81	63	112	163	67	380	90	478	163	40
6	78	110	79	54	110	152	64	293	81	341	135	38
7	67	105	195	52	103	140	80	239	74	271	123	35
8	61	99	220	50	93	125	105	226	68	223	110	32
9	62	92	208	56	88	114	90	214	64	193	95	31
10	99	88	185	72	83	105	90	182	61	165	86	30
11	74	81	163	67	78	97	88	165	58	142	83	29
12	68	76	142	66	76	92	86	150	54	342	79	27
13	64	73	128	68	328	86	86	137	50	492	81	26
14	61	70	118	68	277	90	88	180	52	372	78	25
15	58	67	110	66	236	79	98	214	48	293	73	24
16	56	64	101	61	205	84	105	208	50	236	67	23
17	72	60	93	56	185	93	105	212	163	229	64	23
18	59	58	86	54	163	81	103	214	95	236	61	25
19	55	56	81	58	152	78	103	220	1,170	188	57	23
20	57	54	97	64	135	76	99	217	1,460	168	55	21
21	59	50	81	67	120	74	95	205	5,620	145	52	21
22	59	48	74	64	116	135	132	208	2,570	116	48	22
23	196	46	73	67	110	142	123	199	1,270	103	45	21
24	592	45	73	67	118	142	128	176	790	86	43	20
25	654	50	70	66	135	135	125	163	532	76	44	20
26	502	45	67	63	334	123	118	147	394	72	45	20
27	351	50	66	66	376	114	112	132	317	70	40	22
28	268	52	63	76	324	105	108	118	264	100	45	24
29	208	70	60	70	274	97	101	105	242	147	42	35
30	168	105	56	68	-----	92	93	103	205	344	37	98
31	145	-----	54	66	-----	86	-----	138	-----	358	34	-----
TOTAL	4,679	2,323	3,192	1,931	4,722	3,724	2,901	6,103	16,243	6,592	2,752	888
MEAN	151	77.4	103	62.3	163	120	96.7	197	541	213	88.8	29.6
MAX	654	140	220	76	376	232	132	619	5,620	492	290	98
MIN	55	45	54	50	64	74	64	84	48	70	34	20
CFSM	3.17	1.63	2.16	1.31	3.42	2.52	2.03	4.14	11.4	4.47	1.87	.62
IN.	3.66	1.82	2.49	1.51	3.69	2.91	2.27	4.77	12.69	5.15	2.15	.69
CAL YR 1971	TOTAL 36,496.0	MEAN 100	MAX 673	MIN 6.2	CFSM 2.10	IN 28.52						
WTR YR 1972	TOTAL 56,050.0	MEAN 153	MAX 5,620	MIN 20	CFSM 3.21	IN 43.80						

PEAK DISCHARGE (BASE, 650 CFS)

NOTE.--NO GAGE-HEIGHT RECORD AUG. 21 TO SEPT. 29.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	0800	3.51	955	6-21	1400	9.95	10,000
5-4	0100	3.40	900	7-5	0500	3.04	708
6-19	0530	5.29	2,100	7-12	1930	3.33	872

JAMES RIVER BASIN

105

02027800 BUFFALO RIVER NEAR TYE RIVER, VA.

LOCATION.--Lat 37°36'20", long 78°55'25", Nelson County, on right bank 70 ft downstream from bridge on State Highway 657, 2.1 miles upstream from mouth, and 3.5 miles southeast of town of Tye River.

DRAINAGE AREA.--147 sq mi.

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 444.39 ft above mean sea level.

AVERAGE DISCHARGE.--12 years, 144 cfs (13.30 inches per year).

EXTREMES.--Current year: Maximum discharge, 36,600 cfs June 21 (gage height, 25.22 ft, from high-water mark in gage house), from rating curve extended as explained below; minimum, 49 cfs Oct. 1 (gage height, 1.27 ft).
Period of record: Maximum discharge, 45,000 cfs Aug. 20, 1969 (gage height, 27.95 ft, from floodmark), from rating curve extended above 1,800 cfs on basis of computation of flow over dam at gage height 11.03 ft and slope-area measurement at gage height 27.95 ft; minimum, 3.2 cfs Sept. 8-13, 1966; minimum gage height, 0.28 ft Sept. 9-13, 1964.

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

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	114	150	78	103	264	150	129	160	453	556	115
2	142	111	127	87	114	254	154	125	146	416	308	110
3	94	235	116	84	320	264	148	198	142	433	263	100
4	78	178	109	97	606	225	152	696	134	382	238	110
5	74	134	105	105	254	205	152	372	150	2,960	513	120
6	70	121	102	91	210	188	142	274	127	933	254	115
7	64	116	274	80	198	182	138	234	123	543	230	110
8	60	103	274	82	164	174	222	218	111	453	220	105
9	62	100	208	82	152	162	164	286	105	382	215	100
10	298	96	180	109	142	158	154	210	102	350	210	100
11	130	93	162	103	134	154	148	190	94	322	210	95
12	87	87	144	102	130	150	148	174	91	451	210	98
13	74	85	134	105	1,510	148	152	164	89	766	240	94
14	69	85	123	136	630	158	154	311	94	382	215	90
15	64	84	118	114	382	150	162	414	98	335	200	88
16	61	80	114	75	294	152	208	349	87	322	180	91
17	193	77	107	78	264	206	186	274	218	322	180	90
18	109	77	98	95	238	162	158	264	170	447	175	95
19	84	77	94	110	230	156	152	290	997	284	170	95
20	78	78	116	105	194	150	148	370	766	263	165	93
21	78	74	111	152	182	150	142	284	13,800	245	155	95
22	77	69	98	125	208	196	210	274	7,350	245	145	103
23	380	67	93	129	208	180	216	371	3,050	245	140	102
24	646	80	93	121	238	170	180	274	1,900	222	130	100
25	695	123	91	114	284	168	168	238	1,300	210	130	100
26	385	109	89	105	474	166	158	208	925	200	140	99
27	254	107	89	105	456	166	150	190	748	180	130	98
28	194	129	85	130	360	164	142	176	623	200	130	101
29	164	160	92	121	305	160	136	166	623	365	130	121
30	142	224	80	114	-----	156	132	166	518	655	125	336
31	127	-----	80	109	-----	154	-----	198	-----	398	120	-----
TOTAL	5,073	3,273	3,846	3,233	8,984	5,492	4,826	8,087	34,841	14,364	6,427	3,269
MEAN	164	109	124	104	310	177	161	261	1,161	463	207	109
MAX	695	235	274	152	1,510	264	222	696	13,800	2,960	556	336
MIN	50	67	80	75	103	148	132	125	87	180	120	88
CFSM	1.12	.74	.84	.71	2.11	1.20	1.10	1.78	7.90	3.15	1.41	.74
IN.	1.28	.83	.97	.82	2.27	1.39	1.22	2.05	8.82	3.63	1.63	.83

CAL YR 1971 TOTAL 58,657 MEAN 161 MAX 2,900 MIN 35 CFSM 1.10 IN 14.84
WTR YR 1972 TOTAL 101,715 MEAN 278 MAX 13,800 MIN 50 CFSM 1.89 IN 25.74

PEAK DISCHARGE (BASE, 1,400 CFS)

NOTE.--NO GAGE-HEIGHT RECORD AUG. 8 TO SEPT. 11.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1330	6.17	1,540	6-21	1800	25.22	36,600
2-13	1300	8.23	3,000	7- 5	0900	10.15	6,240
6-19	1000	7.81	2,640	7-13	0030	6.17	1,750

JAMES RIVER BASIN

02028500 ROCKFISH RIVER NEAR GREENFIELD, VA.

LOCATION.--Lat 37°52'10", long 78°49'25", Nelson County, 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.

DRAINAGE AREA.--94.6 sq mi.

PERIOD OF RECORD.--April 1943 to current year.

GAGE.--Water-stage recorder. Datum of gage is 530.29 ft above mean sea level. Prior to Aug. 21, 1943, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--29 years, 132 cfs (18.95 inches per year).

EXTREMES.--Current year: Maximum discharge, 17,500 cfs June 21 (gage height, 18.11 ft), from rating curve extended as explained below; minimum, 28 cfs Sept. 26, 27; minimum gage height, 0.97 ft Jan. 16, result of freezeup. Period of record: Maximum discharge, 70,000 cfs Aug. 20, 1969 (gage height, 31.2 ft, from floodmarks), from rating curve extended above 8,500 cfs on basis of one contracted-opening measurement at gage height 18.11 ft, three slope-area measurements at gage heights 17.2, 23.4, and 31.2 ft, and peak runoff comparison with nearby stations; minimum, 0.20 cfs Sept. 8-12, 1966.

Flood of Oct. 15, 1942, reached a stage of 23.4 ft, from floodmarks (discharge, about 30,000 cfs).

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	120	204	178	78	76	303	133	131	154	368	290	58
2	634	188	149	92	80	276	131	126	136	323	266	58
3	322	220	134	82	214	282	122	201	125	299	244	54
4	216	192	123	84	274	238	118	782	118	280	196	57
5	170	160	114	92	178	220	110	478	126	596	178	66
6	138	149	110	82	160	204	106	346	110	565	156	63
7	110	139	300	78	147	188	138	276	101	425	152	53
8	95	128	269	74	130	178	266	252	90	368	148	50
9	94	122	236	78	118	162	162	257	84	338	131	49
10	238	117	216	94	112	152	147	210	78	306	123	49
11	162	110	196	84	106	146	139	184	70	290	117	43
12	134	104	176	80	104	141	131	168	66	496	113	40
13	118	100	162	83	1,140	136	149	156	64	850	124	38
14	106	95	147	82	631	147	158	202	77	550	119	37
15	96	92	141	76	431	133	149	210	67	450	111	36
16	89	88	133	74	349	144	164	200	60	360	107	37
17	126	83	125	72	300	194	158	200	157	300	107	35
18	101	82	115	72	266	154	144	264	107	250	105	36
19	90	82	109	74	250	142	142	286	291	225	100	33
20	107	78	125	73	216	134	139	416	620	190	101	31
21	110	74	112	74	202	131	131	372	6,940	240	90	31
22	112	68	101	73	218	351	226	456	3,390	200	87	33
23	726	64	96	77	212	291	220	496	1,290	170	82	30
24	1,860	74	96	92	234	248	208	342	815	140	78	30
25	1,660	84	94	82	285	224	194	271	690	125	83	30
26	925	78	92	77	692	202	178	228	635	119	78	29
27	610	92	89	78	589	186	164	200	522	117	71	30
28	435	109	86	84	458	170	154	178	450	130	77	35
29	326	199	83	83	365	158	146	160	530	265	68	78
30	262	226	82	82	-----	149	138	156	459	433	62	178
31	230	-----	80	78	-----	139	-----	214	-----	380	58	-----
TOTAL	10,522	3,591	4,269	2,484	8,537	5,923	4,665	8,418	18,422	10,148	3,822	1,427
MEAN	339	120	138	80.1	294	191	156	272	614	327	123	47.6
MAX	1,860	226	300	94	1,140	351	266	782	6,940	850	290	178
MIN	89	64	80	72	76	131	106	126	60	117	58	29
CFSM	3.58	1.27	1.46	.85	3.11	2.02	1.65	2.88	6.49	3.46	1.30	.50
IN.	4.14	1.41	1.68	.88	3.36	2.33	1.83	3.31	7.24	3.99	1.50	.56

CAL YR 1971 TOTAL 62,973 MEAN 173 MAX 3,690 MIN 18 CFSM 1.83 IN 24.76
WTR YR 1972 TOTAL 92,228 MEAN 225 MAX 6,940 MIN 29 CFSM 2.38 IN 32.33

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	0300	7.30	3,180	2-13	0930	6.22	2,190
10-25	0830	6.95	2,880	6-21	1600	18.11	17,500

JAMES RIVER BASIN

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02029000 JAMES RIVER AT SCOTTSVILLE, VA.

LOCATION (revised).--Lat 37°47'50", long 78°29'30", Albemarle County, on left bank 900 ft downstream from bridge on State Highway 20 at Scottsville, 6.8 miles upstream from Hardware River, and at mile 188.6.

DRAINAGE AREA.--4,584 sq mi.

PERIOD OF RECORD.--October 1924 to current year. Monthly discharge only for some periods, published in WSP 1303.

GAGE.--Water-stage recorder. Datum of gage is 253.18 ft above mean sea level. Prior to Nov. 28, 1928, non-recording gage at same site and datum.

AVERAGE DISCHARGE.--48 years, 4,962 cfs (14.70 inches per year).

EXTREMES.--Current year: Maximum discharge, 301,000 cfs June 22 (gage height, 34.02 ft, from floodmarks), from rating curve extended as explained below; minimum daily, 1,240 cfs Sept. 23.

Period of record: Maximum discharge, 301,000 cfs June 22, 1972 (gage height, 34.02 ft, from floodmarks), from rating curve extended above 120,000 cfs on basis of slope-conveyance study; minimum daily, 300 cfs Sept. 13, 1966.

Flood in October 1870 reached a stage of 30.7 ft (discharge, about 215,000 cfs), and flood in November 1877 reached a stage of 27.9 ft (discharge, about 160,000 cfs), from information by local resident. Flood in March 1913 reached a stage of 25.16 ft from floodmarks (discharge, 121,000 cfs).

REMARKS.--Records good. Large diurnal fluctuation caused by powerplants above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 727: 1931(M). WSP 972: 1936(M), 1940(M). WRD Va. 1970: Drainage area, 1969.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,000	4,710	5,950	2,620	6,460	16,500	4,720	5,820	5,510	10,700	25,300	1,890
2	2,710	4,450	8,590	2,510	6,180	13,700	4,390	5,220	5,030	8,630	14,800	1,900
3	3,620	4,740	7,240	2,380	5,740	13,300	4,270	5,450	4,350	7,530	10,100	1,800
4	3,380	5,690	5,650	2,900	11,600	11,800	4,210	9,400	4,030	4,770	7,960	1,760
5	3,130	4,780	4,690	2,980	11,300	11,200	3,720	13,200	3,630	15,600	7,910	1,840
6	2,860	4,860	4,230	3,300	9,680	9,580	3,690	13,700	3,600	26,900	6,880	1,910
7	2,660	4,190	4,760	4,640	7,510	8,340	3,450	11,000	3,270	28,200	5,930	1,900
8	2,160	4,270	7,190	5,860	7,130	7,430	5,010	9,010	3,080	16,200	5,570	1,920
9	1,900	3,680	15,000	4,980	6,710	6,930	6,660	9,110	2,890	11,200	4,590	1,720
10	3,640	3,440	13,100	4,520	5,570	6,670	10,200	8,610	2,900	8,810	4,710	1,550
11	5,040	3,080	9,420	4,610	5,200	5,610	8,070	9,820	2,360	7,400	4,320	1,740
12	3,220	3,110	7,600	5,170	4,940	5,140	7,000	8,760	2,650	7,150	3,980	1,600
13	2,180	2,860	6,750	5,420	17,600	4,950	6,610	7,850	2,880	11,600	3,620	1,560
14	2,230	2,500	5,610	5,900	26,500	4,790	6,540	8,030	2,110	8,550	3,540	1,520
15	1,910	2,550	5,090	5,910	23,300	4,950	6,840	10,900	2,220	7,540	3,860	1,440
16	1,950	2,580	4,670	4,560	15,500	4,480	10,000	11,700	2,220	6,030	3,260	1,530
17	1,860	2,320	4,120	4,030	12,200	5,340	10,200	13,200	3,070	5,760	3,030	1,400
18	2,790	2,230	4,040	3,870	10,900	5,240	9,510	11,300	4,280	5,320	2,830	1,480
19	1,990	2,090	4,120	3,430	10,200	4,750	8,770	9,660	7,970	5,210	2,900	1,510
20	1,930	2,390	3,490	3,730	8,820	4,820	7,610	11,600	8,780	4,370	2,870	1,570
21	1,890	1,720	3,790	4,190	7,720	4,460	6,910	10,600	69,000	4,370	1,960	1,420
22	2,090	2,070	3,520	4,330	7,390	4,590	6,940	9,700	208,000	3,890	2,630	1,370
23	3,190	2,000	3,520	5,850	7,150	5,680	8,400	9,820	101,000	3,680	2,700	1,240
24	19,100	1,940	3,520	6,340	6,850	7,710	17,700	10,000	35,700	3,910	2,590	1,410
25	15,700	3,130	2,950	6,060	8,370	8,800	13,900	10,200	21,100	4,200	2,460	1,400
26	17,100	3,180	3,280	5,680	18,800	7,680	10,900	8,480	15,200	3,700	2,390	1,310
27	18,100	2,670	3,020	6,170	37,700	6,880	9,120	7,180	12,000	3,350	2,390	1,330
28	11,800	3,040	3,070	6,000	43,600	6,550	7,770	6,110	9,810	3,100	2,190	1,430
29	8,390	3,360	2,920	5,590	23,300	5,710	6,840	5,490	9,090	5,500	2,280	2,140
30	6,940	4,690	2,850	6,530	-----	5,360	6,510	5,050	11,200	15,000	2,290	3,800
31	5,460	-----	2,730	7,210	-----	4,840	-----	4,890	-----	27,800	2,110	-----
TOTAL	162,920	98,320	166,480	147,270	374,760	223,780	226,460	280,860	568,930	285,970	153,950	50,390
MEAN	5,255	3,277	5,370	4,751	12,920	7,219	7,549	9,060	18,960	9,225	4,966	1,680
MAX	19,100	5,690	15,000	7,210	43,600	16,500	17,700	13,700	208,000	28,200	25,300	3,800
MIN	1,860	1,720	2,730	2,380	4,940	4,460	3,450	4,890	2,110	3,100	1,960	1,240
CFSM	1.15	.71	1.17	1.04	2.82	1.57	1.65	1.98	4.14	2.01	1.08	.37
IN.	1.32	.80	1.35	1.20	3.04	1.82	1.84	2.28	4.62	2.32	1.25	.41

CAL YR 1971 TOTAL 2,101,563 MEAN 5,758 MAX 56,800 MIN 866 CFSM 1.26 IN 17.05
WTR YR 1972 TOTAL 2,740,090 MEAN 7,487 MAX 208,000 MIN 1,240 CFSM 1.63 IN 22.24

PEAK DISCHARGE (BASE, 27,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-13	2000	13.34	31,600	7-5	2315	13.73	33,300
2-28	0400	17.13	51,700	7-31	1000	12.80	29,300
6-22	0200	34.02	301,000				

02030000 HARDWARE RIVER BELOW BRIERY RUN, NEAR SCOTTSVILLE, VA.

LOCATION.--Lat 37°48'45", long 78°27'20", Fluvanna County, on left bank 75 ft upstream from bridge on State Highway 637, 0.8 mile downstream from Briery Run, 2.4 miles northeast of Scottsville, and 10.8 miles upstream from mouth.

DRAINAGE AREA.--116 sq mi.

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for some periods, published in WSP 1303.

GAGE.--Water-stage recorder. Datum of gage is 294.96 ft above mean sea level.

AVERAGE DISCHARGE.--34 years, 119 cfs (13.93 inches per year).

EXTREMES.--Current year: Maximum discharge, 21,600 cfs June 21 (gage height, 25.50 ft, from high-water mark in well), from rating curve extended as explained below; minimum, 42 cfs Sept. 20, 27 (gage height, 2.00 ft).
Period of record: Maximum discharge, 52,000 cfs Aug. 20, 1969 (gage height, 31.0 ft, from floodmarks), from rating curve extended above 18,000 cfs on basis of slope-area measurements at gage heights 23.8 and 31.0 ft; minimum, 0.10 cfs Sept. 5-8, 1966; minimum gage height, 0.81 ft Sept. 8, 1966.

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 952: 1949(M). WSP 1002: 1940, 1943. WSP 1032: 1940, 1944.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	139	188	82	72	226	121	111	174	188	223	56
2	207	129	152	95	80	211	129	105	107	164	138	58
3	134	179	136	95	236	283	121	181	92	157	241	67
4	85	154	127	90	511	234	120	320	84	143	154	88
5	74	129	118	111	216	207	116	177	80	280	159	68
6	66	120	114	95	175	183	112	143	77	211	119	70
7	56	118	376	87	165	175	127	130	77	167	111	59
8	51	109	378	84	138	165	323	129	71	151	193	57
9	52	105	218	84	127	156	166	199	69	138	119	54
10	465	105	184	102	120	148	148	152	68	127	100	52
11	226	100	166	95	116	145	141	129	60	117	92	50
12	125	96	150	90	114	143	134	121	60	178	91	51
13	96	95	139	93	1,950	141	150	114	58	245	92	52
14	87	92	129	125	777	147	159	228	74	154	89	49
15	77	88	125	105	368	143	145	264	69	130	85	48
16	71	88	123	74	274	145	159	203	62	117	85	48
17	76	87	118	66	232	264	148	175	96	111	84	47
18	74	84	109	76	216	188	129	163	125	103	88	47
19	66	84	105	85	283	157	123	170	179	98	116	46
20	69	85	116	82	234	145	121	274	114	93	170	43
21	74	82	114	88	201	139	120	201	6,420	89	86	45
22	68	77	103	83	241	170	230	175	5,680	91	78	51
23	325	74	96	105	254	163	232	183	755	92	74	47
24	1,700	98	98	130	264	145	166	148	486	92	70	45
25	1,120	254	96	107	355	138	147	129	378	84	67	45
26	509	170	95	90	786	136	138	116	312	78	64	44
27	292	166	95	85	482	130	129	107	264	75	62	43
28	218	183	95	88	330	130	120	103	239	81	63	48
29	177	228	88	84	264	125	118	102	264	144	60	64
30	166	321	87	80	-----	125	112	102	215	319	58	167
31	147	-----	88	76	-----	123	-----	191	-----	220	56	-----
TOTAL	7,002	3,839	4,326	2,837	9,585	5,130	4,404	5,045	16,809	4,437	3,287	1,709
MEAN	226	128	140	91.5	331	165	147	163	560	143	106	57.0
MAX	1,700	321	378	130	1,950	283	323	320	6,420	319	241	167
MIN	48	74	87	66	72	123	112	102	58	75	56	43
CFSM	1.95	1.10	1.21	.79	2.85	1.42	1.27	1.41	4.83	1.23	.91	.49
IN.	2.25	1.23	1.39	.91	3.07	1.65	1.41	1.62	5.39	1.42	1.05	.55

CAL YR 1971 TOTAL 63,634 MEAN 174 MAX 4,080 MIN 32 CFSM 1.50 IN 20.41
WTR YR 1972 TOTAL 68,410 MEAN 187 MAX 6,420 MIN 43 CFSM 1.61 IN 21.94

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	1400	11.00	2,060	6-21	2200	25.50	21,600
2-13	1700	12.43	3,140				

02030500 SLATE RIVER NEAR ARVONIA, VA.

LOCATION.--Lat 37°42'10", long 78°22'40", Buckingham County, on left bank 100 ft upstream from Bumpers Bridge on State Highway 676, 1.8 miles northwest of Arvonias, 2.9 miles upstream from Hunts Creek, and 3.8 miles upstream from mouth.

DRAINAGE AREA.--226 sq mi.

PERIOD OF RECORD.--April 1926 to current year. Monthly discharge only for some periods, published in WSP 1303.

GAGE.--Water-stage recorder. Datum of gage is 238.78 ft above mean sea level (levels by Corps of Engineers). Prior to Feb. 15, 1936, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--46 years, 220 cfs, revised (13.22 inches per year, revised).

EXTREMES.--Current year: Maximum discharge, 42,200 cfs June 22 (gage height, 25.10 ft, from high-water mark in gage house), from rating curve extended as explained below; minimum, 67 cfs Oct. 1 (gage height, 2.63 ft).

Period of record: Maximum discharge, 42,200 cfs June 22, 1972 (gage height, 25.10 ft, from high-water mark in gage house), from rating curve extended above 5,900 cfs on basis of slope-area measurement of peak flow; minimum, 2.0 cfs Sept. 28 to Oct. 2, 1930; minimum gage height, 1.35 ft Sept. 12, 1966.

REVISIONS.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in WSP 1303 and in the other water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
662, 972	1928	Aug. 12, 1928	6,870	14.12
782, 972	1935	Sept. 6, 1935	26,900	22.18
802	1936	Mar. 17, 18, 1936	9,860	16.10
822	1937	Apr. 26, 1937	21,600	20.86
892, 1066	1940	Aug. 16, 1940	6,320	13.62
1002	1944	Sept. 20, 1944	16,000	19.00
1142	1949	Dec. 4, 1948	14,100	18.25
1383, 1420, 1723	1955	Aug. 19, 1955	10,900	16.75
1904	1962	Oct. 21, 1961	7,650	14.68
WRD Va. 1971	1971	May 31, 1971	6,360	13.66

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 972: 1928-29, 1932, 1933-34(M), 1935. WRD Va. 1970: Drainage area. Revised figures of discharge, in cubic feet per second, for high-water periods in water years 1935, 1937, 1944, and 1949, superseding figures published in WSP 782, 822, 972, 1002, 1142, and 1303, are given below:

Sept. 6, 1935.....	17,500	Sept. 20, 1944.....	9,880
Apr. 26, 1937.....	18,400	Dec. 4, 1948.....	11,700
Sept. 19, 1944.....	10,700	Dec. 5, 1948.....	7,760

Month	Cfs-days	Maximum	Minimum	Mean	Per square Mile	Runoff in inches
September 1935	28,108	17,500	74	937	4.15	4.63
WTR YR 1935	136,021	17,500	53	373	1.65	22.39
CAL YR 1935	131,585	17,500	74	361	1.60	21.66
April 1937	34,042	18,400	131	1,135	5.02	5.60
WTR YR 1937	124,366	18,400	46	341	1.51	20.47
CAL YR 1937	145,121	18,400	65	398	1.76	23.89
September 1944	30,429	10,700	19	1,014	4.49	5.01
WTR YR 1944	97,723	10,700	19	267	1.18	16.09
CAL YR 1944	105,468	10,700	19	288	1.27	17.36
December 1948	34,721	11,700	204	1,120	4.96	5.72
CAL YR 1948	147,542	11,700	59	403	1.78	24.29
WTR YR 1949	145,803	11,700	70	399	1.77	24.00

JAMES RIVER BASIN

02030500 SLATE RIVER NEAR ARVONIA, VA.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	189	380	164	188	312	222	215	278	216	1,830	102
2	155	175	277	180	201	289	250	208	222	186	432	108
3	178	875	239	204	437	477	241	681	192	178	278	109
4	110	933	221	186	1,380	526	219	2,490	178	166	266	112
5	90	327	203	257	508	353	214	918	178	2,020	1,570	120
6	86	243	193	243	354	295	206	394	188	1,990	362	146
7	82	224	650	201	386	268	213	305	181	508	248	128
8	74	204	800	187	322	257	545	273	165	353	213	112
9	72	179	398	180	267	239	381	628	155	286	185	107
10	963	173	316	245	248	227	281	420	151	253	170	102
11	685	167	281	259	234	218	260	291	145	231	158	96
12	233	159	250	250	227	216	248	253	140	480	155	95
13	153	156	235	229	3,430	216	247	229	138	1,040	168	95
14	127	150	217	554	3,650	221	439	1,090	141	426	171	91
15	113	144	208	452	616	229	363	2,280	160	291	159	87
16	104	143	208	290	406	229	862	1,070	142	244	154	86
17	119	140	203	203	337	879	439	524	141	228	149	86
18	231	137	194	263	326	720	310	380	246	211	154	85
19	142	136	179	230	380	399	271	350	257	205	156	85
20	125	138	215	224	349	320	254	1,000	267	200	189	82
21	145	135	289	282	255	290	240	611	9,990	178	157	83
22	140	129	222	289	501	307	415	498	33,100	173	137	111
23	1,140	122	191	342	620	312	653	665	10,900	192	130	109
24	5,050	188	189	319	627	267	390	411	778	180	125	95
25	5,930	1,250	190	268	755	249	312	312	454	163	120	93
26	1,930	688	185	230	730	243	278	270	351	155	121	91
27	578	595	184	211	700	237	254	241	269	149	116	87
28	343	835	180	225	444	237	238	230	229	158	124	104
29	259	510	175	239	362	227	231	221	300	232	130	162
30	222	693	170	213	-----	224	224	213	247	488	114	499
31	208	-----	173	201	-----	222	-----	233	-----	520	105	-----
TOTAL	19,863	10,137	8,015	7,820	19,280	9,705	9,700	17,904	60,283	12,300	8,546	3,468
MEAN	641	338	259	252	665	313	323	578	2,009	397	276	116
MAX	5,930	1,250	800	554	3,650	879	862	2,490	33,100	2,020	1,830	499
MIN	72	122	170	164	188	216	206	208	138	149	105	82
CFSM	2.84	1.50	1.15	1.12	2.94	1.39	1.43	2.56	8.89	1.76	1.22	.51
IN.	3.27	1.67	1.32	1.29	3.17	1.60	1.60	2.95	9.92	2.02	1.41	.57

CAL YR 1971 TOTAL 123,834 MEAN 339 MAX 5,930 MIN 54 CFSM 1.50 IN 20.38
WTR YR 1972 TOTAL 187,021 MEAN 511 MAX 33,100 MIN 72 CFSM 2.26 IN 30.78

PEAK DISCHARGE (BASE, 2,100 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	0830	14.16	6,920	6-22	1330	25.10	42,200
2-13	1500	12.29	4,990	7- 5	1730	9.66	3,070
5- 4	0530	9.42	2,930	8- 1	1030	8.79	2,550
5-15	0030	9.03	2,690	8- 5	0230	10.10	3,340

JAMES RIVER BASIN

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02032680 NORTH FORK RIVANNA RIVER NEAR PROFFIT, VA.

LOCATION.--Lat 38°05'16", long 78°24'44", Albemarle County, on left bank 50 ft downstream from bridge on State Highway 649, 1.9 miles southeast of Proffit, and 2.2 miles upstream from confluence of North and South Forks.

DRAINAGE AREA.--176 sq mi.

PERIOD OF RECORD.--April 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 323.43 ft above mean sea level.

EXTREMES.--Current year: Maximum discharge, 31,800 cfs June 21 (gage height, 30.4 ft, from floodmarks); minimum, 45 cfs Sept. 20; minimum gage height, 2.85 ft Sept. 3.

Period of record: Maximum discharge, 31,800 cfs June 21, 1972 (gage height, 30.4 ft, from floodmarks); minimum, 16 cfs Sept. 26, 27, Oct. 4-7, 1970; minimum gage height, 2.47 ft Sept. 26, 27, Oct. 4-6, 1970.

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

COOPERATION.--Records computed and furnished by the State of Virginia.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	141	293	372	127	132	420	178	178	600	384	269	70
2	1,300	263	283	149	140	377	189	172	271	306	223	72
3	684	289	244	152	275	456	173	422	205	259	738	66
4	430	273	218	140	774	372	169	1,090	175	227	238	72
5	331	235	200	172	362	327	160	597	178	297	488	85
6	262	218	154	160	289	283	155	413	158	273	273	85
7	208	210	441	146	259	261	172	334	149	227	210	73
8	173	192	432	139	215	242	312	293	133	202	181	66
9	155	186	336	136	194	218	208	461	125	184	154	61
10	746	183	293	167	180	208	186	453	119	169	136	56
11	458	192	273	164	172	197	180	386	108	157	123	51
12	288	218	244	156	169	196	173	327	105	306	119	50
13	221	210	218	152	2,420	192	196	279	102	594	166	52
14	193	210	202	164	1,610	210	196	310	123	334	142	51
15	170	218	199	151	760	207	184	348	118	255	125	50
16	154	218	194	129	537	200	204	338	104	220	122	48
17	147	210	186	110	434	410	255	299	125	239	123	47
18	136	197	172	120	382	312	232	275	152	205	129	47
19	125	172	164	143	488	261	215	374	146	178	115	49
20	116	143	173	139	394	233	205	644	137	157	115	46
21	116	140	173	143	314	228	191	470	8,000	146	102	47
22	115	133	160	140	372	299	425	420	25,000	136	55	61
23	329	126	146	151	386	329	535	860	9,000	140	51	57
24	1,930	134	148	186	382	291	408	367	3,500	127	87	53
25	2,690	202	148	170	610	263	327	287	1,600	116	87	54
26	1,770	202	144	154	1,160	249	279	237	900	108	92	54
27	836	197	144	149	866	229	240	210	550	102	80	52
28	561	235	140	154	626	213	216	194	350	109	97	59
29	437	383	134	149	501	200	202	183	550	220	84	73
30	365	590	134	146	-----	192	192	180	500	473	76	191
31	318	-----	133	139	-----	183	-----	374	-----	379	70	-----
TOTAL	15,905	6,672	6,642	4,597	15,403	8,257	6,957	11,815	53,283	7,229	5,254	1,898
MEAN	513	222	214	148	531	266	232	381	1,776	233	169	63.3
MAX	2,690	590	441	186	2,420	456	535	1,090	25,000	594	738	191
MIN	115	126	133	110	132	183	155	172	102	102	70	46
CFSM	2.91	1.26	1.22	.84	3.02	1.51	1.32	2.16	10.1	1.32	.96	.36
IN.	3.36	1.41	1.40	.97	3.26	1.75	1.47	2.50	11.26	1.53	1.11	.40

CAL YR 1971 TOTAL 98,274 MEAN 269 MAX 3,540 MIN 42 CFSM 1.53 IN 20.77
WTR YR 1972 TOTAL 143,912 MEAN 393 MAX 25,000 MIN 46 CFSM 2.23 IN 30.42

PEAK DISCHARGE (BASE, 1,500 CFS)

NOTE.--NO GAGE-HEIGHT RECORD JUNE 22-30.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10- 2	0930	9.45	1,720	5- 4	0930	8.94	1,560
10-25	2130	14.63	3,600	5-23	0300	9.21	1,650
2-13	2030	15.37	4,000	6-21	UNKNOWN	30.4	31,800
2-26	1200	8.87	1,540	8- 3	0200	8.89	1,550

JAMES RIVER BASIN

02034000 RIVANNA RIVER AT PALMYRA, VA.

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

DRAINAGE AREA.--664 sq mi.

PERIOD OF RECORD.--October 1933 to current year. Monthly discharge only for some periods, published in WSP 1303.

GAGE.--Water-stage recorder. Datum of gage is 210.39 ft above mean sea level. Prior to Oct. 24, 1942, water-stage recorder at site 200 ft downstream at same datum. Oct. 24, 1942, to Dec. 18, 1947, nonrecording gage 10 ft downstream at same datum.

AVERAGE DISCHARGE.--39 years, 683 cfs (13.97 inches per year).

EXTREMES.--Current year: Maximum discharge, 73,400 cfs June 22 (gage height, 37.34 ft); minimum, 168 cfs Sept. 20, 21 (gage height, 2.95 ft).

Period of record: Maximum discharge, 86,000 cfs (revised) Aug. 20, 1969 (gage height, 39.85 ft), from rating curve extended above 76,000 cfs on basis of contracted-opening measurement of peak flow and velocity-area study; minimum, 5.2 cfs Sept. 9-11, 1966 (gage height, 2.13 ft).

REVISIONS.--The maximum discharge for the water year 1969 has been revised to 86,000 cfs Aug. 20, 1969 (gage height, 39.85 ft), superseding the figure published in WRD Va. 1969.

REMARKS.--Records good. Some diurnal fluctuation at times mostly at low and medium flow by city of Charlottesville reservoir on South Fork Rivanna River. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 802: 1936(M). WSP 852: 1937. WSP 892: 1934-35. WSP 1303: 1945-46(M). WSP 1503: 1956. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	248	847	1,290	417	442	1,590	592	626	1,680	1,460	1,260	213
2	1,470	762	966	442	448	1,390	618	592	1,010	1,190	924	213
3	1,860	941	822	508	745	1,440	601	949	762	1,030	1,510	217
4	1,070	924	728	455	2,850	1,480	560	2,830	635	907	1,100	257
5	796	703	660	553	1,470	1,310	568	2,210	568	1,130	1,160	239
6	635	618	609	545	1,080	1,130	545	1,440	530	1,320	915	257
7	500	592	1,380	481	949	1,030	560	1,150	500	1,050	694	234
8	417	538	1,760	474	822	983	1,360	983	448	907	626	209
9	370	494	1,210	455	711	898	966	1,380	411	913	508	201
10	1,010	487	1,050	523	652	839	762	1,530	393	737	448	189
11	1,690	474	941	560	601	805	703	1,250	364	669	405	182
12	864	494	839	530	575	779	677	1,070	342	660	387	182
13	643	487	779	508	6,800	771	703	932	331	1,520	399	189
14	530	491	711	618	8,140	788	762	1,150	387	1,260	417	189
15	468	468	669	553	2,790	839	686	1,390	405	975	393	189
16	417	468	652	461	1,980	779	737	1,280	370	813	387	192
17	399	448	626	381	1,490	1,400	788	1,120	411	771	381	178
18	393	423	568	468	1,260	1,230	771	983	643	711	399	175
19	359	411	515	455	1,720	949	720	1,260	686	652	387	175
20	342	387	545	455	1,580	856	694	1,860	643	575	381	171
21	337	364	575	468	1,240	796	660	1,680	10,700	530	364	171
22	337	348	523	481	1,260	881	941	1,400	68,000	500	315	178
23	805	326	474	523	1,390	1,090	1,770	2,720	26,800	508	295	189
24	7,270	353	461	1,070	1,350	941	1,320	1,870	5,170	461	285	178
25	10,800	1,060	468	762	1,810	856	1,100	1,330	2,990	423	270	175
26	7,160	898	468	609	3,680	805	941	1,050	2,200	387	275	175
27	2,010	745	461	545	3,410	754	822	881	1,710	364	266	175
28	1,840	805	455	530	2,420	720	737	779	1,190	359	257	178
29	1,340	907	442	523	1,880	677	694	711	2,020	481	280	201
30	1,090	1,890	429	494	-----	643	660	660	1,900	1,410	243	411
31	949	-----	435	474	-----	626	-----	839	-----	1,750	225	-----
TOTAL	50,319	19,143	22,511	16,321	55,545	30,075	24,018	39,905	134,199	26,323	16,156	6,072
MEAN	1,623	638	726	526	1,815	970	801	1,287	4,473	849	521	202
MAX	10,800	1,890	1,760	1,070	8,140	1,590	1,770	2,830	68,000	1,750	1,510	411
MIN	248	326	429	381	442	626	545	592	331	359	225	171
CFSM	2.44	.96	1.09	.79	2.88	1.46	1.21	1.94	6.74	1.28	.78	.30
IN.	2.82	1.07	1.26	.91	3.11	1.68	1.35	2.24	7.52	1.47	.91	.34
CAL YR 1971	TOTAL 367,996	MEAN 1,908	MAX 17,700	MIN 195	CFSM 1.52	IN 20.62						
WTP YR 1972	TOTAL 440,587	MEAN 1,204	MAX 68,000	MIN 171	CFSM 1.81	IN 24.68						

PEAK DISCHARGE (BASE, 6,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1100	18.46	12,600	6-22	1330	37.34	73,400
2-14	0030	18.76	12,900				

02034500 WILLIS RIVER AT FLANAGAN MILLS, VA.

LOCATION.--Lat 37°40'00", long 78°10'00", Cumberland County, on left bank 15 ft upstream from bridge on State Highway 690, 0.4 mile east of Flanagan Mills, 6.9 miles upstream from mouth, and 7.7 miles downstream from Reynolds Creek.

DRAINAGE AREA.--262 sq mi.

PERIOD OF RECORD.--April 1926 to current year.

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, nonrecording gage at site 1,300 ft upstream at same datum.

AVERAGE DISCHARGE.--46 years, 238 cfs (12.34 inches per year).

EXTREMES.--Current year: Maximum daily discharge, 24,000 cfs June 22; maximum gage height, 29.8 ft June 22, from floodmarks (backwater from James River); minimum discharge, 57 cfs Oct. 1 (gage height, 3.79 ft).
Period of record: Maximum daily discharge, 24,000 cfs June 22, 1972; maximum gage height, 29.8 ft June 22, 1972, from floodmarks (backwater from James River); minimum discharge, 1.5 cfs Sept. 13, 14, 1966 (gage height, 2.26 ft).

REMARKS.--Records good except those for period of no gage-height record, which are fair. Complete regulation of flow from Trice Lake, 0.4 mile upstream (total capacity, about 1,100 acre-ft), tributary to Willis River, slightly affects flow at gage. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 872: 1936-37. WSP 892: 1928-29, 1932-34(M). WSP 972: 1937, 1940. WSP 1203: 1929. WSP 1303: 1928-30(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	365	604	164	221	442	228	200	460	280	1,700	95
2	93	298	460	169	221	380	263	194	410	250	800	92
3	124	647	342	188	368	380	284	221	298	220	400	92
4	122	1,100	305	194	940	442	256	571	207	200	235	92
5	99	1,100	277	235	920	410	228	700	188	2,300	1,360	93
6	83	958	263	277	940	350	214	780	175	2,200	1,370	106
7	76	445	345	256	616	305	214	525	181	1,800	351	107
8	69	350	514	214	496	291	405	298	169	1,380	249	104
9	65	291	496	194	426	277	514	514	152	615	207	92
10	338	263	395	228	335	263	496	586	147	312	181	95
11	586	242	342	277	298	249	328	496	136	263	164	93
12	568	228	298	305	284	242	284	312	131	338	152	86
13	316	214	277	305	872	242	277	256	124	1,100	194	83
14	164	207	256	843	1,430	242	365	444	126	600	164	80
15	131	200	249	1,100	1,680	256	375	1,150	131	300	169	75
16	112	188	235	1,550	1,780	263	680	1,410	126	240	164	70
17	106	181	228	1,080	932	680	460	1,710	122	230	152	69
18	106	175	221	445	478	780	335	1,570	123	220	181	69
19	104	169	207	335	604	700	277	970	136	210	181	69
20	109	169	214	320	604	442	249	700	232	200	169	68
21	115	164	277	335	514	335	228	700	4,600	190	152	68
22	112	164	291	365	586	342	338	720	24,000	180	142	80
23	422	152	242	395	700	372	640	604	7,700	210	126	82
24	1,890	202	207	380	840	342	568	460	3,900	180	118	84
25	5,500	1,080	200	350	920	284	410	372	1,500	170	110	82
26	6,270	1,240	194	291	920	263	312	298	900	165	104	86
27	3,660	1,280	194	256	920	249	270	256	500	160	99	78
28	1,960	1,280	188	249	860	242	242	228	390	170	103	75
29	1,240	905	181	263	640	235	221	214	380	300	126	152
30	692	780	175	270	-----	228	214	207	320	500	125	194
31	478	-----	169	242	-----	228	-----	221	-----	700	106	-----
TOTAL	25,774	15,037	8,846	12,075	21,345	10,756	10,175	17,887	47,964	16,183	9,854	2,711
MEAN	831	501	285	390	736	347	339	577	1,599	522	318	90.4
MAX	6,270	1,280	604	1,550	1,780	780	680	1,710	24,000	2,300	1,700	194
MIN	64	152	169	164	221	228	214	194	122	160	99	68
CFSM	3.17	1.91	1.09	1.49	2.81	1.32	1.29	2.20	6.10	1.99	1.21	.35
IN.	3.66	2.14	1.26	1.71	3.03	1.53	1.44	2.54	6.81	2.30	1.40	.38

CAL YR 1971 TOTAL 138,765 MEAN 380 MAX 6,270 MIN 38 CFSM 1.45 IN 19.70
WTR YR 1972 TOTAL 198,607 MEAN 543 MAX 24,000 MIN 64 CFSM 2.07 IN 28.20

PEAK DISCHARGE (BASE, 1,700 CFS)

NOTE.--NO GAGE-HEIGHT RECORD JUNE 21 TO JULY 7.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-26	0030	20.02	6,950	7- 5	UNKNOWN	-	UNKNOWN
2-16	0130	13.65	1,940	8- 1	UNKNOWN	-	UNKNOWN
5-17	1600	13.12	1,770	8- 6	0230	12.88	1,710
6-22	UNKNOWN	29.8	UNKNOWN				

JAMES RIVER BASIN

02035000 JAMES RIVER AT CARTERSVILLE, VA.

LOCATION.--Lat 37°40'15", long 78°05'10", Goochland County, on left bank 200 ft downstream from bridge on State Highway 45 between Pemberton and Cartersville, 1.8 miles downstream from Willis River, and at mile 156.4 (revised).

DRAINAGE AREA.--6,257 sq mi.

PERIOD OF RECORD.--October 1898 to current year. Monthly discharge only for some periods, published in WSP 1303.

GAGE.--Water-stage recorder. Datum of gage is 163.90 ft (revised) above mean sea level. Prior to June 4, 1927, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--74 years, 6,931 cfs (15.04 inches per year).

EXTREMES.--Current year: Maximum discharge, 362,000 cfs June 22 (gage height, 37.87 ft, from floodmarks), from rating curve extended as explained below; minimum, 1,420 cfs Sept. 26.

Period of record: Maximum discharge, 362,000 cfs June 22, 1972 (gage height, 37.87 ft, from floodmarks), from rating curve extended above 160,000 cfs on basis of slope-conveyance study; minimum, 316 cfs Sept. 13, 14, 1966 (gage height, 0.02 ft); minimum daily, 330 cfs Sept. 14, 1966.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Moderate diurnal fluctuation caused by powerplants above station. Water-quality records for the current year are included in this report.

REVISIONS (WATER YEARS).--WSP 972: 1936(M). WSP 1203: 1901-2(M), 1924-25(M), 1928(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,160	7,040	8,560	3,800	7,760	20,700	6,050	7,540	7,710	14,400	32,300	2,560
2	2,980	6,370	11,200	3,580	7,280	16,600	6,330	6,670	7,640	11,600	21,100	2,330
3	6,520	7,610	10,200	3,530	7,380	16,100	6,180	7,030	6,230	9,720	14,700	2,320
4	5,140	10,800	8,070	3,560	16,400	15,800	5,760	14,400	5,520	8,020	11,200	2,270
5	4,610	8,090	6,720	4,190	16,000	13,900	5,320	19,000	5,090	10,600	13,500	2,380
6	4,070	7,210	6,180	4,520	13,800	12,300	5,210	17,500	4,820	33,300	11,200	2,460
7	3,900	6,530	6,850	4,690	10,900	10,500	5,040	14,900	4,360	33,200	8,310	2,780
8	3,180	5,870	12,500	6,720	9,390	9,300	6,890	11,800	4,140	23,100	6,660	2,340
9	2,860	5,570	13,600	6,070	8,380	8,460	9,050	12,100	4,000	15,300	6,000	2,360
10	5,560	5,130	18,600	5,900	7,690	8,060	11,830	12,600	3,750	11,500	5,600	2,120
11	10,600	4,620	13,100	5,800	6,620	7,190	10,900	12,100	3,700	9,450	5,200	1,930
12	6,240	4,530	10,300	6,180	6,180	6,680	9,150	11,500	3,320	8,900	4,900	2,030
13	4,310	4,340	8,760	6,510	19,600	6,430	8,370	10,000	3,540	14,800	4,600	1,990
14	3,490	4,210	7,620	8,210	48,000	6,190	8,710	10,800	3,340	14,100	4,500	1,860
15	3,250	3,740	6,700	9,080	32,100	6,380	8,590	18,700	3,080	10,700	4,610	1,850
16	2,890	3,940	6,340	7,570	22,700	6,210	11,200	17,900	3,120	8,470	4,110	1,760
17	2,810	3,840	5,570	6,340	16,600	8,950	13,400	17,600	3,270	7,250	3,950	1,810
18	3,570	3,840	5,530	5,360	14,100	9,700	12,000	16,000	4,800	6,840	3,980	1,630
19	3,050	3,520	5,140	4,760	14,400	7,820	10,800	13,300	6,230	6,510	4,100	1,710
20	3,000	3,660	5,380	4,730	13,200	6,970	9,660	15,400	11,700	5,790	4,220	1,960
21	2,760	3,240	4,590	5,390	10,700	6,540	8,570	15,800	28,200	5,350	4,020	1,800
22	2,880	2,980	5,060	5,630	10,200	6,360	8,750	13,800	280,000	4,910	3,600	1,670
23	3,810	3,550	4,540	6,570	10,700	7,440	12,500	14,000	258,000	4,710	3,620	1,630
24	33,500	3,100	4,600	8,420	10,500	8,500	17,800	13,900	103,000	4,790	3,230	1,620
25	45,700	9,620	4,340	7,970	12,200	11,100	18,200	13,500	52,600	4,670	3,100	1,790
26	43,600	8,270	4,030	7,130	18,600	10,100	14,000	11,500	29,900	4,690	3,080	1,540
27	29,200	7,010	4,080	7,300	37,400	9,050	11,600	9,980	18,700	4,320	2,790	1,630
28	20,600	7,180	4,020	7,200	50,100	8,490	9,840	7,820	13,800	4,020	2,930	1,670
29	13,700	6,430	3,960	7,090	32,100	7,690	8,640	7,300	12,600	3,990	2,820	2,080
30	10,200	8,640	3,880	7,010	-----	7,420	7,940	6,650	13,700	9,010	2,880	4,020
31	8,280	-----	3,720	8,250	-----	6,900	-----	6,530	-----	24,900	2,670	-----
TOTAL	298,420	170,480	223,740	189,060	490,980	293,830	288,250	387,620	909,860	338,910	209,480	61,900
MEAN	9,626	5,683	7,217	6,099	16,930	9,478	9,608	12,500	30,330	10,930	6,757	2,063
MAX	45,700	10,800	18,600	9,080	50,100	20,700	18,200	19,000	280,000	33,300	32,300	4,020
MIN	2,160	2,980	3,720	3,530	6,180	6,190	5,040	6,530	3,080	3,990	2,670	1,540
CFSM	1.54	.91	1.15	.97	2.71	1.51	1.54	2.00	4.85	1.75	1.08	.33
IN.	1.77	1.01	1.33	1.12	2.92	1.75	1.71	2.30	5.41	2.01	1.25	.37

CAL YR 1971 TOTAL 2,956,260 MEAN 8,099 MAX 76,600 MIN 1,300 CFSM 1.29 IN 17.58
WTR YR 1972 TOTAL 3,862,530 MEAN 10,559 MAX 280,000 MIN 1,540 CFSM 1.69 IN 22.96

PEAK DISCHARGE (BASE, 40,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-26	0300	16.13	50,600	2-28	1400	16.92	52,900
2-14	0600	16.68	52,200	6-22	1800	37.87	362,000

A ABOUT.

NOTE.--NO GAGE-HEIGHT RECORD JUNE 21-27.

JAMES RIVER BASIN

115

02036500 FINE CREEK AT FINE CREEK MILLS, VA.

LOCATION.--Lat 37°35'52", long 77°49'12", Powhatan County, on right bank 75 ft downstream from bridge on State Highway 711 at Fine Creek Mills, 0.8 mile upstream from mouth, and 6.7 miles northeast of Powhatan.

DRAINAGE AREA.--22.1 sq mi.

PERIOD OF RECORD.--July 1944 to current year.

GAGE.--Water-stage recorder. Datum of gage is 156.59 ft above mean sea level. Prior to Oct. 28, 1953, nonrecording gage and crest-stage gage at site 75 ft upstream at same datum.

AVERAGE DISCHARGE.--28 years, 18.6 cfs (11.43 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,140 cfs June 22 (gage height, 6.60 ft); minimum, 5.6 cfs July 27 (gage height, 1.87 ft).

Period of record: Maximum discharge, 3,640 cfs Oct. 21, 1961 (gage height, 8.35 ft); minimum daily, 0.08 cfs Oct. 1, 1968; minimum gage height, 1.53 ft Sept. 30, Oct. 1, 1970.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1203: 1948. WSP 1303: 1945(M). WSP 1383: 1954. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	26	26	15	26	38	28	19	76	19	14	11
2	33	25	22	14	19	36	40	16	28	15	18	13
3	25	76	21	15	47	52	29	52	19	12	124	12
4	15	92	21	17	100	45	25	67	16	11	52	11
5	12	33	19	33	38	36	23	31	14	74	199	11
6	14	28	19	26	36	31	22	22	14	43	99	12
7	11	33	19	21	42	28	22	18	18	25	33	9.2
8	9.2	25	40	18	28	28	63	22	13	18	25	9.2
9	9.2	21	30	21	23	25	30	74	12	15	18	8.6
10	100	19	25	36	22	25	25	33	16	13	14	8.6
11	82	18	22	31	23	23	23	22	12	12	12	7.9
12	28	18	20	28	25	23	22	21	12	40	11	7.9
13	21	16	18	37	92	23	22	16	9.8	52	26	7.9
14	16	16	18	181	98	28	28	72	11	25	84	7.9
15	14	15	17	102	43	28	25	154	11	16	28	7.9
16	13	15	16	42	36	30	35	117	9.8	13	21	8.6
17	13	14	17	33	36	102	25	56	9.2	10	18	9.8
18	13	14	16	33	45	56	19	38	9.8	9.8	18	13
19	13	14	17	33	154	38	18	42	14	25	16	12
20	14	16	16	30	106	35	18	52	21	12	21	8.6
21	14	16	35	33	56	31	18	36	168	9.2	13	10
22	15	14	27	28	68	43	72	68	896	8.6	10	10
23	72	12	23	26	54	35	77	52	164	7.9	9.8	8.6
24	302	28	19	23	83	28	40	35	68	6.8	9.8	7.9
25	341	126	16	21	81	26	33	28	43	6.8	9.2	7.9
26	274	72	16	16	77	26	26	23	35	6.4	9.2	7.9
27	92	50	16	15	63	25	23	21	26	7.3	9.2	8.6
28	45	43	16	18	50	25	22	19	23	9.2	19	14
29	35	36	16	16	43	23	21	21	33	14	12	33
30	31	35	15	18	-----	28	21	21	23	54	10	49
31	28	-----	15	15	-----	30	-----	48	-----	25	10	-----
TOTAL	1,720.4	956	632	995	1,614	1,050	894	1,316	1,824.6	615.0	972.2	354.0
MEAN	55.5	31.9	20.4	32.1	55.7	33.9	29.8	42.5	60.8	19.8	31.4	11.8
MAX	341	126	40	181	154	102	77	154	896	74	199	49
MIN	9.2	12	15	14	19	23	18	16	9.2	6.4	9.2	7.9
CFSM	2.51	1.44	.92	1.45	2.52	1.53	1.35	1.92	2.75	.90	1.42	.53
IN.	2.90	1.61	1.07	1.67	2.72	1.77	1.50	2.22	3.07	1.04	1.64	.60

CAL YR 1971 TOTAL 9,863.5 MEAN 27.0 MAX 341 MIN 3.6 CFSM 1.22 IN 16.60
WTR YR 1972 TOTAL 12,944.2 MEAN 35.4 MAX 896 MIN 6.4 CFSM 1.60 IN 21.79

PEAK DISCHARGE (BASE, 200 CFS)

NOTE.--NO GAGE-HEIGHT RECORD DEC. 6 TO JAN. 4.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	2100	4.10	630	6-22	0300	6.60	2,140
1-14	1700	3.00	222	8-5	1730	3.33	318

JAMES RIVER BASIN

02037000 JAMES RIVER & KANAWHA CANAL NEAR RICHMOND, VA.

LOCATION.--Lat 37°33'52", long 77°34'28", Henrico County, on left bank 75 ft downstream from Canal bridge, 400 ft downstream from head gates, 1,200 ft north of north end of Boshier Dam on James River, 1.6 miles upstream from Huguenot Memorial Bridge, and 2.0 miles west of city limits of Richmond.

PERIOD OF RECORD.--September 1936 to current year.

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

AVERAGE DISCHARGE.--36 years, 849 cfs.

EXTREMES.--Current year: Maximum gage height, 29.1 ft June 23, from floodmarks (interchange of flow with James River makes maximum discharge indeterminate); slight leakage through gates when closed at times during year. Period of record: Maximum gage height, 29.1 ft June 23, 1972, from floodmarks (interchange of flow with James River makes maximum discharge indeterminate); no flow at times when head gates were closed.

REMARKS.--Records good except those for periods of no gage-height record, which are fair. Canal diverts from James River 1,200 ft above Boshier Dam and discharges into river at several points below gaging station near Richmond. Above 2,540 cfs (gage height, 14.5 ft) there is interchange of flow with James River; discharge above 2,540 cfs included in discharge for James River near Richmond. Since June 23, 1972, when Canal banks washed out, no diversion has been made. Records include only leakage and local runoff. Figures given show flow in Canal only; for record of flow of James River near Richmond, see sta 02037500. Water-quality records for the current year are included in this report.

COOPERATION.--Records computed and furnished by the State of Virginia.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	805	900	940	836	960	704	731	836	868	290	9.0	9.0
2	836	884	920	836	940	687	731	836	868	350	8.0	10
3	868	900	940	836	940	868	731	868	868	390	8.0	9.0
4	884	920	920	836	960	884	731	884	868	422	8.0	8.0
5	868	920	900	852	920	719	731	884	868	290	64	10
6	868	920	900	868	836	48	731	868	868	74	40	9.0
7	852	920	884	868	660	48	731	868	884	68	30	8.0
8	852	900	920	884	374	46	775	868	868	63	20	8.0
9	836	920	900	900	800	50	852	868	868	52	15	8.0
10	868	900	940	900	900	57	836	868	852	50	10	8.0
11	920	900	920	900	920	272	852	868	852	49	8.0	8.0
12	884	884	920	900	900	868	820	868	836	63	8.0	8.0
13	868	884	920	920	950	868	820	868	836	68	37	8.0
14	852	739	920	920	1,000	868	836	868	836	58	45	8.0
15	836	30	920	900	950	868	836	868	820	50	35	8.0
16	836	172	920	900	940	852	836	868	820	45	30	8.0
17	820	836	900	884	920	868	852	868	820	40	25	8.0
18	820	820	884	884	900	868	836	868	836	35	20	10
19	852	820	884	884	904	852	836	868	868	30	15	9.0
20	820	820	884	884	868	764	820	868	868	25	10	8.0
21	820	820	884	900	884	731	820	868	852	20	8.0	10
22	820	805	868	920	745	731	820	868	1,710	19	8.0	9.0
23	852	805	868	920	760	731	820	868	2,540	18	8.0	8.0
24	940	820	868	960	900	731	836	868	2,540	17	8.0	8.0
25	900	900	868	960	900	731	836	868	1,720	16	8.0	8.0
26	900	920	852	920	900	745	836	868	82	15	8.0	8.0
27	884	900	852	920	960	745	836	868	50	14	8.0	8.0
28	900	920	852	940	940	731	820	868	52	13	10	8.0
29	900	920	852	940	920	745	820	868	135	12	10	12
30	900	920	852	920	-----	731	820	868	215	11	9.0	30
31	900	-----	852	940	-----	731	-----	884	-----	10	9.0	-----
TOTAL	26,761	24,719	27,704	27,832	25,451	20,142	24,188	26,892	26,968	2,677	539.0	279.0
MEAN	863	824	894	898	878	650	806	867	86.4	17.4	9.30	
MAX	940	920	940	960	1,000	884	852	884	2,540	422	64	30
MIN	805	30	852	836	374	46	731	836	50	10	8.0	8.0

CAL YR 1971 TOTAL 297,137.0 MEAN 814 MAX 1,040 MIN 30
WTR YR 1972 TOTAL 234,152.0 MEAN 640 MAX 2,540 MIN 8.0

NOTE.--NO GAGE-HEIGHT RECORD JUNE 22-26, JULY 15 TO AUG. 4, AUG. 6 TO SEPT. 30.

02037500 JAMES RIVER NEAR RICHMOND, VA.

LOCATION.--Lat 37°33'47", long 77°32'50", Henrico County, on left bank 0.1 mile upstream from Huguenot Memorial Bridge, 0.5 mile west of city limits of Richmond, 1.7 miles downstream from Bosher Dam, 3.3 miles upstream from Powhite Creek, and at mile 116.60 (revised).

DRAINAGE AREA.--6,758 sq mi.

PERIOD OF RECORD (revised).--October 1934 to current year. Gage-height records collected in vicinity of Mayo's Bridge, at mile 109.5, 1876-1956, and at mile 108.7 since 1957, are contained in reports of the National Weather Service.

GAGE.--Water-stage recorder. Control is Williams Island Dams which divert flow for City of Richmond water supply. Datum of gage is 98.82 ft above mean sea level.

AVERAGE DISCHARGE.--38 years, 7,226 cfs (14.52 inches per year), includes flow in James River & Kanawha Canal.

EXTREMES.--Current year: Maximum discharge, 313,000 cfs (includes Canal flow) June 23 (gage height, 28.62 ft); minimum, 1,690 cfs Oct. 1 (gage height, 3.88 ft).

Period of record: Maximum discharge, 313,000 cfs (includes Canal flow) June 23, 1972 (gage height, 28.62 ft); minimum daily, about 10 cfs Sept. 8-15, 1966, Sept. 30, Oct. 5, 6, 1968, Oct. 8-10, 1970; minimum daily discharge of James River and James River & Kanawha Canal combined, 370 cfs Sept. 13, 1966.

Probable minimum daily discharge, since 1899, of James River and James River & Kanawha Canal combined, about 350 cfs in October 1930.

REMARKS.--Records good. City of Richmond takes from 40 to 90 cfs for water supply from river below gage except during periods of low flow when supply is obtained from James River & Kanawha Canal. Flow regulated by power-plants above station. Above 18.2 ft stage there is interchange of flow with James River & Kanawha Canal.

Records of daily discharge include diversion by City of Richmond, but do not include flow in James River & Kanawha Canal which diverts around station. For Canal records, see sta 02037000. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 972: 1936(M). WSP 1433: 1951(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,880	6,980	8,760	3,580	8,020	26,000	6,160	7,490	7,840	15,400	32,800	3,100
2	2,500	6,000	8,380	3,580	7,490	19,400	6,000	6,640	8,570	13,100	26,500	3,050
3	2,920	6,480	10,100	3,580	7,490	16,900	5,850	6,320	6,640	10,900	18,200	2,850
4	5,400	10,600	8,760	3,450	12,700	17,900	5,700	10,100	5,400	9,510	13,100	2,800
5	4,200	9,320	6,980	3,950	19,700	15,400	5,400	19,400	4,710	8,940	14,000	2,750
6	3,820	6,980	5,850	4,450	15,400	15,000	4,840	17,900	4,320	29,100	15,000	2,900
7	3,320	6,320	5,550	4,450	13,100	12,600	4,710	16,400	4,450	33,000	10,500	2,900
8	2,950	5,400	9,150	5,400	11,300	10,900	5,400	13,100	3,950	28,400	8,200	3,100
9	2,330	5,120	11,300	6,640	9,320	10,100	8,380	12,200	3,700	18,400	7,490	2,820
10	4,200	4,710	18,400	5,850	8,380	9,100	9,320	13,500	3,450	13,500	6,320	2,720
11	11,100	4,450	15,000	5,850	7,490	8,570	11,800	12,200	3,320	10,500	5,850	2,550
12	8,020	3,950	10,900	5,850	6,480	6,810	9,320	12,200	2,950	9,700	5,400	2,430
13	4,840	4,080	8,940	6,320	9,090	6,320	8,380	12,200	2,950	12,600	5,260	2,450
14	3,200	3,820	8,020	9,590	48,600	6,160	8,020	12,600	3,320	17,400	6,000	2,430
15	2,850	4,080	6,640	11,400	41,800	6,010	8,380	18,900	2,600	12,600	5,550	2,330
16	2,480	3,950	6,160	9,230	27,800	6,320	9,130	21,000	2,600	10,100	4,980	2,280
17	2,310	3,320	5,700	7,150	19,400	7,490	13,100	18,400	2,650	8,020	4,450	2,210
18	2,110	3,020	5,120	5,850	15,900	11,500	12,200	17,400	3,320	7,320	4,450	2,260
19	3,150	3,150	4,980	5,260	17,400	8,940	11,300	15,000	4,710	6,980	4,450	2,190
20	2,330	2,850	4,980	4,710	17,400	7,320	10,100	14,000	9,220	6,640	4,580	2,160
21	2,330	3,150	4,980	4,980	13,100	6,810	8,760	17,400	14,300	5,700	4,580	2,330
22	2,160	2,400	4,710	5,700	11,300	6,480	8,760	15,400	136,000	5,550	4,320	2,280
23	3,260	2,380	4,710	5,850	11,800	6,810	12,200	15,000	296,000	5,120	3,950	2,210
24	22,100	3,020	4,450	7,470	12,200	7,660	14,600	15,400	210,000	4,840	3,950	2,110
25	50,000	6,820	4,450	8,380	13,100	9,640	21,000	13,500	88,700	4,840	3,700	2,070
26	54,400	11,000	3,950	7,660	15,400	10,500	15,900	12,200	28,700	4,980	3,450	2,160
27	34,400	7,490	4,200	6,980	33,200	9,130	12,600	10,100	19,900	4,840	3,320	2,040
28	24,400	6,810	3,950	7,150	50,000	8,380	10,500	8,380	15,900	4,320	3,320	2,040
29	15,700	6,640	3,820	7,150	46,200	7,840	8,940	7,150	13,500	4,320	3,320	2,260
30	10,900	6,640	3,820	6,640	-----	6,980	8,020	6,320	13,500	5,930	3,320	3,020
31	8,760	-----	3,700	7,490	-----	6,640	-----	6,320	-----	17,800	3,320	-----
TOTAL	305,320	160,930	216,410	191,590	530,560	315,610	284,770	404,120	927,170	350,350	243,630	74,800
MEAN	9,849	5,364	6,981	6,180	18,300	10,180	9,492	13,040	30,910	11,300	7,859	2,493
MAX	54,400	11,000	18,400	11,400	50,000	26,000	21,000	21,000	296,000	33,000	32,800	3,100
MIN	1,880	2,380	3,700	3,450	6,480	6,010	4,710	6,320	2,600	4,320	3,320	2,040
(*)	863	824	894	898	878	650	806	867	899	86.4	17.4	9.30
MEAN#	10,710	6,188	7,875	7,078	19,180	10,830	10,300	13,910	31,810	11,390	7,876	2,502
CFSM#	1.58	.92	1.17	1.05	2.84	1.60	1.52	2.06	4.71	1.69	1.17	.37
IN#	1.82	1.03	1.35	1.21	3.06	1.84	1.70	2.38	5.26	1.95	1.35	.41

CAL YR 1971 TOTAL 2,976,510 MEAN 8,155 MAX 86,700 MIN 710 MEAN# 8,969 CFSM# 1.33 IN# 18.03
WTR YR 1972 TOTAL 4,005,260 MEAN 10,940 MAX 296,000 MIN 1,880 MEAN# 11,580 CFSM# 1.71 IN# 23.36

PEAK DISCHARGE (BASE, 50,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-26	1030	13.95	57,000	2-29	0100	13.95	57,000
2-14	1900	13.88	56,100	6-23	0900	28.62	313,000

* DIVERSION IN CUBIC FEET PER SECOND, BY
JAMES RIVER & KANAWHA CANAL.
* ADJUSTED FOR DIVERSION.

JAMES RIVER BASIN

02038000 FALLING CREEK NEAR CHESTERFIELD, VA.

LOCATION.--Lat 37°26'37", long 77°31'21", Chesterfield County, on left bank at upstream side of bridge on State Highway 651, 0.8 mile downstream from Licking Creek, 2.8 miles upstream from Pocoshock Creek, and 4.7 miles northwest of Chesterfield.

DRAINAGE AREA.--32.8 sq mi.

PERIOD OF RECORD.--October 1955 to current year.

GAGE.--Water-stage recorder. Datum of gage is 126.39 ft above mean sea level.

AVERAGE DISCHARGE.--17 years, 30.0 cfs (12.42 inches per year).

EXTREMES.--Current year: Maximum discharge, 904 cfs Oct. 24 (gage height, 9.68 ft); minimum, 3.3 cfs Sept. 17, 18 (gage height, 1.98 ft).

Period of record: Maximum discharge, 2,510 cfs Sept. 12, 1960 (gage height, 12.67 ft); minimum, 0.01 cfs Sept. 20, Oct. 3, 1968.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1904: 1957(M), 1958-60.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	37	36	19	19	55	41	28	390	25	32	4.4
2	40	33	31	21	28	50	36	26	158	21	24	5.7
3	39	42	28	23	64	49	32	54	62	19	25	6.2
4	26	44	27	22	140	44	30	104	40	18	25	5.9
5	20	32	26	28	79	41	28	57	31	189	28	6.9
6	104	27	24	28	57	37	26	36	26	258	30	7.0
7	67	27	31	24	57	35	26	30	31	79	22	6.2
8	31	25	39	21	48	36	100	28	26	47	18	5.3
9	22	23	32	21	40	34	64	125	21	34	16	5.2
10	160	23	29	33	36	32	44	120	21	27	14	5.4
11	338	22	27	32	35	30	39	59	22	23	12	4.7
12	104	21	25	29	33	30	36	40	18	60	10	3.9
13	52	21	25	26	95	29	35	33	16	205	9.8	3.7
14	33	20	23	32	115	30	34	125	17	89	23	3.6
15	26	19	22	44	69	29	33	310	17	48	18	3.6
16	22	19	23	29	53	32	53	238	15	33	13	3.6
17	21	18	22	22	50	116	40	118	13	27	11	3.4
18	19	17	23	24	57	96	31	72	13	26	11	3.5
19	17	18	20	26	200	57	28	57	42	22	9.6	6.9
20	18	18	28	26	125	43	25	62	28	20	8.3	14
21	18	13	35	25	75	37	24	57	87	18	7.0	23
22	18	17	28	26	80	49	86	82	486	18	6.3	18
23	241	16	23	25	90	61	153	77	273	16	5.8	9.5
24	755	34	22	24	115	42	81	50	123	15	5.5	6.6
25	341	193	22	23	110	35	57	39	67	14	5.2	5.4
26	197	92	22	20	100	33	44	33	45	13	4.8	4.9
27	111	65	22	20	90	32	37	28	35	12	4.4	4.6
28	73	64	21	21	72	31	34	26	30	13	4.9	6.2
29	53	49	20	21	64	29	32	23	32	27	5.0	8.9
30	44	46	21	21	-----	29	30	22	30	87	4.7	36
31	41	-----	20	20	-----	39	-----	55	-----	54	4.3	-----
TOTAL	3,071	1,100	797	776	2,196	1,322	1,359	2,214	2,215	1,557	417.6	232.2
MEAN	99.1	36.7	25.7	25.0	75.7	42.6	45.3	71.4	73.8	50.2	13.5	7.74
MAX	755	193	39	44	200	116	153	310	486	258	32	36
MIN	17	16	20	19	19	29	24	22	13	12	4.3	3.4
CFSM	3.02	1.12	.78	.76	2.31	1.30	1.38	2.18	2.25	1.53	.41	.24
IN.	3.48	1.25	.90	.88	2.49	1.50	1.54	2.51	2.51	1.77	.47	.26

CAL YR 1971 TOTAL 13,125.6 MEAN 36.0 MAX 755 MIN 2.4 CFSM 1.10 IN 14.89
WTR YR 1972 TOTAL 17,256.8 MEAN 47.1 MAX 755 MIN 3.4 CFSM 1.44 IN 19.57

PEAK DISCHARGE (BASE, 220 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-11	0615	7.23	425	6-1	0615	7.60	484
10-24	0300	9.68	904	6-22	1645	8.46	614
11-25	0530	5.66	237	7-5	2030	6.96	398
5-14	2345	6.51	347	7-13	0800	5.71	249

JAMES RIVER BASIN

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02038850 HOLIDAY CREEK NEAR ANDERSONVILLE, VA.
(Hydrologic bench-mark station)

LOCATION.--Lat 37°24'55", long 78°38'10", Appomattox County, on right bank 350 ft downstream from bridge on State Highway 614, 1.0 mile upstream from Holiday Lake, and 5.2 miles southwest of Andersonville.

DRAINAGE AREA.--8.53 sq mi.

PERIOD OF RECORD.--April 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 475 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 8.03 cfs (12.78 inches per year).

EXTREMES.--Current year: Maximum discharge, 9,640 cfs June 21 (gage height, 14.64 ft, from high-water mark in gage house), from rating curve extended as explained below; minimum, 2.5 cfs Oct. 1; minimum gage height, 1.12 ft Sept. 19, 20.

Period of record: Maximum discharge, 9,640 cfs June 21, 1972 (gage height, 14.64 ft, from high-water mark in gage house), from rating curve extended above 4,200 cfs on basis of slope-area measurement of peak flow; minimum, 0.10 cfs Sept. 11, 12, 1966; minimum gage height, 0.75 ft July 28, 1966.

REVISIONS.--The figures of maximum discharge for water years 1967-71 have been revised as shown in the following table. They supersede figures published in WRD Va., 1967-71.

WRD Va.	Water year	Date	Discharge (cfs)	Gage height (feet)
1967	1967	June 23, 1967	336	3.80
1968	1968	Dec. 10, 1967	224	3.14
1969	1969	July 23, 1969	294	3.55
1970	1970	July 9, 1970	90	2.26
1971	1971	May 13, 1971	615	5.16

REMARKS.--Records good. Recording rain gage located at station. Water-quality records for the current year are included in this report.

REVISIONS.--The figures of peak discharge for the period April 1966 to September 1971 have been revised as shown in the following table. They supersede figures published in WRD Va., 1966-69, 1971.

REVISED PEAK DISCHARGE.--1966: Sept. 21 (0315) 156 cfs (2.73 ft).

1967: Oct. 1 (1600) 202 cfs (3.01 ft); June 23 (0245) 336 cfs (3.80 ft).

1968: Dec. 10 (2000) 224 cfs (3.14 ft); Jan. 14 (0115) 151 cfs (2.70 ft); May 27 (1730) 214 cfs (3.08 ft).

1969: Mar. 25 (0245) 183 cfs (2.90 ft); July 23 (2245) 294 cfs (3.55 ft).

1971: May 13 (0815) 615 cfs (5.16 ft); May 16 (0530) 394 cfs (4.12 ft); May 30 (0115) 538 cfs (4.84 ft).

JAMES RIVER BASIN

02038850 HOLIDAY CREEK NEAR ANDERSONVILLE, VA.--Continued
(Hydrologic bench-mark station)

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	7.6	12	6.0	7.0	11	8.8	6.2	12	8.8	16	4.4
2	7.2	7.5	9.9	8.4	8.7	11	11	6.2	9.5	7.4	10	4.6
3	4.1	6.4	9.3	7.0	28	19	8.5	57	8.4	7.1	8.3	5.7
4	3.2	18	8.7	8.4	24	13	8.3	93	8.0	6.8	7.4	5.7
5	3.2	11	8.1	9.9	13	11	7.9	21	9.6	138	7.4	6.0
6	3.6	9.6	8.0	7.6	13	10	7.9	15	8.1	26	6.5	5.5
7	3.0	9.2	21	7.1	15	10	11	13	7.6	16	6.5	4.6
8	2.8	7.9	13	6.6	12	9.9	29	17	6.9	12	6.0	4.4
9	3.5	7.4	10	7.3	10	9.0	11	24	6.8	10	5.7	4.2
10	39	7.2	9.4	10	9.4	8.9	9.6	15	7.1	8.8	5.2	4.1
11	11	7.0	8.8	10	8.9	8.7	9.0	12	6.3	7.9	5.2	3.9
12	6.0	6.6	8.0	9.0	9.1	8.8	8.8	11	6.2	20	5.5	3.9
13	4.5	6.5	7.8	11	185	8.8	9.4	10	6.2	16	20	3.9
14	4.0	6.2	7.1	18	31	9.5	9.9	87	6.7	10	12	3.7
15	3.6	6.1	7.3	11	16	8.9	8.8	72	6.4	8.3	7.1	3.7
16	3.5	6.2	7.2	9.2	12	12	9.2	37	5.8	8.8	6.2	3.7
17	9.6	5.8	7.0	8.8	11	33	7.9	19	6.2	8.3	6.2	3.7
18	5.8	5.8	6.7	8.4	11	16	7.3	15	11	7.1	6.2	3.9
19	4.5	6.3	6.6	8.3	12	12	7.0	29	18	6.8	5.7	3.9
20	6.1	6.4	11	8.4	10	10	7.0	36	11	6.2	5.7	3.6
21	6.3	6.3	8.9	12	10	10	6.7	20	1,740	6.0	5.2	5.0
22	5.5	6.0	7.2	10	18	13	22	19	85	6.0	5.0	5.2
23	276	5.9	6.8	12	17	10	15	19	25	6.2	4.8	4.2
24	198	23	7.0	10	21	9.5	11	14	17	5.7	4.8	4.2
25	87	31	7.0	8.8	21	9.2	8.8	12	13	5.5	4.6	4.1
26	34	16	6.9	7.9	29	8.9	7.9	11	11	5.2	4.6	3.9
27	16	28	6.6	7.7	18	8.8	7.4	10	9.7	5.5	4.6	7.4
28	11	21	6.6	10	14	8.7	7.0	9.9	11	12	6.0	7.9
29	9.3	20	6.2	8.5	12	8.3	7.0	9.6	13	30	4.6	15
30	8.6	17	6.5	7.9	-----	8.3	6.6	9.3	12	37	4.4	13
31	8.1	-----	6.3	7.4	-----	8.4	-----	16	-----	16	4.2	-----
TOTAL	792.7	386.5	262.9	282.6	606.1	343.6	296.7	745.2	2,104.5	475.4	211.6	157.0
MEAN	25.6	12.9	8.48	9.12	20.9	11.1	9.89	24.0	70.2	15.3	6.83	5.23
MAX	276	64	21	18	185	33	29	93	1,740	138	20	15
MIN	2.8	5.8	6.2	6.0	7.0	8.3	6.6	6.2	5.8	5.2	4.2	3.6
CFSM	3.00	1.51	.99	1.07	2.45	1.30	1.16	2.81	8.23	1.79	.80	.61
IN.	3.46	1.69	1.15	1.23	2.64	1.50	1.29	3.25	9.18	2.07	.92	.68

CAL YR 1971 TOTAL 4,293.9 MEAN 11.8 MAX 285 MIN 2.0 CFSM 1.38 IN 18.73
WTR YR 1972 TOTAL 6,664.8 MEAN 18.2 MAX 1,740 MIN 2.8 CFSM 2.13 IN 29.07

PEAK DISCHARGE (BASE, 150 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-23	2230	5.24	635	5-14	1415	3.05	208
11- 3	0800	2.75	158	6-21	1300	14.64	9,640
2-13	0745	4.13	396	7- 5	0445	4.08	386
5- 4	0230	3.39	266				

02039000 BUFFALO CREEK NEAR HAMPDEN SYDNEY, VA.

LOCATION.--Lat 37°15'25", long 78°29'12", Prince Edward County, on left bank 100 ft upstream from bridge on State Highway 658, 0.8 mile upstream from Locket Creek, 2.0 miles northwest of Hampden Sydney, and 6.0 miles southwest of Farmville.

DRAINAGE AREA.--69.7 sq mi.

PERIOD OF RECORD.--August 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 339.19 ft above mean sea level (levels by Virginia Department of Highways). Prior to Aug. 19, 1953, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--26 years, 61.1 cfs (11.90 inches per year).

EXTREMES.--Current year: Maximum discharge, 9,160 cfs June 21 (gage height, 12.38 ft), from rating curve extended as explained below; minimum, 32 cfs Sept. 20 (gage height, 1.47 ft).

Period of record: Maximum discharge, 9,160 cfs June 21, 1972 (gage height, 12.38 ft), from rating curve extended above 1,600 cfs on basis of slope-area measurement at gage height 11.96 ft; minimum daily, 2.7 cfs Oct. 7, 8, 1970.

Flood in August 1940 reached a stage of about 15 ft, from information by local resident.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1303: 1948-50(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	138	104	47	47	84	70	64	73	72	179	40
2	204	109	84	55	58	80	94	62	64	62	116	41
3	113	100	74	53	132	112	77	99	59	57	88	41
4	79	87	68	53	258	93	72	159	55	53	73	41
5	66	78	64	60	136	84	65	115	73	612	74	49
6	78	74	62	56	108	73	65	92	61	348	65	47
7	61	77	84	53	122	70	90	79	62	200	60	43
8	52	70	88	50	98	71	648	96	55	128	55	42
9	49	68	77	51	82	67	279	300	52	90	51	40
10	328	67	72	68	74	65	173	148	50	71	48	40
11	268	65	68	74	69	63	126	104	47	61	46	38
12	138	64	63	75	67	62	108	84	46	71	46	37
13	92	64	63	106	432	62	119	74	45	82	82	36
14	72	63	58	429	321	65	218	456	46	67	85	36
15	58	62	57	230	171	64	152	536	46	58	59	35
16	53	60	57	136	115	74	115	361	44	53	53	35
17	58	60	56	98	101	132	98	214	44	50	50	34
18	55	60	53	81	94	104	84	159	54	47	52	34
19	50	59	51	76	104	87	76	204	183	52	51	34
20	54	58	66	70	88	77	72	140	83	51	50	32
21	55	55	68	69	81	72	68	115	3,220	46	47	37
22	53	52	59	65	112	98	148	104	2,040	44	44	39
23	2,450	52	54	65	112	87	166	94	635	42	44	36
24	2,920	112	55	61	155	76	115	81	505	42	43	35
25	1,400	404	54	57	163	70	98	73	382	40	42	34
26	710	230	53	52	151	67	84	66	268	39	42	33
27	535	193	52	50	126	65	76	62	188	39	42	42
28	445	173	51	57	108	64	71	62	138	86	44	58
29	315	148	50	54	94	63	68	61	118	222	42	78
30	243	148	50	52	-----	64	65	62	88	515	42	156
31	178	-----	49	49	-----	66	-----	76	-----	298	40	-----
TOTAL	11,325	3,050	1,964	2,552	3,775	2,381	3,760	4,402	8,824	3,698	1,854	1,323
MEAN	365	102	63.4	82.3	130	76.8	125	142	294	119	59.8	44.1
MAX	2,920	404	104	429	432	132	648	536	3,220	612	178	156
MIN	49	52	49	47	47	62	65	61	44	39	40	32
CFSM	5.24	1.46	.91	1.18	1.87	1.10	1.79	2.04	4.22	1.71	.86	.63
IN.	6.04	1.63	1.05	1.36	2.02	1.27	2.01	2.35	4.71	1.97	.99	.71

CAL YR 1971 TOTAL 35,655 MEAN 97.7 MAX 2,520 MIN 18 CFSM 1.40 IN 19.03
WTR YR 1972 TOTAL 48,912 MEAN 134 MAX 3,220 MIN 32 CFSM 1.92 IN 26.11

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-23	2300	11.96	8,280	5-14	2030	6.90	1,130
11-25	0700	5.40	505	6-21	2000	12.38	9,160
1-14	1700	5.36	505	7- 5	1100	6.50	950
2-13	1800	6.26	705	7-30	0500	5.81	635
4- 8	0830	6.77	1,020				

JAMES RIVER BASIN

02039500 APPOMATTOX RIVER AT FARMVILLE, VA.

LOCATION.--Lat 37°18'25", long 78°23'20", Cumberland County, on left bank 4 ft downstream from bridge on State Highway 45 at north town limits of Farmville and 1.1 miles downstream from Buffalo Creek.

DRAINAGE AREA.--303 sq mi.

PERIOD OF RECORD.--March 1926 to current year.

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

AVERAGE DISCHARGE.--46 years, 270 cfs (12.10 inches per year).

EXTREMES.--Current year: Maximum discharge, 33,100 cfs June 22 (gage height, 29.70 ft, from floodmarks), from rating curve extended as explained below; minimum, 93 cfs Oct. 1 (gage height, 3.97 ft).
Period of record: Maximum discharge, 33,100 cfs June 22, 1972 (gage height, 29.70 ft, from floodmarks), from rating curve extended above 12,000 cfs on basis of contracted-opening measurement of peak flow; minimum, 3.8 cfs Sept. 25, 1941.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Diurnal fluctuation at low flow caused by Prince Edward Mill 0.2 mile upstream. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 972: 1927-37, 1938(M). WSP 1303: 1927(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131	320	446	192	228	384	260	223	489	319	496	139
2	245	279	346	204	251	355	306	215	305	281	339	141
3	280	506	307	215	436	416	288	312	250	256	271	143
4	182	1,070	288	207	1,350	446	262	1,280	226	245	238	159
5	144	380	272	241	708	360	249	1,340	239	1,700	234	152
6	146	282	260	244	444	323	238	437	241	3,320	233	163
7	142	259	303	216	505	303	255	336	228	1,030	204	151
8	118	241	435	202	464	298	1,150	307	207	422	194	141
9	108	219	321	197	359	290	1,090	713	193	320	184	139
10	655	211	299	239	328	273	545	638	192	277	177	138
11	1,240	205	279	275	306	266	404	372	188	253	170	133
12	491	197	252	298	299	262	349	302	174	299	170	132
13	272	193	245	380	1,430	260	330	269	170	698	169	133
14	204	188	234	2,710	3,440	268	387	811	171	339	212	129
15	171	184	226	2,070	1,140	275	412	2,810	173	260	193	127
16	154	182	225	608	551	282	341	2,760	166	233	176	127
17	181	176	211	394	438	535	301	1,120	160	220	171	127
18	222	173	197	353	423	603	269	589	167	212	171	128
19	174	171	189	324	474	386	251	904	349	203	174	133
20	164	205	220	312	436	325	243	1,100	337	210	189	129
21	183	209	284	314	372	301	240	738	5,300	197	163	131
22	174	196	245	323	510	342	342	538	28,000	189	156	147
23	1,690	189	217	319	593	353	661	487	9,000	186	153	149
24	12,200	263	212	317	742	302	435	402	4,500	182	151	139
25	9,780	1,370	213	286	863	279	336	324	1,700	176	147	139
26	3,630	1,050	208	254	795	271	295	289	1,000	171	145	138
27	1,550	638	206	241	793	263	266	259	600	169	141	149
28	807	831	203	259	535	261	249	251	450	176	156	242
29	603	552	200	272	438	254	243	245	441	382	163	237
30	473	637	199	253	-----	249	234	243	370	1,640	146	319
31	386	-----	199	241	-----	250	-----	272	-----	1,480	140	-----
TOTAL	36,900	11,576	7,941	12,960	19,651	10,035	11,231	20,886	55,986	16,045	6,026	4,554
MEAN	1,190	386	256	418	678	324	374	674	1,866	518	194	152
MAX	12,200	1,370	446	2,710	3,440	603	1,150	2,810	28,000	3,320	496	319
MIN	108	171	189	192	228	249	234	215	160	169	140	127
CFSM	3.93	1.27	.84	1.38	2.24	1.07	1.23	2.22	6.16	1.71	.64	.50
IN.	4.53	1.42	.97	1.59	2.41	1.23	1.38	2.56	6.87	1.97	.74	.56

CAL YR 1971 TOTAL 141,858 MEAN 389 MAX 12,200 MIN 50 CFSM 1.28 IN 17.42
WTR YR 1972 TOTAL 213,791 MEAN 584 MAX 28,000 MIN 108 CFSM 1.93 IN 26.25

PEAK DISCHARGE (BASE, 1,900 CFS)

NOTE.--NO GAGE-HEIGHT RECORD JUNE 22-28.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	1500	20.99	13,700	5-15	2130	15.47	3,500
1-14	2130	15.63	3,580	6-22	UNKNOWN	29.70	33,100
2-14	1030	16.09	4,240	7- 6	0930	16.50	3,800
5- 5	0530	12.43	1,910	7-31	0130	14.12	2,270

02040000 APPOMATTOX RIVER AT MATTOAX, VA.

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

DRAINAGE AREA.--726 sq mi.

PERIOD OF RECORD.--August 1900 to December 1905, March 1926 to current year.

GAGE.--Water-stage recorder. Datum of gage is 174.51 ft above mean sea level. August 1900 to December 1905, nonrecording gage at same site, different datum. March 1926 to October 1936, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--51 years, 689 cfs (12.89 inches per year).

EXTREMES.--Current year: Maximum discharge, 31,100 cfs June 25 (gage height, 34.08 ft), from rating curve extended as explained below; minimum, 200 cfs Sept. 17, 18 (gage height, 6.85 ft).

Period of record: 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. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 892: 1938. WSP 972: 1928, 1932, 1934-38. WSP 1303: 1901(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	343	1,260	1,430	447	537	1,160	632	585	857	1,120	2,850	282
2	566	987	1,100	454	537	1,020	720	537	945	921	2,500	279
3	1,050	918	360	499	717	978	821	611	689	776	1,100	281
4	814	1,220	762	513	2,130	1,180	745	915	561	686	770	281
5	655	1,700	703	537	2,630	1,150	650	1,880	489	1,290	1,380	293
6	605	987	663	611	2,600	939	611	1,950	472	2,730	784	311
7	558	751	668	585	1,420	829	585	915	518	3,180	655	335
8	569	695	894	513	1,420	765	1,100	717	511	3,580	551	305
9	448	640	1,040	489	1,250	728	2,360	1,490	458	4,020	501	277
10	1,350	585	829	513	975	697	2,850	2,260	406	1,470	456	252
11	2,230	561	734	561	846	650	2,700	2,020	381	840	423	242
12	2,490	532	684	639	779	624	1,100	975	364	851	401	235
13	2,010	506	627	745	1,400	611	915	745	337	1,930	392	228
14	836	439	598	2,350	2,830	601	885	1,210	329	2,300	681	223
15	631	475	571	3,030	3,200	619	1,100	3,120	323	1,230	734	215
16	538	461	551	3,310	3,540	632	1,220	3,650	317	840	563	207
17	493	450	544	3,420	3,970	1,060	945	3,880	307	717	441	202
18	380	439	549	1,420	2,190	1,540	773	4,390	303	627	417	202
19	375	423	520	975	2,140	1,530	689	4,850	343	595	412	205
20	370	421	527	885	1,850	990	637	4,150	624	566	428	202
21	370	441	624	829	1,430	815	585	2,930	2,260	549	432	218
22	389	454	639	801	1,380	851	801	2,120	8,200	506	375	220
23	1,500	425	611	801	1,810	1,020	1,680	1,850	15,000	475	341	240
24	4,860	463	542	773	2,120	1,040	2,120	1,390	27,200	452	325	257
25	7,470	1,860	518	745	2,450	807	1,390	1,040	29,600	434	313	240
26	18,800	2,740	513	663	2,530	714	915	857	21,000	412	303	227
27	25,200	3,010	503	585	2,390	671	773	745	11,200	401	297	225
28	21,800	2,850	491	561	1,950	642	689	663	4,080	399	313	263
29	13,900	1,970	479	611	1,420	621	611	637	1,600	467	325	428
30	7,570	1,520	467	611	-----	614	585	611	1,390	1,550	333	645
31	2,730	-----	461	561	-----	616	-----	637	-----	2,500	301	-----
TOTAL	121,900	30,233	20,752	30,137	54,441	26,714	32,187	54,330	131,064	38,414	20,097	8,020
MEAN	3,932	1,009	669	972	1,877	862	1,073	1,753	4,369	1,239	648	267
MAX	25,200	3,010	1,430	3,420	3,970	1,540	2,850	4,850	29,600	4,020	2,850	645
MIN	343	421	461	447	537	601	585	537	303	399	297	202

CAL YR 1971 TOTAL 401,421 MEAN 1,100 MAX 25,200 MIN 96
WTR YR 1972 TOTAL 568,289 MEAN 1,553 MAX 29,600 MIN 202

PEAK DISCHARGE (BASE, 4,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-27	1300	32.37	26,100	6-25	0500	34.08	31,100
2-17	1800	18.64	4,070	7- 9	1530	18.81	4,150
5-19	1000	20.56	4,970				

JAMES RIVER BASIN

02041000 DEEP CREEK NEAR MANNBORO, VA.

LOCATION.--Lat 37°16'59", long 77°52'22", Amelia County, on left bank 300 ft upstream from bridge on State Highway 153, 0.9 mile upstream from Sweathouse Creek, 3.4 miles northwest of Mannboro, and 7.5 miles southeast of Amelia.

DRAINAGE AREA.--158 sq mi.

PERIOD OF RECORD.--September 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 177.20 ft above mean sea level. Prior to Sept. 2, 1949, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--26 years, 130 cfs (11.17 inches per year).

EXTREMES.--Current year: Maximum discharge, 10,200 cfs Oct. 24 (gage height, 19.53 ft, from high-water mark in gage house), from rating curve extended above 3,900 cfs; minimum daily, 27 cfs Sept. 20.

Period of record: Maximum discharge, 10,200 cfs Oct. 24, 1971 (gage height, 19.53 ft, from high-water mark in gage house), from rating curve extended above 3,900 cfs; minimum, 0.03 cfs Oct. 4, 5, 1968; minimum gage height, 0.29 ft Aug. 9-12, 1957.

Flood in August 1940 reached a stage of 14.8 ft, from information by local resident.

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

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1203: 1948 (calendar year figures only). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	152	196	88	91	178	157	120	352	174	256	44
2	128	142	157	88	104	162	152	116	396	133	138	46
3	178	133	138	88	181	152	133	124	138	103	103	48
4	120	133	133	91	537	147	120	265	108	90	95	50
5	85	120	128	94	793	138	112	292	98	327	261	55
6	82	112	128	98	323	128	108	152	91	793	144	70
7	91	108	133	94	221	120	112	120	91	638	90	69
8	77	104	173	91	221	120	714	112	82	180	79	61
9	67	101	173	91	173	120	1,460	393	80	128	72	53
10	522	101	147	101	142	116	569	833	77	108	65	47
11	2,080	101	138	120	129	108	250	510	74	94	60	43
12	1,140	98	133	128	133	108	202	173	72	145	57	40
13	276	98	124	116	258	108	190	133	70	507	59	38
14	124	98	120	112	734	108	190	309	70	853	233	35
15	94	98	116	120	760	108	190	1,540	70	308	172	34
16	85	94	116	108	272	112	162	1,640	67	138	84	32
17	80	94	116	82	190	251	152	1,100	67	115	71	30
18	77	91	112	88	202	463	133	494	74	103	69	29
19	74	91	108	95	556	271	120	258	80	90	68	29
20	74	91	108	104	956	162	116	282	88	85	69	27
21	77	91	116	104	663	138	112	265	475	81	65	32
22	77	88	116	104	310	152	175	214	5,240	77	61	70
23	1,480	88	108	104	265	214	493	202	2,560	71	57	69
24	8,290	98	101	104	300	178	562	168	1,040	70	54	57
25	2,750	428	101	101	448	138	242	142	600	66	52	45
26	1,200	893	101	94	496	128	178	128	382	62	49	40
27	700	479	98	91	390	120	152	116	221	59	46	37
28	450	330	98	91	265	120	138	108	214	60	46	53
29	308	300	94	98	202	116	128	104	221	82	47	64
30	202	228	94	98	-----	112	128	101	258	235	46	142
31	168	-----	91	98	-----	124	-----	132	-----	365	44	-----
TOTAL	21,220	5,183	3,815	3,084	10,315	4,720	7,650	10,646	13,456	6,340	2,812	1,489
MEAN	685	173	123	99.5	356	152	255	343	449	205	90.7	49.6
MAX	8,290	893	196	128	956	463	1,460	1,640	5,240	853	261	142
MIN	64	88	91	82	91	108	108	101	67	59	44	27
CFSM	4.34	1.09	.78	.63	2.25	.96	1.61	2.17	2.84	1.30	.57	.31
IN.	5.00	1.22	.90	.73	2.43	1.11	1.80	2.51	3.17	1.49	.66	.35

CAL YR 1971 TOTAL 73,958 MEAN 203 MAX 8,290 MIN 19 CFSM 1.28 IN 17.41
WTR YR 1972 TOTAL 90,730 MEAN 248 MAX 8,290 MIN 27 CFSM 1.57 IN 21.36

PEAK DISCHARGE (BASE, 1,200 CFS)

NOTE.--NO GAGE-HEIGHT RECORD OCT. 24-28.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-11	1200	9.28	2,610	5-15	2000	9.10	2,290
10-24	UNKNOWN	19.53	10,200	6-22	1200	16.93	7,640
4-9	0700	8.10	1,740				

JAMES RIVER BASIN

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02041650 APPOMATTOX RIVER AT MATOACA, VA.

LOCATION.--Lat 37°13'28", long 77°28'32", Chesterfield County, on left bank at upstream side of bridge on State Highway 600, 0.2 mile south of Matoaca, 2.0 miles upstream from Rohoic Creek, 2.8 miles downstream from Lake Chesdin, 3.5 miles west of Petersburg, and at mile 15.9.

DRAINAGE AREA.--1,344 sq mi.

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 68.30 ft above mean sea level.

EXTREMES.--Current year: Maximum discharge, 22,800 cfs June 27 (gage height, 14.60 ft); minimum, 267 cfs Sept. 20 (gage height, 2.25 ft).

Period of record: Maximum discharge, 22,800 cfs June 27, 1972 (gage height, 14.60 ft); minimum, 106 cfs June 15, 16, 1970 (gage height, 1.69 ft).

REMARKS.--Records good except those for period of no gage-height record, which are fair. Flow regulated by Petersburg Water Authority at Lake Chesdin (capacity, 36,500 acre-ft), 2.8 miles upstream, from which an average of 12.4 cfs is diverted for industrial and municipal use. Records do not include flow of Upper Appomattox Canal of Virginia Electric and Power Co. which diverts around station.

COOPERATION.--Records computed and furnished by the State of Virginia.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	373	8,340	2,230	730	770	2,030	1,120	860	3,510	2,150	3,540	375
2	650	2,860	1,830	740	925	1,680	1,200	800	2,560	1,970	3,540	391
3	1,080	1,540	1,450	750	1,200	1,580	1,200	890	1,680	1,140	2,540	361
4	1,320	1,350	1,240	760	2,850	1,450	1,200	1,450	1,120	888	1,470	361
5	1,080	1,540	1,080	770	3,770	1,680	1,040	1,880	830	1,320	2,220	375
6	1,160	1,690	1,050	830	3,900	1,410	960	2,280	758	3,440	2,860	403
7	960	1,240	1,090	960	3,260	1,200	890	1,930	770	4,360	1,500	420
8	692	925	1,100	770	2,280	1,200	2,910	1,240	692	4,360	1,020	438
9	580	860	1,500	752	2,060	1,040	4,030	2,130	668	4,200	822	424
10	2,000	800	1,300	800	1,730	1,000	4,440	3,510	612	4,050	665	368
11	5,240	770	1,200	890	1,400	925	4,160	3,900	540	1,720	566	337
12	5,750	740	1,100	1,000	1,200	890	3,070	2,720	482	1,330	520	331
13	4,520	728	1,020	1,080	1,680	860	2,230	1,500	472	3,810	515	325
14	2,500	692	990	1,370	3,420	925	2,560	1,630	455	4,360	588	316
15	1,200	686	940	2,830	4,300	860	2,670	4,530	432	3,500	990	307
16	830	680	900	3,510	4,300	922	2,400	6,220	441	1,820	990	292
17	662	639	895	3,510	4,300	1,660	1,630	6,380	428	1,210	764	280
18	535	622	890	3,180	4,300	2,510	1,280	5,900	468	990	654	275
19	545	617	840	1,690	4,300	2,670	1,120	5,450	477	822	594	286
20	555	617	800	1,280	4,720	2,080	1,000	5,300	580	758	604	277
21	545	634	900	1,160	3,770	1,500	860	5,300	2,040	701	594	347
22	530	606	1,100	1,120	2,690	1,450	1,200	4,300	8,200	660	555	354
23	4,270	545	960	1,080	2,510	1,630	2,400	2,950	14,900	604	515	364
24	15,100	652	900	1,040	2,950	1,680	3,070	2,400	17,700	566	460	364
25	21,100	2,200	820	1,080	3,510	1,450	2,950	1,780	18,800	525	424	364
26	18,400	3,640	800	925	3,900	1,240	2,030	1,360	22,000	492	403	344
27	15,300	4,230	780	830	3,770	1,080	1,400	1,120	22,000	474	387	344
28	18,300	4,300	770	830	3,380	1,000	1,160	960	18,200	469	383	492
29	19,900	3,770	760	800	2,640	960	1,040	860	11,700	555	395	577
30	17,900	2,840	750	830	-----	925	925	830	5,270	1,220	399	990
31	13,100	-----	740	830	-----	1,000	-----	1,190	-----	2,800	383	-----
TOTAL	176,827	51,353	32,715	38,627	85,585	42,487	58,045	83,550	158,789	57,264	31,860	11,482
MEAN	5,704	1,712	1,055	1,246	2,965	1,371	1,935	2,695	5,293	1,847	1,028	383
MAX	21,100	8,340	2,230	3,510	4,720	2,670	4,440	6,380	22,000	4,360	3,540	990
MIN	373	545	740	730	770	860	960	800	428	469	383	275

CAL YR 1971 TOTAL 631,647 MEAN 1,731 MAX 21,100 MIN 185
WTR YR 1972 TOTAL 828,984 MEAN 2,265 MAX 22,000 MIN 275

NOTE.--NO GAGE-HEIGHT RECORD DEC. 6 TO JAN. 4.

JAMES RIVER BASIN

02042500 CHICKAHOMINY RIVER NEAR PROVIDENCE FORGE, VA.

LOCATION.--Lat 37°26'10", long 77°03'40", New Kent County, on left bank 100 ft downstream from bridge on State Highway 618, 1.1 miles southwest of Providence Forge, and 1.7 miles downstream from Schiminee Creek.

DRAINAGE AREA.--248 sq mi.

PERIOD OF RECORD.--January 1942 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6.07 ft above mean sea level.

AVERAGE DISCHARGE.--30 years, 252 cfs (13.80 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,440 cfs June 25 (gage height, 10.07 ft); minimum, 30 cfs Oct. 1 (gage height, 2.34 ft).

Period of record: Maximum discharge, 7,710 cfs Aug. 15, 1955 (gage height, 11.67 ft); minimum, 1.1 cfs Oct. 15, 1970; minimum gage height, 1.53 ft Sept. 13, 1965.

REMARKS.--Records good. Water-quality records for the current year are included in this report.

REVISIONS (WATER YEARS).--WSP 1553: 1956. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	713	640	133	177	761	247	291	469	595	317	73
2	126	597	600	129	195	724	247	229	600	504	335	78
3	154	503	515	127	237	646	247	208	733	409	630	95
4	180	454	429	128	297	574	241	277	760	338	913	99
5	199	375	358	148	334	489	235	318	719	309	898	105
6	478	305	304	163	371	417	227	315	652	345	649	118
7	456	256	279	173	396	359	222	268	582	395	555	111
8	348	225	290	182	459	322	281	256	500	509	584	101
9	263	232	266	182	538	296	300	391	399	613	559	91
10	212	282	247	201	545	276	307	494	295	783	522	83
11	255	317	232	223	500	255	291	512	224	695	498	74
12	276	299	220	234	430	235	281	452	204	603	451	68
13	315	255	226	228	398	221	315	362	207	684	347	64
14	304	213	231	220	404	211	352	360	206	652	273	57
15	381	181	223	218	394	204	334	530	186	602	320	49
16	526	159	208	223	408	201	304	645	152	534	325	48
17	531	141	192	226	410	281	279	658	122	481	338	47
18	462	128	180	250	472	322	277	618	117	484	311	47
19	369	120	170	321	641	341	274	889	127	452	330	76
20	256	113	175	473	767	357	249	1,120	320	381	333	84
21	161	107	191	519	785	382	228	939	818	289	265	99
22	109	102	184	453	843	485	256	781	994	218	194	128
23	167	98	185	368	1,070	570	350	646	1,530	193	154	103
24	393	105	181	301	1,190	528	392	533	1,590	168	129	90
25	502	216	174	269	1,030	434	429	471	2,800	136	111	80
26	649	259	180	251	844	345	423	473	2,820	176	98	70
27	611	335	186	241	740	325	443	598	1,810	128	90	59
28	637	421	179	231	694	334	473	699	1,220	114	105	61
29	828	450	164	216	722	309	443	628	870	110	101	63
30	864	583	151	206	-----	273	371	509	688	196	83	93
31	815	-----	143	193	-----	250	-----	419	-----	256	77	-----
TOTAL	11,889	8,544	7,903	7,430	16,291	11,727	9,318	15,889	22,714	12,352	10,895	2,414
MEAN	384	285	255	240	562	378	311	513	757	398	351	80.5
MAX	864	713	640	519	1,190	761	473	1,120	2,820	783	913	128
MIN	62	98	143	127	177	201	222	208	117	110	77	47
CFSM	1.55	1.15	1.03	.97	2.27	1.52	1.25	2.07	3.05	1.60	1.42	.32
IN.	1.78	1.28	1.19	1.11	2.44	1.76	1.40	2.38	3.41	1.85	1.63	.36
CAL YR 1971	TOTAL	87,365	MEAN	239	MAX	944	MIN	22	CFSM	.96	IN	13.10
WTR YR 1972	TOTAL	137,366	MEAN	375	MAX	2,820	MIN	47	CFSM	1.51	IN	20.60

DISMAL SWAMP BASIN

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02043000 LAKE DRUMMOND IN DISMAL SWAMP, VA.

LOCATION (revised).--Lat 36°35'42", long 76°26'23", Chesapeake City, on right bank in outlet canal, 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.

PERIOD OF RECORD.--May 1926 to current year.

GAGE.--Nonrecording gage. Datum of gage is 12.16 ft above mean sea level.

EXTREMES.--Current year: Maximum gage height, 5.30 ft Oct. 6, Feb. 19, Apr. 24; minimum, 4.46 ft Sept. 17.
Period of record: Maximum gage height, 6.68 ft Sept. 17, 1960; minimum, -0.67 ft Nov. 3, 1952.

REVISIONS (WATER YEARS).--WSP 1032: 1934-43.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.54	4.88	5.03	4.95	5.08	5.07	4.91	5.10	5.14	4.96	5.13	4.73
2	4.64	4.89	4.97	4.97	5.12	5.06	4.97	5.08	5.14	4.92	5.13	4.78
3	4.76	4.94	4.94	4.98	5.15	5.11	4.96	5.10	5.12	4.93	5.01	4.74
4	4.97	4.98	4.90	4.99	5.15	5.10	5.01	5.07	5.11	4.93	4.92	4.71
5	5.13	4.95	4.86	5.00	5.08	5.15	5.04	4.97	5.17	4.92	4.94	4.71
6	5.28	5.01	4.88	5.01	5.10	4.96	5.12	5.04	5.14	4.87	4.99	4.71
7	5.21	5.11	4.86	5.04	5.05	5.00	5.11	4.99	5.14	4.85	5.05	4.76
8	5.11	5.10	4.86	5.01	5.10	5.03	5.10	4.94	5.19	4.86	5.09	4.75
9	5.06	5.02	4.85	5.01	5.09	5.01	5.10	4.99	5.15	4.79	5.19	4.76
10	5.16	5.02	4.86	5.11	5.05	4.92	5.06	4.97	5.14	4.71	5.18	4.70
11	5.07	5.00	4.95	5.11	4.99	4.90	4.96	4.93	5.07	4.76	5.14	4.61
12	5.02	5.00	4.96	5.10	5.13	4.90	4.95	4.92	5.07	4.88	5.16	4.60
13	5.00	5.01	5.04	5.10	5.24	4.96	4.93	4.95	5.05	4.94	5.16	4.60
14	5.01	5.06	5.06	5.06	5.12	5.01	4.96	5.00	5.04	4.98	5.15	4.54
15	5.06	5.06	5.12	4.89	5.06	5.09	5.03	5.10	5.01	5.02	5.13	4.52
16	5.01	5.10	5.08	4.84	5.17	5.10	5.07	5.09	5.00	5.01	5.11	4.52
17	4.96	5.09	5.09	4.82	5.15	5.15	5.10	5.09	5.01	5.02	5.07	4.48
18	4.90	5.08	5.18	4.99	5.07	5.09	5.10	5.08	5.00	5.03	5.06	4.52
19	4.82	5.03	5.03	5.11	5.25	5.03	5.10	5.06	4.99	5.03	5.05	4.69
20	4.83	4.99	4.93	5.12	5.11	4.94	5.08	5.04	4.99	5.05	5.06	4.72
21	4.87	4.95	4.96	5.24	5.07	4.94	5.10	4.99	4.98	5.06	5.01	4.86
22	4.93	4.99	4.96	5.19	5.15	5.00	5.10	4.95	4.98	5.02	4.98	4.86
23	5.09	4.83	4.95	5.17	5.17	4.98	5.17	5.00	4.99	4.97	4.96	4.89
24	4.92	4.84	4.90	5.14	5.21	4.93	5.23	5.00	4.99	4.93	4.96	4.90
25	4.91	4.96	4.88	5.09	5.02	4.95	5.19	5.06	4.97	4.87	4.95	4.91
26	4.90	4.99	4.93	5.04	5.05	5.00	5.09	5.10	4.93	4.86	4.94	4.93
27	4.90	5.01	4.96	5.00	5.09	5.03	5.08	5.05	4.92	4.86	4.90	4.94
28	4.91	5.10	5.00	5.01	4.98	5.06	5.05	5.00	4.92	5.00	4.85	5.03
29	4.91	5.10	5.00	5.01	5.04	5.10	5.09	5.01	4.95	5.03	4.84	5.05
30	4.89	5.03	5.02	4.98	-----	5.07	5.10	5.04	4.96	5.14	4.82	5.14
31	4.87	-----	4.99	5.05	-----	4.90	-----	5.05	-----	5.05	4.75	-----

CHOWAN RIVER BASIN

02044000 NOTTOWAY RIVER NEAR BURKEVILLE, VA.

LOCATION.--Lat 37°04'40", long 78°11'50", Nottoway County, on left bank at downstream side of bridge on State Highway 723, 4.0 miles upstream from Modest Creek, 5.6 miles north of Victoria, and 7.5 miles south of Burkeville.

DRAINAGE AREA.--38.7 sq mi.

PERIOD OF RECORD.--September 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 354.58 ft above mean sea level. Prior to July 4, 1951, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--26 years, 34.4 cfs (12.07 inches per year).

EXTREMES.--Current year: Maximum discharge, 13,400 cfs Oct. 23 (gage height, 22.33 ft), from rating curve extended as explained below; minimum, 2.7 cfs Sept. 20, 21 (gage height, 1.69 ft).

Period of record: Maximum discharge, 13,400 cfs Oct. 23, 1971 (gage height, 22.33 ft), from rating curve extended above 3,200 cfs on basis of slope-area measurement of peak flow; no flow Aug. 29 to Oct. 14, 1954, Sept. 3-5, 12-15, 1963.

Maximum stage since at least 1930, 27.4 ft in August 1940, from Corps of Engineers floodmark.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1383: 1946-47, 1949. WSP 1433: 1948. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	34	37	15	15	36	41	23	39	29	43	4.4
2	74	30	30	16	21	34	40	21	20	25	27	4.7
3	24	29	27	17	83	37	31	93	16	21	20	4.8
4	12	27	25	16	172	33	27	106	14	20	16	4.8
5	15	22	23	21	57	28	24	46	12	167	15	6.8
6	84	21	22	20	47	24	24	35	14	58	13	12
7	23	22	35	17	94	23	26	30	34	30	11	6.9
8	12	21	46	16	65	25	660	35	15	21	10	5.6
9	8.6	20	31	16	41	25	113	421	13	17	9.4	5.3
10	487	20	27	33	32	21	69	79	11	15	8.3	4.7
11	94	20	25	43	29	20	54	44	11	14	7.5	4.1
12	34	19	22	42	29	20	48	32	10	61	7.1	3.8
13	20	19	23	30	544	20	48	27	9.0	498	7.3	3.5
14	16	18	20	42	120	20	98	606	8.4	62	8.3	3.3
15	12	19	20	37	61	20	60	678	8.2	61	7.9	3.1
16	11	17	20	24	46	19	44	169	7.5	23	6.9	3.0
17	11	17	21	19	43	95	42	75	7.3	19	6.8	2.9
18	11	17	20	20	49	78	33	55	8.8	16	6.8	2.9
19	11	16	18	22	105	44	29	62	9.0	15	8.4	2.9
20	11	17	22	20	72	34	28	56	11	13	28	2.9
21	14	17	29	20	55	30	30	46	2,540	12	9.0	5.4
22	12	16	21	21	102	58	149	47	2,710	11	7.1	9.6
23	4,750	15	18	22	93	54	172	38	100	10	6.6	6.2
24	2,920	37	18	20	112	34	67	30	87	9.5	6.2	4.7
25	1,730	314	18	18	107	30	46	26	53	9.0	5.6	4.1
26	564	81	17	16	90	29	37	23	43	8.3	5.3	3.8
27	119	92	17	16	70	27	32	20	34	8.1	5.2	3.7
28	67	81	16	18	51	25	28	19	30	31	5.2	14
29	49	51	16	18	43	24	27	18	33	118	5.3	33
30	43	51	16	17	-----	24	25	17	33	152	5.0	92
31	38	-----	16	16	-----	28	-----	20	-----	110	4.5	-----
TOTAL	11,296.6	1,179	716	688	2,448	1,019	2,152	2,997	5,941.2	1,663.9	332.7	268.9
MEAN	364	39.3	23.1	22.2	84.4	32.9	71.7	96.7	198	53.7	10.7	8.96
MAX	4,750	314	46	43	544	95	660	678	2,710	498	43	92
MIN	8.6	15	16	15	15	19	24	17	7.3	8.1	4.5	2.9
CFSM	9.41	1.02	.60	.57	2.18	.85	1.85	2.50	5.12	1.39	.28	.23
IN.	10.86	1.13	.69	.66	2.35	.98	2.07	2.88	5.71	1.60	.32	.26

CAL YR 1971 TOTAL 24,732.9 MEAN 67.8 MAX 4,750 MIN 1.5 CFSM 1.75 IN 23.77
WTR YR 1972 TOTAL 30,702.3 MEAN 83.9 MAX 4,750 MIN 2.9 CFSM 2.17 IN 29.51

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-23	2100	22.33	13,400	5-14	2300	14.22	1,920
10-25	0930	17.70	3,500	6-21	2300	21.95	11,800
4-8	1130	12.12	1,290				

CHOWAN RIVER BASIN

129

02044500 NOTTOWAY RIVER NEAR RAWLINGS, VA.

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

DRAINAGE AREA.--309 sq mi.

PERIOD OF RECORD.--October 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 184.88 ft above mean sea level.

AVERAGE DISCHARGE.--22 years, 275 cfs (12.09 inches per year).

EXTREMES.--Current year: Maximum discharge, 23,900 cfs Oct. 24 (gage height, 21.36 ft), from rating curve extended as explained below; minimum, 76 cfs Sept. 20, 21 (gage height, 2.75 ft).

Period of record: Maximum discharge, 23,900 cfs Oct. 24, 1971 (gage height, 21.36 ft), from rating curve extended above 16,000 cfs on basis of slope-area measurement of peak flow; minimum, 0.40 cfs Oct. 14, 15, 1954; minimum gage height, 1.83 ft Oct. 15, 1954.

Flood in August 1940 reached a stage of 20.8 ft (discharge, about 19,000 cfs), from information by local resident.

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136	399	399	194	185	390	329	238	352	438	918	103
2	352	366	329	191	297	357	348	227	343	343	474	119
3	505	371	288	194	447	343	316	288	242	288	318	121
4	306	438	274	194	1,010	325	288	650	198	251	247	114
5	185	366	260	219	1,060	306	265	554	178	325	560	128
6	178	306	251	234	534	279	251	352	172	709	489	170
7	302	288	283	223	466	270	251	279	185	505	304	154
8	194	270	438	201	505	274	786	251	185	343	235	128
9	139	256	418	198	428	270	1,690	635	166	283	199	114
10	424	251	334	231	343	260	1,010	1,170	150	251	173	105
11	2,450	242	297	320	306	242	476	655	139	227	154	97
12	2,400	238	274	339	293	238	409	423	131	316	146	95
13	447	234	279	311	571	238	390	352	126	817	160	93
14	279	231	274	297	1,470	242	481	486	123	1,310	862	91
15	215	223	256	306	1,360	247	500	1,630	121	610	437	85
16	178	219	247	270	539	251	409	3,010	118	327	247	82
17	161	215	260	212	438	476	442	1,770	128	258	196	80
18	150	212	270	208	442	650	375	709	251	235	179	80
19	136	208	231	223	709	476	316	534	198	210	170	80
20	134	212	231	234	979	357	283	500	172	188	179	78
21	139	208	265	231	655	306	270	452	1,000	176	176	119
22	147	201	270	231	539	385	343	471	16,700	170	160	192
23	1,680	188	231	234	544	457	671	471	12,400	160	144	157
24	17,800	215	219	234	569	394	709	394	3,050	149	136	123
25	13,600	886	215	223	666	320	457	334	736	141	128	110
26	4,150	1,370	215	204	650	302	366	297	514	141	121	101
27	2,930	682	212	188	585	288	316	256	409	133	114	97
28	1,320	666	212	188	495	279	279	238	399	154	116	170
29	606	590	204	198	423	270	265	227	1,200	616	116	524
30	486	462	201	201	-----	265	251	231	671	655	112	890
31	433	-----	194	198	-----	279	-----	238	-----	834	105	-----
TOTAL	52,562	11,013	8,331	7,129	17,508	10,036	13,542	18,322	40,757	11,563	8,075	4,600
MEAN	1,696	367	269	230	604	324	451	591	1,359	373	260	153
MAX	17,800	1,370	438	339	1,470	650	1,690	3,010	16,700	1,310	918	890
MIN	134	188	194	188	185	238	251	227	118	133	105	78
CFSM	5.49	1.19	.87	.74	1.95	1.05	1.46	1.91	4.40	1.21	.84	.50
IN.	6.33	1.33	1.00	.86	2.11	1.21	1.63	2.21	4.91	1.39	.97	.55

CAL YR 1971 TOTAL 160,939 MEAN 441 MAX 17,800 MIN 46 CFSM 1.43 IN 19.38
WTR YR 1972 TOTAL 203,438 MEAN 556 MAX 17,800 MIN 78 CFSM 1.80 IN 24.49

PEAK DISCHARGE (BASE, 2,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-11	2400	8.80	3,500	5-16	1500	8.46	3,290
10-24	1900	21.36	23,900	6-22	2000	20.42	21,100

CHOWAN RIVER BASIN

02045500 NOTTOWAY RIVER NEAR STONY CREEK, VA.

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

DRAINAGE AREA.--579 sq mi.

PERIOD OF RECORD.--October 1929 to current year. Monthly discharge only for some periods, published in WSP 1303.

GAGE.--Water-stage recorder. Datum of gage is 58.42 ft above mean sea level. Prior to Oct. 11, 1934, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--43 years, 524 cfs (12.29 inches per year).

EXTREMES.--Current year: Maximum discharge, 13,100 cfs Oct. 26 (gage height, 20.32 ft); minimum, 92 cfs Sept. 20 (gage height, 2.66 ft).

Period of record: Maximum discharge, 25,200 cfs Aug. 17, 1940 (gage height, 23.66 ft), from rating curve extended above 13,000 cfs; minimum, 5.0 cfs Sept. 2, 5, 1932 (gage height, 0.62 ft).

REMARKS.--Records good. Diurnal fluctuation at low flow caused by Baskerville Mill, 33 miles upstream. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 802: 1935(M). WSP 972: 1931(M), 1932, 1934-35, 1939. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	508	769	819	369	341	737	630	416	417	905	1,300	145
2	985	704	699	348	769	681	668	393	524	635	1,050	144
3	1,100	680	607	351	1,220	677	608	644	470	498	645	166
4	864	877	562	357	1,720	739	538	1,900	358	408	474	173
5	543	783	536	408	1,910	646	505	1,260	298	393	563	211
6	392	644	508	475	1,330	584	464	819	265	645	947	368
7	386	565	522	439	928	518	441	578	299	890	694	306
8	452	515	760	394	845	499	876	485	303	613	483	241
9	310	478	834	358	804	500	1,710	893	277	445	366	195
10	307	462	721	439	686	475	2,020	1,380	245	363	309	165
11	1,330	449	625	603	599	454	1,020	1,380	217	316	266	145
12	2,590	433	574	673	559	435	763	776	198	490	233	130
13	2,250	420	575	627	823	431	712	575	184	2,040	219	123
14	617	411	584	587	1,730	429	809	681	174	1,890	344	119
15	403	394	537	537	2,180	437	859	2,040	169	1,660	1,010	113
16	311	386	516	506	1,500	434	777	2,650	166	770	534	106
17	265	376	502	424	867	1,220	709	3,110	161	517	342	100
18	231	363	509	374	871	1,940	698	2,120	179	414	281	100
19	212	355	477	394	1,410	1,210	584	988	333	379	257	98
20	207	352	457	424	2,120	824	512	845	288	332	240	94
21	212	356	561	428	1,630	664	487	812	385	295	248	162
22	222	344	563	436	1,160	915	573	805	3,130	267	235	345
23	1,730	325	503	439	970	1,290	1,080	857	5,000	245	212	324
24	6,530	329	449	449	1,010	914	1,180	759	8,100	226	189	246
25	8,580	1,330	428	427	1,070	722	915	633	7,320	208	175	191
26	12,500	1,910	418	387	1,110	626	706	544	3,190	198	167	159
27	10,800	1,720	414	345	1,080	581	589	476	738	191	156	156
28	7,110	1,480	404	334	929	549	514	425	600	215	165	676
29	2,770	1,230	398	342	823	522	470	390	1,550	678	174	1,090
30	1,020	991	380	354	-----	500	442	369	1,660	1,080	169	3,000
31	849	-----	381	358	-----	533	-----	388	-----	1,040	157	-----
TOTAL	66,586	20,436	16,823	13,386	32,994	21,686	22,909	30,391	37,198	19,246	12,604	9,591
MEAN	2,148	681	543	432	1,138	700	764	980	1,240	621	407	320
MAX	12,500	1,910	834	673	2,180	1,940	2,020	3,110	8,100	2,040	1,300	3,000
MIN	207	325	380	334	341	429	441	369	161	191	156	94
CFSM	3.71	1.18	.94	.75	1.97	1.21	1.32	1.69	2.14	1.07	.70	.55
IN.	4.23	1.31	1.08	.86	2.12	1.39	1.47	1.95	2.39	1.24	.81	.62

CAL YR 1971 TOTAL 267,080 MEAN 732 MAX 12,500 MIN 49 CFSM 1.26 IN 17.16
WTR YR 1972 TOTAL 303,850 MEAN 830 MAX 12,500 MIN 94 CFSM 1.43 IN 19.52

PEAK DISCHARGE (BASE, 3,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-26	1430	20.32	13,100	6-24	1600	19.85	8,630

CHOWAN RIVER BASIN

131

02046000 STONY CREEK NEAR DINWIDDIE, VA.

LOCATION.--Lat 37°04'01", long 77°36'10", Dinwiddie County, on right bank at upstream side of bridge on U.S. Highway 1, 1.2 miles southwest of Dinwiddie, 1.7 miles downstream from Chamberlains Bed Creek, and 5.7 miles downstream from confluence of White Oak and Butterwood Creeks.

DRAINAGE AREA.--112 sq mi.

PERIOD OF RECORD.--September 1946 to current year. Published as "at Dinwiddie" September 1946 to September 1947 and October 1949 to September 1950.

GAGE.--Water-stage recorder. Datum of gage is 129.94 ft above mean sea level. Prior to June 12, 1957, nonrecording gage and crest-stage gage at same site and datum.

AVERAGE DISCHARGE.--26 years, 99.9 cfs (12.11 inches per year).

EXTREMES.--Current year: Maximum discharge, 5,030 cfs Oct. 24 (gage height, 15.07 ft); minimum, 7.1 cfs Sept. 20 (gage height, 1.28 ft).

Period of record: Maximum discharge, 5,030 cfs Oct. 24, 1971 (gage height, 15.07 ft); no flow for part of Oct. 13, 1954.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1303: 1947(M). WSP 1433: 1951(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	140	108	133	60	54	124	115	72	350	74	144	15
2	200	97	108	59	172	114	111	66	166	59	109	17
3	120	131	94	63	252	114	98	102	108	47	75	19
4	75	155	88	60	436	111	83	239	76	39	57	20
5	70	116	83	77	313	98	77	166	61	64	302	31
6	63	96	80	86	188	89	72	108	53	92	216	58
7	53	84	110	79	150	82	72	79	49	83	129	46
8	35	75	210	69	126	81	484	71	44	67	83	32
9	26	69	160	63	103	81	499	282	38	51	59	24
10	105	65	128	76	90	75	280	341	38	40	50	20
11	269	64	109	102	84	70	166	233	34	34	38	17
12	221	62	96	104	84	68	138	144	30	128	32	14
13	124	61	96	91	203	68	133	98	27	618	40	13
14	71	59	90	84	335	69	138	188	26	338	442	11
15	46	57	85	81	233	71	133	451	24	144	302	11
16	36	56	84	72	144	75	118	499	24	87	115	9.8
17	31	54	109	58	123	302	133	388	32	65	70	9.4
18	26	52	101	55	144	324	109	199	40	51	53	8.6
19	27	50	85	62	376	204	91	188	31	44	44	7.8
20	28	51	87	67	475	130	86	194	41	38	42	7.4
21	29	49	108	68	313	106	92	177	139	32	39	42
22	30	48	97	69	233	204	196	188	685	28	38	59
23	1,220	44	81	71	182	227	346	172	901	24	31	54
24	4,500	61	74	69	204	150	221	138	427	22	26	38
25	2,140	475	72	64	233	113	155	113	188	20	23	24
26	706	357	69	59	233	100	128	97	120	18	20	19
27	372	275	69	53	204	92	106	84	89	17	18	17
28	233	313	67	53	166	87	92	76	80	20	20	93
29	172	210	64	56	144	83	84	71	129	81	20	234
30	138	172	63	60	-----	80	77	65	89	122	17	369
31	120	-----	63	58	-----	86	-----	74	-----	150	16	-----
TOTAL	11,426	3,566	2,963	2,148	5,997	3,678	4,633	5,363	4,139	2,697	2,670	1,340.0
MEAN	369	119	95.6	69.3	207	119	154	173	138	87.0	86.1	44.7
MAX	4,500	475	210	104	475	324	499	499	901	618	442	369
MIN	26	44	63	53	54	68	72	65	24	17	16	7.4
CFSM	3.29	1.06	.85	.62	1.85	1.06	1.38	1.54	1.23	.78	.77	.40
IN.	3.80	1.18	.98	.71	1.99	1.22	1.54	1.78	1.37	.90	.89	.45

CAL YR 1971 TOTAL 42,692.5 MEAN 117 MAX 4,500 MIN 4.9 CFSM 1.04 IN 14.18
WTR YR 1972 TOTAL 50,620.0 MEAN 138 MAX 4,500 MIN 7.4 CFSM 1.23 IN 16.81

PEAK DISCHARGE (BASE, 1,200 CFS).-- OCT. 24 (1030) 5,030 CFS (15.07 FT).

CHOWAN RIVER BASIN

02047000 NOTTOWAY RIVER NEAR SEBRELL, VA.

LOCATION.--Lat 36°46'13", long 77°09'59", Southampton County, on right bank 1,000 ft upstream from bridge on State Highway 653, 1 mile downstream from Three Creek, 2.5 miles southwest of Sebrell, and 5.5 miles upstream from Assamoosick Swamp.

DRAINAGE AREA.--1,421 sq mi.

PERIOD OF RECORD.--September 1941 to current year.

GAGE.--Water-stage recorder. Datum of gage is 5.94 ft above mean sea level. Prior to Aug. 23, 1950, non-recording gage at same site and datum.

AVERAGE DISCHARGE.--31 years, 1,236 cfs (11.81 inches per year).

EXTREMES.--Current year: Maximum discharge, 16,100 cfs Oct. 29 (gage height, 21.44 ft); minimum, 128 cfs Sept. 20 (gage height, 3.77 ft).

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

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 except those for period of no gage-height record, which are poor. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1333: 1942, 1944, 1948-49. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	514	8,830	3,640	858	836	2,770	1,520	1,140	984	3,800	1,600	225
2	985	5,930	3,320	834	1,110	2,380	1,750	1,040	1,070	3,400	2,100	212
3	1,770	4,020	2,690	792	1,960	2,090	1,820	1,080	1,280	3,100	2,300	204
4	2,250	2,820	2,060	797	2,910	1,990	1,710	2,100	1,300	2,400	1,700	207
5	2,210	2,340	1,640	890	3,510	2,050	1,530	3,110	1,100	1,800	1,300	254
6	1,850	2,170	1,410	1,010	3,930	1,950	1,390	3,710	824	1,500	1,100	337
7	1,580	1,880	1,300	1,110	4,230	1,750	1,270	4,230	672	1,300	1,300	558
8	1,300	1,590	1,350	1,110	4,220	1,550	1,310	4,260	616	1,400	1,000	574
9	1,170	1,360	1,660	1,040	3,650	1,410	1,910	3,310	606	1,500	800	451
10	1,070	1,220	1,940	993	2,820	1,330	2,650	2,940	562	1,300	730	347
11	1,190	1,140	1,910	1,160	2,190	1,230	3,130	3,240	518	1,050	586	277
12	1,680	1,090	1,690	1,410	1,780	1,140	3,530	3,510	459	1,100	468	233
13	2,320	1,060	1,520	1,660	1,720	1,060	3,580	3,640	419	1,300	399	204
14	2,630	1,000	1,490	1,900	2,160	1,020	2,880	3,200	385	2,000	384	185
15	2,580	960	1,440	1,900	2,810	1,010	2,240	2,700	361	3,000	634	177
16	1,550	918	1,350	1,800	3,290	1,020	2,100	3,080	338	3,600	1,370	166
17	917	869	1,290	1,620	3,680	1,290	1,960	3,600	326	3,400	1,280	154
18	671	831	1,250	1,410	3,820	2,340	1,770	4,080	336	2,900	748	143
19	552	802	1,230	1,230	3,660	3,270	1,690	4,610	348	2,200	528	137
20	509	779	1,220	1,150	3,870	3,910	1,470	5,050	493	1,500	432	131
21	515	757	1,220	1,130	4,240	4,170	1,250	4,780	602	1,200	378	156
22	517	742	1,300	1,110	4,600	3,830	1,230	3,960	975	980	351	222
23	795	718	1,350	1,100	4,880	3,180	1,690	3,170	2,800	860	335	427
24	2,250	699	1,270	1,100	4,830	3,220	2,440	2,750	5,000	740	315	523
25	3,410	966	1,160	1,090	4,320	3,330	2,890	2,470	8,000	650	288	445
26	4,370	1,820	1,090	1,050	3,770	3,050	3,070	2,020	9,000	580	264	348
27	8,570	2,540	1,040	971	3,440	2,420	2,760	1,630	9,300	520	247	281
28	13,900	2,980	1,000	899	3,310	1,940	2,120	1,360	8,400	470	234	287
29	15,900	3,310	965	842	3,110	1,660	1,620	1,160	5,800	450	233	798
30	14,700	3,580	925	823	-----	1,460	1,330	1,050	4,500	840	243	1,570
31	12,100	-----	888	834	-----	1,390	-----	974	-----	1,300	241	-----
TOTAL	106,825	59,721	47,608	35,623	94,656	66,210	61,610	88,954	67,374	52,140	23,888	10,233
MEAN	3,446	1,991	1,530	1,149	3,264	2,136	2,054	2,869	2,246	1,682	771	341
MAX	15,900	8,830	3,640	1,900	4,880	4,170	3,580	5,050	9,300	3,800	2,300	1,570
MIN	509	699	888	792	836	1,010	1,230	974	326	450	233	131
CFSM	2.43	1.40	1.08	.81	2.30	1.50	1.45	2.02	1.58	1.18	.54	.24
IN.	2.80	1.56	1.25	.93	2.48	1.73	1.61	2.33	1.76	1.36	.63	.27

CAL YR 1971 TOTAL 555,851 MEAN 1,523 MAX 15,900 MIN 108 CFSM 1.07 IN 14.55
WTR YR 1972 TOTAL 714,842 MEAN 1,953 MAX 15,900 MIN 131 CFSM 1.37 IN 18.71

NOTE.--NO GAGE-HEIGHT RECORD JUNE 22 TO AUG. 10.

CHOWAN RIVER BASIN

133

02047500 BLACKWATER RIVER NEAR DENDRON, VA.

LOCATION.--Lat 37°01'30", long 76°52'30", Surry County, on left bank 10 ft upstream from Walls Bridge on State Highway 617, 1.2 miles downstream from Cypress Swamp, and 3.5 miles southeast of Dendron.

DRAINAGE AREA.--294 sq mi.

PERIOD OF RECORD.--October 1941 to current year. Monthly discharge only for some periods, published in WSP 1303.

GAGE.--Water-stage recorder. Datum of gage is 30.99 ft above mean sea level (Corps of Engineers bench mark).

AVERAGE DISCHARGE.--31 years, 292 cfs (13.49 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,250 cfs Oct. 26 (gage height, 6.25 ft); minimum, 4.0 cfs Sept. 20 (gage height, 1.24 ft).

Period of record: Maximum discharge, 5,070 cfs June 5, 1963 (gage height, 9.1 ft, from high-water mark in well); no flow at times.

Flood in August 1940 reached a stage of 13.1 ft, from Corps of Engineers floodmarks (discharge, 10,000 cfs, from rating curve extended above 4,800 cfs).

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	225	1,120	672	250	197	634	430	452	188	765	131	19
2	522	945	729	233	290	580	413	364	170	484	191	20
3	875	826	758	222	408	562	391	416	163	304	185	21
4	875	840	712	233	562	538	359	640	150	200	191	25
5	812	721	652	294	688	520	333	758	124	195	250	70
6	763	624	592	354	676	496	314	824	104	200	240	80
7	630	534	550	391	652	468	299	744	158	185	230	60
8	665	456	532	386	629	452	396	730	152	152	220	52
9	564	380	508	354	605	435	502	816	152	122	210	40
10	498	340	520	338	580	408	622	1,180	143	84	190	28
11	498	310	520	359	545	370	682	1,280	118	55	180	20
12	468	295	490	408	500	333	730	1,110	90	95	210	16
13	468	281	468	457	544	294	786	944	70	194	230	13
14	433	268	446	474	574	271	779	840	84	246	250	10
15	390	250	457	457	558	250	718	896	80	349	270	8.2
16	315	233	462	424	616	241	634	987	63	263	210	7.1
17	241	213	446	364	604	318	544	1,090	54	188	180	6.5
18	188	194	413	349	622	446	457	920	102	155	150	5.7
19	153	180	402	344	616	598	391	824	94	134	125	5.1
20	153	167	408	323	1,280	682	344	808	113	113	119	4.3
21	150	162	409	323	1,540	688	318	786	197	98	104	13
22	142	156	396	309	1,320	682	380	772	516	74	90	25
23	245	150	386	290	1,110	658	474	724	758	43	80	90
24	756	156	380	267	1,090	610	568	652	932	24	70	160
25	1,760	233	380	250	1,130	544	610	568	772	16	60	230
26	2,200	286	370	233	1,060	502	596	468	670	12	50	250
27	2,250	390	344	222	920	496	590	391	562	8.7	40	175
28	2,020	540	328	215	786	514	646	323	479	10	30	309
29	1,800	644	314	207	700	502	610	280	765	19	25	424
30	1,660	624	294	204	-----	468	526	241	987	32	21	730
31	1,400	-----	271	200	-----	446	-----	211	-----	80	20	-----
TOTAL	24,124	12,518	14,607	9,744	21,641	15,006	15,422	22,030	8,910	4,888.7	4,555	2,916.9
MEAN	778	417	471	314	746	484	514	711	297	158	147	97.2
MAX	2,250	1,120	758	474	1,540	688	786	1,280	987	765	270	730
MIN	142	150	271	200	197	241	299	211	54	8.7	20	4.3
CFSM	2.65	1.42	1.60	1.07	2.54	1.65	1.75	2.42	1.01	.54	.50	.33
IN.	3.05	1.58	1.85	1.23	2.74	1.90	1.95	2.79	1.13	.62	.58	.37

CAL YR 1971 TOTAL 121,841.1 MEAN 334 MAX 2,250 MIN 2.0 CFSM 1.14 IN 15.42
WTR YR 1972 TOTAL 156,372.6 MEAN 427 MAX 2,250 MIN 4.3 CFSM 1.45 IN 19.79

CHOWAN RIVER BASIN

02048000 BLACKWATER RIVER AT ZUNI, VA.

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

DRAINAGE AREA.--456 sq mi.

PERIOD OF RECORD.--October 1942 to current year. Monthly discharge only for some periods, published in WSP 1303.

GAGE.--Water-stage recorder. Datum of gage is 8.56 ft above mean sea level. Prior to July 18, 1957, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--30 years, 454 cfs (13.52 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,580 cfs Oct. 28 (gage height, 11.70 ft); minimum, 12 cfs Sept. 20 (gage height, 1.93 ft).

Period of record: Maximum discharge, 5,800 cfs June 5, 1963 (gage height, 17.51 ft); no flow Sept. 10-18, 1944, Sept. 28 to Oct. 31, 1954.

Flood in August 1940 reached a stage of 23.2 ft (discharge, 16,000 cfs, from rating curve extended above 5,500 cfs).

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	275	1,830	821	381	321	1,020	661	800	420	1,440	267	35
2	480	1,580	841	356	431	921	661	740	362	1,440	240	35
3	760	1,430	821	344	641	841	641	720	306	1,210	240	37
4	1,080	1,290	821	331	861	801	586	1,100	267	920	274	38
5	1,260	1,200	821	381	1,000	761	551	1,300	240	660	435	64
6	1,240	1,150	801	418	1,020	741	506	1,390	214	465	450	136
7	1,240	1,110	761	461	1,060	701	476	1,340	204	337	435	136
8	1,200	1,020	741	491	1,020	661	476	1,210	199	281	405	140
9	1,110	881	721	521	941	621	521	1,140	219	260	390	116
10	1,060	761	701	536	861	568	604	1,260	229	234	376	90
11	1,060	661	681	536	821	551	701	1,570	219	199	376	70
12	1,020	568	661	536	781	521	761	1,670	204	216	498	54
13	961	521	661	606	781	491	801	1,570	184	622	602	41
14	881	476	641	901	821	476	841	1,440	161	1,140	602	31
15	801	446	621	941	861	431	881	1,340	148	1,390	740	24
16	701	418	604	901	861	418	962	1,340	152	1,140	780	20
17	621	406	568	801	881	461	920	1,340	144	880	640	18
18	536	381	551	681	921	621	840	1,340	306	680	550	16
19	461	356	551	604	1,060	721	740	1,300	465	498	532	14
20	418	331	536	551	1,250	801	640	1,210	390	337	480	12
21	368	321	536	536	1,430	841	550	1,100	362	253	376	22
22	321	301	536	521	1,630	901	550	1,080	701	209	289	58
23	381	273	536	506	1,630	941	700	1,080	820	170	246	159
24	841	266	521	491	1,480	941	820	1,050	880	136	219	308
25	1,290	311	506	461	1,340	901	920	1,010	985	99	175	498
26	1,900	368	491	431	1,290	821	940	920	1,010	70	124	515
27	2,380	431	476	406	1,240	741	920	840	940	47	82	405
28	2,580	521	461	368	1,200	681	880	740	840	37	57	362
29	2,480	641	431	356	1,110	621	820	620	1,030	103	43	337
30	2,280	741	418	344	-----	621	820	550	1,210	246	40	437
31	2,030	-----	394	331	-----	641	-----	465	-----	306	37	-----
TOTAL	34,016	20,990	19,231	16,029	29,584	21,779	21,690	34,575	13,811	16,025	11,000	4,228
MEAN	1,097	700	620	517	1,020	703	723	1,115	460	517	355	141
MAX	2,580	1,830	841	941	1,630	1,020	962	1,670	1,210	1,440	780	515
MIN	275	266	394	331	321	418	476	465	144	37	37	12
CFSM	2.41	1.54	1.36	1.13	2.24	1.54	1.59	2.45	1.01	1.13	.78	.31
IN.	2.77	1.71	1.57	1.31	2.41	1.78	1.77	2.82	1.13	1.31	.90	.34

CAL YR 1971 TOTAL 185,323 MEAN 508 MAX 2,580 MIN 13 CFSM 1.11 IN 15.12
WTR YR 1972 TOTAL 242,958 MEAN 664 MAX 2,580 MIN 12 CFSM 1.46 IN 19.82

CHOWAN RIVER BASIN

135

02049500 BLACKWATER RIVER NEAR FRANKLIN, VA.

LOCATION.--Lat 36°45'45", long 76°53'55", Southampton County, on right bank 0.4 mile south of Burdette, 0.5 mile upstream from Black Creek, 3.3 miles downstream from Corrowaugh Swamp, and 6 miles north of Franklin.

DRAINAGE AREA.--617 sq mi.

PERIOD OF RECORD.--August 1944 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1.56 ft above mean sea level.

AVERAGE DISCHARGE.--28 years, 609 cfs (13.40 inches per year), adjusted for diversion.

EXTREMES.--Current year: Maximum discharge, 3,360 cfs Oct. 28 (gage height, 11.12 ft); minimum daily, 16 cfs Sept. 20.

Period of record: Maximum discharge, 9,420 cfs Sept. 14, 1960 (gage height, 17.14 ft, from floodmarks); minimum daily, 0.40 cfs Sept. 10, 1944, Oct. 28, 1970.

Flood of August 1940 reached a stage of about 22 ft (discharge, 21,000 cfs, from rating curve extended above 9,400 cfs).

REMARKS.--Records good. Low-flow occasionally reversed by tide effect. Diversion above station by city of Norfolk for municipal supply most years. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	444	2,620	975	511	489	1,540	842	815	544	1,520	460	28
2	1,060	2,330	1,040	487	603	1,400	874	767	491	1,600	371	32
3	1,340	2,120	1,040	466	955	1,260	869	763	432	1,570	311	33
4	1,580	2,020	1,010	466	1,300	1,160	829	1,230	373	1,330	279	35
5	1,730	1,880	975	553	1,540	1,090	771	1,750	318	1,000	338	57
6	1,870	1,730	955	633	1,610	1,020	704	1,940	274	707	470	158
7	1,980	1,630	937	655	1,600	950	649	1,900	254	533	464	187
8	1,940	1,530	928	667	1,550	887	628	1,740	246	404	424	160
9	1,790	1,390	928	682	1,450	824	643	1,600	230	331	395	132
10	1,690	1,200	914	711	1,300	767	679	1,610	234	287	388	105
11	1,720	1,030	887	755	1,170	714	728	1,780	237	248	344	77
12	1,750	874	856	779	1,080	673	787	1,960	223	306	335	58
13	1,670	763	833	892	1,070	640	847	2,010	207	700	384	54
14	1,540	582	815	1,400	1,150	618	901	1,930	190	1,110	504	47
15	1,360	633	803	1,660	1,220	590	955	1,870	172	1,420	598	39
16	1,170	598	791	1,610	1,260	568	1,000	1,820	159	1,580	711	30
17	1,010	570	775	1,450	1,250	649	1,000	1,780	160	1,470	694	24
18	847	544	751	1,220	1,300	910	937	1,710	202	1,160	575	21
19	714	522	711	1,050	1,510	1,070	838	1,630	309	824	484	18
20	643	500	691	914	1,870	1,150	735	1,550	415	590	440	16
21	598	474	704	824	2,120	1,180	649	1,420	456	438	391	35
22	555	450	704	779	2,250	1,220	613	1,310	610	324	323	100
23	643	424	694	743	2,270	1,360	739	1,260	874	242	258	200
24	1,540	406	682	704	2,200	1,390	883	1,240	1,040	189	211	380
25	2,150	466	664	670	2,060	1,330	1,020	1,230	1,100	150	174	550
26	2,730	550	643	630	1,910	1,220	1,110	1,180	1,120	120	135	700
27	3,120	618	623	593	1,800	1,110	1,110	1,080	1,090	97	102	540
28	3,320	704	600	561	1,730	985	1,060	937	995	106	76	480
29	3,320	803	577	533	1,660	878	965	795	1,150	520	52	450
30	3,130	901	557	513	-----	799	874	682	1,420	610	36	560
31	2,890	-----	535	502	-----	787	-----	600	-----	526	23	-----
TOTAL	51,844	30,962	24,598	24,613	43,277	30,739	25,239	43,939	15,525	22,012	10,750	5,306
MEAN	1,672	1,032	793	794	1,492	992	841	1,417	518	710	347	177
MAX	3,320	2,620	1,040	1,660	2,270	1,540	1,110	2,010	1,420	1,600	711	700
MIN	444	406	535	466	489	568	613	600	159	97	23	16
(*)	0	0	0	0	0	0	4.0	0	.1	0	8.4	6.2
MEAN#	1,672	1,032	793	794	1,492	992	845	1,417	518	710	355	183
CFSM#	2.71	1.67	1.29	1.29	2.42	1.61	1.37	2.30	.84	1.15	.58	.30
IN#	3.12	1.86	1.49	1.49	2.61	1.86	1.53	2.65	.94	1.33	.67	.34

CAL YR 1971 TOTAL 257,505 MEAN 705 MAX 3,320 MIN 26 MEAN# 714 CFSM# 1.16 IN# 15.69
WTR YR 1972 TOTAL 328,804 MEAN 898 MAX 3,320 MIN 16 MEAN# 900 CFSM# 1.46 IN# 19.89

* DIVERSION, IN CUBIC FEET PER SECOND, BY CITY OF NORFOLK.

* ADJUSTED FOR DIVERSION.

CHOWAN RIVER BASIN

02051000 NORTH MEHERRIN RIVER NEAR LUNENBURG, VA.

LOCATION.--Lat 36°59'50", long 78°21'00", Lunenburg County, on right bank at downstream side of bridge on State Highway 40, 0.5 mile downstream from Tusekiah Creek, 4.6 miles upstream from Juniper Creek, and 5.2 miles northwest of Lunenburg.

DRAINAGE AREA.--55.6 sq mi.

PERIOD OF RECORD.--August 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 333.7 ft above mean sea level (levels by Corps of Engineers). Prior to July 5, 1951, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--26 years, 47.6 cfs (11.63 inches per year).

EXTREMES.--Current year: Maximum discharge, 14,400 cfs Oct. 23 (gage height, 28.30 ft), from rating curve extended as explained below; minimum, 4.5 cfs Sept. 21; minimum gage height, 1.13 ft Sept. 21, 27.
Period of record: Maximum discharge, 14,400 cfs Oct. 23, 1971 (gage height, 28.30 ft), from rating curve extended above 1,700 cfs on basis of slope-area measurement of peak flow; no flow Sept. 5-21, Oct. 8-14, 1954.
Flood in August 1940 reached a stage of 48 ft, from information by local resident.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1303: 1947(M), 1949(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CURIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	43	53	24	23	58	56	31	40	24	35	7.5
2	142	37	43	28	35	53	60	29	23	19	22	8.2
3	37	39	40	29	294	94	45	105	20	17	18	8.0
4	20	34	38	27	289	66	39	86	18	16	16	7.5
5	22	33	30	38	86	54	35	42	19	310	129	14
6	202	32	29	32	69	44	34	33	20	67	25	14
7	34	31	69	27	178	42	37	30	38	36	20	9.8
8	20	30	72	25	98	48	820	76	19	27	17	8.5
9	16	29	49	26	61	45	120	540	16	22	14	7.8
10	779	29	44	59	51	39	76	83	16	20	13	7.5
11	125	28	41	84	46	36	63	49	14	18	12	6.8
12	40	28	38	71	43	36	62	39	14	131	12	6.5
13	24	27	42	49	840	36	60	34	13	258	29	6.3
14	19	26	37	106	188	37	103	1,090	13	47	47	5.9
15	16	26	36	67	92	37	71	490	13	28	16	5.5
16	14	26	38	41	68	37	54	181	12	21	14	5.5
17	14	25	51	36	66	170	47	91	12	19	13	5.7
18	14	25	39	36	85	80	39	79	18	17	16	5.5
19	13	24	34	39	174	53	36	64	15	17	13	5.5
20	13	24	43	36	103	44	36	65	16	16	14	5.1
21	15	24	52	36	87	40	39	53	1,740	14	12	7.2
22	14	23	39	38	147	88	276	55	954	13	11	10
23	6,710	23	33	39	97	65	175	43	86	12	10	7.2
24	2,100	50	34	35	200	46	75	36	70	12	10	5.9
25	2,260	650	33	32	172	41	56	32	39	11	9.5	5.7
26	543	120	32	27	169	40	46	29	30	11	8.8	5.7
27	158	140	31	27	112	38	40	24	24	10	8.5	5.8
28	84	100	30	30	82	37	37	24	75	29	8.5	25
29	59	75	27	29	68	35	35	23	61	89	8.2	53
30	53	65	27	27	-----	36	32	21	32	109	8.0	193
31	47	-----	27	26	-----	40	-----	32	-----	182	7.5	-----
TOTAL	13,707	1,866	1,231	1,226	4,023	1,615	2,704	3,609	3,480	1,622	597.0	469.6
MEAN	44.2	62.2	39.7	39.5	139	52.1	90.1	116	116	52.3	19.3	15.7
MAX	6,710	650	72	106	840	170	820	1,090	1,740	310	129	193
MIN	13	23	27	24	23	35	32	21	12	10	7.5	5.1
CFSM	7.95	1.12	.71	.71	2.50	.94	1.62	2.09	2.09	.94	.35	.29
IN.	9.17	1.25	.82	.82	2.69	1.08	1.81	2.41	2.33	1.09	.40	.31

CAL YR 1971 TOTAL 32,534.7 MEAN 89.1 MAX 6,710 MIN 3.0 CFSM 1.60 IN 21.77
WTR YR 1972 TOTAL 36,149.6 MFAN 98.8 MAX 6,710 MIN 5.1 CFSM 1.78 IN 24.19

PEAK DISCHARGE (BASE, 2,200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-23	1830	28.30	14,400	5-14	1700	15.68	2,770
10-25	0600	20.30	4,600	6-21	2230	20.65	4,780

CHOWAN RIVER BASIN

137

02051500 MEHERRIN RIVER NEAR LAWRENCEVILLE, VA.

LOCATION.--Lat 36°43'00", long 77°49'55", Brunswick County, on right bank 50 ft upstream from Gholson Bridge on State Highway 715, 0.6 mile upstream from Allen Creek, and 3 miles southeast of Lawrenceville.

DRAINAGE AREA.--552 sq mi.

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for some periods, published in WSP 1303.

GAGE.--Water-stage recorder. Datum of gage is 136.56 ft above mean sea level. Prior to Nov. 17, 1931, non-recording gage at same site and datum.

AVERAGE DISCHARGE.--44 years, 470 cfs (11.56 inches per year).

EXTREMES.--Current year: Maximum discharge, 17,700 cfs Oct. 26 (gage height, 31.24 ft, from floodmarks); minimum, 73 cfs Sept. 20, 21 (gage height, 1.78 ft).

Period of record: Maximum discharge, 38,000 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, 4.2 cfs Oct. 7, 8, 1954; minimum gage height, 0.72 ft Sept. 23, 24, 1932.

REMARKS.--Records fair. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 972: 1932(M), 1935. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	245	478	551	246	370	534	419	306	285	453	751	96
2	343	435	437	242	800	490	467	292	290	368	459	107
3	608	441	380	240	1,500	483	427	320	270	307	285	116
4	344	643	357	244	2,500	505	399	1,290	255	266	248	116
5	221	496	337	268	1,900	482	363	895	240	306	386	163
6	555	387	322	290	1,400	419	339	494	250	632	768	258
7	354	352	329	293	1,000	387	329	381	290	487	343	168
8	242	332	587	261	850	374	862	338	260	330	254	148
9	160	316	613	242	611	378	2,450	718	230	276	231	122
10	498	298	442	272	479	379	788	1,620	210	247	193	108
11	3,840	286	396	407	431	350	569	635	190	232	180	100
12	1,260	275	367	542	405	338	504	440	175	245	201	97
13	426	267	352	500	1,250	336	499	369	165	3,260	155	94
14	300	259	363	440	4,380	336	503	470	163	2,900	158	88
15	246	250	347	460	1,570	334	507	3,640	162	584	220	84
16	221	243	325	360	770	343	482	4,840	156	393	224	82
17	202	238	342	330	617	826	429	1,860	151	333	196	81
18	190	230	319	310	586	1,050	447	835	193	353	210	80
19	185	225	296	315	1,120	629	381	671	254	281	171	79
20	183	225	301	320	1,680	463	349	659	213	255	160	75
21	183	224	366	325	977	406	342	577	1,030	254	177	144
22	177	215	375	330	741	675	396	529	5,710	242	178	174
23	2,300	210	339	330	766	857	891	561	8,720	214	136	143
24	8,410	236	288	325	732	622	972	490	7,240	229	137	126
25	15,500	2,230	280	320	1,010	470	567	412	1,060	209	150	113
26	16,400	2,340	280	305	857	420	456	375	532	216	158	104
27	11,000	841	275	295	868	397	395	336	423	193	130	97
28	3,840	1,250	270	290	751	382	357	309	376	180	142	108
29	730	866	262	290	597	367	335	295	1,050	243	170	273
30	571	605	256	285	-----	353	320	285	834	316	160	1,620
31	513	-----	254	280	-----	372	-----	280	-----	375	99	-----
TOTAL	70,247	15,693	11,008	9,957	31,218	14,757	16,544	25,522	31,377	15,179	7,430	5,164
MEAN	2,266	523	355	321	1,076	476	551	823	1,046	490	240	172
MAX	16,400	2,340	613	542	4,080	1,050	2,450	4,840	8,720	3,260	768	1,620
MIN	160	210	254	240	370	334	320	280	151	180	99	75
CFSM	4.11	.95	.64	.58	1.95	.86	1.00	1.49	1.89	.89	.43	.31
IN.	4.73	1.06	.74	.67	2.10	.99	1.11	1.72	2.11	1.02	.50	.35

CAL YR 1971 TOTAL 229,387 MEAN 628 MAX 16,400 MIN 44 CFSM 1.14 IN 15.46
WTR YR 1972 TOTAL 254,096 MEAN 694 MAX 16,400 MIN 75 CFSM 1.26 IN 17.12

PEAK DISCHARGE (BASE, 4,500 CFS)

A ABOUT.

NOTE.--NO GAGE-HEIGHT RECORD OCT. 24-28.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-26	A0300	31.24	17,700	6-23	2000	23.96	9,760
5-16	0900	16.49	5,000	7-14	0030	16.35	4,920

CHOWAN RIVER BASIN

02051600 GREAT CREEK NEAR COCHRAN, VA.

LOCATION.--Lat 36°48'46", long 77°55'19", Brunswick County, on left bank at upstream side of bridge on State Highway 618, 1.4 miles southwest of Cochran, and 9.5 miles upstream from Roses Creek.

DRAINAGE AREA.--30.7 sq mi.

PERIOD OF RECORD.--May 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 215.72 ft above mean sea level.

AVERAGE DISCHARGE.--14 years, 25.3 cfs (11.19 inches per year).

EXTREMES.--Current year: Maximum discharge, 5,470 cfs June 22 (gage height, 15.34 ft), from rating curve extended as explained below; minimum, 3.9 cfs Sept. 20, 21 (gage height, 1.94 ft).

Period of record: Maximum discharge, 5,470 cfs June 22, 1972 (gage height, 15.34 ft), from rating curve extended above 600 cfs on basis of contracted-opening measurements at gage heights 12.08 and 14.57 ft; minimum, 0.10 cfs Oct. 11, 12, 1965, Sept. 23, 1968; minimum gage height, 1.50 ft Aug. 19, 1965.

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	31	30	18	16	30	34	17	26	29	36	6.2
2	51	28	28	18	84	29	27	16	18	24	22	7.5
3	28	51	26	18	80	30	24	41	15	20	17	7.8
4	16	60	26	18	139	28	23	71	13	18	14	7.0
5	13	34	24	24	52	26	22	29	12	40	45	14
6	15	28	24	22	40	24	21	22	13	32	26	19
7	11	27	30	17	41	23	21	19	17	23	18	9.6
8	9.2	25	44	14	32	23	70	20	14	20	16	7.2
9	9.0	23	30	12	28	23	38	78	12	17	13	6.5
10	61	23	28	20	26	21	29	36	11	16	12	5.9
11	63	22	26	30	25	21	27	25	11	14	10	4.9
12	23	21	25	26	26	21	28	21	9.6	31	9.6	4.9
13	15	21	27	23	134	21	28	18	9.2	199	9.6	4.9
14	12	20	25	27	101	21	28	80	9.2	62	12	4.6
15	11	19	24	24	49	21	27	129	9.2	31	11	4.3
16	10	19	24	22	39	25	24	87	8.6	24	9.6	4.3
17	10	18	24	19	36	92	23	40	8.2	20	8.6	4.3
18	10	18	22	22	39	56	20	30	14	26	9.2	4.3
19	9.8	18	20	25	114	36	19	27	12	20	8.6	4.1
20	10	18	24	23	84	28	19	28	11	17	9.2	3.9
21	12	18	29	21	51	26	20	27	779	15	8.9	12
22	12	18	24	21	44	69	43	30	1,820	14	7.8	15
23	538	17	20	25	38	51	45	28	167	13	7.8	8.6
24	1,040	34	20	22	51	34	29	24	73	12	7.8	6.7
25	190	176	20	19	45	30	25	21	45	12	7.0	6.2
26	85	60	20	17	44	28	22	20	35	11	6.5	5.7
27	60	60	20	15	40	26	20	18	28	10	6.2	5.4
28	45	69	19	20	34	26	19	17	36	11	8.9	22
29	38	44	19	18	32	24	19	17	91	17	7.2	88
30	35	38	19	16	-----	24	18	16	37	24	6.7	170
31	34	-----	19	16	-----	28	-----	17	-----	27	5.9	-----
TOTAL	2,518.0	1,058	760	632	1,564	965	812	1,069	3,364.0	849	397.1	474.8
MEAN	81.2	35.3	24.5	20.4	53.9	31.1	27.1	34.5	112	27.4	12.8	15.8
MAX	1,040	176	44	30	139	92	70	129	1,820	199	45	170
MIN	9.0	17	19	12	16	21	18	16	8.2	10	5.9	3.9
CFSM	2.65	1.15	.80	.66	1.76	1.01	.88	1.12	3.65	.89	.42	.51
IN.	3.05	1.28	.92	.77	1.90	1.17	.98	1.30	4.08	1.03	.48	.58

CAL YR 1971 TOTAL 12,948.8 MEAN 35.5 MAX 1,040 MIN 3.6 CFSM 1.16 IN 15.69
WTR YR 1972 TOTAL 14,462.9 MEAN 39.5 MAX 1,820 MIN 3.9 CFSM 1.29 IN 17.53

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	0130	11.69	2,370	7-13	1700	5.65	300
6-22	0030	15.34	5,470				

02052000 MEHERRIN RIVER AT EMPORIA, VA.

LOCATION.--Lat 36°41'24", long 77°32'27", Emporia City, on left bank at downstream side of bridge on U.S. Highway 301 and 1.2 miles upstream from Falling Run.

DRAINAGE AREA.--747 sq mi.

PERIOD OF RECORD.--January 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 67.17 ft above mean sea level (levels by Corps of Engineers).

AVERAGE DISCHARGE.--21 years, 610 cfs (11.09 inches per year).

EXTREMES.--Current year: Maximum discharge, 19,400 cfs Oct. 26 (gage height, 26.59 ft); minimum, 95 cfs Sept. 20 (gage height, 2.66 ft).

Period of record: Maximum discharge, 19,400 cfs Oct. 26, 1971 (gage height, 26.59 ft); minimum, 5.0 cfs Nov. 11, 1954 (gage height, 1.00 ft); minimum daily, 8 cfs Nov. 8-10, 1954.

Flood in August 1940 reached a stage of 31.5 ft, from floodmarks (discharge, about 40,000 cfs, from rating curve extended above 18,000 cfs on basis of record for station near Lawrenceville).

REMARKS.--Records good except those for period of no gage-height record, which are fair. Prior to November 1965, low and medium flow regulated by powerplant 0.8 mile above station. Water-quality records for the current year are included in this report.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	369	776	860	433	438	900	620	468	438	748	692	119
2	720	692	720	428	1,150	750	700	458	448	538	804	123
3	860	664	590	428	1,370	700	560	450	438	440	472	128
4	692	916	566	428	3,140	740	620	2,100	390	373	336	128
5	418	888	533	438	4,350	760	568	1,700	358	373	426	236
6	638	638	522	468	3,000	660	522	1,100	346	594	900	426
7	692	544	418	468	1,800	580	511	750	400	804	622	268
8	478	522	678	448	1,400	530	555	660	428	482	360	203
9	296	500	972	438	1,100	550	2,650	1,000	390	386	290	169
10	380	478	720	478	900	544	1,770	2,500	346	336	259	144
11	3,160	458	614	590	750	522	888	1,240	335	301	236	128
12	3,860	448	566	804	650	520	748	664	707	336	208	118
13	859	448	564	916	1,900	500	720	544	286	1,820	201	116
14	458	438	544	804	5,200	500	720	684	265	5,040	199	112
15	369	438	544	664	2,700	500	692	3,040	265	1,730	203	106
16	310	428	522	720	1,500	500	692	5,820	256	580	279	104
17	277	418	544	544	1,200	1,200	614	4,960	246	440	217	101
18	248	418	522	478	950	1,500	590	1,710	335	412	185	101
19	228	418	488	478	1,500	1,100	566	972	380	412	188	100
20	224	418	488	500	2,500	800	511	888	390	336	185	97
21	226	418	590	488	1,700	660	500	304	742	290	180	172
22	226	400	590	488	1,100	1,000	590	776	5,780	268	164	301
23	2,280	380	566	500	1,100	1,300	972	743	8,170	250	152	221
24	8,130	418	500	500	1,100	1,100	1,570	748	9,630	242	144	174
25	12,700	1,580	478	500	1,500	900	916	590	5,620	228	139	154
26	18,700	4,300	468	458	1,300	650	664	544	1,300	213	133	138
27	17,200	2,140	458	438	1,250	600	590	500	650	204	124	129
28	10,700	1,710	458	438	1,200	560	522	468	538	199	125	143
29	3,260	1,850	448	438	1,000	540	500	448	1,020	255	140	278
30	1,150	1,060	438	438	-----	520	500	448	1,480	324	134	1,650
31	860	-----	438	438	-----	560	-----	438	-----	468	122	-----
TOTAL	91,068	29,204	17,371	16,084	49,348	22,756	23,339	38,220	41,977	19,422	8,758	6,387
MEAN	2,938	940	560	519	1,702	734	778	1,233	1,399	627	283	213
MAX	18,700	4,300	972	916	5,200	1,600	2,650	5,820	9,630	5,040	900	1,650
MIN	224	380	418	428	438	500	500	438	246	199	122	97
CFSM	3,992	1,112	975	969	2,227	998	1,044	1,665	1,887	884	338	228
IN.	4.52	1.25	2.86	2.80	2.45	1.13	1.16	1.90	2.08	0.96	0.43	0.32

CAL YR 1971 TOTAL 329,696 MEAN 903 MAX 18,700 MIN 63 CFSM 1.21 IN 16.37
WTR YR 1972 TOTAL 359,934 MEAN 983 MAX 18,700 MIN 97 CFSM 1.31 IN 17.88

PEAK DISCHARGE (BASE, 6,000 CFS)

NOTE.--NO GAGE-HEIGHT RECORD FEB. 5 TO MAR. 9.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-26	1600	26.59	19,400	6-24	1300	21.84	9,770
5-16	2300	17.76	6,180				

CHOWAN RIVER BASIN

02052500 FONTAINE CREEK NEAR BRINK, VA.

LOCATION.--Lat 36°36'55", long 77°42'00", Greensville County, on left bank 30 ft upstream from bridge on State Highway 603, 0.3 mile downstream from Quarrel Creek, 3.6 miles west of Brink, and 10 miles southwest of Emporia.

DRAINAGE AREA.--65.2 sq mi.

PERIOD OF RECORD.--October 1953 to current year.

GAGE.--Water-stage recorder. Datum of gage is 152.59 ft above mean sea level.

AVERAGE DISCHARGE.--19 years, 59.6 cfs (12.41 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,530 cfs Oct. 24 (gage height, 16.68 ft), from rating curve extended above 1,200 cfs; minimum, 3.4 cfs Sept. 1 (gage height, 2.77 ft).
Period of record: Maximum discharge, 2,660 cfs May 7, 1958 (gage height, 18.18 ft), from rating curve extended above 1,200 cfs; no flow at times in some years.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	59	67	40	40	79	128	34	46	178	28	3.6
2	184	54	53	38	340	74	103	31	28	58	21	4.3
3	198	52	46	38	442	84	76	278	22	44	17	5.3
4	107	58	46	37	428	107	63	542	19	33	13	5.3
5	53	48	46	61	256	87	58	168	17	31	13	25
6	237	39	44	63	168	72	54	79	17	39	18	89
7	225	36	49	48	135	62	52	55	49	34	18	57
8	90	33	76	40	115	60	96	48	37	26	13	15
9	41	31	64	37	90	58	93	130	20	20	11	10
10	111	31	53	76	76	54	63	85	19	17	9.9	8.3
11	222	31	48	123	70	50	58	57	30	15	8.7	7.1
12	119	30	44	111	68	50	58	43	21	22	7.7	6.3
13	58	29	58	261	244	50	56	34	16	81	7.3	6.1
14	37	27	56	307	313	51	64	126	14	75	7.1	5.5
15	30	26	47	158	238	50	63	252	13	44	6.9	5.0
16	24	26	53	92	139	51	56	429	12	25	6.5	4.6
17	22	26	195	64	104	293	48	262	12	18	6.1	4.5
18	21	24	162	65	115	496	41	111	82	14	5.9	4.5
19	20	24	127	67	299	342	36	80	115	14	5.9	4.5
20	24	26	104	64	366	172	35	87	56	12	5.7	4.3
21	28	26	139	51	248	111	46	76	217	11	5.3	16
22	27	24	107	61	162	133	87	96	1,390	9.9	4.8	34
23	784	21	79	64	124	147	197	97	846	8.7	4.5	20
24	2,220	28	65	60	133	107	128	77	273	8.3	4.3	12
25	882	192	62	53	124	82	86	62	118	7.9	4.0	8.9
26	287	144	57	45	111	74	72	54	63	7.3	3.8	7.5
27	150	131	53	40	111	68	55	44	45	6.7	3.6	6.7
28	96	152	50	41	99	66	46	38	233	8.2	3.7	6.3
29	76	111	46	42	87	61	42	34	996	23	3.8	14
30	67	89	43	44	-----	59	38	23	426	30	4.1	78
31	62	-----	43	46	-----	76	-----	46	-----	35	3.8	-----
TOTAL	6,574	1,628	2,182	2,347	5,245	3,331	2,113	3,578	5,242	966.0	275.4	478.6
MEAN	212	54.3	70.4	75.7	181	107	70.4	115	175	31.2	8.88	16.0
MAX	2,220	192	195	307	442	496	197	542	1,380	178	28	89
MIN	20	21	43	37	40	50	35	23	12	6.7	3.6	3.6
CFSM	3.25	.93	1.08	1.16	2.78	1.64	1.09	1.76	2.68	.48	.14	.25
IN.	3.75	.93	1.24	1.34	2.99	1.90	1.21	2.04	2.99	.55	.16	.27

CAL YR 1971 TOTAL 26,795.8 MEAN 73.4 MAX 2,220 MIN 2.3 CFSM 1.13 IN 15.29
WTR YR 1972 TOTAL 33,960.0 MEAN 92.8 MAX 2,220 MIN 3.6 CFSM 1.42 IN 19.38

PEAK DISCHARGE (BASE, 850 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	0600	16.68	2,530	6-29	1230	11.96	1,190
6-22	1700	13.60	1,600				

02053800 SOUTH FORK ROANOKE RIVER NEAR SHAWSVILLE, VA.

LOCATION.--Lat 37°08'24", long 80°16'00", Montgomery County, on left bank at bridge on State Highway 637, 0.3 mile downstream from Georges Run, 1.3 miles downstream from Elliott Creek, and 2.0 miles southwest of Shaws-ville.

DRAINAGE AREA.--110 sq mi.

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,361.87 ft above mean sea level.

AVERAGE DISCHARGE.--12 years, 98.2 cfs (12.12 inches per year).

EXTREMES.--Current year: Maximum discharge, 14,200 cfs June 21 (gage height, 11.12 ft, from high-water mark in well), from rating curve extended as explained below; minimum, 26 cfs Sept. 26 (gage height, 1.02 ft).
Period of record: Maximum discharge, 14,200 cfs June 21, 1972 (gage height, 11.12 ft, from high-water mark in well), from rating curve extended above 3,700 cfs on basis of slope-area measurement of peak flow; minimum, 7.5 cfs July 27-29, 1966 (gage height, 0.37 ft).
Flood of Sept. 30, 1959, reached a stage of 9.89 ft, from information by local resident.

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WRD Va. 1969: 1967(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89	176	154	73	145	284	127	148	122	278	187	40
2	402	160	130	84	139	260	124	142	110	242	153	38
3	216	190	119	77	208	260	110	498	102	223	127	37
4	134	163	110	88	298	216	108	808	97	239	105	37
5	100	151	105	95	220	200	100	464	95	555	99	58
6	97	145	105	81	200	173	95	335	90	387	84	54
7	79	136	206	77	183	170	184	277	90	303	75	42
8	71	127	243	75	148	157	1,300	270	84	254	70	38
9	86	122	206	77	130	142	543	274	84	219	64	37
10	182	116	173	97	119	136	368	226	81	244	59	35
11	128	108	151	93	116	130	291	203	77	231	54	35
12	105	102	136	90	113	127	382	183	75	216	56	35
13	84	100	136	90	388	122	409	170	73	216	59	33
14	77	95	116	95	346	139	697	304	75	180	56	33
15	68	93	113	86	284	122	584	328	75	170	49	35
16	75	90	110	77	246	128	448	342	113	160	49	33
17	102	88	102	75	226	193	339	291	173	163	62	31
18	82	88	97	79	203	163	280	260	124	160	90	30
19	77	88	93	86	186	151	277	274	93	160	59	30
20	97	90	100	86	151	139	267	420	598	156	56	30
21	226	90	95	154	173	130	246	357	6,840	147	49	31
22	307	86	86	133	196	308	296	294	1,600	147	44	31
23	980	77	81	133	193	274	284	277	799	147	40	28
24	1,410	88	84	124	310	233	270	233	570	134	44	28
25	1,770	93	81	122	606	200	253	200	450	124	59	28
26	720	84	81	108	780	176	226	167	373	121	51	28
27	408	88	79	108	600	160	203	148	315	124	56	36
28	301	100	79	216	440	151	186	142	374	130	56	62
29	243	142	75	226	339	139	180	136	411	153	47	222
30	206	193	75	206	-----	130	176	133	328	194	42	194
31	190	-----	75	167	-----	127	-----	154	-----	180	40	-----
TOTAL	9,112	3,469	3,596	3,378	7,686	5,440	9,353	8,458	14,491	6,357	2,141	1,429
MEAN	294	116	116	109	265	175	312	273	483	205	69.1	47.6
MAX	1,770	193	243	226	780	308	1,300	808	6,840	555	187	222
MIN	68	77	75	73	113	122	95	133	73	121	40	28
CFSM	2.67	1.05	1.05	.99	2.41	1.59	2.84	2.48	4.39	1.86	.63	.43
IN.	3.08	1.17	1.22	1.14	2.60	1.84	3.16	2.86	4.90	2.15	.72	.48

CAL YR 1971 TOTAL 45,953 MEAN 126 MAX 1,770 MIN 28 CFSM 1.15 IN 15.54
WTR YR 1972 TOTAL 74,910 MEAN 205 MAX 6,840 MIN 28 CFSM 1.86 IN 25.33

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	0830	6.10	3,100	5- 4	0130	3.20	1,040
2-26	1600	3.14	1,000	6-21	0900	11.12	14,200
4- 8	0400	4.58	1,970				

ROANOKE RIVER BASIN

02054500 ROANOKE RIVER AT LAFAYETTE, VA.

LOCATION.--Lat 37°14'11", long 80°12'34", Montgomery County, on right bank 120 ft upstream from bridge on State Highway 603 at Lafayette, 0.4 mile downstream from confluence of North and South Forks, and 1.1 miles upstream from Cove Hollow.

DRAINAGE AREA.--257 sq mi.

PERIOD OF RECORD.--September 1943 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,174.47 ft above mean sea level. Prior to July 30, 1949, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--29 years, 234 cfs (12.36 inches per year).

EXTREMES.--Current year: Maximum discharge, 24,500 cfs June 21 (gage height, 15.60 ft, from floodmarks), from rating curve extended as explained below; minimum, 58 cfs Sept. 26 (gage height, 0.99 ft).
 Period of record: Maximum discharge, 24,500 cfs June 21, 1972 (gage height, 15.60 ft, from floodmarks), from rating curve extended above 12,000 cfs on basis of slope-area measurement of peak flow; minimum daily, 10 cfs Jan. 14, 15, 18, 19, 1959.
 Flood in August 1940 reached a stage of 12.2 ft, from information by local residents (discharge, 19,000 cfs, from rating curve extended above 12,000 cfs).

REMARKS.--Records good. Occasional diurnal fluctuation caused by meat processing plant above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1333: 1944-47(M), 1948-49.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	285	361	114	333	577	254	309	212	395	718	82
2	421	257	285	131	309	490	243	309	194	350	475	82
3	227	293	254	128	558	500	229	746	180	330	325	76
4	152	271	232	152	820	405	226	1,430	170	320	295	76
5	158	246	212	208	490	377	215	872	159	732	290	89
6	198	232	198	187	441	337	208	621	156	545	220	100
7	139	222	306	173	414	317	311	490	156	430	192	82
8	118	201	428	162	341	297	2,730	482	138	355	173	76
9	148	194	365	162	309	271	1,100	577	131	320	156	73
10	297	187	321	201	285	260	802	450	124	310	147	73
11	216	173	282	201	268	243	654	389	117	310	134	73
12	172	166	257	198	264	236	735	353	110	285	134	76
13	142	159	246	198	814	229	734	321	104	285	130	72
14	124	152	222	201	789	243	1,440	538	110	250	122	72
15	113	145	208	180	610	222	1,230	621	107	240	122	76
16	121	138	198	112	511	222	912	665	107	220	119	72
17	172	131	187	120	465	317	720	533	250	211	122	68
18	135	128	173	150	418	285	560	450	208	196	152	68
19	127	128	162	170	389	264	480	470	156	192	119	68
20	135	131	170	176	321	246	432	665	530	182	119	68
21	259	131	170	511	305	232	397	610	11,700	173	103	68
22	380	124	152	428	345	479	900	495	3,090	169	100	70
23	1,430	110	138	377	349	485	830	555	1,370	192	92	68
24	2,480	128	138	333	634	405	632	450	895	160	89	66
25	4,200	138	138	297	1,390	369	528	373	695	147	100	64
26	1,510	124	131	264	1,790	333	455	317	565	143	115	60
27	830	131	128	254	1,520	313	401	274	475	139	115	120
28	566	173	128	620	1,010	297	369	257	520	160	111	180
29	414	362	120	599	720	282	345	240	555	228	96	383
30	353	500	117	475	-----	264	337	232	455	423	89	1,510
31	309	-----	117	389	-----	254	-----	250	-----	836	82	-----
TOTAL	16,121	5,760	6,544	7,871	17,212	10,051	19,409	15,344	23,739	9,228	5,356	4,111
MEAN	520	192	211	254	594	324	647	495	791	298	173	137
MAX	4,200	500	428	620	1,790	577	2,730	1,430	11,700	836	718	1,510
MIN	75	110	117	112	264	222	208	232	104	139	82	60
CFSM	2.02	.75	.82	.99	2.31	1.26	2.52	1.93	3.08	1.16	.67	.53
IN.	2.33	.83	.95	1.14	2.49	1.45	2.81	2.22	3.44	1.34	.78	.60
CAL YR 1971	TOTAL 104,802	MEAN 287	MAX 4,200	MIN 45	CFSM 1.12	IN 15.17						
WTR YR 1972	TOTAL 140,746	MEAN 385	MAX 11,700	MIN 60	CFSM 1.50	IN 20.37						

PEAK DISCHARGE (BASE, 3,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1000	9.03	7,620	6-21	1300	15.60	24,500
4- 8	0300	7.32	5,100				

02055000 ROANOKE RIVER AT ROANOKE, VA.

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

DRAINAGE AREA.--395 sq mi.

PERIOD OF RECORD.--February 1899 to current year. Monthly discharge only for some periods, published in WSP 1303. Records for July 1896 to January 1899 published in WSP 11, 15, and 27, and 20th Annual Report, Part 4, are unreliable, due to doubtful gage-height record, and should not be used.

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, nonrecording gage on downstream side of highway bridge 50 ft upstream at same datum.

AVERAGE DISCHARGE.--73 years, 371 cfs (12.75 inches per year).

EXTREMES.--Current year: Maximum discharge, 25,300 cfs June 21 (gage height, 19.61 ft, from floodmarks); minimum, 77 cfs Sept. 22 (gage height, 0.68 ft).

Period of record: Maximum discharge, 25,300 cfs June 21, 1972 (gage height, 19.61 ft, from floodmarks); practically no flow Dec. 23, 1909, Dec. 19, 1963, when flow was retarded by freezing (gage height, 0.0 ft); minimum daily, 27 cfs Feb. 20, 1934.

REVISIONS.--Figures of maximum discharge for the water years 1928 and 1940 have been revised to 22,600 cfs Aug. 16, 1928 (gage height, 18.1 ft, from graph based on gage readings) and 22,800 cfs Aug. 14, 1940 (gage height, 18.25 ft), superseding figures published in WSP 662, 892, 1303, and 1433.

REMARKS.--Records good. Prior to 1949, diurnal fluctuation at low flow caused by powerplants above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 972: 1928, 1930, 1933. WSP 1433: 1899-1904, 1914-17(M), 1918-24, 1925-27(M), 1929-34(M), 1935, 1936-39(M). WRD Va. 1970: Drainage area. See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121	431	586	183	503	852	320	385	320	560	846	120
2	317	382	459	198	470	721	310	424	285	469	650	120
3	373	450	383	197	683	709	290	925	270	378	413	117
4	239	429	342	219	1,380	602	277	2,160	253	365	347	115
5	201	374	311	274	801	562	272	1,370	243	1,040	419	139
6	227	350	284	267	692	505	256	933	232	769	290	139
7	192	331	373	251	642	468	320	725	234	574	249	126
8	163	306	580	239	555	435	3,080	675	220	477	222	115
9	181	287	545	240	494	394	1,760	830	209	397	200	112
10	313	277	476	294	445	366	1,130	690	203	348	188	110
11	280	263	413	309	402	347	853	592	193	356	178	106
12	230	253	362	305	391	335	925	544	183	332	175	102
13	198	244	344	299	1,640	322	956	493	177	320	171	100
14	177	235	313	302	1,560	348	1,550	728	276	294	168	97
15	161	224	290	280	1,040	323	1,570	908	198	279	167	100
16	178	218	277	234	832	316	1,170	1,030	194	258	162	97
17	219	206	261	205	738	428	925	847	306	241	169	94
18	199	202	244	200	656	418	724	709	319	234	186	92
19	179	202	230	220	607	386	618	732	267	218	189	89
20	221	207	240	261	520	357	558	857	511	206	169	84
21	332	211	238	547	465	341	510	900	15,900	197	156	86
22	580	202	222	647	486	629	791	794	7,620	201	145	84
23	2,370	190	208	571	514	654	1,200	885	2,100	203	140	85
24	5,060	199	203	512	683	586	879	766	1,260	186	135	85
25	6,240	231	206	448	2,050	537	717	608	894	172	133	89
26	3,020	209	202	387	2,540	486	617	521	699	162	150	87
27	1,500	217	200	356	2,570	431	540	441	586	155	205	152
28	956	246	198	684	1,570	403	483	392	709	173	167	289
29	695	430	193	856	1,090	372	444	364	740	254	143	641
30	568	783	188	711	-----	345	427	344	579	499	131	2,340
31	482	-----	186	592	-----	323	-----	367	-----	785	124	-----
TOTAL	26,172	8,789	9,557	11,288	27,019	14,301	24,472	22,939	36,180	11,102	7,187	6,112
MEAN	844	293	308	364	932	461	816	740	1,206	358	232	204
MAX	6,240	783	586	856	2,570	852	3,080	2,160	15,900	1,040	846	2,340
MIN	121	190	186	183	391	316	256	344	177	155	124	84
CFSM	2.14	.74	.78	.92	2.36	1.17	2.07	1.87	3.05	.91	.59	.52
IN.	2.46	.83	.90	1.06	2.54	1.35	2.30	2.16	3.41	1.05	.68	.58

CAL YR 1971 TOTAL 152,617 MEAN 418 MAX 6,240 MIN 69 CFSM 1.06 IN 14.37
WTR YR 1972 TOTAL 205,118 MEAN 560 MAX 15,900 MIN 84 CFSM 1.42 IN 19.32

PEAK DISCHARGE (BASE, 2,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	0600	7.57	6,040	5- 4	0830	4.47	2,540
10-25	1630	10.43	10,100	6-21	2100	19.61	25,300
2-26	2030	5.43	3,500	9-30	1030	5.97	4,060
4- 8	1000	6.56	4,770				

ROANOKE RIVER BASIN

02055100 TINKER CREEK NEAR DALEVILLE, VA.

LOCATION.--Lat 37°25'03", long 79°56'08", Botetourt County, on left bank 300 ft downstream from footbridge, 1,100 ft downstream from Norfolk & Western Railway bridge, 0.2 mile downstream from unnamed tributary, 0.5 mile south of Glebe Mills, and 1.3 miles northwest of Daleville.

DRAINAGE AREA.--11.7 sq mi.

PERIOD OF RECORD.--April 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,217.47 ft above mean sea level (Norfolk & Western Railway bench mark).

AVERAGE DISCHARGE.--16 years, 10.8 cfs (12.54 inches per year).

EXTREMES.--Current year: Maximum discharge, 4,000 cfs June 21 (gage height, 9.82 ft), from rating curve extended as explained below; minimum, 4.2 cfs Oct. 6, 7; minimum gage height, 1.34 ft Sept. 19, 25.

Period of record: Maximum discharge, 4,000 cfs June 21, 1972 (gage height, 9.82 ft), from rating curve extended above 100 cfs on basis of contracted-opening measurement at gage height 9.82 ft and slope-area measurements at gage heights 8.52 and 9.82 ft; minimum, 0.20 cfs Jan. 24, 1961, result of freezeup; minimum daily, 0.90 cfs July 26, 1966; minimum gage height, 0.99 ft June 12, 24, 1970.

Flood in 1940 reached a stage of 9.0 ft, from information by local resident.

REMARKS.--Records fair. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1904: 1958-60(M, P). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	14	13	5.6	8.5	23	9.8	9.6	9.3	18	11	5.7
2	5.7	14	11	6.3	9.3	22	9.3	9.5	8.6	17	9.8	5.7
3	4.7	21	10	5.7	37	21	8.9	17	8.2	16	8.7	5.6
4	4.5	14	9.3	7.0	23	19	8.7	26	7.9	15	8.5	5.6
5	4.5	13	8.6	6.9	15	18	8.2	15	7.7	63	8.3	6.8
6	4.5	12	8.5	6.1	14	17	8.0	13	7.6	29	7.7	6.2
7	4.3	12	13	5.9	13	17	13	12	7.5	22	7.5	5.8
8	4.4	11	11	5.8	13	16	19	14	7.2	19	7.2	5.6
9	4.9	11	10	6.7	12	16	13	14	6.9	17	6.9	5.7
10	6.8	10	9.6	9.5	12	15	12	11	6.8	16	6.9	5.6
11	5.6	9.6	8.6	8.2	11	14	12	11	6.8	15	6.9	5.5
12	5.2	9.3	8.1	7.7	11	14	15	9.9	6.7	15	6.7	5.5
13	5.0	8.9	7.8	7.8	120	14	14	9.6	6.8	14	6.4	5.4
14	4.8	8.6	7.6	7.4	40	14	14	14	7.0	13	6.3	5.5
15	4.7	8.3	7.4	6.8	32	13	13	28	6.9	12	11	5.7
16	4.8	8.2	7.0	5.4	26	13	13	18	7.1	12	9.9	5.5
17	5.0	8.0	6.7	5.2	24	13	12	15	14	11	10	5.3
18	5.0	7.7	6.6	5.8	23	12	11	15	9.6	11	9.5	5.3
19	4.9	7.7	6.9	6.6	21	11	11	16	10	11	7.9	5.3
20	6.3	7.6	8.0	9.0	18	11	11	18	18	10	7.3	5.3
21	6.2	8.5	7.2	13	18	11	10	16	696	11	6.8	5.3
22	7.2	9.6	6.8	11	19	35	20	15	76	9.7	7.4	5.3
23	83	9.4	6.5	11	18	16	16	14	45	9.2	6.3	5.1
24	77	11	6.6	10	29	14	15	13	35	8.6	6.1	5.1
25	73	12	6.5	10	34	13	14	12	28	8.1	6.0	5.1
26	36	11	6.2	9.4	43	12	13	11	25	8.1	5.9	5.5
27	28	12	6.2	10	32	12	12	10	22	8.5	5.9	9.6
28	20	16	6.1	15	28	11	11	9.9	27	8.9	5.8	6.9
29	17	27	5.9	11	25	11	11	9.7	25	12	5.7	21
30	15	18	5.8	10	-----	10	10	10	21	15	5.7	53
31	15	-----	5.6	9.0	-----	9.8	-----	12	-----	14	5.6	-----
TOTAL	477.9	350.4	248.1	254.8	728.8	467.8	367.9	428.2	1,170.6	469.1	231.6	234.5
MEAN	15.4	11.7	8.00	8.22	25.1	15.1	12.3	13.8	39.0	15.1	7.47	7.82
MAX	83	27	13	15	120	35	20	28	696	63	11	53
MIN	4.3	7.6	5.6	5.2	8.5	9.8	8.0	9.5	6.7	8.1	5.6	5.1
CFSM	1.32	1.00	.68	.70	2.15	1.29	1.05	1.18	3.33	1.29	.64	.67
IN.	1.52	1.11	.79	.81	2.32	1.49	1.17	1.36	3.72	1.49	.74	.75

CAL YR 1971 TOTAL 5,320.8 MEAN 14.6 MAX 250 MIN 4.2 CFSM 1.25 IN 16.92
WTR YR 1972 TOTAL 5,429.7 MEAN 14.8 MAX 696 MIN 4.3 CFSM 1.27 IN 17.26

PEAK DISCHARGE (BASE, 250 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-23	2045	4.24	329	6-21	0745	9.82	4,000
2-13	0515	4.72	447				

02056000 ROANOKE RIVER AT NIAGARA, VA.

LOCATION.--Lat 37°15'18", long 79°52'18", Roanoke County, on right bank 200 ft downstream from powerplant of Appalachian Power Co. at Niagara, 2 miles downstream from Tinker Creek, 2.1 miles southeast of Vinton, and at mile 355.3.

DRAINAGE AREA.--512 sq mi.

PERIOD OF RECORD.--July 1926 to current year.

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

AVERAGE DISCHARGE.--46 years, 499 cfs (13.24 inches per year).

EXTREMES.--Current year: Maximum discharge, 28,800 cfs June 21 (gage height, 18.98 ft), from rating curve extended as explained below; minimum, 9.0 cfs Oct. 17 (gage height, 0.41 ft); minimum daily, 170 cfs Sept. 24. Period of record: Maximum discharge, 28,800 cfs June 21, 1972 (gage height, 18.98 ft), from rating curve extended above 12,000 cfs on basis of slope-area measurement of peak flow; minimum, 1.0 cfs Oct. 16, 20, 1956; minimum daily, 8 cfs Oct. 9, 1954; minimum gage height, 0.17 ft Aug. 25, 1971.

REVISIONS.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in WSP 1303 and 1723 and in the other water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
662, 892	1928	Aug. 16, 1928	24,000	17.36
697, 892	1930	Oct. 2, 1929	15,200	14.29
742, 892	1933	Oct. 17, 1932	18,000	15.36
782, 892	1935	Jan. 23, 1935	15,000	14.20
802, 892	1936	Mar. 17, 1936	16,400	14.78
852, 892	1938	Oct. 19, 1937	13,400	13.58
892	1940	Aug. 14, 1940	24,400	17.5
1002	1944	Sept. 18, 1944	12,600	13.24
1032	1945	Sept. 18, 1945	17,200	15.1
1112	1948	Aug. 4, 1948	14,500	14.00
1142	1949	Dec. 4, 1948	20,800	16.30
1203	1951	Dec. 7, 1950	13,200	13.50
1383	1955	Oct. 15, 1954	13,500	13.60
1703	1960	Oct. 1, 1959	17,200	15.10
WRD Va. 1967	1967	Mar. 7, 1967	13,600	13.64
WRD Va. 1969	1969	Oct. 19, 1968	13,800	13.72

REMARKS.--Records good. Flow regulated by dam and powerplant 200 ft above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 892: 1928(M), 1930(M), 1933(M), 1935-36(M), 1938(M). WSP 972: 1927(M), 1929(M), 1934(M), 1937(M). WSP 1303: 1928, 1930, 1933-38, 1940. WRD Va. 1970: Drainage area. Revised figures of discharge, in cubic feet per second, for high-water period in water year 1940, superseding figures published in WSP 972 are given below:

Aug. 14, 1940.....14,400
 Aug. 15, 1940.....18,200
 Aug. 16, 1940.....14,200

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
August 1940	76,150	18,200	170	2,456	4.80	5.53
WTR YR 1940	215,280	18,200	110	588	1.15	15.64
CAL YR 1940	226,581	18,200	114	619	1.21	16.46

REVISED PEAK DISCHARGE.--1940: May 30 (2100) 15,800 cfs (14.50 ft); Aug. 14 (2000) 24,400 cfs (17.5 ft).

ROANOKE RIVER BASIN

02056000 ROANOKE RIVER AT NIAGARA, VA.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	209	594	767	258	595	1,110	436	509	457	769	1,080	247
2	387	543	602	287	616	974	418	590	402	668	893	232
3	508	660	524	267	893	957	415	1,270	377	621	605	232
4	342	582	476	337	1,570	819	371	2,580	372	597	523	228
5	321	486	432	353	1,010	747	402	1,650	370	1,970	598	278
6	322	500	405	369	900	669	353	1,180	314	1,310	470	265
7	296	457	541	335	862	628	430	945	360	985	407	247
8	233	436	736	334	774	604	3,230	912	307	790	360	236
9	315	404	670	331	649	570	1,720	1,100	306	669	364	218
10	461	405	615	413	625	522	1,190	905	291	602	326	204
11	394	382	559	404	555	471	956	774	285	589	320	231
12	328	370	494	409	523	472	1,060	687	268	568	313	200
13	309	352	491	392	2,200	452	1,120	624	245	539	307	199
14	258	329	429	408	1,910	511	1,600	950	411	505	302	223
15	242	338	403	362	1,360	463	1,670	1,170	344	490	306	207
16	316	315	402	327	1,120	455	1,320	1,280	282	453	361	197
17	334	299	363	280	1,010	601	1,090	1,090	552	418	307	189
18	283	310	357	270	911	523	875	936	454	403	364	199
19	240	282	310	300	861	541	762	960	442	394	349	187
20	337	293	372	358	708	475	694	1,090	676	316	342	196
21	441	293	334	623	640	482	644	1,110	18,000	390	289	171
22	659	277	331	771	659	862	952	1,000	10,200	320	288	189
23	2,440	265	296	683	674	860	1,350	1,150	2,670	402	258	175
24	5,360	314	306	627	831	766	1,060	1,000	1,720	350	259	170
25	6,180	329	290	540	2,060	657	892	810	1,300	334	255	199
26	3,120	309	290	495	2,630	623	774	671	1,060	315	264	182
27	1,620	309	289	454	2,700	580	679	575	871	276	319	270
28	1,100	352	288	748	1,780	552	612	522	1,010	327	341	526
29	855	551	279	943	1,350	512	567	492	1,260	441	270	896
30	722	929	280	812	-----	488	548	471	902	825	267	2,600
31	609	-----	260	703	-----	457	-----	517	-----	1,050	236	-----
TOTAL	29,541	12,265	13,191	14,193	32,976	19,403	28,190	29,520	46,508	18,686	11,943	9,793
MEAN	953	409	426	458	1,137	626	940	952	1,550	603	385	326
MAX	6,180	929	767	943	2,700	1,110	3,230	2,580	18,000	1,970	1,080	2,600
MIN	209	265	260	258	523	452	353	471	245	276	236	170
CFSM	1.86	.80	.83	.89	2.22	1.22	1.84	1.86	3.03	1.18	.75	.64
IN.	2.15	.89	.96	1.03	2.40	1.41	2.05	2.14	3.38	1.36	.87	.71
CAL YR 1971	TOTAL 210,633	MEAN 577	MAX 6,180	MIN 152	CFSM 1.13	IN 15.30						
WTR YR 1972	TOTAL 266,209	MEAN 727	MAX 18,000	MIN 170	CFSM 1.42	IN 19.34						

PEAK DISCHARGE (BASE, 3,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	0515	10.05	6,480	4-8	1000	9.39	5,550
10-25	1745	12.06	10,100	6-21	2100	18.98	28,800
2-26	2115	7.80	3,600	9-30	1115	8.55	4,460

02058400 PIGG RIVER NEAR SANDY LEVEL, VA.

LOCATION.--Lat 36°56'45", long 79°31'30", Pittsylvania County, on left bank 300 ft downstream from Harpen Creek, 0.5 mile upstream from bridge on State Highway 40, and 1.1 miles south of Sandy Level.

DRAINAGE AREA.--350 sq mi.

PERIOD OF RECORD.--May 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 617.00 ft above mean sea level (Corps of Engineers bench mark). Prior to Nov. 18, 1963, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--9 years, 322 cfs (12.49 inches per year).

EXTREMES.--Current year: Maximum discharge, 22,700 cfs June 22 (gage height, 24.07 ft), from rating curve extended as explained below; minimum, 169 cfs Oct. 1 (gage height, 2.59 ft).
Period of record: Maximum discharge, 22,700 cfs June 22, 1972 (gage height, 24.07 ft), from rating curve extended above 12,000 cfs on basis of slope-area measurement of peak flow; minimum, 40 cfs Aug. 21, 22, 24-26, 1963 (gage height, 2.00 ft).

REMARKS.--Records good except those for period of no gage-height record, which are fair. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	200	320	449	242	306	423	376	334	642	531	1,080	235
2	1,490	315	374	270	342	446	265	326	406	456	2,160	240
3	561	1,000	343	275	920	450	357	1,110	368	429	846	238
4	312	700	333	285	1,950	410	335	6,000	346	422	471	229
5	257	475	322	320	675	385	325	1,180	336	8,180	460	290
6	244	400	312	280	501	362	317	637	327	2,810	399	357
7	221	360	495	260	476	351	345	509	334	1,040	371	272
8	200	340	668	250	446	350	2,510	484	322	715	401	245
9	208	330	454	250	400	336	815	776	313	594	349	235
10	860	322	400	370	374	325	520	509	310	532	324	233
11	600	312	374	400	357	319	452	424	299	496	307	224
12	343	307	348	410	353	318	479	393	295	678	309	218
13	282	297	338	600	2,910	319	558	373	290	802	304	216
14	253	292	322	2,000	1,330	352	639	1,530	294	528	296	208
15	230	282	315	700	656	360	538	2,420	295	469	292	215
16	226	282	305	450	522	346	465	997	286	449	336	211
17	235	272	295	385	487	535	465	611	326	652	312	208
18	235	267	285	360	494	450	409	553	416	455	330	214
19	221	267	280	348	500	378	383	573	434	417	331	212
20	212	267	290	334	440	352	371	812	464	397	311	200
21	235	262	300	351	409	339	362	637	11,200	379	282	196
22	272	248	280	356	445	615	561	529	11,700	366	269	204
23	1,740	239	270	351	459	626	834	626	1,360	357	262	198
24	4,890	302	265	337	478	441	506	519	802	346	256	197
25	1,710	449	260	324	514	395	430	439	630	345	249	203
26	1,060	384	260	302	557	385	399	396	546	330	243	199
27	585	416	255	294	670	367	376	372	496	319	243	190
28	465	501	250	385	526	358	359	365	502	347	335	277
29	394	477	250	406	462	347	351	362	839	373	296	702
30	355	608	245	354	-----	341	344	362	825	559	251	981
31	335	-----	245	329	-----	354	-----	795	-----	469	239	-----
TOTAL	19,431	11,293	10,182	12,578	18,959	12,135	15,546	25,953	36,003	25,242	12,914	8,047
MEAN	627	376	328	406	654	391	518	837	1,200	814	417	268
MAX	4,890	1,000	668	2,000	2,910	626	2,510	6,000	11,700	8,180	2,160	981
MIN	200	239	245	242	306	318	317	326	286	319	239	190
CFSM	1.79	1.07	.94	1.16	1.87	1.12	1.48	2.39	3.43	2.33	1.19	.77
IN.	2.07	1.20	1.08	1.34	2.02	1.29	1.65	2.76	3.83	2.68	1.37	.86

CAL YR 1971 TOTAL 149,862 MEAN 411 MAX 4,890 MIN 141 CFSM 1.17 IN 15.93
WTR YR 1972 TOTAL 208,283 MEAN 569 MAX 11,700 MIN 190 CFSM 1.63 IN 22.14

PEAK DISCHARGE (BASE, 4,000 CFS)

NOTE.--NO GAGE-HEIGHT RECORD DEC. 15 TO JAN. 18.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	1030	10.73	5,710	6-22	0130	24.07	22,700
2-13	1230	8.59	4,350	7- 5	1800	17.81	11,700
5- 4	0400	14.40	8,420				

ROANOKE RIVER BASIN

02059500 GOOSE CREEK NEAR HUDDLESTON, VA.

LOCATION.--Lat 37°10'23", long 79°31'14", Bedford County, on left bank 0.3 mile upstream from Haden Bridge on State Highway 732, 0.4 mile upstream from Rockcastle Creek, and 3.5 miles northwest of Huddleston.

DRAINAGE AREA.--188 sq mi.

PERIOD OF RECORD.--March 1925 to August 1928 (gage heights only), September 1930 to current year.

GAGE.--Water-stage recorder. Datum of gage is 592.91 ft above mean sea level. Mar. 15, 1925, to Aug. 4, 1928, nonrecording gage at site 1,300 ft downstream at different datum.

AVERAGE DISCHARGE.--42 years, 170 cfs (12.28 inches per year).

EXTREMES.--Current year: Maximum discharge, 13,600 cfs June 21 (gage height, 19.43 ft), from rating curve extended as explained below; minimum, 57 cfs Sept. 26, 27 (gage height, 1.36 ft).
Period of record: Maximum discharge, 20,300 cfs Oct. 19, 1937 (gage height, 25.75 ft, from floodmarks), from rating curve extended above 11,000 cfs on basis of slope-area measurements at gage heights 19.25 and 24.1 ft; minimum, 3 cfs Aug. 31, 1932, Jan. 30, 1934.

REMARKS.--Records good. Prior to October 1954, diurnal fluctuation at low flow caused by mill above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 892: 1933, 1935(M), 1939. WSP 972: 1931-32(M), 1934(M), 1935-38, 1940, 1941(M). WSP 1082: 1940(P). WSP 1142: 1938-40(M). WRD Va. 1970: Drainage area. WRD Va. 1971: 1969-70(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	163	205	111	145	285	167	145	167	220	252	74
2	186	154	176	118	159	280	167	141	150	179	158	78
3	146	379	159	118	705	270	154	535	141	252	135	74
4	113	240	150	130	939	235	150	2,090	137	236	123	72
5	126	185	145	159	375	220	145	825	133	3,360	120	80
6	142	172	137	130	285	200	141	450	130	921	114	94
7	109	159	260	122	275	195	167	329	137	552	111	78
8	97	150	265	118	230	190	535	307	133	380	106	74
9	119	145	210	118	210	181	250	423	130	284	103	72
10	442	141	150	145	195	176	210	291	130	236	101	72
11	207	137	181	150	185	167	195	250	122	204	56	68
12	152	133	163	150	181	167	220	225	118	208	101	68
13	136	130	163	150	1,580	172	225	210	118	201	56	66
14	126	126	150	200	850	185	230	571	126	169	56	66
15	116	122	145	159	456	176	220	541	126	158	94	66
16	113	122	145	107	335	176	210	467	122	165	101	66
17	149	118	141	100	296	265	210	318	205	158	101	64
18	126	118	126	115	280	200	181	265	240	152	117	64
19	116	122	122	135	275	185	172	329	215	145	111	62
20	113	126	137	141	240	172	172	445	384	135	162	59
21	123	114	137	235	240	172	167	346	6,280	129	101	60
22	119	107	126	200	275	275	230	296	2,120	126	54	64
23	687	103	118	190	270	265	250	275	893	126	89	62
24	981	126	122	181	324	235	200	240	610	114	86	60
25	715	150	122	167	478	215	185	210	449	111	82	60
26	445	141	118	150	755	200	176	185	350	106	80	59
27	291	154	118	145	565	190	167	176	280	103	80	64
28	235	181	118	185	401	190	163	163	288	111	117	103
29	200	215	114	185	329	181	159	163	478	148	89	148
30	181	275	114	167	-----	176	154	159	345	284	80	179
31	167	-----	114	154	-----	167	-----	265	-----	165	74	-----
TOTAL	7,091	4,708	4,691	4,635	11,836	6,363	5,972	11,635	15,257	9,838	3,370	2,276
MEAN	229	157	151	150	408	205	199	375	509	317	109	75.9
MAX	981	379	265	235	1,580	285	535	2,090	6,280	3,360	252	179
MIN	97	103	114	100	145	167	141	141	118	103	74	59
CFSM	1.22	.84	.80	.80	2.17	1.09	1.06	1.99	2.71	1.69	.58	.40
IN.	1.40	.93	.93	.92	2.34	1.26	1.18	2.30	3.02	1.95	.67	.45

CAL YR 1971 TOTAL 75,426 MEAN 207 MAX 2,110 MIN 69 CFSM 1.10 IN 14.92
WTR YR 1972 TOTAL 97,672 MEAN 240 MAX 6,280 MIN 59 CFSM 1.28 IN 17.35

PEAK DISCHARGE (BASE, 2,300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-13	0900	6.95	2,630	6-21	1330	19.43	13,600
5-4	0500	8.86	3,910	7-5	0600	14.28	6,130

02060500 ROANOKE (STAUNTON) RIVER AT ALTAVISTA, VA.

LOCATION.--Lat 37°06'16", long 79°17'44", Pittsylvania County, on right bank 12 ft upstream from bridge on U.S. Highway 29, 0.3 mile south of Altavista, 0.3 mile downstream from Sycamore Creek, 3.5 miles upstream from Big Otter River, and at mile 286.5.

DRAINAGE AREA.--1,789 sq mi.

PERIOD OF RECORD.--August 1930 to current year.

GAGE.--Water-stage recorder. Datum of gage is 503.10 ft above mean sea level. Prior to Feb. 21, 1951, on left bank 50 ft downstream at same datum.

AVERAGE DISCHARGE.--42 years, 1,832 cfs (13.91 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 37,300 cfs June 22 (gage height, 26.78 ft); minimum, 158 cfs Jan. 17 (gage height, 2.07 ft), result of freezeup; minimum daily, 191 cfs Nov. 21, Aug. 27, Sept. 24.
Period of record: Maximum discharge, 105,000 cfs Aug. 15, 1940 (gage height, 40.08 ft, from floodmark), from rating curve extended above 52,000 cfs 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 Jan. 30, 1966; minimum daily, 39 cfs July 10, 1966; minimum gage height, 1.66 ft Jan. 31, 1934, result of freezeup.

REMARKS.--Records good. Flow regulated since 1962 by Leesville Lake 9.5 miles upstream (see sta 02059400) and since 1963 by Smith Mountain Lake 27.5 miles upstream (see sta 02057400). Water-quality records for the current year are included in this report.

REVISIONS (WATER YEARS).--WSP 892: 1938(M). WSP 972: 1931-33. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,140	1,290	1,230	230	840	5,750	292	1,290	2,580	3,400	1,220	1,130
2	374	4,350	1,150	230	3,610	5,260	284	1,190	2,600	486	1,120	251
3	302	7,040	1,540	990	5,540	7,130	1,100	1,790	1,460	1,270	4,260	218
4	909	11,400	546	4,810	9,070	3,670	1,090	12,500	1,070	438	2,730	224
5	937	9,650	254	4,020	2,690	419	1,070	13,700	1,410	18,400	313	990
6	1,140	760	980	4,650	677	1,620	1,060	9,090	1,070	18,800	257	1,030
7	1,140	418	1,270	1,320	1,690	1,580	4,750	3,100	2,310	8,630	1,390	2,260
8	1,130	1,410	1,350	522	2,410	4,780	7,630	5,960	1,980	2,000	1,040	1,370
9	227	4,320	2,090	251	2,920	4,150	1,790	2,780	1,700	3,840	1,420	323
10	845	2,300	3,440	1,160	6,580	3,160	6,350	3,160	628	2,190	990	200
11	1,850	1,700	514	1,100	4,440	909	2,150	1,650	578	4,530	2,660	940
12	1,030	239	323	1,130	699	316	1,210	1,590	1,060	5,530	302	1,340
13	986	218	950	1,180	3,580	1,100	1,570	1,360	1,050	5,780	221	4,210
14	2,660	209	1,090	3,380	7,120	1,120	5,510	6,380	2,140	4,690	985	870
15	2,350	1,070	3,910	450	6,750	1,180	3,980	6,370	685	920	1,040	215
16	257	1,080	546	302	2,680	2,190	1,380	6,060	583	414	1,020	212
17	257	775	3,780	905	3,380	2,830	3,560	3,620	204	1,220	1,150	209
18	1,040	1,050	566	2,510	5,830	415	2,450	4,940	312	1,380	1,340	945
19	975	1,510	260	330	5,010	325	2,280	5,490	4,420	1,220	320	975
20	1,160	284	1,160	2,610	878	1,130	3,670	3,430	5,250	4,390	350	1,070
21	1,280	191	3,390	3,290	2,310	1,160	5,110	1,280	19,000	6,370	1,020	945
22	2,910	730	1,150	620	2,110	1,300	1,900	2,740	35,800	446	1,080	985
23	6,340	1,430	1,160	362	5,320	3,530	1,650	3,640	29,100	302	1,090	233
24	16,100	1,060	542	860	4,920	4,260	1,400	2,630	15,900	2,000	1,540	191
25	12,500	2,010	242	1,270	5,140	2,030	1,410	1,960	11,100	575	2,560	1,840
26	10,700	494	233	1,270	1,150	344	1,650	1,530	10,800	645	426	1,510
27	6,540	281	870	2,250	1,160	1,180	2,370	1,100	4,350	1,210	191	640
28	4,690	350	1,310	4,590	5,770	1,110	3,710	1,090	3,070	1,250	1,060	655
29	3,020	990	1,450	960	3,340	1,110	1,780	1,060	3,090	330	1,190	675
30	720	1,420	1,440	330	-----	1,350	1,130	1,450	5,230	430	800	1,430
31	274	-----	550	1,690	-----	1,120	-----	1,590	-----	1,170	935	-----
TOTAL	85,783	60,029	39,326	49,572	107,614	67,528	75,286	115,520	170,530	104,256	36,020	28,086
MEAN	2,767	2,001	1,269	1,599	3,711	2,178	2,510	3,726	5,684	3,363	1,162	936
MAX	16,100	11,400	3,910	4,810	9,070	7,130	7,630	13,700	35,800	18,800	4,260	4,210
MIN	227	191	233	230	677	316	284	1,060	204	302	191	191
(*)	+416	-292	+174	-8	+64	-173	+179	-2	-47	-51	+2	+32
MEAN#	3,183	1,709	1,443	1,591	3,775	2,005	2,689	3,724	5,637	3,312	1,164	968
CFSM#	1.78	.96	.81	.89	2.11	1.32	1.50	2.08	3.15	1.85	.65	.54
IN#	2.05	1.07	.93	1.03	2.28	1.29	1.68	2.40	3.52	2.13	.75	.60

CAL YR 1971 TOTAL 722,491 MEAN 1,979 MAX 16,100 MIN 139 MEAN# 1,986 CFSM# 1.11 IN# 15.07
WTR YR 1972 TOTAL 939,550 MEAN 2,567 MAX 35,800 MIN 191 MEAN# 2,592 CFSM# 1.45 IN# 19.73

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN SMITH MOUNTAIN AND LEESVILLE LAKES; FURNISHED BY APPALACHIAN POWER CO.

* ADJUSTED FOR CHANGE IN CONTENTS.

ROANOKE RIVER BASIN

02061500 BIG OTTER RIVER NEAR EVINGTON, VA.

LOCATION.--Lat 37°12'30", long 79°18'14", Campbell County, on right bank 10 ft upstream from bridge on State Highway 682, 2.0 miles southwest of Evington, and 2.1 miles upstream from Flat Creek.

DRAINAGE AREA.--320 sq mi.

PERIOD OF RECORD.--October 1936 to current year. Monthly discharge only for some periods, published in WSP 1303. Prior to October 1965, published as Otter River near Evington.

GAGE.--Water-stage recorder. Datum of gage is 544.02 ft above mean sea level.

AVERAGE DISCHARGE.--36 years, 323 cfs (13.71 inches per year).

EXTREMES.--Current year: Maximum discharge, 18,800 cfs June 21 (gage height, 21.03 ft), from rating curve extended as explained below; minimum, 87 cfs Sept. 27 (gage height, 1.50 ft).
Period of record: Maximum discharge, 27,500 cfs Oct. 19, 1937, Aug. 19, 1939 (gage height, 23.1 ft), from rating curve extended above 7,000 cfs on basis of unit hydrograph and flood-routing studies by Corps of Engineers, and records for other stations in Roanoke River basin; minimum, 7.5 cfs Sept. 14, 1966; minimum gage height, 0.63 ft Sept. 12-14, 1966.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 852: 1937. WSP 892: 1938-39(M). WSP 972: 1937-39. WSP 1032: 1940. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	130	253	311	182	250	482	260	251	315	443	1,180	130
2	267	240	258	192	272	489	263	246	264	373	950	135
3	263	635	240	196	999	473	250	528	249	428	435	128
4	197	438	228	203	1,870	418	247	2,480	237	345	343	123
5	178	303	217	266	659	390	244	924	227	6,440	292	138
6	200	269	214	220	504	357	229	631	218	1,680	268	167
7	174	253	463	200	488	347	240	503	221	959	256	143
8	150	231	551	192	424	336	783	468	205	737	236	133
9	153	221	380	190	361	311	396	765	200	611	216	130
10	776	217	333	248	329	303	322	505	194	527	201	128
11	475	209	305	253	308	291	301	426	182	468	192	120
12	285	206	279	261	298	288	332	387	176	602	198	120
13	233	204	267	264	3,880	287	346	355	172	1,350	190	119
14	209	197	251	478	1,280	316	792	1,090	180	524	207	114
15	189	195	244	323	749	300	491	1,010	218	430	189	113
16	177	194	242	231	587	294	422	832	179	440	196	111
17	180	189	231	206	514	453	396	572	259	468	196	108
18	175	185	215	251	451	356	337	482	303	365	214	107
19	167	187	206	242	483	318	314	498	360	348	199	104
20	161	190	237	238	408	300	301	815	453	305	296	95
21	177	180	252	418	388	292	290	599	8,810	284	194	96
22	175	164	222	354	473	414	383	519	7,410	268	172	107
23	530	158	204	325	461	359	480	487	1,400	264	164	98
24	1,340	185	201	302	545	311	363	430	908	242	157	92
25	896	258	198	275	752	295	326	378	683	227	150	93
26	686	245	195	251	1,110	288	307	336	554	217	145	92
27	475	251	196	243	945	280	287	311	470	208	142	89
28	383	323	193	317	670	278	274	298	433	225	196	131
29	319	338	189	318	555	271	268	289	575	403	167	276
30	289	448	188	289	-----	265	262	282	686	854	147	478
31	267	-----	189	268	-----	260	-----	369	-----	587	135	-----
TOTAL	10,276	7,566	7,899	8,196	21,057	10,422	10,506	18,066	26,741	21,622	8,223	4,018
MEAN	331	252	255	264	726	336	350	583	891	697	265	134
MAX	1,340	635	551	478	3,880	489	792	2,480	8,810	6,440	1,180	478
MIN	130	158	188	182	250	260	229	246	172	208	135	89
CFSM	1.03	.79	.80	.83	2.27	1.05	1.09	1.82	2.78	2.18	.83	.42
IN.	1.19	.88	.92	.95	2.45	1.21	1.22	2.10	3.11	2.51	.96	.47

CAL YR 1971 TOTAL 128,571 MEAN 352 MAX 4,130 MIN 77 CFSM 1.10 IN 14.95
WTR YR 1972 TOTAL 154,592 MEAN 422 MAX 8,810 MIN 89 CFSM 1.32 IN 17.97

PEAK DISCHARGE (BASE, 4,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-13	1400	15.29	6,320	6-21	2130	21.03	18,800
5- 4	0830	12.26	4,050	7- 5	1400	17.85	9,680

ROANOKE RIVER BASIN

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02062500 ROANOKE (STAUNTON) RIVER AT BROOKNEAL, VA.

LOCATION.--Lat 37°02'28", long 78°57'02", Campbell County, on left bank 1,600 ft upstream from bridge on U.S. Highway 501 at Brookneal, 2.9 miles upstream from Falling River, and at mile 255.9.

DRAINAGE AREA.--2,415 sq mi.

PERIOD OF RECORD.--April 1923 to current year.

GAGE.--Water-stage recorder. Datum of gage is 351.96 ft above mean sea level. Apr. 30, 1923, to Aug. 29, 1929, nonrecording gage, Aug. 30, 1929, to Aug. 15, 1940, water-stage recorder, and Aug. 16 to Oct. 1, 1940, nonrecording gage, at site 1,800 ft downstream at same datum. Oct. 2, 1940, to Sept. 30, 1941, nonrecording gage at site 1,600 ft downstream at same datum.

AVERAGE DISCHARGE.--49 years, 2,351 cfs (13.22 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 58,400 cfs June 22 (gage height, 34.27 ft); minimum daily, 270 cfs Sept. 25.

Period of record: 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 55,000 cfs on basis of slope-area measurement by Geological Survey, unit hydrograph and flood-routing studies by Corps of Engineers, and records for other stations in Roanoke River basin; minimum daily, 140 cfs July 25, 1966.

REMARKS.--Records good. Flow regulated since 1962 by Leesville Lake 40.1 miles upstream (see sta 02059400) and since 1963 by Smith Mountain Lake 58.1 miles upstream (see sta 02057400).

REVISIONS (WATER YEARS).--WSP 892: 1928(M). WSP 972: 1928-34. WSP 1303: 1924-27(M), 1929(M), 1941(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,410	981	2,190	665	2,180	4,520	1,570	1,800	2,970	6,840	3,410	1,280
2	1,640	1,900	1,840	632	1,630	6,520	870	1,800	3,390	2,830	3,450	1,510
3	904	7,000	1,700	689	5,520	7,500	922	2,650	3,030	1,080	2,990	432
4	701	11,500	2,210	2,080	12,700	8,320	1,720	12,800	1,950	2,240	6,140	400
5	1,290	11,300	827	5,280	8,050	1,700	1,630	15,800	1,780	14,200	3,050	426
6	1,350	4,350	792	6,040	2,090	1,590	1,600	11,800	1,660	28,100	793	1,410
7	1,500	967	1,790	3,780	1,520	2,300	2,200	5,560	1,640	11,100	730	1,430
8	1,480	1,270	2,560	1,400	3,320	2,410	11,100	4,370	3,750	7,260	2,210	3,220
9	1,450	2,630	2,760	697	3,420	6,710	6,800	7,650	2,090	2,360	1,670	1,690
10	2,230	4,470	2,830	784	4,950	3,900	3,780	3,660	1,790	4,770	2,150	405
11	3,030	2,460	3,430	1,820	6,850	3,080	6,070	3,320	1,030	3,380	1,630	350
12	1,850	1,520	925	1,770	3,630	1,280	2,070	2,550	999	6,920	3,590	1,220
13	1,570	708	848	2,060	10,500	1,040	2,090	2,320	1,520	8,600	630	2,270
14	1,880	687	1,680	6,910	10,400	1,760	3,800	5,460	1,510	5,840	570	5,290
15	3,280	764	1,880	3,400	8,930	1,830	6,320	12,400	2,760	5,750	1,520	400
16	1,950	1,600	4,310	1,120	6,060	2,040	3,890	9,040	1,080	1,190	1,570	302
17	609	1,310	1,890	795	3,870	3,820	2,630	5,690	1,020	1,240	1,550	293
18	622	1,430	3,510	2,240	4,880	2,910	4,210	6,790	774	2,340	1,720	284
19	1,330	1,440	721	2,400	7,550	1,050	2,840	4,860	1,260	2,440	2,010	1,160
20	1,400	1,740	735	1,040	4,270	1,110	3,540	7,350	7,610	2,420	702	1,180
21	1,480	661	2,040	4,200	1,590	1,790	4,710	3,210	22,400	8,440	786	1,360
22	2,580	596	4,540	3,540	3,990	2,040	5,420	2,480	54,900	4,330	1,490	1,170
23	5,410	1,370	753	1,080	3,350	2,560	2,770	4,910	36,700	814	1,550	1,240
24	18,400	1,950	1,890	1,020	6,790	4,520	2,590	4,720	22,900	772	1,540	302
25	16,700	2,680	712	1,580	9,120	5,100	1,860	2,990	12,300	3,030	2,270	270
26	13,500	2,130	668	2,020	2,390	1,680	2,210	2,600	11,500	1,010	3,510	2,250
27	7,020	1,390	655	2,080	3,850	1,110	2,590	2,250	7,100	1,160	480	1,830
28	7,240	1,440	1,410	2,870	3,320	1,740	4,300	1,710	3,850	1,930	450	772
29	4,260	1,280	1,870	5,250	6,800	1,710	3,730	1,730	4,060	2,140	1,580	902
30	2,910	2,480	1,870	965	-----	1,800	1,660	1,730	4,480	1,490	1,630	1,310
31	1,020	-----	1,860	974	-----	1,860	-----	2,280	-----	2,010	1,090	-----
TOTAL	111,996	76,004	57,696	71,181	153,520	91,300	101,492	158,320	223,803	148,026	58,461	36,358
MEAN	3,613	2,533	1,861	2,296	5,294	2,945	3,383	5,107	7,460	4,775	1,886	1,212
MAX	18,400	11,500	4,540	6,910	12,700	8,320	11,100	15,800	54,900	28,100	6,140	5,290
MIN	609	596	655	632	1,520	1,040	870	1,710	774	772	450	270
(*)	+416	-292	+174	-8	+64	-173	+179	-2	-47	-51	+2	+32
MEAN*	4,029	2,241	2,035	2,288	5,358	2,772	3,562	5,105	7,413	4,724	1,888	1,244
CFSM*	1.67	.93	.84	.95	2.22	1.15	1.47	2.11	3.07	1.96	.78	.52
IN*	1.92	1.04	.97	1.09	2.39	1.32	1.65	2.44	3.43	2.26	.90	.57

CAL YR 1971 TOTAL 982,626 MEAN 2,692 MAX 18,400 MIN 360 MEAN* 2,699 CFSM* 1.12 IN* 15.17
WTR YR 1972 TOTAL 1,288,157 MEAN 3,520 MAX 54,900 MIN 270 MEAN* 3,545 CFSM* 1.47 IN* 19.99

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN SMITH MOUNTAIN AND LEESVILLE LAKES; FURNISHED BY APPALACHIAN POWER CO.
* ADJUSTED FOR CHANGE IN CONTENTS.

ROANOKE RIVER BASIN

02064000 FALLING RIVER NEAR NARUNA, VA.

LOCATION.--Lat 37°07'36", long 78°57'36", Campbell County, on left bank at upstream side of bridge on State Highway 643, 2.7 miles northeast of Naruna, and 3.2 miles upstream from Little Falling River.

DRAINAGE AREA.--173 sq mi.

PERIOD OF RECORD.--July 1929 to January 1935, September 1941 to current year.

GAGE.--Water-stage recorder. Datum of gage is 412.32 ft above mean sea level. Prior to Jan. 15, 1935, non-recording gage at same site and datum.

AVERAGE DISCHARGE.--36 years (1929-34, 1941-72), 139 cfs (10.91 inches per year).

EXTREMES.--Current year: Maximum discharge, 32,600 cfs June 22 (gage height, 29.21 ft), from rating curve extended as explained below; minimum, 50 cfs Sept. 20, 21 (gage height, 2.79 ft).

Period of record: Maximum discharge, 32,600 cfs June 22, 1972 (gage height, 29.21 ft), from rating curve extended above 6,100 cfs on basis of slope-area measurement of peak flow; minimum, 3.0 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 measurement).

REMARKS.--Records good. Small diurnal fluctuation at times during low flow, cause unknown. Prior to 1958, diurnal fluctuation caused by gristmill at Spring Mills. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1333: 1930, 1931-34(M), 1935. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	144	235	102	133	208	137	120	262	188	189	66
2	140	139	192	116	158	204	147	117	154	160	153	71
3	106	665	173	115	483	355	133	567	131	165	136	67
4	90	335	159	120	878	234	129	1,750	120	145	124	65
5	90	201	147	158	312	200	124	391	118	4,430	177	73
6	112	168	142	133	246	179	121	237	113	777	129	82
7	86	157	295	118	279	171	199	195	113	352	117	69
8	76	139	301	111	231	173	1,070	211	104	238	110	65
9	76	129	207	112	197	159	306	400	101	199	101	63
10	1,030	125	184	175	181	153	219	222	100	178	97	61
11	347	120	169	188	172	148	195	179	94	162	93	58
12	174	116	153	191	168	149	200	161	93	179	95	59
13	122	114	152	497	3,700	148	192	149	90	231	94	57
14	102	109	140	1,210	834	162	234	1,180	93	171	106	55
15	91	105	138	338	384	156	195	1,040	93	146	93	54
16	86	104	136	217	267	166	175	635	83	131	88	54
17	120	100	133	189	240	336	158	320	81	155	89	53
18	155	98	124	174	236	236	146	240	148	134	108	55
19	84	100	117	172	258	185	140	269	129	127	92	55
20	75	106	154	166	215	166	138	368	160	123	87	51
21	80	100	166	219	200	158	133	260	9,460	117	80	61
22	80	93	136	188	262	199	214	222	12,000	113	78	82
23	1,090	88	121	206	260	175	252	213	784	110	76	64
24	1,660	188	120	188	320	154	182	187	529	110	74	61
25	1,130	525	120	169	402	148	158	164	399	104	72	62
26	612	332	118	149	451	146	147	148	335	98	70	60
27	319	463	116	145	365	142	137	140	237	96	69	66
28	216	454	113	177	273	142	130	137	259	113	96	162
29	178	360	109	166	233	137	129	134	255	285	80	140
30	160	400	108	153	-----	136	125	132	315	587	72	180
31	150	-----	107	142	-----	135	-----	242	-----	223	67	-----
TOTAL	8,900	6,277	4,785	6,504	12,338	5,560	5,965	10,730	26,953	10,347	3,112	2,171
MEAN	287	209	154	210	425	179	199	346	898	334	100	72.4
MAX	1,660	665	301	1,210	3,700	355	1,070	1,750	12,000	4,430	189	180
MIN	63	88	107	102	133	135	121	117	81	96	67	51
CFSM	1.66	1.21	.89	1.21	2.46	1.03	1.15	2.00	5.19	1.93	.58	.42
IN.	1.91	1.35	1.03	1.40	2.65	1.20	1.28	2.31	5.80	2.22	.67	.47
CAL YR 1971	TOTAL 73,899	MEAN 202	MAX 6,400	MIN 49	CFSM 1.17	IN 15.89						
WTR YR 1972	TOTAL 103,642	MEAN 283	MAX 12,000	MIN 51	CFSM 1.64	IN 22.29						

PEAK DISCHARGE (BASE, 2,300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	0030	11.91	3,570	5-14	1800	9.75	2,590
1-14	0130	11.75	3,500	6-22	0100	29.21	32,600
2-13	1800	15.21	5,540	7- 5	1730	17.35	7,320
5- 4	0530	10.97	3,140				

02065200 ROANOKE (STAUNTON) RIVER AT CLARKTON, VA.

LOCATION.--Lat 36°58'38", long 78°53'50", Halifax County, on right bank 100 ft downstream from bridge on State Highway 620, 1,300 ft upstream from Catawba Creek, 0.8 mile southeast of Clarkton, 1.0 mile downstream from Childrey Creek, and at mile 249.2.

DRAINAGE AREA.--2,691 sq mi.

PERIOD OF RECORD.--June 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 340.00 ft above mean sea level.

AVERAGE DISCHARGE.--9 years, 2,051 cfs (10.35 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 85,500 cfs June 22 (gage height, 35.56 ft), from rating curve extended as explained below; minimum, 480 cfs Sept. 18 (gage height, 4.00 ft).
Period of record: Maximum discharge, 85,500 cfs June 22, 1972 (gage height, 35.56 ft), from rating curve extended above 20,000 cfs on basis of records for other stations in Roanoke River basin; minimum, 172 cfs Sept. 23, 1968 (gage height, 3.15 ft).

REMARKS.--Records good except those for period of no gage-height, which are fair. Flow regulated by Leesville Lake 46.8 miles upstream (see sta 02059400) and, beginning September 1963, by Smith Mountain Lake 64.8 miles upstream (see sta 02057400). Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,650	1,300	2,660	891	2,440	4,420	1,950	1,950	3,070	6,840	2,820	1,270
2	1,900	2,200	2,210	801	1,860	6,730	1,120	2,080	3,470	2,900	2,750	1,440
3	1,100	8,000	2,030	823	5,190	7,340	1,070	2,980	3,340	1,230	2,280	634
4	900	13,000	2,460	1,700	13,600	8,720	1,880	13,200	2,270	2,040	5,370	562
5	1,500	13,000	1,120	5,700	9,830	2,440	1,860	17,900	1,870	12,600	2,550	614
6	1,550	4,000	1,030	5,320	2,750	1,580	1,830	12,500	2,050	32,800	946	1,360
7	1,700	1,300	2,090	4,420	2,110	2,570	1,910	5,930	1,780	13,400	870	1,410
8	1,700	1,500	3,050	1,650	3,450	2,550	12,200	4,450	3,700	8,060	1,880	2,520
9	1,700	2,300	2,810	928	3,650	6,410	8,430	8,510	2,310	1,980	1,540	1,610
10	2,500	4,660	3,030	979	4,770	4,220	3,370	3,890	2,000	4,590	1,860	670
11	3,400	2,760	3,970	2,100	7,140	3,650	6,660	3,930	1,230	2,920	1,430	540
12	2,200	2,110	1,210	2,130	4,490	1,610	2,680	2,750	1,170	6,200	2,890	1,220
13	1,900	935	1,150	2,150	12,300	1,170	2,420	2,600	1,660	7,640	778	1,890
14	2,200	895	1,910	8,660	13,700	2,010	3,440	6,190	1,660	5,550	710	4,340
15	3,700	865	1,910	4,940	10,200	2,070	6,640	14,900	2,740	5,470	1,410	726
16	2,300	1,690	4,540	1,750	6,670	2,110	4,430	9,520	1,290	1,260	1,450	508
17	830	1,690	1,410	1,220	4,130	3,910	2,500	6,090	1,170	1,240	1,430	494
18	800	1,580	4,250	2,060	4,950	3,880	4,350	6,460	975	2,000	1,570	487
19	1,600	1,650	988	3,110	8,020	1,460	3,170	4,940	1,130	2,040	1,750	1,190
20	1,700	1,940	929	1,200	4,970	1,280	3,590	7,370	6,670	1,880	818	1,250
21	1,800	880	2,020	4,130	1,690	2,060	4,410	3,910	21,600	6,730	882	1,390
22	3,000	776	4,800	4,040	4,060	2,270	5,870	2,700	78,600	4,490	1,400	1,310
23	6,000	1,490	1,060	1,460	3,450	2,590	3,270	4,670	51,400	950	1,440	1,320
24	21,000	2,210	2,060	1,350	7,080	4,500	2,870	4,740	30,000	878	1,430	574
25	19,000	3,390	973	1,800	9,750	5,460	2,290	3,140	13,700	2,390	1,880	494
26	15,000	3,110	865	2,280	3,400	2,140	2,410	2,900	11,300	1,030	2,750	1,970
27	8,000	2,020	845	2,040	4,280	1,170	2,690	2,480	7,450	1,120	694	1,740
28	8,000	2,340	1,580	3,040	3,130	2,030	3,990	1,990	4,030	1,670	602	1,060
29	5,000	1,850	2,040	5,710	7,190	1,950	4,180	1,980	3,980	1,910	1,480	1,160
30	3,500	3,090	2,060	1,290	-----	1,940	1,980	1,960	4,210	1,960	1,530	1,570
31	1,350	-----	2,050	1,110	-----	2,160	-----	2,500	-----	1,980	1,120	-----
TOTAL	128,480	88,531	65,110	80,782	170,250	98,400	109,460	171,110	271,825	147,748	52,310	37,323
MEAN	4,145	2,951	2,100	2,606	5,871	3,174	3,649	5,520	9,061	4,766	1,687	1,244
MAX	21,000	13,000	4,800	8,660	13,700	8,720	12,200	17,900	78,600	32,800	5,370	4,340
MIN	800	776	845	801	1,690	1,170	1,070	1,950	975	878	602	487
(*)	+416	-292	+174	-8	+64	-173	+179	-2	-47	-51	+2	+32
MEAN#	4,561	2,659	2,274	2,598	5,935	3,001	3,828	5,518	9,014	4,715	1,689	1,276
CFSM#	1.69	.99	.85	.97	2.21	1.12	1.42	2.05	3.35	1.75	.63	.47
IN#	1.95	1.10	.97	1.11	2.38	1.29	1.59	2.36	3.74	2.02	.72	.53
CAL YR 1971	TOTAL 1,104,482 MEAN 3,026 MAX 21,000 MIN 450 MEAN# 3,033 CFSM# 1.13 IN# 15.30											
WTR YR 1972	TOTAL 1,421,329 MEAN 3,883 MAX 78,600 MIN 487 MEAN# 3,908 CFSM# 1.45 IN# 19.77											

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN SMITH MOUNTAIN AND LEESVILLE LAKES; FURNISHED BY APPALACHIAN POWER CO.

* ADJUSTED FOR CHANGE IN CONTENTS.

NOTE.--NO GAGE-HEIGHT RECORD OCT. 1 TO NOV. 7.

ROANOKE RIVER BASIN

02065500 CUB CREEK AT PHENIX, VA.

LOCATION.--Lat 37°04'45", long 78°45'50", Charlotte County, on right bank 10 ft upstream from bridge on State Highway 40, 0.9 mile west of Phenix, 1.9 miles downstream from Rough Creek, and 6.4 miles upstream from Louse Creek.

DRAINAGE AREA.--98.0 sq mi.

PERIOD OF RECORD.--August 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 370.19 ft above mean sea level. Prior to July 14, 1950, non-recording gage at same site and datum.

AVERAGE DISCHARGE.--26 years, 88.6 cfs (12.28 inches per year).

EXTREMES.--Current year: Maximum discharge, 7,380 cfs June 22 (gage height, 20.37 ft, from floodmark in gage house); minimum, 40 cfs Sept. 20; minimum gage height, 1.42 ft Oct. 1.

Period of record: Maximum discharge, 7,380 cfs June 22, 1972 (gage height, 20.37 ft, from floodmark in gage house); minimum, 2.6 cfs Oct. 6, 1970 (gage height, 0.74 ft).

Flood in August 1940 reached a stage of 17.5 ft, from floodmark.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1333: 1947(M), 1948, 1949(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	116	154	74	88	134	95	88	226	130	180	49
2	118	109	120	82	98	127	109	86	133	110	120	51
3	82	132	108	86	170	145	94	170	92	90	102	49
4	62	302	103	82	362	148	90	518	83	80	92	49
5	58	141	96	98	280	122	88	616	81	500	122	56
6	97	107	93	94	151	111	86	174	78	1,400	98	63
7	66	103	111	83	174	106	94	121	77	295	84	53
8	55	96	164	80	157	108	552	136	70	151	78	49
9	53	90	118	79	125	104	581	309	67	123	72	47
10	264	88	107	107	110	98	180	248	65	109	68	46
11	750	86	102	114	105	94	140	127	63	103	64	44
12	240	83	95	125	105	94	133	109	60	116	65	44
13	102	82	94	114	484	94	130	100	59	140	65	43
14	83	81	91	1,170	1,300	98	222	323	61	107	71	42
15	74	79	89	860	369	100	194	1,020	61	94	65	42
16	68	79	89	251	180	104	134	810	57	86	61	42
17	74	77	87	160	151	224	117	457	56	90	61	42
18	82	75	83	130	155	215	106	194	59	85	76	43
19	69	75	80	120	174	129	99	194	72	80	67	45
20	67	78	96	120	149	111	96	250	77	78	61	41
21	74	78	124	124	125	105	93	194	968	73	58	45
22	71	74	94	121	162	131	139	154	6,300	71	55	57
23	569	70	85	122	187	122	250	136	3,000	70	54	49
24	2,540	100	83	117	215	104	148	118	1,500	66	53	46
25	1,240	343	84	106	257	97	118	103	750	64	52	47
26	944	451	82	95	250	96	107	96	500	62	50	45
27	473	229	82	92	264	94	98	89	350	60	49	45
28	229	279	81	104	180	93	94	88	250	74	57	94
29	157	215	79	109	149	92	92	85	180	188	62	92
30	137	222	78	97	-----	92	91	85	150	524	53	146
31	127	-----	78	92	-----	92	-----	113	-----	738	49	-----
TOTAL	9,082	4,140	3,030	5,208	6,676	3,584	4,570	7,311	15,545	5,957	2,264	1,606
MEAN	293	138	97.7	168	230	116	152	236	518	192	73.0	53.5
MAX	2,540	451	164	1,170	1,300	224	581	1,020	6,300	1,400	180	146
MIN	53	70	78	74	88	92	86	85	56	60	49	41
CFSM	2.99	1.41	1.00	1.71	2.35	1.18	1.55	2.41	5.29	1.96	.74	.55
IN.	3.45	1.57	1.15	1.98	2.53	1.36	1.73	2.78	5.90	2.26	.86	.61

CAL YR 1971 TOTAL 47,469 MEAN 130 MAX 2,540 MIN 27 CFSM 1.33 IN 18.02
WTR YR 1972 TOTAL 68,973 MEAN 188 MAX 6,300 MIN 41 CFSM 1.92 IN 26.18

PEAK DISCHARGE (BASE, 1,000 CFS)

NOTE.--NO GAGE-HEIGHT RECORD JUNE 22 TO JULY 6.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	1130	13.47	3,120	5-15	1130	8.39	1,390
1-14	1700	11.52	2,360	6-22	UNKNOWN	20.37	7,380
2-14	0400	9.88	1,840	7-6	UNKNOWN	UNKNOWN	UNKNOWN
4-8	2230	7.45	1,090	7-30	2300	8.33	1,360

02066000 ROANOKE (STAUNTON) RIVER AT RANDOLPH, VA.

LOCATION.--Lat 36°54'54", long 78°44'28", Halifax County, on right bank 14 ft downstream from bridge on State Highway 746, 2.8 miles northwest of Randolph, 3.6 miles upstream from Roanoke Creek, and at mile 227.3.

DRAINAGE AREA.--2,977 sq mi.

PERIOD OF RECORD.--August 1900 to September 1906, October 1927 to September 1930, October 1950 to current year. Monthly discharge only for some periods, published in WSP 1303. Prior to October 1902, published as Staunton River at Randolph. Gage heights collected since 1905 at this site or at former site are contained in reports of the National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 307.59 ft above mean sea level. Aug. 27, 1900, to Oct. 13, 1902, nonrecording gage at site 3.2 miles downstream at datum about 5.9 ft lower. Oct. 14, 1902, to Aug. 11, 1906, and Oct. 1, 1927, to Mar. 31, 1930, nonrecording gage at site of original gage at datum 3.93 ft lower than present datum.

AVERAGE DISCHARGE.--31 years, 3,038 cfs (13.86 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 72,500 cfs June 23 (gage height, 30.96 ft); minimum daily, 515 cfs Sept. 18.

Period of record: Maximum discharge, 97,000 cfs Dec. 31, 1901 (gage height, 35.0 ft, from graph based on gage readings, site and datum then in use); minimum daily, 179 cfs Sept. 8, 1965, July 7, 1970.

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

REMARKS.--Records good. Flow regulated since 1962 by Leesville Lake 68.7 miles upstream (see sta 02059400) and since 1963 by Smith Mountain Lake 86.7 miles upstream (see sta 02057400). Water-quality records for the current year are included in this report.

REVISIONS (WATER YEARS).--WSP 1203: 1928-30. WSP 1303: 1901-6. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,720	1,550	3,430	1,820	2,520	5,180	2,280	2,250	3,380	7,560	4,000	1,410
2	2,530	2,290	2,730	1,050	1,850	6,900	1,560	2,410	4,110	5,080	3,940	1,640
3	1,730	5,210	2,400	1,070	4,960	7,070	1,360	2,630	3,780	2,040	3,050	1,100
4	1,270	10,100	2,690	1,700	11,000	8,600	2,010	8,580	2,670	2,560	5,750	670
5	2,420	11,100	2,050	5,320	11,800	4,580	2,150	15,700	2,110	7,240	3,960	685
6	1,800	8,460	1,290	5,250	4,550	1,910	2,090	13,900	2,500	25,000	1,620	1,210
7	1,990	2,250	1,730	5,510	2,860	2,890	2,100	8,880	2,000	28,400	1,140	1,650
8	1,870	1,460	2,350	2,250	2,580	2,920	10,300	4,870	3,340	12,700	1,940	2,690
9	1,900	2,350	3,210	1,670	4,120	5,670	11,300	9,020	2,940	4,150	1,900	2,010
10	3,260	4,830	3,650	1,170	4,620	5,280	4,370	5,580	2,490	5,720	2,240	1,280
11	5,910	3,400	4,580	2,230	7,300	4,280	7,440	5,000	1,530	4,180	1,760	620
12	4,610	2,730	2,050	2,590	5,530	2,720	3,910	2,280	1,360	6,490	3,410	930
13	2,430	1,280	1,490	2,460	7,610	1,500	2,870	3,050	1,790	7,690	1,430	1,770
14	2,090	1,080	1,780	7,030	16,400	2,140	3,210	4,610	1,880	7,640	888	5,010
15	3,370	1,050	2,240	7,900	12,300	2,360	7,040	13,800	2,790	6,440	1,320	1,760
16	3,290	1,750	4,810	3,430	8,410	2,430	5,460	11,900	1,780	2,420	1,750	590
17	1,280	1,370	2,020	1,810	4,560	4,050	3,120	9,190	1,380	1,530	1,710	525
18	1,020	1,610	4,400	1,800	5,430	5,080	4,650	6,550	1,250	2,360	1,890	515
19	1,600	1,890	1,890	2,910	7,860	2,190	3,810	6,530	1,290	2,570	2,150	835
20	1,730	2,250	1,160	1,780	6,390	1,670	3,560	7,270	5,130	2,410	1,310	1,370
21	1,890	1,570	2,110	3,670	2,680	2,310	4,790	5,510	11,000	5,890	1,020	1,440
22	1,940	976	4,520	4,780	3,920	2,620	6,200	3,300	45,700	6,930	1,420	1,530
23	9,120	1,100	2,250	2,300	4,230	2,950	4,390	4,630	70,500	1,680	1,710	1,460
24	23,800	2,230	1,790	1,720	6,890	4,710	3,660	5,330	55,700	1,120	1,690	1,010
25	34,100	4,650	1,800	2,050	8,370	5,510	3,020	4,030	32,100	2,510	2,050	530
26	26,800	4,840	1,130	2,380	6,360	3,200	2,730	3,350	14,900	1,530	3,120	1,730
27	14,800	2,750	1,100	2,500	4,670	1,590	2,900	2,800	11,000	1,290	1,480	1,960
28	9,390	3,050	1,360	3,270	3,910	2,210	3,900	2,320	6,350	1,920	690	1,310
29	6,540	2,650	2,190	5,490	7,180	2,250	4,810	2,240	5,530	2,180	1,320	1,340
30	4,770	3,210	2,360	2,420	-----	2,220	2,840	2,220	5,540	2,400	1,830	2,030
31	2,340	-----	2,370	1,410	-----	2,650	-----	2,730	-----	3,050	1,370	-----
TOTAL	182,210	95,246	75,920	93,740	182,260	111,040	123,830	183,460	307,920	174,680	64,858	42,610
MEAN	5,878	3,175	2,449	3,024	6,285	3,582	4,128	5,918	10,260	5,635	2,092	1,420
MAX	34,100	11,100	4,810	7,900	16,400	8,600	11,300	15,700	70,500	28,400	5,750	5,010
MIN	1,020	976	1,100	1,050	1,850	1,500	1,360	2,220	1,250	1,120	690	515
(*)	+416	-292	+174	-8	+64	-173	+179	-2	-47	-51	+2	+32
MEAN*	6,294	2,883	2,623	3,016	6,349	3,409	4,307	5,916	10,210	5,584	2,094	1,452
CFSM*	2.11	.97	.88	1.01	2.13	1.15	1.45	1.99	3.43	1.88	.70	.49
IN*	2.44	1.08	1.02	1.17	2.30	1.32	1.61	2.29	3.83	2.16	.81	.54

CAL YR 1971 TOTAL 1,296,027 MEAN 3,551 MAX 34,100 MIN 561 MEAN* 3,558 CFSM* 1.20 IN* 16.23
WTR YR 1972 TOTAL 1,637,774 MEAN 4,475 MAX 70,500 MIN 515 MEAN* 4,500 CFSM* 1.51 IN* 20.58

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN SMITH MOUNTAIN AND LEESVILLE LAKES; FURNISHED BY APPALACHIAN POWER CO.

* ADJUSTED FOR CHANGE IN CONTENTS.

ROANOKE RIVER BASIN

02066500 ROANOKE CREEK AT SAXE, VA.

LOCATION.--Lat 36°55'49", long 78°39'56", Charlotte County, on right bank at downstream side of bridge on State Highway 612, 500 ft northwest of Saxe, and 5.2 miles upstream from mouth.

DRAINAGE AREA.--135 sq mi.

PERIOD OF RECORD.--August 1946 to September 1972 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 322.36 ft above mean sea level. Prior to July 21, 1950, non-recording gage at same site and datum.

AVERAGE DISCHARGE.--26 years, 108 cfs (10.86 inches per year).

EXTREMES.--Current year: Maximum discharge, 7,110 cfs Oct. 24 (gage height, 15.83 ft, from high-water mark in gage house), from rating curve extended above 2,600 cfs; minimum daily, 13 cfs Sept. 17, 18.
Period of record: Maximum discharge, 7,110 cfs Oct. 24, 1971 (gage height, 15.83 ft, from high-water mark in gage house), from rating curve extended above 2,600 cfs; no flow for part of Sept. 18, 1954, from information by local observer.

Flood of Aug. 16, 1940, reached a stage of 25.7 ft (backwater from Roanoke River), from floodmark.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1333: 1949. WSP 2104: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	248	188	65	71	138	91	66	84	102	146	26
2	222	185	141	67	81	121	112	62	81	76	105	30
3	293	130	112	70	164	128	132	68	64	60	71	30
4	228	104	99	76	386	153	113	120	55	52	55	29
5	114	89	95	81	534	152	93	194	51	96	48	37
6	96	79	91	85	336	119	84	181	51	322	44	41
7	171	77	96	82	238	101	86	84	53	686	44	38
8	166	75	114	76	234	96	581	81	56	324	42	32
9	87	72	123	72	157	95	1,060	303	52	100	38	28
10	325	61	108	83	137	92	514	440	46	68	34	26
11	691	59	98	129	117	85	248	336	42	58	31	24
12	718	63	91	169	106	80	165	137	41	60	30	22
13	351	66	90	157	422	78	147	112	38	72	32	21
14	152	67	88	169	920	80	139	408	37	77	51	21
15	85	65	84	269	712	81	139	1,000	37	64	45	18
16	67	63	81	294	332	87	132	1,280	36	54	44	14
17	61	62	83	152	154	176	116	749	35	49	35	13
18	61	61	84	110	170	305	95	397	41	45	33	13
19	61	63	78	107	206	271	83	280	42	41	36	15
20	57	63	77	107	214	152	78	222	51	39	39	17
21	55	63	86	104	185	111	76	180	870	39	36	21
22	57	61	95	100	169	120	160	135	3,640	36	31	25
23	1,570	57	85	99	184	180	294	112	2,680	35	28	26
24	6,590	97	78	97	230	186	356	95	729	32	26	28
25	5,160	396	75	91	283	123	200	82	259	31	25	27
26	2,870	629	73	82	363	101	119	72	154	29	25	25
27	1,510	474	72	75	328	92	92	64	101	28	24	25
28	1,010	327	71	76	252	87	81	59	73	32	24	97
29	760	267	70	79	178	83	74	57	82	50	24	116
30	525	218	68	81	-----	81	70	56	116	104	23	231
31	340	-----	67	81	-----	84	-----	61	-----	179	22	-----
TOTAL	24,509	4,341	2,861	3,385	7,943	3,838	5,730	7,493	9,697	3,040	1,291	1,116
MEAN	791	145	92.3	109	274	124	191	242	323	98.1	41.6	37.2
MAX	6,590	629	188	294	920	305	1,060	1,280	3,640	686	146	231
MIN	55	57	67	65	71	78	70	56	35	28	22	13
CFSM	5.86	1.07	.68	.81	2.03	.92	1.41	1.79	2.39	.73	.31	.28
IN.	6.75	1.20	.79	.93	2.19	1.06	1.58	2.06	2.67	.84	.36	.31

CAL YR 1971 TOTAL 70,835.2 MEAN 194 MAX 6,590 MIN 8.5 CFSM 1.44 IN 19.52
WTR YR 1972 TOTAL 75,244.0 MEAN 206 MAX 6,590 MIN 13 CFSM 1.53 IN 20.73

PEAK DISCHARGE (BASE, 1,000 CFS)

A AT 1630 JUNE 23.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	1400	15.83	7,110	5-15	2130	9.80	1,600
2-14	1600	9.03	1,130	6-22	1500	14.79	4,270
4-9	0630	9.18	1,220				

02068500 DAN RIVER NEAR FRANCISCO, N. C.

LOCATION.--Lat 36°30'53", long 80°18'11", Stokes County, on left bank 200 ft upstream from bridge on State Highway 704, 700 ft downstream from Georges Mill, 0.2 mile downstream from Elk Creek, 3 miles east of Francisco, and 7.9 miles downstream from Little Dan River.

DRAINAGE AREA.--124 sq mi.

PERIOD OF RECORD.--August 1924 to current year. Monthly discharge only for some periods, published in WSP 1303.

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

AVERAGE DISCHARGE.--48 years, 185 cfs (20.26 inches per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 7,680 cfs Oct. 25 (gage height, 9.44 ft); minimum, 58 cfs Sept. 27 (gage height, 1.19 ft); minimum daily, 75 cfs Sept. 23.

Period of record: Maximum discharge, 12,400 cfs Oct. 19, 1937 (gage height, 12.45 ft); minimum, 7.1 cfs Sept. 8, 1932 (gage height, 0.43 ft); minimum daily, 28 cfs Aug. 17, 18, 1963, Sept. 12, 1966.

Flood in 1916 reached a stage of about 15 ft (discharge, 16,000 cfs), from information by local residents.

REMARKS.--Records good. Considerable diurnal fluctuation and regulation from mills and powerplants above station. Talbott Reservoir (see sta 02067800) and Townes Reservoir (see sta 02067820) above Pinnacles hydro-electric plant in Virginia, 28 miles above station, were completed in 1938. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 892: Drainage area. WSP 1303: 1938-50 (monthly runoff). WSP 1433: 1925-26, 1928-29, 1931, 1942, 1948.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166	312	200	135	216	178	211	212	228	276	233	138
2	259	319	176	135	216	205	223	225	211	239	252	163
3	201	978	181	158	316	222	195	354	205	252	276	155
4	173	536	191	183	312	248	202	487	191	284	249	128
5	172	407	168	194	236	245	219	296	151	937	266	276
6	191	374	163	191	219	219	208	243	183	584	202	143
7	131	344	403	178	197	173	189	210	148	442	191	113
8	113	326	348	138	213	181	387	280	142	397	233	148
9	126	316	275	138	200	176	231	350	176	380	176	160
10	190	312	266	145	178	170	207	282	184	363	183	148
11	150	305	269	213	158	208	213	260	156	363	133	88
12	159	302	239	228	183	200	412	227	135	376	170	93
13	146	298	233	688	312	158	336	232	179	358	202	155
14	162	233	186	922	191	213	338	951	140	346	158	143
15	164	158	181	348	210	205	317	851	178	322	168	126
16	218	163	213	292	191	202	272	419	181	262	158	115
17	167	197	216	292	205	239	273	345	182	225	138	128
18	125	202	210	254	230	205	301	318	230	249	194	88
19	151	205	186	222	239	176	295	291	140	230	176	117
20	171	194	191	208	230	155	289	292	312	245	150	135
21	166	165	178	242	194	181	276	255	4,690	216	108	78
22	180	158	173	225	170	399	332	251	1,370	219	115	77
23	375	194	178	200	200	271	285	286	613	230	148	75
24	701	225	160	173	222	240	254	268	452	210	158	78
25	3,420	210	133	219	295	219	261	265	411	213	176	77
26	827	176	128	216	302	209	238	245	388	186	168	81
27	460	189	165	216	205	175	203	217	371	176	131	88
28	382	191	183	213	173	189	197	187	371	150	219	124
29	316	210	155	194	163	173	180	184	456	170	178	1,020
30	337	208	135	191	-----	183	187	244	376	262	140	557
31	316	-----	143	200	-----	200	-----	320	-----	225	133	-----
TOTAL	10,815	8,407	6,226	7,551	6,376	6,417	7,731	9,847	13,150	9,387	5,582	5,015
MEAN	349	280	201	244	220	207	258	318	438	303	180	167
MAX	3,420	978	403	922	316	399	412	951	4,690	937	276	1,020
MIN	113	158	128	135	158	155	180	184	135	150	108	75
(*)	+15	-13	-2	-1	+3	+1	-3	0	+8	-5	-9	0

CAL YR 1971 TOTAL 75,758 MEAN 208 MAX 3,420 MIN 65 MEAN# 208 CFSM# 1.68 IN# 22.80
WTR YR 1972 TOTAL 96,504 MEAN 264 MAX 4,690 MIN 75 MEAN# 263 CFSM# 2.12 IN# 28.86

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	0900	9.44	7,680	5-15	0200	4.82	2,270
11-3	1030	4.71	2,160	6-21	1000	9.32	7,530
1-13	2230	6.81	4,370	9-29	2100	6.09	3,570

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN TALBOTT AND TOWNES RESERVOIRS; FURNISHED BY CITY OF DANVILLE, VA.

* ADJUSTED FOR CHANGE IN CONTENTS.

02069700 SOUTH MAYO RIVER NEAR NETTLERIDGE, VA.

LOCATION.--Lat 36°34'15", long 80°07'47", Patrick County, on right bank at downstream side of bridge on State Highway 700, 1.2 miles southeast of Nettleridge, 1.4 miles downstream from Russell Creek, and 3.6 miles upstream from Spoon Creek.

DRAINAGE AREA.--84.6 sq mi.

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 871.60 ft above mean sea level. Prior to Oct. 9, 1964, nonrecording gage and crest-stage gage at same site and datum.

AVERAGE DISCHARGE.--10 years, 115 cfs (18.46 inches per year).

EXTREMES.--Current year: Maximum discharge, 16,100 cfs June 21 (gage height, 18.32 ft), from rating curve extended as explained below; minimum, 61 cfs Sept. 27 (gage height, 3.37 ft).

Period of record: Maximum discharge, 16,100 cfs June 21, 1972 (gage height, 18.32 ft), from rating curve extended above 2,900 cfs on basis of contracted-opening measurement of peak flow; minimum, 21 cfs Aug. 27, 1963; minimum gage height, 2.75 ft July 28, 1966.

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	146	146	102	124	144	142	134	150	234	169	84
2	329	146	136	107	130	170	140	130	140	207	151	84
3	147	740	140	102	251	150	132	467	132	207	149	79
4	110	416	132	112	263	146	128	670	128	378	137	79
5	96	293	132	112	172	140	122	242	124	1,180	139	220
6	93	242	128	102	160	134	120	195	122	578	129	114
7	93	218	300	100	154	132	124	175	122	385	182	51
8	76	195	228	96	142	128	330	218	114	334	283	85
9	84	195	180	99	136	122	172	263	114	289	137	85
10	154	175	164	128	132	122	156	190	114	262	127	80
11	93	166	160	152	130	118	148	168	107	248	121	79
12	93	160	150	138	128	118	376	158	107	283	121	79
13	82	156	148	305	322	118	257	152	105	251	114	78
14	78	152	142	725	208	126	354	856	105	224	112	74
15	75	146	140	269	175	120	260	842	104	262	110	74
16	104	140	140	190	158	128	220	338	100	227	115	74
17	88	138	134	165	162	160	208	240	100	222	112	73
18	82	134	126	160	160	130	180	225	181	207	114	74
19	79	132	122	154	162	122	168	218	118	217	102	72
20	84	132	132	146	148	118	160	205	340	204	104	67
21	114	128	128	164	144	118	156	190	6,820	182	98	70
22	117	124	120	146	154	293	242	180	846	176	94	68
23	676	120	114	150	150	195	208	200	472	169	93	66
24	958	132	114	140	154	158	180	168	349	162	90	70
25	910	150	112	134	152	148	166	158	292	160	88	68
26	414	138	110	128	170	144	158	148	254	154	87	64
27	263	142	108	128	166	138	150	142	230	147	90	85
28	208	156	108	144	158	134	146	140	340	151	149	111
29	178	150	105	130	152	134	142	140	528	160	94	605
30	158	162	105	128	-----	130	138	142	283	223	87	522
31	150	-----	105	126	-----	154	-----	219	-----	197	83	-----
TOTAL	6,282	5,614	4,309	4,982	4,857	4,392	5,583	7,913	13,044	8,280	3,781	3,474
MEAN	203	187	139	161	167	142	186	255	435	267	122	116
MAX	958	740	300	725	322	293	376	856	6,820	1,180	283	605
MIN	75	120	105	96	124	118	120	130	100	147	83	64
CFSM	2.40	2.21	1.64	1.90	1.97	1.68	2.20	3.01	5.14	3.16	1.44	1.37
IN.	2.76	2.47	1.89	2.19	2.14	1.93	2.45	3.48	5.74	3.64	1.66	1.53

CAL YR 1971 TOTAL 52,085 MEAN 143 MAX 958 MIN 55 CFSM 1.69 IN 22.90
WTR YR 1972 TOTAL 72,511 MEAN 198 MAX 6,820 MIN 64 CFSM 2.34 IN 31.88

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	0200	7.67	1,720	6-21	1100	18.32	16,100
11- 3	1100	6.70	1,220	6-29	0100	6.92	1,210
1-14	0100	7.38	1,580	7- 5	0130	7.97	1,700
5- 4	0100	7.80	1,780	9-29	0800	6.76	1,160
5-14	1200	7.89	1,820				

02070000 NORTH MAYO RIVER NEAR SPENCER, VA.

LOCATION.--Lat 36°34'05", long 79°59'15", Henry County, on left bank 800 ft downstream from bridge on State Highway 629 at Moores Mill, 2.1 miles downstream from Horse Pasture Creek, and 3.8 miles southeast of Spencer.

DRAINAGE AREA.--108 sq mi.

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for some periods, published in WSP 1303.

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, nonrecording gage at site 800 ft upstream at datum 1.50 ft higher. July 25 to Sept. 27, 1936, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--44 years, 122 cfs (15.34 inches per year).

EXTREMES.--Current year: Maximum discharge, 12,600 cfs June 21 (gage height, 13.41 ft), from rating curve extended as explained below; minimum, 65 cfs Oct. 1 (gage height, 1.62 ft).

Period of record: Maximum discharge, 17,200 cfs Oct. 9, 1947 (gage height, 15.80 ft), from rating curve extended above 7,200 cfs on basis of slope-area measurement at gage height 13.41 ft and velocity-area study; minimum, 14 cfs Aug. 11, 1956 (gage height, 1.10 ft).

REMARKS.--Records good except those for period of no gage-height record, which are fair. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1303: 1929-32(M), 1934(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	113	121	82	107	140	148	136	175	275	136	95
2	170	111	109	86	118	183	140	133	153	227	150	90
3	102	551	104	84	355	175	133	425	146	204	140	88
4	81	306	106	88	421	153	128	1,420	140	258	130	86
5	75	185	104	91	191	146	126	317	138	938	120	200
6	81	152	102	86	164	136	124	220	136	357	110	150
7	74	132	329	82	156	133	128	188	140	240	180	113
8	70	121	254	82	143	133	470	207	130	207	250	105
9	74	116	164	84	133	128	204	360	126	185	160	103
10	170	111	140	100	126	124	169	159	126	175	120	103
11	111	106	132	104	124	122	156	175	122	166	115	99
12	88	104	121	113	124	122	458	164	122	183	110	96
13	81	102	118	234	541	122	292	156	122	177	106	94
14	76	97	111	955	272	133	756	1,170	120	156	104	90
15	72	95	106	258	185	124	359	1,560	120	164	100	92
16	86	93	113	165	161	133	237	428	118	148	105	92
17	86	91	109	140	164	175	210	275	118	148	105	101
18	77	90	97	135	169	136	180	230	210	146	105	99
19	74	91	95	130	175	128	169	230	150	136	95	90
20	76	91	100	128	150	124	161	230	204	130	100	86
21	95	90	102	138	146	122	153	204	5,790	124	100	88
22	102	86	95	130	161	362	222	191	1,870	120	100	86
23	950	84	90	123	156	204	244	207	317	118	98	84
24	1,500	102	91	124	158	161	183	183	244	118	96	86
25	518	126	90	115	158	146	166	169	210	111	94	86
26	310	111	90	109	172	140	156	158	191	109	93	82
27	201	126	88	109	175	133	148	153	175	107	92	90
28	164	146	86	126	158	133	143	153	386	113	150	115
29	138	135	86	122	148	128	140	150	1,680	122	125	473
30	126	152	86	113	-----	128	138	153	416	180	110	562
31	118	-----	84	107	-----	153	-----	249	-----	150	100	-----
TOTAL	6,017	4,016	3,623	4,549	5,425	4,580	6,441	10,193	14,095	5,992	3,699	3,844
MEAN	194	134	117	147	187	148	215	329	470	193	119	128
MAX	1,500	551	329	955	541	362	756	1,560	5,790	938	250	582
MIN	70	84	84	82	107	122	124	133	118	107	92	82
CFSM	1.80	1.24	1.08	1.36	1.73	1.37	1.99	3.05	4.35	1.79	1.10	1.19
IN.	2.07	1.38	1.25	1.57	1.87	1.58	2.22	3.51	4.85	2.06	1.27	1.32

CAL YR 1971 TOTAL 51,335 MEAN 141 MAX 1,500 MIN 58 CFSM 1.31 IN 17.68
WTR YR 1972 TOTAL 72,474 MEAN 198 MAX 5,790 MIN 70 CFSM 1.83 IN 24.96

PEAK DISCHARGE (BASE, 1,400 CFS)

NOTE.--NO GAGE-HEIGHT RECORD AUG. 2 TO SEPT. 6.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	0830	5.47	1,940	5-15	1200	5.72	2,060
1-14	1300	5.16	1,740	6-21	1930	13.41	12,600
5-4	1100	6.20	2,420	6-29	1030	6.78	2,900

ROANOKE RIVER BASIN

02072000 SMITH RIVER NEAR PHILPOTT, VA.

LOCATION.--Lat 36°46'50", long 80°01'30", Franklin County, on left bank 900 ft downstream from Philpott Dam, 3.1 miles west of Philpott, 11.6 miles upstream from Reed Creek, and at mile 44.1.

DRAINAGE AREA.--216 sq mi.

PERIOD OF RECORD.--August 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 804.27 ft above mean sea level (Corps of Engineers bench mark). Prior to Oct. 8, 1952, at site 1.9 miles downstream at different datum.

AVERAGE DISCHARGE.--26 years, 273 cfs (17.16 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 4,560 cfs June 22 (gage height, 8.10 ft, from high-water mark in well), result of sluicing at dam; minimum, 8.0 cfs Feb. 10 (gage height, 1.81 ft); minimum daily, 35 cfs Oct. 20.

Period of record: Maximum discharge, 17,000 cfs June 29, 1949 (gage height, 20.3 ft, site and datum then in use), from rating curve extended above 9,700 cfs on basis of slope-area measurements at gage heights 18.2 and 20.3 ft; minimum, 4.0 cfs Aug. 12, 1953 (gage height, 1.50 ft); minimum daily, 24 cfs Dec. 16, 17, 1967.

REMARKS.--Records good. Since August 1950, flow regulated by Philpott Lake 0.2 mile upstream (see sta 02071900).

REVISIONS (WATER YEARS).--WSP 1553: 1953(M), 1955-56(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	205	734	193	45	308	406	45	403	677	51	671	254
2	47	735	202	45	309	406	45	405	678	45	665	45
3	47	734	200	202	689	407	302	411	47	716	673	45
4	204	728	45	203	686	46	302	403	46	720	671	45
5	204	732	45	203	45	46	301	724	571	704	47	254
6	203	727	574	203	45	568	301	46	573	920	53	253
7	204	739	576	202	279	567	353	46	574	1,370	663	253
8	202	745	576	45	280	565	46	723	575	1,380	674	255
9	47	739	575	45	279	566	45	724	573	1,380	667	116
10	47	739	575	201	279	567	620	724	47	1,380	667	45
11	202	739	45	202	284	46	616	724	47	1,390	670	518
12	203	738	45	201	46	46	617	727	201	1,240	45	520
13	203	45	519	200	46	200	620	46	201	722	46	521
14	202	45	522	201	312	204	617	47	201	726	253	470
15	203	679	519	45	680	202	46	518	201	47	253	471
16	47	678	519	45	682	201	46	721	201	48	255	45
17	47	680	522	354	683	202	610	729	47	715	256	45
18	335	683	45	358	704	46	725	733	47	725	255	257
19	332	686	45	358	45	45	725	734	201	717	45	257
20	35	45	357	359	45	201	722	47	201	722	45	255
21	329	46	360	363	408	202	729	47	45	719	255	254
22	328	639	362	45	410	150	45	495	1,200	48	255	254
23	42	638	361	45	412	149	45	519	2,600	48	254	45
24	41	584	361	521	413	148	464	513	3,550	622	254	45
25	502	45	46	520	413	45	727	515	3,550	621	254	254
26	1,300	581	46	522	48	45	729	515	2,430	618	45	256
27	1,300	45	310	523	48	676	724	47	1,380	619	45	255
28	1,150	45	307	521	408	674	726	47	1,380	621	254	253
29	1,280	309	309	45	406	677	46	47	1,390	47	253	254
30	733	41	308	45	-----	680	45	672	1,390	47	255	46
31	732	-----	310	308	-----	679	-----	675	-----	305	254	-----
TOTAL	10,956	15,343	9,779	7,175	9,692	9,662	11,984	13,727	24,824	20,033	9,952	6,840
MEAN	353	511	315	231	334	312	399	443	827	646	321	228
MAX	1,300	745	576	523	704	680	729	734	3,550	1,390	674	521
MIN	35	41	45	45	45	45	45	46	45	45	45	45
(*)	+139	-127	-40	+11	+62	+9	+34	+22	+13	-34	-37	+13
MEAN#	492	384	275	242	396	321	433	465	840	612	284	241
CFSM#	2.28	1.78	1.27	1.12	1.83	1.49	2.00	2.15	3.89	2.83	1.31	1.12
IN#	2.63	1.98	1.47	1.29	1.98	1.71	2.24	2.48	4.34	3.27	1.52	1.25
CAL YR 1971	TOTAL 116,250	MEAN 318	MAX 1,300	MIN 35	MEAN# 317	CFSM# 1.47	IN# 19.93					
WTR YR 1972	TOTAL 149,967	MEAN 410	MAX 3,550	MIN 35	MEAN# 415	CFSM# 1.92	IN# 26.16					

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN PHILPOTT LAKE; FURNISHED BY CORPS OF ENGINEERS.
ADJUSTED FOR CHANGE IN CONTENTS.

ROANOKE RIVER BASIN

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02072500 SMITH RIVER AT BASSETT, VA.

LOCATION (revised).--Lat 36°46'12", long 80°00'04", Henry County, on left bank 25 ft upstream from bridge on State Highway 666 at north edge of North Bassett, 1.0 mile northwest of Bassett, 3.0 miles downstream from Town Creek, 5.6 miles upstream from Reed Creek, 6.2 miles downstream from Philpott Dam, and at mile 38.1.

DRAINAGE AREA.--259 sq mi.

PERIOD OF RECORD.--April 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 753.09 ft above mean sea level (levels by Corps of Engineers).

AVERAGE DISCHARGE.--33 years, 323 cfs (16.94 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 6,550 cfs June 21 (gage height, 8.61 ft); minimum, 56 cfs Oct. 20 (gage height, 1.48 ft); minimum daily, 74 cfs Oct. 20.

Period of record: Maximum discharge, 26,600 cfs Aug. 14, 1940 (gage height, 18.28 ft); minimum, 19 cfs July 19, 1956; minimum daily, 44 cfs Aug. 23, 1964; minimum gage height, 1.06 ft Sept. 18, 26, 1953.

Flood of Oct. 19, 1937, reached a stage of about 22.9 ft, from information by local residents (discharge, 38,200 cfs, from rating curve extended above 23,000 cfs (corrected) on basis of backwater studies and records for station at Martinsville).

REMARKS.--Records good. Since August 1950, flow regulated by Philpott Lake 6.2 miles upstream (see sta 02071900). Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	243	766	245	87	349	458	101	452	727	247	741	301
2	205	772	250	82	356	464	93	455	722	105	797	88
3	95	1,130	247	236	852	463	344	1,040	117	773	777	85
4	237	820	92	244	823	105	345	977	93	817	757	84
5	240	788	88	242	125	95	342	826	608	1,820	123	326
6	240	775	608	239	106	585	343	142	616	972	113	301
7	235	778	668	238	333	607	396	120	617	1,460	685	295
8	233	776	653	80	332	605	206	785	615	1,460	809	295
9	92	772	631	79	329	605	113	803	612	1,450	747	160
10	158	776	629	239	326	606	671	776	94	1,450	742	84
11	256	768	100	247	329	115	667	771	88	1,460	747	552
12	243	767	92	242	99	87	715	772	242	1,440	110	558
13	238	96	562	277	324	238	730	117	243	796	98	559
14	234	85	564	344	384	252	730	285	244	793	313	507
15	232	705	564	112	744	243	110	649	244	120	308	507
16	87	713	562	89	734	246	100	793	241	123	310	86
17	80	714	561	398	735	263	680	785	93	789	312	80
18	366	716	85	403	744	98	790	780	101	795	315	295
19	365	719	83	404	141	90	790	787	245	790	104	291
20	74	95	396	402	98	238	790	128	292	789	99	288
21	365	83	398	411	446	243	790	111	2,150	784	306	288
22	369	663	397	92	464	281	140	540	1,340	114	304	288
23	365	667	395	89	467	217	120	661	2,630	102	303	78
24	402	631	396	535	473	202	540	583	3,910	675	303	79
25	577	102	86	554	474	99	790	573	3,900	684	303	283
26	1,380	621	82	556	124	95	771	567	2,770	681	89	288
27	1,350	103	337	563	114	707	766	115	1,440	687	92	296
28	1,190	101	342	592	459	711	767	99	1,480	696	323	310
29	1,350	377	342	126	460	714	104	98	1,480	145	301	515
30	851	124	343	92	-----	716	93	707	1,470	134	299	233
31	754	-----	344	342	-----	724	-----	770	-----	375	299	-----
TOTAL	13,106	17,003	11,142	8,636	11,744	11,172	13,937	17,067	29,424	23,526	11,929	8,400
MEAN	423	567	359	279	405	360	465	551	981	759	385	280
MAX	1,380	1,130	668	592	852	724	790	1,040	3,910	1,820	809	559
MIN	74	83	82	79	98	87	93	98	88	102	89	78
(*)	+139	-127	-40	+11	+62	+9	+34	+22	+13	-34	-37	+13
MEAN#	562	440	319	290	467	369	499	573	994	725	348	293
CFSM#	2.17	1.70	1.23	1.12	1.80	1.42	1.93	2.21	3.84	2.80	1.34	1.13
IN#	2.50	1.90	1.42	1.29	1.95	1.64	2.15	2.55	4.28	3.23	1.55	1.26
CAL YR 1971	TOTAL 136,905		MEAN 375		MAX 1,380	MIN 68	MEAN# 374		CFSM# 1.44		IN# 19.61	
WTR YR 1972	TOTAL 177,086		MEAN 484		MAX 3,910	MIN 74	MEAN# 489		CFSM# 1.89		IN# 25.71	

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN PHILPOTT LAKE; FURNISHED BY CORPS OF ENGINEERS.

* ADJUSTED FOR CHANGE IN CONTENTS.

02073000 SMITH RIVER AT MARTINSVILLE, VA.

LOCATION.--Lat 36°39'40", long 79°52'51", Henry County, on right bank 800 ft downstream from bridge on U.S. Highways 58 and 220, at south edge of Martinsville, and 5.0 miles downstream from Beaver Creek.

DRAINAGE AREA.--380 sq mi.

PERIOD OF RECORD.--August 1929 to current year.

GAGE.--Water-stage recorder. Datum of gage is 657.22 ft above mean sea level.

AVERAGE DISCHARGE.--43 years, 444 cfs (15.87 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 20,900 cfs June 21 (gage height, 14.95 ft), from rating curve extended as explained below; minimum, 15 cfs Mar. 21 (gage height, 0.96 ft); minimum daily, 154 cfs Dec. 19. Period of record: Maximum discharge, 39,000 cfs Oct. 19, 1937 (gage height, 21.50 ft), from rating curve extended above 17,000 cfs on basis of computations of flow over dam at gage heights 16.76 and 21.50 ft; minimum, 3.8 cfs Mar. 19, 1955; minimum daily, 19 cfs Oct. 6, 1935; minimum gage height, 0.69 ft Sept. 8, 1969.

REMARKS.--Records good. Flow regulated since August 1950 by Philpott Lake 19.6 miles upstream (see sta 02071900). Some additional regulation by powerplant 1,000 ft above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1032: 1933-35(M), 1936-39, 1940-41(P). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	328	868	259	408	488	629	567	445	918	643	728	386
2	558	961	366	164	500	696	223	567	879	253	956	265
3	175	1,900	353	213	1,320	690	361	1,190	552	841	961	195
4	234	1,090	334	352	1,290	482	491	2,770	197	1,050	1,050	200
5	319	957	161	368	600	261	473	1,080	558	3,070	562	463
6	359	931	468	345	305	462	495	647	738	1,200	283	434
7	318	894	1,080	347	382	778	496	287	770	1,640	577	406
8	302	903	916	281	458	778	945	777	725	1,610	944	397
9	287	894	798	185	448	761	297	1,160	754	1,590	858	318
10	487	895	790	262	457	760	613	988	417	1,590	836	212
11	298	886	476	400	452	520	843	951	172	1,580	834	493
12	341	886	210	396	325	208	1,170	932	313	1,640	443	640
13	332	468	526	649	1,200	253	926	572	363	961	228	667
14	324	187	686	1,440	563	414	1,290	1,350	347	913	323	621
15	313	536	686	604	891	385	663	1,920	378	389	410	560
16	276	814	685	249	900	437	326	1,160	351	273	423	342
17	168	812	680	374	965	484	699	984	269	767	373	196
18	310	818	410	567	938	367	884	986	263	890	453	303
19	434	817	154	555	660	234	948	1,010	385	882	341	391
20	314	471	319	548	266	257	939	653	621	868	285	385
21	324	178	504	574	379	321	926	348	8,720	877	333	387
22	465	504	501	428	638	766	773	443	1,650	382	402	388
23	1,440	756	494	230	648	460	438	887	2,290	196	394	276
24	1,510	786	497	401	658	367	509	775	3,230	550	392	191
25	899	522	368	691	669	297	871	738	3,210	787	394	191
26	1,600	489	194	684	593	254	950	721	2,690	775	265	371
27	1,570	556	195	687	314	569	936	528	1,520	775	199	393
28	1,350	221	444	762	418	877	929	209	2,030	796	362	492
29	1,510	338	450	529	647	872	534	243	2,580	509	396	1,090
30	1,060	520	444	248	-----	874	237	582	1,740	464	389	802
31	836	-----	449	239	-----	925	-----	1,170	-----	471	384	-----
TOTAL	19,041	21,858	14,897	14,180	18,460	16,438	20,652	27,143	39,630	29,232	15,778	12,455
MEAN	614	729	481	457	627	530	688	876	1,321	943	509	415
MAX	1,600	1,900	1,080	1,440	1,320	925	1,290	2,770	8,720	3,070	1,050	1,090
MIN	168	178	154	164	266	208	223	209	172	196	199	191
(*)	+139	-127	-40	+11	+62	+9	+34	+22	+13	-34	-37	+13
MEAN#	753	602	441	468	699	539	722	898	1,334	909	472	428
CFSM#	1.98	1.58	1.16	1.23	1.84	1.42	1.90	2.36	3.51	2.39	1.24	1.13
IN#	2.29	1.77	1.34	1.42	1.98	1.64	2.12	2.73	3.92	2.76	1.43	1.26

CAL YR 1971 TOTAL 189,516 MEAN 519 MAX 2,150 MIN 53 MEAN# 518 CFSM# 1.36 IN# 18.51
WTR YR 1972 TOTAL 249,764 MEAN 682 MAX 8,720 MIN 154 MEAN# 687 CFSM# 1.81 IN# 24.61

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND IN PHILPOTT LAKE; FURNISHED BY CORPS OF ENGINEERS.

ADJUSTED FOR CHANGE IN CONTENTS.

ROANOKE RIVER BASIN

163

02074000 SMITH RIVER AT EDEN, N. C.

LOCATION.--Lat 36°31'31", long 79°45'57", Rockingham County, on right bank at Eden, 0.3 mile downstream from bridge on State Highway 14, 0.8 mile upstream from bridge on Secondary Road 1714, 1.2 miles south of Virginia-North Carolina State line, 1.3 miles downstream from Stuart Creek, and 3.9 miles upstream from mouth.

DRAINAGE AREA.--538 sq mi.

PERIOD OF RECORD.--October 1939 to current year. Prior to October 1970, published as "at Spray".

GAGE.--Water-stage recorder. Datum of gage is 539.56 ft above mean sea level.

AVERAGE DISCHARGE.--33 years, 595 cfs (15.02 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 24,800 cfs June 21 (gage height, 16.24 ft); minimum, 128 cfs Nov. 22 (gage height, 1.65 ft); minimum daily, 227 cfs Jan. 9.

Period of record: 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 1.5 miles downstream; minimum, 38 cfs Aug. 7, 1967; minimum daily, 46 cfs Aug. 14, 1967.

REMARKS.--Records good. Flow regulated since August 1950 by Philpott Lake (see sta 02071900) 40 miles upstream (usable capacity, 6,325,000,000 cu ft). Some additional regulation by hydroelectric plant at Martinsville, Va. 18 miles upstream. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1433: 1946. WRD N. C. 1968: 1967.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	384	926	390	486	540	725	990	375	1,140	1,320	678	483
2	660	926	474	248	576	755	344	665	1,020	521	1,050	487
3	438	2,000	468	262	1,360	789	390	1,530	989	534	1,190	289
4	258	1,290	450	414	2,570	700	558	5,930	359	1,070	1,060	291
5	372	1,450	285	426	1,270	351	558	1,470	350	4,820	1,400	453
6	327	1,000	301	408	570	369	558	1,360	845	1,810	457	718
7	370	947	1,200	390	510	813	570	596	858	1,990	434	540
8	360	961	1,300	396	654	823	1,280	574	880	1,850	1,230	508
9	350	905	1,020	227	576	807	630	1,760	842	1,830	997	500
10	760	835	897	277	612	800	500	1,290	862	1,780	978	359
11	550	912	870	492	558	771	900	1,160	322	1,770	959	292
12	510	570	316	504	558	297	1,200	1,110	311	1,930	952	709
13	420	912	360	492	2,080	280	1,800	1,080	462	1,210	313	760
14	410	265	744	2,490	1,040	505	2,800	3,080	480	1,070	361	695
15	366	273	751	996	926	481	1,660	2,990	474	1,060	526	701
16	414	842	751	540	1,130	493	642	1,710	473	368	554	675
17	254	849	765	444	1,090	753	550	1,460	470	470	533	317
18	254	842	730	681	1,090	577	700	1,290	531	1,020	547	409
19	534	849	262	667	1,040	368	1,000	1,330	486	1,030	559	487
20	498	849	289	636	426	330	1,200	1,360	822	1,030	670	488
21	265	230	558	654	426	452	1,200	607	16,700	1,000	363	471
22	540	248	564	618	730	1,050	1,160	534	4,950	1,010	522	490
23	2,600	751	558	344	751	710	713	1,010	3,250	347	517	477
24	2,850	870	546	338	765	552	536	1,010	4,410	340	510	291
25	1,290	1,010	564	737	772	509	827	905	4,290	913	504	234
26	1,820	396	258	716	786	355	1,040	870	3,980	885	499	435
27	1,740	919	244	737	504	364	1,030	843	1,900	894	296	485
28	1,580	498	510	793	474	948	1,020	381	2,140	921	330	573
29	1,420	414	492	793	751	942	1,020	380	3,740	932	531	1,210
30	1,090	723	504	311	-----	965	324	400	2,450	731	496	1,700
31	940	-----	498	311	-----	990	-----	1,270	-----	582	489	-----
TOTAL	24,624	24,462	17,919	17,828	25,135	19,624	27,700	40,330	60,786	37,038	20,505	16,527
MEAN	794	815	578	575	867	633	923	1,301	2,026	1,195	661	551
MAX	2,850	2,000	1,300	2,490	2,570	1,050	2,800	5,930	16,700	4,820	1,400	1,700
MIN	254	230	244	227	426	280	324	375	311	340	296	234
(*)	+139	-127	-40	+11	+62	+9	+34	+22	+13	-34	-37	+13
CAL YR 1971	TOTAL 251,993		MEAN 690	MAX 4,740	MIN 170	MEAN# 689	CFSM# 1.28	IN# 17.38				
WTR YR 1972	TOTAL 332,478		MEAN 908	MAX 16,700	MIN 227	MEAN# 913	CFSM# 1.70	IN# 23.14				

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN PHILPOTT LAKE; FURNISHED BY CORPS OF ENGINEERS.

ADJUSTED FOR CHANGE IN CONTENTS.

ROANOKE RIVER BASIN

02074500 SANDY RIVER NEAR DANVILLE, VA.

LOCATION.--Lat 36°37'10", long 79°30'16", Pittsylvania County, on right bank 200 ft downstream from Hickory Forest Creek, 400 ft upstream from bridge on State Highway 863 between Callahans Store and Mount Cross, 5.5 miles northwest of western corporate limits of Danville, and 5.8 miles upstream from mouth.

DRAINAGE AREA.--112 sq mi.

PERIOD OF RECORD.--October 1929 to current year. Monthly discharge only for some periods, published in WSP 1303.

GAGE.--Water-stage recorder. Datum of gage is 460.38 ft above mean sea level. Prior to June 26, 1942, at site 1,200 ft downstream at datum 5.57 ft lower.

AVERAGE DISCHARGE.--43 years, 102 cfs (12.37 inches per year).

EXTREMES.--Current year: Maximum discharge, 10,500 cfs June 21 (gage height, 9.92 ft); minimum, 48 cfs Oct. 1 (gage height, 1.35 ft).

Period of record: Maximum discharge, 23,000 cfs Aug. 14, 1940 (gage height, 14.8 ft, present datum, from floodmarks), from rating curve extended above 11,000 cfs; 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 except those for period of no gage-height record, which are fair. Diurnal fluctuation at low flow caused by small mill above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 972: 1930-41. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	83	108	69	78	125	118	85	125	95	101	54
2	156	82	100	74	83	132	110	83	103	82	103	54
3	80	165	92	74	524	125	103	418	95	76	95	53
4	63	114	90	74	767	115	98	1,160	91	74	95	54
5	58	93	90	78	198	113	96	238	87	1,310	114	110
6	60	87	140	71	158	112	91	160	85	260	83	83
7	54	87	230	66	150	112	93	132	85	172	83	64
8	51	80	188	66	130	111	190	191	82	142	101	60
9	53	78	125	66	116	106	128	375	82	123	78	58
10	182	78	109	82	105	103	109	168	83	114	73	57
11	116	76	101	105	101	100	103	132	80	107	69	54
12	76	74	93	103	101	100	163	116	80	203	71	54
13	66	73	95	101	1,020	101	158	109	78	196	69	54
14	62	70	89	309	298	110	307	1,450	78	130	66	51
15	58	70	87	165	188	100	214	612	74	112	66	53
16	68	70	91	116	155	100	158	272	71	101	80	53
17	66	70	95	110	158	130	135	183	73	97	73	56
18	60	69	85	105	165	120	116	152	135	93	80	81
19	58	69	80	103	162	110	107	229	99	91	82	58
20	58	70	82	103	140	105	103	190	172	89	135	53
21	63	71	83	105	130	155	97	158	7,070	83	73	53
22	64	71	78	103	138	230	155	140	1,260	82	66	54
23	1,300	68	74	105	130	170	168	142	206	80	64	51
24	1,310	80	74	105	142	140	125	123	148	76	62	53
25	300	118	76	99	145	130	109	109	121	76	60	54
26	183	98	74	87	158	120	101	99	105	74	58	51
27	135	105	74	85	165	118	95	97	91	73	58	88
28	112	120	73	89	142	115	93	97	142	80	63	83
29	99	115	71	95	130	108	91	95	152	88	58	213
30	93	120	71	87	-----	109	87	154	123	166	54	569
31	89	-----	71	82	-----	125	-----	168	-----	163	54	-----
TOTAL	5,266	2,624	2,989	3,082	6,017	3,750	3,821	7,837	11,276	4,708	2,387	2,483
MEAN	170	87.5	96.4	99.4	207	121	127	253	376	152	77.0	82.8
MAX	1,310	165	230	309	1,020	230	307	1,450	7,070	1,310	135	569
MIN	51	68	71	66	78	100	87	83	71	73	54	51
CFSM	1.52	.78	.86	.89	1.85	1.08	1.13	2.26	3.36	1.36	.69	.74
IN.	1.75	.87	.99	1.02	2.00	1.25	1.27	2.60	3.75	1.56	.79	.82

CAL YR 1971 TOTAL 44,660 MEAN 122 MAX 1,940 MIN 41 CFSM 1.09 IN 14.83
WTR YR 1972 TOTAL 56,240 MEAN 154 MAX 7,070 MIN 51 CFSM 1.38 IN 18.68

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-23	2330	5.32	2,390	5-14	1830	5.07	2,100
2-3	2200	4.52	1,570	6-21	1730	9.92	10,500
2-13	0830	4.58	1,660	7-5	1130	4.89	1,950
5-4	1300	4.84	1,900				

NOTE.--NO GAGE-HEIGHT RECORD MAR. 3 TO APR. 5.

ROANOKE RIVER BASIN

165

02075000 DAN RIVER AT DANVILLE, VA.

LOCATION.--Lat 36°35'15", long 79°22'55", Danville City, on left bank 50 ft downstream from Southern Railway bridge, 1,000 ft upstream from Fall Creek, and at mile 62.7.

DRAINAGE AREA.--2,050 sq mi, approximately.

PERIOD OF RECORD.--August 1934 to current year. Gage-height records collected in this vicinity 1890-1934, at same site 1934-49, and at Main Street Bridge, 0.25 mile upstream 1949-68, are contained in reports of the National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 379.29 ft above mean sea level.

AVERAGE DISCHARGE.--38 years, 2,272 cfs (15.05 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 59,200 cfs June 22 (gage height, 21.34 ft, backwater from debris); minimum, 348 cfs Jan. 2 (gage height, 1.83 ft); minimum daily, 800 cfs Sept. 26.

Period of record: Maximum discharge, 75,000 cfs Aug. 15, 1940 (gage height, 20.96 ft); maximum gage height, 21.34 ft June 22, 1972 (backwater from debris); minimum discharge, 11 cfs Sept. 5, 1966 (gage height, 1.18 ft); minimum daily, 110 cfs Sept. 5, 1966.

REMARKS.--Records good prior to June and fair thereafter. Diurnal fluctuation caused by cotton mills above station. Since August 1950, flow regulated by Philpott Lake 74.7 miles upstream (see sta 02071900). Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 972: 1936.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	960	2,620	2,580	1,550	1,620	2,480	3,310	1,880	3,300	3,700	2,200	1,100
2	2,320	2,550	2,090	1,600	1,970	2,430	2,950	1,980	3,000	2,500	2,100	1,050
3	2,320	5,130	1,910	1,390	3,730	2,780	2,570	2,770	2,500	2,300	2,400	1,000
4	1,640	7,900	1,810	1,470	11,800	2,710	2,500	13,100	2,000	2,500	2,300	950
5	1,040	4,380	1,900	1,610	5,350	2,310	2,290	14,600	1,700	8,200	2,300	1,440
6	1,280	3,290	1,870	1,730	3,260	2,220	2,160	4,810	1,900	8,900	1,900	2,400
7	1,190	2,920	2,180	1,610	2,760	2,150	2,130	3,370	2,000	6,980	1,550	2,110
8	1,090	2,930	5,680	1,460	2,590	2,360	4,030	2,860	1,900	4,000	1,800	1,390
9	1,010	2,540	4,080	1,540	2,410	2,370	5,050	5,310	1,900	3,300	2,400	1,290
10	1,700	2,640	3,060	1,450	2,220	2,210	3,060	5,000	1,900	3,100	1,900	1,100
11	2,510	2,570	2,750	1,870	2,120	2,150	2,850	3,550	1,600	3,000	1,600	950
12	1,640	2,480	2,270	2,700	2,040	1,870	3,630	3,080	1,350	3,400	1,400	1,100
13	1,330	2,490	2,130	2,780	5,440	1,960	5,790	2,980	1,400	3,800	1,300	1,050
14	1,360	1,900	2,160	6,390	6,330	1,770	6,120	8,310	1,500	2,800	1,200	1,300
15	970	1,820	2,090	7,650	3,630	1,880	5,690	20,300	1,500	2,300	1,500	1,200
16	1,180	1,840	2,150	3,570	3,220	1,950	3,670	18,400	1,450	1,900	1,600	1,150
17	1,700	2,100	2,190	2,550	3,010	2,620	3,120	6,810	1,400	1,950	1,400	1,050
18	1,540	2,120	2,160	2,380	3,130	2,730	3,080	4,880	2,000	2,200	1,400	1,290
19	1,220	2,080	1,770	2,290	3,240	2,200	2,960	5,440	2,600	2,150	1,450	1,200
20	1,310	2,090	1,710	2,340	2,720	2,110	2,910	4,750	2,600	2,100	1,650	1,100
21	1,300	1,730	1,740	2,270	2,340	1,790	2,810	3,930	31,600	2,000	1,300	1,050
22	1,190	1,600	1,910	2,460	2,220	2,610	3,010	3,100	57,600	1,900	1,250	1,050
23	7,750	1,570	1,780	2,260	2,560	4,660	3,630	2,800	48,500	1,600	1,200	1,000
24	17,200	2,290	1,720	2,100	2,600	3,020	3,260	3,000	17,300	1,450	1,200	900
25	11,400	3,880	1,780	2,080	2,660	2,410	2,790	2,800	9,860	1,600	1,200	850
26	9,480	2,970	1,600	2,220	2,780	2,210	2,890	2,600	6,000	1,800	1,150	800
27	5,640	2,570	1,550	2,160	2,970	2,230	2,770	2,500	5,000	1,800	1,150	1,000
28	4,240	2,910	1,410	2,200	2,820	2,290	2,630	2,300	3,900	1,800	1,150	1,390
29	3,460	2,640	1,710	2,220	2,500	2,480	2,520	1,900	6,700	1,900	1,300	3,000
30	3,340	2,610	1,610	1,940	-----	2,450	2,100	1,800	6,000	2,100	1,200	11,200
31	2,750	-----	1,640	1,770	-----	2,580	-----	2,800	-----	2,300	1,100	-----
TOTAL	97,060	83,160	66,990	73,610	96,040	73,990	98,280	163,710	231,960	91,330	48,550	47,460
MEAN	3,131	2,772	2,161	2,375	3,132	2,387	3,276	5,281	7,732	2,946	1,566	1,582
MAX	17,200	7,900	5,680	7,650	11,800	4,660	6,120	20,300	57,600	8,900	2,400	11,200
MIN	960	1,570	1,410	1,390	1,620	1,770	2,100	1,800	1,350	1,450	1,100	800
(*)	+139	-127	-40	+11	+62	+9	+34	+22	+13	-34	-37	+13
MEAN#	3,270	2,645	2,121	2,386	3,374	2,396	3,310	5,303	7,745	2,912	1,529	1,595
CFSM#	1.60	1.29	1.03	1.16	1.65	1.17	1.61	2.59	3.78	1.42	.75	.78
IN#	1.84	1.44	1.19	1.34	1.78	1.35	1.80	2.98	4.22	1.64	.86	.87
CAL YR 1971 TOTAL	877,001			MEAN 2,403	MAX 17,200	MIN 704	MEAN# 2,402	CFSM# 1.17	IN# 15.91			
WTR YR 1972 TOTAL	1,172,140			MEAN 3,203	MAX 57,600	MIN 800	MEAN# 3,208	CFSM# 1.56	IN# 21.31			

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN PHILPOTT LAKE; FURNISHED BY CORPS OF ENGINEERS.

* ADJUSTED FOR CHANGE IN CONTENTS.

ROANOKE RIVER BASIN

02075500 DAN RIVER AT PACES, VA.

LOCATION.--Lat 36°38'32", long 79°05'23", Halifax County, on right bank 100 ft upstream from bridge on State Highway 658, 0.5 mile southeast of Paces, 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.

PERIOD OF RECORD.--November 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 322.48 ft above mean sea level.

AVERAGE DISCHARGE.--21 years (1951-72), 2,648 cfs (14.10 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 64,800 cfs June 23 (gage height, 33.15 ft), from rating curve extended above 32,000 cfs; minimum, 835 cfs Jan. 10 (gage height, 3.37 ft); minimum daily, 982 cfs Sept. 26.

Period of record: Maximum discharge, 64,800 cfs June 23, 1972 (gage height, 33.15 ft), from rating curve extended above 32,000 cfs; minimum, 193 cfs Sept. 4, 1956 (gage height, 1.71 ft); minimum daily, 244 cfs Sept. 4, 1956.

Flood of Aug. 16, 1940, reached a stage of 32.3 ft, from floodmark.

REMARKS.--Records good. Diurnal fluctuation caused by cotton mills at Danville. Since August 1950, flow regulated by Philpott Lake 101.4 miles upstream (see sta 02071900). Water-quality records for the current year are included in this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,290	3,180	3,460	1,820	1,970	3,150	3,560	2,320	4,090	5,260	2,730	1,340
2	2,780	3,060	2,830	2,230	2,250	3,000	4,060	2,170	3,720	3,720	2,540	1,310
3	3,840	3,960	2,560	1,470	3,400	3,190	3,300	2,850	3,090	2,780	2,910	1,300
4	2,860	11,100	2,250	1,600	12,900	3,400	3,110	8,320	2,850	2,680	2,800	1,150
5	1,870	6,850	2,380	1,880	12,900	3,110	2,840	16,800	2,110	5,780	2,810	1,370
6	1,500	4,280	2,350	2,000	5,610	2,810	2,680	10,900	2,050	9,910	2,750	2,420
7	1,680	3,730	2,300	1,950	3,870	2,450	2,600	4,550	2,460	5,430	1,990	2,850
8	1,550	3,440	5,210	1,720	3,400	2,840	3,610	3,500	2,460	4,590	1,880	1,960
9	1,280	3,240	6,090	2,130	3,170	2,820	7,110	5,410	2,390	4,110	3,020	1,520
10	3,360	3,030	4,130	1,440	2,860	2,810	4,330	6,610	2,300	3,870	2,510	1,540
11	4,480	2,950	3,440	2,010	2,730	2,480	3,310	4,450	2,320	3,710	2,180	1,160
12	3,770	2,860	3,200	2,870	2,550	2,570	3,750	3,760	1,770	3,850	2,110	1,180
13	2,210	2,700	2,730	3,450	7,540	2,300	6,690	3,420	1,610	4,750	2,040	1,510
14	1,810	2,730	2,440	4,410	11,200	2,150	7,900	7,080	1,780	3,710	1,450	1,240
15	1,770	2,110	2,720	10,600	6,700	2,260	9,000	17,600	1,830	3,160	1,470	1,590
16	1,360	1,940	2,480	5,310	4,300	2,330	5,500	21,400	1,720	2,980	1,630	1,480
17	1,910	2,230	2,650	3,390	3,940	2,830	4,230	18,400	1,720	2,230	1,700	1,470
18	2,360	2,360	2,660	2,770	3,950	3,400	3,600	6,500	2,250	2,320	1,730	1,260
19	1,760	2,380	2,530	3,010	4,060	2,950	3,560	6,420	3,190	2,690	1,690	1,590
20	1,730	2,250	2,120	2,670	3,950	2,600	3,470	5,580	3,140	2,660	1,880	1,490
21	1,780	2,400	1,980	2,760	3,150	2,250	3,350	4,890	13,400	2,580	1,900	1,300
22	1,660	1,850	2,330	2,780	2,950	2,670	3,420	3,850	45,400	2,510	1,480	1,260
23	5,390	1,640	2,230	2,940	2,990	5,180	4,400	3,460	63,400	2,360	1,470	1,260
24	16,900	2,180	2,010	2,600	3,310	4,390	4,320	3,730	47,700	1,760	1,430	1,180
25	20,500	5,710	2,080	2,450	3,360	3,090	3,370	3,560	18,300	1,760	1,440	997
26	16,900	5,400	2,090	2,580	3,410	2,840	3,310	3,230	7,380	2,220	1,420	982
27	11,000	3,500	1,810	2,580	3,740	2,720	3,290	3,040	6,270	2,180	1,380	1,030
28	5,610	4,270	1,770	2,480	3,690	2,490	3,140	2,880	4,640	2,210	1,380	1,420
29	4,510	3,730	1,850	2,600	3,160	2,930	2,950	2,420	6,090	2,230	1,430	2,560
30	3,940	3,450	1,960	2,920	-----	2,910	2,930	2,170	8,180	2,390	1,690	7,850
31	3,440	-----	1,920	1,800	-----	3,010	-----	2,860	-----	2,760	1,470	-----
TOTAL	136,800	104,510	82,560	87,220	133,010	89,930	122,690	194,130	269,610	105,150	60,310	50,519
MEAN	4,413	3,484	2,663	2,814	4,587	2,901	4,090	6,262	8,987	3,392	1,945	1,684
MAX	20,500	11,100	6,090	10,600	12,900	5,180	9,000	21,400	63,400	9,910	3,020	7,850
MIN	1,280	1,640	1,770	1,440	1,970	2,150	2,600	2,170	1,610	1,760	1,380	982
(*)	+139	-127	-40	+11	+62	+9	+34	+22	+13	-34	-37	+13
MEAN#	4,552	3,357	2,623	2,825	4,649	2,910	4,124	6,284	9,000	3,358	1,908	1,697
CFSM#	1.79	1.32	1.03	1.11	1.82	1.14	1.62	2.46	3.53	1.32	.75	.67
IN#	2.06	1.47	1.19	1.28	1.97	1.32	1.80	2.84	3.94	1.52	.86	.74

CAL YR 1971 TOTAL 1,142,452 MEAN 3,130 MAX 20,500 MIN 833 MEAN# 3,129 CFSM# 1.23 IN# 16.66
WTR YR 1972 TOTAL 1,436,439 MEAN 3,925 MAX 63,400 MIN 982 MEAN# 3,930 CFSM# 1.54 IN# 20.98

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN PHILPOTT LAKE; FURNISHED BY CORPS OF ENGINEERS.
ADJUSTED FOR CHANGE IN CONTENTS.

ROANOKE RIVER BASIN

167

02076500 GEORGES CREEK NEAR GRETN, VA.

LOCATION.--Lat 36°56'11", long 79°18'42", Pittsylvania County, on left bank 15 ft downstream from bridge on State Highway 40, 2.8 miles southeast of Gretna, and 5.8 miles upstream from Whitethorn Creek.

DRAINAGE AREA.--9.24 sq mi.

PERIOD OF RECORD.--September 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 629.54 ft above mean sea level.

AVERAGE DISCHARGE.--23 years, 8.86 cfs (13.02 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,160 cfs June 21 (gage height, 7.75 ft), from rating curve extended as explained below; minimum daily, 5.5 cfs Sept. 20.

Period of record: Maximum discharge, 1,440 cfs Aug. 24, 1967, from rating curve extended above 220 cfs on basis of slope-area measurements at gage heights 4.93, 6.22, and 7.75 ft; maximum gage height, 7.75 ft June 21, 1972; minimum daily discharge, 1.0 cfs Mar. 12, Apr. 5, 1956, July 28, 1966.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. Occasional regulation at low flow from unknown source. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS (WATER YEARS).--WSP 1703: 1950-52. WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	10	10	7.9	11	11	9.6	9.0	16	12	13	6.0
2	12	10	10	8.1	10	12	9.6	8.8	13	11	11	6.0
3	7.5	13	10	7.5	40	11	8.6	32	12	11	9.0	5.7
4	6.4	9.9	9.9	7.9	60	11	8.6	99	11	11	8.3	5.8
5	6.1	9.3	9.9	7.9	35	11	8.3	16	11	82	7.9	8.6
6	6.4	9.0	9.6	7.0	20	11	8.3	13	11	16	8.3	7.0
7	5.8	9.0	14	6.6	17	11	30	12	10	12	9.0	6.4
8	5.7	8.8	12	6.4	16	12	76	16	9.9	11	8.3	6.0
9	6.7	9.0	12	6.4	15	11	16	17	10	11	8.1	6.0
10	29	9.0	12	10	14	11	12	12	9.9	9.9	7.7	5.8
11	10	9.0	11	9.5	14	11	12	11	9.6	10	7.7	5.8
12	8.3	8.8	10	9.4	14	11	13	11	9.3	25	7.7	5.8
13	7.7	8.8	10	9.3	90	11	12	10	9.6	30	7.7	5.7
14	7.2	8.6	10	50	50	12	12	69	9.9	12	7.5	5.7
15	6.7	8.6	10	27	30	11	12	46	9.9	12	6.8	6.0
16	6.8	8.3	10	15	16	13	12	20	9.3	12	7.0	5.8
17	7.5	8.3	10	14	17	15	11	16	9.6	11	7.5	6.0
18	6.8	8.3	11	13	18	12	11	15	10	11	7.9	6.1
19	6.7	8.6	11	13	17	11	10	15	9.9	9.3	8.3	5.7
20	6.8	8.6	12	13	15	11	10	15	14	8.8	8.8	5.5
21	7.0	8.8	11	14	13	11	10	15	378	8.3	7.0	6.1
22	7.2	8.8	10	13	14	13	14	14	36	8.3	7.0	6.2
23	77	8.3	10	14	13	11	12	14	15	8.1	6.8	6.0
24	36	15	9.9	14	13	10	12	13	13	8.3	6.5	6.2
25	22	14	9.6	13	14	10	12	13	12	9.0	6.2	6.1
26	14	11	9.3	12	15	10	12	12	12	9.3	6.2	5.7
27	12	14	9.0	11	14	9.9	12	12	12	8.8	6.5	5.8
28	11	12	8.8	13	13	9.6	11	12	14	8.8	7.5	6.5
29	11	12	8.6	14	12	9.6	10	12	14	10	6.5	14
30	11	12	8.3	13	-----	9.3	9.6	13	13	12	6.2	13
31	11	-----	8.1	12	-----	10	-----	19	-----	11	6.1	-----
TOTAL	386.9	298.8	317.0	391.9	640	343.4	416.6	611.8	733.9	429.9	240.0	197.0
MEAN	12.5	9.96	10.2	12.6	22.1	11.1	13.9	19.7	24.5	13.9	7.74	6.57
MAX	77	15	14	50	90	15	76	99	378	82	13	14
MIN	5.7	8.3	8.1	6.4	10	9.3	8.3	8.8	9.3	8.1	6.1	5.5
CFSM	1.35	1.08	1.10	1.36	2.39	1.20	1.50	2.13	2.65	1.50	.84	.71
IN.	1.56	1.20	1.28	1.58	2.58	1.38	1.68	2.46	2.95	1.73	.97	.79

CAL YR 1971 TOTAL 3,904.9 MEAN 10.7 MAX 80 MIN 4.3 CFSM 1.16 IN 15.72
WTR YR 1972 TOTAL 5,007.2 MEAN 13.7 MAX 378 MIN 5.5 CFSM 1.48 IN 20.16

PEAK DISCHARGE (BASE, 150 CFS)

NOTE.--NO GAGE-HEIGHT RECORD JAN. 6 TO FEB. 29.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-23	2000	3.38	216	5-14	1230	3.37	208
1-14	UNKNOWN	4.94	578	6-21	1500	7.75	1,160
2-13	UNKNOWN	4.44	390	7- 5	0400	3.56	238
4- 8	0030	3.70	260	7-12	2330	3.28	197

ROANOKE RIVER BASIN

02077000 BANISTER RIVER AT HALIFAX, VA.

LOCATION.--Lat 36°46'35", long 78°54'58", Halifax County, 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, and 10 miles upstream from mouth.

DRAINAGE AREA.--547 sq mi.

PERIOD OF RECORD.--September 1904 to December 1905, October 1928 to current year. Monthly discharge only for some periods, published in WSP 1303.

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, nonrecording 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 present datum.

AVERAGE DISCHARGE.--45 years (1904-5, 1928-72), 490 cfs (12.16 inches per year).

EXTREMES.--Current year: Maximum discharge, 16,000 cfs June 22 (gage height, 28.90 ft), from rating curve extended as explained below; minimum daily, 159 cfs Sept. 16, 17.
Period of record: 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 measurement of peak flow and velocity-area study; minimum, 6.0 cfs on many days in August and September 1932; minimum daily, 6.0 cfs Aug. 30, 1932.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Low and medium flow regulated by a lake 0.5 mile above station at times during year. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 892: 1929-30, 1932-35. WSP 972: 1938(M), 1940. WSP 1112: 1943(M). WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	194	472	734	284	327	663	420	390	621	623	661	170
2	304	440	574	292	359	611	430	370	502	510	469	170
3	397	470	498	305	570	658	450	531	374	422	381	172
4	292	580	459	307	1,890	715	410	1,790	331	382	325	171
5	234	507	428	331	2,190	620	395	2,020	311	1,000	289	209
6	220	422	413	335	1,210	533	380	1,270	295	2,530	266	286
7	212	376	348	308	845	490	450	743	282	1,860	261	275
8	193	349	626	284	760	497	1,800	607	273	863	254	216
9	186	343	637	280	630	489	1,600	1,460	262	495	240	194
10	893	332	526	324	543	462	850	1,650	253	423	229	181
11	1,580	283	475	407	492	338	650	891	245	413	218	174
12	848	266	438	531	473	402	640	625	235	407	213	171
13	376	303	443	507	1,420	414	640	523	230	823	211	169
14	336	298	434	827	5,410	424	650	1,210	227	1,570	214	165
15	294	295	401	1,340	3,540	465	730	4,120	228	795	207	161
16	272	291	394	851	1,270	450	600	4,290	224	439	204	159
17	298	296	387	506	878	470	530	2,230	218	391	206	159
18	313	278	360	459	876	850	480	1,000	427	367	223	160
19	278	276	331	473	923	600	450	817	416	340	233	164
20	256	278	337	454	854	520	440	1,010	441	327	290	165
21	252	279	359	438	715	475	430	838	4,290	308	258	170
22	260	261	346	426	701	520	500	696	14,900	290	217	194
23	1,950	248	317	410	716	560	650	699	11,700	279	202	185
24	6,840	351	307	408	744	510	1,000	776	5,790	265	194	176
25	6,100	1,290	308	299	843	455	626	596	1,310	252	190	173
26	3,520	1,430	309	329	915	440	545	375	834	240	185	171
27	1,620	993	307	321	992	430	488	393	676	241	180	171
28	867	974	304	349	879	425	446	375	477	304	181	205
29	666	868	297	414	743	420	424	362	576	322	183	473
30	575	811	292	388	-----	415	410	361	678	334	180	1,130
31	514	-----	291	352	-----	410	-----	473	-----	605	176	-----
TOTAL	31,140	14,650	12,680	13,539	32,708	15,731	18,514	33,491	47,626	18,420	7,740	6,739
MEAN	1,005	488	409	437	1,128	507	617	1,080	1,588	594	250	225
MAX	6,840	1,430	734	1,340	5,410	850	1,800	4,290	14,900	2,530	661	1,130
MIN	186	248	291	280	327	338	380	361	218	240	176	159
CFSM	1.84	.89	.75	.80	2.06	.93	1.13	1.97	2.90	1.09	.46	.41
IN.	2.12	1.00	.86	.92	2.22	1.07	1.26	2.28	3.24	1.25	.53	.46

CAL YR 1971 TOTAL 211,630 MEAN 580 MAX 8,100 MIN 116 CFSM 1.06 IN 14.39
WTR YR 1972 TOTAL 252,978 MEAN 691 MAX 14,900 MIN 159 CFSM 1.26 IN 17.20

NOTE.--NO GAGE-HEIGHT RECORD MAR. 16 TO APR. 23.

ROANOKE RIVER BASIN

169

02077500 HYCO RIVER NEAR DENNISTON, VA.

LOCATION.--Lat 36°35'16", long 78°53'56", Halifax County, on left bank 10 ft upstream from bridge on U.S. Highway 501, 0.8 mile upstream from Mayo Creek, 2.5 miles northeast of Denniston, and 7.3 miles south of South Boston.

DRAINAGE AREA.--289 sq mi.

PERIOD OF RECORD.--October 1928 to September 1934, October 1950 to current year. Monthly discharge only for some periods, published in WSP 1303.

GAGE.--Water-stage recorder. Datum of gage is 315.24 ft above mean sea level. July 10, 1929, to Mar. 14, 1934, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--28 years, 237 cfs (11.14 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 4,830 cfs Oct. 25 (gage height, 18.04 ft), from rating curve extended above 2,900 cfs; minimum, 13 cfs Sept. 4, 5 (gage height, 4.50 ft).

Period of record: Maximum discharge, 7,630 cfs Oct. 3, 1929 (gage height, 21.88 ft, from graph based on gage readings), from rating curve extended above 2,900 cfs; minimum, 0.004 cfs Sept. 14, 1932 (gage height, 3.58 ft), result of discharge measurement.

Floods in August 1928 and September 1945 reached stages of 26.4 and 25.6 ft, respectively, from floodmarks.

REMARKS.--Records good. Small diurnal fluctuation at low flow caused by mill above station in some years. Since 1964, flow regulated by Hyco Lake 15.7 miles upstream, capacity 3,288,000,000 cu ft. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1383: Drainage area, 1930. WSP 1503: 1930(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	237	244	426	98	94	244	192	116	89	112	55	17
2	1,010	210	316	95	184	226	207	108	76	88	58	18
3	844	294	254	97	657	226	187	131	65	78	55	15
4	586	451	230	91	1,560	184	172	451	54	67	54	13
5	272	356	211	111	1,640	166	146	383	48	64	66	23
6	259	266	193	107	1,290	146	126	261	39	64	53	66
7	191	226	220	99	592	132	127	200	50	63	52	42
8	133	185	390	93	401	135	297	162	54	62	52	48
9	100	152	440	82	306	124	359	202	59	61	50	47
10	978	141	350	100	250	112	307	194	59	60	49	47
11	1,700	125	310	143	217	101	247	138	59	60	46	46
12	1,430	111	250	162	194	103	237	117	55	64	45	34
13	733	105	218	174	897	101	382	99	53	322	43	27
14	385	92	188	219	1,340	95	987	697	53	314	58	27
15	254	85	176	200	1,210	98	1,340	1,580	46	196	43	27
16	195	85	178	168	645	98	995	1,790	45	132	41	22
17	169	80	168	140	428	167	543	1,330	45	112	37	19
18	136	76	176	134	357	185	365	584	64	96	35	27
19	108	78	150	130	434	157	292	346	53	83	37	26
20	100	83	148	123	406	130	248	269	59	72	31	20
21	109	73	167	132	318	123	194	223	1,210	63	30	20
22	110	64	162	143	298	191	209	193	3,630	57	30	23
23	1,000	54	140	150	250	239	286	172	3,420	54	30	22
24	2,060	179	136	147	317	193	252	156	2,060	56	29	20
25	3,920	1,390	136	146	291	160	207	150	490	55	29	19
26	3,540	1,280	128	119	302	147	175	113	269	54	22	19
27	2,010	965	125	108	366	136	155	87	193	53	18	20
28	1,080	900	123	102	323	131	137	78	164	53	19	37
29	531	657	116	101	279	123	128	75	257	45	26	44
30	377	581	114	104	-----	119	124	75	150	43	19	102
31	290	-----	126	100	-----	125	-----	83	-----	53	17	-----
TOTAL	24,947	9,597	6,505	3,918	15,846	4,617	9,633	10,563	12,968	2,756	1,229	937
MEAN	805	320	210	126	546	149	321	341	432	88.9	39.6	31.2
MAX	3,920	1,390	440	219	1,640	244	1,340	1,790	3,630	322	66	102
MIN	100	54	114	82	94	95	124	75	39	43	17	13
(*)	+18	+8	-13	-1	+8	-3	-4	0	-2	-16	-27	+9

CAL YR 1971 TOTAL 129,236 MEAN 354 MAX 3,920 MIN 13 MEAN# 354 CFSM# 1.22 IN# 16.63
WTR YR 1972 TOTAL 103,516 MEAN 283 MAX 3,920 MIN 13 MEAN# 281 CFSM# .97 IN# 13.24

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN HYCO LAKE.

ADJUSTED FOR CHANGE IN CONTENTS.

ROANOKE RIVER BASIN

02079640 ALLEN CREEK NEAR BOYDTON, VA.

LOCATION.--Lat 36°40'46", long 78°19'37", Mecklenburg County, on left bank at upstream side of bridge on U.S. Highway 58, 0.8 mile upstream from Coleman Creek, 2.3 miles downstream from Layton Creek, 3.7 miles east of Boydton, and 11.8 miles southwest of South Hill.

DRAINAGE AREA.--53.4 sq mi.

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 257.34 ft above mean sea level (levels by Virginia Department of Highways).

AVERAGE DISCHARGE.--11 years, 33.1 cfs (8.42 inches per year).

EXTREMES.--Current year: Maximum discharge, 5,620 cfs Oct. 23 (gage height, 21.80 ft), from rating curve extended above 3,100 cfs; minimum, 1.4 cfs Sept. 16, 17 (gage height, 1.41 ft).

Period of record: Maximum discharge, 5,620 cfs Oct. 23, 1971 (gage height, 21.80 ft), from rating curve extended above 3,100 cfs; no flow many days in August, September, and October 1968, September and October 1970.

REMARKS.--Records good.

COOPERATION.--Records computed and furnished by the State of Virginia.

REVISIONS.--WRD Va. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	30	36	15	17	32	31	18	15	39	24	2.0
2	23	30	31	15	166	30	27	17	13	26	10	2.1
3	19	89	28	15	276	30	23	132	12	20	7.7	2.5
4	9.8	72	27	15	321	27	22	120	10	18	6.7	2.5
5	12	34	25	18	80	25	21	40	9.9	39	60	9.8
6	25	26	23	18	56	23	20	25	9.3	26	16	12
7	9.0	24	34	16	56	22	20	20	9.1	18	9.7	4.9
8	4.9	21	63	15	44	22	113	19	8.1	15	7.3	3.4
9	3.2	18	33	15	36	22	54	80	7.2	14	6.1	2.8
10	478	18	28	22	33	20	39	38	7.0	12	5.0	2.6
11	105	17	24	48	31	19	35	23	7.5	11	4.1	2.2
12	32	16	22	37	31	19	33	19	6.4	12	3.9	2.0
13	16	16	21	31	480	20	35	17	5.8	44	3.9	2.0
14	13	15	19	33	134	19	33	355	5.8	15	9.7	1.8
15	11	14	18	28	65	19	35	340	5.6	11	7.0	1.6
16	11	14	19	25	49	19	29	143	4.9	10	4.3	1.5
17	11	14	19	23	43	34	26	50	4.2	18	3.7	1.5
18	11	14	17	26	44	27	22	32	177	13	6.1	1.7
19	11	14	17	30	158	21	20	46	20	8.9	5.6	1.7
20	12	14	21	28	104	19	20	31	17	7.5	7.0	1.6
21	12	14	29	28	58	18	20	25	804	6.7	6.1	2.6
22	13	14	22	27	51	76	42	26	806	6.2	3.9	5.6
23	2,360	14	18	31	41	54	56	26	65	5.8	3.4	3.8
24	2,080	158	18	27	74	33	35	21	42	5.2	3.1	2.8
25	520	429	18	23	54	27	27	20	29	4.8	2.8	2.5
26	163	90	18	19	52	25	23	18	23	4.4	2.6	2.4
27	92	200	17	17	49	24	20	16	19	4.1	2.4	2.4
28	57	108	17	20	39	23	19	15	364	4.3	2.3	10
29	44	55	16	19	35	22	19	14	601	9.3	2.8	63
30	36	47	16	19	-----	21	22	14	62	8.3	2.7	172
31	33	-----	16	19	-----	23	-----	16	-----	13	2.3	-----
TOTAL	6,232.6	1,639	730	722	2,677	815	941	1,776	3,169.8	449.5	242.2	329.3
MEAN	201	54.6	23.5	23.3	92.3	26.3	31.4	57.3	106	14.5	7.81	11.0
MAX	2,360	429	63	48	480	76	113	355	806	44	60	172
MIN	3.2	14	16	15	17	18	19	14	4.2	4.1	2.3	1.5
CFSM	3.76	1.02	.44	.44	1.73	.49	.59	1.07	1.99	.27	.15	.21
IN.	4.34	1.14	.51	.50	1.86	.57	.66	1.24	2.21	.31	.17	.23

CAL YR 1971 TOTAL 21,084.10 MEAN 57.8 MAX 2,360 MIN .40 CFSM 1.08 IN 14.69
WTR YR 1972 TOTAL 19,723.40 MEAN 53.9 MAX 2,360 MIN 1.5 CFSM 1.01 IN 13.74

PEAK DISCHARGE (BASE, 850 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-10	1330	13.19	976	2-13	1230	13.13	958
10-23	2300	21.80	5,620	5-14	1830	12.44	850
10-25	0730	13.26	996	6-22	0030	16.80	2,160
11-25	0200	13.85	1,100	6-29	0130	14.03	1,150
2-3	2330	12.42	850				

RESERVOIRS IN ROANOKE RIVER BASIN, VA.

- 02057400 SMITH MOUNTAIN LAKE.--Lat 37°02'28", long 79°32'09", Pittsylvania County, at dam on Roanoke (Staunton) River 6.5 miles northeast of Penhook, and at mile 314.0. Drainage area, 1,024 sq mi. Period of record, September 1963 to current year. Gage, water-stage recorder. Datum of gage is mean sea level. Prior to July 19, 1965, nonrecording gage at same site and datum. Extremes for current year: Maximum contents, 1,200,600 acre-ft June 22 (elevation, 797.6 ft); minimum, 1,072,600 acre-ft Nov. 11 (elevation, 791.6 ft). Extremes for period of record: Maximum contents, 1,200,600 acre-ft June 22, 1972 (elevation, 797.6 ft); minimum (after first filling to minimum power pool), 995,400 acre-ft Jan. 23, 1970 (elevation, 787.6 ft).
- Reservoir is formed by concrete dam. Two ungated spillways, one near each end of dam, with crests at elevation 795 ft are each 105 ft long. Initial filling began in September 1963 during construction; water in reservoir first reached minimum power pool (elevation, 787 ft) in May 1965. Total capacity at elevation 811 ft (maximum pool elevation) is 1,517,000 acre-ft, of which 375,000 acre-ft is above the spillway crest; 157,800 acre-ft is normally used for power between elevation 787 ft (minimum power pool) and the spillway crest. Capacity at invert of lowest penstock (elevation, 601 ft) is 100 acre-ft. Figures given herein represent total contents. Reservoir is part of the Smith Mountain Combination Project (pumped storage) which is used for hydroelectric power, flood control, low-water regulation for pollution abatement and water supply, water releases for downstream fish spawning, and recreation. Records of water-surface elevations furnished by Appalachian Power Company. Change in contents based on volume table furnished by the power company.
- 02059400 LEESVILLE LAKE.--Lat 37°05'35", long 79°24'09", Campbell County, at Leesville Dam on Roanoke (Staunton) River, 2.0 miles south of Leesville, 3.5 miles upstream from Goose Creek, and at mile 296. Drainage area, 1,505 sq mi. Period of record, September 1962 to current year. Gage, water-stage recorder. Datum of gage is mean sea level. Prior to June 6, 1963, nonrecording gage at same site and datum. Extremes for current year: Maximum contents, 96,250 acre-ft Feb. 4 (elevation, 613.4 ft); minimum, 57,200 acre-ft Nov. 15, Apr. 3, and June 12 (elevation, 600.0 ft). Extremes for period of record: Maximum contents, 98,180 acre-ft Feb. 1, 1965 (elevation, 614.0 ft); minimum (after first filling to minimum power pool), 39,880 acre-ft Mar. 19, 1963 (elevation, 592.0 ft).
- Reservoir is formed by concrete dam. Spillway, with crest at elevation 578.0 ft, is equipped with 4 radial gates 35 ft high by 50 ft wide. Storage began on Sept. 29, 1962, during construction, and water in reservoir first reached minimum power pool (elevation, 600.0 ft) on Mar. 5, 1963. Total capacity at elevation 613 ft (maximum pool elevation) is 94,960 acre-ft, of which 75,960 acre-ft is above the spillway crest; 38,200 acre-ft is normally used for power between elevations 600.0 ft (minimum power pool) and the spillway crest. Capacity at invert of lowest penstock (elevation, 579.75 ft) is 21,010 acre-ft. Figures given herein represent total contents. Reservoir is part of the Smith Mountain Combination Project (see Smith Mountain Lake above). Records of water-surface elevations furnished by Appalachian Power Company. Change in contents based on volume table furnished by the power company.
- 02067800; 02067820 TALBOTT AND TOWNES RESERVOIRS.--On Dan River. The two reservoirs are operated as a unit for storage of water for Pinnacles hydroelectric plant. Talbott Dam (drainage area, 20.2 sq mi) is at lat 36°40'39", long 80°23'52", Patrick County, and 4.5 miles northeast of Kibler. Townes Dam (drainage area, 32.9 sq mi) is at lat 36°41'10", long 80°25'50", Patrick County, and about 4 miles north of Kibler. Period of record, February 1939 to December 1945, and January 1948 to September 1960, published in WSP 1723, and October 1960 to current year; records published are combined monthend contents of the two reservoirs.
- Total capacity of Talbott Reservoir, 8,035 acre-ft, and Townes Reservoir, 1,377 acre-ft. Storage was started in Talbott Reservoir on Feb. 13, 1939, and in Townes Reservoir several months earlier. Records furnished by city of Danville.
- 02071900 PHILPOTT LAKE.--Lat 36°46'52", long 80°01'40", Henry County, at Philpott Dam on Smith River, 1.5 miles west of Philpott, 12.0 miles upstream from Reed Creek, and at mile 44.3. Drainage area, 216 sq mi. Period of record, August 1950 to current year. Gage, water-stage recorder. Datum of gage is mean sea level. Extremes for current year: Maximum contents, 191,700 acre-ft June 22 (elevation, 983.06 ft); minimum, 157,950 acre-ft Feb. 4 (elevation, 971.91 ft). Extremes for period of record: Maximum contents, 191,700 acre-ft June 22, 1972 (elevation, 983.06 ft); minimum (after first filling to rule curve), 64,540 acre-ft Sept. 26, 1956 (elevation, 927.59 ft).
- Reservoir is formed by concrete dam. Spillway, with crest at elevation 985 ft, is ungated and 120 ft long. Storage began in August 1950 during construction; initial filling started in December 1951; water in reservoir first reached rule-curve elevation in July 1953. Total capacity at elevation 998 ft (maximum flood-control pool) is 246,400 acre-ft, of which 48,300 acre-ft is above the spillway crest, 34,100 acre-ft is controlled flood storage between elevations 974 (maximum power pool) and 985 ft, 110,000 acre-ft is available for power between elevations 920 (minimum power pool) and 974 ft, and 54,000 acre-ft is dead storage below elevation 920 ft. Usable capacity is 144,100 acre-ft between elevations 920 and 985 ft. Figures given herein represent total contents. Reservoir is used for flood control, hydroelectric power, low-water regulation for pollution abatement and industrial water supply, and recreation. Records furnished by Corps of Engineers.
- 02079490 JOHN H. KERR RESERVOIR.--Lat 36°35'56", long 78°18'06", Mecklenburg County, at John H. Kerr Dam on Roanoke River, 2.7 miles upstream from Allen Creek, 6.7 miles southeast of Boynton, 18 miles upstream from the Virginia-North Carolina State line, and at mile 178.7. Drainage area, 7,780 sq mi, approximately. Period of record, July 1950 to current year. Gage, water-stage recorder. Datum of gage is mean sea level. Extremes for current year: Maximum contents, 2,332,300 acre-ft June 27 (elevation, 314.58 ft); minimum, 1,274,400 acre-ft Sept. 26 (elevation, 295.73 ft). Extremes for period of record: Maximum contents, 2,332,300 acre-ft June 27, 1972 (elevation, 314.58 ft); minimum (after first filling to rule curve), 724,700 acre-ft Feb. 3, 1956 (elevation, 280.23 ft).
- Reservoir is formed by concrete dam with earth embankments. Spillway, with crest at elevation 288.0 ft, is equipped with 22 radial gates 32 ft high by 42 ft wide. Storage began in September 1950 during construction; initial filling started June 30, 1952; water in reservoir first reached rule-curve elevation in March 1953. Total capacity at elevation 320 ft (top of gates) is 2,750,300 acre-ft, of which 1,278,000 acre-ft is controlled flood storage between elevations 300 (top of power pool) and 320 ft, 720,900 acre-ft between elevations 281.2 (bottom of power pool) and 300 ft is available for power, and 751,400 acre-ft below elevation 281.2 ft is inactive and dead storage. Figures given herein represent total contents. Reservoir is used for flood control, hydroelectric power, low-water regulation for navigation and pollution abatement, water releases for downstream fish spawning, and recreation. Records furnished by Corps of Engineers.

ROANOKE RIVER BASIN

RESERVOIRS IN ROANOKE RIVER BASIN, VA.--Continued

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (acre- feet)	Elevation (feet)	Contents (acre- feet)	Change in contents (acre- feet)
02057400 Smith Mountain Lake			02059400 Leesville Lake			
Sept. 30.....	792.5	1,091,000	-	610.8	87,880	-
Oct. 31.....	794.9	1,140,000	+49,000	602.7	64,440	-23,440
Nov. 30.....	793.2	1,105,300	-34,700	608.8	81,770	+17,300
Dec. 31.....	793.3	1,107,300	+2,000	611.6	90,450	+8,680
CAL YR 1971.....	-	-	+6,100	-	-	-650
Jan. 31.....	794.3	1,127,700	+20,400	604.6	69,530	-20,920
Feb. 29.....	794.6	1,133,800	+6,100	603.7	67,120	-2,410
Mar. 31.....	793.4	1,109,400	-24,400	608.5	80,890	+13,770
Apr. 30.....	794.6	1,133,800	+24,400	603.7	67,120	-13,770
May 31.....	793.7	1,115,500	-18,300	610.0	85,300	+18,180
June 30.....	793.5	1,111,400	-4,100	610.4	86,590	+1,290
July 31.....	793.9	1,119,600	+8,200	606.6	75,300	-11,290
Aug. 31.....	793.4	1,109,400	-10,200	610.1	85,620	+10,320
Sept. 30.....	794.0	1,121,600	+12,200	606.6	75,300	-10,320
WTR YR 1972.....	-	-	+30,600	-	-	-12,580
02067800; 02067820 Talbott and Townes Reservoirs #			02071900 Philpott Lake			
Sept. 30.....	-	8,200	-	972.44	159,430	-
Oct. 31.....	-	9,100	+900	975.39	167,970	+8,540
Nov. 30.....	-	8,400	-700	972.80	160,440	-7,530
Dec. 31.....	-	8,200	-200	971.93	158,000	-2,440
CAL YR 1971.....	-	-	+200	-	-	-980
Jan. 31.....	-	8,200	0	972.18	158,700	+700
Feb. 29.....	-	8,300	+100	973.43	162,290	+3,590
Mar. 31.....	-	8,400	+100	973.61	162,830	+540
Apr. 30.....	-	8,200	-200	974.30	164,840	+2,010
May 31.....	-	8,200	0	974.78	166,180	+1,340
June 30.....	-	8,700	+500	975.06	166,980	+800
July 31.....	-	8,400	-300	974.32	164,900	-2,080
Aug. 31.....	-	7,800	-600	973.55	162,650	-2,250
Sept. 30.....	-	7,800	0	973.80	163,400	+750
WTR YR 1972.....	-	-	-400	-	-	+3,970
02079490 John H. Kerr Reservoir						
Sept. 30.....	298.35	1,393,300	-			
Oct. 31.....	306.66	1,826,200	+432,900			
Nov. 30.....	299.70	1,457,800	-368,400			
Dec. 31.....	297.96	1,375,000	-82,800			
CAL YR 1971.....	-	-	+180,400			
Jan. 31.....	296.95	1,328,700	-46,300			
Feb. 29.....	301.78	1,561,300	+232,600			
Mar. 31.....	301.98	1,571,500	+10,200			
Apr. 30.....	303.67	1,660,400	+88,900			
May 31.....	303.70	1,662,000	+1,600			
June 30.....	313.73	2,272,300	+610,300			
July 31.....	303.14	1,632,100	-640,200			
Aug. 31.....	296.63	1,314,400	-317,700			
Sept. 30.....	296.59	1,312,600	-1,800			
WTR YR 1972.....	-	-	-80,700			

Combined contents.

KANAWHA RIVER BASIN

03161000 SOUTH FORK NEW RIVER NEAR JEFFERSON, N. C.

LOCATION.--Lat 36°23'40", long 81°24'27", Ashe County, on right bank 600 ft upstream from bridge on State Highways 16 and 88, 0.2 mile downstream from Bear Creek, and 4 miles southeast of Jefferson.

DRAINAGE AREA.--207 sq mi.

PERIOD OF RECORD.--October 1924 to current year. Monthly discharge only for some periods, published in WSP 1305.

GAGE.--Water-stage recorder. Datum of gage is 2,657.04 ft above mean sea level, unadjusted. Prior to Oct. 14, 1934, nonrecording gage on bridge 400 ft downstream at same datum. Oct. 14, 1934, to Mar. 25, 1935, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--48 years, 412 cfs (27.03 inches per year).

EXTREMES.--Current year: Maximum discharge, 7,010 cfs June 21 (gage height, 8.27 ft); minimum, 181 cfs Sept. 22, 23, 27 (gage height, 2.02 ft).

Period of record: Maximum discharge, 52,800 cfs Aug. 14, 1940 (gage height, 22.50 ft), from rating curve extended above 5,100 cfs on basis of slope-area measurement of peak flow; minimum, 52 cfs Dec. 24, 1943, result of freezeup; minimum daily, 65 cfs Sept. 9, 1925.

Flood of July 15, 1916, reached a stage of 18.0 ft, from floodmarks (discharge, 35,200 cfs), witnessed by local resident.

REMARKS.--Records good. Slight diurnal fluctuation at low flow in the growing season. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1275: 1925-26(M), 1928-30(M), 1931-32, 1933-35(M), 1941-42(m), 1944(m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	307	871	470	372	399	569	555	390	494	545	461	230
2	322	1,080	409	390	404	545	650	386	446	511	444	227
3	330	1,380	409	399	444	841	555	1,270	424	503	399	224
4	300	1,230	414	433	551	666	514	1,140	410	479	351	224
5	289	907	419	556	438	588	498	760	397	544	326	488
6	315	772	535	475	430	528	462	628	387	528	319	650
7	303	705	1,300	419	460	499	474	565	406	454	319	330
8	270	634	1,280	390	390	483	791	557	376	436	355	275
9	281	590	817	395	360	454	637	645	365	421	311	258
10	337	568	678	529	340	432	544	545	358	419	289	239
11	308	535	606	600	351	418	509	493	354	427	293	230
12	279	502	546	628	376	407	788	472	340	410	300	214
13	266	486	529	578	865	394	838	473	333	415	289	208
14	262	465	486	735	656	395	640	1,120	333	400	272	202
15	259	454	475	622	535	392	579	1,050	327	396	268	199
16	374	438	470	497	518	412	529	773	415	451	265	196
17	382	423	444	340	497	519	495	666	433	739	268	193
18	303	414	423	490	481	451	459	608	488	638	275	202
19	286	404	395	535	470	412	438	661	419	647	296	202
20	322	399	438	486	286	391	429	690	1,700	504	293	190
21	531	390	454	481	359	392	480	723	5,800	450	286	187
22	1,370	381	414	491	650	903	701	727	2,540	411	258	181
23	1,990	368	390	529	717	677	700	897	1,240	408	265	181
24	3,430	409	385	475	588	539	543	808	928	378	258	187
25	1,670	414	381	449	619	498	491	668	784	366	252	190
26	1,090	390	372	423	800	487	460	599	703	367	252	187
27	837	395	368	414	999	486	436	549	649	358	272	184
28	714	433	359	454	726	503	422	520	615	381	282	199
29	636	491	359	497	626	503	413	498	623	460	252	423
30	586	595	359	444	-----	513	402	518	570	525	239	444
31	628	-----	414	419	-----	507	-----	591	-----	596	233	-----
TOTAL	19,577	17,523	15,798	14,945	15,335	15,804	16,432	20,990	23,657	14,567	9,242	7,544
MEAN	632	584	510	482	529	510	548	677	789	470	298	251
MAX	3,430	1,380	1,300	735	999	903	838	1,270	5,800	739	461	650
MIN	259	368	359	340	286	391	402	386	327	358	233	181
CFSM	3.05	2.82	2.46	2.33	2.56	2.46	2.65	3.27	3.81	2.27	1.44	1.21
IN.	3.52	3.15	2.84	2.69	2.76	2.84	2.95	3.77	4.25	2.62	1.66	1.36

CAL YR 1971 TOTAL 171,386 MEAN 470 MAX 3,430 MIN 177 CFSM 2.27 IN 30.80
WTR YR 1972 TOTAL 191,414 MEAN 523 MAX 5,800 MIN 181 CFSM 2.53 IN 34.40

PEAK DISCHARGE (BASE, 2,600 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	0430	6.35	3,870	6-21	1000	8.27	7,010

KANAWHA RIVER BASIN

03164000 NEW RIVER NEAR GALAX, VA.

LOCATION.--Lat 36°38'50", long 80°58'45", Grayson County, on left bank at upstream side of bridge on U.S. Highway 58, 500 ft downstream from Meadow Creek, 1.2 miles southwest of Old Town, 3.1 miles southwest of Galax, and 3.6 miles downstream from Elk Creek.

DRAINAGE AREA.--1,131 sq mi.

PERIOD OF RECORD.--October 1929 to current year. Monthly discharge only for some periods, published in WSP 1305.

GAGE.--Water-stage recorder. Datum of gage is 2,208.04 ft above mean sea level.

AVERAGE DISCHARGE.--43 years, 1,822 cfs (21.88 inches per year).

EXTREMES.--Current year: Maximum discharge, 30,700 cfs June 21 (gage height, 8.54 ft); minimum, 744 cfs Sept. 23, 24 (gage height, 1.06 ft).

Period of record: Maximum discharge, 141,000 cfs Aug. 14, 1940 (gage height, 25.7 ft, from floodmark), from rating curve extended above 32,000 cfs on basis of computation of peak flow over dam at Fries 6 miles downstream and slope-area measurement of peak flow; minimum, 193 cfs Jan. 9, 1956 (gage height, 0.52 ft), result of freezeup; minimum daily, 265 cfs Sept. 19, 1954.

REMARKS.--Records fair. Water-quality records for the current year are included in this report.

REVISIONS (WATER YEARS).--WSP 758: Drainage area, 1933(M). WSP 893: 1930(M), 1935(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,140	2,810	2,440	1,500	2,060	3,670	2,200	1,700	2,100	2,360	2,830	901
2	1,550	3,420	2,040	1,600	1,970	3,710	2,300	1,600	2,000	2,230	2,230	833
3	1,430	4,830	1,880	1,650	2,050	5,040	2,700	5,020	1,800	2,080	1,810	860
4	1,250	5,370	1,600	1,700	2,520	4,750	2,400	6,730	1,500	2,070	1,630	845
5	1,130	4,040	1,800	2,000	2,140	3,940	2,300	5,130	1,600	2,470	1,490	1,520
6	1,350	3,300	2,000	2,600	2,110	3,300	2,200	4,370	1,700	2,230	1,390	2,440
7	1,550	2,900	3,810	2,420	2,110	2,700	2,000	3,200	1,600	1,990	1,320	1,800
8	1,280	2,600	6,030	2,200	1,950	2,300	2,400	2,600	1,600	1,840	1,330	1,300
9	1,100	2,300	4,280	1,800	1,880	2,200	3,200	2,800	1,710	1,760	1,290	1,180
10	1,530	2,200	3,420	2,000	1,800	2,000	3,000	2,700	1,720	1,700	1,190	1,180
11	1,490	2,100	2,800	2,660	1,750	1,500	2,500	2,300	1,690	1,710	1,150	1,030
12	1,320	1,900	2,500	2,570	1,760	1,900	4,400	1,800	1,630	1,740	1,140	959
13	1,360	1,800	2,300	2,400	3,770	1,800	5,430	2,500	1,570	1,790	1,130	936
14	1,390	1,700	2,200	2,720	3,890	1,500	4,100	4,860	1,560	1,700	1,080	895
15	1,390	1,750	2,000	2,480	3,040	1,500	3,700	7,000	1,540	1,820	1,040	870
16	1,880	1,700	2,000	1,900	2,810	1,500	3,660	5,960	1,580	1,910	1,010	888
17	2,180	1,550	1,900	1,400	2,690	1,700	3,370	4,980	1,840	1,780	1,010	851
18	1,390	1,700	1,700	1,500	2,460	2,000	3,000	3,700	2,520	1,950	1,060	845
19	1,570	1,500	1,600	1,800	2,240	1,900	2,600	3,100	2,350	1,960	1,550	853
20	1,570	1,500	1,700	2,030	1,930	1,700	2,300	2,700	3,630	1,970	1,440	829
21	2,020	1,500	1,800	2,080	1,910	1,400	2,300	4,000	24,200	1,670	1,390	830
22	2,720	1,500	1,800	2,120	2,400	2,000	2,500	3,700	15,000	1,580	1,220	771
23	5,510	1,450	1,600	1,900	3,810	3,760	3,000	3,400	6,550	1,510	1,120	755
24	15,300	1,500	1,400	1,500	3,350	3,500	3,300	3,300	4,420	1,470	1,060	763
25	9,440	1,550	1,450	2,040	3,880	2,600	2,800	3,200	3,660	1,350	1,030	779
26	5,780	1,600	1,500	1,970	5,620	2,100	2,300	2,800	3,390	1,280	1,000	774
27	4,090	1,500	1,500	1,890	8,920	2,200	2,000	2,400	2,970	1,250	1,090	815
28	4,530	1,700	1,550	2,060	5,700	2,100	1,900	2,200	2,680	1,310	1,260	1,030
29	2,980	2,030	1,400	2,800	4,060	1,900	1,800	2,200	2,660	1,640	1,090	1,660
30	2,520	2,720	1,400	2,620	-----	1,900	1,700	2,100	2,470	2,160	974	2,800
31	2,450	-----	1,200	2,290	-----	2,000	-----	2,100	-----	3,640	916	-----
TOTAL	87,570	67,990	66,600	64,200	85,580	76,070	83,360	106,150	105,240	57,890	40,270	32,822
MEAN	2,328	2,266	2,148	2,071	2,986	2,454	2,779	3,424	3,508	1,867	1,299	1,094
MAX	15,300	5,370	6,030	2,800	8,920	5,040	5,430	7,000	24,200	3,640	2,830	2,800
MIN	1,100	1,450	1,200	1,400	1,750	1,400	1,700	1,500	1,500	1,250	916	755
CFS4	2.50	2.00	1.90	1.83	2.64	2.17	2.46	3.03	3.10	1.65	1.15	.97
IN.	2.88	2.24	2.19	2.11	2.85	2.50	2.74	3.49	3.46	1.90	1.32	1.08

CAL YR 1971 TOTAL 774,271 MEAN 2,121 MAX 15,300 MIN 720 CFS4 1.88 IN 25.47
WTR YR 1972 TOTAL 874,842 MEAN 2,390 MAX 24,200 MIN 755 CFS4 2.11 IN 28.77

PEAK DISCHARGE (BASE, 9,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	1400	5.78	17,200	6-21	1500	8.54	30,700
2-27	0800	4.21	10,000				

KANAWHA RIVER BASIN

175

03165000 CHESTNUT CREEK AT GALAX, VA.

LOCATION.--Lat 36°38'45", long 80°55'10", Galax City, on right bank 200 ft upstream from bridge on State Highway 89 and 1.7 miles downstream from Wards Mill Branch.

DRAINAGE AREA.--39 sq mi, approximately.

PERIOD OF RECORD.--September 1944 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,344.17 ft above mean sea level. Prior to June 25, 1948, non-recording gage, and June 25, 1948, to May 28, 1953, water-stage recorder, at site 200 ft upstream at datum 0.86 ft higher.

AVERAGE DISCHARGE.--28 years, 64.8 cfs (22.56 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,070 cfs June 21 (gage height, 7.92 ft); minimum, 40 cfs Sept. 19, 20, 22, 23, 25-27 (gage height, 0.57 ft).

Period of record: Maximum discharge, 6,980 cfs Oct. 17, 1947 (gage height, 14.4 ft, from floodmark, site and datum then in use), from rating curve extended above 2,200 cfs on basis of two slope-area and one contracted-opening measurements at gage heights 9.5, 14.4, and 17.4 ft, respectively, site and datum then in use; minimum, 13 cfs Jan. 5, 1956, result of freezeup; minimum daily, 14 cfs Sept. 2, 1953, Sept. 18, 1954; minimum gage height, 0.51 ft Dec. 25, 1969, Jan. 31, 1971.

Flood of Aug. 14, 1940, reached a stage of 17.4 ft, at site and datum used 1944-53 (discharge, 11,000 cfs, by contracted-opening measurement).

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1385: 1953.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	151	93	70	66	75	92	72	91	93	89	46
2	107	237	88	78	69	84	88	72	84	87	91	45
3	68	271	87	72	91	98	78	290	80	85	70	44
4	62	165	88	80	80	77	75	170	76	130	65	45
5	60	140	91	80	76	74	71	140	75	247	64	154
6	72	127	117	72	73	69	69	120	76	117	63	63
7	58	118	193	69	70	69	76	110	79	100	62	52
8	55	111	131	68	67	68	122	110	72	92	62	49
9	97	138	109	70	66	65	78	140	72	87	58	49
10	120	104	102	82	64	65	74	110	72	84	57	47
11	74	102	99	91	64	64	73	95	74	82	58	45
12	64	99	93	81	78	64	181	90	72	99	57	45
13	59	98	91	109	247	64	107	90	72	94	56	44
14	57	96	88	120	106	65	94	110	72	93	55	43
15	55	93	88	87	90	63	86	190	70	104	54	43
16	105	91	91	54	84	78	80	140	73	91	55	42
17	69	90	84	56	82	88	75	130	100	89	55	42
18	62	88	80	60	80	69	72	110	190	96	56	43
19	59	90	80	68	75	66	70	110	95	90	54	41
20	64	88	85	75	75	64	70	132	374	93	52	40
21	82	85	81	91	85	69	73	560	1,000	89	51	41
22	84	81	77	85	92	310	104	158	231	95	50	41
23	485	82	75	84	78	107	80	136	158	97	49	41
24	369	98	77	78	79	88	76	114	134	108	50	42
25	271	98	75	74	87	83	75	100	121	108	49	41
26	163	91	74	70	118	83	74	92	111	122	49	40
27	135	96	73	72	94	81	74	87	104	141	53	43
28	118	106	73	80	84	78	74	85	101	79	52	50
29	109	131	72	72	78	77	73	83	103	80	48	95
30	102	111	73	70	-----	75	73	109	94	79	46	83
31	127	-----	73	67	-----	88	-----	138	-----	77	46	-----
TOTAL	3,490	3,446	2,801	2,385	2,498	2,568	2,507	4,193	4,126	3,128	1,776	1,539
MEAN	113	115	90.4	76.9	86.1	82.8	83.6	135	138	101	57.3	51.3
MAX	485	271	193	120	247	310	181	560	1,000	247	91	154
MIN	55	81	72	54	64	63	69	72	70	77	46	40
CFSM	2.90	2.95	2.32	1.97	2.21	2.12	2.14	3.46	3.54	2.59	1.47	1.32
IN.	3.33	3.29	2.67	2.27	2.38	2.45	2.39	4.00	3.94	2.98	1.69	1.47

CAL YR 1971 TOTAL 28,379 MEAN 77.8 MAX 776 MIN 33 CFSM 1.99 IN 27.07
 WTR YR 1972 TOTAL 34,457 MEAN 94.1 MAX 1,000 MIN 40 CFSM 2.41 IN 32.87

PEAK DISCHARGE (BASE, 700 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-23	1915	5.03	1,010	5-21	0115	6.43	1,470
3-22	0245	3.86	715	6-21	0845	7.92	2,070

KANAWHA RIVER BASIN

03165500 NEW RIVER AT IVANHOE, VA.

LOCATION.--Lat 36°50'05", long 80°57'10", Wythe County, on left bank at Ivanhoe, 2.1 miles downstream from Big Branch, and 2.3 miles upstream from Cripple Creek.

DRAINAGE AREA.--1,340 sq mi.

PERIOD OF RECORD.--August to December 1927, October 1929 to current year. Monthly discharge only for some periods, published in WSP 1305. Gage-height records collected in vicinity, October 1916 to July 1943, are contained in reports of the National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 1,943.09 ft above mean sea level.

AVERAGE DISCHARGE.--43 years, 2,057 cfs (20.85 inches per year).

EXTREMES.--Current year: Maximum discharge, 34,500 cfs June 21 (gage height, 16.01 ft), from rating curve extended as explained below; minimum, 208 cfs Oct. 14 (gage height, 1.17 ft); minimum daily, 701 cfs Aug. 26.

Period of record: Maximum discharge, 155,000 cfs Aug. 14, 1940 (gage height, 38.1 ft, from floodmarks), from rating curve extended above 32,000 cfs on basis of flood records for other stations on New River; minimum, 44 cfs Oct. 11, 1965 (gage height, 0.59 ft); minimum daily, 184 cfs July 28, 1930.

Flood in July 1916 reached a stage of 34.8 ft, from floodmark (discharge, 132,000 cfs, from rating curve extended as explained above). Flood in September 1878 was about 5 ft lower than flood in July 1916 and was the highest between 1840 and 1916.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Large diurnal fluctuation and some regulation caused by powerplants at Buck, 2.8 miles above station, and at Byllesby, 5.5 miles above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 783: Drainage area, 1933(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	JCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,370	3,280	3,020	1,800	2,370	4,100	2,670	2,090	2,460	2,600	4,000	1,000
2	1,490	3,500	2,430	1,850	2,290	3,440	2,670	1,850	2,130	2,600	3,170	850
3	1,520	5,000	2,200	1,900	2,300	4,300	3,170	4,850	2,000	2,500	2,320	900
4	1,730	5,600	1,730	1,950	3,000	4,780	2,630	5,870	1,900	1,790	2,010	1,000
5	1,230	4,900	2,050	2,200	2,210	4,000	2,620	5,190	2,100	3,310	1,620	1,300
6	1,400	3,600	2,630	2,500	2,260	3,310	2,230	3,820	1,800	5,000	1,650	2,200
7	1,400	3,300	3,200	3,000	2,350	2,880	2,420	3,020	1,900	3,500	1,700	2,000
8	1,250	3,000	6,000	1,890	2,270	2,610	3,170	3,260	1,700	2,700	1,800	1,600
9	1,360	2,600	5,400	2,130	2,130	2,480	3,790	3,040	2,000	2,400	1,500	1,300
10	1,920	2,500	4,200	2,480	2,120	2,260	3,440	3,140	1,290	2,300	1,450	1,000
11	1,610	2,400	3,500	3,020	1,850	1,760	2,810	2,700	1,570	2,200	1,400	1,300
12	1,570	2,100	3,000	2,920	1,950	2,270	4,500	2,360	1,710	2,000	1,300	1,200
13	1,210	2,000	2,600	2,100	3,650	2,160	6,000	2,030	1,600	2,100	1,200	1,000
14	1,220	2,000	2,600	3,070	4,940	2,100	9,000	3,200	1,500	2,200	1,500	900
15	1,190	2,000	2,300	2,560	3,700	2,000	8,000	6,000	1,500	2,000	1,290	1,000
16	1,320	1,900	2,300	2,090	3,030	2,100	6,000	7,500	1,700	3,560	1,090	720
17	1,910	1,700	2,200	1,610	2,850	2,200	4,500	6,000	1,800	2,340	1,140	850
18	1,360	1,790	2,000	2,210	2,790	2,310	3,700	3,570	2,900	2,070	1,120	1,000
19	1,540	1,880	1,900	2,300	2,270	2,170	3,100	3,490	2,500	2,030	1,380	1,200
20	1,220	1,480	2,000	2,860	2,230	2,100	2,800	3,070	3,080	2,090	1,600	900
21	1,740	1,740	2,100	2,450	1,820	2,000	2,600	4,730	21,300	1,770	1,550	850
22	2,430	1,960	2,000	2,400	2,660	3,800	2,700	3,930	20,800	1,460	1,270	820
23	5,200	1,770	1,900	2,170	3,660	4,000	3,890	3,910	10,300	1,710	1,270	800
24	17,700	1,740	1,900	1,750	3,860	3,340	3,720	3,740	6,000	1,700	846	750
25	13,100	1,730	1,650	2,440	3,810	2,670	2,840	3,630	4,500	1,600	1,090	900
26	7,480	2,150	1,700	2,220	5,100	2,450	2,560	2,790	3,500	1,450	701	1,050
27	5,430	1,750	1,800	2,190	9,810	2,530	2,000	2,570	3,000	1,400	1,020	949
28	4,350	1,970	1,800	3,000	6,540	2,260	2,310	2,610	2,800	1,400	1,300	1,090
29	3,360	2,470	1,600	4,000	4,900	2,200	1,800	2,460	2,800	1,500	1,600	1,770
30	2,920	3,040	1,600	3,500	-----	2,270	2,210	2,380	2,900	2,000	1,100	2,700
31	2,700	-----	1,400	3,000	-----	2,380	-----	2,420	-----	3,000	1,000	-----
TOTAL	95,930	76,850	76,410	75,560	94,720	85,230	105,850	112,220	117,040	70,280	46,987	34,899
MEAN	3,095	2,562	2,465	2,437	3,266	2,749	3,528	3,620	3,901	2,267	1,516	1,163
MAX	17,700	5,600	6,000	4,000	9,810	4,780	9,000	7,500	21,300	5,000	4,000	2,700
MIN	1,360	1,480	1,400	1,610	1,820	1,760	1,800	1,850	1,290	1,400	701	720
CFSM	2.31	1.91	1.84	1.82	2.44	2.05	2.63	2.70	2.91	1.59	1.13	.87
IN.	2.66	2.13	2.12	2.10	2.63	2.37	2.94	3.12	3.25	1.95	1.30	.97

CAL YR 1971 TOTAL 862,506 MEAN 2,363 MAX 17,700 MIN 673 CFSM 1.76 IN 23.94
 WTR YR 1972 TOTAL 991,976 MEAN 2,710 N 11,300 MIN 701 CFSM 2.02 IN 27.54

PEAK DISCHARGE (BASE, 13,500 CFS)

NOTE.--NO GAGE-HEIGHT RECORD DEC. 7 TO JAN. 7.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	1730	10.73	19,300	6-21	1430	16.01	34,500

KANAWHA RIVER BASIN

177

03167000 REED CREEK AT GRAHAMS FORGE, VA.

LOCATION.--Lat 36°56'20", long 80°53'15", Wythe County, on right bank 35 ft upstream from highway bridge at Grahams Forge, 2.2 miles downstream from Glade Creek, and 7.3 miles upstream from mouth.

DRAINAGE AREA.--247 sq mi.

PERIOD OF RECORD.--July 1908 to September 1916, January 1927 to current year. Monthly discharge only for some periods, published in WSP 1305.

GAGE.--Water-stage recorder. Datum of gage is 1,924.65 ft above mean sea level. Prior to Oct. 1, 1916, non-recording gage at same site and datum 0.68 ft lower. Feb. 3, 1927, to Oct. 28, 1934, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--53 years, 261 cfs (14.35 inches per year).

EXTREMES.--Current year: Maximum discharge, 7,060 cfs June 21 (gage height, 6.83 ft); minimum, 80 cfs Oct. 13, 15 (gage height, 1.45 ft); minimum daily, 84 cfs Oct. 15.

Period of record: Maximum discharge, 17,500 cfs July 16, 1916 (gage height, 11.4 ft, present datum, from floodmarks), from rating curve extended above 7,600 cfs on basis of velocity-area study; minimum observed, about 5 cfs Dec. 22, 1909 (gage height, 0.49 ft, present datum), result of freezeup; minimum daily, 22 cfs Jan. 30, 1934.

REMARKS.--Records good. Occasional diurnal fluctuation at low flow caused by mills above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1235: 1912-13, 1915-16. WSP 1275: 1911, 1927-28(M), 1930-34(M). WSP 1705: 1913(M), 1916(M), 1957 calendar year runoff. WSP 1725: 1915 calendar year runoff.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	263	442	139	700	749	274	289	276	448	323	109			
2	111	242	317	152	580	638	262	276	250	386	320	107			
3	104	408	268	163	520	1,680	250	476	237	320	226	106			
4	95	504	248	175	700	1,130	244	925	223	294	203	108			
5	91	389	230	272	450	831	242	782	212	902	196	118			
6	101	318	222	523	350	648	226	559	207	682	181	128			
7	100	277	354	380	300	561	226	461	215	482	172	120			
8	93	247	621	291	280	506	487	417	199	379	169	111			
9	92	225	450	248	270	443	512	613	188	315	162	111			
10	103	211	357	314	260	401	407	628	186	279	156	108			
11	97	200	302	455	260	370	357	498	179	255	149	104			
12	90	190	260	413	270	347	1,710	419	172	243	147	103			
13	87	182	260	347	560	328	1,820	371	168	234	143	102			
14	85	175	234	353	1,000	316	4,110	572	165	227	139	100			
15	84	168	220	320	664	300	2,960	1,040	162	222	134	99			
16	127	162	214	210	625	293	1,590	846	158	205	133	98			
17	169	158	203	210	587	332	1,170	673	244	195	131	96			
18	144	154	189	220	532	296	831	617	332	189	141	97			
19	121	151	180	240	477	276	662	548	207	183	175	94			
20	111	151	180	270	398	262	562	467	268	177	158	96			
21	114	149	181	1,700	374	255	510	471	5,060	170	142	95			
22	124	147	172	1,600	435	370	559	1,220	2,600	156	134	93			
23	275	140	163	1,200	744	382	603	1,140	958	165	128	92			
24	2,160	147	157	800	787	355	534	741	642	160	124	92			
25	1,310	150	155	600	2,750	325	481	535	500	153	121	91			
26	1,550	150	153	500	2,600	306	427	430	409	148	118	90			
27	738	148	152	450	2,650	291	381	364	351	145	119	127			
28	498	159	149	2,000	1,320	284	347	322	492	149	121	140			
29	379	229	146	1,800	946	275	329	296	551	165	115	264			
30	314	515	142	1,300	-----	276	314	287	452	278	112	1,180			
31	278	-----	141	900	-----	266	-----	309	-----	619	110	-----			
TOTAL	10,339	6,719	7,462	18,545	22,389	14,092	23,387	17,692	16,263	8,935	4,902	4,379			
MEAN	334	224	241	598	772	455	780	571	542	288	158	146			
MAX	2,160	515	621	2,000	2,750	1,680	4,110	1,220	5,060	902	323	1,180			
MIN	84	140	141	139	260	255	226	276	158	145	110	90			
CFSM	1.35	.91	.98	2.42	3.13	1.84	3.16	2.31	2.19	1.17	.64	.59			
IV.	1.56	1.01	1.12	2.79	3.37	2.12	3.52	2.66	2.45	1.35	.74	.66			

CAL YR 1971 TOTAL 116,521 MEAN 319 MAX 2,440 MIN 81 CFSM 1.29 IN 17.55
WTR YR 1972 TOTAL 155,104 MEAN 424 MAX 5,060 MIN 84 CFSM 1.72 IN 23.36

PEAK DISCHARGE (BASE, 2,300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	1530	4.35	2,720	3- 3	1100	4.17	2,450
10-25	2300	4.16	2,430	4-12	2230	4.88	3,550
1-28	UNKNOWN	4.44	2,850	4-14	1500	6.21	5,820
2-25	1430	4.81	3,440	6-21	1900	6.83	7,060
2-27	0230	5.04	3,800				

KANAWHA RIVER BASIN

03167500 BIG REED ISLAND CREEK NEAR ALLISONIA, VA.

LOCATION.--Lat 36°53'20", long 80°43'40", Pulaski County, on left bank 700 ft downstream from highway bridge, 3.5 miles southeast of Allisonia, 4 miles upstream from Little Reed Island Creek, and 4.5 miles upstream from mouth.

DRAINAGE AREA.--278 sq mi.

PERIOD OF RECORD.--August 1908 to September 1916, April 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,902.74 ft above mean sea level. Prior to Sept. 30, 1916, non-recording gage at site 4 miles downstream at different datum.

AVERAGE DISCHARGE.--41 years, 390 cfs (19.05 inches per year).

EXTREMES.--Current year: Maximum discharge, 9,730 cfs June 21 (gage height, 9.89 ft), from rating curve extended as explained below; minimum, 182 cfs Jan. 16 (gage height, 2.19 ft), result of freezeup; minimum daily, 200 cfs Sept. 22, 23.

Period of record: Maximum discharge, 14,500 cfs Sept. 30, 1959 (gage height, 12.54 ft), from rating curve extended above 6,000 cfs on basis of slope-area measurement of peak flow; minimum, 63 cfs Jan. 20, 1971 (gage height, 1.63 ft), result of freezeup; minimum daily, 84 cfs Sept. 17, 1956, Sept. 23-25, 1963.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1033: 1939(P), 1940, 1941-43(P). WSP 1305: 1912(M). WSP 1625: 1940, 1945(M), 1947, 1951, 1952(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	370	442	479	294	360	454	486	391	467	486	776	247
2	500	593	408	311	373	493	496	398	395	452	696	245
3	350	1,560	385	333	433	591	439	1,980	381	470	864	232
4	300	958	379	314	738	494	416	2,140	367	458	463	229
5	290	610	374	372	415	450	395	970	363	2,870	472	406
6	340	511	389	340	380	406	375	683	355	1,240	408	456
7	280	467	993	300	360	394	377	580	364	747	392	294
8	242	427	986	312	350	382	1,280	557	355	603	391	260
9	247	412	598	303	340	363	685	706	343	533	362	251
10	999	399	500	360	320	354	532	544	339	491	335	255
11	490	389	476	383	320	345	474	485	335	472	332	238
12	359	378	438	425	346	346	1,750	464	323	473	350	243
13	305	369	420	367	1,050	342	1,150	449	312	535	364	225
14	230	360	392	945	709	353	1,980	899	309	448	324	221
15	261	354	383	508	517	344	1,300	918	310	438	315	227
16	354	350	421	260	463	346	846	922	329	492	306	221
17	383	340	395	260	444	562	725	654	414	473	307	212
18	301	334	363	270	429	422	585	581	631	431	321	212
19	276	334	340	290	415	380	527	586	437	414	320	219
20	284	357	361	320	321	356	496	592	798	409	322	210
21	360	336	378	444	394	347	481	568	7,260	389	294	234
22	372	320	345	414	475	1,560	561	514	2,210	381	284	200
23	738	304	325	402	491	776	550	548	1,040	377	278	200
24	1,990	345	327	417	451	537	501	506	726	366	275	202
25	3,310	418	330	387	573	467	464	494	626	353	264	212
26	1,390	372	320	355	935	445	443	447	545	346	255	205
27	763	362	320	349	933	441	422	418	499	340	316	245
28	581	398	314	711	613	420	407	409	621	359	348	424
29	486	474	308	560	508	402	405	405	706	421	291	908
30	442	693	300	452	-----	394	402	410	520	723	262	670
31	427	-----	303	397	-----	418	-----	478	-----	706	252	-----
TOTAL	18,570	13,966	13,050	12,155	14,456	14,384	20,050	20,896	22,680	17,696	11,539	8,573
MEAN	599	466	421	392	498	464	668	674	756	571	372	296
MAX	3,810	1,560	993	945	1,050	1,560	1,980	2,140	7,260	2,870	864	908
MIN	242	304	300	260	320	342	375	391	309	340	252	200
CFSM	2.15	1.68	1.51	1.41	1.79	1.67	2.40	2.42	2.72	2.05	1.34	1.03
IN.	2.48	1.87	1.75	1.63	1.93	1.92	2.68	2.80	3.03	2.37	1.54	1.15

CAL YR 1971 TOTAL 144,586 MEAN 396 MAX 3,810 MIN 110 CFSM 1.42 IN 19.35
WTR YR 1972 TOTAL 188,016 MEAN 514 MAX 7,260 MIN 200 CFSM 1.85 IN 25.16

PEAK DISCHARGE (BASE, 3,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	1330	8.43	7,240	7- 5	0900	6.32	4,100
6-21	1800	9.89	9,730				

KANAWHA RIVER BASIN

179

03168000 NEW RIVER AT ALLISONIA, VA.

LOCATION.--Lat 36°56'15", long 80°44'45", Pulaski County, on left bank 0.2 mile downstream from Big Reed Island Creek and 0.5 mile upstream from Allisonia.

DRAINAGE AREA.--2,202 sq mi.

PERIOD OF RECORD.--September 1929 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,848.36 ft above mean sea level.

AVERAGE DISCHARGE.--43 years, 3,050 cfs (18.81 inches per year).

EXTREMES.--Current year: Maximum discharge, 62,800 cfs June 21 (gage height, 11.85 ft), from rating curve extended as explained below; minimum, 850 cfs Sept. 21 (gage height, 1.05 ft); minimum daily, 1,200 cfs Sept. 23.

Period of record: Maximum discharge, 185,000 cfs Aug. 14, 1940 (gage height, 23.42 ft), from rating curve extended above 52,000 cfs on basis of flood records for other stations on New River; minimum, 412 cfs Sept. 7, 1930 (gage height, 0.47 ft); minimum daily, 453 cfs Sept. 6, 1930.

REMARKS.--Records good. Large diurnal fluctuation and some regulation by powerplants 25 miles above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 783: Drainage area. WSP 823: 1936. WSP 1305: 1933(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	JCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,900	4,590	4,850	2,760	4,020	6,380	4,290	3,740	4,450	4,520	6,550	1,630
2	2,330	4,750	3,870	2,800	3,930	5,660	4,220	3,240	3,760	4,350	5,700	1,320
3	2,770	7,600	3,460	2,920	3,790	7,440	4,530	8,580	3,100	4,220	3,970	1,490
4	2,600	8,600	2,840	2,920	5,230	8,040	4,000	12,300	3,100	3,130	3,390	1,580
5	1,850	7,080	3,230	3,380	3,520	6,600	4,080	9,100	3,370	8,460	2,800	2,460
6	2,130	5,410	3,450	3,910	3,830	5,590	3,520	6,570	2,710	5,640	2,680	3,520
7	2,080	4,900	5,250	3,880	3,860	4,840	3,450	5,220	3,110	4,540	2,890	2,960
8	2,070	4,480	9,110	3,180	3,420	4,330	6,130	5,510	2,800	4,000	2,570	2,370
9	1,560	3,910	7,760	2,990	3,260	4,140	6,730	5,400	3,320	3,730	2,480	1,680
10	3,250	3,780	6,090	3,370	3,310	3,940	5,530	5,590	2,170	3,700	2,320	1,630
11	2,790	3,710	4,910	4,600	2,920	3,210	4,730	5,060	2,610	3,410	2,220	2,160
12	2,370	3,190	4,460	4,150	3,090	3,640	8,900	4,340	2,740	3,360	2,030	1,670
13	1,340	3,040	3,970	4,170	6,450	3,560	12,200	3,850	2,370	3,630	1,950	1,470
14	2,150	3,040	3,930	4,880	7,960	3,380	14,800	5,930	2,330	3,360	2,530	1,680
15	1,780	3,050	3,490	4,240	5,990	3,270	11,900	9,290	2,400	3,040	2,030	1,530
16	1,820	2,940	3,510	3,450	5,280	3,350	8,110	9,220	2,880	5,590	1,950	1,210
17	3,050	2,710	3,430	2,310	4,830	3,800	6,580	7,260	2,840	3,810	2,020	1,390
18	2,590	2,910	2,970	2,940	4,790	3,880	5,570	6,110	5,010	3,570	2,090	1,940
19	2,320	2,560	2,880	3,640	3,980	3,690	4,850	5,810	4,250	3,510	1,810	1,450
20	2,020	2,630	3,010	3,710	3,790	3,380	4,520	5,390	4,950	3,450	2,600	1,440
21	2,390	2,610	3,130	4,090	2,980	3,210	4,390	7,150	42,800	3,050	2,540	1,370
22	3,140	2,630	3,140	4,450	4,450	6,440	4,560	5,730	29,100	2,290	2,180	1,340
23	6,230	2,550	2,830	4,050	5,810	6,500	5,910	6,950	13,000	2,710	2,010	1,200
24	26,100	2,590	2,470	4,070	6,450	5,300	5,760	6,370	8,170	2,880	1,970	1,290
25	22,200	2,720	2,520	3,980	8,230	4,740	4,890	5,790	6,530	2,240	1,770	1,710
26	12,900	2,900	2,680	3,550	10,600	3,890	4,440	4,960	5,490	2,350	1,450	1,320
27	8,210	2,610	2,690	3,450	15,400	4,150	3,930	4,150	4,940	2,280	1,800	1,600
28	6,430	3,140	2,720	5,270	10,700	4,050	3,700	4,180	4,820	2,350	2,610	1,960
29	5,010	3,300	2,400	6,760	7,790	3,580	3,260	3,930	5,020	2,490	1,920	3,310
30	4,490	4,910	2,500	5,690	-----	3,860	3,590	4,000	4,560	4,090	1,720	4,930
31	3,880	-----	2,110	4,650	-----	3,900	-----	4,310	-----	5,860	1,650	-----
TOTAL	146,870	114,840	115,660	120,210	160,660	141,740	173,370	186,130	188,700	115,610	78,200	56,610
MEAN	4,738	3,828	3,731	3,878	5,540	4,572	5,779	6,004	6,290	3,729	2,523	1,887
MAX	26,100	8,600	9,110	6,760	15,400	8,040	14,800	12,300	42,800	8,460	6,550	4,930
MIN	1,560	2,550	2,110	2,310	2,920	3,210	3,260	3,240	2,170	2,240	1,450	1,230
CFSM	2.15	1.74	1.69	1.76	2.52	2.08	2.62	2.73	2.86	1.69	1.15	.86
IV.	2.48	1.94	1.95	2.03	2.71	2.39	2.93	3.14	3.19	1.95	1.32	.96

CAL YR 1971 TOTAL 1,343,430 MEAN 3,681 MAX 26,100 MIN 1,180 CFSM 1.67 IN 22.70
WTR YR 1972 TOTAL 1,598,600 MEAN 4,363 MAX 42,800 MIN 1,200 CFSM 1.98 IN 27.01

PEAK DISCHARGE (BASE, 17,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	0845	7.24	28,500	6-21	1530	11.85	62,800
2-27	0845	5.60	18,300				

KANAWHA RIVER BASIN

03169000 CLAYTOR RESERVOIR NEAR RADFORD, VA.

LOCATION.--Lat 37°04'28", long 80°35'05", Pulaski County, at Claytor Dam on New River, 0.5 mile upstream from Little River, and 5.5 miles upstream from Radford.

DRAINAGE AREA.--2,382 sq mi.

PERIOD OF RECORD.--May 1939 to current year (monthly figures only).

GAGE.--Water-stage recorder. Datum of gage is at approximately mean sea level (levels by Appalachian Power Co.). Prior to Sept. 11, 1943, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by gravity overflow concrete dam. Spillway with crest at elevation 1,818.5 ft is equipped with 9 lift gates 30 ft high by 50 ft wide. Dam completed and storage began May 22, 1939; water in reservoir reached minimum pool elevation in January 1940. Total level-pool capacity at elevation 1,847.0 ft (1.5 ft below top of gates) is 230,100 acre-ft of which about 100,000 acre-ft is controlled storage above elevation 1,820.0 ft (minimum pool). Reservoir is used for power.

COOPERATION.--Records furnished by Appalachian Power Co.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972			
Date	Elevation (feet)	Contents (acre- feet)	Change in contents (acre- feet)
Sept. 30.....	1,844.89	220,800	-
Oct. 31.....	1,845.58	223,700	+2,900
Nov. 30.....	1,845.25	222,300	-1,400
Dec. 31.....	1,844.26	218,100	-4,200
CAL YR 1971.....	-	-	-1,500
Jan. 31.....	1,844.94	221,000	+2,900
Feb. 29.....	1,845.88	225,000	+4,000
Mar. 31.....	1,843.85	216,300	-8,700
Apr. 30.....	1,845.08	221,600	+5,300
May 31.....	1,844.50	219,100	-2,500
June 30.....	1,843.68	215,600	-3,500
July 31.....	1,845.18	222,000	+6,400
Aug. 31.....	1,845.60	223,800	+1,800
Sept. 30.....	1,845.51	223,400	-400
WTR YR 1972.....	-	-	+2,600

KANAWHA RIVER BASIN

181

03170000 LITTLE RIVER AT GRAYSONTON, VA.

LOCATION.--Lat 37°02'15", long 80°33'25", Pulaski County, on left bank at upstream side of highway bridge at Snowville, 0.5 mile southeast of Graysonton, 7 miles south of Radford, and 8.6 miles upstream from mouth.

DRAINAGE AREA.--300 sq mi.

PERIOD OF RECORD.--October 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,816.04 ft above mean sea level. Prior to Nov. 20, 1931, non-recording gage at bridge 1 mile downstream at datum 17.99 ft lower. Nov. 20, 1931, to Nov. 12, 1941, water-stage recorder 1.2 miles downstream at datum 20.58 ft lower.

AVERAGE DISCHARGE.--44 years, 356 cfs (16.11 inches per year).

EXTREMES.--Current year: Maximum discharge, 22,800 cfs June 21 (gage height, 13.40 ft), from rating curve extended as explained below; minimum, 116 cfs Jan. 17 (gage height, 1.04 ft), result of freezeup; minimum daily, 166 cfs Oct. 1.

Period of record: Maximum discharge, 22,800 cfs June 21, 1972 (gage height, 13.40 ft), from rating curve extended above 16,000 cfs on basis of slope-area measurements at gage heights 12.76 and 13.40 ft; minimum, 21 cfs Feb. 22, 1942, result of freezeup; minimum daily, 50 cfs Sept. 21, 1932.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 823: 1929-36. WSP 1143: 1945. WSP 1305: 1929(M). WSP 1555: Drainage area (at site used 1928-41). WSP 1625: 1951(M). WSP 1725: 1936(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166	499	518	253	365	580	464	417	415	505	912	231
2	555	472	413	269	364	546	486	392	367	470	808	231
3	470	722	369	294	431	604	433	1,620	341	547	540	231
4	276	756	346	284	841	557	401	2,510	324	526	425	227
5	227	497	358	348	475	495	384	1,280	311	2,340	393	255
6	223	436	352	321	380	454	362	825	305	1,190	369	363
7	221	409	621	271	350	422	361	654	308	712	351	255
8	184	377	853	258	320	409	1,720	581	304	582	375	236
9	181	358	555	260	310	384	975	668	291	519	334	227
10	727	355	471	317	300	362	638	585	283	596	307	222
11	475	342	425	340	300	351	542	501	274	596	296	218
12	294	330	386	355	338	349	1,000	466	268	498	301	218
13	242	322	372	320	936	345	1,180	442	259	554	296	213
14	218	312	349	429	954	345	1,540	619	254	457	290	204
15	205	307	337	392	583	360	1,450	1,010	260	431	285	204
16	218	304	337	209	513	347	918	833	276	431	285	204
17	288	294	321	219	476	512	717	562	876	412	296	200
18	245	289	302	240	463	462	589	560	1,000	387	323	218
19	229	288	280	260	443	390	530	535	529	381	312	213
20	216	307	308	349	285	363	496	580	774	375	318	195
21	423	297	328	430	357	350	472	586	10,000	369	290	191
22	529	284	295	447	593	951	576	526	4,000	369	270	195
23	1,170	264	274	404	610	812	835	511	1,500	399	260	195
24	2,860	279	274	445	556	543	586	526	930	351	255	191
25	4,070	352	283	408	981	473	517	461	768	329	275	195
26	1,820	317	275	355	1,420	451	477	420	652	318	260	191
27	374	326	275	334	1,580	440	443	390	582	307	285	218
28	638	391	271	628	906	422	416	373	582	334	290	296
29	523	475	265	657	684	402	403	368	673	369	260	603
30	467	700	260	501	-----	384	431	364	547	505	240	624
31	438	-----	260	424	-----	378	-----	385	-----	610	231	-----
TOTAL	19,772	11,661	11,333	11,021	17,114	14,243	20,342	20,650	28,253	16,769	10,732	7,474
MEAN	538	389	366	356	590	459	578	666	942	541	346	249
MAX	4,070	756	853	657	1,580	951	1,720	2,510	10,000	2,340	912	624
MIN	155	264	260	209	285	345	361	364	254	307	231	191
CFSM	2.13	1.30	1.22	1.19	1.97	1.53	2.26	2.22	3.14	1.80	1.15	.83
IN.	2.45	1.45	1.41	1.37	2.12	1.77	2.52	2.56	3.50	2.08	1.33	.93

CAL YR 1971 TOTAL 131,484 MEAN 360 MAX 4,070 MIN 97 CFSM 1.20 IN 16.30
WTR YR 1972 TOTAL 189,364 MEAN 517 MAX 10,000 MIN 166 CFSM 1.72 IN 23.48

PEAK DISCHARGE (BASE, 3,000 CFS)

NOTE.--NO GAGE-HEIGHT RECORD JUNE 21-23.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	1130	3.96	3,140	6-21	UNKNOWN	13.40	22,800
10-25	0730	5.63	5,640	7- 5	1200	3.97	3,160
5- 4	0130	4.02	3,230				

KANAWHA RIVER BASIN

03171000 NEW RIVER AT RADFORD, VA.

LOCATION.--Lat 37°08'30", long 80°34'10", Pulaski County, on left bank 2,000 ft downstream from bridge on U.S. Highway 11 at Radford, 5 miles downstream from Little River, and 5.5 miles downstream from Claytor Dam.

DRAINAGE AREA.--2,748 sq mi.

PERIOD OF RECORD.--October 1907 to September 1915, August 1939 to current year. Records for August 1898 to September 1907, published in WSP 27, 36, 48, 65, 83, 98, 128, 169, 205, 243, and 536, are unreliable and should not be used. Gage-height records collected at same site since 1895, but at different datum, are contained in reports of the National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 1,712.16 ft above mean sea level. Prior to Aug. 30, 1939, non-recording gage at highway bridge 2,000 ft upstream at datum 0.85 ft lower.

AVERAGE DISCHARGE.--41 years, 3,708 cfs (18.32 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 80,600 cfs June 21 (gage height, 20.21 ft), from rating curve extended as explained below; minimum, 600 cfs Dec. 26 (gage height, 1.60 ft); minimum daily, 1,090 cfs Oct. 16. Period of record: Maximum discharge, 218,000 cfs Aug. 14, 1940 (gage height, 35.96 ft), from rating curve extended above 73,000 cfs on basis of records for other stations on New River and flow over Claytor Dam (computed by Appalachian Power Co.); minimum, 165 cfs Aug. 25, 27, 1944 (gage height, 1.08 ft); minimum daily, 550 cfs Aug. 22, 1911.

Flood of July 16, 1916, reached a stage of 35.7 ft (discharge, 200,000 cfs), at site and datum used by Geological Survey 1907-15, from reports of the National Weather Service.

REMARKS.--Records good. Flow regulated since 1939 by Claytor Reservoir (see sta 03169000). Some additional regulation at low flow by dam and powerplant on Little River, 0.5 mile above mouth. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 873: Drainage area. WSP 953: 1940-41. WSP 1305: 1908-12. See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	JCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,570	4,750	5,300	1,763	4,520	9,730	1,860	4,570	6,540	4,370	7,170	2,710
2	3,530	5,690	5,460	2,080	5,240	8,310	2,300	5,550	5,640	2,620	6,360	1,970
3	1,500	7,840	5,970	3,630	5,230	8,370	6,210	9,170	3,560	5,210	5,700	1,320
4	2,320	10,800	2,940	6,070	7,400	7,420	5,520	14,000	1,860	2,990	5,920	1,310
5	2,570	7,270	1,830	4,670	2,870	5,040	3,730	12,700	3,300	11,400	2,100	3,570
6	4,270	6,640	5,160	3,770	2,780	5,900	5,270	8,560	3,270	8,460	2,330	3,850
7	2,320	6,050	7,410	3,490	4,850	5,050	5,740	2,910	3,350	6,620	3,820	4,250
8	2,390	5,200	9,990	2,470	4,360	5,430	7,960	8,150	3,690	4,770	3,990	3,950
9	1,210	4,730	8,280	2,380	5,100	4,680	3,890	9,920	4,160	1,710	4,350	1,650
10	1,300	4,960	6,840	5,400	5,060	4,990	6,440	6,790	2,550	5,210	3,630	1,190
11	3,490	4,020	4,560	6,130	4,770	3,970	6,190	5,930	1,650	5,650	4,480	3,010
12	2,460	4,470	4,500	4,830	2,130	4,200	8,360	6,370	2,990	5,730	1,420	2,320
13	3,780	2,170	4,860	3,810	8,410	5,130	12,600	3,310	5,460	5,480	1,360	2,550
14	4,430	1,290	4,550	5,100	6,600	3,610	16,200	6,810	4,210	4,100	2,770	1,940
15	3,520	3,690	4,650	3,960	8,340	5,200	13,900	8,870	3,080	1,860	2,790	1,820
16	1,390	3,840	4,510	2,330	6,060	5,070	12,200	9,480	4,180	2,030	2,830	1,300
17	1,230	3,290	5,030	3,360	5,860	5,290	7,510	7,680	2,740	5,510	2,610	1,190
18	3,260	4,600	3,160	3,130	5,880	2,470	6,890	7,390	3,740	4,920	2,640	2,290
19	2,570	5,430	1,860	4,760	4,960	1,190	6,700	6,810	8,650	5,310	1,920	1,630
20	2,710	1,180	3,050	4,980	2,460	3,710	6,590	6,850	10,400	4,860	1,620	1,880
21	3,120	1,260	3,740	7,950	3,510	4,360	6,880	7,280	47,200	5,340	2,610	1,420
22	4,400	3,250	5,180	3,390	5,530	6,290	4,980	6,740	38,500	2,000	2,940	1,970
23	8,440	3,630	5,080	2,630	7,270	7,990	2,410	7,150	15,200	1,680	2,400	1,130
24	22,400	4,430	1,790	3,900	7,640	6,960	5,880	7,870	12,000	3,620	3,040	1,130
25	25,400	3,080	1,420	5,560	11,100	6,210	5,970	7,210	7,890	3,190	3,330	2,170
26	14,900	4,100	1,480	4,700	12,200	2,470	3,680	6,120	8,310	2,850	1,480	1,700
27	11,400	2,440	3,300	4,860	15,000	6,730	5,810	2,330	5,840	2,900	1,430	1,920
28	7,910	2,200	3,100	7,040	11,200	4,730	7,510	3,500	6,400	2,810	3,010	4,370
29	7,510	4,910	3,480	9,040	10,600	5,460	4,200	5,360	7,210	2,870	2,300	4,340
30	4,260	5,210	4,900	3,340	-----	5,630	2,190	5,070	7,370	4,360	2,470	5,660
31	4,170	-----	2,210	6,150	-----	3,430	-----	7,220	-----	7,190	2,300	-----
TOTAL	159,230	132,420	135,590	136,670	186,930	165,020	195,570	217,770	240,940	137,620	97,120	71,510
MEAN	5,159	4,414	4,374	4,409	6,446	5,323	6,519	7,025	8,031	4,439	3,133	2,384
MAX	25,400	10,800	9,990	9,040	15,000	9,730	16,200	14,000	47,200	11,400	7,170	5,660
MIN	1,390	1,180	1,420	1,760	2,130	1,190	1,860	2,330	1,650	1,680	1,360	1,130
(*)	+48	-24	-69	+47	+70	-141	+89	-40	-59	+104	+29	-6
MEAN#	5,507	4,390	4,305	4,456	6,516	5,182	6,608	6,985	7,972	4,543	3,162	2,378
CFSM#	2.00	1.60	1.57	1.62	2.37	1.89	2.40	2.54	2.90	1.65	1.15	.87
IN#	2.31	1.78	1.81	1.87	2.56	2.18	2.68	2.93	3.24	1.90	1.33	.97

CAL YR 1971 TOTAL 1,546,955 MEAN 4,238 MAX 26,400 MIN 958 MEAN# 4,236 CFSM# 1.54 IN# 20.93
WTR YR 1972 TOTAL 1,886,390 MEAN 5,154 MAX 47,200 MIN 1,090 MEAN# 5,158 CFSM# 1.88 IN# 25.56

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN CLAYTOR RESERVOIR; FURNISHED BY APPALACHIAN POWER CO.

* ADJUSTED FOR CHANGE IN CONTENTS.

KANAWHA RIVER BASIN

183

031715000 NEW RIVER AT EGGLESTON, VA.

LOCATION.--Lat 37°17'22", long 80°37'01", Giles County, on left bank 50 ft downstream from highway bridge at Eggleston, 1.9 miles downstream from Spruce Run, and 7.8 miles upstream from Walker Creek.

DRAINAGE AREA.--2,941 sq mi.

PERIOD OF RECORD.--October 1914 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,615.59 ft above mean sea level. Prior to July 2, 1926, non-recording gage at same site and datum.

AVERAGE DISCHARGE.--58 years, 3,874 cfs (17.89 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 82,100 cfs June 22 (gage height, 22.81 ft), from rating curve extended as explained below; minimum, 800 cfs Dec. 26 (gage height, 2.69 ft); minimum daily, 1,040 cfs Sept. 24. Period of record: Maximum discharge, 219,000 cfs Aug. 14, 1940 (gage height, 41.16 ft), from rating curve extended above 49,000 cfs on basis of flood records for other stations on New River; minimum, 250 cfs Jan. 24, 1966 (gage height, 1.80 ft), result of freezeup; minimum daily, 635 cfs July 20, 21, Sept. 28, 1926. Flood in September 1878 reached a stage of about 40 ft (discharge, about 209,000 cfs).

REMARKS.--Records good. Flow regulated since 1939 by Claytor Reservoir 30 miles above station (see sta 03169000). Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 536: 1915. WSP 783: Drainage area. WSP 893: 1916(M). WSP 1275: 1918-19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,460	4,950	5,590	1,830	4,880	9,980	2,690	3,450	6,670	5,920	7,390	2,310
2	3,530	5,470	5,500	1,840	5,540	8,820	1,910	4,860	6,160	3,710	6,400	2,630
3	2,280	6,900	5,800	3,060	4,900	8,740	4,860	7,570	4,570	3,560	5,830	1,710
4	2,230	11,100	4,200	5,140	7,050	7,880	5,590	14,000	2,470	4,220	6,260	1,270
5	2,330	7,470	2,630	4,990	5,140	5,920	4,420	12,500	2,470	8,850	4,480	1,920
6	3,110	6,690	3,250	4,530	2,640	5,900	5,010	10,500	3,210	9,950	1,940	4,400
7	3,330	6,020	6,500	3,530	4,330	5,610	5,640	3,870	3,160	6,820	3,380	3,780
8	2,590	6,040	10,000	2,830	4,880	5,470	9,440	5,320	3,140	6,450	3,520	4,290
9	2,480	4,750	8,180	2,270	4,680	5,140	6,240	10,700	3,820	2,440	4,040	2,830
10	1,240	4,680	7,490	4,750	5,340	5,190	5,680	6,640	3,320	3,410	4,770	1,530
11	2,380	4,310	5,390	5,760	5,140	4,330	6,640	5,920	2,200	5,300	3,630	1,630
12	3,030	4,330	4,640	5,140	3,850	4,290	7,390	5,280	2,290	5,520	3,380	2,780
13	3,060	3,580	4,790	4,290	5,210	5,120	12,700	5,250	3,690	6,120	1,370	2,410
14	4,010	2,080	4,510	4,640	7,730	4,020	16,000	5,060	4,880	4,900	2,050	2,190
15	4,430	2,500	4,660	4,480	8,460	5,030	16,200	8,210	3,800	2,710	2,480	1,820
16	2,580	3,230	4,750	3,410	6,260	4,990	12,400	9,800	3,120	1,880	2,980	1,840
17	1,230	3,690	4,790	2,580	6,380	5,680	8,990	7,550	4,040	3,410	2,610	1,230
18	2,210	4,090	3,960	3,330	5,780	4,510	7,360	7,420	2,690	5,190	2,600	1,470
19	2,340	4,770	2,450	4,070	5,920	1,700	6,770	6,600	7,080	4,990	2,170	1,890
20	2,550	3,490	2,790	4,700	4,110	2,330	6,620	6,900	9,440	5,320	2,020	1,580
21	3,060	1,240	2,960	8,520	2,740	3,930	7,030	7,260	38,200	4,700	1,870	1,780
22	3,650	2,370	4,420	4,750	4,590	5,900	6,430	5,480	50,400	4,260	2,610	1,470
23	7,070	2,900	5,230	2,830	7,420	8,120	4,350	7,000	17,800	1,740	2,900	1,780
24	19,500	4,040	3,780	4,070	7,420	7,260	4,180	7,520	12,600	2,580	2,510	1,040
25	27,400	4,020	1,590	5,520	11,900	6,640	6,120	6,950	8,820	3,160	3,230	1,530
26	19,000	3,430	1,290	4,730	12,500	3,910	5,080	6,840	7,960	3,080	2,480	1,790
27	11,000	3,140	2,600	4,920	14,700	5,660	5,080	3,320	6,950	2,660	1,420	1,920
28	3,710	2,080	2,830	6,870	13,000	5,210	6,640	2,610	5,850	2,780	2,170	3,650
29	7,500	4,290	3,230	8,990	10,900	5,250	5,950	4,990	7,130	2,410	2,550	4,810
30	5,540	4,950	4,020	6,040	-----	5,640	2,870	4,970	7,260	5,010	2,400	6,210
31	3,710	-----	3,820	4,530	-----	4,750	-----	5,780	-----	6,040	2,290	-----
TOTAL	172,450	132,600	137,640	138,960	194,390	172,920	206,280	212,320	245,190	139,090	99,730	71,430
MEAN	5,563	4,420	4,440	4,483	5,703	5,578	6,876	6,849	8,173	4,487	3,217	2,380
MAX	27,400	11,100	10,000	8,990	14,700	9,980	16,200	14,000	50,400	9,950	7,390	6,210
MIN	1,230	1,240	1,290	1,830	2,640	1,700	1,910	2,610	2,200	1,740	1,370	1,040
(*)	+48	-24	-69	+47	+70	-141	+89	-40	-59	+104	+29	-6
MEAN#	5,611	4,396	4,371	4,530	6,773	5,437	6,965	6,809	8,114	4,591	3,246	2,374
CFSM#	1.91	1.49	1.49	1.54	2.30	1.85	2.37	2.32	2.76	1.56	1.10	.81
IN#	2.20	1.66	1.72	1.78	2.48	2.13	2.64	2.68	3.08	1.80	1.27	.90

CA. YR 1971 TOTAL 1,626,008 MEAN 4,455 MAX 27,400 MIN 978 MEAN# 4,453 CFSM# 1.51 IN# 20.55
 WTR YR 1972 TOTAL 1,922,970 MEAN 5,254 MAX 50,400 MIN 1,040 MEAN# 5,258 CFSM# 1.79 IN# 24.34

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN CLAYTOR RESERVOIR; FURNISHED BY APPALACHIAN POWER CO.

* ADJUSTED FOR CHANGE IN CONTENTS.

KANAWHA RIVER BASIN

03173000 WALKER CREEK AT BANE, VA.

LOCATION.--Lat 37°16'05", long 80°42'35", Giles County, on left bank at Bane, 0.2 mile downstream from bridge on State Highway 100, 0.2 mile downstream from Sugar Run, and 7.9 miles upstream from mouth.

DRAINAGE AREA.--305 sq mi.

PERIOD OF RECORD.--March 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,665.92 ft above mean sea level. Prior to Aug. 1, 1938, non-recording gage at same site and datum.

AVERAGE DISCHARGE.--34 years, 314 cfs (13.98 inches per year).

EXTREMES.--Current year: Maximum discharge, 11,300 cfs June 21 (gage height, 13.69 ft), from rating curve extended as explained below; minimum, 62 cfs Sept. 23-25, 26 (gage height, 3.08 ft).

Period of record: Maximum discharge, 16,500 cfs Jan. 30, 1957 (gage height, 16.50 ft), from rating curve extended above 7,200 cfs on basis of slope-area measurement of peak flow; minimum, 15 cfs Dec. 21, 1958 (gage height, 2.42 ft), result of freezeup; minimum daily, 24 cfs Sept. 27, 28, 1964.

Flood in September 1878 reached a stage of about 23.5 ft.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1143: 1939(M), 1940, 1944, 1946. WSP 1305: 1938(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	295	519	131	643	935	278	323	329	442	590	83
2	88	279	380	139	541	776	263	297	273	371	477	81
3	134	654	312	152	505	2,110	250	514	244	315	557	79
4	113	1,030	279	166	608	1,420	245	1,390	223	283	442	78
5	101	671	253	334	428	1,030	244	1,310	206	1,180	394	88
6	114	489	235	611	380	780	230	905	194	1,330	316	95
7	122	395	335	495	330	643	263	687	197	821	261	102
8	104	327	731	383	310	562	1,910	588	190	568	240	89
9	93	277	611	318	300	476	1,270	786	170	429	241	84
10	95	250	480	355	293	416	857	979	162	354	198	81
11	97	228	400	427	270	376	661	786	154	313	175	79
12	91	209	336	412	319	349	1,040	624	147	286	162	76
13	83	194	307	369	743	328	1,670	520	140	254	159	73
14	77	180	273	359	1,120	311	3,310	651	136	233	147	72
15	74	168	249	323	867	292	3,190	1,010	133	224	136	72
16	110	159	239	200	805	282	1,750	945	131	204	129	70
17	192	151	225	200	738	329	1,310	771	217	190	128	69
18	168	145	207	220	654	306	984	645	657	201	129	68
19	138	140	192	240	570	279	780	615	346	192	137	67
20	120	136	190	267	460	261	653	614	320	166	150	65
21	115	137	195	1,910	403	252	566	697	6,470	154	142	66
22	137	136	182	1,610	472	471	518	858	3,620	146	124	65
23	373	129	164	1,070	776	701	871	897	1,530	141	114	63
24	2,140	130	155	790	1,050	593	760	750	998	138	108	62
25	1,940	136	153	632	3,320	486	644	599	723	129	103	63
26	1,760	133	151	521	3,060	429	550	477	542	122	99	54
27	1,310	134	149	455	3,040	384	464	393	434	119	98	85
28	551	146	147	1,280	1,660	359	410	343	383	125	95	102
29	466	219	142	1,860	1,200	334	374	309	580	153	93	349
30	370	564	137	1,190	-----	314	350	298	496	390	89	1,210
31	317	-----	134	853	-----	288	-----	321	-----	1,100	86	-----
TOTAL	11,362	8,241	8,462	18,272	25,862	16,872	26,765	20,902	20,345	11,073	6,319	3,701
MEAN	367	275	273	589	892	544	892	674	678	357	204	123
MAX	2,140	1,030	731	1,910	3,320	2,110	3,310	1,390	6,470	1,330	590	1,210
MIN	69	129	134	131	270	252	230	297	131	119	86	62
CFSM	1.20	.90	.90	1.93	2.92	1.78	2.92	2.21	2.22	1.17	.67	.40
IV.	1.39	1.01	1.03	2.23	3.15	2.06	3.26	2.55	2.48	1.35	.77	.45

CAL YR 1971 TOTAL 153,719 MEAN 421 MAX 3,490 MIN 56 CFSM 1.38 IN 18.75
WTR YR 1972 TOTAL 178,176 MEAN 487 MAX 6,470 MIN 62 CFSM 1.60 IN 21.73

PEAK DISCHARGE (BASE, 4,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-25	1130	9.32	4,080	4-14	2000	10.04	5,080
2-26	2330	9.50	4,310	6-21	1730	13.69	11,300

KANAWHA RIVER BASIN

185

03175500 WOLF CREEK NEAR NARROWS, VA.

LOCATION.--Lat 37°18'20", long 80°51'00", Giles County, on right bank at downstream side of bridge on State Highway 61, 2.8 miles southwest of Narrows, and 3.5 miles upstream from mouth.

DRAINAGE AREA.--223 sq mi.

PERIOD OF RECORD.--July 1908 to September 1916, March 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,583.83 ft above mean sea level. July 22, 1908, to Sept. 30, 1916, and Mar. 31 to Nov. 7, 1938, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--42 years, 290 cfs (17.66 inches per year).

EXTREMES.--Current year: Maximum discharge, 7,000 cfs Apr. 14 (gage height, 10.09 ft), from rating curve extended as explained below; minimum, 48 cfs Sept. 26 (gage height, 2.63 ft).

Period of record: Maximum discharge, 12,900 cfs Jan. 29, 1957 (gage height, 12.55 ft in gage well, 13.8 ft from floodmark at downstream side of bridge), from rating curve extended above 5,700 cfs on basis of contracted-opening measurement of peak flow; minimum, 8.8 cfs Dec. 25, 1953 (gage height, 2.28 ft), result of freezeup; minimum daily, 16 cfs Sept. 17, 18, 26-28, 1964.

REMARKS.--Records good. Prior to 1960, slight diurnal fluctuation at low flow caused by mill and dam 300 ft above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 973: 1940-41(M). WSP 1235: 1912-13, 1915-16. WSP 1505: 1940, monthly and yearly runoff. WSP 1725: 1913(M), 1915-16(M), 1941 calendar year runoff.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	274	445	125	685	866	322	283	354	363	660	108
2	73	241	336	138	585	760	300	262	287	322	545	99
3	85	455	300	192	535	1,450	287	555	245	287	510	92
4	73	700	258	249	520	1,040	279	1,080	215	253	406	95
5	67	535	230	808	377	842	287	986	202	786	340	108
6	86	425	205	1,060	320	680	266	745	186	896	262	138
7	136	354	283	745	290	595	283	615	202	685	227	108
8	91	291	540	565	280	540	1,750	540	173	520	340	92
9	81	245	480	465	270	465	1,180	781	156	396	336	86
10	30	219	406	590	266	411	836	1,110	154	318	253	84
11	75	195	345	610	258	372	675	825	148	262	208	77
12	57	176	287	545	266	345	1,020	570	138	223	182	73
13	60	162	283	480	460	318	1,440	570	130	202	162	69
14	55	151	249	520	590	309	4,520	510	125	186	156	66
15	52	140	230	380	565	287	3,790	610	120	164	154	66
16	59	132	230	280	595	270	1,830	590	120	156	145	66
17	119	125	212	270	580	331	1,250	540	145	156	138	62
18	115	120	202	300	530	331	926	475	415	156	435	60
19	90	115	179	331	475	318	745	425	262	154	1,260	60
20	77	113	189	445	368	300	640	480	253	154	685	64
21	72	115	202	3,380	349	287	560	455	2,780	140	475	58
22	79	115	186	1,890	550	470	610	1,010	2,380	135	354	55
23	111	104	168	1,170	808	630	670	1,020	1,180	135	283	52
24	1,190	106	162	848	1,590	560	610	836	808	125	230	52
25	2,000	104	165	715	3,970	490	555	660	640	113	198	52
26	2,220	95	159	615	3,910	435	490	525	505	104	173	49
27	1,050	120	156	555	3,260	391	425	425	406	101	192	55
28	580	135	148	1,780	1,620	377	372	359	363	130	173	81
29	500	182	143	2,140	1,110	354	340	318	396	140	148	215
30	387	485	135	1,240	-----	345	313	305	340	620	130	1,330
31	318	-----	130	884	-----	322	-----	406	-----	1,170	117	-----
TOTAL	10,173	6,729	7,643	24,315	25,982	15,491	27,571	19,071	13,828	9,552	9,877	3,672
MEAN	328	224	247	784	896	500	919	615	461	308	319	122
MAX	2,220	700	540	3,380	3,970	1,450	4,520	1,110	2,780	1,170	1,260	1,330
MIN	52	95	130	125	258	270	266	262	120	101	117	49
CFSM	1.47	1.00	1.11	3.52	4.02	2.24	4.12	2.76	2.07	1.38	1.43	.55
IN.	1.70	1.12	1.27	4.06	4.33	2.58	4.60	3.18	2.31	1.59	1.65	.61

CAL YR 1971 TOTAL 147,028 MEAN 403 MAX 4,050 MIN 42 CFSM 1.81 IN 24.53
 WTR YR 1972 TOTAL 173,904 MEAN 475 MAX 4,520 MIN 49 CFSM 2.13 IN 29.01

PEAK DISCHARGE (BASE, 2,200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	2130	7.67	3,400	2-26	1930	9.04	5,050
1-21	0930	8.37	4,240	4- 8	0800	6.56	2,260
1-28	2200	7.25	2,950	4-14	1800	10.09	7,000
2-25	0800	8.70	4,640	6-21	1630	8.32	4,180

KANAWHA RIVER BASIN

03176500 NEW RIVER AT GLEN LYN, VA.

LOCATION.--Lat 37°22'20", long 80°51'45", Giles County, on right bank at upstream side of bridge on U.S. Highway 460 at Glen Lyn, 0.3 mile upstream from East River, and 6.3 miles downstream from Wolf Creek.

DRAINAGE AREA.--3,768 sq mi.

PERIOD OF RECORD.--August 1927 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,490.24 ft above mean sea level. Aug. 11, 1927, to Oct. 16, 1934, on left bank just upstream from highway bridge at same datum, and Oct. 17, 1934, to June 16, 1939, on left bank 200 ft upstream from highway bridge at same datum.

AVERAGE DISCHARGE.--45 years, 4,864 cfs (17.53 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 105,000 cfs June 22 (gage height, 17.36 ft), from rating curve extended as explained below; minimum, 1,340 cfs Sept. 24, 25 (gage height, 3.29 ft); minimum daily, 1,360 cfs Sept. 25.

Period of record: Maximum discharge, 226,000 cfs Aug. 14, 1940 (gage height, 27.50 ft), from rating curve extended above 65,000 cfs on basis of slope-area measurement of peak flow; minimum, 730 cfs Jan. 30, 1966, result of freezeup; minimum daily, 820 cfs Sept. 8, 1930; minimum gage height, 2.10 ft Sept. 8, 1930.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Flow regulated since 1939 by Claytor Reservoir 55 miles above station (see sta 03169000). Water-quality records for the current year are included in this report.

REVISIONS (WATER YEARS).--WSP 758: Drainage area. WSP 1305: 1928(M), 1930(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,780	5,000	6,370	2,780	7,160	12,400	4,470	3,230	7,340	7,340	9,500	2,350
2	3,580	6,500	6,090	2,420	6,760	11,000	2,980	5,290	6,570	6,400	7,360	2,680
3	3,370	7,500	6,170	2,670	6,270	12,800	3,620	7,540	5,770	5,500	7,480	2,090
4	1,350	9,000	6,270	4,290	8,050	11,800	6,310	16,100	3,820	4,500	6,570	1,620
5	3,270	15,000	3,700	7,050	8,000	9,640	6,110	15,200	2,230	5,000	6,600	1,620
6	3,080	10,000	2,600	6,540	4,290	7,270	4,630	13,200	3,620	11,000	2,650	3,730
7	4,510	9,000	6,210	5,380	4,320	7,680	5,830	6,760	3,660	12,000	2,870	3,570
8	3,220	8,000	11,200	4,820	5,900	6,970	12,200	4,990	3,650	9,500	4,170	3,970
9	3,260	8,000	9,320	3,600	5,420	6,890	10,900	12,800	3,850	8,500	4,330	3,860
10	1,300	6,500	8,800	4,190	5,120	6,220	6,720	8,870	4,240	3,000	4,590	1,900
11	1,830	6,200	6,990	6,430	5,980	6,200	8,220	8,090	2,860	4,000	3,780	1,470
12	3,540	5,600	5,370	6,690	5,580	5,680	8,520	7,550	1,990	6,500	4,460	2,840
13	2,720	5,500	5,170	5,810	5,680	5,130	15,500	7,450	3,100	7,000	1,890	2,310
14	3,300	4,800	5,450	4,970	10,200	6,050	21,900	5,510	5,300	8,000	1,780	2,470
15	4,490	2,700	5,160	6,020	9,780	4,820	26,100	9,530	4,240	6,000	2,860	2,030
16	3,810	3,960	5,230	4,810	8,400	6,080	16,600	11,700	3,330	4,000	2,860	1,860
17	1,330	4,150	5,070	3,200	7,890	5,200	12,700	9,480	4,950	2,400	2,890	1,530
18	1,380	3,660	5,450	4,240	7,220	6,280	9,790	8,640	4,500	4,500	2,870	1,450
19	3,460	4,780	3,760	4,040	7,760	3,550	8,620	7,870	6,110	6,500	3,840	2,220
20	2,880	5,500	2,600	5,620	5,970	2,290	8,060	8,140	9,450	6,200	2,730	1,740
21	2,990	1,890	3,670	13,100	3,960	4,510	8,220	8,760	44,700	6,600	2,150	1,890
22	3,450	1,880	4,310	10,500	5,160	5,860	8,410	8,070	72,400	6,000	2,850	1,590
23	5,960	3,510	5,450	6,860	8,670	9,750	7,710	9,020	22,900	5,400	3,120	1,960
24	17,700	3,970	5,310	5,370	10,000	8,680	5,250	9,190	14,500	2,100	2,630	1,380
25	32,000	4,720	2,570	7,150	20,000	7,940	7,850	8,150	10,900	3,200	3,110	1,360
26	23,000	3,440	2,180	6,420	21,100	7,020	7,380	7,950	8,500	4,000	3,360	2,110
27	20,000	4,420	2,110	6,120	22,800	4,780	5,940	5,880	7,870	3,900	1,840	1,880
28	15,000	3,000	3,700	9,120	18,500	6,670	7,090	3,330	6,460	3,400	1,760	2,150
29	12,000	2,920	3,540	13,100	14,000	5,800	7,500	4,660	7,900	3,500	2,950	4,670
30	10,000	5,980	3,860	10,200	-----	6,330	5,080	5,480	7,440	3,000	2,420	8,110
31	7,000	-----	5,140	6,050	-----	6,370	-----	5,840	-----	6,000	2,490	-----
TOTAL	216,170	167,090	158,820	189,560	260,940	218,660	270,210	254,270	294,150	174,940	114,760	74,410
MEAN	5,973	5,570	5,123	6,115	8,998	7,054	9,007	8,202	9,805	5,643	3,702	2,480
MAX	32,000	15,000	11,200	13,100	22,800	12,800	26,100	16,100	72,400	12,000	9,500	8,110
MIN	1,330	1,880	2,110	2,420	3,960	2,290	2,980	3,230	1,990	2,100	1,760	1,360
(*)	+48	-24	-69	+47	+70	-141	+89	-40	-59	+104	+29	-6
MEAN#	7,021	5,546	5,054	6,162	9,068	6,913	9,096	8,162	9,746	5,747	3,731	2,474
CFSM#	1.86	1.47	1.34	1.64	2.41	1.83	2.41	2.37	2.59	1.53	.99	.66
IN#	2.14	1.64	1.54	1.89	2.60	2.11	2.69	2.50	2.89	1.76	1.14	.74

CAL YR 1971 TOTAL 2,004,110 MEAN 5,491 MAX 32,000 MIN 1,440 MEAN# 5,489 CFSM# 1.46 IN# 19.74
WTR YR 1972 TOTAL 2,393,980 MEAN 6,541 MAX 72,400 MIN 1,360 MEAN# 6,545 CFSM# 1.74 IN# 23.64

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN CLAYTOR RESERVOIR; FURNISHED BY APPALACHIAN POWER CO.

* ADJUSTED FOR CHANGE IN CONTENTS.

NOTE.--NO GAGE-HEIGHT RECORD JULY 2 TO AUG. 1.

KANAWHA RIVER BASIN

187

03177700 BLUESTONE RIVER AT BLUEFIELD, VA.

LOCATION.--Lat 37°15'21", long 81°16'55", Tazewell County, on right bank 50 ft downstream from pump house and 1,000 ft upstream from outfall of sewage treatment plant at Bluefield, 0.9 mile downstream from Beaverpond Creek, and 3.5 miles upstream from Brush Fork.

DRAINAGE AREA.--39.8 sq mi.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Nonrecording gage. Altitude of gage is 2,350 ft (from topographic map).

AVERAGE DISCHARGE.--7 years, 51.2 cfs (17.47 inches per year).

EXTREMES.--Current year: Maximum discharge observed, 937 cfs Apr. 14 (gage height, 7.00 ft), from rating curve extended above 780 cfs; minimum observed, 13 cfs Oct. 1 (gage height, 0.50 ft).
Period of record: Maximum discharge observed, 937 cfs Apr. 14, 1972 (gage height, 7.00 ft), from rating curve extended above 780 cfs; minimum observed, 5.0 cfs Oct. 6, 1965, Dec. 3, 1969; minimum gage height, 0.38 ft Oct. 6, 1965, Oct. 1, 1969.

REMARKS.--Records good. Discharge figures herein do not include effluent from sewage treatment plant as some of it comes from another watershed.

COOPERATION.--Records computed and furnished by the State of Virginia.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	46	56	27	119	152	49	48	48	56	56	33
2	20	46	52	42	106	129	49	44	43	48	48	30
3	17	83	46	36	119	146	49	172	40	41	48	34
4	16	78	41	52	106	124	52	160	37	42	44	27
5	22	65	36	212	92	124	46	130	42	136	37	60
6	36	49	35	164	80	106	42	55	42	104	31	33
7	24	49	74	119	72	96	56	82	37	86	30	31
8	20	42	56	96	66	92	390	90	35	68	28	27
9	20	39	56	88	60	83	176	148	31	56	27	30
10	20	37	52	92	54	74	140	119	38	52	25	25
11	18	35	52	83	50	70	114	114	31	44	21	25
12	17	34	46	83	60	65	310	100	28	42	20	24
13	16	32	42	88	146	60	203	86	26	40	20	21
14	17	31	41	90	134	60	578	100	27	40	20	22
15	15	29	42	72	129	56	552	86	25	31	18	22
16	52	28	42	64	129	88	313	77	27	33	17	21
17	46	27	46	60	119	70	216	72	41	30	19	20
18	26	27	42	54	110	70	160	86	37	27	568	20
19	22	31	41	60	96	65	130	72	28	28	365	24
20	20	26	46	188	83	60	114	72	133	25	172	20
21	21	29	41	610	83	60	100	82	264	22	95	19
22	24	27	37	320	176	88	114	184	154	35	72	18
23	48	24	36	212	164	74	90	210	114	26	60	18
24	185	26	36	152	420	74	82	130	90	23	52	18
25	479	26	36	152	581	70	72	104	72	21	44	17
26	333	26	33	119	650	65	72	82	60	19	64	17
27	167	36	32	114	441	65	64	72	48	60	56	52
28	114	46	30	332	264	60	60	64	48	30	48	31
29	78	78	29	267	188	56	52	60	52	52	40	113
30	60	78	29	194	-----	56	52	64	60	86	37	292
31	49	-----	29	152	-----	52	-----	56	-----	90	34	-----
TOTAL	2,018	1,230	1,312	4,394	4,897	2,510	4,497	3,061	1,758	1,493	2,216	1,144
MEAN	65.1	41.0	42.3	142	169	81.0	150	98.7	58.6	48.2	71.5	38.1
MAX	479	83	74	610	650	152	578	210	264	136	568	292
MIN	15	24	29	27	50	52	42	44	25	19	17	17
CFSM	1.64	1.03	1.06	3.57	4.25	2.04	3.77	2.48	1.47	1.21	1.80	.96
IN.	1.89	1.15	1.23	4.11	4.58	2.35	4.20	2.86	1.64	1.40	2.07	1.07
*CFS	2.80	2.62	2.56	2.15	2.15	2.70	2.72	3.17	3.19	2.97	3.34	3.63

CAL YR 1971 TOTAL 24,406 MEAN 66.9 MAX 670 MIN 13 CFSM 1.68 IN 22.81
WTR YR 1972 TOTAL 30,530 MEAN 83.4 MAX 650 MIN 15 CFSM 2.10 IN 28.54 *CFS 2.92 *CFS 2.84

* SEWAGE TREATMENT PLANT EFFLUENT IN CUBIC FEET PER SECOND.

BIG SANDY RIVER BASIN

03207500 LEVISA FORK NEAR GRUNDY, VA.

LOCATION.--Lat 37°17'52", long 82°07'34", Buchanan County, on right bank 200 ft upstream from Six and Twenty Mile Creek, 1,000 ft upstream from wooden bridge to Appalachian Power Co. substation, 2.4 miles northwest of Grundy, 2.5 miles downstream from Slate Creek, and 3.0 miles upstream from Poplar Creek.

DRAINAGE AREA.--235 sq mi, includes that of Six and Twenty Mile Creek.

PERIOD OF RECORD.--October 1941 to current year. Monthly discharge only for some periods, published in WSP 1305.

GAGE.--Water-stage recorder. Datum of gage is 988.50 ft above mean sea level. Prior to Aug. 20, 1949, non-recording gage at bridge 1,000 ft downstream at datum 2.33 ft lower. Aug. 20, 1949, to July 28, 1958, water-stage recorder at site 1,050 ft downstream at datum 2.33 ft lower, and July 29, 1958, to Aug. 1, 1961, at site 1,020 ft downstream at datum 4.33 ft lower.

AVERAGE DISCHARGE.--31 years, 279 cfs (16.12 inches per year).

EXTREMES.--Current year: Maximum discharge, 16,200 cfs Jan. 21 (gage height, 13.78 ft); minimum daily, 25 cfs Sept. 24.

Period of record: Maximum discharge, 33,200 cfs Jan. 29, 1957 (gage height, 19.06 ft, site and datum then in use), from rating curve extended above 4,400 cfs on basis of slope-area and contracted-opening measurements of peak flow; minimum observed, 0.2 cfs July 30, 1944; minimum gage height, 0.17 ft Sept. 27-29, 1964.

Flood in March 1929 reached a stage of 16.0 ft, site and datum in use prior to July 29, 1958 (discharge, 21,800 cfs), from information by local residents.

REMARKS.--Records fair. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1305: 1947(M), 1949(M). WSP 1505: 1944-46(M), 1950(M), 1953(M), 1955(P), 1956(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	194	126	130	600	586	165	190	145	116	720	62
2	68	189	112	563	534	488	169	183	127	95	565	59
3	62	722	110	938	508	509	157	320	114	97	752	61
4	61	683	117	1,070	448	453	169	824	108	85	372	111
5	1,330	448	112	3,950	356	446	162	728	119	439	240	96
6	1,800	334	112	1,740	300	384	165	509	129	320	154	101
7	475	272	638	858	376	366	267	397	165	193	123	76
8	269	222	608	534	312	372	2,810	397	110	131	111	67
9	206	203	420	464	270	305	1,100	640	100	107	101	105
10	178	186	334	527	250	290	656	768	97	94	92	95
11	138	164	292	508	260	271	495	593	91	85	82	77
12	112	150	246	453	300	258	4,380	460	83	76	94	65
13	98	136	236	442	1,400	232	1,990	397	78	70	80	55
14	86	123	217	834	1,550	225	8,030	551	74	66	71	48
15	80	110	242	786	1,070	200	3,320	624	70	62	65	45
16	197	101	615	514	818	197	1,980	656	95	58	62	43
17	250	96	540	420	714	204	1,290	565	117	65	58	40
18	203	93	404	338	600	186	876	446	90	64	632	38
19	164	91	334	308	555	162	672	411	77	70	1,790	38
20	133	93	352	2,040	495	143	551	523	101	70	903	33
21	112	89	312	8,590	448	135	460	488	325	59	397	30
22	108	85	272	2,000	608	165	439	586	305	50	221	27
23	152	74	250	1,200	882	162	378	640	190	51	148	26
24	1,830	110	242	938	3,040	154	336	537	140	49	116	25
25	1,090	164	222	930	4,760	151	300	411	119	43	98	31
26	754	144	208	898	3,540	148	271	325	101	41	125	28
27	508	158	192	826	2,180	151	240	253	92	39	110	179
28	356	150	183	3,160	1,160	157	221	211	88	85	91	360
29	272	152	166	2,010	768	159	211	186	86	133	80	509
30	231	150	155	1,130	-----	157	207	169	91	816	72	3,430
31	206	-----	147	778	-----	154	-----	207	-----	1,660	66	-----
TOTAL	11,601	5,886	8,516	39,877	29,102	7,970	32,467	14,195	3,631	5,389	8,591	5,960
MEAN	374	196	275	1,286	1,004	257	1,082	458	121	174	277	199
MAX	1,830	722	638	8,590	4,760	586	8,030	824	325	1,660	1,790	3,430
MIN	61	74	110	130	250	135	157	169	70	39	58	25
CFSM	1.59	.83	1.17	5.47	4.27	1.09	4.60	1.95	.51	.74	1.18	.85
IN.	1.84	.93	1.35	6.31	4.61	1.26	5.14	2.25	.57	.85	1.36	.94

CAL YR 1971 TOTAL 144,065 MEAN 395 MAX 8,040 MIN 36 CFSM 1.68 IN 22.81
WTR YR 1972 TOTAL 173,185 MEAN 473 MAX 8,590 MIN 25 CFSM 2.01 IN 27.41

PEAK DISCHARGE (BASE, 3,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-5	2230	6.78	4,610	4-8	0430	6.61	4,390
1-5	1200	7.33	5,400	4-12	0930	9.95	9,720
1-21	0300	13.78	16,200	4-14	1300	11.84	12,900
1-28	1430	6.64	4,430	7-31	0100	6.23	3,900
2-25	0130	9.33	8,660	8-18	2400	6.40	4,120
2-26	1430	6.77	4,600	9-30	0600	6.99	4,890

BIG SANDY RIVER BASIN

189

03207800 LEVISA FORK AT BIG ROCK, VA.

LOCATION.--Lat 37°21'13", long 82°11'45", Buchanan County, on left bank at Big Rock, 2,000 ft downstream from Rocklick Creek, and 2,500 ft downstream from bridge on State Highway 645.

DRAINAGE AREA.--297 sq mi.

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 866.37 ft above mean sea level.

AVERAGE DISCHARGE.--5 years, 342 cfs (15.64 inches per year).

EXTREMES.--Current year: Maximum discharge, 18,100 cfs Jan. 21 (gage height, 15.40 ft), from rating curve extended above 5,700 cfs; minimum, 28 cfs Sept. 26 (gage height, 4.01 ft).

Period of record: Maximum discharge, 18,100 cfs Jan. 21, 1972 (gage height, 15.40 ft), from rating curve extended above 5,700 cfs; minimum, 5.0 cfs Oct. 1, 13, 14, 17, 18, 19, 20, 1969 (gage height, 3.65 ft).

Flood of Jan. 29, 1957, reached a stage of about 23.0 ft, information from local resident.

REMARKS.--Records good. Water-quality records for the current year are included in this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	227	168	173	637	718	238	212	165	133	718	61
2	90	231	147	785	552	607	244	208	144	110	528	57
3	83	860	142	1,370	514	618	227	319	129	114	669	76
4	76	854	148	1,490	462	552	243	703	120	118	397	159
5	1,120	554	144	4,660	366	544	244	671	134	415	274	115
6	2,300	424	142	2,520	330	481	242	496	161	363	194	137
7	584	347	835	1,160	399	461	366	411	196	235	156	91
8	340	276	792	681	334	469	3,630	397	128	167	139	73
9	247	242	541	598	290	405	1,580	610	109	130	142	119
10	212	222	436	719	260	386	812	751	103	106	111	126
11	172	198	384	670	280	368	613	583	93	90	93	89
12	142	181	321	596	307	353	5,060	473	82	77	119	73
13	124	166	307	563	1,820	329	2,780	418	72	69	95	62
14	107	154	275	952	2,300	316	9,020	541	70	64	78	56
15	98	140	290	950	1,410	286	4,220	609	65	58	67	55
16	201	129	667	631	925	278	2,670	645	125	58	61	51
17	325	122	633	500	764	285	1,640	574	151	95	57	47
18	247	117	493	400	652	266	955	472	100	65	412	48
19	201	114	412	320	622	235	678	420	81	70	2,190	42
20	166	117	437	2,000	553	210	564	504	125	69	870	39
21	142	113	398	9,470	500	200	483	474	300	58	425	35
22	142	111	353	2,740	664	253	467	544	337	46	265	32
23	181	95	320	1,610	1,020	252	405	598	219	46	193	31
24	2,260	126	307	1,070	4,050	240	361	519	172	44	149	31
25	1,390	201	286	1,110	5,980	229	325	420	144	37	124	39
26	896	179	265	1,030	4,600	223	295	333	118	33	153	35
27	614	191	245	871	3,240	225	264	262	100	36	157	299
28	450	190	230	3,690	1,750	232	243	222	94	109	116	434
29	350	189	214	2,860	1,030	235	231	199	92	174	93	518
30	286	193	198	1,520	-----	233	226	184	111	624	77	4,050
31	247	-----	191	876	-----	223	-----	213	-----	1,960	69	-----
TOTAL	13,889	7,263	10,721	48,585	36,651	10,712	39,326	13,985	4,040	5,773	9,191	7,080
MEAN	448	242	346	1,567	1,264	346	1,311	451	135	186	296	236
MAX	2,300	860	835	9,470	5,980	718	9,020	751	337	1,960	2,190	4,050
MIN	76	95	142	173	260	200	226	184	65	33	57	31
CFSM	1.51	.81	1.17	5.28	4.26	1.17	4.41	1.52	.45	.63	1.00	.79
IN.	1.74	.91	1.34	6.09	4.59	1.34	4.93	1.75	.51	.72	1.15	.89

CAL YR 1971 TOTAL 166,404 MEAN 456 MAX 7,650 MIN 54 CFSM 1.54 IN 20.84
WTR YR 1972 TOTAL 207,216 MEAN 566 MAX 9,470 MIN 31 CFSM 1.91 IN 25.95

PEAK DISCHARGE (BASE, 3,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-6	0030	8.41	4,660	4-8	0530	8.66	5,060
1-5	1230	9.14	5,820	4-12	1130	11.43	9,860
1-21	0430	15.40	18,100	4-14	1430	13.86	14,700
1-28	1600	8.71	5,140	7-31	0230	8.07	4,110
2-25	0200	11.19	9,380	8-19	0100	8.25	4,400
2-26	1530	8.98	5,570	9-30	0700	8.80	5,280

BIG SANDY RIVER BASIN

03208000 LEVISA FORK BELOW FISHTRAP DAM, NEAR MILLARD, KY.

LOCATION.--Lat 37°24'58", long 82°25'15", Pike County, on right bank 1.2 miles northeast of Millard, 1.4 miles upstream from Russell Fork, 1.8 miles downstream from Fishtrap Dam, and at mile 100.5.

DRAINAGE AREA.--393 sq mi.

PERIOD OF RECORD.--February 1938 to current year. Prior to April 1968, published as Levisa Fork at Fishtrap.

GAGE.--Water-stage recorder. Datum of gage is 659.96 ft above mean sea level (levels by Corps of Engineers). Prior to Apr. 19, 1968, nonrecording gage at site 4.7 miles upstream at different datum.

AVERAGE DISCHARGE.--34 years, 451 cfs (15.58 inches per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 6,600 cfs Feb. 28 (gage height, 21.16 ft); minimum daily, 70 cfs Aug. 31.

Period of record: Maximum discharge, 33,000 cfs Jan. 29, 1957 (gage height, 33.9 ft, from floodmark, site and datum then in use), from rating curve extended above 15,000 cfs on basis of slope-area measurement of peak flow; minimum observed, 0.1 cfs Nov. 8, 9, 1939, site then in use.

REMARKS.--Records fair. Flow regulated by Fishtrap Lake beginning October 1968. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 953: Drainage area. WSP 1335: 1938(M), 1939, 1940(M), 1942-43, 1944-45(M), 1946, 1948.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	412	448	304	224	1,000	4,390	210	396	308	192	1,770	89
2	412	460	192	756	784	4,760	91	296	300	192	1,170	89
3	404	552	199	1,630	758	2,830	77	210	296	192	1,010	89
4	400	833	177	1,550	759	950	77	456	296	199	732	89
5	552	1,180	174	3,310	608	814	75	995	292	766	532	135
6	1,810	814	174	4,160	564	742	77	1,060	288	804	336	213
7	1,590	624	857	2,300	608	648	102	674	300	396	231	213
8	1,060	484	1,170	1,240	580	667	184	632	316	308	224	213
9	665	488	698	1,020	520	652	156	876	316	284	228	210
10	520	444	420	1,150	520	572	156	1,100	312	156	224	210
11	456	484	751	1,200	456	520	156	945	304	84	224	210
12	424	480	340	978	424	488	156	766	300	84	220	210
13	364	472	344	842	1,490	484	2,620	656	300	86	217	206
14	308	416	404	1,010	2,720	484	1,490	761	300	86	217	206
15	276	284	348	1,290	2,060	440	180	804	296	89	121	206
16	276	284	536	899	1,320	424	2,520	884	292	80	121	292
17	396	246	708	620	1,060	424	5,290	922	292	192	118	210
18	476	195	644	589	967	424	4,990	665	296	199	174	166
19	464	195	504	916	911	424	4,750	600	292	166	828	206
20	460	253	480	724	939	332	4,540	713	308	132	1,330	292
21	448	280	496	2,050	775	280	3,650	799	424	91	1,320	552
22	544	276	420	5,160	775	500	1,940	722	520	91	1,000	584
23	432	272	300	5,500	1,070	600	1,500	746	520	91	440	568
24	2,240	272	412	4,470	2,980	512	1,090	799	420	94	292	596
25	2,240	268	356	2,870	1,740	444	804	670	304	102	210	436
26	1,410	268	356	1,910	1,320	388	492	584	152	102	166	328
27	1,050	268	324	1,670	2,910	388	460	392	94	105	288	428
28	766	264	296	1,250	6,370	388	392	199	96	80	280	568
29	644	436	296	1,240	5,900	388	392	242	166	292	170	572
30	512	464	256	1,230	-----	388	396	284	199	1,430	102	2,180
31	448	-----	235	1,230	-----	392	-----	324	-----	2,200	70	-----
TOTAL	22,459	12,704	13,171	54,988	42,888	26,137	39,013	20,172	8,899	9,365	14,365	10,566
MEAN	724	423	425	1,774	1,479	843	1,300	651	297	302	463	352
MAX	2,240	1,180	1,170	5,500	6,370	4,760	5,290	1,100	520	2,200	1,770	2,180
MIN	276	195	174	224	424	280	75	199	94	80	70	89
(*)	-184	-125	-4	+7	+351	-329	+454	+2	0	+15	-18	-21
MEAN#	540	298	421	1,781	1,830	514	1,754	653	297	317	445	331
CFSM#	1.37	.76	1.07	4.53	4.66	1.31	4.46	1.66	.76	.81	1.13	.84
IN#	1.59	.85	1.23	5.22	5.02	1.51	4.98	1.92	.84	.93	1.31	.94

CAL YR 1971 TOTAL 222,582 MEAN 610 MAX 4,040 MIN 25 MEAN# 599 CFSM# 1.52 IN# 20.67
WTR YR 1972 TOTAL 274,727 MEAN 751 MAX 6,370 MIN 70 MEAN# 761 CFSM# 1.94 IN# 26.33

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN FISHTRAP LAKE.

* ADJUSTED FOR CHANGE IN CONTENTS.

BIG SANDY RIVER BASIN

191

03208500 RUSSELL FORK AT HAYSI, VA.

LOCATION.--Lat 37°12'25", long 82°17'45", Dickenson County, on right bank 180 ft downstream from highway bridge at Haysi and 700 ft downstream from McClure River.

DRAINAGE AREA.--286 sq mi.

PERIOD OF RECORD.--July 1926 to current year. Monthly discharge only for some periods, published in WSP 1305.

GAGE.--Water-stage recorder. Datum of gage is 1,237.61 ft above mean sea level. Prior to Dec. 21, 1939, non-recording gage at highway bridge 180 ft upstream at same datum.

AVERAGE DISCHARGE.--46 years, 323 cfs (15.34 inches per year).

EXTREMES.--Current year: Maximum discharge, 15,800 cfs Jan. 21 (gage height, 13.29 ft); minimum, 12 cfs Sept. 25, 26, 27; minimum gage height, 1.69 ft Sept. 26.

Period of record: Maximum discharge, 46,600 cfs Jan. 29, 1957 (gage height, 23.17 ft), from rating curve extended above 12,200 cfs on basis of slope-area measurements at gage heights 13.1 and 23.17 ft; minimum observed, 0.2 cfs June 27, 28, 1936.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1003: 1926-43. WSP 1385: 1928(M), 1929, 1933(M), 1935(M), 1937-38(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	155	132	128	581	621	314	181	108	73	1,020	25
2	68	150	115	679	451	527	294	181	93	68	744	23
3	63	985	112	1,060	450	531	263	280	83	60	562	32
4	56	726	120	1,060	388	469	266	768	76	52	358	78
5	155	442	120	3,760	282	460	244	634	100	132	229	65
6	577	320	118	1,970	250	410	238	445	132	120	163	77
7	262	250	540	888	306	395	319	355	205	82	138	48
8	155	196	569	552	241	398	2,500	335	115	65	125	35
9	120	172	427	471	220	324	1,180	355	95	53	112	32
10	110	158	345	709	210	300	726	355	110	45	95	29
11	95	140	305	726	220	281	558	291	103	43	83	26
12	81	130	250	589	231	271	7,350	261	78	38	142	23
13	69	120	247	531	1,650	258	2,340	257	68	35	102	22
14	60	115	221	1,110	1,800	260	7,450	505	63	31	81	21
15	54	110	255	968	1,100	234	3,750	613	57	28	70	20
16	193	104	539	580	793	237	3,330	581	118	26	64	20
17	588	99	525	450	657	248	1,550	481	118	28	59	18
18	268	95	415	330	561	228	894	369	98	36	314	18
19	178	95	339	300	529	205	645	322	80	44	662	18
20	135	96	368	1,870	464	187	536	380	142	58	267	17
21	115	96	335	9,070	425	181	455	333	532	44	148	16
22	224	92	271	2,060	523	273	425	351	433	30	101	15
23	362	83	230	1,100	692	328	355	369	242	26	79	14
24	2,340	103	217	815	3,040	305	300	305	169	76	63	14
25	1,490	181	202	828	6,690	280	276	239	130	48	53	12
26	762	163	190	823	3,380	259	248	187	105	32	49	12
27	471	166	178	724	2,410	260	220	148	86	211	62	34
28	327	160	169	6,150	1,210	256	208	130	78	503	49	78
29	239	155	152	2,550	826	273	199	118	74	622	40	89
30	196	152	142	1,180	-----	294	196	112	82	2,050	32	1,130
31	169	-----	142	789	-----	301	-----	135	-----	1,250	29	-----
TOTAL	10,060	6,009	8,290	44,820	30,660	9,854	37,629	10,416	3,973	6,009	6,095	2,061
MEAN	325	200	267	1,446	1,057	318	1,254	336	132	194	197	68.7
MAX	2,340	985	569	9,070	6,690	621	7,450	768	532	2,050	1,020	1,130
MIN	54	83	112	128	210	181	196	112	57	26	29	12
CFSM	1.14	.70	.93	5.06	3.70	1.11	4.38	1.17	.46	.68	.69	.24
IN.	1.31	.78	1.08	5.83	3.99	1.28	4.89	1.35	.52	.78	.79	.27

CAL YR 1971 TOTAL 142,481 MEAN 390 MAX 9,330 MIN 28 CFSM 1.36 IN 18.53
WTR YR 1972 TOTAL 175,876 MEAN 481 MAX 9,070 MIN 12 CFSM 1.68 IN 22.88

PEAK DISCHARGE (BASE, 4,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-5	1400	7.20	5,220	2-25	0200	11.40	12,200
1-21	0530	13.29	15,800	4-12	1100	12.87	15,000
1-28	1200	9.00	8,100	4-14	1530	11.39	12,200

BIG SANDY RIVER BASIN

03208700 NORTH FORK POUND RIVER AT POUND, VA.

LOCATION.--Lat 37°07'32", long 82°37'36", Wise County, on right bank at Pound, 700 ft downstream from Stacy Branch, 1,600 ft downstream from North Fork Pound River Dam, and 0.9 mile upstream from confluence with South Fork.

DRAINAGE AREA.--18.5 sq mi.

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,500.00 ft above mean sea level (levels by Corps of Engineers). Prior to Oct. 1, 1965, on left bank at datum 44.88 ft higher.

AVERAGE DISCHARGE.--11 years, 27.6 cfs (20.26 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 304 cfs Oct. 22 (gage height, 51.23 ft); minimum, 1.9 cfs Aug. 30, Sept. 12, 13, 27, 29 (gage height, 48.16 ft); minimum daily, 2.0 cfs Sept. 12.
Period of record: Maximum discharge, 4,480 cfs Mar. 12, 1963 (gage height, 61.58 ft, present datum), from rating curve extended above 650 cfs on basis of slope-area measurement of peak flow; minimum, 0.02 cfs Sept. 16, 1964, Aug. 11, 12, Oct. 28, Nov. 10, 1969; minimum daily, 0.04 cfs Sept. 15, 1964, Aug. 11, 1969; minimum gage height, 47.66 ft Sept. 16, 1964, present datum.
Flood of Jan. 29, 1957, reached a stage of about 63.9 ft, present datum, from Corps of Engineers flood-mark.

REMARKS.--Records good. Flow regulated since August 1966 by North Fork Pound River Lake (see sta 03208680). Water-quality records have been collected at this location and are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	31	19	14	69	107	39	16	3.6	3.9	8.4	2.4
2	22	32	15	36	26	43	39	16	3.5	4.0	9.9	2.1
3	22	126	14	116	33	52	27	16	3.7	4.0	9.4	2.5
4	21	115	14	160	26	53	30	16	4.0	4.0	9.3	2.1
5	34	65	12	203	16	54	40	16	4.1	4.1	8.9	2.2
6	39	42	8.2	213	14	34	51	12	4.8	4.0	8.6	2.2
7	38	42	49	143	21	44	59	10	4.5	4.0	8.7	2.3
8	27	24	64	77	24	44	120	11	4.1	4.0	4.6	2.4
9	22	18	50	47	24	37	127	14	4.0	4.0	2.9	2.5
10	22	19	47	92	17	34	110	18	4.2	4.0	2.9	2.5
11	18	19	44	96	15	32	67	18	3.8	4.1	2.8	2.6
12	15	19	26	45	15	30	130	24	3.9	4.0	2.8	2.0
13	15	18	20	41	110	30	197	27	4.1	4.0	2.8	2.2
14	15	18	19	34	145	30	130	70	4.3	3.0	2.6	2.4
15	15	18	19	34	112	31	12	89	4.3	2.5	2.4	2.4
16	15	18	24	19	68	30	120	67	5.1	2.5	2.5	2.4
17	15	18	26	13	49	30	214	56	11	2.5	2.5	2.4
18	15	18	26	16	30	32	216	44	13	2.4	2.5	2.4
19	15	18	26	24	33	33	166	26	6.3	2.5	2.6	2.3
20	15	19	26	73	38	33	104	20	16	2.5	2.4	2.4
21	16	18	22	190	32	32	39	17	55	2.4	2.4	2.4
22	155	16	18	226	58	40	24	12	30	2.5	2.4	2.4
23	125	13	14	174	86	67	24	12	17	2.6	2.4	2.5
24	221	17	13	128	181	75	24	11	12	2.5	2.4	2.5
25	228	19	13	132	229	67	24	9.1	7.5	2.4	2.4	2.5
26	162	19	13	136	212	32	22	5.2	3.8	2.4	2.4	2.7
27	71	19	13	81	223	18	16	3.9	3.8	2.9	2.6	3.0
28	48	19	13	162	226	21	16	3.3	4.0	2.7	2.4	2.6
29	39	19	13	208	173	27	16	3.3	3.9	3.7	2.4	3.0
30	43	19	13	169	-----	36	16	3.4	3.8	3.7	2.3	5.1
31	43	-----	13	143	-----	40	-----	3.6	-----	5.9	2.4	-----
TOTAL	1,569	875	706.2	3,245	2,305	1,268	2,219	669.8	253.1	103.7	126.0	75.4
MEAN	50.6	29.2	22.8	105	79.5	40.9	74.0	21.6	8.44	3.35	4.06	2.51
MAX	228	126	64	226	229	107	216	89	55	5.9	9.9	5.1
MIN	15	13	8.2	13	14	18	12	3.3	3.5	2.4	2.3	2.0
(*)	-12	-8	0	+1	0	-1	0	0	+1	+1	-2	-1
MEAN#	38.6	21.2	22.8	106	79.5	39.9	74.0	21.6	9.44	4.35	2.06	1.51
CFSM#	2.09	1.15	1.23	5.73	4.30	2.16	4.00	1.17	.51	.24	.11	.08
IN#	2.41	1.28	1.42	6.61	4.64	2.49	4.46	1.35	.57	.28	.13	.09

CAL YR 1971 TOTAL 12,130.0 MEAN 33.2 MAX 340 MIN 2.3 MEAN# 33.2 CFSM# 1.79 IN# 24.38
WTR YR 1972 TOTAL 13,415.2 MEAN 36.7 MAX 229 MIN 2.0 MEAN# 34.7 CFSM# 1.88 IN# 25.73

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN NORTH FORK POUND RIVER LAKE; FURNISHED BY CORPS OF ENGINEERS.

* ADJUSTED FOR CHANGE IN CONTENTS.

BIG SANDY RIVER BASIN

193

03208800 POUND RIVER ABOVE INDIAN CREEK, AT POUND, VA.

LOCATION.--Lat 37°07'26", long 82°36'29", Wise County, on left bank at Pound 1,600 ft downstream from confluence of North and South Forks, 2,400 ft upstream from bridge on U.S. Highway 23, and 3,800 ft upstream from Indian Creek.

DRAINAGE AREA.--36.7 sq mi.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,535.64 ft above mean sea level.

AVERAGE DISCHARGE.--7 years, 52.4 cfs (19.39 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 992 cfs Feb. 24 (gage height, 8.76 ft); minimum, 4.3 cfs Sept. 21, 22 (gage height, 2.81 ft); minimum daily, 4.6 cfs Sept. 21, 22.

Period of record: Maximum discharge, 2,520 cfs Mar. 7, 1967 (gage height, 15.67 ft), from rating curve extended above 970 cfs; minimum, 0.40 cfs Oct. 6, 1965, July 4, 5, 1966; minimum daily, 0.50 cfs July 2-4, 1966; minimum gage height, 2.47 ft Aug. 18, 1967.

Floods of Jan. 29, 1957, and Mar. 12, 1963, reached stages of 25.7 and 21.2 ft, respectively, from information by local resident.

REMARKS.--Records good. Some regulation since August 1966 by North Fork Pound River Lake 1.4 miles upstream (see sta 03208680). Water-quality records have been collected at this location and are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	48	34	28	111	131	88	31	12	18	35	5.2
2	31	61	29	159	63	85	81	30	11	14	34	4.9
3	30	285	28	223	71	111	64	35	11	13	22	13
4	32	199	28	263	59	108	73	36	11	12	18	12
5	47	114	25	470	42	102	86	32	11	15	16	8.2
6	50	81	21	354	41	73	95	27	17	13	15	7.4
7	47	71	122	216	49	78	129	24	16	11	15	6.4
8	36	47	132	131	47	72	336	27	12	11	11	5.8
9	31	38	100	124	46	55	219	37	11	9.8	8.2	5.8
10	30	37	85	236	38	52	170	42	18	9.8	7.8	6.1
11	26	35	82	179	34	45	118	41	12	9.0	7.4	5.8
12	22	34	62	105	37	44	440	43	10	8.6	7.0	5.2
13	21	33	53	90	280	42	336	51	10	8.2	6.7	4.9
14	21	31	49	75	265	45	450	120	9.4	7.8	6.7	5.2
15	21	30	52	66	187	42	229	138	9.0	7.0	5.8	5.2
16	23	29	77	41	127	42	310	108	16	6.4	7.0	5.2
17	21	29	75	36	104	45	340	94	26	6.7	5.8	5.2
18	20	28	64	39	82	51	303	75	33	6.4	5.8	5.2
19	20	28	58	49	83	50	223	52	17	6.4	6.1	4.9
20	20	28	62	229	86	45	149	42	70	6.4	5.5	4.9
21	20	28	52	640	77	42	77	38	112	6.4	5.5	4.6
22	318	26	44	368	119	161	64	30	69	6.1	5.5	4.6
23	260	21	38	254	156	168	55	29	42	6.4	5.8	4.9
24	558	30	36	180	508	115	52	27	29	6.1	5.8	4.9
25	386	33	34	247	634	91	50	23	21	6.1	5.5	4.9
26	247	31	34	226	532	64	43	17	14	5.8	6.1	5.2
27	119	34	32	164	408	54	36	15	12	9.8	8.6	7.0
28	85	34	31	644	323	55	34	13	13	10	5.8	7.0
29	64	37	30	376	229	69	34	12	19	17	5.5	11
30	65	35	29	256	-----	86	33	12	18	26	5.2	36
31	62	-----	28	200	-----	91	-----	12	-----	30	5.2	-----
TOTAL	2,761	1,595	1,626	6,668	4,838	2,314	4,717	1,313	691.4	329.2	310.3	216.6
MEAN	89.1	53.2	52.5	215	167	74.6	157	42.4	23.0	10.6	10.0	7.22
MAX	558	285	132	644	634	168	450	138	112	30	35	36
MIN	20	21	21	28	34	42	33	12	9.0	5.8	5.2	4.6
(*)	-12	-8	0	+1	0	-1	0	0	+1	+1	-2	-1
MEAN*	77.1	45.2	52.5	216	167	73.6	157	42.4	24.0	11.6	8.00	6.22
CFSM*	2.10	1.23	1.43	5.89	4.55	2.01	4.28	1.16	.65	.32	.22	.17
IN*	2.42	1.37	1.65	6.79	4.91	2.32	4.78	1.34	.72	.37	.25	.19

CAL YR 1971 TOTAL 24,372.0 MEAN 66.8 MAX 690 MIN 6.3 MEAN* 66.8 CFSM* 1.82 IN* 24.68
WTR YR 1972 TOTAL 27,379.5 MEAN 74.8 MAX 644 MIN 4.6 MEAN* 72.8 CFSM* 1.98 IN* 27.11

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN NORTH FORK POUND RIVER LAKE; FURNISHED BY CORPS OF ENGINEERS.

* ADJUSTED FOR CHANGE IN CONTENTS.

BIG SANDY RIVER BASIN

03208850 POUND RIVER BELOW BOLD CAMP CREEK, AT POUND, VA.

LOCATION.--Lat 37°07'19", long 82°35'55", Wise County, on left bank at Pound, 1,000 ft upstream from bridge on State Highway 83, 1,500 ft downstream from Bold Camp Creek, and 2,500 ft downstream from Indian Creek.

DRAINAGE AREA.--61.2 sq mi.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,527.36 ft above mean sea level.

AVERAGE DISCHARGE.--7 years, 85.8 cfs (19.04 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 1,860 cfs Feb. 24 (gage height, 13.62 ft); minimum, 5.3 cfs part of each day Sept. 22-26 (gage height, 3.30 ft); minimum daily, 5.6 cfs Sept. 24.
Period of record: Maximum discharge, 4,570 cfs Mar. 7, 1967 (gage height, 21.51 ft), from rating curve extended above 1,900 cfs; minimum, 1.0 cfs July 27, 28, 1966 (gage height, 3.04 ft); minimum daily, 1.3 cfs July 4, 27, 1966.

Floods of Jan. 29, 1957, and Mar. 12, 1963, reached stages of about 30.8 and 28.2 ft, respectively, from floodmarks.

REMARKS.--Records good. Some regulation since August 1966 by North Fork Pound River Lake 2.6 miles upstream (see sta 03208680).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	74	51	46	178	213	134	59	25	29	69	6.9
2	43	104	44	335	119	155	123	58	24	23	58	6.5
3	41	496	43	345	130	186	101	69	24	22	40	24
4	49	290	44	430	106	173	115	69	22	20	33	17
5	85	168	40	793	81	163	124	58	22	30	27	17
6	81	117	37	513	80	124	133	51	36	23	24	11
7	65	101	218	307	89	124	213	47	31	20	24	9.8
8	50	73	208	200	81	121	584	56	24	19	19	8.6
9	42	61	153	216	79	94	322	72	22	18	14	8.7
10	42	59	123	393	71	88	247	72	36	17	13	8.5
11	36	56	126	288	66	80	181	68	23	16	12	8.1
12	31	53	101	179	73	77	816	69	20	16	13	7.4
13	30	51	89	152	498	75	509	83	20	15	11	6.9
14	29	48	81	135	415	78	858	185	19	14	11	6.9
15	29	45	106	112	284	72	503	210	18	12	9.4	7.2
16	37	44	166	79	200	74	536	164	38	11	11	6.8
17	32	43	139	73	168	76	481	138	44	11	9.9	6.6
18	30	42	108	75	145	78	409	111	52	11	9.9	6.7
19	29	42	95	88	146	76	310	84	29	12	11	6.5
20	28	42	110	442	144	71	218	72	118	10	10	6.2
21	28	42	91	1,130	133	69	134	65	160	9.9	9.0	5.8
22	492	39	77	534	157	242	129	56	97	9.7	8.6	5.7
23	399	32	69	367	247	243	109	54	60	11	8.7	5.7
24	870	52	66	265	893	169	100	48	46	9.8	8.4	5.6
25	532	52	62	364	1,060	135	93	43	34	9.3	8.9	5.7
26	333	47	60	321	870	103	84	35	26	8.7	9.7	6.8
27	170	54	56	278	617	93	71	30	22	24	15	13
28	122	53	55	1,230	454	91	65	28	25	26	8.8	9.9
29	93	57	51	585	329	113	63	26	32	54	7.8	85
30	90	55	49	379	-----	130	62	26	32	66	7.2	126
31	85	-----	48	290	-----	138	-----	27	-----	57	6.8	-----
TOTAL	4,062	2,492	2,766	10,944	7,953	3,724	7,827	2,233	1,181	634.4	528.1	456.5
MEAN	131	83.1	89.2	353	274	120	261	72.0	39.4	20.5	17.0	15.2
MAX	870	496	218	1,230	1,060	243	858	210	160	66	69	126
MIN	28	32	37	46	66	69	62	26	18	8.7	6.8	5.6
(*)	-12	-8	0	+1	0	-1	0	0	+1	+1	-2	-1
MEAN#	119	75.1	89.2	354	274	119	261	72.0	40.4	21.5	15.0	14.2
CFSM#	1.94	1.23	1.46	5.78	4.48	1.94	4.26	1.18	.66	.35	.25	.23
IN#	2.24	1.37	1.68	6.66	4.83	2.24	4.75	1.36	.74	.40	.29	.26

CAL YR 1971 TOTAL 39,607.0 MEAN 109 MAX 1,330 MIN 12 MEAN# 109 CFSM# 1.78 IN# 24.04
WTR YR 1972 TOTAL 44,801.0 MEAN 122 MAX 1,230 MIN 5.6 MEAN# 120 CFSM# 1.96 IN# 26.82

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN NORTH FORK POUND RIVER LAKE; FURNISHED BY CORPS OF ENGINEERS.

ADJUSTED FOR CHANGE IN CONTENTS.

BIG SANDY RIVER BASIN

195

03208900 POUND RIVER NEAR GEORGES FORK, VA.

LOCATION.--Lat 37°09'51", long 82°31'30", Dickenson County, on right bank 50 ft upstream from bridge on State Highway 624, 150 ft upstream from Camp Creek, and 2.6 miles northwest of the community of Georges Fork.

DRAINAGE AREA.--82.5 sq mi.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,470.39 ft above mean sea level.

AVERAGE DISCHARGE.--9 years, 115 cfs (18.93 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 2,860 cfs Feb. 25 (gage height, 8.34 ft); minimum, 6.6 cfs Sept. 21-24 (gage height, 2.10 ft); minimum daily, 6.6 cfs Sept. 22, 23.

Period of record: Maximum discharge, 6,870 cfs Mar. 7, 1967 (gage height, 12.06 ft); minimum, 1.6 cfs Sept. 17, 18, 1964 (gage height, 1.80 ft); minimum daily, 1.7 cfs Sept. 17, 1964.

Floods of Jan. 29, 1957, and Mar. 12, 1963, reached stages of 16.2 and 14.4 ft, respectively, from information by local residents.

REMARKS.--Records good. Some regulation since August 1966 by North Fork Pound River Lake 13 miles upstream (see sta 03208680).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	112	75	63	245	311	171	71	30	35	90	7.8
2	52	115	68	514	145	210	160	69	27	29	146	7.8
3	48	720	64	510	156	269	137	80	26	25	63	7.3
4	64	430	66	490	141	239	145	95	25	24	56	34
5	176	245	64	1,150	112	239	160	73	25	33	34	16
6	140	165	56	740	105	182	167	64	27	29	28	18
7	87	141	275	395	115	180	193	58	56	23	28	12
8	67	112	284	269	103	182	900	68	27	21	26	10
9	53	92	216	208	103	145	446	98	24	19	18	9.9
10	52	88	167	506	97	139	326	98	39	18	16	10
11	46	80	165	377	88	127	236	95	30	17	14	9.6
12	40	75	137	239	92	125	1,260	90	22	17	14	9.0
13	36	71	123	187	655	119	750	103	21	16	13	8.3
14	34	68	110	173	634	125	1,230	275	21	14	12	8.0
15	34	64	112	141	380	117	805	305	19	13	11	8.3
16	68	61	202	110	281	115	700	230	33	12	11	8.5
17	62	58	173	100	208	123	626	187	61	13	11	8.0
18	46	56	143	98	193	125	502	152	92	14	12	8.0
19	43	58	125	107	189	123	380	117	41	16	12	8.3
20	42	59	150	494	184	117	269	100	127	13	14	7.8
21	44	58	137	1,740	171	105	171	93	224	11	11	7.1
22	624	54	117	755	245	266	158	78	165	10	9.9	6.6
23	575	41	102	482	326	311	135	78	93	9.9	9.6	6.6
24	1,310	68	98	347	1,200	222	123	66	71	10	9.3	6.8
25	710	88	92	454	1,700	167	114	58	46	9.6	9.3	7.1
26	466	73	86	430	1,330	137	105	46	33	8.5	10	8.3
27	239	81	80	317	905	121	88	36	27	12	15	21
28	176	81	78	1,800	622	117	81	34	26	27	17	27
29	129	85	71	860	434	137	80	31	36	52	9.9	35
30	125	85	69	502	-----	167	76	31	43	121	8.5	236
31	117	-----	68	350	-----	180	-----	33	-----	85	8.0	-----
TOTAL	5,750	3,584	3,773	14,908	11,159	5,242	10,694	3,012	1,537	757.0	746.5	578.1
MEAN	185	119	122	481	385	169	356	97.2	51.2	24.4	24.1	19.3
MAX	1,310	720	284	1,800	1,700	311	1,260	305	224	121	146	236
MIN	34	41	56	63	88	105	76	31	19	8.5	8.0	6.6
(*)	-12	-8	0	+1	0	-1	0	0	+1	+1	-2	-1
MEAN#	173	111	122	482	385	168	356	97.2	52.2	25.4	22.1	18.3
CFSM#	2.10	1.35	1.48	5.84	4.67	2.04	4.32	1.18	.63	.31	.27	.22
IN#	2.42	1.51	1.71	6.73	5.04	2.35	4.82	1.36	.70	.36	.31	.24

CAL YR 1971 TOTAL 56,546.0 MEAN 155 MAX 2,070 MIN 13 MEAN# 155 CFSM# 1.88 IN# 25.48
WTR YR 1972 TOTAL 61,740.6 MEAN 169 MAX 1,800 MIN 6.6 MEAN# 167 CFSM# 2.02 IN# 27.55

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN NORTH FORK POUND RIVER LAKE; FURNISHED BY CORPS OF ENGINEERS.

* ADJUSTED FOR CHANGE IN CONTENTS.

BIG SANDY RIVER BASIN

03208950 CRANES NEST RIVER NEAR CLINTWOOD, VA.

LOCATION.--Lat 37°07'26", long 82°26'20", Dickenson County, on left bank 500 ft downstream from Clinchfield Railway bridge, 1,000 ft downstream from Rush Creek, and 2.1 miles southeast of Clintwood.

DRAINAGE AREA.--66.5 sq mi.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,440.30 ft above mean sea level.

AVERAGE DISCHARGE.--9 years, 76.5 cfs (15.62 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,590 cfs Jan. 21 (gage height, 11.23 ft); minimum, 2.8 cfs Sept. 24, 26 (gage height, 1.13 ft).

Period of record: Maximum discharge, 7,120 cfs Mar. 7, 1967 (gage height, 19.86 ft); minimum, 0.5 cfs

Sept. 28, 1964 (gage height, 0.91 ft).

Flood of Jan. 29, 1957, reached a stage of about 20.0 ft.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	55	35	42	139	149	92	47	22	15	59	4.3
2	22	63	31	340	121	134	87	47	20	12	80	4.0
3	20	334	32	319	123	135	75	58	17	11	42	9.8
4	18	200	35	309	102	116	81	81	16	10	31	18
5	98	131	35	847	80	110	74	62	17	21	22	14
6	184	100	33	393	70	93	72	54	25	15	17	13
7	80	79	234	217	84	88	114	50	40	11	14	7.2
8	52	65	212	148	68	89	589	56	19	9.3	13	5.8
9	40	57	145	155	64	72	250	80	16	8.1	10	5.8
10	38	52	116	335	60	68	167	68	35	7.5	9.7	5.9
11	31	47	117	239	61	64	137	61	22	7.1	9.4	5.1
12	26	42	102	174	65	61	970	54	15	7.9	21	4.5
13	23	39	102	156	432	58	422	58	13	6.9	9.9	4.2
14	21	36	90	233	343	61	824	147	13	6.3	7.7	3.9
15	20	34	111	185	228	54	668	164	11	5.9	6.9	4.2
16	73	31	259	122	164	60	714	135	16	5.6	7.9	4.1
17	131	29	184	100	144	60	327	111	22	6.1	7.2	3.8
18	60	28	135	85	137	54	204	85	28	6.1	8.4	4.4
19	43	28	110	80	137	49	153	73	17	17	13	4.8
20	34	28	124	550	121	44	127	72	61	20	31	3.9
21	29	27	111	1,550	113	43	109	60	90	10	11	3.5
22	440	25	92	413	153	134	114	54	52	7.2	8.2	3.2
23	360	22	80	252	171	138	91	53	32	7.6	6.9	3.1
24	859	34	76	182	810	110	78	44	25	7.0	6.2	3.1
25	360	46	70	238	1,170	94	72	37	21	6.8	6.4	3.1
26	194	35	66	210	666	81	66	32	17	6.0	9.5	3.1
27	132	39	60	205	451	81	59	28	14	19	11	6.0
28	97	39	56	1,460	268	76	54	25	13	33	6.8	9.4
29	74	40	50	486	188	87	52	24	18	77	5.6	102
30	63	40	50	264	-----	91	51	24	17	164	4.9	256
31	56	-----	48	180	-----	91	-----	25	-----	73	4.6	-----
TOTAL	3,703	1,825	3,001	10,469	6,733	2,645	6,893	1,969	744	619.4	501.2	523.2
MEAN	119	60.8	96.8	338	232	85.3	230	63.5	24.8	20.0	16.2	17.4
MAX	859	334	259	1,550	1,170	149	970	164	90	164	80	256
MIN	18	22	31	42	60	43	51	24	11	5.6	4.6	3.1
CFSM	1.79	.91	1.46	5.08	3.49	1.28	3.46	.55	.37	.30	.24	.26
IN.	2.07	1.02	1.68	5.86	3.77	1.48	3.86	1.10	.42	.35	.28	.29

CAL YR 1971 TOTAL 35,169.9 MEAN 96.4 MAX 1,810 MIN 8.1 CFSM 1.45 IN 19.67
WTR YR 1972 TOTAL 39,625.8 MEAN 108 MAX 1,550 MIN 3.1 CFSM 1.62 IN 22.17

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	0430	7.53	1,250	2-25	0100	10.73	2,380
1-5	1030	7.09	1,120	4-12	1000	9.53	1,930
1-21	0500	11.23	2,590	4-14	1530	7.83	1,340
1-28	0630	9.79	2,020	4-15	2300	7.05	1,100

BIG SANDY RIVER BASIN

197

03209000 POUND RIVER BELOW FLANNAGAN DAM, NEAR HAYSI, VA.

LOCATION.--Lat 37°13'43", long 82°20'36", Dickenson County, on right bank 1,100 ft upstream from Blacklog Branch, 2,000 ft downstream from John W. Flannagan Dam, 1.3 miles upstream from mouth, and 3.4 miles northwest of Haysi.

DRAINAGE AREA.--221 sq mi.

PERIOD OF RECORD.--July 1926 to current year. Prior to October 1960, published as Pound River near Haysi. Monthly discharge only for some periods, published in WSP 1305.

GAGE.--Water-stage recorder. Datum of gage is 1,200.00 ft above mean sea level (Corps of Engineers bench mark). Prior to Dec. 20, 1939, nonrecording gage at site 3.8 miles upstream at different datum. Dec. 20, 1939, to Sept. 30, 1963, water-stage recorder at site 4.6 miles upstream at datum 79.91 ft higher.

AVERAGE DISCHARGE.--46 years, 268 cfs (16.47 inches per year), adjusted for storage since March 1965.

EXTREMES.--Current year: Maximum discharge, 3,710 cfs Feb. 27 (gage height, 7.51 ft); minimum, 2.7 cfs Jan. 25 (gage height, 1.57 ft); minimum daily, 36 cfs Aug. 9, 10.
Period of record: Maximum discharge, about 30,000 cfs Mar. 23, 1929 (gage height, 16.5 ft, from flood-marks, site and datum then in use); minimum, less than 0.1 cfs on several days in September 1932.

REMARKS.--Records good. Flow regulated since March 1965 by John W. Flannagan Reservoir 2,000 ft upstream (see sta 03208990) and since August 1966 by North Fork Pound River Lake 33 miles upstream (see sta 03208680). Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 953: 1940-41. WSP 1003: 1942, 1943(P). WSP 1275: 1927-30, 1931(M), 1932-39.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	293	332	202	129	638	1,540	130	95	57	63	318	41
2	222	331	162	1,240	387	983	45	83	55	63	449	42
3	222	1,460	106	1,360	356	575	47	83	55	63	308	43
4	235	1,430	106	1,240	431	461	47	168	55	63	121	43
5	375	775	106	2,500	279	367	47	272	54	63	58	43
6	612	530	106	1,960	216	370	46	272	59	63	58	43
7	435	485	639	1,080	362	370	47	272	83	63	58	43
8	340	386	865	618	262	370	47	266	84	52	43	43
9	340	343	540	435	179	307	47	272	83	47	36	43
10	340	292	527	966	268	219	47	272	83	47	36	43
11	338	211	430	1,110	242	180	48	272	83	47	38	43
12	230	237	338	647	242	179	54	249	83	47	39	44
13	160	248	290	458	1,180	179	1,560	227	73	47	39	44
14	160	248	301	557	1,590	179	1,180	541	53	47	40	44
15	158	248	238	505	1,020	180	48	884	53	47	40	44
16	345	248	438	317	715	181	1,610	729	151	47	40	44
17	395	248	525	182	556	221	3,230	585	118	47	40	44
18	490	248	452	242	459	238	3,200	441	60	47	40	191
19	441	248	326	305	525	238	2,610	317	74	47	40	214
20	290	246	345	1,020	525	227	1,680	203	171	47	40	91
21	201	246	386	626	456	193	629	204	768	47	40	77
22	1,350	245	367	2,630	454	438	505	207	479	47	40	77
23	1,490	245	306	3,450	652	705	446	204	191	47	40	77
24	2,480	273	238	2,010	1,840	571	309	206	166	48	40	77
25	1,900	330	238	553	727	379	155	207	111	49	41	78
26	1,200	261	221	865	729	210	177	174	95	49	41	115
27	734	232	185	925	2,190	290	340	115	63	49	41	156
28	563	232	185	934	3,660	326	258	97	63	49	41	207
29	395	232	185	3,000	3,610	325	196	85	63	49	41	207
30	333	232	185	3,090	-----	326	119	55	63	116	41	867
31	333	-----	168	1,360	-----	326	-----	55	-----	258	41	-----
TOTAL	17,400	11,322	9,706	36,314	24,750	11,653	18,904	8,112	3,649	1,865	2,328	3,168
MEAN	561	377	313	1,171	853	376	630	262	122	60.2	75.1	106
MAX	2,480	1,460	865	3,450	3,660	1,540	3,230	884	768	258	449	867
MIN	158	211	106	129	179	179	45	55	53	47	36	41
(*)	-157	-129	-3	+4	+49	-42	+272	0	-2	+11	-20	-50
MEAN#	404	248	310	1,175	902	334	902	262	120	71.2	55.1	56.0
CFSM#	1.83	1.12	1.40	5.32	4.08	1.51	4.08	1.19	.54	.32	.25	.25
IN#	2.11	1.25	1.61	6.13	4.40	1.74	4.55	1.37	.60	.37	.29	.28

CAL YR 1971 TOTAL 136,194 MEAN 373 MAX 3,620 MIN 44 MEAN# 373 CFSM# 1.69 IN# 22.88
WTR YR 1972 TOTAL 149,171 MEAN 408 MAX 3,660 MIN 36 MEAN# 402 CFSM# 1.82 IN# 24.70

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN NORTH FORK POUND RIVER LAKE AND JOHN W. FLANNAGAN RESERVOIR; FURNISHED BY CORPS OF ENGINEERS.
* ADJUSTED FOR CHANGE IN CONTENTS.

BIG SANDY RIVER BASIN

03209200 RUSSELL FORK AT BARTLICK, VA.

LOCATION.--Lat 37°14'45", long 82°19'25", Dickenson County, on left bank at Bartlick, just upstream from bridge on State Highway 611, 0.2 mile downstream from Pound River, and 1.1 miles upstream from Fall Branch.

DRAINAGE AREA.--526 sq mi.

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,165.00 ft above mean sea level.

AVERAGE DISCHARGE.--10 years, 635 cfs (16.39 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 16,200 cfs Jan. 21 (gage height, 16.31 ft), from rating curve extended as explained below; minimum, 66 cfs Sept. 17, 18 (gage height, 7.16 ft); minimum daily, 68 cfs Sept. 17. Period of record: Maximum discharge, 47,000 cfs Mar. 12, 1963 (gage height, 24.83 ft), from rating curve extended above 11,000 cfs on basis of computation of peak flow over dam; minimum, 5.3 cfs Sept. 18, 1964 (gage height, 5.03 ft); minimum daily, 5.5 cfs Sept. 17, 1964.
Flood of Jan. 29, 1957, reached a stage of about 30 ft, from information by local resident.

REMARKS.--Records good. Flow regulated since March 1965 by John W. Flannagan Reservoir 1.9 miles upstream (see sta 03208990) and since August 1966 by North Fork Pound River Lake 35 miles upstream (see sta 03208680).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	370	509	357	296	1,300	2,360	501	301	186	144	1,310	79
2	287	510	303	2,150	920	1,650	391	282	162	135	1,140	74
3	282	2,680	244	2,760	870	1,170	356	379	147	127	824	91
4	286	2,440	254	2,610	840	970	359	963	137	113	460	164
5	498	1,360	248	6,120	581	859	337	958	173	212	289	115
6	1,200	901	246	4,230	542	803	330	745	216	211	222	124
7	706	790	1,350	2,280	631	787	434	648	347	157	189	96
8	498	617	1,670	1,340	518	794	2,850	624	234	119	155	88
9	456	544	1,060	1,020	456	659	1,460	699	201	101	132	88
10	440	478	946	1,900	452	544	885	659	217	96	109	84
11	423	374	805	2,100	482	488	698	618	214	93	103	81
12	308	380	650	1,430	490	476	7,620	560	130	91	162	75
13	223	380	595	1,110	3,040	462	4,490	525	155	89	118	73
14	215	369	579	1,880	3,880	463	9,080	1,170	119	87	102	73
15	206	356	546	1,710	2,410	436	4,180	1,740	110	85	95	70
16	542	347	1,070	1,040	1,660	438	5,350	1,520	310	83	91	70
17	1,030	340	1,160	748	1,310	488	5,370	1,200	291	87	89	68
18	777	335	950	704	1,070	485	4,670	897	188	88	320	200
19	630	335	730	709	1,110	454	3,600	714	185	95	736	228
20	437	335	791	2,900	1,020	422	2,410	666	360	104	338	106
21	316	334	800	9,920	944	384	1,130	616	1,440	96	212	91
22	1,380	330	712	5,320	1,030	725	963	629	1,040	87	152	91
23	2,500	319	605	5,210	1,500	1,090	830	656	487	83	119	91
24	5,500	383	517	3,120	5,340	915	642	587	376	123	104	91
25	3,700	530	498	1,530	7,560	702	469	508	282	97	98	90
26	2,300	451	466	1,850	4,810	509	450	415	227	87	95	120
27	1,400	430	411	1,850	5,190	585	582	313	163	257	112	231
28	1,000	419	400	7,100	5,570	619	484	267	156	588	96	303
29	686	408	378	6,070	5,030	635	412	237	147	623	90	338
30	564	411	362	4,890	-----	660	337	191	153	2,110	86	2,290
31	529	-----	347	2,360	-----	668	-----	222	-----	1,500	84	-----
TOTAL	29,679	18,385	20,050	88,257	60,556	22,700	61,670	20,509	8,603	7,968	8,232	5,783
MEAN	957	613	647	2,847	2,088	732	2,056	662	287	257	266	193
MAX	5,500	2,680	1,670	9,920	7,560	2,360	9,080	1,740	1,440	2,110	1,310	2,290
MIN	206	319	244	296	452	384	330	191	110	83	84	68
(*)	-157	-129	-3	+4	+49	-42	+272	0	-2	+11	-20	-50
MEAN#	800	484	644	2,851	2,137	690	2,328	662	285	268	246	143
CFSM#	1.52	.92	1.22	5.42	4.06	1.31	4.43	1.26	.54	.51	.47	.27
IN#	1.75	1.03	1.41	6.25	4.38	1.51	4.94	1.45	.60	.59	.54	.30

CAL YR 1971 TOTAL 297,342 MEAN 815 MAX 8,570 MIN 76 MEAN# 815 CFSM# 1.55 IN# 21.00
WTR YR 1972 TOTAL 352,392 MEAN 963 MAX 9,920 MIN 68 MEAN# 957 CFSM# 1.82 IN# 24.75

* CHANGE IN CONTENTS, EQUIVALENT IN CUBIC FEET PER SECOND, IN NORTH FORK POUND RIVER LAKE AND JOHN W. FLANNAGAN RESERVOIR; FURNISHED BY CORPS OF ENGINEERS.

* ADJUSTED FOR CHANGE IN CONTENTS.

RESERVOIRS IN BIG SANDY RIVER BASIN, VA.

03208680 NORTH FORK POUND RIVER LAKE.--Lat 37°07'27", long 82°37'52", Wise County, in control tower of North Fork Pound Dam at Pound, 1,200 ft upstream from Stacy Branch, and 1.2 miles upstream from South Fork Pound River. Drainage area, 17.2 sq mi. Period of record, July 1966 to current year. Gage, water-stage recorder. Datum of gage is at mean sea level (Corps of Engineers bench mark). Prior to Aug. 29, 1966, nonrecording gage at same site and datum. Extremes for current year: Maximum contents, 3,210 acre-ft Oct. 1 (elevation, 1,611.18 ft); minimum, 1,830 acre-ft Sept. 26 (elevation, 1,600.36 ft). Extremes for period of record: Maximum contents, 4,610 acre-ft Apr. 30, 1970 (elevation, 1,619.13 ft); minimum (after initial filling for regular operation), 1,660 acre-ft Jan. 23, 1969 (elevation, 1,598.62 ft).

Lake is formed by rockfill dam. Spillway with crest at elevation 1,644.0 ft is in a saddle 350 ft south-east of dam. Except during major floods all discharge will be through a diversion tunnel, the invert of the entrance of which is at elevation 1,556.5 ft. Storage began in September 1964 during construction with peak discharge affected thereafter; initial filling for regular operation started July 13, 1966. Total capacity at elevation 1,644.0 ft (top of spillway) is 11,290 acre-ft of which 8,110 acre-ft is flood-control storage for summer operations between elevations 1,611.0 (top of summer conservation pool) and 1,644.0 ft; an additional 1,290 acre-ft between elevations 1,601.0 (top of winter conservation pool) and 1,611.0 ft is available for flood control during the period December to March; contents at established minimum pool (1,601.0 ft) is 1,900 acre-ft; dead storage is 7 acre-ft below elevation 1,556.5 ft. Figures given herein represent total contents. Lake is used for flood control, low-water augmentation for water-quality control, and recreation. Capacity tables furnished by Corps of Engineers.

03208990 JOHN W. FLANNAGAN RESERVOIR.--Lat 37°14'00", long 82°20'56", Dickenson County, in control tower of John W. Flannagan Dam on Pound River, 1.3 miles upstream from Blacklog Branch, and 3.7 miles northwest of Haysi. Drainage area, 221 sq mi. Period of record, September 1964 to current year. Gage, water-stage recorder. Datum of gage is at mean sea level (Corps of Engineers bench mark). Prior to Mar. 31, 1965, nonrecording gage at same site and datum. Extremes for current year: Maximum contents, 84,600 acre-ft Apr. 16 (elevation, 1,410.02 ft); minimum, 50,500 acre-ft Mar. 9 (elevation, 1,379.96 ft). Extremes for period of record: Maximum contents, 85,100 acre-ft Apr. 30, 1970 (elevation, 1,410.37 ft); minimum (after initial filling for regular operation), 11,800 acre-ft Apr. 1, 1965 (elevation, 1,313.42 ft).

Reservoir is formed by rockfill dam. Spillway with crest at elevation 1,410.0 ft is in a saddle 0.3 mile upstream from dam and is equipped with 6 radial gates 36 ft high by 42 ft wide. Except during major floods all discharge will be through a diversion tunnel, the invert of the entrance of which is at elevation 1,230.0 ft. Storage began in September 1961 during construction with peak discharge affected thereafter; initial filling for regular operations started in March 1965. Total capacity at elevation 1,446.0 ft (top of gates) is 145,700 acre-ft of which 78,600 acre-ft is controlled flood storage for summer operations between elevations 1,396.0 (top of summer conservation pool) and 1,446.0 ft; an additional 16,500 acre-ft between elevations 1,380.0 (top of winter conservation pool) and 1,396.0 ft is available for flood control during the period December to March; contents at established minimum pool (1,314.0 ft) is 12,000 acre-ft; dead storage is 300 acre-ft below elevation 1,230.0 ft. Figures given herein represent total contents. Reservoir is used for flood control, low-water augmentation for water-quality control, and recreation. Capacity table furnished by Corps of Engineers.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (acre- feet)	Elevation (feet)	Contents (acre- feet)	Change in contents (acre- feet)
	03208680 North Fork Pound River Lake			03208990 John W. Flannagan Reservoir		
Sept. 30.....	1,611.18	3,210	-	1,395.91	67,000	-
Oct. 31.....	1,605.93	2,470	-740	1,387.70	58,100	-8,900
Nov. 30.....	1,602.04	2,010	-460	1,380.33	50,900	-7,200
Dec. 31.....	1,601.81	1,980	-30	1,380.19	50,700	-200
CAL YR 1971.....	-	-	0	-	-	-300
Jan. 31.....	1,602.31	2,040	+60	1,380.33	50,900	+200
Feb. 29.....	1,602.47	2,060	+20	1,383.30	53,700	+2,800
Mar. 31.....	1,602.14	2,020	-40	1,380.68	51,200	-2,500
Apr. 30.....	1,602.06	2,010	-10	1,396.24	67,400	+16,200
May 31.....	1,602.00	2,000	-10	1,396.29	67,400	0
June 30.....	1,602.27	2,030	+30	1,396.13	67,200	-200
July 31.....	1,602.58	2,070	+40	1,396.63	67,800	+600
Aug. 31.....	1,601.37	1,930	-140	1,395.67	66,700	-1,100
Sept. 30.....	1,600.90	1,880	-50	1,393.04	63,800	-2,900
WTR YR 1972.....	-	-	-1,330	-	-	-3,200

TENNESSEE RIVER BASIN

03471500 SOUTH FORK HOLSTON RIVER AT RIVERSIDE, NEAR CHILHOWIE, VA.

LOCATION.--Lat 36°45'37", long 81°37'53", Smyth County, on right bank 400 ft upstream from highway bridge at Riverside, 900 ft upstream from Spring Branch, 3.2 miles downstream from Redstone Branch, 4 miles southeast of Chilhowie, and at mile 97.2.

DRAINAGE AREA.--76.1 sq mi.

PERIOD OF RECORD.--October 1920 to December 1931, July 1942 to current year. Monthly discharge only for some periods, published in WSP 1306. Prior to October 1924, published as "near Chilhowie". June 1907 to December 1909, at site 4.5 miles downstream also published as "near Chilhowie"; records not equivalent.

GAGE.--Water-stage recorder. Datum of gage is 2,106.77 ft above mean sea level. Nov. 1, 1920, to Nov. 14, 1931, nonrecording gage at site 400 ft downstream at same datum.

AVERAGE DISCHARGE.--41 years, 108 cfs (19.27 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,140 cfs June 21 (gage height, 6.26 ft); minimum, 32 cfs Oct. 15, 20 (gage height, 1.40 ft).

Period of record: Maximum discharge, 6,000 cfs June 12, 1923 (gage height, 9.0 ft, from graph based on gage readings, site and datum then in use), from rating curve extended above 3,600 cfs; minimum recorded, 2 cfs Aug. 26, Oct. 15, 1943, Aug. 9, 11, 1944, Oct. 19, 1945, but may have been less in 1925 and 1926 before installation of water-stage recorder; minimum daily, 8 cfs July 19, 1926.

REMARKS.--Records good. Prior to August 1951, diurnal fluctuation at low flow caused by mill 500 ft above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1033: 1943-44(m). WSP 1306: Drainage area, 1921-31(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	62	117	50	205	289	112	92	121	108	185	53
2	45	60	94	57	180	255	117	90	108	95	140	51
3	41	170	84	60	182	449	115	128	97	88	112	51
4	38	205	78	71	190	353	121	180	88	88	95	51
5	38	149	73	185	161	289	117	190	90	112	86	74
6	42	117	71	249	158	231	117	163	82	92	78	65
7	38	101	158	185	151	205	131	144	88	84	78	55
8	35	86	217	144	128	187	469	133	76	78	79	53
9	36	78	165	126	110	165	345	138	73	73	70	58
10	38	71	135	149	100	154	246	126	76	71	65	53
11	36	67	112	161	100	142	200	117	70	78	61	49
12	35	62	97	156	105	133	581	110	67	71	60	48
13	33	58	95	149	208	126	565	108	64	68	58	45
14	33	55	84	165	217	126	397	140	64	82	55	45
15	33	54	79	161	214	117	301	163	67	82	54	45
16	44	51	78	138	237	117	261	158	61	68	51	44
17	40	50	73	128	234	124	225	144	156	64	51	44
18	36	48	68	121	205	119	190	128	549	67	234	45
19	35	48	65	112	185	119	167	119	208	67	231	44
20	34	49	67	105	154	115	154	115	289	60	163	42
21	38	48	65	124	142	112	144	117	1,780	58	124	40
22	40	46	61	131	208	156	151	240	777	64	101	39
23	62	44	57	147	317	180	142	285	429	58	88	39
24	313	48	55	165	385	167	138	258	282	62	79	38
25	185	46	55	185	855	151	131	208	217	55	74	38
26	144	45	54	180	1,270	135	124	165	175	53	70	39
27	112	49	54	175	965	128	115	138	149	51	68	48
28	90	55	53	497	545	121	105	119	135	64	64	48
29	76	71	51	601	381	117	101	112	131	92	61	88
30	68	144	51	385	-----	112	95	103	115	182	57	293
31	64	-----	53	264	-----	112	-----	144	-----	301	54	-----
TOTAL	1,938	2,237	2,619	5,526	8,492	5,306	6,177	4,575	6,684	2,636	2,846	1,725
MEAN	62.5	74.6	84.5	178	293	171	206	148	223	85.0	91.8	57.5
MAX	313	205	217	601	1,270	449	581	285	1,780	301	234	293
MIN	33	44	51	50	100	112	95	90	61	51	51	38
CFSM	.82	.98	1.11	2.34	3.85	2.25	2.71	1.94	2.93	1.12	1.21	.76
IN.	.95	1.09	1.28	2.70	4.15	2.59	3.02	2.24	3.27	1.29	1.39	.84

CAL YR 1971 TOTAL 46,032 MEAN 126 MAX 1,010 MIN 33 CFSM 1.66 IN 22.50
WTR YR 1972 TOTAL 50,761 MEAN 139 MAX 1,780 MIN 33 CFSM 1.83 IN 24.81

PEAK DISCHARGE (BASE, 650 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-28	2030	3.79	761	6-18	0030	4.63	1,160
2-26	1700	5.60	1,720	6-21	0600	6.26	2,140
4-12	1500	3.83	777				

TENNESSEE RIVER BASIN

201

03473000 SOUTH FORK HOLSTON RIVER AT VESTAL, VA.

LOCATION.--Lat 36°39'06", long 81°50'39", Washington County, on right bank 500 ft upstream from bridge on U.S. Highway 58 at Vestal, 0.7 mile downstream from Laurel Creek, 3.2 miles northwest of Damascus, 4.9 miles upstream from Middle Fork, and at mile 77.2.

DRAINAGE AREA.--301 sq mi.

PERIOD OF RECORD.--October 1931 to current year. Monthly discharge only for some periods, published in WSP 1306.

GAGE.--Water-stage recorder. Datum of gage is 1,792.30 ft above mean sea level.

AVERAGE DISCHARGE.--41 years, 460 cfs (20.75 inches per year).

EXTREMES.--Current year: Maximum discharge, 5,990 cfs Feb. 26 (gage height, 9.85 ft); minimum, 123 cfs Oct. 15 (gage height, 2.49 ft).

Period of record: Maximum discharge, 15,100 cfs Jan. 29, 1957 (gage height, 15.35 ft), from rating curve extended above 10,000 cfs on basis of contracted-opening measurement of peak flow; minimum, 30 cfs Oct. 14, 1941, Dec. 24, 1943 (gage height, 2.16 ft); minimum daily, 60 cfs Sept. 18, 1954, Sept. 26, 27, 1964.

REMARKS.--Records good. Some diurnal fluctuation caused by powerplant above station. In earlier years fluctuation was more marked but has been gradually reduced as mills upstream have gone out of operation. Water-quality records for the current year are included in this report.

REVISIONS (WATER YEARS).--WSP 823: Drainage area. WSP 1306: 1932-33(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129	224	504	293	825	1,120	615	412	434	379	811	253
2	170	217	408	406	720	989	584	399	390	332	680	239
3	161	629	364	513	772	1,500	539	636	357	310	517	234
4	143	686	345	588	870	1,320	561	1,050	330	305	435	255
5	140	506	330	1,220	733	1,160	542	951	328	416	403	388
6	207	405	327	1,420	695	951	528	761	320	333	332	327
7	159	380	539	993	665	840	569	645	352	293	317	263
8	139	319	732	723	545	798	1,620	616	287	269	341	238
9	141	288	591	616	450	693	1,310	689	276	254	276	252
10	171	272	492	879	410	643	1,000	639	290	248	257	242
11	150	253	423	964	400	592	866	585	264	247	237	218
12	137	237	376	834	420	555	2,420	534	245	232	231	207
13	130	225	402	745	884	520	2,180	510	235	229	218	198
14	127	212	344	806	957	547	1,580	741	232	223	206	194
15	125	202	329	737	907	484	1,260	960	235	269	195	207
16	236	195	345	623	929	506	1,110	868	223	221	189	189
17	183	189	327	589	916	672	944	725	269	214	186	182
18	154	183	307	534	823	736	782	611	881	205	2,050	184
19	143	184	288	496	759	726	681	566	449	225	2,140	183
20	139	208	320	468	640	691	635	535	691	190	1,710	175
21	147	190	316	572	581	647	733	578	4,620	180	940	165
22	164	182	287	578	929	864	944	1,440	2,400	187	652	161
23	220	171	272	622	1,340	935	1,090	1,500	1,360	182	512	158
24	885	229	271	661	1,640	826	886	1,180	947	184	437	154
25	625	286	266	779	3,010	714	743	904	722	171	444	151
26	484	237	259	773	4,320	622	638	700	581	174	470	155
27	395	266	251	727	3,400	585	561	574	493	191	421	238
28	327	296	245	1,410	1,970	600	507	500	439	355	360	214
29	279	375	241	1,880	1,400	628	470	453	433	550	324	583
30	250	585	265	1,370	-----	654	442	438	410	848	289	2,030
31	233	-----	326	1,030	-----	646	-----	506	-----	1,170	267	-----
TOTAL	7,093	8,831	11,092	24,849	32,910	23,764	27,340	22,206	19,493	9,586	16,847	8,637
MEAN	229	294	358	802	1,135	767	911	716	650	309	543	288
MAX	885	686	732	1,880	4,320	1,500	2,420	1,500	4,620	1,170	2,140	2,030
MIN	125	171	241	293	400	484	442	399	223	171	186	151
CFSM	.76	.98	1.19	2.66	3.77	2.55	3.03	2.38	2.16	1.03	1.80	.96
IN.	.88	1.09	1.37	3.07	4.07	2.94	3.38	2.74	2.41	1.18	2.08	1.07
CAL YR 1971	TOTAL 192,840	MEAN 528	MAX 3,900	MIN 125	CFSM 1.75	IN 23.83						
WTR YR 1972	TOTAL 212,648	MEAN 581	MAX 4,620	MIN 125	CFSM 1.93	IN 26.28						

PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-26	1700	9.85	5,990	6-21	1000	9.34	5,280
4-12	1000	7.88	3,540	8-18	1230	9.80	5,920

TENNESSEE RIVER BASIN

03474000 MIDDLE FORK HOLSTON RIVER AT SEVENMILE FORD, VA.

LOCATION.--Lat 36°48'26", long 81°37'20", Smyth County, on right bank at downstream side of bridge on U.S. Highway 11 at Sevenmile Ford, 0.3 mile upstream from Meade Creek, 3.3 miles downstream from Walker Creek, and at mile 32.1.

DRAINAGE AREA.--132 sq mi.

PERIOD OF RECORD.--July 1942 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,960.00 ft above mean sea level.

AVERAGE DISCHARGE.--30 years, 158 cfs (16.25 inches per year).

EXTREMES.--Current year: Maximum discharge, 5,720 cfs Sept. 30 (gage height, 5.71 ft); minimum, 44 cfs Oct. 1, 13, 14, 15 (gage height, 1.16 ft).

Period of record: Maximum discharge, 7,680 cfs Jan. 29, 1957 (gage height, 10.75 ft); minimum, 9 cfs Sept. 26, 1944; minimum daily, 20 cfs Sept. 26, 1944, Aug. 2, 1964.

REMARKS.--Records good. Some diurnal fluctuation at low flow caused by mill 9 miles above station. Since May 1936, flow occasionally regulated by the filling or draining of Hungry Mother Lake on Hungry Mother Creek (capacity, about 1,600 acre-ft). Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 973: 1942(m). WSP 1306: 1947(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	95	212	68	312	369	160	135	149	125	287	77
2	56	91	157	112	280	334	152	131	132	107	193	75
3	50	210	136	141	293	586	144	250	120	101	194	73
4	48	229	122	171	311	483	148	390	111	106	177	84
5	48	172	109	550	261	412	138	331	117	168	205	112
6	82	139	103	441	252	326	130	246	118	122	140	95
7	63	125	151	273	243	293	160	205	132	103	116	79
8	52	105	203	201	200	270	762	196	105	95	105	72
9	52	96	199	177	170	229	443	238	101	90	93	93
10	54	92	205	409	150	209	309	226	99	85	87	77
11	49	86	189	481	150	193	255	202	91	83	81	69
12	47	82	181	345	160	181	1,510	179	85	80	79	66
13	46	78	194	292	297	171	870	168	83	81	75	64
14	45	75	181	334	343	173	1,390	300	82	80	72	62
15	45	71	178	295	387	157	917	390	82	88	69	62
16	78	69	172	241	360	164	614	339	81	81	67	61
17	104	67	156	218	337	185	453	277	115	78	66	60
18	76	64	106	203	303	171	346	228	229	86	1,090	61
19	62	66	100	192	290	168	286	203	118	87	1,130	60
20	60	71	107	195	252	159	253	195	236	74	457	57
21	131	71	106	624	231	156	229	207	2,670	69	251	55
22	97	66	97	503	286	190	252	952	770	79	185	54
23	96	61	92	386	353	193	251	903	393	76	151	54
24	712	67	79	352	575	184	234	465	273	72	128	54
25	547	72	78	325	1,440	173	214	320	215	66	112	61
26	452	67	77	283	2,110	162	192	243	177	63	104	94
27	246	76	77	279	1,220	158	172	201	152	63	103	146
28	171	99	74	1,530	679	155	159	176	137	77	95	120
29	133	208	72	936	473	157	153	168	138	107	89	886
30	111	329	71	548	-----	157	146	162	126	273	83	3,130
31	101	-----	72	386	-----	157	-----	179	-----	577	79	-----
TOTAL	3,959	3,199	4,056	11,491	12,718	7,075	11,442	8,805	7,437	3,442	6,163	6,113
MEAN	128	107	131	371	439	228	381	284	248	111	199	204
MAX	712	329	212	1,530	2,110	586	1,510	952	2,670	577	1,130	3,130
MIN	45	61	71	68	150	155	130	131	81	63	66	54
CFSM	.97	.81	.99	2.81	3.33	1.73	2.89	2.15	1.88	.84	1.51	1.55
IN.	1.12	.90	1.14	3.24	3.58	1.99	3.22	2.48	2.10	.97	1.74	1.72

CAL YR 1971 TOTAL 66,032 MEAN 181 MAX 2,390 MIN 45 CFSM 1.37 IN 18.61
WTR YR 1972 TOTAL 85,900 MEAN 235 MAX 3,130 MIN 45 CFSM 1.78 IN 24.21

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-28	1500	3.58	2,030	6-21	0300	4.56	4,030
2-26	1630	4.28	3,480	8-18	1700	3.63	2,110
4-12	1230	3.98	2,820	9-30	0930	5.71	5,720

TENNESSEE RIVER BASIN

203

03478400 BEAVER CREEK NEAR BRISTOL, VA.

LOCATION.--Lat 36°37'54", long 82°08'02", Washington County, on right bank 50 ft upstream from bridge on State Highway 1405, 75 ft downstream from Goose Creek, 0.9 mile downstream from Clear Creek, 2.1 miles northeast of Bristol, and at mile 20.6.

DRAINAGE AREA.--27.7 sq mi.

PERIOD OF RECORD.--July 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,780.98 ft above mean sea level.

AVERAGE DISCHARGE.--15 years, 32.1 cfs (15.74 inches per year).

EXTREMES.--Current year: Maximum discharge, 950 cfs July 31 (gage height, 7.60 ft); maximum gage height, 8.03 ft Sept. 30 (backwater from landslide); minimum discharge, 13 cfs Oct. 12, 14, 15 (gage height, 2.70 ft); minimum daily, 14 cfs Oct. 12.

Period of record: Maximum discharge, 1,090 cfs Apr. 28, 1970 (gage height, 8.11 ft); minimum, 3.4 cfs Dec. 30, 1963; minimum daily, 7.4 cfs Sept. 28, 29, Oct. 5, 15, 18, 19, 23, 24, 1969; minimum gage height, 2.47 ft Mar. 31, 1971.

Flood in 1936 reached a stage of about 12 ft.

REMARKS.--Records fair. Small diurnal fluctuation at low flow caused by withdrawal of water, which is returned to stream 600 ft above station, for car-washing operation. Since September 1965, some regulation at high flow by flood-control reservoirs (capacity, 7,600 acre-ft). Water-quality records have been collected at this location and are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	15	22	15	35	98	44	46	39	41	100	25
2	17	19	18	31	50	100	42	49	142	40	50	25
3	16	40	20	23	70	96	41	56	326	41	45	27
4	16	24	17	29	62	84	41	58	128	42	40	26
5	17	20	17	75	55	83	40	47	109	68	35	60
6	20	18	19	51	54	74	39	44	53	49	30	33
7	16	18	40	38	53	70	54	43	72	42	25	28
8	16	16	19	32	48	72	92	45	126	37	24	26
9	17	15	19	36	42	64	53	45	186	32	35	32
10	17	16	18	68	40	61	48	40	100	30	30	25
11	15	15	18	49	39	58	54	39	70	40	26	23
12	14	15	22	40	43	56	314	38	50	33	24	22
13	15	16	20	62	109	54	130	40	35	30	23	21
14	16	15	18	48	96	55	116	44	30	38	23	20
15	15	15	18	40	82	51	105	39	27	33	22	25
16	16	15	19	37	74	53	96	37	35	35	22	19
17	15	15	18	33	72	53	90	35	28	38	22	18
18	16	16	17	32	70	50	84	34	24	70	328	18
19	15	19	17	34	70	49	76	35	21	50	211	21
20	15	17	18	50	63	46	68	35	54	35	122	19
21	15	16	18	80	59	44	62	34	127	31	74	18
22	16	17	17	52	64	49	82	52	48	36	50	18
23	17	16	16	60	61	45	67	37	43	38	40	17
24	28	16	16	45	90	43	61	34	42	30	37	17
25	27	16	16	58	159	43	58	33	41	28	35	16
26	18	20	16	40	252	43	54	32	40	25	32	17
27	17	18	16	45	177	43	52	30	40	24	40	21
28	16	17	16	130	138	44	50	31	41	24	31	30
29	16	20	16	80	112	49	48	29	59	35	28	300
30	15	30	17	45	-----	47	47	114	55	60	26	474
31	16	-----	15	37	-----	44	-----	190	-----	500	25	-----
TOTAL	521	545	573	1,495	2,339	1,821	2,208	1,465	2,192	1,655	1,655	1,441
MEAN	16.8	18.2	18.5	48.2	80.7	58.7	73.6	47.3	73.1	53.4	53.4	48.0
MAX	28	40	40	130	252	100	314	190	326	500	328	474
MIN	14	15	15	15	35	43	39	29	21	24	22	16
CFSM	.61	.66	.67	1.74	2.91	2.12	2.66	1.71	2.64	1.93	1.93	1.73
IN.	.70	.73	.77	2.01	3.14	2.45	2.97	1.97	2.94	2.22	2.22	1.94

CAL YR 1971 TOTAL 12,298 MEAN 33.7 MAX 252 MIN 12 CFSM 1.22 IN 16.52
WTR YR 1972 TOTAL 17,910 MEAN 48.9 MAX 500 MIN 14 CFSM 1.77 IN 24.05

NOTE.--DOUBTFUL OR NO GAGE-HEIGHT RECORD JULY 7 TO AUG. 17, AUG. 22 TO SEPT. 29.

TENNESSEE RIVER BASIN

03488000 NORTH FORK HOLSTON RIVER NEAR SALTVILLE, VA.

LOCATION.--Lat 36°53'48", long 81°44'47", Smyth County, on right bank 0.5 mile upstream from Cedar Branch bridge, 1.5 miles northeast of Saltville, 7.8 miles downstream from Laurel Creek, and at mile 84.6.

DRAINAGE AREA.--222 sq mi.

PERIOD OF RECORD.--June 1907 to December 1908 (published as "at Saltville"), October 1920 to current year. Monthly discharge only for some periods, published in WSP 1306.

GAGE.--Water-stage recorder. Datum of gage is 1,703.53 ft above mean sea level. June 11, 1907, to Nov. 12, 1908, nonrecording gage on highway bridge 2.1 miles downstream at different datum. Nov. 2, 1920, to May 23, 1934, nonrecording gage on highway bridge 0.5 mile downstream at datum 7.74 ft lower.

AVERAGE DISCHARGE.--53 years, 291 cfs (17.80 inches per year).

EXTREMES.--Current year: Maximum discharge, 7,550 cfs Sept. 30 (gage height, 8.25 ft); minimum, 53 cfs Oct. 15 (gage height, 0.64 ft).

Period of record: Maximum discharge, 16,500 cfs Jan. 29, 1957 (gage height, 13.20 ft), from rating curve extended above 14,000 cfs on basis of slope-area measurement of peak flow; minimum, 1.0 cfs Oct. 15, 16, 1947 (gage height, 0.13 ft), flow retarded by mine cave-in; minimum daily, 2.0 cfs Oct. 15, 1947.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 758: Drainage area. WSP 1113: 1944-47. WSP 1306: 1907(M), 1921-22(M), 1924-30(M), 1932-34(M), drainage area at site used 1907-8. WSP 1726: 1947, monthly and yearly runoff.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	195	374	101	551	652	330	230	370	290	527	98
2	59	173	284	158	453	559	302	225	298	271	384	92
3	65	250	237	285	431	799	278	525	251	228	397	92
4	62	374	212	343	486	771	267	1,000	216	204	296	104
5	62	314	189	1,340	365	654	260	752	218	340	231	116
6	110	261	165	1,330	360	517	230	535	206	355	173	131
7	120	228	211	681	350	448	250	422	243	296	143	103
8	88	191	336	460	286	424	850	382	193	241	141	89
9	78	163	322	378	274	368	1,000	439	170	197	132	114
10	78	148	286	649	230	336	750	423	161	167	118	99
11	72	135	253	705	220	311	540	384	143	145	109	85
12	65	124	219	567	230	291	1,900	345	128	128	101	78
13	60	115	229	462	422	274	2,700	317	119	120	95	75
14	57	108	207	592	612	272	1,500	385	115	114	88	72
15	55	101	198	570	637	251	2,500	488	109	111	82	71
16	71	96	197	444	569	248	2,000	669	103	104	78	69
17	180	92	183	380	519	321	1,500	587	114	99	75	67
18	123	89	166	320	475	329	1,100	450	183	96	2,770	68
19	95	88	148	280	465	320	800	383	154	476	4,420	67
20	81	91	159	316	400	301	600	356	177	222	1,430	64
21	74	90	173	2,970	347	288	540	324	3,730	142	633	61
22	74	87	153	1,770	392	360	480	432	1,860	125	417	59
23	103	81	137	1,000	556	429	500	689	827	136	315	57
24	1,740	84	134	714	1,050	402	470	593	549	111	250	57
25	1,200	89	133	613	4,190	358	420	454	422	95	204	56
26	1,300	85	129	521	3,480	325	380	360	341	86	172	55
27	652	93	125	487	2,820	306	350	299	284	83	158	73
28	436	131	120	4,010	1,370	299	310	261	246	110	149	94
29	325	200	114	2,640	861	300	264	236	251	146	130	1,370
30	261	430	109	1,240	-----	328	253	234	258	597	116	5,390
31	221	-----	107	749	-----	332	-----	410	-----	1,190	106	-----
TOTAL	8,023	4,706	6,009	27,075	23,401	12,173	23,624	13,589	12,439	7,025	14,440	9,026
MEAN	259	157	194	873	807	393	787	438	415	227	466	301
MAX	1,740	430	374	4,010	4,190	799	2,700	1,000	3,730	1,190	4,420	5,390
MIN	55	81	107	101	220	248	230	225	103	83	75	55
CFSM	1.17	.71	.87	3.93	3.64	1.77	3.55	1.97	1.87	1.02	2.10	1.36
IN.	1.34	.79	1.01	4.54	3.92	2.04	3.96	2.28	2.08	1.18	2.42	1.51

CAL YR 1971 TOTAL 114,796 MEAN 315 MAX 4,960 MIN 47 CFSM 1.42 IN 19.24
WTR YR 1972 TOTAL 161,530 MEAN 441 MAX 5,390 MIN 55 CFSM 1.99 IN 27.07

PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-21	1330	5.95	4,380	4-12	UNKNOWN	7.02	5,830
1-28	1700	6.76	5,460	6-21	1430	6.33	4,880
2-25	0930	6.74	5,440	8-19	0130	8.06	7,280
2-26	2200	6.07	4,540	9-30	1330	8.25	7,550

TENNESSEE RIVER BASIN

205

03490000 NORTH FORK HOLSTON RIVER NEAR GATE CITY, VA.

LOCATION.--Lat 36°36'31", long 82°34'05", Scott County, on left bank 75 ft upstream from bridge on U.S. Highway 23, 1.6 miles downstream from Big Moccasin Creek, 2.1 miles southeast of Gate City, and at mile 8.8.

DRAINAGE AREA.--672 sq mi.

PERIOD OF RECORD.--October 1931 to current year. Monthly discharge only for some periods, published in WSP 1306.

GAGE.--Water-stage recorder. Datum of gage is 1,197.56 ft above mean sea level.

AVERAGE DISCHARGE.--41 years, 861 cfs (17.40 inches per year).

EXTREMES.--Current year: Maximum discharge, 11,300 cfs Jan. 29 (gage height, 9.71 ft); minimum, 184 cfs Sept. 26 (gage height, 1.71 ft).

Period of record: Maximum discharge, 30,000 cfs Mar. 12, 1963 (gage height, 16.42 ft); maximum gage height, 16.73 ft Jan. 30, 1957; minimum discharge, 36 cfs Sept. 16, 17, 1964; minimum gage height, 1.00 ft Jan. 6, 1940.

REMARKS.--Records good. Prior to 1957, diurnal fluctuation at low flow caused by one or more mills above station. Water-quality records for the current year are included in this report.

REVISIONS (WATER YEARS).--WSP 783: 1932(M). WSP 823: Drainage area. WSP 1276: 1932-34.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	214	565	720	397	1,980	2,290	1,010	769	949	557	2,570	291
2	201	510	724	851	1,630	1,900	956	741	837	571	1,720	270
3	196	642	600	1,600	1,500	1,910	872	1,060	695	557	1,220	258
4	201	957	539	1,530	1,690	2,080	821	2,240	604	515	954	260
5	223	927	518	4,060	1,500	1,920	787	2,610	563	767	774	281
6	405	773	486	5,540	1,270	1,670	739	1,900	602	830	625	316
7	418	665	628	2,640	1,250	1,430	760	1,450	594	767	482	324
8	348	588	885	1,610	1,130	1,400	2,850	1,250	652	648	424	287
9	301	507	936	1,240	977	1,340	2,960	1,300	550	543	380	252
10	277	449	847	2,110	860	1,210	2,030	1,330	509	459	356	234
11	263	414	747	2,720	800	1,130	1,710	1,220	478	398	320	269
12	233	382	680	2,060	840	1,040	6,270	1,090	420	356	300	253
13	211	350	862	1,680	3,360	969	8,360	995	374	330	286	248
14	198	328	824	2,530	3,430	930	4,950	1,170	348	320	278	239
15	193	311	725	2,460	2,550	869	8,730	1,400	337	362	268	236
16	230	294	673	1,830	2,170	837	5,910	1,480	324	330	260	235
17	327	281	642	1,360	1,900	852	4,610	1,570	330	305	251	231
18	387	269	596	1,200	1,840	899	3,050	1,370	361	291	247	228
19	379	271	539	1,060	1,900	890	2,250	1,170	477	291	5,470	226
20	301	277	595	988	1,710	857	1,840	1,110	504	571	4,900	224
21	267	293	762	3,010	1,440	819	1,610	1,040	1,570	494	2,030	215
22	393	273	727	6,280	1,320	857	1,560	1,260	5,240	350	1,230	205
23	490	260	636	3,540	1,430	965	1,660	2,960	2,370	310	888	199
24	1,770	286	573	3,460	2,330	1,040	1,450	2,400	1,450	350	703	195
25	3,440	421	535	2,630	7,590	983	1,310	1,700	1,090	350	651	192
26	2,210	417	502	2,320	9,220	918	1,190	1,290	879	300	707	191
27	1,860	375	470	1,950	8,860	866	1,070	1,020	739	278	570	285
28	1,250	366	441	4,180	4,890	853	955	853	648	494	456	302
29	924	427	415	9,720	3,030	922	877	753	592	809	405	1,710
30	735	480	411	4,510	-----	1,060	820	703	634	1,390	356	8,100
31	618	-----	421	2,720	-----	1,040	-----	945	-----	3,620	318	-----
TOTAL	19,463	13,358	19,659	83,786	74,397	36,746	73,967	42,149	25,720	18,513	30,399	16,756
MEAN	628	445	634	2,703	2,565	1,185	2,466	1,360	857	597	981	559
MAX	3,440	957	936	9,720	9,220	2,290	8,730	2,960	5,240	3,620	5,470	8,100
MIN	193	260	411	397	800	819	739	703	324	278	247	191
CFSM	.93	.66	.94	4.02	3.82	1.76	3.67	2.02	1.28	.89	1.46	.83
IN.	1.08	.74	1.09	4.64	4.12	2.03	4.09	2.33	1.42	1.02	1.68	.93

CAL YR 1971 TOTAL 359,341 MEAN 984 MAX 15,800 MIN 172 CFSM 1.46 IN 19.89
WTR YR 1972 TOTAL 454,913 MEAN 1,243 MAX 9,720 MIN 191 CFSM 1.85 IN 25.18

PEAK DISCHARGE (BASE, 7,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-22	0700	7.98	7,630	4-12	2100	9.23	10,200
1-29	0600	9.71	11,300	4-15	0530	8.66	9,030
2-26	0400	9.24	10,200	8-19	1900	8.42	8,520

TENNESSEE RIVER BASIN

03521500 CLINCH RIVER AT RICHLANDS, VA.

LOCATION.--Lat 37°05'10", long 81°46'52", Tazewell County, on right bank 1 mile southeast of Richlands, 1.6 miles downstream from Middle Creek, 2.2 miles upstream from Big Creek, and at mile 321.0.

DRAINAGE AREA.--139 sq mi.

PERIOD OF RECORD.--October 1945 to current year. Monthly discharge only for some periods, published in WSP 1306.

GAGE.--Water-stage recorder. Datum of gage is 1,924.08 ft above mean sea level. Prior to Aug. 6, 1950, non-recording gage at bridge 1.1 miles downstream at datum 6.53 ft lower.

AVERAGE DISCHARGE.--27 years, 185 cfs (18.07 inches per year).

EXTREMES.--Current year: Maximum discharge, 6,420 cfs Apr. 14 (gage height, 14.65 ft), from rating curve extended as explained below; minimum, 41 cfs Oct. 1 (gage height, 0.86 ft).

Period of record: Maximum discharge, 9,640 cfs Jan. 29, 1957 (gage height, 19.3 ft, from floodmark), from rating curve extended above 4,800 cfs on basis of contracted-opening measurement of peak flow; minimum, 3.2 cfs Sept. 8, 1955; minimum daily, 8.8 cfs July 6, Sept. 10, 16, 1964; minimum gage height, 0.45 ft July 2, 3, 1951.

Flood of June 22, 1901, reached a stage of 21.3 ft, present site and datum, from floodmark (discharge, 11,500 cfs), from report by Tennessee Valley Authority. Flood of Feb. 18, 1944, reached a stage of 13.7 ft, present site and datum, from floodmark (discharge, 5,500 cfs), from report by Tennessee Valley Authority.

REMARKS.--Records good. Prior to October 1970, diurnal fluctuation at low flow caused by mill 1.7 miles above station. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1306: 1946(M), 1948-50(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	138	120	75	374	450	173	146	153	190	308	112
2	49	123	110	128	314	372	164	148	139	152	233	107
3	55	486	100	224	294	470	155	700	129	132	208	104
4	50	474	95	247	281	410	157	1,010	122	129	166	109
5	99	285	90	1,580	208	391	156	647	161	438	141	147
6	212	209	85	949	202	328	145	423	140	385	117	143
7	122	183	117	480	205	303	168	325	151	278	109	111
8	83	152	148	320	172	296	1,260	297	116	209	163	104
9	71	133	140	268	160	239	632	397	106	171	123	116
10	69	122	136	438	145	223	428	514	108	146	109	85
11	61	111	128	421	150	205	337	354	98	129	93	74
12	53	103	122	341	177	196	2,080	281	90	116	85	69
13	49	96	147	302	610	184	1,470	253	85	109	80	65
14	45	90	136	511	624	180	4,760	321	83	108	75	62
15	49	86	133	440	568	164	2,580	303	79	99	70	64
16	139	81	148	311	503	165	1,330	276	86	91	68	62
17	125	77	152	250	435	203	862	249	122	89	65	59
18	95	74	142	190	366	186	589	233	145	86	1,350	60
19	77	73	129	180	327	173	460	268	98	105	2,010	59
20	65	79	135	751	274	163	377	273	159	92	805	56
21	59	75	131	3,490	241	156	321	277	1,050	79	431	52
22	57	74	115	1,300	371	205	313	850	595	102	286	50
23	258	66	105	720	550	224	274	1,180	346	89	217	49
24	1,500	77	103	492	1,220	200	234	631	254	76	178	48
25	706	99	101	431	2,870	187	216	427	207	69	184	48
26	738	86	98	357	2,210	176	200	311	172	63	148	46
27	428	90	94	361	1,880	176	181	241	146	69	133	61
28	277	114	91	2,190	955	174	170	207	137	87	136	123
29	202	122	87	1,410	602	170	162	187	168	137	138	223
30	165	125	82	758	-----	176	157	174	186	385	125	1,360
31	147	-----	80	501	-----	174	-----	179	-----	483	118	-----
TOTAL	6,147	4,103	3,600	20,416	17,288	7,319	20,511	12,082	5,631	4,893	8,472	3,828
MEAN	198	137	116	659	596	236	684	390	188	158	273	128
MAX	1,500	486	152	3,490	2,870	470	4,760	1,180	1,050	483	2,010	1,360
MIN	42	66	80	75	145	156	145	146	79	63	65	46
CFSM	1.42	.99	.83	4.74	4.29	1.70	4.92	2.81	1.35	1.14	1.96	.92
IN.	1.65	1.10	.96	5.46	4.63	1.96	5.49	3.23	1.51	1.31	2.27	1.02

CAL YR 1971 TOTAL 80,507 MEAN 221 MAX 3,770 MIN 37 CFSM 1.59 IN 21.55
WTR YR 1972 TOTAL 114,290 MEAN 312 MAX 4,760 MIN 42 CFSM 2.24 IN 30.59

PEAK DISCHARGE (BASE, 1,600 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	0830	6.70	2,000	4-8	1000	6.03	1,660
1-5	1300	6.76	2,030	4-12	1000	8.63	2,960
1-21	0400	11.80	4,680	4-14	1600	14.65	6,420
1-28	1300	8.43	2,860	8-18	2200	9.22	3,260
2-25	0430	9.69	3,500	8-19	1230	7.95	2,620
2-26	2200	8.39	2,840	9-30	1030	5.89	1,600

03524000 CLINCH RIVER AT CLEVELAND, VA.

LOCATION.--Lat 36°56'41", long 82°09'18", Russell County, on right bank 500 ft upstream from highway bridge at Cleveland, 0.5 mile downstream from Muddy Hollow, 2.3 miles downstream from Weaver Creek, 4.4 miles downstream from Thompson Creek, and at mile 271.6.

DRAINAGE AREA.--528 sq mi.

PERIOD OF RECORD.--October 1920 to current year. Monthly discharge only for some periods, published in WSP 1306.

GAGE.--Water-stage recorder. Datum of gage is 1,500.24 ft above mean sea level. Prior to Nov. 1, 1931, non-recording gage on highway bridge 500 ft downstream at datum 1.0 ft lower.

AVERAGE DISCHARGE.--52 years, 697 cfs (17.93 inches per year).

EXTREMES.--Current year: Maximum discharge, 13,700 cfs Apr. 15 (gage height, 16.77 ft); minimum, 158 cfs Sept. 26 (gage height, 1.61 ft).

Period of record: Maximum discharge, 31,000 cfs Jan. 30, 1957 (gage height, 24.40 ft), from rating curve extended above 14,000 cfs on basis of contracted-opening measurement of peak flow; minimum, 35 cfs Sept. 28, 1964; minimum gage height, 0.96 ft Feb. 10, 1934.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 823: Drainage area. WSP 1306: 1921-23(M), 1926(M), 1929-31(M). WSP 1706: 1927(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	207	590	444	278	1,640	1,810	652	499	518	562	1,860	279
2	197	529	400	454	1,350	1,500	614	474	454	516	1,540	263
3	195	1,490	365	947	1,230	1,570	577	995	410	427	1,680	256
4	205	2,210	354	1,000	1,250	1,510	554	2,530	376	416	1,160	277
5	221	1,420	342	3,970	939	1,390	552	2,240	392	768	839	306
6	625	1,010	321	4,430	864	1,240	516	1,490	480	1,260	647	371
7	693	815	412	2,260	845	1,120	512	1,120	557	938	534	315
8	453	677	565	1,510	736	1,100	2,640	943	446	712	472	259
9	334	576	583	1,190	650	974	2,450	1,080	368	566	519	248
10	290	523	553	1,690	580	863	1,600	1,240	360	475	433	328
11	262	477	519	1,800	560	805	1,270	1,090	329	411	371	257
12	235	434	475	1,510	600	752	5,550	881	287	358	323	232
13	211	401	533	1,310	2,120	706	5,520	768	267	322	296	220
14	194	370	542	2,210	2,670	680	7,930	918	257	298	271	212
15	189	341	518	2,100	2,140	633	10,200	963	245	278	253	209
16	578	319	568	1,500	1,880	593	5,550	969	243	266	240	203
17	675	301	611	1,100	1,660	634	3,440	881	267	262	229	200
18	524	285	582	800	1,450	670	2,370	770	391	247	705	197
19	399	277	515	740	1,340	620	1,820	770	453	254	5,050	196
20	322	280	516	1,160	1,150	580	1,490	826	363	338	3,430	191
21	273	279	528	10,500	1,000	552	1,250	772	1,590	268	1,660	182
22	252	271	474	6,150	1,210	584	1,120	1,980	2,770	229	1,080	174
23	281	255	420	2,970	1,840	730	1,040	2,900	1,420	275	800	169
24	4,600	280	396	2,100	2,970	713	849	2,150	932	257	638	167
25	3,630	466	386	1,860	9,150	656	769	1,450	734	219	559	163
26	2,490	412	372	1,670	6,850	619	706	1,060	598	201	558	161
27	1,900	372	356	1,530	6,390	601	636	812	508	204	466	190
28	1,320	383	340	6,420	3,460	608	586	679	441	425	412	256
29	933	430	326	6,440	2,350	618	555	600	419	553	370	1,300
30	739	448	307	3,210	-----	655	529	554	535	2,340	332	4,680
31	630	-----	296	2,180	-----	654	-----	560	-----	2,840	301	-----
TOTAL	24,057	16,921	13,919	76,989	60,874	26,740	63,847	34,964	17,410	17,485	28,028	12,461
MEAN	776	564	449	2,484	2,099	863	2,128	1,128	580	564	904	415
MAX	4,600	2,210	611	10,500	9,150	1,810	10,200	2,900	2,770	2,840	5,050	4,680
MIN	189	255	296	278	560	552	512	474	243	201	229	161
CFSM	1.47	1.07	.85	4.70	3.98	1.63	4.03	2.14	1.10	1.07	1.71	.79
IN.	1.69	1.19	.98	5.42	4.29	1.88	4.50	2.46	1.23	1.23	1.97	.88

CAL YR 1971 TOTAL 304,810 MEAN 835 MAX 13,000 MIN 146 CFSM 1.58 IN 21.48
WTR YR 1972 TOTAL 393,695 MEAN 1,076 MAX 10,500 MIN 161 CFSM 2.04 IN 27.74

PEAK DISCHARGE (BASE, 5,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	1500	10.14	6,140	4-12	2030	12.98	9,080
1-5	2030	9.94	5,940	4-15	0200	16.77	13,700
1-21	1500	16.06	12,800	8-19	0700	9.86	5,860
1-28	2000	12.49	8,540	9-30	1300	9.85	5,850
2-25	1100	13.83	10,100				

TENNESSEE RIVER BASIN

03526000 COPPER CREEK NEAR GATE CITY, VA.

LOCATION.--Lat 36°40'26", long 82°33'57", Scott County, on right bank at upstream side of highway bridge, 0.2 mile upstream from Plank Camp Creek, 1.1 miles downstream from Obeys Creek, and 2.6 miles northeast of Gate City.

DRAINAGE AREA.--106 sq mi.

PERIOD OF RECORD.--September 1947 to September 1972 (discontinued as a continuous-record station; converted to a crest-stage partial-record station).

GAGE.--Water-stage recorder. Datum of gage is 1,301.95 ft above mean sea level (Virginia Department of Highways bench mark). Prior to Aug. 30, 1953, nonrecording gage on highway bridge at same site and datum.

AVERAGE DISCHARGE.--25 years, 141 cfs (18.06 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,400 cfs Apr. 12 (gage height, 8.94 ft); minimum, 29 cfs Sept. 25, 26 (gage height, 2.16 ft).

Period of record: Maximum discharge, 6,940 cfs Mar. 12, 1963 (gage height, 13.14 ft), from rating curve extended above 3,500 cfs; minimum, 3.6 cfs Jan. 15, 1956, result of freezeup; minimum daily, 10 cfs Jan. 9, 15, 1956; minimum gage height, 1.90 ft Dec. 5, 1969.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1143: 1948. WSP 1306: 1948-50(M). WSP 1556: 1951(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	112	73	78	323	317	119	108	91	52	234	35
2	88	105	69	340	275	275	110	105	84	50	149	35
3	82	227	69	452	265	273	102	137	79	51	113	34
4	75	283	70	373	265	246	99	206	74	54	91	36
5	77	175	68	1,570	219	223	95	177	80	80	83	38
6	93	143	67	1,090	204	196	90	136	78	87	73	38
7	92	129	130	498	198	183	144	122	86	59	67	36
8	74	114	165	341	173	189	635	125	74	51	70	34
9	69	105	124	307	158	170	317	144	69	48	60	34
10	69	99	110	560	130	156	228	129	71	46	56	34
11	65	93	100	520	125	146	234	116	67	44	53	33
12	60	88	98	383	130	139	1,540	108	62	44	52	32
13	57	84	134	367	720	134	1,010	108	61	45	50	32
14	54	80	129	848	590	132	598	166	60	71	49	31
15	58	76	119	570	401	126	708	244	57	61	47	32
16	181	73	120	385	321	126	771	240	57	53	46	32
17	267	70	114	250	283	128	595	196	60	48	45	32
18	167	68	106	190	267	120	415	164	74	46	44	32
19	117	70	98	180	263	114	329	144	63	45	50	32
20	99	72	132	251	230	105	279	164	69	42	58	31
21	88	69	187	1,400	204	102	242	142	104	41	60	31
22	224	65	147	844	196	113	240	234	107	41	47	30
23	348	61	125	648	189	113	215	277	71	42	44	30
24	1,320	71	115	603	367	104	185	196	62	53	42	30
25	622	114	108	500	1,090	101	166	155	58	56	40	30
26	340	100	102	433	912	98	149	131	55	44	41	30
27	241	88	95	365	782	99	136	116	53	50	39	35
28	188	83	90	972	528	101	126	105	52	58	38	44
29	151	80	86	1,030	391	119	120	99	54	78	37	286
30	131	79	85	585	-----	147	114	98	55	635	36	1,050
31	118	-----	84	411	-----	126	-----	104	-----	613	35	-----
TOTAL	5,712	3,076	3,319	17,344	10,199	4,721	10,111	4,696	2,087	2,788	1,949	2,269
MEAN	184	103	107	559	352	152	337	151	69.6	89.9	62.9	75.6
MAX	1,320	283	187	1,570	1,090	317	1,540	277	107	635	234	1,050
MIN	54	61	67	78	125	98	90	98	52	41	35	30
CFSM	1.74	.97	1.01	5.27	3.32	1.43	3.18	1.42	.66	.85	.59	.71
IN.	2.00	1.08	1.16	6.09	3.58	1.66	3.55	1.65	.73	.98	.68	.80

CAL YR 1971 TOTAL 63,327 MEAN 173 MAX 2,640 MIN 41 CFSM 1.63 IN 22.22
WTR YR 1972 TOTAL 68,271 MEAN 187 MAX 1,570 MIN 30 CFSM 1.76 IN 23.96

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	1530	7.65	1,670	2-25	1230	7.10	1,320
1- 5	2030	8.55	2,210	4-12	1900	8.94	2,400
1-21	1730	8.04	1,820	7-30	1730	6.95	1,240
1-28	1800	7.52	1,530	9-30	0500	6.93	1,240

03527000 CLINCH RIVER AT SPEERS FERRY, VA.

LOCATION.--Lat 36°38'55", long 82°45'02", Scott County, on right bank 200 ft downstream from bridge on U.S. Highway 58, 0.5 mile downstream from Copper Creek, 0.8 mile northwest of Speers Ferry, 1.8 miles south of Clinchport, and at mile 211.0.

DRAINAGE AREA.--1,126 sq mi.

PERIOD OF RECORD.--October 1920 to current year. Gage-height records collected in this vicinity February 1895 to July 1933 are contained in reports of the National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 1,196.52 ft above mean sea level. Prior to Nov. 23, 1926, non-recording gage at site 400 ft upstream at datum 1.50 ft higher. Nov. 23, 1926, to Nov. 6, 1931, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--52 years, 1,569 cfs (18.92 inches per year).

EXTREMES.--Current year: Maximum discharge, 19,600 cfs Jan. 22 (gage height, 18.56 ft); minimum, 305 cfs Sept. 26, 27 (gage height, 2.15 ft).

Period of record: Maximum discharge, 46,800 cfs Mar. 12, 1963 (gage height, 29.93 ft); minimum, 42 cfs Sept. 29, Oct. 23, 1939; minimum daily, 77 cfs Oct. 7, 8, 14, 15, 22, 1930; minimum gage height, 0.82 ft Oct. 13, 1943.

Flood in February 1862 reached a stage of 33 ft, present site and datum, from reports of the Tennessee Valley Authority. Flood of Feb. 28, 1902, reached a stage of 26.6 ft, at site 400 ft upstream and at datum about 1 ft higher, from records of the National Weather Service.

REMARKS.--Records good. Prior to May 1951, diurnal fluctuation at low flow caused by mills above station.

Water-quality records for the current year are included in this report.

REVISIONS (WATER YEARS).--WSP 823: Drainage area. WSP 1276: 1925(M), 1927, 1928-31(M), 1932, 1935(M). WSP 1306: 1922(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	550	1,260	960	952	4,000	3,800	1,520	1,100	970	730	3,800	456
2	500	1,200	900	2,730	3,070	3,160	1,440	1,050	893	774	3,040	436
3	470	1,980	850	4,370	2,830	3,000	1,310	1,130	802	736	2,530	424
4	480	3,830	820	3,740	2,930	2,990	1,240	2,550	730	658	2,230	424
5	500	3,170	800	8,960	2,660	2,790	1,180	3,730	712	816	1,600	448
6	540	2,200	780	11,300	2,330	2,550	1,130	2,870	724	1,150	1,210	465
7	1,300	1,730	1,660	6,690	2,230	2,310	1,150	2,200	907	1,430	984	491
8	1,350	1,460	2,780	3,980	2,020	2,230	4,020	1,860	935	1,130	844	474
9	1,090	1,270	2,130	3,090	1,600	2,090	5,460	2,220	767	921	736	429
10	991	1,150	1,770	4,780	1,300	1,890	3,680	2,360	688	767	748	403
11	889	1,050	1,570	5,030	1,300	1,730	2,990	2,250	676	670	658	428
12	817	950	1,430	3,980	1,350	1,620	7,750	1,920	625	605	600	420
13	766	900	1,510	3,350	4,310	1,510	13,800	1,660	570	565	555	388
14	729	800	1,520	5,710	6,540	1,440	8,270	2,470	540	570	528	371
15	710	750	1,480	5,790	4,960	1,360	14,800	3,480	520	528	500	365
16	1,350	700	1,550	3,500	3,950	1,310	13,100	3,240	512	504	476	356
17	2,950	650	1,730	2,500	3,430	1,300	8,320	2,600	550	484	460	351
18	1,950	620	1,650	1,800	3,140	1,300	5,320	2,130	635	468	448	350
19	1,400	600	1,480	1,700	3,010	1,290	3,880	1,780	706	460	1,940	349
20	1,130	590	1,690	2,360	2,720	1,210	3,160	1,760	830	484	5,150	343
21	990	600	2,180	12,400	2,390	1,140	2,710	1,680	1,200	524	3,040	336
22	3,160	580	1,900	17,300	2,260	1,260	2,530	1,910	3,030	504	1,730	329
23	3,880	560	1,600	9,000	2,640	1,640	2,440	3,670	2,920	448	1,180	323
24	6,620	600	1,420	6,500	4,150	1,670	2,180	3,710	1,760	468	935	316
25	9,730	950	1,310	4,500	12,900	1,510	1,890	2,690	1,270	536	767	312
26	5,340	900	1,230	4,000	14,800	1,370	1,690	2,040	1,050	504	688	307
27	3,790	800	1,160	3,500	12,300	1,290	1,510	1,600	886	448	682	322
28	2,720	820	1,100	3,400	8,500	1,290	1,360	1,300	767	565	600	368
29	1,990	900	1,050	14,000	5,170	1,380	1,250	1,130	706	706	545	550
30	1,590	920	1,010	13,000	-----	1,600	1,170	1,040	694	3,580	508	4,130
31	1,370	-----	1,000	7,000	-----	1,570	-----	1,020	-----	5,530	480	-----
TOTAL	61,642	34,490	44,020	180,912	124,790	56,600	122,250	66,150	28,575	28,263	40,192	15,464
MEAN	1,988	1,150	1,420	5,836	4,303	1,826	4,075	2,134	953	912	1,297	515
MAX	9,730	3,830	2,780	17,300	14,800	3,800	14,800	3,730	3,030	5,530	5,150	4,130
MIN	470	560	780	952	1,300	1,140	1,130	1,020	512	448	448	307
CFSM	1.77	1.02	1.26	5.18	3.82	1.62	3.62	1.90	.85	.81	1.15	.46
IN.	2.04	1.14	1.45	5.98	4.12	1.87	4.04	2.19	.94	.93	1.33	.51

CAL YR 1971 TOTAL 696,933 MEAN 1,909 MAX 28,400 MIN 277 CFSM 1.70 IN 23.02
WTR YR 1972 TOTAL 803,348 MEAN 2,195 MAX 17,300 MIN 307 CFSM 1.95 IN 26.54

PEAK DISCHARGE (BASE, 10,000 CFS)

A ABOUT.

NOTE.--NO GAGE-HEIGHT RECORD JAN. 6 TO FEB. 1.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-25	0930	12.72	10,800	2-25	2330	16.93	16,600
1-6	0530	13.90	12,400	4-13	0730	15.86	14,900
1-22	0630	18.56	19,600	4-15	2200	17.43	17,500
1-29	UNKNOWN	UNKNOWN	116,000				

TENNESSEE RIVER BASIN

03528000 CLINCH RIVER ABOVE TAZEWEILL, TENN.

LOCATION.--Lat 36°25'30", long 83°23'54", Claiborne County, on right bank 0.4 mile upstream from Grissom Island, 4.6 miles downstream from Big War Creek, 10 miles east of Tazewell, and at mile 159.8.

DRAINAGE AREA.--1,474 sq mi.

PERIOD OF RECORD.--October 1918 to current year. Published as "near Lone Mountain" October 1918 to September 1927; as "near Tazewell" August 1927 to December 1936; and as "above Tazewell" July 1935 to current year. Prior to April 1919, monthly discharge only, published in WSP 1306. Gage-height record "near Tazewell" January 1937 to July 1941.

GAGE.--Water-stage recorder. Datum of gage is 1,060.7 ft above mean sea level. Apr. 1, 1919, to Sept. 30, 1927, nonrecording gage on railroad bridge 23.3 miles downstream at datum 102.7 ft lower. Aug. 8, 1927, to July 16, 1941, water-stage recorder at site 8.0 miles downstream at datum 47.2 ft lower. Water-stage recorder at present site and datum since July 29, 1935.

AVERAGE DISCHARGE.--54 years, 2,058 cfs (18.96 inches per year).

EXTREMES.--Current year: Maximum discharge, 21,700 cfs Jan. 22 (gage height, 12.70 ft); minimum, 270 cfs Sept. 26, 27 (gage height, 0.81 ft).
Period of record: Maximum discharge, 56,700 cfs Mar. 13, 1963 (gage height, 22.27 ft); minimum, 108 cfs Sept. 11, 1925. Minimum gage height at present site and datum, 0.33 ft Sept. 20, 1955.
Maximum stage known, about 24 ft in 1862, present site and datum, from information by local resident.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 803: Drainage area at site "near Tazewell". WSP 1306: Drainage area at site "near Lone Mountain". WSP 1336: 1928.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	936	1,630	1,210	1,190	4,940	5,220	2,250	1,550	1,220	824	5,580	506
2	800	1,500	1,180	4,140	3,740	4,140	2,100	1,470	1,140	872	3,770	482
3	716	2,220	1,130	6,680	3,330	4,290	1,940	1,540	1,040	896	3,290	459
4	654	3,920	1,120	5,200	3,480	3,960	1,810	2,200	944	848	2,740	476
5	674	4,460	1,200	8,680	3,270	3,680	1,700	3,930	880	904	2,240	476
6	1,430	3,270	1,190	14,800	2,910	3,250	1,590	3,780	912	1,060	1,700	482
7	1,530	2,530	2,900	11,200	2,710	2,940	1,610	2,810	987	1,480	1,350	494
8	1,630	2,070	4,110	5,870	2,550	2,810	4,480	2,360	1,100	1,470	1,300	518
9	1,370	1,760	3,360	4,160	2,300	2,670	6,670	2,340	1,060	1,190	1,050	500
10	1,080	1,540	2,620	6,250	2,130	2,490	5,620	2,680	960	1,010	928	442
11	936	1,370	2,200	7,330	2,020	2,300	3,980	2,580	864	840	904	402
12	808	1,240	1,950	5,720	1,980	2,160	7,350	2,410	808	744	786	424
13	723	1,140	2,100	4,690	4,430	2,040	17,300	2,140	744	674	716	430
14	660	1,060	2,080	6,330	7,900	1,960	14,100	3,920	681	936	660	381
15	621	987	2,030	7,860	7,080	1,850	13,000	4,830	647	737	615	360
16	1,330	920	1,970	5,820	5,120	1,800	18,700	5,250	621	615	576	350
17	2,430	864	2,090	4,130	4,260	1,830	13,100	3,870	634	595	537	336
18	2,980	824	2,170	3,260	3,950	1,750	8,220	2,990	681	569	512	336
19	2,020	793	1,980	2,870	4,010	1,750	5,420	2,460	793	543	494	331
20	1,480	793	2,240	2,640	3,620	1,670	4,130	2,170	904	556	3,380	331
21	1,180	772	3,050	7,120	3,140	1,570	3,430	2,170	1,070	537	4,530	316
22	2,260	751	2,880	19,600	2,900	1,810	3,440	2,090	1,870	589	2,440	307
23	6,670	723	2,370	15,900	2,900	2,170	3,440	3,210	3,500	556	1,590	298
24	6,250	737	2,020	8,050	3,780	2,290	3,000	4,200	2,400	530	1,200	293
25	9,680	904	1,780	5,870	9,640	2,170	2,650	3,570	1,650	840	978	284
26	8,740	1,100	1,600	5,180	18,900	1,970	2,370	2,600	1,320	695	840	275
27	4,800	1,200	1,480	4,560	16,600	1,890	2,140	2,080	1,110	595	758	275
28	3,650	1,160	1,360	5,340	13,100	1,930	1,950	1,740	1,060	569	751	280
29	2,810	1,120	1,260	15,300	7,980	2,040	1,780	1,500	969	904	660	408
30	2,240	1,150	1,240	14,200	-----	2,400	1,650	1,360	904	3,950	595	1,760
31	1,870	-----	1,310	7,670	-----	2,400	-----	1,260	-----	7,170	550	-----
TOTAL	74,958	44,508	61,180	227,610	154,670	77,200	160,920	83,060	33,473	34,298	48,020	13,012
MEAN	2,418	1,484	1,974	7,342	5,333	2,490	5,364	2,679	1,116	1,106	1,549	434
MAX	9,680	4,460	4,110	19,600	18,900	5,220	18,700	5,250	3,500	7,170	5,580	1,760
MIN	621	723	1,120	1,190	1,980	1,570	1,590	1,260	621	530	494	275
CFSM	1.64	1.01	1.34	4.98	3.62	1.69	3.64	1.82	.76	.75	1.05	.29
IN.	1.89	1.12	1.54	5.74	3.90	1.95	4.06	2.10	.84	.87	1.21	.33
CAL YR 1971	TOTAL	862,203	MEAN	2,362	MAX	33,600	MIN	340	CFSM	1.60	IN	21.76
WTR YR 1972	TOTAL	1,012,909	MEAN	2,768	MAX	19,600	MIN	275	CFSM	1.88	IN	25.56

PEAK DISCHARGE (BASE, 14,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1- 6	1500	10.29	15,400	2-26	1600	12.19	20,300
1-22	1930	12.70	21,700	4-16	1100	12.16	20,200
1-29	1930	11.15	17,500				

TENNESSEE RIVER BASIN

211

03531500 POWELL RIVER NEAR JONESVILLE, VA.

LOCATION.--Lat 36°39'43", long 83°05'42", Lee County, on right bank 175 ft downstream from highway bridge, 2 miles southeast of Jonesville, 10 miles upstream from Wallen Creek, and at mile 143.1.

DRAINAGE AREA.--319 sq mi.

PERIOD OF RECORD.--October 1931 to current year. Monthly discharge only for some periods, published in WSP 1306.

GAGE.--Water-stage recorder. Datum of gage is 1,259.08 ft above mean sea level.

AVERAGE DISCHARGE.--41 years, 521 cfs (22.18 inches per year).

EXTREMES.--Current year: Maximum discharge, 9,440 cfs Jan. 21 (gage height, 16.81 ft); minimum, 50 cfs Sept. 25, 26 (gage height, 1.33 ft).

Period of record: Maximum discharge, 31,100 cfs Mar. 12, 1963 (gage height, 33.36 ft), from rating curve extended above 20,000 cfs; minimum, 17 cfs Sept. 19, 20, 1954, and as result of storage behind temporary dam Oct. 18, 1961; minimum gage height, 0.68 ft Oct. 18, 1961.

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 823: Drainage area. WSP 1033: 1932-44. WSP 1436: 1946(M), 1948(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	315	404	338	333	1,100	1,160	808	382	198	139	1,050	63
2	267	402	313	2,670	913	1,050	707	356	184	127	740	61
3	235	2,200	297	3,430	927	1,570	594	431	171	119	538	60
4	213	1,940	307	2,270	1,260	1,350	570	554	164	113	372	85
5	254	1,150	294	5,760	992	1,140	611	519	156	120	302	94
6	822	810	292	4,040	884	910	584	450	154	149	231	89
7	616	631	2,750	2,060	825	770	601	407	234	137	195	86
8	424	507	2,570	1,330	660	749	3,180	393	212	122	181	74
9	331	434	1,400	1,140	540	642	2,130	684	166	112	163	66
10	305	391	1,010	3,150	490	579	1,330	796	163	105	149	63
11	264	350	857	2,580	500	537	1,220	691	183	99	139	61
12	228	318	722	1,760	538	499	4,560	575	162	96	129	60
13	206	293	817	1,400	2,640	463	4,910	498	144	94	121	59
14	190	273	747	1,940	2,560	489	2,910	1,470	137	105	114	57
15	184	254	699	1,560	1,640	447	3,650	1,970	133	110	107	56
16	279	238	1,960	1,150	1,230	461	3,600	1,690	130	92	102	56
17	280	228	1,580	905	1,050	615	2,680	1,230	150	93	97	60
18	229	220	1,140	771	1,040	598	1,790	897	170	100	93	57
19	209	214	849	677	1,250	566	1,320	685	182	103	91	57
20	195	218	1,150	1,400	1,050	515	1,040	583	172	106	89	57
21	185	210	1,490	7,940	875	483	853	510	335	119	86	55
22	1,100	203	1,170	4,090	891	1,620	1,100	435	367	131	83	52
23	2,850	191	900	2,300	1,040	1,810	1,290	386	272	105	79	51
24	4,240	197	744	1,700	1,940	1,220	1,010	342	211	99	77	51
25	2,900	340	631	1,660	6,200	903	839	305	177	247	74	50
26	1,880	292	551	1,610	4,400	730	701	272	156	185	74	51
27	1,230	279	491	1,360	3,820	631	592	246	141	125	88	56
28	867	326	437	5,120	2,260	641	515	223	134	165	88	93
29	640	329	401	4,510	1,530	725	463	210	160	277	76	116
30	523	359	365	2,280	-----	1,000	420	200	156	2,120	69	1,410
31	446	-----	380	1,480	-----	915	-----	204	-----	2,060	66	-----
TOTAL	22,907	14,201	27,652	74,376	45,045	25,788	46,578	18,594	5,474	7,874	5,863	3,306
MEAN	739	473	892	2,399	1,553	832	1,553	600	182	254	189	110
MAX	4,240	2,200	2,750	7,940	6,200	1,810	4,910	1,970	367	2,120	1,050	1,410
MIN	184	191	292	333	490	447	420	200	130	92	66	50
CFSM	2.32	1.48	2.80	7.52	4.87	2.61	4.87	1.88	.57	.80	.59	.34
IN ₆	2.67	1.66	3.22	8.67	5.25	3.01	5.43	2.17	.64	.92	.68	.39

CAL YR 1971 TOTAL 253,550 MEAN 695 MAX 7,180 MIN 90 CFSM 2.18 IN 29.57
WTR YR 1972 TOTAL 297,658 MEAN 813 MAX 7,940 MIN 50 CFSM 2.55 IN 34.71

PEAK DISCHARGE (BASE, 5,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-24	1400	10.13	5,030	1-28	1830	13.75	7,390
1-5	1700	12.84	6,800	2-25	1100	13.73	7,370
1-21	1330	16.81	9,440	4-21	2000	15.75	8,700

TENNESSEE RIVER BASIN

03532000 POWELL RIVER NEAR ARTHUR, TENN.

LOCATION.--Lat 36°32'30", long 83°37'49", Claiborne County, on left bank 500 ft upstream from bridge on U.S. Highway 25E, 2.3 miles east of Arthur, 2.4 miles downstream from Indian Creek, and at mile 65.4.

DRAINAGE AREA.--685 sq mi.

PERIOD OF RECORD.--October 1919 to current year. Gage-height records collected at same site December 1892 to August 1893, September 1904 to March 1925 are in reports of the National Weather Service and were published as "near Tazewell".

GAGE.--Water-stage recorder. Datum of gage is 1,043.84 ft above mean sea level (Tennessee River Survey datum). Prior to July 23, 1927, nonrecording gage, and July 23, 1927, to Sept. 30, 1970, water-stage recorder, at same site at datum 2.00 ft higher.

AVERAGE DISCHARGE.--53 years, 1,127 cfs (22.34 inches per year).

EXTREMES.--Current year: Maximum discharge, 11,700 cfs Jan. 22 (gage height, 15.91 ft); minimum, 122 cfs Sept. 25, 26 (gage height, 1.50 ft).

Period of record: Maximum discharge, 33,000 cfs Jan. 9, 1946 (gage height, 29.15 ft, present datum, from floodmark), from rating curve extended above 27,000 cfs on basis of slope-area measurement of peak flow; minimum, 47 cfs Jan. 6, 1940, result of freezeup; minimum daily, 60 cfs Sept. 23, 1955; minimum gage height, 1.50 ft Sept. 25, 26, 1972 (result of dredging). Flood of Jan. 29, 1918, reached a stage of 29.2 ft, present datum (discharge, 33,000 cfs).

REMARKS.--Records good. Water-quality records have been collected at this location and are published in reports of the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1336: 1920, 1921(M), 1923.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	552	639	507	725	2,510	2,730	1,740	1,010	501	328	2,620	162
2	450	594	488	3,200	2,000	2,400	1,560	953	478	286	1,540	156
3	384	792	467	5,910	1,800	3,360	1,390	1,080	444	265	1,250	156
4	341	2,620	458	5,370	1,910	3,320	1,280	1,340	416	293	1,020	183
5	338	2,250	488	6,140	2,020	2,700	1,240	1,310	400	432	765	183
6	388	1,460	527	8,900	1,750	2,210	1,230	1,160	392	365	636	217
7	721	1,100	2,930	6,320	1,650	1,850	1,270	1,040	404	310	523	195
8	773	884	4,740	3,420	1,550	1,690	2,990	997	456	280	469	183
9	574	736	3,520	2,640	1,360	1,570	5,020	1,090	483	265	482	180
10	461	639	2,100	4,330	1,240	1,390	3,380	1,310	432	255	396	165
11	400	580	1,640	5,580	1,170	1,260	2,490	1,330	412	240	340	154
12	367	528	1,420	4,330	1,140	1,180	4,950	1,190	408	217	308	151
13	325	485	1,360	3,120	2,490	1,110	8,940	1,160	380	211	282	145
14	287	448	1,390	3,290	4,770	1,060	7,800	2,430	336	201	265	142
15	271	419	1,320	3,560	4,060	1,030	6,250	3,480	312	195	248	142
16	359	393	1,580	2,710	2,810	1,030	7,410	3,770	316	234	234	139
17	322	368	2,480	2,050	2,260	1,080	6,560	2,920	328	234	220	136
18	432	348	2,100	1,720	2,130	1,190	4,650	2,120	324	224	214	139
19	350	337	1,610	1,520	2,400	1,150	3,280	1,650	352	204	208	142
20	302	328	1,560	1,570	2,390	1,080	2,490	1,350	404	214	201	139
21	277	316	2,070	5,500	2,030	1,030	2,050	1,190	388	211	195	133
22	298	308	2,150	10,800	1,860	1,880	3,350	1,050	510	214	195	131
23	1,250	290	1,720	6,620	1,930	3,060	3,570	929	600	244	192	128
24	3,250	292	1,420	4,170	2,480	2,790	2,780	845	492	244	189	128
25	4,970	311	1,220	3,560	5,420	2,060	2,180	770	408	214	183	125
26	3,470	428	1,070	3,410	9,270	1,670	1,810	695	352	436	180	128
27	2,190	471	951	3,000	7,330	1,520	1,550	631	312	518	183	142
28	1,520	434	858	3,050	5,780	1,510	1,360	582	308	380	174	151
29	1,130	479	773	7,180	3,790	1,600	1,210	541	328	340	186	180
30	880	491	738	6,270	-----	1,790	1,100	523	356	1,260	183	500
31	730	-----	751	3,580	-----	1,900	-----	528	-----	3,140	165	-----
TOTAL	28,362	19,768	46,406	133,545	83,300	55,200	96,880	40,974	12,032	12,454	14,246	4,955
MEAN	915	659	1,497	4,308	2,872	1,781	3,229	1,322	401	402	460	165
MAX	4,970	2,620	4,740	10,800	9,270	3,360	8,940	3,770	600	3,140	2,620	500
MIN	271	290	458	725	1,140	1,030	1,100	523	308	195	165	125
CFSM	1.34	.96	2.19	6.29	4.19	2.60	4.71	1.93	.59	.59	.67	.24
IN.	1.54	1.07	2.52	7.25	4.52	3.00	5.26	2.23	.65	.68	.77	.27

CAL YR 1971 TOTAL 447,624 MEAN 1,226 MAX 13,000 MIN 201 CFSM 1.79 IN 24.31
WTR YR 1972 TOTAL 548,122 MEAN 1,498 MAX 10,800 MIN 125 CFSM 2.19 IN 29.77

PEAK DISCHARGE (BASE, 9,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1- 6	1600	13.78	9,380	2-26	1230	14.39	10,000
1-22	1330	15.91	11,700	4-13	2000	15.30	11,000

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in floodflow analyses. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in the following table. Discharge measurements made at miscellaneous sites are given in a second table.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations

Annual maximum discharge at crest-stage partial-record stations							
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
POTOMAC RIVER BASIN							
01621000	Dry River at Rawley Springs, Va.	Lat 38°30'10", long 79°03'14", Rockingham County, at bridge on State Highway 847, at Rawley Springs.	72.6	1947-48# 1949-72	10-24-71	3.62	1,310
01621200	War Branch near Hinton, Va.	Lat 38°28'28", long 78°59'14", Rockingham County, at bridge on U.S. Highway 33, 1 mile west of Hinton.	9.45	1949-72	6-21-72	3.70	700
01621450	Blacks Run tributary near Harrisonburg, Va.	Lat 38°23'30", long 78°55'05", Rockingham County, at culvert on U.S. Highway 11, 4.9 miles southwest of Harrisonburg.	.72	1966-72	6-22-72	6.80	114
01622100	North River tributary near Mount Crawford, Va.	Lat 38°19'55", long 78°56'20", Rockingham County, at culvert on U.S. Highway 11, 1.7 miles south of Mount Crawford.	1.55	1966-72	6-22-72	3.70	52
01622300	Buffalo Branch tributary near Augusta Springs, Va.	Lat 38°09'42", long 79°16'08", Augusta County, at culvert on State Highway 42, 5.0 miles northeast of Augusta Springs.	.55	1967-72	6-21-72	3.92	62
01622400	Buffalo Branch tributary near Christian, Va.	Lat 38°11'55", long 79°13'10", Augusta County, at culvert on State Highway 42, 1.3 miles north of Christian.	.49	1967-72	6-21-72	3.37	42
01627300	South River tributary near Harriston, Va.	Lat 38°12'10", long 78°50'10", Augusta County, at culvert on U.S. Highway 340, 1.1 miles south of Harriston.	2.41	1966-72	6-21-72	5.57	253
01628600	Cub Run tributary at Montevideo, Va.	Lat 38°22'15", long 78°47'00", Rockingham County, at culvert on U.S. Highway 33, 1.0 mile northwest of Montevideo.	.42	1966-72	6-21-72	5.12	91
01629400	South Fork Shenandoah River tributary near Luray, Va.	Lat 38°38'35", long 78°33'20", Page County, at culvert on U.S. Highway 211, 5.5 miles southwest of Luray.	.54	1966-72	6-22-72	6.48	99
01632300	Long Meadow near Broadway, Va.	Lat 38°34'43", long 78°45'40", Rockingham County, at bridge on State Highway 259, 3 miles southeast of Broadway.	8.15	1950-72	6-22-72	3.75	195
01632950	Crooked Run tributary near Conicville, Va.	Lat 38°47'55", long 78°43'25", Shenandoah County, at culvert on State Highway 42, 2.7 miles southwest of Conicville.	.31	1966-72	6-22-72	4.72	34
01633500	Stony Creek at Columbia Furnace, Va.	Lat 38°51'55", long 78°37'45", Shenandoah County, at foot bridge 0.8 mile south of Columbia Furnace.	79.4	1948-56# 1957-72	6-22-72	9.17	6,850

See footnotes at end of table, p. 223.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
POTOMAC RIVER BASIN--Continued							
01633700	Pugh Run tributary near Columbia Furnace, Va.	Lat 38°51'17", long 78°31'22", Shenandoah County, at culvert on State Highway 623, 7 miles northeast of Columbia Furnace.	0.56	1966-72	6-22-72	4.96	98
01635200	North Fork Shenandoah River tributary near Waterlick, Va.	Lat 38°58'25", long 78°18'30", Warren County, at culvert on State Highway 55, 1.3 miles west of Waterlick.	.48	1966-72	6-21-72	4.86	63
01644100	South Fork Sycolin Creek near Leesburg, Va.	Lat 39°04'15", long 77°36'35", Loudoun County, at culvert on U.S. Highway 15, 3.9 miles southwest of Leesburg.	2.05	1966-72	6-21-72	12.33	1,130
01644200	Lenah Run at Lenah, Va.	Lat 38°57'06", long 77°34'37", Loudoun County, at bridge on U.S. Highway 50 at Lenah.	1.09	1962-72	6-21-72	8.46	(*)
01644250	South Fork Broad Run near Arcola, Va.	Lat 38°56'30", long 77°33'05", Loudoun County, at culvert on U.S. Highway 50, 1.2 miles southwest of Arcola.	4.12	1966-72	6-21-72	17.98	(*)
01644370	Sugarland Run near Dranesville, Va.	Lat 39°00'47", long 77°22'12", Fairfax County, at Leesburg Turnpike (Rt. 7), 1.5 miles northwest of Dranesville.	13.4	1961-72	4-13-61	3.98	(*)
					3-12-62	2.23	(*)
					8-20-63	3.48	(*)
					5-13-64	3.07	(*)
					7-18-65	3.68	(*)
					9-14-66	2.87	(*)
					8-24-67	4.24	(*)
					5-28-68	3.68	(*)
					7-22-69	4.68	(*)
					4-14-70	3.59	(*)
01645975	Rocky Run near Great Falls, Va.	Lat 38°58'16", long 77°14'49", Fairfax County, at Towlston Road, 1.9 miles southeast of Great Falls.	3.22	1961-69, 1971-72	9-11-71	4.62	(*)
					6-21-72	8.69	8,800
					4-13-61	1.43	(*)
					3-12-62	1.72	(*)
					6- 3-63	1.58	(*)
					5-13-64	1.97	(*)
					8-18-65	2.45	(*)
					9-14-66	3.83	(*)
					8-24-67	5.0	1,150
					9-10-68	5.24	1,200
01646200	Scott Run near McLean, Va.	Lat 38°57'32", long 77°12'21", Fairfax County, on left bank at bridge on Old Georgetown Pike, 0.8 mile upstream from mouth, and 2.3 miles northwest of McLean.	4.69	1961-72	8-10-69	3.63	(*)
					2-13-71	1.50	(*)
					6-21-72	5.9	1,360
					4-13-61	1.43	(*)
					3-12-62	1.72	(*)
					6- 3-63	1.58	(*)
					5-13-64	1.97	(*)
					8-18-65	2.45	(*)
					9-14-66	3.83	(*)
					8-24-67	5.0	1,150
01652400	Long Branch at Arlington, Va.	Lat 38°51'31", long 77°07'37", Fairfax County, on right bank at South Carlyn Springs Road, 500 ft downstream from Arlington County line, 1.8 miles south-east of Seven Corners.	.94	1963-72	9-10-68	5.24	1,200
					6-21-72	24.68	980
					4-13-61	1.43	(*)
					3-12-62	1.72	(*)
					6- 3-63	1.58	(*)
					5-13-64	1.97	(*)
					8-18-65	2.45	(*)
					9-14-66	3.83	(*)
					8-24-67	5.0	1,150
					9-10-68	5.24	1,200
01652430	Doctors Run at Arlington, Va.	Lat 38°51'42", long 77°06'09", Arlington County, at 8th Street, 0.6 mile west of Glebe Road, Arlington.	.90	1966-72	6-21-72	5.44	700
					4-13-61	1.43	(*)
					3-12-62	1.72	(*)
					6- 3-63	1.58	(*)
					5-13-64	1.97	(*)
					8-18-65	2.45	(*)
					9-14-66	3.83	(*)
					8-24-67	5.0	1,150
					9-10-68	5.24	1,200
					8-10-69	3.63	(*)
01652470	Lucky Run at Arlington, Va.	Lat 38°50'33", long 77°06'16", Arlington County, at Dinwiddie Street and Walter Reed Drive, Arlington.	1.22	1966-72	6-21-72	8.22	1,250
					4-13-61	1.43	(*)
					3-12-62	1.72	(*)
					6- 3-63	1.58	(*)
					5-13-64	1.97	(*)
					8-18-65	2.45	(*)
					9-14-66	3.83	(*)
					8-24-67	5.0	1,150
					9-10-68	5.24	1,200
					8-10-69	3.63	(*)
01652500	Fourmile Run at Alexandria, Va.	Lat 38°50'36", long 77°04'46", Alexandria City, on left bank 100 feet upstream from East Glebe Road, 2.1 miles up-stream from mouth.	14.4	1951-69, 1970-72	6-21-72	12.4	10,000
					4-13-61	1.43	(*)
					3-12-62	1.72	(*)
					6- 3-63	1.58	(*)
					5-13-64	1.97	(*)
					8-18-65	2.45	(*)
					9-14-66	3.83	(*)
					8-24-67	5.0	1,150
					9-10-68	5.24	1,200
					8-10-69	3.63	(*)

See footnotes at end of table, p. 223.

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
POTOMAC RIVER BASIN--Continued							
01652610	Holmes Run near Annandale, Va.	Lat 38°50'47", long 77°10'28", Fairfax County, on left bank, 150 ft downstream from Sleepy Hollow Road, 0.5 mile upstream from Lake Barcroft, 1.6 miles northeast of Annandale.	7.10	1960-70, 1972	6-21-72	9.2	3,000
01653950	Long Branch at Vienna, Va.	Lat 38°52'23", long 77°14'34", Fairfax County, at Lee Highway, 0.5 mile upstream from Arlington Blvd., 0.5 mile southeast of Vienna.	1.18	1960-69, 1972	6-21-72	5.85	1,280
01656200	Broad Run near Warrenton, Va.	Lat 38°48'25", long 77°48'47", Fauquier County, at bridge on State Highway 17, 7 miles north of Warrenton.	2.94	1950-72	6-21-72	7.86	276
01656600	Broad Run tributary at Buckland, Va.	Lat 38°46'50", long 77°40'15", Prince William County, at culvert on U.S. Highway 29, 0.2 mile east of Buckland.	.79	1966-72	6-21-72	16.20	575
01656800	Cub Run near Chantilly, Va.	Lat 38°54'30", long 77°28'01", Fairfax County, on left bank at downstream side of bridge at U.S. Highway 50, 0.2 mile upstream from unnamed tributary, 2.2 miles northwest of Chantilly.	7.13	1963-68, 1970-72	6-22-72	10.68	(*)
01656850	Cain Branch near Chantilly, Va.	Lat 38°54'08", long 77°27'06", Fairfax County, at Jackson Memorial Highway (Rt. 50), 1.2 miles west of Chantilly.	1.67	1966-68, 1972	9-14-66 8-24-67 9-10-68 6-21-72	2.95 3.50 2.59 (a)	(*) (*) (*) 2,200
01656940	Cub Run near Centreville, Va.	Lat 38°49'59", long 77°27'50", Fairfax County, at bridge on U.S. Highways 29 & 211, 0.4 mile upstream from Big Rocky Run, and 1.9 miles west of Centreville.	39.6	1970-72	6-22-72	23.9	(*)
RAPPAHANNOCK RIVER BASIN							
01662300	Thornton River tributary near Thornton Gap, Va.	Lat 38°40'08", long 78°17'30", Rappahannock County, at culvert on U.S. Highway 211, 1.8 miles east of Thornton Gap.	1.38	1967-72	6-22-72	9.90	140
01662600	Rush River tributary near Washington, Va.	Lat 38°41'40", long 78°10'10", Rappahannock County, at culvert on U.S. Highways 211 & 522, 1.2 miles southwest of Washington.	.09	1966-72	10-25-71	3.25	10
01664800	Harpers Run near Morrisville, Va.	Lat 38°31'00", long 77°43'05", Fauquier County, at culvert on U.S. Highway 17, 1.7 miles northwest of Morrisville.	2.28	1966-72	6-21-72	12.53	1,900
01665200	Rock Run tributary near Goldvein, Va.	Lat 38°27'45", long 77°40'10", Fauquier County, at culvert on U.S. Highway 17, 1.5 miles northwest of Goldvein.	1.00	1966-72	6-21-72	7.37	536
01665300	Rapidan River near Stanardsville, Va.	Lat 38°21'13", long 78°22'29", Madison County, at bridge on State Highway 230, 5.3 miles northeast of Stanardsville.	37.6	1967-72	6-21-72	18.28	(*)
01665400	Conway River near Stanardsville, Va.	Lat 38°19'58", long 78°23'53", Madison County, at bridge on State Highway 230, 3.4 miles northeast of Stanardsville.	25.8	1967-72	6-21-72	20.43	(*)
01665450	South River near Stanardsville, Va.	Lat 38°18'50", long 78°25'45", Greene County, at bridge on State Highway 230, 1.3 miles north of Stanardsville.	18.8	1967-72	6-21-72	12.31	(*)
01667600	Cedar Run tributary near Culpeper, Va.	Lat 38°23'50", long 78°00'25", Culpeper County, at culvert on U.S. Highway 522, 5 miles south of Culpeper.	.58	1966-72	6-21-72	6.63	125
01668200	Gingoteague Run near Port Royal, Va.	Lat 38°12'40", long 77°09'10", King George County, at culvert on State Highway 623, 3.5 miles northeast of Port Royal.	2.82	1966-72	6-22-72	9.94	(*)

See footnotes at end of table, p. 223.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage partial-record stations--Continued

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
RAPPAHANNOCK RIVER BASIN--Continued							
01668300	Farmers Hall Creek near Champlain, Va.	Lat 38°00'05", long 76°58'40", Essex County, at culvert on U.S. Highway 17, 1.2 miles southeast of Champlain.	2.18	1966-72	6-22-72	15.72	452
PIANKATANK RIVER BASIN							
01669300	Yorkers Swamp near Center Cross, Va.	Lat 37°47'10", long 76°45'55", Essex County, at culvert on U.S. Highway 17, 1.5 miles southeast of Center Cross.	1.37	1966-72	6-22-72	5.65	142
YORK RIVER BASIN							
01670100	Mountain Run tributary near Gordonsville, Va.	Lat 38°09'45", long 78°09'45", Orange County, at culvert on U.S. Highway 15, 2.2 miles northeast of Gordonsville.	0.50	1966-72	6-21-72	11.13	147
01671650	Waldrops Creek near Louisa, Va.	Lat 38°00'08", long 78°04'22", Louisa County, at culvert on State Highway 632, 4.2 miles southwest of Louisa.	2.85	1969-72	6-21-72	17.71	1,640
01671750	Harris Creek near Trevilians, Va.	Lat 38°01'02", long 78°03'06", Louisa County, at culvert on State Highway 632, 2.7 miles southeast of Trevilians.	3.31	1969-72	6-21-72	14.54	2,310
01672400	South Anna River tributary near Ashland, Va.	Lat 37°48'40", long 77°34'20", Hanover County, at culvert on State Highway 54, 5.5 miles northwest of Ashland.	.33	1966-72	6-21-72	9.93	(*)
01672900	Pamunkey River tributary near Hanover, Va.	Lat 37°48'00", long 77°22'20", Caroline County, at culvert on U.S. Highway 301, 2.6 miles north of Hanover.	.71	1966-72	6-21-72	4.19	51
01674100	Motto River tributary near Cedon, Va.	Lat 38°05'24", long 78°31'11", Caroline County, at culvert on State Highway 605, 1.9 miles north of Cedon.	1.64	1967-72	6-21-72	9.30	488
JAMES RIVER BASIN							
02009500	Cattail Run near Bolar, Va. b/	Lat 38°16'00", long 79°40'20", Highland County, at culvert on U.S. Highway 220, 3.5 miles north of Bolar.	0.74	1966-72	4-22-72	4.20	33
02012950	Sweet Springs Creek tributary at Sweet Chalybeate, Va.	Lat 37°39'25", long 80°14'10", Alleghany County, at culvert on State Highway 311, 0.9 mile north of Sweet Chalybeate.	.66	1966-72	6-22-72	7.50	(*)
02015600	Cowpasture River near Head Waters, Va.	Lat 38°19'30", long 79°26'14", Augusta County, at bridge on U.S. Highway 250, 1.2 miles west of Head Waters.	11.3	1949-72	6-21-72	3.80	240
02015900	Jerry Branch near Clifton Forge, Va.	Lat 37°52'23", long 79°44'36", Alleghany County, at culvert on State Highway 42, 6 miles northeast of Clifton Forge.	.55	1967-72	6-21-72	6.43	201
02017300	Craig Creek at New Castle, Va.	Lat 37°30'06", long 80°06'18", Craig County, at bridge on State Highway 616, at New Castle.	112	1967-72	6-21-72	17.09	16,500
02017400	Johns Creek tributary near New Castle, Va.	Lat 37°30'30", long 80°11'20", Craig County, at culvert on State Highway 311, 4.2 miles west of New Castle.	1.57	1967-72	6-21-72	8.48	(*)
02017700	Craig Creek tributary near New Castle, Va.	Lat 37°33'21", long 79°59'52", Craig County, at culvert on State Highway 606, 7.1 miles northeast of New Castle.	2.05	1968-72	6-21-72	7.85	372
02018700	Campbell Branch near Fincastle, Va.	Lat 37°32'37", long 79°57'28", Botetourt County, at culvert on State Highway 606, 5.3 miles northwest of Fincastle.	1.51	1968-72	1972	(c)	(*)

See footnotes at end of table, p. 223.

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
JAMES RIVER BASIN--Continued							
02018800	North Fork near Fincastle, Va.	Lat 37°32'07", long 79°56'03", Botetourt County, at culvert on State Highway 606, 3.9 miles northwest of Fincastle.	4.17	1968-72	6-21-72	7.00	620
02019400	Mill Creek near Buchanan, Va.	Lat 37°29'48", long 79°45'28", Botetourt County, at bridge on State Highway 636, 5 miles southwest of Buchanan.	29.6	1950-72	6-21-72	9.08	4,370
02020100	Renick Run near Buchanan, Va.	Lat 37°35'27", long 79°38'04", Botetourt County, at culvert on Frontage Road of Interstate Highway 81, 4.8 miles north-east of Buchanan.	2.06	1967-72	6-21-72	4.55	282
02020200	Calfpasture River near West Augusta, Va.	Lat 38°16'24", long 79°18'02", Augusta County, at bridge on U.S. Highway 250, 1.5 miles east of West Augusta.	12.8	1949-72	6-21-72	3.56	846
02021100	Bratton Creek tributary near Goshen, Va.	Lat 37°55'55", long 79°34'40", Rockbridge County, at culvert on State Highway 780, 5.8 miles southwest of Goshen.	1.62	1966-72	6-21-72	3.89	90
02021700	Cedar Grove Branch near Rockbridge Baths, Va.	Lat 37°53'00", long 79°23'10", Rockbridge County, at culvert on State Highway 39, 1.8 miles southeast of Rockbridge Baths.	12.3	1967-72	6-21-72	7.10	376
02023300	South River near Steeles Tavern, Va.	Lat 37°55'50", long 79°09'55", Augusta County, at bridge on State Highway 608, 3 miles east of Steeles Tavern.	15.7	1951-72	6-21-72	5.80	2,040
02025800	Burton Creek tributary at Lynchburg, Va.	Lat 37°21'10", long 79°11'05", Campbell County, at culvert on access road just west of U.S. Highway 29, 0.6 mile south of city limits of Lynchburg.	2.36	1966-72	6-21-72	7.88	(*)
02027700	Buffalo River tributary near Amherst, Va.	Lat 37°33'45", long 78°57'35", Amherst County, at culvert on U.S. Highway 60, 5.2 miles southeast of Amherst.	.46	1966-72	6-21-72	7.18	187
02028800	Ballinger Creek at Esmont, Va.	Lat 37°49'39", long 78°36'32", Albemarle County, at bridge on State Highway 6, at Esmont.	5.42	1967-72	6-21-72	16.90	(*)
02028900	Miller Creek near Scottsville, Va.	Lat 37°48'30", long 78°30'46", Albemarle County, at bridge on State Highway 6, 1.5 miles west of Scottsville.	6.60	1967-72	6-21-72	11.75	(*)
02029200	North Fork Hardware River at Red Hill, Va.	Lat 37°58'03", long 78°37'04", Albemarle County, at bridge on U.S. Highway 29, 0.5 mile west of Red Hill.	11.0	1950-72	6-21-72	10.70	(*)
02029410	Sowell Branch near Charlottesville, Va.	Lat 37°56'30", long 78°32'16", Albemarle County, at culvert on State Highway 20, 6.8 miles southwest of Charlottesville.	1.55	1967-72	6-21-72	12.67	1,200
02029430	Harris Creek near Keene, Va.	Lat 37°53'05", long 78°33'00", Albemarle County, at bridge on State Highway 20, 1.4 miles north of Keene.	1.71	1967-72	6-21-72	7.25	(*)
02029450	Thomas Creek near Keene, Va.	Lat 37°52'25", long 78°33'10", Albemarle County, at culvert on State Highway 20, 0.7 mile north of Keene.	.28	1966-72	6-21-72	6.96	325
02030100	Frisby Branch near Buckingham, Va.	Lat 37°31'15", long 78°37'04", Buckingham County, at culvert on State Highway 24, 4 miles southwest of Buckingham.	4.35	1967-72	6-21-72	16.50	2,110
02030800	Stockton Creek near Afton, Va.	Lat 38°01'48", long 78°48'30", Albemarle County, at culvert on State Highway 6, 1.7 miles east of Afton.	2.80	1967-72	6-21-72	9.68	678
02030900	Powells Creek near Crozet, Va.	Lat 38°04'50", long 78°43'02", Albemarle County, at bridge on State Highway 684, 1.2 miles northwest of Crozet.	2.32	1967-72	6-21-72	5.21	(*)

See footnotes at end of table, p. 223.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
JAMES RIVER BASIN--Continued							
02031500	North Fork Moormans River near Whitehall, Va.	Lat 38°08'25", long 78°45'05", Albemarle County, 0.8 mile upstream from city of Charlottesville dam, and 1.5 miles west of Whitehall.	11.4	1952-63+ 1964-72	6-21-72	7.42	2,190
02032200	Doyles River near Whitehall, Va.	Lat 38°12'10", long 78°40'17", Albemarle County, at bridge on State Highway 810, 5.9 miles north of Whitehall.	6.70	1967-72	6-21-72	12.90	(*)
02032300	Muddy Run near Stanardsville, Va.	Lat 38°14'05", long 78°37'02", Albemarle County, at bridge on State Highway 810, 11 miles southwest of Stanardsville.	3.36	1967-72	6-21-72	7.20	(*)
02032530	Parker Branch near Stanardsville, Va.	Lat 38°17'10", long 78°30'50", Greene County, at culvert on State Highway 810, 4.3 miles west of Stanardsville.	3.24	1967-72	6-21-72	8.44	(*)
02032540	Haneytown Creek near Stanardsville, Va.	Lat 38°16'48", long 78°30'50", Greene County, at bridge on State Highway 810, 4.5 miles west of Stanardsville.	4.45	1967-72	6-21-72	13.72	(*)
02032550	Lynch River at Nortonsville, Va.	Lat 38°14'16", long 78°32'32", Albemarle County, at bridge on State Highway 810, 7 miles southwest of Stanardsville.	13.6	1967-72	6-21-72	16.50	(*)
02032600	Swift Run tributary near Stanardsville, Va.	Lat 38°20'33", long 78°30'37", Greene County, at culvert on U.S. Highway 33, 4.9 miles northwest of Stanardsville.	.35	1966-72	6-21-72	8.50	(*)
02032700	Schenks Branch at Charlottesville, Va.	Lat 38°02'32", long 78°28'30", Charlottesville City, at bridge just upstream from U.S. Highway 250 bypass.	1.34	1950-72	6-21-72	6.50	(*)
02033300	Moore's Creek near Charlottesville, Va.	Lat 38°00'25", long 78°34'25", Albemarle County, at culvert on access road, 150 ft north of U.S. Highway 29, and 4 miles southwest of Charlottesville.	3.52	1967-72	6-21-72	16.30	790
02033700	Henderson Creek near Shadwell, Va.	Lat 37°59'05", long 78°24'05", Albemarle County, at culvert on State Highway 729, 2.0 miles south of Shadwell.	1.76	1966-72	6-21-72	11.59	(*)
02034050	Hunters Branch near Palmyra, Va.	Lat 37°56'48", long 78°14'30", Fluvanna County, at culvert on U.S. Highway 15, 6.1 miles north of Palmyra.	1.63	1967-72	6-21-72	10.50	1,400
02034250	Whispering Creek at Sprouses Corner, Va.	Lat 37°31'31", long 78°29'03", Buckingham County, at culvert on U.S. Highway 60, 0.5 mile southeast of Sprouses Corner.	.43	1962-72	6-21-72	4.44	50
02035400	Big Lickinghole Creek tributary near Ferncliff, Va.	Lat 37°49'34", long 77°58'23", Goochland County, at bridge on U.S. Highway 250, 10.1 miles southeast of Ferncliff.	.55	1962-72	6-21-72	4.93	(*)
02035450	Rocketts Creek tributary near Gum Springs, Va.	Lat 37°47'15", long 77°54'40", Goochland County, at culvert on U.S. Highway 250, 1.2 miles northwest of Gum Springs.	.34	1966-72	6-21-72	9.58	187
02037800	Falling Creek near Midlothian, Va.	Lat 37°27'15", long 77°35'20", Chesterfield County, at bridge on State Highway 653, 4 miles southeast of Midlothian.	18.1	1951-72	6-21-72	5.88	516
02038800	Appomattox River near Appomattox, Va.	Lat 37°22'55", long 78°47'24", Appomattox County, at bridge on State Highway 24, 3.0 miles northeast of Appomattox.	5.79	1955-72	6-21-72	8.68	(*)
02040600	Nibbs Creek tributary near Amelia, Va.	Lat 37°23'45", long 77°58'20", Amelia County, at culvert on State Highway 609, 3.8 miles north of Amelia.	.35	1966-72	6-21-72	9.48	(*)

See footnotes at end of table, p. 223.

Annual maximum discharge at crest-stage partial-record stations--Continued

Annual maximum discharge at crest-stage partial-record stations--Continued							
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
JAMES RIVER BASIN--Continued							
02042200	Glebe Creek tributary near Charles City, Va.	Lat 37°22'05", long 77°04'15", Charles City County, at culvert on State Highway 155, 2.0 miles north of Charles City.	d0.7	1948, 1951-72	10-23-71	2.40	(*)
02042250	Bailey Branch tributary at Spring Grove, Va.	Lat 37°10'29", long 76°59'13", Surry County, at culvert on State Highway 10, 1.0 mile northwest of Spring Grove.	.71	1967-72	10-24-71	3.55	(*)
02042300	Horsepen Branch at Richmond, Va.	Lat 37°35'45", long 77°30'40", Henrico County, at culvert on U.S. Highway 250 (Broad Street), at Richmond.	1.35	1965-72	5-31-72	4.00	750
02042400	Jordan Branch at Richmond, Va.	Lat 37°35'10", long 77°29'55", Henrico County, at bridge on U.S. Highway 250 (Broad Street), at Richmond.	2.41	1965-72	6-21-72	9.06	(*)
02042700	Collins Run near Providence Forge, Va.	Lat 37°23'59", long 77°02'54", Charles City County, at bridge on State Highway 155, 2.5 miles south of Providence Forge.	2.84	1948, 1951-72	10-23-71	4.64	186
02042710	Collins Run tributary near Providence Forge, Va.	Lat 37°24'15", long 77°02'50", Charles City County, at culvert on State Highway 155, 2.6 miles south of Providence Forge.	.28	1966-72	10-23-71	3.57	23
CHOWAN RIVER BASIN							
02044200	Falls Creek tributary near Victoria, Va.	Lat 37°02'04", long 78°10'26", Lunenburg County, at culvert on State Highway 49, 3.6 miles northeast of Victoria.	0.34	1962-72	6-21-72	9.15	343
02044400	Hurricane Branch at Blackstone, Va.	Lat 37°04'47", long 77°58'55", Nottoway County, at culvert on State Highway 40, 0.3 mile east of Blackstone.	1.61	1967-72	6-21-72	13.31	(*)
02046200	Millrun Branch near McKenney, Va.	Lat 36°56'47", long 77°34'41", Dinwiddie County, at bridge on State Highway 40, 9.3 miles east of McKenney.	2.29	1962-72	10-24-71	4.22	(*)
02046400	Jones Hole Swamp tributary near Carson, Va.	Lat 37°04'13", long 77°20'30", Prince George County, at culvert on State Highway 35, 3.8 miles northeast of Carson.	3.02	1967-72	6-22-72	4.00	(*)
02046500	Anderson Branch at Sussex, Va.	Lat 36°55'10", long 77°15'45", Sussex County, at bridge on State Highway 40, 1.0 mile east of Sussex.	5.35	1949-56+ 1967-72	10-24-71	5.05	102
02046800	Three Creek tributary near Drewryville, Va.	Lat 36°41'36", long 77°20'58", Southampton County, at bridge on U.S. Highway 58, 2.8 miles southwest of Drewryville.	1.25	1962-72	10-24-71	3.90	(*)
02046900	Musgrave Branch near Drewryville, Va.	Lat 36°42'13", long 77°16'29", Southampton County, at culvert on U.S. Highway 58, 2.0 miles east of Drewryville.	1.99	1966-72	10-23-71	5.20	72
02048400	Seacock Creek near Ivor, Va.	Lat 36°55'28", long 76°55'48", Southampton County, at bridge on State Highway 618, 2 miles northwest of Ivor.	27.4	1950-72	10-24-71	4.89	606
02049700	Cypress Swamp near Burdette, Va.	Lat 36°44'29", long 76°56'18", Southampton County, at bridge on State Highway 635, 3 miles southwest of Burdette.	8.55	1950-72	10-24-71	5.14	142
02050050	Blackwater River tributary near Holland, Va.	Lat 36°38'44", long 76°51'29", Nansemond County, at culvert on State Highway 189, 4.9 miles southwest of Holland.	2.76	1967-72	10-23-71	6.53	254
02050400	North Meherrin River near Briery, Va.	Lat 37°04'20", long 78°27'45", Charlotte County, at culvert on U.S. Highway 360, 1.3 miles south of Briery, and 2.5 miles northeast of Keysville.	1.19	1966-72	10-23-71	7.85	472

See footnotes at end of table, p. 223.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage partial-record stations--Continued

Annual maximum discharge at crest-stage partial-record stations--Continued							
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
CHOWAN RIVER BASIN--Continued							
02050500	North Meherrin River near Keysville, Va.	Lat 37°03'05", long 78°25'20", Lunenburg County, at bridge on State Highway 687, 3.5 miles northeast of Keysville.	d9.2	1949-61+ 1967-72	6-21-72	8.03	1,720
02051650	Rocky Run near Dolphin, Va.	Lat 36°47'35", long 77°49'35", Brunswick County, at culvert on State Highway 641, 3.2 miles southwest of Dolphin.	1.41	1966-72	10-22-71	6.30	122
02051700	Rocky Run at Lawrenceville, Va.	Lat 36°46'14", long 77°50'28", Brunswick County, at culvert on State Highway 642, 0.4 mile northeast of Lawrenceville.	6.16	1954-63, 1967-72	10-22-71	7.07	(*)
ROANOKE RIVER BASIN							
02057700	Powder Mill Creek at Rocky Mount, Va.	Lat 37°00'26", long 79°52'25", Franklin County, at culvert on U.S. Highway 220 bypass at Rocky Mount.	0.64	1967-72	7- 5-72	15.65	202
02059450	South Fork Goose Creek at Montvale, Va.	Lat 37°22'47", long 79°43'50", Bedford County, at culvert on State Highway 607, 0.5 mile south of Montvale.	7.56	1967-72	6-21-72	8.10	2,060
02061300	Nininger Creek near Bedford, Va.	Lat 37°16'26", long 79°29'31", Bedford County, at bridge on State Highway 43, 4.5 miles southeast of Bedford.	4.77	1949-72	6-21-72	4.42	852
02063600	Button Creek near Rustburg, Va.	Lat 37°17'25", long 79°04'10", Campbell County, at culvert on State Highway 24, 2.0 miles northeast of Rustburg.	.59	1966-72	6-21-72	5.65	152
02063700	Button Creek tributary near Rustburg, Va.	Lat 37°17'05", long 79°04'27", Campbell County, at culvert on State Highway 24, 2.0 miles northeast of Rustburg.	.16	1962-72	6-21-72	2.04	(*)
02065100	Snake Creek near Brookneal, Va.	Lat 37°00'42", long 78°57'52", Halifax County, at culvert on U.S. Highway 501, 2.1 miles south of Brookneal.	1.68	1967-72	6-21-72	10.00	715
02065300	Right Hand Fork near Appomattox, Va.	Lat 37°16'12", long 78°49'14", Appomattox County, at culvert on State Highway 727, 5.2 miles south of Appomattox.	2.08	1967-72	6-21-72	15.54	(*)
02066600	Sandy Creek near Wylliesburg, Va.	Lat 36°50'35", long 78°38'30", Charlotte County, at culvert on State Highway 608, 3.0 miles southwest of Wylliesburg.	8.84	1966-72	10-24-71	15.32	(*)
02067810	Maple Swamp Branch near Meadows of Dan, Va.	Lat 36°44'10", long 80°26'28", Patrick County, at culvert on U.S. Highway 58, 1.8 miles west of Meadows of Dan.	.49	1967-72	6-21-72	4.04	56
02069600	Anglin Branch near Stuart, Va.	Lat 36°38'15", long 80°12'55", Patrick County, at culvert on U.S. Highway 58, 3 miles east of Stuart.	3.10	1967-72	1-13-72	5.25	260
02071800	Nicholas Creek near Ferrum, Va.	Lat 36°52'11", long 80°03'10", Franklin County, at bridge on State Highway 605, 4.1 miles southwest of Ferrum.	12.2	1949-72	6-21-72	9.30	(*)
02075900	Lawsons Creek at Turbeville, Va.	Lat 36°36'41", long 79°01'28", Halifax County, at culvert on State Highway 658, 1 mile southeast of Turbeville.	d8.7	1951-72	6-21-72	14.90	2,040
02076200	Bearskin Creek near Chatham, Va.	Lat 36°50'30", long 79°29'05", Pittsylvania County, at culvert on State Highway 57, 4.5 miles west of Chatham.	4.06	1967-72	6-21-72	13.12	1,920
02076600	Whitethorn Creek tributary at Gretna, Va.	Lat 36°56'00", long 79°22'10", Pittsylvania County, at culvert on U.S. Highway 29, 0.9 mile southwest of Gretna.	1.93	1966-72	6-21-72	7.00	(*)

See footnotes at end of table, p. 223.

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
ROANOKE RIVER BASIN--Continued							
02076700	Blacks Creek near Mt. Airy, Va.	Lat 36°56'40", long 79°09'56", Pittsylvania County, at culvert on State Highway 40, 1.5 miles east of Mt. Airy.	3.44	1966-72	6-21-72	13.66	1,080
02079660	Jolly Hollow Branch at Boydton, Va.	Lat 36°40'38", long 78°23'13", Mecklenburg County, at bridge on State Highway 92, 0.5 mile north of Boydton.	3.60	1954-72	10-24-71	5.26	(*)
02079720	Smith Creek tributary near South Hill, Va.	Lat 36°33'50", long 78°12'10", Mecklenburg County, at culvert on U.S. Highway 1, 12 miles southwest of South Hill.	.39	1966-72	6-21-72	5.95	177
KANAWHA RIVER BASIN							
03162700	Wallen Creek near Trout Dale, Va.	Lat 36°38'00", long 81°24'10", Grayson County, at culvert on State Highway 16, 5 miles southeast of Trout Dale.	2.23	1966-72	4- 7-72	5.20	106
03162800	Mill Creek near Trout Dale, Va.	Lat 36°40'06", long 81°24'24", Grayson County, at bridge on State Highway 16, 3 miles southeast of Trout Dale.	5.32	1951-72	1972	(c)	(*)
03162810	Saddle Creek tributary near Independence, Va.	Lat 36°37'11", long 81°12'55", Grayson County, at culvert on U.S. Highway 58, 3 miles west of Independence.	.39	1966-72	1972	(c)	(*)
03165200	Mill Creek tributary at Galax, Va.	Lat 36°40'38", long 80°54'02", Galax City, at culvert on U.S. Highways 58 & 221.	1.05	1966-72	6-21-72	5.45	187
03165700	Cripple Creek at Cedar Springs, Va.	Lat 36°49'31", long 81°16'45", Wythe County, at bridge on State Highway 749, 0.6 mile southeast of Cedar Springs.	11.3	1967-72	6-21-72	14.49	(*)
03165800	Sugar Run near Speedwell, Va.	Lat 36°49'45", long 81°10'10", Wythe County, at bridge on State Highway 684, 1.1 miles north of Speedwell.	3.57	1967-72	6-21-72	16.37	(*)
03168600	Peak Creek tributary near Pulaski, Va.	Lat 37°04'19", long 80°46'25", Pulaski County, at culvert on State Highway 636, 2 miles north of Pulaski.	.61	1949, 1951-72	1972	(c)	(*)
03169200	Dodd Creek tributary near Floyd, Va.	Lat 36°52'21", long 80°20'00", Floyd County, at culvert on State Highway 8, 2.8 miles southwest of Floyd.	.96	1967-72	6-21-72	5.20	210
03171600	Little Stony Creek at Pembroke, Va.	Lat 37°19'10", long 80°38'25", Giles County, at culvert on U.S. Highway 460, at Pembroke.	24.0	1967-72	6-21-72	14.20	(*)
03171800	Helveys Mill Creek tributary at Point Pleasant, Va.	Lat 37°07'24", long 81°01'16", Bland County, at culvert on State Highway 42, 0.2 mile west of Point Pleasant.	.38	1957-72	6-21-72	1.00	(*)
BIG SANDY RIVER BASIN							
03207400	Prater Creek at Vansant, Va.	Lat 37°13'05", long 82°06'10", Buchanan County, at bridge on State Highway 620, 1 mile south of Vansant.	19.8	1951-72	4-12-72	4.65	988
TENNESSEE RIVER BASIN							
03470900	Slomp Creek tributary near Sugar Grove, Va.	Lat 36°48'30", long 81°24'15", Smyth County, at culvert on State Highway 16, 2.4 miles north of Sugar Grove.	0.36	1966-72	1972	(c)	(*)
03471100	Dickey Creek at Sugar Grove, Va.	Lat 36°46'22", long 81°25'10", Smyth County, at bridge on State Highway 16, 0.4 mile southwest of Sugar Grove.	7.28	1967-72	6-21-72	17.05	(*)

See footnotes at end of table, p. 223.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage partial-record stations--Continued

Annual maximum discharge at crest-stage partial-record stations--Continued							
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
TENNESSEE RIVER BASIN--Continued							
03471200	South Fork Holston River at Teas, Va.	Lat 36°46'22", long 81°27'05", Smyth County, at bridge on State Highway 601, at Teas.	31.1	1967-72	6-21-72	14.35	(*)
03472500	Beaverdam Creek at Damascus, Va.	Lat 36°37'40", long 81°47'28", Washington County, at Damascus, 0.6 mile upstream from mouth.	56.0	1948-59# 1960-72	2-26-72	4.24	2,160
03473500	Middle Fork Holston River at Groseclose, Va.	Lat 36°53'19", long 81°20'51", Smyth County, 10 ft downstream from bridge on State Highway 679, at Groseclose.	7.39	1948-57# 1958-72	6-21-72	5.20	339
03473600	Middle Fork Holston River near Groseclose, Va.	Lat 36°53'10", long 81°22'25", Smyth County, at bridge on U.S. Highway 11, 1.5 miles west of Groseclose.	13.3	1967-72	9-30-72	11.87	(*)
03473800	Staley Creek near Marion, Va.	Lat 36°49'25", long 81°28'25", Smyth County, at bridge on State Highway 688, 2 miles southeast of Marion.	8.33	1951-72	2-26-72	3.47	260
03474700	Hutton Creek near Chilhowie, Va.	Lat 36°47'00", long 81°44'05", Washington County, at bridge on U.S. Highway 11, 3.3 miles southwest of Chilhowie.	8.32	1967-72	9-30-72	12.07	(*)
03474800	Hall Creek near Glade Spring, Va.	Lat 36°45'47", long 81°48'15", Washington County, at bridge on U.S. Highway 11, 2.5 miles south of Glade Spring.	7.90	1967-72	9-30-72	11.38	(*)
03475700	Spring Creek near Abingdon, Va.	Lat 36°40'43", long 82°02'29", Washington County, at culvert on U.S. Highway 11, 3.8 miles southwest of Abingdon.	2.99	1967-72	9-30-72	6.05	(*)
03487800	Lick Creek near Chatham Hill, Va.	Lat 36°57'44", long 81°28'21", Smyth County, 270 ft upstream from bridge on State Highway 42, 2.9 miles east of Chatham Hill.	25.5	1966-68# 1969-72	9-30-72	6.65	1,800
03487850	Possum Jaw Creek near Chatham Hill, Va.	Lat 36°57'41", long 81°27'52", Smyth County, at bridge on State Highway 42, 3.3 miles east of Chatham Hill.	4.36	1967-72	8-18-72	10.54	(*)
03487900	Sprouts Creek near Chatham Hill, Va.	Lat 36°58'10", long 81°30'32", Smyth County, at culvert on State Highway 42, 1.2 miles northeast of Chatham Hill.	7.64	1967-72	8-18-72	6.20	(*)
03488500	North Fork Holston River at Holston, Va.	Lat 36°46'29", long 82°04'22", Washington County, at bridge on U.S. Highway 19, 0.5 mile east of Holston.	402	1952-59# 1960-72	9-30-72	10.37	9,070
03489700	Fleenor Branch near Bristol, Va.	Lat 36°38'10", long 82°15'20", Washington County, at culvert on U.S. Highways 58 & 421, 5.0 miles northwest of Bristol.	.59	1966-72	6-21-72	4.53	(*)
03489800	Cove Creek near Shelleys, Va.	Lat 36°39'13", long 82°21'16", Scott County, at bridge on U.S. Highway 58, 2 miles north of Shelleys.	17.3	1951-72	4-12-72	6.55	(*)
03489850	Cove Creek near Hilton, Va.	Lat 36°39'08", long 82°21'53", Scott County, at bridge on State Highway 803, 7.2 miles east of Hilton.	17.6	1967-68# 1969-72	4-12-72	5.42	(*)
03489870	Big Moccasin Creek at Collinwood, Va.	Lat 36°44'16", long 82°19'25", Russell County, at bridge on State Highway 612, at Collinwood.	41.9	1967-68# 1969-72	6-21-72	4.47	(*)
03489900	Big Moccasin Creek near Gate City, Va.	Lat 36°38'47", long 82°33'12", Scott County, at bridge on State Highway 71, 1.6 miles east of Gate City.	79.6	1953-59# 1960-66 1967-68# 1969-72	6-21-72	6.24	1,670
03523000	Cedar Creek near Lebanon, Va.	Lat 36°54'29", long 82°02'20", Russell County, 200 ft upstream from bridge on U.S. Highway 19, 2.3 miles east of Lebanon.	51.5	1953-59# 1960-72	9-30-72	3.95	2,480

See footnotes at end of table, p. 223.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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Annual maximum discharge at crest-stage partial-record stations--Continued

Annual maximum discharge at crest-stage partial-record stations--Continued							
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
TENNESSEE RIVER BASIN--Continued							
03524500	Guest River at Coeburn, Va.	Lat 36°55'45", long 82°27'23", Wise County, at bridge on State Highway 72, 1.0 mile southwest of Coeburn.	87.3	1950-59# 1960-72	1- 5-72	8.54	2,340
03525000	Stony Creek at Fort Blackmore, Va.	Lat 36°46'30", long 82°34'50", Scott County, 1,000 ft upstream from bridge on State Highway 66, at Fort Blackmore.	41.4	1950-52# 1953-72	1-20-72	3.63	(*)
03525800	Copper Creek tributary near Dickensonville, Va.	Lat 36°49'50", long 82°12'40", Russell County, at culvert on U.S. Highway Alternate 58, 1.1 miles southeast of Dickensonville.	.99	1966-72	4-12-72	4.90	96
03529500	Powell River at Big Stone Gap, Va.	Lat 36°52'08", long 82°46'32", Wise County, at bridge on U.S. Highway 23, at Big Stone Gap.	112	1945-59# 1960-72	1-20-72	5.74	4,040
03530000	South Fork Powell River at Big Stone Gap, Va.	Lat 36°51'54", long 82°46'16", Wise County, at bridge on U.S. Highway 23, at Big Stone Gap.	d40	1945-47# 1951-72	1-21-72	5.30	1,380
03530500	North Fork Powell River at Pennington Gap, Va.	Lat 36°46'26", long 83°01'59", Lee County, at bridge on State Highway 621, 0.8 mile north of Pennington Gap.	d70	1945-51# 1952-72	7-30-72	7.33	3,600

* Discharge not determined.

Operated as a continuous-record gaging station.

a Stage to gage datum not determined.

b Published as Jackson River tributary prior to 1972.

c Peak stage did not reach bottom of gage.

d Approximately.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table. Those that are measurements of base flow are designated by an asterisk (*).

Discharge measurements made at miscellaneous sites

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Part 1B NASSAWADOX CREEK BASIN						
Nassawadox Creek a/	Chesapeake Bay	Lat 37°31'31", long 75°52'37", Northampton County, at culvert on State Highway 606, 2.7 miles upstream from Kelly Cove, and 3.5 miles north of Nassawadox.	b4.2	1968-71	10- 6-71 11- 9-71 12- 8-71 1- 6-72 2- 3-72 3- 8-72 4- 5-72 6- 6-72 7-12-72 8- 3-72 9- 7-72	9.4 *2.8 5.1 *7.3 13 *6.8 *4.5 *2.1 *1.8 *1.5 *1.6
POTOMAC RIVER BASIN						
Frying Pan Branch	Horsepen Run	Lat 38°56'30", long 77°24'51", Fairfax County, at Centreville Road, 0.6 mile upstream from mouth, and 2.5 miles southwest of Herndon.	1.50	-	6-21-72	1,840
Horsepen Run	Broad Run	Lat 38°56'47", long 77°25'47", Fairfax County, at Sully Road, 0.5 mile upstream from Fairfax-Loudoun County line, and 2.9 miles southwest of Herndon.	7.20	-	6-21-72	8,250
East Branch	Horsepen Run	Lat 38°57'28", long 77°25'45", Fairfax County, at Sully Road, 0.35 mile south of Dulles Airport Road, and 2.5 miles southwest of Herndon.	1.43	-	6-21-72	1,330
Sugarland Run	Potomac River	Lat 38°58'00", long 77°22'17", Fairfax County, at bridge 0.9 mile east of center of Herndon.	3.36	1965-70	9- 7-72	*.02
South Fork Little Difficult Run	Little Difficult Run	Lat 38°53'52", long 77°21'12", Fairfax County, at bridge on Fox Mill Road, 1.2 miles upstream from mouth, and 3.2 miles northwest of Fairfax.	1.59	1966-71	9- 7-72	*.56
Difficult Run	Potomac River	Lat 38°55'52", long 77°17'55", Fairfax County, at former Washington and Old Dominion Railroad, 1.1 miles northwest of Vienna.	24.7	-	6-22-72	12,000
Piney Branch	Difficult Run	Lat 38°54'06", long 77°15'57", Fairfax County, on right bank 30 ft downstream from North Center Street, at Vienna.	c.29	1961-71	9- 7-72	*.01
Colvin Run	Difficult Run	Lat 38°57'56", long 77°18'36", Fairfax County, on right bank 10 ft downstream from highway bridge, 0.8 mile east of Reston.	5.09	1961-71	9- 7-72	*2.5
Piney Run	Difficult Run	Lat 38°58'49", long 77°19'09", Fairfax County, at Leesburg Pike, 1 mile northeast of Reston.	2.06	1965-67	6-21-72	1,270
Scott Run	Potomac River	Lat 38°57'32", long 77°12'21", Fairfax County, on left bank at bridge on Old Georgetown Pike, 0.8 mile upstream from mouth, and 2.3 miles northwest of McLean.	4.69	1961-70	9- 7-72	*1.6
Pimmit Run	Potomac River	Lat 38°54'41", long 77°11'05", Fairfax County, at bridge at Great Falls Road, 1.1 miles north of city boundary of Falls Church.	2.87	1960-71	9- 8-72	*.57

See footnotes at end of table, p. 227.

Discharge measurements made at miscellaneous sites--Continued

Discharge measurements made at miscellaneous sites--Continued						
Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
POTOMAC RIVER BASIN--Continued						
Pimmit Run	Potomac River	Lat 38°56'05", long 77°08'26", Fairfax County, on right bank 150 ft downstream from bridge on Kirby Road, 150 ft upstream from Little Pimmit Run, and 0.8 mile northwest of Arlington County boundary.	8.12	1960-71	9- 7-72	*1.7
Little Pimmit Run tributary	Little Pimmit Run	Lat 38°54'27", long 77°08'18", Arlington County, about 500 ft upstream from Little Falls Road.	.41	1963-71	9- 8-72	*.14
Little Pimmit Run	Pimmit Run	Lat 38°55'22", long 77°08'43", Fairfax County, at bridge on State Highway 689, 0.4 mile northwest of Arlington County boundary.	2.31	1960-71	9- 8-72	*.77
Holmes Run	Cameron Run	Lat 38°51'57", long 77°12'45", Fairfax County, on left bank 100 ft downstream from U.S. Highway 50 at Merrifield.	2.70	1960-70	9- 8-72	*.35
Holmes Run	Cameron Run	Lat 38°50'47", long 77°10'28", Fairfax County, on left bank 150 ft downstream from Sleepy Hollow Road, 0.5 mile upstream from Lake Barcroft, and 1.6 miles northeast of Annandale.	7.10	1960-71	9- 8-72	*.44
Tripps Run	Holmes Run	Lat 38°52'46", long 77°08'14", Falls Church City, on right bank 200 ft upstream from South Washington Street.	1.78	1960-71	9- 8-72	*.22
Tripps Run	Holmes Run	Lat 38°51'37", long 77°09'57", Fairfax County, at Sleepy Hollow Road, 0.7 mile upstream from Lake Barcroft, and 1.0 mile southwest of Falls Church.	4.55	1960-71	6-21-72 9- 8-72	3,300 *.74
Backlick Run	Cameron Run	Lat 38°48'05", long 77°11'14", Fairfax County, on right bank 10 ft downstream from Leesville Blvd., at Springfield.	2.02	1960-71	9- 8-72	0
Backlick Run	Cameron Run	Lat 38°48'11", long 77°07'41", Alexandria City, 0.9 mile upstream from confluence with Holmes Run.	13.4	1960-71	9- 8-72	*1.9
Penn Daw outfall	Hunting Creek	Lat 38°47'19", long 77°03'54", Fairfax County, at Huntington Ave., 0.5 mile southwest of Alexandria.	.82	1960-71	9- 7-72	*.12
Accotink Creek	Potomac River	Lat 38°51'39", long 77°16'17", Fairfax County, at bridge at Pickett Street, at Fairfax.	6.80	1961-71	9- 8-72	*.42
Long Branch	Accotink Creek	Lat 38°52'23", long 77°14'34", Fairfax County, on left bank at Lee Highway, 0.5 mile upstream from Arlington Blvd., 0.5 mile southeast of Vienna.	1.18	1963-71	9- 7-72	*.07
Long Branch	Accotink Creek	Lat 38°51'54", long 77°14'39", Fairfax County, at Arlington Blvd., 0.8 mile above mouth, and 1.0 mile south of Vienna.	2.12	1961-67, 1969	6-21-72	1,800
Accotink Creek	Potomac River	Lat 38°50'33", long 77°13'50", Fairfax County, at King Arthur Road, 1.8 miles northwest of Annandale.	18.2	-	6-22-72	11,500
Long Branch	Accotink Creek	Lat 38°48'39", long 77°14'07", Fairfax County, at bridge on State Highway 620, 2.5 miles southwest of Annandale.	3.71	1959-71	9- 8-72	*.97
Accotink Creek	Potomac River	Lat 38°43'21", long 77°12'16", Fairfax County, at the Richmond, Fredericksburg, and Potomac Railroad, 1.5 miles southwest of Newington.	39.9	1967	6-22-72	19,000

See footnotes at end of table, p. 227.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
POTOMAC RIVER BASIN--Continued						
Rabbit Branch	Pohick Creek	Lat 38°48'06", long 77°17'19", Fairfax County, on left bank 5 ft upstream from highway bridge, 0.35 mile upstream from Southern Railway, 1.1 miles north-west of Burke.	3.81	1960-62, 1964-71	9- 8-72	*0.92
Pohick Creek	Potomac River	Lat 38°45'26", long 77°13'37", Fairfax County, at bridge on Hooes Road, 2.9 miles southwest of Springfield.	15.0	1960, 1962-71	9- 7-72	*2.4
Middle Run	Pohick Creek	Lat 38°45'01", long 77°14'03", Fairfax County, at bridge on Gambrill Road, 3.2 miles north of Lorton.	3.56	1960, 1962-71	9- 7-72	*.33
South Run	Pohick Creek	Lat 38°44'11", long 77°15'10", Fairfax County, at bridge at Hooes Road, 2.7 miles northwest of Lorton.	6.54	1960, 1962-71	9- 7-72	*.40
Pohick Creek	Potomac River	Lat 38°42'14", long 77°12'52", Fairfax County, at bridge on Lorton Road, 0.6 mile east of Lorton.	31.0	1960, 1962-71	9- 7-72	*6.0
Broad Run <u>a/</u>	Occoquan River	Lat 38°44'56", long 77°33'50", Prince William County, at bridge on State Highway 619, 2.3 miles northeast of Bristow.	89.6	1968-71	10- 6-71 11- 2-71	18 45
Black Branch <u>a/</u>	Bull Run	Lat 38°54'46", long 77°37'43", Prince William County, at bridge on U.S. Highway 15, 4.4 miles northeast of Water-fall.	3.05	1969-71	10- 7-71 11- 3-71	.52 4.2
Bull Run <u>a/</u>	Occoquan River	Lat 38°50'57", long 77°32'47", Loudoun-Prince William County line, at bridge on State Highway 659, 1.4 miles east of Catharpin.	36.9	1968-71	10- 7-71 11- 3-71	9.2 60
Little Bull Run <u>a/</u>	Bull Run	Lat 38°50'32", long 77°32'22", Prince William County, at bridge on State Highway 234, 3.0 miles northwest of Bull Run.	27.2	1968-71	10- 7-71 11- 3-71	6.4 44
Flatlick Branch	Cub Run	Lat 38°52'41", long 77°26'57", Fairfax County, at Sully Road, 1.4 miles south-west of Chantilly, and 2.1 miles up-stream from mouth.	5.92	-	6-21-72	6,600
Big Rocky Run	Cub Run	Lat 38°51'07", long 77°25'59", Fairfax County, at Sully Road, 1.0 mile north-west of Centreville.	6.10	-	6-21-72	7,100
Sandy Run	Occoquan River	Lat 38°44'53", long 77°19'23", Fairfax County, at bridge on Henderson Road, 3.5 miles upstream from mouth, and 3.7 miles south of Fairfax Station.	2.35	1964-71	9- 7-72	*.16
Giles Run	Massey Creek	Lat 38°40'48", long 77°13'36", Fairfax County, at upstream side of culvert on U.S. Highway 1, 1.5 miles northeast of Woodbridge.	4.54	1964-71	9- 7-72	*1.0
Potomac Creek <u>a/</u>	Potomac River	Lat 38°22'34", long 77°27'05", Stafford County, at bridge on U.S. Highway 1, 4.0 miles southwest of Brooke.	36.0	-	8-16-71 8-30-71 10- 5-71 10-25-71 11- 4-71 12-10-71 1-10-72 2- 1-72 2-28-72 4- 3-72 5- 1-72 6- 5-72 8- 1-72 9- 6-72 9-26-72	18 *3.2 *2.3 86 *48 64 50 *33 122 *35 37 *21 *24 *5.2 *3.4

See footnotes at end of table, p. 227.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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Discharge measurements made at miscellaneous sites--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Part 2A JAMES RIVER BASIN						
James River <u>a</u>	Chesapeake Bay	Lat 37°23'50", long 79°07'02", Lynchburg City, on State Highway 1011, 1.8 miles downstream from Blackwater Creek, and 3.4 miles upstream from Little Opossum Creek.	3,419	1965, 1968	6- 1-72 6-12-72 6-12-72 6-15-72 6-15-72	6,360 2,830 2,100 688 652
North Holiday Creek	Holiday Creek	Lat 37°26'09", long 78°40'04", Buckingham County, on left bank 18 ft upstream from State forest road 2307 (Old Richmond Road), 1.0 mile upstream from confluence of Holiday Creek, and 4.5 miles SSW of Toga.	1.31	-	6-21-72	75
Upper Appomattox Canal <u>a</u>	Appomattox River	Lat 37°13'18", long 77°30'12", Dinwiddie County, 300 ft below VEPco Dam, 1.5 miles west of Matoaca, 1.7 miles upstream from State Highway 600, and 5.2 miles west of Petersburg. (See sta 02041650).	-	-	10-27-71 11- 8-71 12- 1-71 1- 4-72 2- 1-72 3- 6-72 4- 3-72 6- 5-72 8- 8-72 9-26-72	17 12 11 9.8 8.5 9.0 8.6 6.4 11 11
DISMAL SWAMP BASIN						
Cypress Swamp <u>a</u>	Dismal Swamp	Lat 36°37'30", long 76°36'10", Nansemond County, at bridge on State Highway 32, 0.5 mile downstream from Dragon Swamp, 0.8 mile northwest of Cypress Chapel, and 6.5 miles south of Suffolk.	b23	1953-71	10- 1-71 10- 6-71 5- 4-72 6- 6-72 7-12-72 7-20-72 8- 2-72 9- 7-72	198 66 35 .35 0 0 37 0
ROANOKE RIVER BASIN						
Dan River	John H. Kerr Reservoir	Lat 36°41'41", long 78°53'17", Halifax County, at bridge on State Highway 304, 0.8 mile southeast of South Boston.	b2,730	-	6-24-72	61,000

* Base flow.

a Furnished by the State of Virginia.

b Approximately.

c Revised.

PART 2. WATER-QUALITY RECORDS

WATER-QUALITY RECORDS
NORTH ATLANTIC SLOPE BASINS
POTOMAC RIVER BASIN

01631000 SOUTH FORK SHENANDOAH RIVER AT FRONT ROYAL, VA.

LOCATION.--Lat 38°54'50", long 78°12'40", Warren County, at gaging station on left bank 0.7 mile downstream from bridge on State Highway 619, 1.0 mile west of Front Royal, and 3.5 miles upstream from confluence with North Fork.

DRAINAGE AREA.--1,642 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1948 to September 1948, October 1952 to September 1956, February 1967 to September 1972.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCC3) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT.										
01...	720	8.2	20	34	10	9.6	2.8	126	19	12
15...	1050	7.4	0	27	8.8	8.4	2.7	113	16	9.8
NOV.										
01...	2600	8.2	130	26	6.6	3.4	1.8	94	13	6.6
15...	1050	1.4	10	38	11	7.7	1.9	147	18	12
DEC.										
01...	2090	2.9	0	34	11	7.2	2.2	135	17	12
15...	1530	6.1	0	23	7.8	5.4	1.8	90	14	7.6
JAN.										
01...	770	.7	20	35	10	6.7	1.8	143	15	10
15...	960	.9	10	33	12	10	2.2	143	23	9.4
FEB.										
01...	840	1.2	0	34	12	10	2.6	145	24	12
15...	7620	7.4	0	22	4.4	3.6	3.0	67	17	6.9
MAR.										
01...	4880	6.2	10	18	4.7	3.1	1.4	64	13	4.7
15...	1620	4.8	20	30	8.4	6.2	1.6	121	17	6.9
APR.										
01...	1420	1.3	0	27	8.1	5.9	1.5	107	16	7.1
15...	1700	5.7	10	26	7.9	7.0	2.0	102	16	8.1
MAY										
01...	1710	4.3	80	23	6.6	5.4	1.7	90	14	7.2
15...	1910	5.2	0	22	6.6	5.3	1.7	91	14	8.2
31...	1490	5.9	0	28	7.5	5.2	1.8	108	15	5.8
JUNE										
15...	800	3.0	0	37	11	8.8	2.3	143	19	8.4
JULY										
01...	7020	8.8	10	30	6.4	4.0	2.4	104	15	5.3
15...	3120	4.8	20	34	11	5.3	2.2	133	15	6.8
AUG.										
01...	5350	7.2	40	38	11	5.6	3.5	148	19	8.7
15...	1090	1.8	10	27	11	7.2	2.1	118	19	9.7
SEP.										
01...	720	3.1	30	43	13	9.9	2.7	175	18	11
15...	600	3.9	10	43	14	10	2.9	185	22	9.9

POTOMAC RIVER BASIN

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01631000 SOUTH FORK SHENANDOAH RIVER AT FRONT ROYAL, VA.--Continued

PERIOD OF RECORD.--Continued

Water temperatures: October 1952 to September 1956, April 1968 to September 1972.

Sediment records: April 1953 to September 1956.

EXTREMES.--1971-72:

Specific conductance: Maximum daily, 420 micromhos Sept. 26; minimum daily, 128 micromhos June 24.

Water temperatures: Maximum, 30.0°C July 22-25; minimum, 1.0°C Jan. 16, 17, Feb. 5.

Period of record:

Specific conductance (1952-56, 1967-72): Maximum daily, 465 micromhos Oct. 16-18, 1968; minimum daily, 81 micromhos Aug. 3, 1969.

Water temperatures: Maximum, 32.0°C July 5, 1955; minimum, freezing point on several days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOS- PHORUS (P) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)	COLOR (PLAT- INUM- COBALT UNITS)
OCT.									
01...	.1	1.4	.200	171	130	22	290	7.4	10
15...	.1	1.1	.100	141	100	11	260	7.6	8
NOV.									
01...	.1	1.0	.070	120	92	15	195	7.8	3
15...	.1	1.2	.050	165	140	20	280	8.1	3
DEC.									
01...	.1	1.3	.072	158	130	20	280	7.6	7
15...	.1	.90	.088	118	90	16	200	7.9	5
JAN.									
01...	.1	.90	.062	158	130	12	290	7.8	7
15...	.1	1.2	.091	174	130	15	300	7.5	5
FEB.									
01...	.2	.70	.150	183	130	16	320	8.1	5
15...	.1	1.6	.150	121	73	18	175	7.8	35
MAR.									
01...	.1	.90	.033	94	64	12	155	7.8	10
15...	.1	1.2	.046	148	110	10	255	7.9	5
APR.									
01...	.1	.80	.036	130	100	14	225	7.7	5
15...	.1	1.2	.088	145	98	14	224	7.9	20
MAY									
01...	.1	.60	.042	118	84	10	195	7.3	7
15...	.1	.80	.072	117	82	8	195	7.4	7
31...	.1	.90	.052	131	100	12	235	7.6	12
JUNE									
15...	.1	.80	.100	168	140	20	320	8.1	7
JULY									
01...	.1	1.1	.140	137	100	16	235	7.6	30
15...	.1	1.4	.055	157	130	21	270	7.5	5
AUG.									
01...	.2	1.7	.110	188	140	18	310	7.5	10
15...	.1	.80	.049	150	110	16	255	7.7	20
SEP.									
01...	.2	1.1	.094	200	160	18	330	8.0	15
15...	.2	1.5	.110	211	160	13	365	7.8	25

POTOMAC RIVER BASIN

01631000 SOUTH FORK SHENANDOAH RIVER AT FRONT ROYAL, VA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	290	195	280	290	320	155	225	195	---	235	310	330
2	270	205	290	290	305	165	222	210	---	186	235	350
3	240	215	280	300	300	167	240	210	---	200	220	360
4	185	225	289	290	270	170	240	190	---	210	245	360
5	165	240	270	288	299	175	247	209	---	235	250	365
6	155	230	280	290	280	180	260	175	---	240	260	360
7	165	245	260	300	260	---	265	166	---	270	255	360
8	175	255	235	310	280	195	---	165	280	220	280	365
9	180	270	245	320	280	210	260	160	280	215	---	370
10	195	263	241	290	260	225	260	165	300	220	---	360
11	210	260	260	300	260	230	260	170	310	240	320	369
12	225	290	200	290	260	245	280	180	320	260	320	370
13	235	280	180	310	220	250	275	190	310	260	310	369
14	250	290	185	320	180	250	215	190	310	---	280	360
15	260	290	200	300	175	255	224	195	320	270	255	365
16	263	290	205	303	165	260	230	190	340	250	280	370
17	270	293	215	310	160	255	210	200	340	230	290	380
18	260	299	235	290	180	260	225	200	330	250	320	380
19	270	310	236	280	---	260	230	210	340	260	325	380
20	280	300	250	290	---	260	220	220	330	270	320	380
21	300	318	250	300	---	255	224	175	315	280	310	380
22	300	310	263	312	---	260	215	193	155	280	320	390
23	290	310	265	280	225	250	237	180	310	280	325	370
24	215	320	270	290	225	250	180	180	128	280	330	390
25	240	299	279	290	220	250	179	178	170	290	330	390
26	146	310	283	291	205	245	---	210	180	290	330	420
27	220	312	285	300	190	249	169	200	185	290	330	410
28	148	300	270	310	195	235	170	205	190	300	325	400
29	160	305	290	310	150	225	180	215	200	310	315	390
30	170	270	270	320	---	220	190	235	195	310	320	399
31	185	---	280	300	---	225	---	235	---	320	320	---
MONTH	223	276	253	299	235	228	226	193	---	258	298	375

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	18.0	6.0	7.0	4.0	10.0	10.0	13.0	---	20.0	23.0	27.0
2	20.0	18.0	4.0	7.0	4.0	11.0	10.0	18.0	---	21.0	24.0	22.0
3	---	19.0	4.0	4.0	4.0	12.0	10.0	17.0	---	22.0	25.0	25.0
4	---	15.0	3.0	4.0	4.0	9.0	11.0	19.0	---	22.0	26.0	25.0
5	---	13.0	4.0	8.0	1.0	9.0	10.0	18.0	---	22.0	23.0	24.0
6	---	12.0	4.0	5.0	2.0	6.0	13.0	17.0	---	21.0	25.0	23.0
7	---	11.0	6.0	5.0	4.0	---	12.0	18.0	---	20.0	25.0	23.0
8	---	10.0	8.0	5.0	2.0	9.0	---	19.0	20.0	20.0	26.0	23.0
9	---	9.0	8.0	5.0	2.0	6.0	7.0	18.0	23.0	21.0	---	24.0
10	---	9.0	9.0	5.0	2.0	6.0	10.0	16.0	24.0	21.0	---	22.0
11	---	10.0	11.0	7.0	3.0	5.0	12.0	16.0	19.0	22.0	23.0	23.0
12	---	9.0	10.0	6.0	2.0	8.0	13.0	17.0	20.0	23.0	23.0	24.0
13	---	10.0	10.0	8.0	4.0	10.0	15.0	17.0	22.0	23.0	26.0	24.0
14	---	10.0	9.0	7.0	5.0	10.0	15.0	17.0	22.0	---	24.0	25.0
15	17.0	11.0	10.0	6.0	5.0	10.0	16.0	17.0	23.0	24.0	27.0	25.0
16	18.0	11.0	11.0	1.0	6.0	10.0	17.0	18.0	25.0	25.0	24.0	25.0
17	18.0	11.0	12.0	1.0	7.0	11.0	15.0	18.0	24.0	24.0	24.0	25.0
18	17.0	11.0	6.0	2.0	5.0	11.0	16.0	19.0	24.0	27.0	25.0	27.0
19	16.0	12.0	4.0	5.0	---	10.0	18.0	18.0	24.0	28.0	27.0	25.0
20	17.0	11.0	7.0	6.0	---	9.0	19.0	18.0	24.0	29.0	27.0	25.0
21	17.0	10.0	9.0	8.0	---	10.0	17.0	17.0	24.0	29.0	26.0	22.0
22	18.0	7.0	2.0	8.0	---	12.0	15.0	18.0	20.0	30.0	26.0	21.0
23	18.0	7.0	4.0	7.0	5.0	10.0	16.0	18.0	16.0	30.0	26.0	21.0
24	18.0	6.0	6.0	9.0	5.0	9.0	16.0	18.0	15.0	30.0	27.0	22.0
25	18.0	3.0	7.0	8.0	6.0	9.0	14.0	18.0	16.0	30.0	28.0	22.0
26	18.0	4.0	8.0	6.0	8.0	8.0	---	13.0	17.0	28.0	28.0	23.0
27	17.0	5.0	10.0	4.0	6.0	9.0	13.0	18.0	19.0	28.0	27.0	26.0
28	17.0	6.0	11.0	4.0	8.0	9.0	13.0	18.0	20.0	28.0	27.0	25.0
29	17.0	6.0	9.0	5.0	8.0	9.0	13.0	19.0	20.0	26.0	27.0	23.0
30	17.0	6.0	8.0	5.0	---	10.0	16.0	21.0	20.0	23.0	28.0	23.0
31	17.0	---	8.0	4.0	---	10.0	---	22.0	---	24.0	26.0	---
MONTH	---	10.0	7.5	5.5	4.5	9.0	13.5	17.5	---	24.5	25.5	24.0

POTOMAC RIVER BASIN

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01634000 NORTH FORK SHENANDOAH RIVER NEAR STRASBURG, VA.

LOCATION.--Lat 38°58'36", long 78°20'11", Warren County, at gaging station on right bank at downstream side of bridge on State Highway 55, 1.5 miles southeast of Strasburg, 2.2 miles upstream from Cedar Creek, and 10 miles upstream from confluence with South Fork.

DRAINAGE AREA.--768 sq mi.

PERIOD OF RECORD.--Chemical analyses: April 1929 to March 1930, October 1948 to September 1949, October 1951 to September 1952, November 1969 to September 1972.
Water temperatures: October 1948 to September 1949.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT. 06...	597	7.3	0	42	6.6	4.4	3.1	137	16	6.4
DEC. 03...	717	1.7	60	47	13	5.4	2.2	180	21	11
JAN. 03...	259	.4	20	51	14	9.6	1.7	200	20	18
FEB. 07...	469	2.4	20	40	12	6.8	1.6	162	18	11
MAR. 21...	481	1.2	50	42	12	4.9	1.5	161	18	6.6
MAY 04...	1160	3.3	50	36	9.0	4.4	1.8	131	18	6.0
JUNE 13...	291	.4	10	39	14	5.9	2.1	164	17	9.6
AUG. 24...	255	4.7	20	52	16	7.2	2.2	212	17	15

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)	TEMP- ERATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)
OCT. 06...	.1	1.1	.060	163	130	20	288	7.7	19.0	20
DEC. 03...	.1	1.2	.010	208	170	24	370	7.7	5.0	25
JAN. 03...	.1	1.1	.010	220	180	20	400	7.7	4.5	10
FEB. 07...	.1	.70	.082	181	150	16	320	7.9	1.5	8
MAR. 21...	.1	1.2	.006	177	160	22	310	8.4	10.5	10
MAY 04...	.1	1.0	.026	151	130	20	260	7.9	17.0	15
JUNE 13...	.1	.40	.006	183	160	20	330	7.5	21.0	3
AUG. 24...	.1	1.2	.039	226	196	22	415	8.2	24.5	20

POTOMAC RIVER BASIN

01644291 STAVE RUN NEAR RESTON, VA.

LOCATION.--Lat 38°56'56", long 77°22'16", Fairfax County, at gaging station on left bank 0.31 mile upstream from mouth and 1.4 miles southwest of Sunset Hills in Reston.

DRAINAGE AREA.--0.08 sq mi (49.1 acres).

PERIOD OF RECORD.--Chemical analyses: October 1971 to September 1972.
Sediment records: October 1971 to September 1972.

EXTREMES.--1971-72:

Sediment concentrations: Maximum daily, 6,240 mg/l June 21; minimum daily, no flow for Aug. 23-25.

Sediment discharge: Maximum daily, 459 tons/day June 21; minimum daily, zero tons on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SI02) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNE-SIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)
DEC.										
28...	.07	19	180	4.5	1.8	5.0	2.7	32	5.0	2.9
JAN.										
28...	.05	18	360	6.8	2.3	5.1	3.5	38	8.2	3.7
FEB.										
28...	.07	12	0	18	1.5	7.2	8.0	66	14	7.4
APR.										
01...	.08	19	0	28	2.3	7.6	11	77	32	7.2
27...	.09	15	260	6.8	2.0	5.2	4.0	37	7.6	2.8
MAY										
31...	.10	11	60	8.3	2.2	7.7	7.1	50	6.8	3.3
JUNE										
21...	.12	12	20	14	2.0	14	25	82	30	3.6
AUG.										
08...	.01	18	40	8.2	1.7	4.9	5.7	45	5.4	3.5

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA, MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)
DEC.										
28...	.1	.40	.000	73	18	0	66	7.0	--	15
JAN.										
28...	.1	.20	.000	75	26	0	86	6.8	--	20
FEB.										
28...	.2	.30	.023	108	51	0	160	8.2	--	15
APR.										
01...	.4	.60	.049	159	80	16	225	8.3	--	25
27...	.1	.09	.010	67	25	0	84	7.1	19.0	40
MAY										
31...	.2	.07	.190	83	30	0	114	6.9	28.0	5
JUNE										
21...	.3	.20	.110	147	43	0	215	6.9	20.5	27
AUG.										
08...	.1	.04	.000	71	28	0	94	7.1	--	30

INSTANTANEOUS SUSPENDED SEDIMENT AND PARTICLE SIZE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DIS-CHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DIS-CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM
OCT.								
04...	1430	--	.07	5560	1.1	76	96	98
25...	1205	--	1.3	15300	54	33	50	68
25...	1205	18.0	--	--	--	--	--	--
25...	1240	--	10	20800	562	34	48	65
25...	1305	--	11	12100	359	37	59	70
25...	1307	--	15	9240	374	39	55	77
25...	1455	--	10	7360	199	36	48	67
25...	1456	--	9.4	7220	183	39	54	74
NOV.								
29...	1454	--	2.7	3050	22	58	76	88
FEB.								
03...	1622	--	1.4	2540	9.6	73	87	94
13...	0540	--	1.0	2270	6.1	48	68	85
13...	0832	--	4.6	13600	169	42	58	80
13...	1125	--	1.3	3750	13	27	40	55

01644291 STAVE RUN NEAR RESTON, VA.--Continued

INSTANTANEOUS SUSPENDED SEDIMENT AND PARTICLE SIZE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDE SED- IMENT DIS- CHARGE (MG/L)	SUS- PENDE SED- IMENT DIS- CHARGE (T/DAY)	SUS- SED. FALL DIAM. % FINER THAN .004 MM	SUS- SED. FALL DIAM. % FINER THAN .008 MM	SUS- SED. FALL DIAM. % FINER THAN .016 MM
APR.								
16...	1710	--	1.0	6460	17	48	68	87
16...	1740	--	5.4	22700	331	44	61	82
16...	1825	--	1.1	5610	17	55	67	80
16...	1955	--	.97	4570	12	50	64	82
16...	2010	--	5.4	20000	292	37	51	71
16...	2040	--	2.3	6140	38	58	73	90
16...	2125	--	3.6	4410	43	55	66	82
16...	2225	--	1.4	2090	7.9	61	72	84
27...	0930	19.0	--	--	--	--	--	--
MAY								
04...	0230	--	9.2	15900	395	40	52	67
04...	0415	--	1.5	1730	7.0	64	73	79
04...	0600	--	.82	860	1.9	64	67	71
04...	0600	15.0	--	--	--	--	--	--
18...	1525	--	.90	9740	24	63	81	94
18...	1525	17.0	--	--	--	--	--	--
31...	1310	28.0	--	--	--	--	--	--
JUNE								
21...	0720	--	1.0	2150	5.8	59	71	84
21...	1110	20.5	--	--	--	--	--	--
21...	1455	--	2.0	4240	23	55	70	83
21...	1455	20.5	--	--	--	--	--	--
21...	1625	--	10	10800	292	29	38	52
21...	1627	--	10	8970	242	39	52	68

DATE	SUS- SED. FALL DIAM. % FINER THAN .031 MM	SUS- SED. FALL DIAM. % FINER THAN .062 MM	SUS- SED. FALL DIAM. % FINER THAN .125 MM	SUS- SED. FALL DIAM. % FINER THAN .250 MM	SUS- SED. FALL DIAM. % FINER THAN .500 MM	SUS- SED. FALL DIAM. % FINER THAN 1.00 MM	SUS- SED. FALL DIAM. % FINER THAN 2.00 MM
OCT.							
04...	99	100	--	--	--	--	--
25...	91	99	100	--	--	--	--
25...	--	--	--	--	--	--	--
25...	85	97	100	--	--	--	--
25...	85	96	100	--	--	--	--
25...	92	98	100	--	--	--	--
25...	86	97	100	--	--	--	--
25...	91	98	100	--	--	--	--
NOV.							
29...	94	99	100	--	--	--	--
FEB.							
03...	97	99	100	--	--	--	--
13...	93	95	99	100	--	--	--
13...	93	97	99	100	--	--	--
13...	65	73	81	90	98	100	--
APR.							
16...	96	100	--	--	--	--	--
16...	94	98	99	100	--	--	--
16...	88	91	93	95	98	100	--
16...	91	98	98	99	99	99	100
16...	88	97	100	--	--	--	--
16...	97	99	100	--	--	--	--
16...	92	98	100	--	--	--	--
16...	89	98	100	--	--	--	--
27...	--	--	--	--	--	--	--
MAY							
04...	79	89	94	97	99	100	--
04...	86	95	99	99	100	--	--
04...	76	83	87	92	98	99	100
04...	--	--	--	--	--	--	--
18...	99	100	--	--	--	--	--
18...	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--
JUNE							
21...	87	95	98	99	100	--	--
21...	--	--	--	--	--	--	--
21...	89	98	100	--	--	--	--
21...	--	--	--	--	--	--	--
21...	63	77	88	95	98	99	100
21...	83	93	99	100	--	--	--

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDE SED- IMENT DIS- CHARGE (MG/L)	SUS- PENDE SED- IMENT DIS- CHARGE (T/DAY)	SUS- SED. FALL DIAM. % FINER THAN .004 MM	SUS- SED. FALL DIAM. % FINER THAN .008 MM	SUS- SED. FALL DIAM. % FINER THAN .016 MM	SUS- SED. FALL DIAM. % FINER THAN .031 MM	SUS- SED. FALL DIAM. % FINER THAN .062 MM	SUS- SED. FALL DIAM. % FINER THAN .125 MM	SUS- SED. FALL DIAM. % FINER THAN .250 MM	SUS- SED. FALL DIAM. % FINER THAN .500 MM
JUNE												
21...	1805	22	7930	471	36	48	65	78	90	97	99	100
21...	1928	88	24300	5770	30	41	58	76	90	98	100	--
21...	2355	12	3630	118	43	54	68	81	92	98	100	--

POTOMAC RIVER BASIN

01644291 STAVE RUN NEAR RESTON, VA.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

OCTOBER

NOVEMBER

DECEMBER

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.02	30	0	.06	30	0	.07	50	.01
2	.04	1300	.65	.05	30	0	.07	50	.01
3	.02	60	0	.06	100	.02	.07	50	.01
4	.05	4200	1.9	.05	40	.01	.07	30	.01
5	.20	2000	12	.05	30	0	.07	20	0
6	.15	800	2.0	.05	30	0	.08	70	.03
7	.08	300	.20	.07	40	.01	.67	750	2.8
8	.08	140	.20	.06	30	0	.08	90	.04
9	.04	40	0	.06	30	0	.09	80	.03
10	.59	2400	13	.06	30	0	.08	50	.01
11	.09	140	.20	.06	30	0	.07	30	.01
12	.04	40	0	.06	30	0	.07	20	0
13	.03	30	0	.06	30	0	.09	80	.05
14	.22	20	0	.06	30	0	.07	50	.01
15	.02	20	0	.06	30	0	.07	50	.01
16	.32	1000	3.6	.06	30	0	.07	50	.01
17	.02	50	0	.06	30	0	.07	50	.01
18	.23	660	1.3	.06	30	0	.07	30	.01
19	.05	60	.01	.06	30	0	.07	20	0
20	.05	40	.01	.05	20	0	.07	30	.01
21	.05	30	0	.05	20	0	.08	100	.03
22	.06	70	.03	.05	20	0	.07	40	.01
23	.05	40	.01	.05	20	0	.07	30	.01
24	.07	130	.07	.30	340	2.2	.07	20	0
25	3.0	5330	105	.69	600	1.9	.07	20	0
26	.05	100	.01	.24	340	.33	.07	20	0
27	.05	50	.01	.17	270	.18	.09	110	.04
28	.05	30	0	.08	130	.04	.07	50	.01
29	.05	30	0	.48	700	2.7	.07	30	.01
30	.05	30	0	.12	260	.14	.07	20	0
31	.05	30	0	--	--	--	.07	20	0
TOTAL	5.67	--	140.20	3.39	--	7.53	2.87	--	3.18

JANUARY

FEBRUARY

MARCH

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.07	20	0	.07	100	.04	.06	60	.03
2	.08	80	.02	.05	30	0	.06	70	.03
3	.08	80	.02	.93	1300	9.9	.14	660	.60
4	.22	640	1.0	.28	440	.50	.05	40	.01
5	.34	910	1.3	.06	40	.01	.05	20	0
6	.09	110	.03	.06	20	0	.08	120	.07
7	.07	30	.01	.09	120	.07	.05	60	.02
8	.07	20	0	.06	40	.01	.05	60	.02
9	.18	600	.80	.06	20	0	.05	40	.01
10	.11	140	.07	.06	20	0	.05	40	.01
11	.09	80	.03	.06	10	0	.05	20	0
12	.08	70	.02	.06	10	0	.05	10	0
13	.08	70	.02	1.3	2600	16	.08	100	.07
14	.15	220	.13	.18	110	.08	.08	120	.06
15	.06	30	0	.06	50	.01	.06	60	.03
16	.06	20	0	.06	40	.01	.47	1300	9.1
17	.09	90	.05	.06	40	.01	.52	1100	5.5
18	.09	100	.04	.35	760	3.3	.07	60	.03
19	.05	60	.02	.24	360	.80	.06	20	0
20	.06	60	.02	.08	30	.01	.10	170	.06
21	.06	40	.01	.10	100	.07	.09	120	.05
22	.06	40	.01	.18	340	.30	.29	580	3.4
23	.07	40	.01	.11	220	.10	.07	50	.02
24	.16	760	1.2	.20	340	.50	.06	50	.02
25	.07	80	.04	.48	880	1.5	.06	20	0
26	.05	40	.01	.83	1030	4.1	.06	20	0
27	.05	30	0	.14	240	.30	.06	60	.02
28	.05	20	0	.07	90	.05	.05	40	.01
29	.05	20	0	.12	180	.10	.05	30	.01
30	.05	10	0	--	--	--	.05	30	.01
31	.07	100	.04	--	--	--	.05	20	.01
TOTAL	2.86	--	4.90	6.40	--	36.77	3.07	--	19.20

POTOMAC RIVER BASIN
01644291 STAVE RUN NEAR RESTON, VA.--Continued

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SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.08	200	.30	.08	10	0	.05	20	0
2	.05	20	0	.08	10	0	.05	10	0
3	.10	240	.20	.17	670	.75	.05	10	0
4	.05	30	.01	.80	1530	13	.10	364	.85
5	.06	40	.01	.10	30	.01	.05	20	0
6	.05	30	.01	.10	10	0	.04	10	0
7	.09	190	.10	.09	10	0	.04	10	0
8	.25	240	.40	.12	270	.30	.04	10	0
9	.05	20	0	.25	720	.80	.04	5	0
10	.05	30	.01	.08	80	.03	.04	5	0
11	.10	160	.10	.07	60	.02	.04	5	0
12	.05	20	0	.09	90	.04	.04	5	0
13	.53	1900	8.3	.07	20	0	.15	617	3.9
14	.17	180	.06	.10	30	.01	.04	20	0
15	.06	20	0	.13	530	.40	.04	5	0
16	.67	1800	18	.06	40	.01	.04	5	0
17	.41	699	.99	.06	20	0	.12	180	.20
18	.07	20	0	.12	484	.68	.05	20	0
19	.07	20	0	.28	785	3.1	.04	10	0
20	.07	10	0	.46	780	2.7	.15	530	1.0
21	.07	10	0	.07	30	.01	12	6240	459
22	.76	824	2.8	.05	10	0	3.7	2050	26
23	.19	345	3.1	.05	10	0	1.7	850	7.4
24	.13	218	.19	.05	10	0	.10	60	.02
25	.09	20	0	.05	10	0	.05	30	0
26	.09	10	0	.07	60	.05	.05	20	0
27	.09	10	0	.05	20	0	.05	10	0
28	.08	10	0	.05	10	0	.04	5	0
29	.08	10	0	.05	10	0	1.9	1200	89
30	.08	10	0	.05	10	0	.82	865	22
31	--	--	--	.10	100	.11	--	--	--
TOTAL	4.69	--	34.58	3.95	--	22.02	21.62	--	609.37
DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.04	30	0	.01	3	0	.03	4	0
2	.05	30	.01	.01	2	0	.03	4	0
3	.74	660	39	.12	490	2.0	.03	3	0
4	.03	30	0	.19	1100	2.7	.04	80	.04
5	.03	10	0	.02	20	0	.03	20	0
6	.03	9	0	.01	10	0	.03	10	0
7	.03	7	0	.01	5	0	.03	40	.02
8	.02	6	0	.01	2	0	.06	110	.10
9	.02	5	0	.03	140	.14	.03	20	0
10	.02	4	0	.06	540	.70	.03	10	0
11	.02	3	0	.02	20	0	.03	40	.04
12	.02	2	0	.02	10	0	.02	60	.03
13	.02	2	0	.05	320	.12	.09	200	.20
14	.02	2	0	.02	20	0	.10	270	.90
15	.02	2	0	.02	10	0	.04	100	.04
16	.02	2	0	.02	5	0	.03	10	0
17	.01	2	0	.05	90	.05	.03	7	0
18	.01	2	0	.02	40	.01	.15	580	1.3
19	.01	2	0	.02	10	0	.06	700	.20
20	.01	2	0	.01	5	0	.06	700	.20
21	.01	2	0	.03	40	.01	.07	220	.40
22	.01	2	0	.01	5	0	.04	50	.01
23	.01	2	0	0	0	0	.04	10	0
24	.01	2	0	0	0	0	.02	7	0
25	.01	2	0	0	0	0	.02	5	0
26	.01	2	0	.30	560	7.3	.02	2	0
27	.01	2	0	.15	206	.63	.02	2	0
28	.01	2	0	.05	20	0	.02	2	0
29	.01	2	0	.03	10	0	.02	2	0
30	.03	10	0	.03	7	0	.09	580	1.0
31	.02	5	0	.03	5	0	--	--	--
TOTAL	1.31	--	39.01	1.35	--	13.66	1.31	--	4.48

TOTAL DISCHARGE FOR YEAR (CFS-DAYS)
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS)

58.49
934.90

POTOMAC RIVER BASIN

01644295 SMILAX BRANCH AT RESTON, VA.

LOCATION (revised).--Lat 38°57'10", long 77°22'04", Fairfax County, at gaging station on right bank 100 ft upstream from Dulles Airport Road, 0.4 mile upstream from mouth, 1.0 mile west of Sunset Hills in Reston, and 4.3 miles east of Dulles International Airport.

DRAINAGE AREA.--0.32 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1969, October 1970 to September 1972.
Sediment records: October 1971 to September 1972.

EXTREMES.--1971-72:

Sediment concentrations: Maximum daily, 1,080 mg/l June 21; minimum daily, no flow for Sept. 9-12, 14, 16, 17, 20, 23, 24, 26, 27.

Sediment discharge: Maximum daily, 173 tons/day June 21; minimum daily, zero tons on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
DEC. 28...	.20	13	420	1.5	1.3	2.9	.9	12	4.8	3.2
JAN. 28...	.34	12	290	1.6	1.3	2.9	1.2	12	6.0	2.8
FEB. 25...	2.3	8.6	40	3.8	1.9	6.0	3.0	12	11	12
APR. 07...	.70	11	40	4.9	1.8	5.0	1.7	14	11	4.0
27...	.49	9.8	200	2.4	1.4	3.6	2.2	13	7.6	2.8
MAY 31...	.32	12	180	2.8	1.5	3.4	1.5	16	5.2	2.7
JUNE 21...	42	7.3	40	3.4	1.3	3.7	3.2	4	14	3.2
AUG. 08...	.06	14	120	5.3	1.8	5.3	5.1	30	8.6	3.4

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOS- PHORUS (P) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)	TEMP- ERATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)
DEC. 28...	.1	.02	.000	39	9	0	37	6.4	--	25
JAN. 28...	.1	.04	.000	39	10	0	38	6.2	--	25
FEB. 25...	.1	.07	.006	58	18	8	78	6.2	--	30
APR. 07...	.2	.40	.039	60	20	8	67	6.1	--	25
27...	.1	.07	.010	44	12	2	46	6.6	12.0	40
MAY 31...	.1	.04	.003	46	13	0	52	6.3	18.0	25
JUNE 21...	.2	.20	.033	55	14	10	52	5.5	20.0	33
AUG. 08...	.2	.09	.013	65	20	0	82	6.8	--	27

POTOMAC RIVER BASIN

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01644295 SMILAX BRANCH AT RESTON, VA.--Continued

INSTANTANEOUS SUSPENDED SEDIMENT AND PARTICLE SIZE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDED SEDI- MENT (MG/L)	SUS- PENDED SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM
NOV. 03...	1214	--	.90	165	.40	88	98	99
JAN. 24...	0225	--	1.7	646	3.0	84	91	95
FEB. 03...	1532	--	2.1	497	2.8	58	65	66
APR. 24...	0008	--	3.9	1240	13	71	88	95
27...	1345	12.0	--	--	--	--	--	--
MAY 31...	1550	18.0	--	--	--	--	--	--
JUNE 21...	0715	--	6.1	3130	52	58	75	88
21...	1030	20.0	--	--	--	--	--	--
21...	2037	--	290	1150	621	54	69	83
21...	2215	--	161	766	333	57	72	85

DATE	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 2.00 MM
NOV. 03...	100	--	--	--	--	--	--
JAN. 24...	99	99	100	--	--	--	--
FEB. 03...	--	74	77	82	95	99	100
APR. 24...	96	99	99	100	--	--	--
27...	--	--	--	--	--	--	--
MAY 31...	--	--	--	--	--	--	--
JUNE 21...	91	95	96	96	98	100	--
21...	--	--	--	--	--	--	--
21...	89	93	96	98	99	100	--
21...	90	96	97	99	100	--	--

POTOMAC RIVER BASIN

01644295 SMILAX BRANCH AT RESTON, VA.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.04	10	0	.24	16	.01	.53	20	.03
2	.29	210	.45	.22	16	.01	.40	15	.02
3	.06	15	0	.52	105	.26	.37	12	.01
4	.07	20	0	.24	20	.01	.34	10	.01
5	2.5	500	13	.20	15	.01	.29	9	.01
6	1.4	350	3.0	.18	12	.01	.31	8	.01
7	.18	180	.13	.26	50	.07	3.1	350	3.8
8	.12	20	.01	.20	20	.01	1.2	20	.06
9	.26	200	.80	.16	15	.01	.65	16	.03
10	7.8	800	30	.15	12	0	.53	13	.02
11	1.5	300	2.9	.15	10	0	.43	10	.01
12	.34	150	.23	.15	10	0	.37	10	.01
13	.18	20	.01	.15	9	0	.37	10	.01
14	.15	15	.01	.12	8	0	.31	9	.01
15	.12	10	0	.15	15	.01	.31	9	.01
16	.09	9	0	.13	10	0	.31	9	.01
17	.09	9	0	.12	9	0	.29	8	.01
18	.09	8	0	.13	8	0	.24	8	.01
19	.09	8	0	.18	12	.01	.22	8	0
20	.09	7	0	.18	10	0	.31	20	.02
21	.09	7	0	.20	10	.01	.27	15	.01
22	.13	7	0	.18	10	0	.22	10	.01
23	.22	70	.30	.16	10	0	.20	7	0
24	.71	300	.60	1.1	180	3.0	.22	10	.01
25	13	1050	93	4.0	310	4.1	.20	10	.01
26	2.2	38	.24	1.4	29	.11	.20	10	.01
27	.79	750	2.9	1.4	15	.06	.20	10	.01
28	.43	30	.03	1.0	10	.03	.20	17	.01
29	.34	25	.02	2.7	199	2.7	.18	10	0
30	.29	20	.02	1.2	31	.12	.20	10	.01
31	.27	18	.01	--	--	--	.18	10	0
TOTAL	33.93	--	147.66	17.17	--	10.55	13.15	--	4.18
DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.20	9	0	.22	10	.01	.60	30	.05
2	.60	120	.50	.24	15	.01	.56	30	.05
3	.31	20	.02	2.5	400	7.3	1.0	160	.69
4	.60	90	.23	1.6	80	.59	.56	50	.08
5	1.5	110	.55	.54	20	.03	.49	40	.05
6	.53	8	.01	.43	15	.02	.43	30	.03
7	.37	5	.01	.40	12	.01	.40	25	.03
8	.31	5	0	.27	10	.01	.37	25	.02
9	.56	160	.71	.24	10	.01	.31	20	.02
10	.75	24	.05	.24	9	.01	.31	22	.02
11	.49	20	.03	.27	8	.01	.29	20	.02
12	.40	15	.02	.31	8	.01	.31	20	.02
13	.40	12	.01	5.4	310	6.2	.34	20	.02
14	.56	150	.33	1.4	60	.23	.60	100	.26
15	.37	20	.02	.72	30	.06	.46	30	.04
16	.27	15	.01	.53	15	.02	1.1	170	2.0
17	.27	12	.01	.54	15	.02	3.9	350	6.8
18	.34	20	.02	.87	80	.55	.90	40	.10
19	.37	20	.02	2.6	110	1.4	.56	30	.05
20	.34	12	.01	.95	16	.04	.46	25	.03
21	.37	17	.02	.64	10	.02	.43	20	.02
22	.37	18	.02	1.0	80	.25	1.3	200	1.1
23	.43	20	.02	.74	30	.06	.85	30	.07
24	.80	180	.60	.83	60	.20	.53	20	.03
25	.46	30	.04	2.3	130	1.1	.43	15	.02
26	.37	20	.02	4.4	150	2.8	.40	12	.01
27	.34	15	.01	1.6	50	.22	.40	10	.01
28	.34	15	.01	1.1	39	.12	.34	10	.01
29	.27	12	.01	.85	35	.08	.31	10	.01
30	.27	10	.01	--	--	--	.31	10	.01
31	.24	10	.01	--	--	--	.29	11	.01
TOTAL	13.80	--	3.33	33.73	--	21.39	19.54	--	11.68

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972
APRIL MAY

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972									
APRIL			MAY			JUNE			
DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.37	30	.12	.39	10	.01	.22	50	.03
2	.65	100	.30	.44	20	.02	.12	15	.01
3	.37	30	.03	1.3	140	.69	.09	10	0
4	.34	20	.02	3.9	250	6.2	.31	70	.33
5	.29	15	.01	1.2	30	.10	.21	50	.04
6	.29	12	.01	.63	20	.03	.13	15	.01
7	.70	95	.30	.47	15	.02	.12	10	0
8	.90	70	.34	.60	40	.35	.08	7	0
9	.65	40	.07	1.8	150	1.3	.07	5	0
10	.53	30	.04	.90	9	.02	.07	5	0
11	.43	26	.03	.51	10	.01	.07	5	0
12	.37	20	.02	.41	9	.01	.07	5	0
13	2.4	280	3.2	.33	8	.01	.24	50	.13
14	.95	50	.13	.53	50	.19	.16	20	.01
15	.60	30	.05	.55	70	.28	.11	10	0
16	1.9	150	3.6	.42	20	.02	.08	7	0
17	1.8	90	.90	.32	18	.02	.27	110	.16
18	.75	50	.10	.30	12	.01	.18	20	.01
19	.56	47	.07	.56	50	.38	.12	10	0
20	.49	30	.04	2.0	130	1.5	.34	150	.36
21	.40	25	.03	.72	30	.06	.42	1080	173
22	3.3	370	4.0	.46	20	.02	19	350	23
23	1.3	49	.35	.33	15	.01	6.8	140	3.3
24	1.5	110	.90	.24	12	.01	1.5	45	.19
25	.75	20	.04	.20	10	.01	.92	40	.13
26	.56	15	.02	.18	10	0	.91	75	.28
27	.49	11	.01	.16	10	0	.45	20	.02
28	.45	10	.01	.14	8	0	.42	20	.02
29	.45	10	.01	.12	8	0	3.9	140	7.2
30	.42	10	.01	.16	30	.03	3.8	180	3.1
31	--	--	--	.32	50	.15	--	--	--
TOTAL	24.96	--	14.76	20.59	--	11.46	82.76	--	211.33
JULY			AUGUST			SEPTEMBER			
DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1.5	60	.30	.08	10	0	.02	5	0
2	.76	60	.27	.06	8	0	.02	5	0
3	1.5	100	1.3	.09	50	.05	.02	5	0
4	.81	20	.04	.31	70	.31	.03	10	0
5	.57	15	.02	.12	10	0	.02	5	0
6	.46	12	.01	.07	10	0	.02	5	0
7	.35	10	.01	.07	10	0	.01	5	0
8	.28	10	.01	.06	8	0	.01	5	0
9	.25	10	.01	.04	5	0	0	0	0
10	.22	10	.01	.03	5	0	0	0	0
11	.17	10	0	.03	5	0	0	0	0
12	.19	10	.01	.03	5	0	0	0	0
13	.20	10	.01	.04	5	0	.01	5	0
14	.16	10	0	.03	5	0	0	0	0
15	.13	10	0	.03	5	0	.01	5	0
16	.14	10	0	.02	5	0	0	0	0
17	.14	10	0	.06	80	.02	0	0	0
18	.12	10	0	.05	10	0	.10	50	.14
19	.11	10	0	.04	10	0	.02	10	0
20	.10	10	0	.02	5	0	0	0	0
21	.08	8	0	.02	5	0	.01	5	0
22	.07	8	0	.01	5	0	.02	5	0
23	.06	5	0	.02	5	0	0	0	0
24	.06	5	0	.01	5	0	0	0	0
25	.05	5	0	.01	5	0	.01	5	0
26	.04	5	0	.41	370	3.1	0	0	0
27	.05	5	0	.21	150	.76	0	0	0
28	.06	5	0	.26	150	.52	.01	5	0
29	.06	5	0	.03	20	0	.01	5	0
30	.10	15	0	.02	10	0	.09	50	.11
31	.09	12	0	.02	5	0	--	--	--
TOTAL	8.88	--	2.00	2.30	--	4.76	.44	--	.25
TOTAL DISCHARGE FOR YEAR (CFS-DAYS)									
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS)									
271.25									
443.35									

RAPPAHANNOCK RIVER BASIN

01664000 RAPPAHANNOCK RIVER AT REMINGTON, VA.

LOCATION.--Lat 38°31'50", long 77°48'50", Fauquier County, at gaging station on left bank 80 ft upstream from bridge on U.S. Highway 29 at Remington, 0.3 mile upstream from Tinpot Run, 0.4 mile downstream from Ruffans Run, 2.5 miles downstream from Hazel River, and at mile 35.2.

DRAINAGE AREA.--620 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1951 to September 1956, October 1965 to September 1972.

Water temperatures: May 1951 to September 1956, October 1965 to September 1972.

Sediment records: April 1951 to September 1972.

EXTREMES.--1971-72:

Specific conductance: Maximum daily, 93 micromhos July 13; minimum daily, 46 micromhos June 20.

Water temperatures: Maximum, 27.5°C July 24, 26; minimum, 0.5°C Jan. 15, Feb. 3, 4, 19.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT.										
01...	170	11	20	5.0	1.8	3.0	1.5	26	4.4	3.8
15...	276	13	60	6.2	1.8	3.6	2.0	25	5.8	4.2
NOV.										
01...	761	12	130	5.0	1.6	3.1	1.5	22	5.2	4.1
15...	353	12	20	4.8	1.8	3.7	1.2	23	5.8	4.3
DEC.										
01...	1600	12	40	5.9	2.8	3.2	2.0	20	11	3.6
15...	670	13	10	5.2	1.6	3.2	1.2	22	5.8	4.0
JAN.										
01...	379	11	40	5.0	1.6	3.5	1.3	23	3.2	4.9
15...	442	13	20	5.0	1.8	3.0	1.1	22	7.0	3.2
FEB.										
01...	311	12	50	4.9	1.8	3.5	1.0	21	7.2	3.8
15...	2750	11	0	4.1	1.8	3.0	1.6	12	9.4	3.2
MAR.										
01...	1880	11	30	4.9	2.0	2.6	1.2	15	8.6	3.9
15...	989	12	40	5.2	2.0	3.2	1.3	19	9.2	3.5
APR.										
01...	638	11	0	4.8	1.8	2.7	.9	19	6.4	2.5
15...	1040	13	0	4.8	1.8	3.4	1.2	18	8.0	3.2
MAY										
01...	922	12	30	5.1	1.9	4.5	1.2	20	6.2	4.1
15...	1030	12	20	5.0	1.7	2.9	1.4	19	6.6	3.2
JUNE										
01...	1260	12	40	4.5	1.8	3.0	1.4	21	6.6	3.4
15...	445	10	30	5.6	2.0	3.2	1.6	25	5.6	3.0
JULY										
01...	2720	12	40	5.3	2.1	2.5	1.7	19	7.2	2.5
15...	621	13	0	5.7	1.9	3.2	1.4	23	5.8	3.5
AUG.										
01...	798	14	40	6.2	2.0	3.4	1.6	24	5.2	4.0
15...	295	13	20	6.2	2.0	3.8	1.7	27	5.4	4.8
SEP.										
01...	134	11	20	5.9	2.1	4.0	1.9	28	5.2	3.2
15...	127	11	40	6.1	1.9	3.7	1.7	28	4.8	3.7

RAPPAHANNOCK RIVER BASIN

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01664000 RAPPAHANNOCK RIVER AT REMINGTON, VA.--Continued

EXTREMES.--1971-72--Continued

Sediment concentrations: Maximum daily, 342 mg/l Oct. 25; minimum daily, 2 mg/l Dec. 28, June 9, July 24.
 Sediment discharge: Maximum daily, 26,000 tons/day June 22; minimum daily, 0.79 ton/day Sept. 18.

Period of record:

Specific conductance: Maximum daily, 148 micromhos Feb. 9, 1969; minimum daily, 46 micromhos June 20, 1972.
 Water temperatures: Maximum, 32.0°C July 3, 1966, June 30, 1969; minimum, freezing point on many days during winter period.

Sediment concentrations: Maximum daily, 1,730 mg/l Mar. 12, 1963; minimum daily, 1 mg/l on many days during each year.

Sediment discharge: Maximum daily, 32,300 tons/day Mar. 12, 1963; minimum daily, less than 0.5 ton/day on many days during each year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOS- PHORUS (P) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)	COLOR (PLAT- INUM- COBALT UNITS)
OCT.									
01...	.1	.00	.000	48	20	0	60	6.9	5
15...	.1	.10	.000	53	23	2	60	7.8	15
NOV.									
01...	.1	.20	.000	55	19	1	55	6.8	7
15...	.1	.20	.000	44	20	0	57	6.9	3
DEC.									
01...	.1	.60	.000	52	26	10	68	6.6	7
15...	.1	.30	.000	48	20	2	63	7.1	3
JAN.									
01...	.1	.40	.000	46	19	0	61	7.1	7
15...	.1	.40	.000	45	20	2	64	7.3	5
FEB.									
01...	.1	.40	.000	46	20	2	62	7.0	0
15...	.1	.90	.003	47	18	8	58	6.8	8
MAR.									
01...	.1	.60	.006	57	20	8	61	7.1	15
15...	.1	.60	.006	54	21	6	68	7.2	20
APR.									
01...	.1	.50	.000	46	20	4	58	7.1	10
15...	.1	.40	.006	53	20	4	57	7.0	15
MAY									
01...	.1	.40	.000	51	20	4	57	7.0	7
15...	.1	.40	.006	48	20	4	59	6.7	12
JUNE									
01...	.1	.40	.006	54	18	2	65	7.0	7
15...	.1	.40	.006	48	22	2	65	6.7	15
JULY									
01...	.1	.40	.010	51	22	6	61	6.7	35
15...	.1	.50	.003	53	22	3	66	6.9	5
AUG.									
01...	.1	.40	.000	59	24	4	65	7.2	17
15...	.1	.40	.003	53	24	2	70	7.2	15
SEP.									
01...	.1	.30	.000	52	23	0	71	7.0	25
15...	.1	.07	.006	49	23	0	65	7.2	17

RAPPAHANNOCK RIVER BASIN

01664000 RAPPAHANNOCK RIVER AT REMINGTON, VA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	55	68	61	62	61	58	57	65	61	65	71
2	58	56	65	60	65	61	59	56	65	61	66	71
3	56	60	66	60	65	60	57	57	66	88	67	68
4	53	59	64	62	64	59	58	57	67	90	65	68
5	55	60	65	66	65	59	59	58	68	91	66	68
6	54	61	65	68	62	60	62	59	66	84	66	67
7	55	60	64	66	63	60	66	58	68	83	66	68
8	56	59	65	66	64	60	60	58	65	92	66	68
9	57	60	63	67	63	59	61	57	63	90	65	67
10	62	58	64	66	64	60	60	57	65	92	66	68
11	67	57	64	67	54	59	59	57	66	75	66	70
12	62	59	63	67	56	60	59	59	65	80	67	70
13	60	58	63	67	58	62	60	59	65	93	65	64
14	59	59	61	67	56	63	58	60	65	90	66	64
15	60	57	63	64	58	68	57	59	65	66	70	65
16	61	58	61	75	56	67	58	57	66	67	65	66
17	60	57	60	60	64	63	58	57	72	68	66	68
18	60	60	61	61	61	62	58	55	68	69	64	68
19	61	61	60	59	62	59	60	56	68	69	65	72
20	61	60	59	60	63	59	59	57	46	70	66	73
21	60	59	60	59	64	59	59	56	57	71	67	68
22	62	60	61	60	64	60	56	57	56	71	65	66
23	59	69	60	61	65	58	56	57	57	70	65	65
24	56	70	60	61	66	59	56	58	58	71	68	69
25	52	71	60	60	62	58	56	58	59	71	67	58
26	51	70	59	61	60	59	55	57	60	70	69	59
27	52	74	60	62	60	57	56	58	58	63	69	59
28	53	75	60	62	61	58	56	63	60	63	67	55
29	52	79	59	63	58	57	56	63	53	64	69	54
30	53	66	60	61	---	58	57	61	56	64	68	52
31	54	---	60	61	---	58	---	66	---	65	72	---
MONTH	57	62	62	63	62	60	58	58	63	75	67	66

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.5	19.5	5.5	4.5	1.0	6.0	10.5	16.5	19.0	18.0	24.5	19.5
2	20.0	20.5	4.5	5.0	1.0	5.5	11.0	18.0	17.0	21.5	24.0	21.0
3	19.5	17.0	2.0	4.0	0.5	6.0	11.5	17.0	20.5	21.5	23.0	20.0
4	19.5	11.5	2.5	3.5	0.5	6.0	9.0	18.0	18.0	21.0	21.0	20.5
5	21.0	10.0	3.5	5.0	1.0	7.0	5.0	19.0	18.5	17.5	23.0	20.0
6	19.0	9.5	5.0	3.0	2.0	6.0	5.0	18.0	19.0	19.0	23.0	20.0
7	18.0	8.0	6.5	1.5	3.0	6.5	5.5	19.0	20.0	19.0	23.0	19.5
8	16.0	7.0	9.0	1.0	2.5	5.5	10.0	17.0	19.5	19.5	24.0	20.0
9	15.0	6.5	10.5	4.0	2.0	5.0	12.5	16.5	19.0	20.5	24.0	19.5
10	14.0	7.0	10.0	6.0	3.5	6.5	13.0	17.0	18.0	22.0	23.0	19.5
11	14.0	8.5	9.5	7.0	4.0	6.0	14.5	16.5	18.5	21.5	21.5	21.0
12	15.0	8.0	9.0	8.0	6.0	10.5	14.0	17.0	20.0	22.0	21.5	23.0
13	15.0	10.0	9.5	8.5	6.5	9.5	14.5	17.5	20.0	23.0	23.0	20.0
14	16.5	9.0	7.0	---	6.0	8.5	14.0	18.5	20.0	22.0	22.0	21.0
15	15.5	10.5	8.5	0.5	5.0	9.0	16.5	18.5	20.5	24.0	20.5	24.0
16	16.0	10.0	11.0	1.0	6.0	8.5	17.0	18.0	23.0	24.5	22.0	23.0
17	16.0	9.0	5.5	2.5	2.0	8.5	17.5	17.0	24.0	25.0	23.5	22.0
18	17.5	7.5	4.5	3.0	1.0	8.0	17.0	17.0	21.5	25.5	23.0	23.5
19	16.0	9.0	6.0	1.0	0.5	8.0	18.0	16.0	21.0	26.5	24.0	20.0
20	15.5	8.0	6.0	2.5	2.0	9.5	17.0	18.0	18.0	25.0	23.0	18.0
21	16.5	5.0	6.5	3.5	3.0	8.0	16.0	18.5	16.0	25.5	21.0	18.0
22	16.5	4.5	3.5	4.5	5.0	7.5	11.5	18.5	16.0	26.0	23.0	15.0
23	17.5	5.0	3.0	3.0	5.0	7.0	13.5	19.0	17.0	27.0	24.0	16.0
24	17.0	4.0	4.5	8.0	6.0	5.5	14.0	19.0	17.0	27.5	25.0	17.0
25	17.5	2.5	7.5	6.5	4.0	7.0	12.5	18.0	16.5	24.5	26.0	19.5
26	16.0	2.5	9.5	2.5	6.0	7.5	11.5	16.5	17.5	27.5	25.0	19.0
27	15.5	5.0	10.0	2.0	6.5	9.0	13.0	16.0	19.0	21.0	25.0	16.0
28	17.0	4.5	10.0	1.5	8.5	10.5	17.0	18.0	20.0	19.5	23.0	14.0
29	17.0	5.0	7.5	2.0	10.5	10.0	18.0	19.0	19.5	22.0	22.0	12.5
30	17.5	5.5	10.0	3.5	---	9.5	18.0	20.0	20.0	23.5	22.0	12.0
31	17.0	---	6.5	3.0	---	9.5	---	20.0	---	23.0	21.0	---
MONTH	17.0	8.5	7.0	3.5	4.0	7.5	13.5	18.0	19.0	23.0	23.0	19.0

01664000 RAPPAHANNOCK RIVER AT REMINGTON, VA.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	170	9	4.1	761	38	78	1600	58	251
2	256	29	20	683	11	20	1160	34	106
3	709	64	123	670	18	33	937	14	35
4	586	24	38	716	7	14	820	15	33
5	448	9	11	592	6	9.6	729	9	18
6	381	14	14	540	8	12	677	27	49
7	319	15	13	528	8	11	891	30	72
8	267	12	8.7	492	6	8.0	1450	24	94
9	238	6	3.9	456	7	8.6	1170	16	51
10	437	20	24	438	6	7.1	1020	11	30
11	844	39	89	426	5	5.8	924	17	42
12	493	11	15	403	5	5.4	826	14	31
13	354	9	8.6	385	5	5.2	768	8	17
14	304	7	5.7	374	4	4.0	709	6	11
15	276	4	3.0	353	4	3.8	670	6	11
16	249	6	4.0	348	5	4.7	657	6	11
17	236	3	1.9	339	5	4.6	618	7	12
18	226	4	2.4	329	6	5.3	560	4	6.0
19	213	5	2.9	324	7	6.1	516	7	9.8
20	200	5	2.7	329	6	5.3	516	5	7.0
21	189	7	3.6	320	5	4.3	547	7	10
22	188	8	4.1	306	4	3.3	510	5	6.9
23	203	65	36	284	3	2.3	456	6	7.4
24	1650	259	1150	288	22	17	444	3	3.6
25	3890	342	3590	703	18	34	450	3	3.6
26	5390	195	2840	800	10	22	438	3	3.5
27	2230	90	542	631	17	29	432	6	7.0
28	1490	37	149	761	20	41	420	2	2.3
29	1180	36	115	1170	92	291	408	4	4.4
30	976	18	47	2470	166	1110	391	4	4.2
31	846	21	48	--	--	--	391	3	3.2
TOTAL	25438	--	8919.6	17219	--	1805.4	22105	--	952.9
DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	379	4	4.1	311	6	5.0	1880	65	330
2	391	6	6.3	331	19	17	1710	61	282
3	486	6	7.9	459	31	38	1940	66	346
4	486	6	7.9	2080	44	247	1660	26	117
5	631	10	17	1130	26	79	1420	27	104
6	675	9	16	898	19	46	1240	15	50
7	487	8	11	818	19	42	1130	14	43
8	439	5	5.9	641	14	24	1050	11	31
9	430	9	10	590	14	22	950	10	26
10	526	5	7.1	624	40	67	898	11	27
11	543	4	5.9	575	70	109	826	13	29
12	499	4	5.4	504	90	122	800	14	30
13	465	5	6.3	3710	231	2310	781	23	49
14	479	7	9.1	7690	299	6210	820	19	42
15	442	6	7.2	2750	106	787	989	51	136
16	322	10	8.7	1930	84	438	839	52	118
17	378	11	11	1530	52	215	1990	24	129
18	524	9	13	1360	50	184	1450	21	82
19	463	6	7.5	2160	45	262	1130	39	119
20	412	6	6.7	1620	29	127	989	41	109
21	389	7	7.4	1270	41	141	924	19	47
22	387	6	6.3	1340	19	69	995	25	67
23	404	9	9.8	1310	16	57	1220	30	99
24	444	6	7.2	1240	49	164	975	14	37
25	444	5	6.0	1810	125	611	887	7	17
26	379	9	9.2	4100	145	1610	841	7	16
27	349	8	7.5	3940	90	957	790	10	21
28	352	6	5.7	2630	83	589	762	6	12
29	366	7	6.9	2110	72	410	716	12	23
30	350	5	4.7	--	--	--	689	12	22
31	343	5	4.6	--	--	--	663	9	16
TOTAL	13664	--	249.3	51461	--	15959.0	33954	--	2576

RAPPAHANNOCK RIVER BASIN

01664000 RAPPAHANNOCK RIVER AT REMINGTON, VA.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	638	7	12	922	26	65	1260	16	54
2	701	6	11	852	29	67	764	12	25
3	642	8	14	1040	22	62	651	9	16
4	593	13	21	1680	18	82	581	12	19
5	570	14	22	1520	17	70	784	20	42
6	540	12	17	1170	14	44	631	8	14
7	556	12	18	1030	15	42	575	10	16
8	813	10	22	946	10	26	495	5	6.7
9	816	5	11	1250	18	61	452	2	2.4
10	728	9	18	1290	10	35	425	6	6.9
11	693	6	11	1060	12	34	394	7	7.4
12	654	27	48	951	29	74	361	4	3.9
13	1000	30	81	870	30	70	353	4	3.8
14	1360	53	195	871	104	245	398	11	12
15	1040	58	163	1030	111	309	445	7	8.4
16	969	37	97	1110	40	120	398	30	32
17	2140	38	220	949	41	105	400	36	39
18	1600	31	134	977	60	158	582	15	24
19	1280	30	104	904	138	337	548	27	40
20	1140	23	71	3870	146	1530	439	137	162
21	1020	25	69	2920	47	371	7160	179	3460
22	1950	230	1210	2010	32	174	45800	210	26000
23	3230	171	1490	1560	31	131	17500	114	5390
24	2180	158	930	1270	17	58	7010	103	1950
25	1750	41	194	1100	22	65	3850	52	541
26	1450	29	114	976	20	53	2730	60	442
27	1250	36	122	881	6	14	2060	37	206
28	1120	14	42	825	11	25	1910	26	134
29	1030	15	42	776	8	17	2660	61	438
30	959	25	65	730	14	28	3970	170	1820
31	--	--	--	816	18	40	--	--	--
TOTAL	34412	--	5568	38156	--	4512	105586	--	40915.5

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

[illegible]

RAPPAHANNOCK RIVER BASIN

01668000 RAPPAHANNOCK RIVER NEAR FREDERICKSBURG, VA.

LOCATION.--Lat 38°19'20", long 77°31'05", Spotsylvania County, at gaging station on right bank 1.6 miles upstream from dam of Virginia Electric & Power Co., 2.2 miles downstream from Motts Run, 3.8 miles upstream from Fredericksburg, and at mile 4.4.

DRAINAGE AREA.--1,596 sq mi.

PERIOD OF RECORD.--Chemical analyses: April 1929 to March 1930, October 1955 to September 1956, February 1967 to September 1972.

Water temperatures: October 1955 to September 1956, April 1968 to September 1972.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCC3) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT.										
01...	402	11	20	4.9	1.9	3.1	1.5	24	4.6	3.7
15...	930	13	30	5.9	2.3	3.0	2.4	25	5.8	5.0
NOV.										
01...	2060	12	40	6.8	2.1	3.0	1.6	22	6.4	5.0
15...	870	13	50	5.6	1.8	3.5	1.4	24	5.4	5.4
DEC.										
01...	4430	9.9	60	6.2	2.6	3.2	2.7	20	11	3.8
15...	1500	13	20	5.7	1.9	3.4	1.4	22	5.8	5.6
31...	850	12	20	5.8	2.1	3.9	1.0	24	4.6	4.6
JAN.										
15...	1440	12	0	5.6	2.3	3.4	1.4	25	7.6	3.4
FEB.										
01...	920	12	40	5.7	2.0	3.7	1.1	24	8.0	3.7
15...	7050	8.8	0	4.4	2.0	2.7	2.5	13	11	2.7
MAR.										
01...	3910	10	40	5.0	2.1	2.8	1.2	16	9.0	4.5
15...	1960	12	50	4.8	2.0	3.0	1.2	20	7.0	4.2
APR.										
01...	1340	12	20	5.0	2.0	3.8	1.1	22	6.6	2.9
15...	2180	9.0	30	5.8	2.3	3.7	1.3	22	8.2	4.0
MAY										
01...	1920	11	20	4.4	1.8	2.9	1.2	21	6.0	2.7
15...	2100	12	30	4.6	1.8	3.2	1.1	20	5.6	3.4
JUNE										
01...	2370	10	110	5.3	1.8	3.0	1.7	22	4.0	3.1
15...	870	9.8	20	5.4	2.2	3.2	1.4	27	5.2	3.3
JULY										
01...	6710	10	0	4.8	1.6	2.3	2.0	18	7.2	2.4
15...	1740	12	40	4.6	1.8	3.3	1.7	24	5.8	3.2
AUG.										
01...	1660	12	0	6.2	1.9	3.0	1.9	25	5.4	4.4
15...	1070	8.1	100	4.8	1.4	3.2	3.3	18	5.4	2.7
SEP.										
01...	378	10	20	6.1	2.0	4.0	2.0	29	4.0	3.7
15...	318	8.3	20	6.2	2.0	4.0	1.9	30	4.6	4.2

RAPPAHANNOCK RIVER BASIN

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01668000 RAPPAHANNOCK RIVER NEAR FREDERICKSBURG, VA.--Continued

EXTREMES.--1971-72:

Specific conductance: Maximum daily, 100 micromhos July 22; minimum daily, 48 micromhos June 22.
Water temperatures: Maximum, 28.5°C July 24; minimum, freezing point on Jan. 17, 18, Feb. 10.

Period of record:

Specific conductance (1955-56, 1968-72): Maximum daily, 188 micromhos Jan. 1, 1970; minimum daily, 31 micromhos Jan. 19, 1969.
Water temperatures: Maximum, 32.0°C June 28, 1969; minimum, freezing point on many days during December to January of most years.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA, MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	COLOR (PLATINUM-COBALT UNITS)
OCT.									
01...	.1	.20	.000	46	20	0	60	7.1	5
15...	.1	.70	.000	55	24	4	74	6.8	10
NOV.									
01...	.1	.60	.000	56	26	8	66	6.7	3
15...	.1	.70	.000	51	22	2	66	7.0	7
DEC.									
01...	.1	.70	.000	59	26	10	75	6.4	45
15...	.1	.50	.000	52	22	4	70	6.9	5
31...	.1	.50	.000	49	23	4	72	7.1	7
JAN.									
15...	.1	.40	.000	53	24	3	74	7.0	5
FEB.									
01...	.1	.40	.000	50	22	2	68	6.9	0
15...	.1	1.0	.006	53	19	8	64	6.5	30
MAR.									
01...	.1	.80	.006	51	21	8	65	6.9	15
15...	.1	.60	.003	54	20	4	63	6.6	15
APR.									
01...	.1	.40	.016	44	20	2	61	6.9	10
15...	.1	.60	.010	61	24	6	73	6.9	30
MAY									
01...	.1	.40	.000	48	18	2	57	6.8	10
15...	.1	.30	.000	47	19	2	63	6.6	5
JUNE									
01...	.1	.80	.013	65	20	2	64	6.6	7
15...	.1	.30	.003	54	22	0	70	6.8	7
JULY									
01...	.1	.50	.003	46	18	4	63	6.9	30
15...	.1	.60	.000	48	19	0	66	7.0	12
AUG.									
01...	.1	.70	.006	55	24	3	73	6.9	23
15...	.1	.60	.006	51	18	3	57	6.6	35
SEP.									
01...	.1	.10	.000	50	23	0	69	7.2	17
15...	.1	.02	.000	47	24	0	69	6.7	10

RAPPAHANNOCK RIVER BASIN

01668000 RAPPAHANNOCK RIVER NEAR FREDERICKSBURG, VA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	66	75	---	68	65	61	57	64	63	73	69
2	68	67	74	---	68	64	---	59	64	---	74	70
3	---	69	73	64	67	64	65	60	67	65	72	---
4	65	68	72	65	62	65	64	53	---	---	70	---
5	60	77	75	72	70	---	63	64	66	67	64	70
6	63	76	---	92	---	64	61	61	66	65	---	68
7	60	---	73	90	69	63	62	---	67	68	70	69
8	61	71	79	77	67	62	64	58	70	69	71	70
9	62	69	76	---	68	62	---	57	66	---	71	68
10	---	68	75	72	65	63	74	61	68	70	71	---
11	72	66	72	71	67	63	71	63	---	92	71	67
12	74	67	---	80	66	---	68	60	68	90	69	68
13	80	68	72	77	---	62	66	59	71	82	---	69
14	75	---	71	78	63	63	65	---	72	90	63	68
15	74	66	70	74	64	63	73	63	70	66	57	69
16	73	65	72	---	63	67	---	66	69	94	63	68
17	---	64	69	75	63	66	62	69	67	98	65	---
18	72	66	70	75	62	76	65	68	---	96	65	69
19	72	64	---	75	68	---	62	67	68	94	69	68
20	73	65	69	71	68	68	63	---	77	77	---	77
21	74	---	68	66	72	65	59	---	84	92	67	77
22	73	67	70	66	71	66	60	63	48	100	68	80
23	72	68	68	---	76	64	---	69	52	---	71	77
24	---	69	71	68	78	63	63	67	67	70	70	---
25	68	---	---	70	69	61	60	66	---	73	69	78
26	80	78	---	78	78	---	59	65	66	74	---	78
27	66	80	---	73	---	59	58	65	75	72	---	76
28	60	---	---	69	67	57	59	---	67	73	69	76
29	61	88	---	68	66	58	57	61	61	75	69	78
30	66	79	---	---	---	60	---	63	71	---	70	82
31	---	---	72	69	---	60	---	63	---	71	69	---
MONTH	69	70	---	73	68	63	63	63	67	79	68	72

01668000 RAPPAHANNOCK RIVER NEAR FREDERICKSBURG, VA.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	18.0	5.0	---	2.0	7.0	9.5	15.0	18.0	19.0	21.5	25.0
2	21.0	18.0	5.0	---	3.0	10.0	---	17.0	18.0	---	22.5	24.5
3	---	20.0	4.0	4.5	3.0	12.0	9.0	18.0	18.5	21.0	23.5	---
4	20.0	16.0	3.0	5.0	1.0	9.0	10.0	17.0	---	---	23.0	---
5	20.0	13.0	3.0	5.0	1.0	---	9.0	15.5	21.5	22.0	23.0	22.0
6	20.0	12.0	---	3.0	---	5.0	10.5	15.0	21.5	19.5	---	20.5
7	19.0	---	5.0	2.5	2.0	6.0	13.0	---	20.5	18.5	23.0	20.5
8	17.0	9.0	7.0	2.0	1.0	8.0	8.0	18.0	20.0	19.0	23.5	21.5
9	16.0	8.0	8.0	---	1.0	6.0	---	17.0	21.0	---	24.0	22.5
10	---	8.0	8.5	3.0	0.0	6.0	7.0	15.0	22.0	---	23.0	---
11	14.0	8.0	9.5	5.0	1.0	5.0	9.0	14.5	---	22.5	22.5	21.0
12	14.0	7.0	---	6.0	1.0	---	10.5	15.0	19.0	24.0	22.5	20.5
13	15.0	9.0	10.0	7.5	---	7.5	12.5	16.0	19.5	22.0	---	22.0
14	25.0	---	8.5	6.5	4.0	8.5	13.0	---	20.5	24.0	22.5	23.0
15	25.0	9.0	9.0	6.0	4.5	8.0	14.0	16.0	26.5	24.5	24.0	23.0
16	26.0	10.0	11.0	---	5.0	8.5	---	16.5	22.0	26.0	21.5	23.0
17	---	9.0	11.5	0.0	5.0	10.0	16.0	17.0	23.0	26.5	22.0	---
18	16.0	9.0	8.0	0.0	4.5	9.0	16.0	17.0	---	27.0	22.0	24.0
19	15.0	10.0	---	1.0	3.0	---	16.0	18.0	23.0	26.0	23.0	24.0
20	16.0	10.0	5.5	2.0	2.0	8.0	18.0	16.0	23.0	27.0	---	23.0
21	16.0	---	7.0	4.5	1.0	8.0	16.0	---	22.5	27.5	23.0	21.0
22	16.0	6.0	5.0	4.5	2.0	10.5	14.5	16.0	19.0	28.0	23.0	19.0
23	17.0	5.0	4.5	---	2.5	10.0	---	17.0	18.0	---	24.0	19.5
24	---	5.0	5.0	6.0	3.0	9.0	13.0	17.0	15.0	28.5	25.0	---
25	17.0	---	---	8.0	4.0	7.5	13.0	18.0	---	28.0	26.0	20.0
26	18.0	3.0	---	6.0	5.0	---	11.5	16.0	16.5	27.0	---	21.0
27	17.0	4.0	---	5.0	---	7.0	12.0	16.0	18.0	27.0	---	23.0
28	16.0	---	---	4.5	4.0	7.0	12.0	---	19.0	26.0	27.0	22.5
29	16.0	5.0	---	4.0	5.5	8.0	13.0	17.0	19.0	25.0	26.5	21.5
30	16.0	6.0	---	---	---	9.0	---	18.0	19.5	---	25.0	21.0
31	---	---	6.0	2.0	---	9.5	---	19.5	---	21.0	25.0	---
MONTH	18.0	9.5	---	4.0	2.5	8.0	12.0	16.5	20.0	24.5	23.5	22.0

YORK RIVER BASIN

01673000 PAMUNKEY RIVER NEAR HANOVER, VA.

LOCATION.--Lat 37°46'03", long 77°19'57", Hanover-King William County line, at gaging station near center of span on downstream side of bridge on State Highway 614, 0.3 mile upstream from Mechumps Creek, 2.0 miles east of Hanover, and 7.0 miles upstream from Millpond Creek.

DRAINAGE AREA.--1,081 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1945 to September 1946, October 1951 to September 1952, February 1967 to September 1972.

Water temperatures: October 1945 to September 1946, April 1968 to September 1972.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT.										
01...	233	16	120	5.8	3.1	5.0	2.9	30	11	4.4
15...	978	15	230	5.1	2.8	4.2	3.1	21	10	4.7
NOV.										
01...	1710	16	480	5.4	2.8	4.6	1.8	25	8.4	5.9
15...	728	12	120	4.4	2.4	4.0	1.8	17	8.8	5.4
DEC.										
01...	2410	14	240	4.6	2.1	5.2	1.4	19	6.0	5.0
15...	1050	16	310	4.9	2.4	4.8	1.7	23	9.0	5.4
JAN.										
01...	702	14	320	4.6	2.2	4.2	1.5	22	8.6	3.8
15...	2020	15	170	4.1	2.1	4.0	1.8	21	9.0	3.2
FEB.										
01...	695	12	130	4.0	2.2	3.6	1.8	16	10	3.6
15...	3470	11	60	4.2	2.0	3.7	2.2	14	10	5.1
MAR.										
01...	1940	11	140	4.1	2.0	3.6	1.6	19	8.0	4.0
15...	968	12	200	4.2	2.0	4.3	1.5	20	8.0	3.1
APR.										
01...	910	12	120	4.3	2.2	4.6	2.1	21	7.4	3.5
15...	895	12	130	4.5	2.1	3.7	2.1	24	7.2	3.8
MAY										
01...	842	13	200	4.4	2.3	3.3	1.6	22	6.6	3.4
15...	1710	11	230	4.5	1.9	3.6	1.6	18	7.4	3.2
JUNE										
01...	1560	12	260	5.4	2.6	4.2	1.8	25	6.8	3.1
15...	540	11	210	5.6	2.8	4.3	2.0	27	6.4	3.8
JULY										
01...	1730	15	210	4.9	2.6	4.0	2.1	24	6.4	4.0
15...	4220	11	320	5.7	2.5	3.8	3.0	27	5.6	3.7
AUG.										
01...	1260	13	380	5.1	2.0	2.8	2.1	23	6.4	2.8
15...	1330	12	330	5.8	2.2	4.1	2.8	28	4.6	3.2
SEP.										
01...	263	14	370	6.4	2.6	4.8	2.6	36	4.6	4.4
15...	233	14	310	5.2	2.2	5.1	2.3	30	6.2	3.7

YORK RIVER BASIN

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01673000 PAMUNKEY RIVER NEAR HANOVER, VA.--Continued

EXTREMES.--1971-72:

Specific conductance: Maximum daily, 92 micromhos Oct. 1; minimum daily, 56 micromhos May 10, 12-14.
 Water temperatures: Maximum, 27.0°C July 15-18; minimum, 1.0°C on several days during February.

Period of record:

Specific conductance (1968-72): Maximum daily, 142 micromhos Sept. 27-30, Oct. 1, 2, 1970; minimum daily, 53 micromhos Aug. 5, 1969, Mar. 30, 1970, Jan. 30, 1971.
 Water temperatures: Maximum, 28.0°C Aug. 10, 24, 1968; minimum, freezing point on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOS- PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON-CAR- BONATE HARD- NESS (MG/L)	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)	COLOR (PLAT- INUM- COBALT UNITS)
OCT.									
01...	.1	.30	.000	62	27	2	92	6.7	10
15...	.1	.20	.010	61	24	7	78	6.6	35
NOV.									
01...	.1	.20	.000	57	25	4	71	6.7	20
15...	.2	.18	.042	64	21	7	65	6.5	30
DEC.									
01...	.1	.20	.110	58	20	4	61	6.8	27
15...	.1	.30	.000	60	22	3	69	6.7	33
JAN.									
01...	.1	.20	.000	57	20	2	65	6.9	40
15...	.1	.30	.000	57	18	2	67	6.8	30
FEB.									
01...	.1	.20	.006	54	19	6	62	6.7	30
15...	.1	.20	.003	53	18	7	59	6.6	35
MAR.									
01...	.1	.20	.006	55	18	2	61	6.8	25
15...	.1	.20	.006	55	18	2	75	6.7	35
APR.									
01...	.1	.20	.010	55	20	2	64	6.9	30
15...	.1	.10	.006	60	20	0	65	6.6	7
MAY									
01...	.1	.10	.003	59	20	2	58	6.6	45
15...	.1	.20	.140	60	19	4	57	6.4	45
JUNE									
01...	.1	.40	.006	60	24	4	71	6.8	27
15...	.1	.40	.006	61	26	4	79	6.8	35
JULY									
01...	.1	.30	.006	62	22	3	76	6.6	40
15...	.1	1.0	.013	66	24	2	80	6.4	25
AUG.									
01...	.2	.40	.020	60	20	2	62	6.6	110
15...	.1	.70	.013	63	24	0	70	6.9	60
SEP.									
01...	.4	.50	.020	65	26	0	82	6.8	45
15...	.1	.20	.200	62	22	0	72	6.7	50

YORK RIVER BASIN

01673000 PAMUNKEY RIVER NEAR HANOVER, VA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	71	61	65	62	61	64	58	71	76	62	82
2	65	72	---	64	61	60	---	60	72	74	63	77
3	66	71	61	65	60	60	65	60	73	74	64	74
4	65	72	63	66	62	60	66	59	75	73	63	75
5	64	74	61	65	60	60	67	59	75	71	61	75
6	63	75	62	65	61	58	65	57	77	69	61	74
7	64	76	63	67	62	68	68	58	76	73	61	76
8	65	75	61	68	67	70	68	58	78	74	64	72
9	64	78	65	67	66	76	67	59	79	79	63	75
10	65	66	66	66	66	72	66	56	78	79	69	77
11	66	68	68	66	67	74	68	57	78	80	68	76
12	65	67	69	67	57	74	64	56	80	73	68	75
13	77	65	68	66	59	79	63	56	80	73	69	77
14	76	67	69	66	58	74	64	56	80	73	69	77
15	78	65	69	67	59	75	65	57	79	80	70	72
16	68	66	68	69	57	75	64	58	79	77	69	73
17	69	64	71	68	57	70	63	58	80	69	69	74
18	67	63	70	69	58	77	63	62	80	70	68	75
19	70	63	68	69	57	61	64	63	79	71	68	72
20	71	64	69	64	58	61	68	63	73	73	70	72
21	68	61	68	63	58	60	68	64	83	74	71	73
22	65	62	69	64	58	62	68	63	76	74	77	74
23	66	61	68	64	58	61	65	74	75	77	77	72
24	67	63	70	65	57	60	64	73	75	77	76	72
25	68	64	71	65	59	61	57	72	76	70	77	73
26	67	62	70	64	60	61	57	73	75	68	82	73
27	69	63	69	65	59	60	57	76	75	69	82	74
28	74	61	68	67	60	59	60	78	78	69	80	77
29	75	64	69	65	60	60	59	77	77	60	74	75
30	70	61	66	63	---	61	57	71	77	61	75	76
31	72	---	64	64	---	64	---	72	---	63	76	---
MONTH	69	67	67	66	60	66	64	63	77	72	70	75

YORK RIVER BASIN

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01673000 PAMUNKEY RIVER NEAR HANOVER, VA.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	18.0	5.0	6.0	3.5	13.0	9.0	18.0	19.5	22.0	24.0	22.0
2	19.0	18.0	5.0	6.0	3.5	13.0	9.5	18.0	20.0	23.0	24.5	22.0
3	20.0	19.0	5.0	6.0	3.0	13.0	9.5	17.5	20.0	23.0	24.5	21.0
4	18.0	16.5	6.0	7.0	2.0	12.5	9.5	17.0	20.0	23.0	24.0	21.0
5	17.5	16.0	7.0	8.0	1.0	12.5	10.0	17.0	20.0	23.0	24.0	21.5
6	17.5	---	9.0	8.0	1.0	12.0	11.0	17.0	20.0	23.0	24.0	22.0
7	17.0	16.0	9.5	9.0	1.0	11.5	11.0	17.0	20.0	23.0	24.0	22.0
8	17.0	16.0	8.5	9.0	1.0	11.0	12.0	17.0	20.0	23.0	24.5	22.0
9	16.0	15.5	9.0	9.0	1.0	10.0	13.0	17.0	20.0	23.0	24.5	22.0
10	16.0	15.0	9.0	9.0	1.0	10.0	14.0	17.5	21.0	23.0	24.0	22.0
11	16.0	14.0	9.0	9.0	1.0	10.0	14.0	17.0	21.0	24.0	24.0	23.0
12	16.0	14.0	9.0	9.0	1.0	10.0	14.0	17.0	21.0	24.0	24.0	23.0
13	16.0	14.0	9.0	9.0	1.0	10.0	16.0	17.5	21.0	25.0	23.5	23.0
14	16.0	14.0	9.0	8.0	1.0	10.0	17.0	18.0	22.5	25.5	23.5	23.0
15	16.5	14.0	9.0	6.0	1.5	10.0	17.0	18.0	22.5	27.0	23.5	23.0
16	16.5	13.0	9.0	6.0	2.0	10.0	18.5	18.0	22.5	27.0	23.5	22.0
17	16.5	11.0	9.0	5.0	2.5	10.0	18.5	18.0	23.0	27.0	23.5	22.0
18	17.0	9.0	9.0	5.0	3.0	10.0	18.5	18.0	23.0	27.0	24.0	22.0
19	17.0	8.5	9.0	5.0	3.5	10.0	19.0	18.0	23.0	26.0	24.0	20.5
20	17.0	8.0	9.0	5.0	4.0	10.0	19.0	18.0	23.0	23.0	24.0	20.0
21	17.0	8.0	9.0	5.0	4.0	10.0	19.0	18.0	23.0	25.0	24.0	19.0
22	18.0	8.0	9.0	5.0	5.0	10.0	19.5	18.0	23.0	25.0	24.0	19.0
23	18.0	7.5	8.5	5.0	6.0	9.5	19.5	18.0	22.0	24.5	24.0	19.0
24	18.0	6.0	8.5	5.0	6.5	9.5	19.5	18.5	22.0	24.5	24.0	18.0
25	18.0	6.0	8.0	5.0	6.5	9.5	19.5	18.0	22.0	24.0	24.0	18.0
26	18.5	6.0	8.0	5.0	7.0	9.0	19.0	18.5	22.0	24.0	23.0	18.0
27	19.0	6.0	8.0	4.0	8.0	9.0	19.0	18.0	22.0	24.0	23.0	18.0
28	20.0	5.5	8.0	4.0	10.0	9.0	18.0	18.0	22.5	24.0	23.0	18.0
29	20.0	5.0	8.0	3.5	12.0	9.0	18.5	18.0	22.0	24.0	23.0	18.5
30	19.0	5.0	7.0	3.5	---	9.0	17.5	19.5	21.0	24.0	22.5	18.5
31	18.5	---	6.0	3.5	---	9.0	---	19.5	---	24.0	22.0	---
MONTH	17.5	11.5	8.0	6.0	3.5	10.5	15.5	18.0	21.5	24.0	23.5	21.0

SOUTH ATLANTIC SLOPE BASINS

JAMES RIVER BASIN

02012500 JACKSON RIVER AT FALLING SPRING, VA.

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

DRAINAGE AREA.--411 sq mi.

PERIOD OF RECORD.--Chemical analyses: April 1929 to March 1930, October 1947 to September 1948, November 1967 to September 1972.

Water temperatures: December 1968 to September 1972.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT.										
01...	281	6.1	20	32	5.0	2.2	2.2	100	20	2.6
15...	150	4.7	0	35	5.8	2.3	2.5	112	25	2.4
NOV.										
01...	283	5.6	20	32	4.4	1.9	1.8	99	19	3.2
08...	285	9.8	0	62	10	2.2	4.9	138	83	3.7
09...	258	7.8	20	60	9.8	3.2	5.7	138	85	5.4
10...	240	7.2	0	56	8.6	2.2	4.1	128	68	3.8
DEC.										
01...	842	5.3	20	18	2.4	2.0	1.3	52	12	3.6
15...	436	5.1	50	25	3.4	2.0	1.3	74	15	1.9
JAN.										
01...	236	3.5	0	29	4.1	2.1	1.7	83	21	4.6
16...	430	4.2	0	20	3.0	1.4	1.2	64	15	1.6
FEB.										
01...	577	4.4	0	21	3.1	1.7	1.1	58	14	1.8
15...	1090	4.9	0	16	2.6	1.9	1.2	47	13	3.4
MAR.										
01...	2080	4.1	0	14	2.0	1.4	1.0	45	9.8	2.2
15...	440	4.4	0	24	3.4	1.9	1.4	77	15	2.6
APR.										
01...	372	4.6	0	23	3.6	2.0	1.3	74	17	3.0
15...	1510	5.0	0	14	2.0	1.8	1.0	43	9.2	1.6
MAY										
01...	501	4.7	20	20	3.5	1.4	1.3	72	13	2.0
15...	667	4.3	130	20	3.0	1.2	1.2	68	11	1.9
JUNE										
01...	355	5.3	0	27	3.6	1.8	1.5	85	16	1.4
15...	231	5.3	10	32	4.7	2.3	2.1	102	21	2.8
JULY										
01...	590	5.2	0	23	3.5	1.7	1.4	77	13	1.5
14...	401	3.7	0	29	3.8	1.6	1.4	89	16	2.2
AUG.										
01...	1150	6.7	20	22	2.8	1.7	1.4	67	12	1.8
14...	367	5.1	20	30	4.0	2.2	1.8	94	16	3.3
SEP.										
01...	154	6.2	20	37	5.2	2.0	2.0	109	27	2.2
15...	119	6.6	0	41	5.8	2.0	2.3	115	33	2.2

JAMES RIVER BASIN

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02012500 JACKSON RIVER AT FALLING SPRING, VA.--Continued

EXTREMES.--1971-72:

Specific conductance: Maximum daily, 370 micromhos Nov. 8, 9; minimum daily, 89 micromhos July 5.
 Water temperatures: Maximum, 26.5°C July 25; minimum, 2.5°C Jan. 16.

Period of record:

Specific conductance (1968-72): Maximum daily, 500 micromhos Oct. 2, 1970; minimum daily, 77 micromhos Dec. 31, 1969.

Water temperatures: Maximum, 29.0°C Aug. 13, 14, 1970; minimum, freezing point on several days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOS- PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	HARD- NESS (CA,MG) (MG/L)	NON-CAR- BONATE HARD- NESS (MG/L)	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)	COLOR (PLAT- INUM- COBALT UNITS)
CCT.									
01...	.1	.10	.000	124	100	18	215	7.7	2
15...	.1	.00	.000	139	110	20	250	8.0	5
NOV.									
01...	.1	.10	.000	118	98	17	200	7.9	5
08...	.4	.30	.000	253	200	82	370	7.8	0
09...	.4	.30	.000	248	190	77	370	7.6	3
10...	.3	.20	.000	218	180	70	345	7.6	7
DEC.									
01...	.1	.29	.000	80	55	12	124	7.5	7
15...	.1	.30	.000	92	76	16	155	7.5	3
JAN.									
01...	.1	.07	.000	108	90	22	180	7.8	5
16...	.1	.10	.000	81	62	10	132	7.8	5
FEB.									
01...	.1	.20	.000	75	65	18	126	7.7	5
15...	.1	.40	.000	69	50	12	108	7.5	7
MAR.									
01...	.1	.40	.003	62	43	6	98	7.7	5
15...	.1	.30	.000	96	74	11	165	7.7	5
APR.									
01...	.1	.04	.003	90	72	12	165	7.7	5
15...	.1	.20	.006	63	43	8	93	7.4	20
MAY									
01...	.1	.09	.000	92	64	6	140	7.4	2
15...	.1	.02	.000	82	62	7	132	7.5	10
JUNE									
01...	.1	.04	.003	108	82	13	185	7.5	0
15...	.1	.04	.006	130	100	16	225	7.5	0
JULY									
01...	.1	.20	.000	96	72	9	170	7.5	10
14...	.1	.09	.003	105	88	15	190	7.8	0
AUG.									
01...	.1	.30	.000	88	66	12	142	7.4	17
14...	.1	.09	.000	113	91	14	192	7.5	15
SEP.									
01...	.2	.07	.006	143	110	24	230	7.8	15
15...	.2	.00	.000	154	130	32	250	7.8	10

JAMES RIVER BASIN

02012500 JACKSON RIVER AT FALLING SPRING, VA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	215	200	124	180	126	98	165	140	185	170	142	230
2	225	205	134	---	128	99	---	---	---	175	158	235
3	---	---	140	148	---	95	170	129	200	185	---	240
4	225	160	146	130	122	99	175	102	---	188	175	235
5	235	161	148	108	138	---	180	96	205	89	155	225
6	230	---	155	102	---	120	183	104	---	108	---	235
7	235	170	128	106	136	126	180	114	---	126	170	230
8	250	370	90	---	142	130	112	120	220	140	---	245
9	260	370	106	---	155	138	100	102	220	157	---	---
10	261	345	280	144	155	142	114	110	220	160	190	245
11	260	185	126	122	---	150	120	116	---	170	205	250
12	270	195	---	120	---	152	128	120	225	178	---	250
13	275	197	140	---	124	168	130	122	230	---	---	245
14	260	---	150	126	100	167	---	128	220	190	192	249
15	250	205	155	---	108	165	93	132	225	---	---	250
16	270	210	156	132	---	167	99	116	215	185	---	245
17	250	215	163	136	118	167	101	112	215	190	---	245
18	255	220	158	136	122	160	108	138	205	193	195	260
19	254	---	167	142	128	160	110	140	210	205	195	265
20	230	219	173	---	132	165	116	142	207	---	---	270
21	240	220	157	140	142	167	126	---	112	---	---	270
22	260	215	150	132	144	---	90	150	108	200	210	270
23	255	220	---	128	---	112	92	132	124	193	220	265
24	280	---	149	110	106	116	100	---	---	205	195	---
25	220	---	---	102	92	---	106	140	150	215	210	280
26	166	---	156	106	94	130	---	155	---	215	200	273
27	165	225	158	---	92	136	109	160	170	220	190	275
28	---	215	---	112	108	142	124	167	170	---	205	273
29	180	---	180	108	108	150	130	179	165	100	220	270
30	200	126	179	---	---	155	136	182	170	112	215	---
31	195	---	---	114	---	159	---	177	---	---	225	---
MONTH	237	---	153	---	123	141	126	133	---	171	---	253

JAMES RIVER BASIN

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02012500 JACKSON RIVER AT FALLING SPRING, VA.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.5	18.5	8.0	9.0	11.0	11.0	10.5	17.5	19.0	21.0	20.0	22.0
2	22.0	19.0	6.0	---	6.0	12.0	---	---	---	21.0	20.5	23.0
3	---	---	5.0	7.0	---	11.5	12.0	17.0	21.0	21.0	---	23.5
4	22.5	14.0	6.0	9.5	5.0	9.0	10.5	---	---	21.5	22.5	21.0
5	22.0	12.0	6.0	8.0	5.5	---	13.0	16.0	24.0	18.0	23.0	20.5
6	21.0	---	8.0	7.0	---	8.0	13.5	18.0	---	16.0	---	20.0
7	19.0	14.0	10.0	8.0	5.5	9.0	14.5	16.0	---	18.0	23.0	21.0
8	19.0	11.0	12.0	---	6.0	10.0	9.0	16.0	23.5	19.0	---	22.0
9	17.5	11.0	11.0	---	7.0	10.0	9.5	14.5	19.5	19.0	---	---
10	17.0	9.5	14.0	8.0	7.0	9.0	11.0	16.0	22.0	21.0	22.5	22.0
11	17.0	11.0	14.0	9.0	---	9.5	11.5	19.0	---	22.0	20.0	20.0
12	17.0	13.0	---	10.0	---	11.0	12.0	21.0	22.0	21.5	---	21.0
13	19.0	14.0	14.0	---	7.0	11.0	15.0	18.5	23.0	---	---	22.0
14	19.0	---	13.0	12.0	7.0	11.0	---	17.0	22.0	23.0	23.5	23.0
15	19.0	14.0	13.0	---	6.0	12.0	16.0	18.5	23.0	---	---	23.0
16	18.0	13.0	13.0	2.5	---	11.0	15.0	18.0	22.0	22.0	---	23.0
17	19.0	13.5	11.0	4.0	7.0	11.0	15.0	16.5	21.0	23.5	---	22.5
18	18.5	13.5	7.0	5.0	7.0	11.0	15.5	16.5	20.5	24.0	25.5	23.5
19	18.0	---	8.0	6.0	9.0	12.0	15.5	16.0	22.0	26.0	23.5	22.5
20	18.0	10.0	8.0	---	5.0	12.0	16.0	16.5	21.0	---	---	22.5
21	18.0	9.0	8.0	12.0	5.5	13.5	14.0	---	16.5	---	---	22.0
22	18.0	8.0	12.0	11.0	6.0	---	15.5	18.5	14.0	25.5	24.0	20.0
23	17.5	8.0	---	9.0	---	11.5	14.0	17.5	14.5	25.5	23.5	20.5
24	18.0	---	8.0	10.0	6.5	11.5	14.5	---	---	25.5	25.5	---
25	18.0	---	---	10.0	7.0	---	14.0	19.0	16.0	26.5	25.5	23.0
26	18.0	---	12.0	8.5	8.0	8.5	---	19.5	---	25.5	25.0	23.0
27	18.5	7.0	12.0	---	9.0	10.0	16.0	18.5	18.0	23.0	25.0	21.5
28	---	7.0	---	9.0	10.0	10.5	15.5	20.0	18.5	---	23.5	23.0
29	18.0	---	11.0	7.5	12.0	11.0	16.0	20.5	21.0	18.5	23.0	20.5
30	18.0	8.0	10.0	---	---	12.0	16.0	21.5	18.0	18.5	23.0	---
31	17.5	---	---	10.0	---	11.0	---	20.5	---	---	23.0	---
MONTH	18.5	---	10.0	---	7.0	10.5	13.5	18.0	---	22.0	---	22.0

JAMES RIVER BASIN

02019500 JAMES RIVER AT BUCHANAN, VA.

LOCATION.--Lat 37°31'50", long 79°40'45", Botetourt County, at gaging station on left bank at Chesapeake & Ohio Railway station at Buchanan, 300 ft upstream from bridge on U.S. Highway 11, 1,000 ft upstream from Purgatory Creek, 1.5 miles downstream from Looney Creek, and at mile 306.4 (revised).

DRAINAGE AREA.--2,075 sq mi.

PERIOD OF RECORD.--Chemical analyses: April 1929 to March 1930, October 1947 to September 1948, October 1951 to September 1956, February 1967 to September 1972.

Water temperatures: October 1947 to September 1948, May 1951 to September 1956, April 1968 to September 1972.

Sediment records: May 1951 to September 1956.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT.										
01...	1020	5.8	40	37	5.8	28	3.4	109	41	29
15...	584	5.0	60	38	6.8	41	5.8	129	47	43
NOV.										
01...	1710	6.0	20	26	4.3	11	1.9	80	22	14
15...	960	4.2	60	33	5.2	22	2.8	98	34	22
DEC.										
01...	5070	5.6	60	20	2.2	6.3	1.8	58	18	7.8
15...	2040	5.2	50	22	3.6	11	1.7	68	16	14
JAN.										
01...	1070	4.5	40	31	5.1	15	2.0	88	27	21
15...	2410	4.8	40	20	3.2	9.5	1.5	61	20	14
FEB.										
01...	3290	5.9	20	17	2.8	6.3	1.2	53	15	8.5
15...	7810	5.4	20	14	3.2	3.4	1.3	41	12	4.9
MAR.										
01...	7670	4.8	20	16	2.8	4.3	1.2	49	13	5.6
15...	1880	4.5	40	26	4.6	15	2.0	86	24	18
APR.										
01...	1820	5.5	0	23	4.0	11	1.7	75	20	12
15...	6380	4.6	0	20	3.0	7.8	1.4	60	19	9.7
MAY										
01...	2240	7.8	20	20	3.8	9.3	1.8	70	19	12
15...	5150	4.6	10	20	3.8	6.8	1.8	66	16	10
JUNE										
01...	1730	5.2	20	25	5.1	12	2.0	90	24	14
15...	1380	4.0	50	38	6.5	26	3.2	118	42	33
JULY										
01...	3850	7.0	0	24	5.4	6.5	1.4	90	19	5.1
15...	1850	2.6	0	32	7.0	10	2.0	110	23	14
AUG.										
01...	7000	6.2	50	17	3.3	4.0	1.6	55	14	3.4
15...	1210	5.2	40	40	7.2	16	2.6	120	32	21
SEP.										
01...	734	5.1	40	43	8.1	28	3.2	138	40	35
15...	590	4.4	0	48	8.7	36	3.9	142	55	40

JAMES RIVER BASIN

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02019500 JAMES RIVER AT BUCHANAN, VA.--Continued

EXTREMES.--1971-72:

Specific conductance: Maximum daily, 560 micromhos Sept. 30; minimum daily, 88 micromhos Feb. 27.

Water temperatures: Maximum, 27.5°C July 22, 24; minimum, freezing point on Jan. 17, 18.

Period of record:

Specific conductance (1952-56, 1968-72): Maximum daily, 945 micromhos Sept. 27, 1954; minimum daily, 73 micromhos Mar. 25, 1953.

Water temperatures: Maximum, 31.0°C July 5, 1955; minimum, freezing point on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOS- PHORUS (P) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)	COLOR (PLAT- INUM- COBALT UNITS)
OCT.									
01...	.2	.10	.020	220	120	27	350	7.4	50
15...	.2	.10	.090	268	120	18	440	7.5	70
NOV.									
01...	.1	.10	.000	130	82	17	210	7.7	23
15...	.2	.04	.000	185	100	24	310	7.3	25
DEC.									
01...	.1	.16	.049	102	59	12	160	7.1	30
15...	.1	.20	.000	115	70	14	185	7.4	33
JAN.									
01...	.2	.20	.009	159	98	27	270	7.4	30
15...	.1	.04	.000	106	63	13	181	7.3	15
FEB.									
01...	.1	.09	.000	84	54	10	140	7.2	7
15...	.1	.20	.000	70	48	14	108	7.2	15
MAR.									
01...	.1	.40	.003	79	52	12	124	7.4	10
15...	.2	.30	.003	144	84	14	240	7.5	25
APR.									
01...	.2	.04	.059	121	74	12	200	7.7	30
15...	.1	.10	.010	105	63	14	170	7.2	25
MAY									
01...	.1	.04	.000	116	66	8	180	7.2	7
15...	.1	.07	.000	109	66	12	160	7.2	30
JUNE									
01...	.1	.04	.000	140	84	10	259	7.4	10
15...	.2	.10	.013	228	120	25	400	7.4	27
JULY									
01...	.1	.30	.000	118	82	8	225	7.4	10
15...	.2	.10	.000	152	110	19	310	7.8	12
AUG.									
01...	.1	.10	.003	92	56	11	146	7.0	15
15...	.2	.30	.003	186	130	31	330	7.5	25
SEP.									
01...	.2	.04	.010	240	140	28	400	7.6	45
15...	.3	.10	.150	284	160	40	450	7.4	50

JAMES RIVER BASIN

02019500 JAMES RIVER AT BUCHANAN, VA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	350	210	160	270	140	124	200	180	259	225	146	400
2	340	225	148	290	155	132	210	175	258	227	169	430
3	320	235	150	280	170	132	215	200	250	250	170	420
4	330	229	180	288	165	134	218	200	290	270	190	410
5	280	225	185	270	144	136	240	136	291	258	225	430
6	290	220	210	215	146	144	240	120	280	125	210	415
7	310	210	205	150	165	150	260	130	330	144	240	480
8	330	211	225	155	170	173	265	140	340	180	240	440
9	350	230	104	160	165	163	138	149	360	195	250	420
10	370	235	118	165	180	180	138	144	370	230	299	330
11	380	240	130	170	185	200	142	124	370	250	280	370
12	390	261	148	160	195	210	149	132	399	270	290	400
13	400	280	158	175	220	225	167	140	430	282	300	440
14	430	289	160	180	130	235	185	155	410	300	330	430
15	440	310	185	181	108	240	170	160	410	310	330	450
16	470	290	195	189	126	249	126	138	370	300	350	480
17	430	310	210	190	129	245	126	132	360	330	360	490
18	400	305	205	201	138	240	138	140	360	340	340	480
19	460	310	210	195	148	230	136	146	320	340	340	490
20	460	360	215	215	163	245	150	160	260	360	350	500
21	470	370	225	200	160	230	165	157	195	370	340	460
22	430	380	245	185	184	253	173	168	98	340	370	430
23	430	370	235	147	190	205	114	189	140	350	360	500
24	320	380	230	148	160	148	106	185	155	365	350	510
25	270	360	235	146	165	140	122	165	180	320	370	550
26	155	340	243	140	100	150	134	179	199	310	390	540
27	130	330	195	150	88	155	142	199	205	330	400	520
28	144	340	185	146	100	167	146	210	220	360	390	520
29	160	350	200	148	114	178	165	230	229	370	420	560
30	185	280	240	134	---	187	165	240	205	146	400	560
31	205	---	260	138	---	196	---	255	---	116	380	---
MONTH	336	290	193	186	152	187	168	167	285	276	309	460

JAMES RIVER BASIN

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02019500 JAMES RIVER AT BUCHANAN, VA.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.5	17.5	5.0	6.5	3.5	9.0	10.5	15.0	18.5	20.0	19.0	22.5
2	21.0	17.5	4.5	6.0	3.5	10.5	9.5	16.5	18.0	22.0	20.0	21.5
3	21.0	18.5	3.0	6.0	3.5	10.5	8.0	17.0	20.0	21.0	21.0	22.5
4	20.5	15.0	2.5	5.0	2.5	8.0	10.0	16.0	21.5	22.0	21.5	22.5
5	22.0	13.5	4.5	5.0	2.0	7.5	9.5	14.5	22.0	20.0	22.5	21.0
6	20.5	11.5	4.0	4.0	---	5.5	10.0	16.0	22.0	---	22.5	20.0
7	19.0	10.5	5.5	3.0	2.0	5.0	12.0	16.0	21.0	15.5	22.0	19.5
8	15.0	8.0	7.5	3.5	1.0	7.0	10.5	17.0	20.0	19.0	22.5	20.0
9	15.5	7.5	9.0	3.0	1.5	6.0	9.0	16.0	21.0	19.5	22.5	22.0
10	15.0	7.5	9.0	3.0	1.5	5.0	9.0	15.0	21.0	20.0	20.0	21.5
11	14.5	6.5	10.0	5.0	2.5	6.0	9.0	15.0	20.5	20.0	21.0	19.5
12	14.5	7.5	10.0	5.5	3.5	7.0	10.5	14.5	19.0	21.0	22.5	20.5
13	17.0	9.0	---	7.0	4.0	8.0	12.0	16.0	20.0	21.0	22.5	21.5
14	15.5	9.0	9.0	7.5	4.5	10.0	14.0	16.0	22.5	22.0	22.0	21.5
15	14.5	9.5	9.0	6.0	4.5	10.0	15.5	16.0	21.0	23.5	23.0	22.0
16	16.5	10.5	10.0	2.0	5.0	11.0	15.0	15.0	22.5	24.5	22.0	21.5
17	17.0	10.0	10.5	0.0	5.0	11.0	14.0	15.0	22.0	24.0	21.5	22.0
18	15.5	10.0	7.5	0.0	4.0	10.0	14.0	15.5	21.5	25.0	22.0	22.0
19	15.5	10.0	4.5	1.0	3.5	10.0	14.5	15.5	21.0	26.0	23.5	22.0
20	16.5	9.5	5.5	3.5	2.0	9.0	15.0	16.0	21.5	27.0	23.5	21.5
21	16.0	9.0	7.0	4.0	2.0	10.0	16.0	16.5	19.0	27.0	22.5	21.0
22	16.5	6.5	6.0	6.0	3.0	12.0	13.0	17.0	15.5	27.5	22.5	20.0
23	17.0	4.5	---	7.5	3.5	10.5	12.5	17.5	13.5	26.5	23.5	20.0
24	16.5	4.0	4.0	7.5	3.5	7.5	12.5	17.5	14.5	27.5	24.0	20.0
25	16.0	3.5	6.5	8.5	4.5	6.0	12.0	17.5	16.5	26.0	25.5	20.0
26	16.0	2.0	7.5	6.5	6.0	6.0	10.5	17.0	16.5	25.5	25.5	23.5
27	15.5	3.0	8.0	5.0	5.5	6.0	10.5	17.0	17.0	25.0	25.5	21.5
28	15.0	4.0	10.0	4.5	5.0	7.0	11.5	17.5	18.5	25.0	24.5	22.0
29	15.0	5.0	8.5	4.5	7.5	8.0	12.5	18.0	19.0	23.0	24.0	22.0
30	16.0	5.5	8.5	5.0	---	8.5	15.0	19.0	18.5	18.5	23.5	20.0
31	17.0	---	7.5	4.0	---	9.5	---	19.0	---	17.5	23.0	---
MONTH	17.0	9.0	7.0	4.5	3.5	8.5	12.0	16.5	19.5	22.5	22.5	21.0

JAMES RIVER BASIN

02035000 JAMES RIVER AT CARTERSVILLE, VA.

LOCATION.--Lat 37°40'15", long 78°05'10", Goochland County, at gaging station on left bank 200 ft downstream from bridge on State Highway 45 between Pemberton and Cartersville, 1.8 miles downstream from Willis River, and at mile 156.4 (revised).

DRAINAGE AREA.--6,257 sq mi.

PERIOD OF RECORD.--Chemical analyses: April 1929 to March 1930, October 1947 to September 1948, January 1966 to September 1972.

Water temperatures: April 1968 to September 1972.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT.										
01...	2080	10	40	17	3.8	6.8	2.3	58	14	7.3
15...	3400	12	180	12	3.6	6.9	2.6	45	15	7.9
NOV.										
01...	7560	11	150	12	2.8	3.0	1.7	40	12	4.0
16...	4250	13	200	14	3.4	6.0	1.8	52	12	7.0
30...	9830	10	200	9.4	2.4	5.5	1.6	31	9.8	7.6
DEC.										
01...	8400	12	100	10	3.6	6.2	1.6	34	13	8.0
15...	6560	11	40	11	2.5	4.0	1.4	40	9.0	5.6
30...	4200	10	270	13	2.9	5.7	1.5	45	12	7.7
JAN.										
01...	4270	10	100	15	3.4	7.5	1.6	50	14	9.4
15...	8620	10	20	7.6	2.5	4.1	1.6	29	10	3.2
31...	8540	8.5	130	12	2.7	5.0	1.4	42	13	5.7
FEB.										
01...	7660	9.2	60	14	3.1	6.4	1.6	49	10	5.9
15...	29900	6.8	20	13	3.2	4.8	2.0	48	14	5.2
MAR.										
01...	21000	7.9	10	9.9	2.4	3.0	1.5	32	10	3.2
02...	16400	7.6	40	12	2.5	3.2	1.2	40	11	3.5
15...	6440	9.3	60	13	3.2	5.0	1.2	50	12	3.9
30...	7600	8.2	100	11	2.8	4.9	1.1	38	10	4.0
APR.										
01...	5820	9.1	20	11	3.2	5.2	1.2	47	10	4.5
15...	8830	9.4	10	11	3.0	4.9	1.4	44	10	4.2
24...	19200	8.2	20	11	2.6	4.2	1.3	39	10	3.8
MAY										
01...	7600	9.1	20	13	3.4	5.1	1.8	46	11	5.3
15...	19800	8.8	40	8.0	2.1	3.0	1.4	30	8.4	3.6
30...	6760	5.3	0	12	2.5	3.8	1.4	43	10	4.9
JUNE										
01...	7600	11	20	11	3.3	4.4	1.7	46	8.0	3.7
15...	3370	7.6	40	15	4.1	7.2	1.8	64	11	6.6
JULY										
02...	11500	9.3	40	17	4.3	4.3	2.3	67	12	4.7
15...	11100	10	180	8.8	2.4	3.6	1.7	36	8.8	2.9
AUG.										
01...	32600	7.6	80	17	3.0	4.6	1.9	55	14	5.4
15...	4610	10	40	18	3.9	5.9	1.8	65	12	6.7
31...	2810	8.1	50	20	4.3	8.5	2.2	66	15	9.6
SEP.										
01...	2810	10	10	23	4.7	8.8	2.0	73	16	9.5
15...	1800	9.6	20	20	4.7	11	2.7	71	19	12

JAMES RIVER BASIN

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02035000 JAMES RIVER AT CARTERSVILLE, VA.--Continued

EXTREMES.--1971-72:

Specific conductance: Maximum daily, 220 micromhos Sept. 21; minimum daily, 64 micromhos Jan. 16.
 Water temperatures: Maximum, 28.0°C July 24; minimum, 1.0°C Jan. 17, 28.

Period of record:

Specific conductance (1968-72): Maximum daily, 459 micromhos Oct. 8, 1970; minimum daily, 55 micromhos May 30, 1971.

Water temperatures: Maximum, 36.0°C July 2, 1968; minimum, freezing point on several days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOS- PHORUS (P) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SPECI- FIC CONO- UCTANCE (MICRO- MHOS)	PH (UNITS)	COLOR (PLAT- INUM- COBALT UNITS)
OCT.									
01...	.1	.80	.000	106	58	11	165	7.2	20
15...	.1	.50	.010	89	45	8	138	7.1	25
NOV.									
01...	.2	.50	.000	73	42	8	94	7.4	23
16...	.1	.18	.000	88	49	6	128	7.2	20
30...	.1	.45	.016	75	34	8	104	6.7	30
DEC.									
01...	.1	.40	.091	76	40	12	106	7.0	35
15...	.1	.10	.000	70	38	5	102	7.1	3
30...	.1	.50	.042	82	44	8	127	7.0	12
JAN.									
01...	.1	.80	.000	98	52	10	146	7.2	33
15...	.1	.30	.016	70	30	6	78	6.8	50
31...	.1	.80	.013	78	41	6	112	6.9	25
FEB.									
01...	.1	.50	.003	84	48	8	132	7.4	8
15...	.2	.40	.065	82	46	6	124	7.4	25
MAR.									
01...	.1	.70	.020	64	34	8	90	6.8	30
02...	.1	.40	.006	71	40	8	102	7.5	15
15...	.1	.50	.003	81	46	4	118	7.5	10
30...	.2	.60	.290	65	39	8	104	7.0	15
APR.									
01...	.1	.30	.003	79	40	2	112	7.2	25
15...	.1	.20	.006	76	40	4	106	7.3	25
24...	.1	.60	.023	71	38	6	100	6.8	30
MAY									
01...	.1	.80	.000	86	46	9	118	7.1	20
15...	.1	.20	.000	57	28	4	78	6.8	45
30...	.1	.40	.010	68	40	6	104	7.5	23
JUNE									
01...	.1	.30	.006	76	41	4	118	7.0	20
15...	.1	.04	.013	88	54	2	155	7.4	20
JULY									
02...	.1	.60	.003	98	60	5	162	7.1	25
15...	.1	.30	.006	65	32	2	106	7.0	35
AUG.									
01...	.1	.30	.010	94	55	10	148	7.1	30
15...	.1	.40	.003	96	61	8	150	7.3	20
31...	.2	.90	.036	114	68	14	180	7.2	30
SEP.									
01...	.2	.60	.000	118	77	17	185	7.6	33
15...	.2	1.1	.013	131	70	12	195	7.2	40

JAMES RIVER BASIN

02035000 JAMES RIVER AT CARTERSVILLE, VA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	165	94	106	146	132	---	112	118	118	---	148	185
2	155	---	150	144	128	102	110	---	116	162	100	180
3	142	---	195	132	122	110	116	106	126	160	114	180
4	126	90	197	134	92	106	112	98	136	---	118	185
5	138	73	150	144	---	114	114	96	142	116	80	175
6	160	74	126	130	94	116	118	---	144	101	75	175
7	175	104	108	122	114	116	120	114	136	141	120	180
8	190	114	100	150	120	114	122	---	136	140	130	175
9	195	124	90	175	118	112	110	96	140	128	134	180
10	160	126	155	185	116	122	128	90	146	144	142	185
11	124	136	132	165	---	122	167	100	146	155	146	180
12	103	134	99	132	---	123	170	112	146	155	---	185
13	105	136	100	120	---	124	126	122	148	118	158	185
14	116	138	---	86	---	122	108	---	153	130	146	155
15	138	---	102	78	124	118	106	78	155	106	150	195
16	146	128	106	64	102	120	112	71	149	---	150	185
17	160	130	114	65	---	102	126	72	144	160	144	---
18	158	136	112	100	100	96	148	90	185	170	155	195
19	140	128	122	106	---	100	142	94	170	170	153	200
20	130	130	126	106	---	116	116	96	140	165	155	205
21	138	128	106	108	120	128	128	96	---	138	163	220
22	144	132	110	106	114	130	120	99	---	144	164	215
23	140	138	120	106	102	129	102	100	---	146	170	210
24	90	---	126	122	---	130	116	102	---	148	180	208
25	78	106	136	126	98	157	146	118	76	150	175	---
26	185	72	---	146	116	165	108	128	94	165	180	205
27	112	73	128	132	136	150	104	128	107	170	175	200
28	82	70	130	126	112	128	100	132	111	180	195	200
29	84	82	136	122	---	112	102	134	120	180	180	185
30	92	100	148	120	---	108	---	122	124	165	170	190
31	98	---	148	128	---	112	---	120	---	185	175	---
MONTH	134	111	127	123	---	120	121	105	135	150	148	191

JAMES RIVER BASIN

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02035000 JAMES RIVER AT CARTERSVILLE, VA.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.0	19.0	5.5	6.5	4.5	---	10.0	12.0	19.5	---	21.0	23.5
2	21.0	---	4.5	6.0	3.0	11.0	11.0	---	19.5	22.5	21.0	22.0
3	21.0	---	3.0	5.0	3.5	10.5	11.5	18.5	20.0	23.5	22.0	22.0
4	21.0	17.0	3.0	5.0	3.0	9.5	11.0	18.0	21.0	---	22.5	22.5
5	21.5	14.0	3.5	5.0	---	9.0	10.0	17.0	22.5	21.5	21.5	22.0
6	22.0	12.0	4.0	5.0	3.0	8.5	13.0	---	23.0	19.5	22.0	21.0
7	20.0	12.5	6.0	4.0	2.5	8.0	13.0	18.5	22.0	19.0	23.0	21.0
8	18.0	10.5	7.0	3.5	2.0	9.0	9.5	---	22.0	19.0	24.0	21.0
9	17.5	9.0	7.5	3.5	2.0	7.5	9.0	17.5	22.5	20.0	24.0	21.0
10	11.0	9.0	8.0	5.0	2.0	7.5	9.0	17.0	22.5	20.0	23.5	22.0
11	15.5	8.5	10.5	6.0	---	7.0	11.5	17.5	21.0	21.5	23.5	20.5
12	15.0	9.0	10.0	6.0	---	8.5	12.0	17.5	21.0	21.5	---	20.5
13	15.0	10.0	11.0	7.0	---	10.0	12.5	17.5	21.0	21.5	24.0	23.0
14	17.0	10.5	---	8.5	---	10.0	14.0	---	22.0	22.5	23.0	23.0
15	18.0	---	10.5	7.5	6.5	10.0	15.0	16.0	23.0	22.5	23.0	23.0
16	17.5	11.0	12.0	3.5	6.0	10.5	17.0	16.0	24.0	---	22.5	22.0
17	18.0	11.0	12.0	1.0	---	11.0	17.0	16.5	24.0	25.5	22.0	---
18	17.5	11.0	9.0	2.0	4.5	11.5	17.5	17.0	24.0	21.5	23.0	24.0
19	11.0	11.0	11.5	3.0	---	10.5	18.0	17.0	23.0	26.5	24.0	24.5
20	16.5	11.0	6.5	3.5	---	11.0	18.5	16.5	22.0	22.0	24.5	22.0
21	16.5	9.5	8.0	5.0	3.5	10.5	17.5	17.0	---	27.5	24.0	19.5
22	17.0	7.5	12.0	5.0	4.0	12.5	15.0	17.0	---	25.0	23.5	19.5
23	17.5	5.5	5.5	6.5	3.0	12.0	15.0	17.0	---	27.5	24.0	19.5
24	13.0	---	5.5	7.0	---	11.5	15.5	17.5	---	28.0	25.0	19.5
25	18.5	3.5	6.0	8.0	5.5	9.0	14.5	17.5	18.0	27.5	26.0	---
26	20.0	4.5	---	8.0	6.0	9.0	13.5	18.0	18.0	27.5	26.0	21.5
27	17.5	3.5	8.5	5.5	6.0	8.5	14.0	17.0	19.0	27.5	26.0	22.5
28	17.5	5.0	9.5	1.0	7.0	9.0	14.5	17.5	20.0	25.5	26.0	22.0
29	17.0	5.0	8.5	5.5	---	9.0	15.5	18.5	20.0	24.0	25.5	21.0
30	18.0	6.0	8.5	5.0	---	8.5	---	19.5	21.0	21.0	25.0	21.0
31	18.0	---	9.0	5.0	---	9.0	---	21.0	---	21.0	24.5	---
MONTH	17.5	9.5	8.0	5.0	---	9.5	13.5	17.5	21.5	23.5	23.5	21.5

JAMES RIVER BASIN

02037000 JAMES RIVER & KANAWHA CANAL NEAR RICHMOND, VA.

LOCATION.--Lat 37°33'52", long 77°34'28", Henrico County, at gaging station on left bank 75 ft downstream from canal bridge, 400 ft downstream from head gates, 1,200 ft north of north end of Boshier Dam on James River, 1.6 miles upstream from Huguenot Memorial Bridge, and 2.0 miles west of city limits of Richmond.

PERIOD OF RECORD.--Chemical analyses: October 1970 to August 1972 (discontinued).

Water temperatures: October 1970 to August 1972 (discontinued).

EXTREMES.--October 1971 to August 1972:

Specific conductance: Maximum daily, 225 micromhos Oct. 1; minimum daily, 68 micromhos Oct. 26.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	DIS- SOLVED SUL FATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT.										
01...	805	9.4	20	25	4.6	12	2.7	68	22	16
15...	836	11	60	11	3.1	6.4	2.8	38	12	6.4
NOV.										
01...	900	10	100	11	2.5	3.6	1.9	38	10	5.0
15...	30	11	140	14	3.2	5.8	1.9	47	13	8.0
DEC.										
01...	940	11	150	11	3.0	6.4	1.8	36	13	9.8
15...	920	9.1	120	11	2.8	4.2	1.5	36	11	3.9
JAN.										
01...	836	9.5	40	16	3.7	6.6	1.6	53	14	9.6
15...	900	8.8	100	8.1	2.3	5.3	2.0	29	12	6.3
FEB.										
01...	960	8.3	50	14	3.0	5.3	1.4	46	13	5.3
15...	950	7.9	40	5.7	2.1	4.6	2.0	15	12	3.5
MAR.										
01...	704	7.6	320	9.2	2.2	3.4	1.6	30	12	4.6
15...	868	8.8	70	13	3.0	5.0	1.2	47	12	5.1
APR.										
01...	731	9.2	30	12	3.6	5.0	1.3	45	11	4.8
15...	836	7.0	10	12	2.9	4.5	1.3	43	13	4.1
MAY										
01...	836	8.5	10	12	2.4	3.7	1.3	44	10	3.0
15...	868	7.4	70	8.0	2.0	3.8	1.8	21	9.0	4.9
JUNE										
01...	868	4.4	50	9.2	2.5	4.2	1.9	36	11	3.4
15...	820	3.3	40	15	3.6	6.6	1.6	62	13	5.7
JULY										
01...	290	12	100	9.0	3.2	5.4	3.0	33	13	6.1
15...	50	13	320	6.4	2.0	6.3	2.3	26	10	5.0
AUG.										
01...	9.0	14	100	13	3.4	6.0	2.6	50	12	7.8
15...	35	9.3	80	6.8	2.2	4.8	2.7	21	11	4.0

JAMES RIVER BASIN

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02037000 JAMES RIVER & KANAWHA CANAL NEAR RICHMOND, VA.--Continued

EXTREMES.--October 1971 to August 1972--Continued

Water temperatures: Maximum, 31.0°C Aug. 28; minimum, 2.0°C on several days during February.

Period of record:

Specific conductance: Maximum daily, 540 micromhos Oct. 28, 1970; minimum daily, 45 micromhos Aug. 28, 1971.

Water temperatures: Maximum, 31.0°C July 11, 1971, Aug. 28, 1972; minimum, freezing point on Jan. 2, 28, 29, Feb. 3, 4, 1971.

REMARKS.--Canal damaged during flood of June 1972. Diversion through canal discontinued Aug. 31, 1972.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOS- PHORUS (P) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	COLOR (PLAT- INUM- COBALT UNITS)
OCT.									
01...	.2	1.0	.010	138	82	26	225	7.3	10
15...	.1	.60	.010	81	40	9	124	6.8	25
NOV.									
01...	.1	.40	.000	68	38	7	100	7.3	25
15...	.1	.59	.023	91	48	10	128	7.3	20
DEC.									
01...	.1	.40	.006	76	40	10	118	7.0	27
15...	.1	.40	.000	66	39	10	96	7.1	23
JAN.									
01...	.1	.40	.000	91	55	12	144	7.3	15
15...	.2	.40	.042	73	30	6	93	7.2	50
FEB.									
01...	.1	.60	.000	83	48	10	124	7.0	7
15...	.1	.40	.046	67	22	10	69	7.0	50
MAR.									
01...	.1	.20	.006	65	32	8	89	6.9	15
15...	.1	.70	.006	80	45	6	127	7.3	15
APR.									
01...	.1	.20	.006	69	45	8	112	7.4	10
15...	.1	.70	.000	77	42	7	114	7.0	20
MAY									
01...	.1	.30	.000	75	40	4	104	7.1	3
15...	.1	.20	.003	59	28	11	80	6.8	50
JUNE									
01...	.1	.30	.023	64	34	4	100	7.2	30
15...	.1	.00	.006	85	52	2	150	7.1	3
JULY									
01...	.1	.40	.023	87	36	8	118	6.6	35
15...	.3	.20	.052	71	24	2	118	7.0	45
AUG.									
01...	.2	.40	.013	99	46	6	140	7.3	33
15...	.2	.20	.160	70	26	9	80	7.0	45

JAMES RIVER BASIN

02037000 JAMES RIVER & KANAWHA CANAL NEAR RICHMOND, VA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	225	100	118	144	124	89	112	104	100	118	140	---
2	195	104	140	146	126	90	112	108	90	116	146	---
3	165	106	110	142	124	98	114	110	105	112	148	---
4	132	92	200	138	126	100	116	108	122	112	130	---
5	114	90	210	134	84	101	116	82	126	90	110	---
6	108	102	185	126	88	98	118	96	128	84	106	---
7	124	110	144	132	100	95	118	108	136	92	100	---
8	142	118	116	126	80	96	117	116	138	86	100	---
9	160	130	88	136	120	96	114	118	132	110	108	---
10	155	128	86	170	116	93	114	90	142	122	118	---
11	95	140	138	175	112	95	130	86	142	112	116	---
12	104	142	146	177	112	118	160	90	146	102	132	---
13	114	144	98	152	114	124	165	108	149	99	138	---
14	116	140	92	112	85	126	150	116	146	86	128	---
15	124	129	96	93	69	127	114	80	150	118	80	---
16	122	100	98	108	106	124	106	78	159	118	71	---
17	136	130	100	116	108	118	106	75	157	126	88	---
18	146	126	106	114	94	108	120	92	150	126	149	---
19	165	128	106	119	92	100	130	114	150	150	144	---
20	160	126	114	118	84	110	126	108	173	157	144	---
21	144	124	120	120	98	122	106	94	106	160	146	---
22	124	130	126	114	106	130	110	92	88	163	150	---
23	140	138	118	122	106	134	96	96	---	167	155	---
24	114	132	118	126	96	126	92	106	---	163	155	---
25	74	124	126	120	98	124	106	100	---	170	157	---
26	68	100	134	130	96	146	136	120	---	175	160	---
27	88	96	136	132	104	149	106	130	---	138	175	---
28	142	112	134	140	120	150	96	128	106	142	180	---
29	132	114	134	128	100	128	98	128	106	134	175	---
30	122	116	131	124	---	116	100	126	122	130	175	---
31	106	---	136	126	---	108	---	120	---	132	180	---
MONTH	131	119	126	131	103	114	117	104	131	126	136	---

JAMES RIVER BASIN

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02037000 JAMES RIVER & KANAWHA CANAL NEAR RICHMOND, VA.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	19.0	5.5	6.5	5.5	9.0	10.0	16.5	21.0	24.0	24.5	---
2	21.0	20.0	4.5	8.0	4.5	6.5	10.0	20.0	19.0	28.0	24.5	---
3	22.0	21.0	5.5	5.5	4.5	12.0	11.0	20.0	21.0	25.0	24.5	---
4	22.0	13.5	3.5	6.5	2.0	10.0	12.0	19.0	22.0	26.0	25.5	---
5	22.0	13.5	4.5	6.5	3.5	10.0	11.0	19.0	24.5	25.0	24.5	---
6	22.0	14.5	4.5	4.5	2.0	10.0	13.5	20.0	24.5	24.0	24.5	---
7	22.0	14.5	6.5	3.5	3.5	11.0	14.5	18.0	24.5	22.0	23.5	---
8	20.0	11.0	6.5	3.5	3.5	9.0	12.0	19.0	23.5	25.0	24.5	---
9	19.0	10.0	8.0	4.5	2.0	9.0	9.0	19.0	24.5	20.0	25.5	---
10	18.0	9.0	9.0	5.5	2.0	8.0	10.0	16.5	25.5	22.0	25.5	---
11	15.5	10.0	---	6.5	2.0	6.5	10.0	18.0	23.5	22.0	23.5	---
12	15.5	9.0	10.0	6.5	2.0	10.0	11.0	18.0	22.0	21.0	26.5	---
13	16.5	10.0	10.0	9.0	4.5	11.0	12.0	19.0	23.5	24.5	26.5	---
14	16.5	11.0	10.0	10.0	5.5	10.0	14.5	20.0	24.5	25.5	24.5	---
15	18.0	11.0	10.0	8.0	5.5	9.0	15.5	16.5	24.5	25.5	25.5	---
16	18.0	11.0	12.0	3.5	5.5	11.0	16.5	18.0	25.5	26.5	22.0	---
17	19.0	11.0	13.5	4.5	6.5	11.0	16.5	18.0	26.5	28.0	23.5	---
18	18.0	11.0	10.0	3.5	5.5	11.0	16.5	19.0	25.5	28.0	24.5	---
19	18.0	11.0	8.0	3.5	4.5	11.0	18.0	19.0	26.5	29.0	25.5	---
20	18.0	11.0	8.0	3.5	2.0	11.0	20.0	18.0	25.5	29.0	26.5	---
21	19.0	10.0	8.0	4.5	2.0	11.0	19.0	18.0	23.5	29.0	25.5	---
22	18.0	9.0	6.5	5.5	4.5	13.5	16.5	15.5	21.0	29.0	26.5	---
23	19.0	9.0	6.5	6.5	4.5	13.5	14.5	18.0	---	30.0	26.5	---
24	18.0	6.5	6.5	9.0	4.5	10.0	15.5	18.0	---	29.0	26.5	---
25	18.0	5.5	6.5	9.0	5.5	10.0	15.5	19.0	---	30.0	26.5	---
26	18.0	4.5	9.0	4.5	6.5	9.0	14.5	18.0	---	30.0	28.0	---
27	18.0	4.5	6.5	5.5	6.5	10.0	13.5	18.0	---	29.0	29.0	---
28	16.5	4.5	9.0	5.5	5.5	9.0	14.5	19.0	20.0	29.0	31.0	---
29	18.0	5.5	9.0	4.5	6.5	10.0	15.5	19.0	26.0	29.0	30.0	---
30	18.0	5.5	10.0	5.5	---	10.0	16.5	22.0	23.0	24.5	30.0	---
31	18.0	---	10.0	4.5	---	10.0	---	28.0	---	23.5	29.0	---
MONTH	19.0	10.5	8.0	5.5	4.0	10.0	14.0	19.0	23.5	26.0	26.0	---

JAMES RIVER BASIN

02038850 HOLIDAY CREEK NEAR ANDERSONVILLE, VA.
(Hydrologic bench-mark station)

LOCATION.--Lat 37°24'55", long 78°38'10", Appomattox County, at gaging station on right bank 350 ft downstream from bridge on State Highway 614, 1.0 mile upstream from Holiday Lake, and 5.2 miles southwest of Andersonville.

DRAINAGE AREA.--8.53 sq mi.

PERIOD OF RECORD.--Chemical analyses: March 1967 to September 1972.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
NOV. 26...	16	9.9	160	2.1	1.3	2.2	.8	10	6.8	3.3
JAN. 27...	7.7	11	200	1.7	1.0	2.3	.6	12	4.0	2.1
MAR. 21...	10	10	190	1.8	1.0	2.4	.7	14	3.2	2.4
MAY 30...	9.3	11	190	2.0	.9	2.2	.8	13	1.6	2.9
JULY 20...	6.2	13	320	2.6	1.0	2.9	.8	17	3.4	2.4
SEP. 21...	5.0	13	260	2.6	1.3	2.8	.8	13	2.6	2.1

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOS- PHORUS (P) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)	TEMP- ERATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)
NOV. 26...	.1	.04	.003	31	10	2	30	6.5	5.0	30
JAN. 27...	.1	.00	.000	33	8	0	28	6.9	7.5	25
MAR. 21...	.1	.02	.003	30	8	0	37	6.9	13.0	27
MAY 30...	.1	.04	.000	34	8	0	31	6.6	17.0	35
JULY 20...	.1	.07	.006	37	10	0	40	6.5	25.0	40
SEP. 21...	.1	.07	.006	39	12	2	37	6.7	17.5	40

JAMES RIVER BASIN

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02042500 CHICKAHOMINY RIVER NEAR PROVIDENCE FORGE, VA.

LOCATION.--Lat 37°26'10", long 77°03'40", New Kent County, at gaging station on left bank 100 ft downstream from bridge on State Highway 618, 1.1 miles southwest of Providence Forge, and 1.7 miles downstream from Schimineo Creek.

DRAINAGE AREA.--248 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970, October 1971 to September 1972.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT. 07...	466	8.5	260	5.8	1.5	7.4	2.8	9	14	9.3
NOV. 19...	119	12	610	6.2	1.5	7.4	2.5	23	6.2	12
DEC. 29...	162	9.0	410	5.7	1.3	7.8	2.3	20	7.0	13
FEB. 11...	474	7.7	230	4.7	1.3	9.9	2.2	9	12	16
MAR. 24...	518	1.6	300	6.0	2.0	8.2	1.8	16	13	10
MAY 08...	252	5.4	920	6.0	1.8	6.2	2.2	22	5.2	8.8
JUNE 15...	183	7.7	940	6.1	1.6	7.0	1.9	22	5.6	7.6
SEP. 08...	99	8.6	430	7.7	1.5	7.0	2.3	27	5.6	7.7

DATE	DIS- SOLVED FLUO- RIDF (F) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL CRTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED SCLIDS (RESI- DUE AT 180 C) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)	TEMP- ERATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)
OCT. 07...	.2	.10	.040	72	20	13	88	5.8	18.0	45
NOV. 19...	.2	.10	.060	80	22	3	90	6.5	10.0	65
DEC. 29...	.2	.07	.065	68	20	3	90	6.5	9.0	40
FEB. 11...	.1	.10	.020	73	17	10	96	6.2	1.0	25
MAR. 24...	.2	.04	.042	63	23	10	86	6.7	9.0	60
MAY 08...	.2	.20	.098	77	22	4	79	6.5	18.0	160
JUNE 15...	.2	.20	.200	79	22	4	84	6.4	21.0	60
SEP. 08...	.2	.30	.110	74	25	3	86	6.8	18.5	50

CHOWAN RIVER BASIN

02052000 MEHERRIN RIVER AT EMPORIA, VA.

LOCATION (revised).--Lat 36°41'24", long 77°32'27", Emporia City, at gaging station on left bank at downstream side of bridge on U.S. Highway 301 and 2.1 miles upstream from Falling Run.

DRAINAGE AREA.--747 sq mi.

PERIOD OF RECORD.--Chemical analyses: March 1967 to September 1972.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SIC2) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	DIS- SOLVED SULFATE (SC4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT.										
09...	296	11	110	5.5	1.8	3.5	2.8	16	8.8	3.5
15...	369	15	150	4.0	2.2	5.3	2.5	21	7.8	4.9
NOV.										
01...	776	16	370	4.8	2.0	3.9	1.9	22	8.0	5.1
15...	438	19	300	5.6	2.3	5.2	1.7	33	4.8	5.1
DEC.										
01...	860	19	460	5.0	2.0	5.3	1.5	32	4.0	4.6
15...	544	18	190	5.1	2.2	5.9	1.5	32	5.4	5.4
JAN.										
01...	438	17	250	5.1	2.1	5.5	1.4	31	5.2	4.8
18...	478	15	40	4.8	2.3	6.4	1.7	30	6.2	4.9
FEB.										
02...	1150	16	80	5.4	2.2	5.5	1.5	30	5.6	5.7
15...	2700	11	70	3.6	1.7	5.0	2.8	13	8.8	4.3
MAR.										
01...	900	15	140	4.4	2.1	4.6	1.3	24	7.0	4.7
16...	500	17	210	5.0	2.4	5.8	1.4	29	5.8	3.9
APR.										
01...	620	15	60	4.8	2.2	5.6	1.4	30	4.2	3.9
20...	511	16	40	4.5	2.2	5.6	1.4	31	5.0	4.1
MAY										
01...	468	16	150	4.9	2.2	5.0	1.5	28	6.4	3.8
JUNE										
26...	1300	15	200	4.4	2.4	7.3	1.8	32	5.6	3.1
JULY										
01...	748	17	170	4.4	2.4	5.3	1.7	26	5.4	3.2
15...	1730	10	110	3.7	1.4	5.5	2.2	16	4.4	2.2
AUG.										
01...	692	18	150	6.1	2.5	5.3	2.0	36	3.0	4.6
15...	203	16	30	4.9	2.0	4.6	2.0	28	4.2	3.5
SEP.										
01...	119	17	80	6.0	2.4	5.8	2.1	34	4.4	4.0
15...	106	16	20	5.9	2.3	6.0	2.2	34	4.4	5.1

CHOWAN RIVER BASIN

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02052000 MEHERRIN RIVER AT EMPORIA, VA.--Continued

PERIOD OF RECORD.--Continued

Water temperatures: April 1968 to September 1972.

EXTREMES.--Period of record:

Specific conductance (1968-71): Maximum daily, 153 micromhos Sept. 29, 1968; minimum daily, 39 micromhos Aug. 2, 4, 1969.

Water temperatures (1968-71): Maximum, 35.0°C July 14, 21, 22, 26, 1969; minimum, 1.0°C Nov. 29, Dec. 3, 1970.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL ORTHOC PHOS- PHORUS (P) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)	COLOR (PLAT- INUM- COBALT UNITS)
OCT.									
09...	.2	.10	.030	65	21	8	58	6.6	80
15...	.1	.10	.010	66	19	2	69	6.7	45
NOV.									
01...	.1	.00	.000	72	20	2	64	6.8	33
15...	.1	.00	.000	65	24	0	71	7.1	20
DEC.									
01...	.1	.00	.000	62	20	0	71	7.2	25
15...	.1	.02	.000	62	22	0	73	7.3	20
JAN.									
01...	.1	.00	.000	62	21	0	72	7.1	30
15...	.1	.04	.003	61	22	0	73	7.3	10
FEB.									
02...	.1	.10	.013	62	22	0	77	6.6	10
15...	.2	.09	.085	63	16	6	53	6.8	80
MAR.									
01...	.1	.02	.006	60	20	0	70	7.1	25
16...	.1	.02	.013	56	22	0	72	7.0	30
APR.									
01...	.1	.00	.006	65	21	0	68	7.2	30
20...	.1	.00	.006	65	20	0	75	7.2	7
MAY									
01...	.1	.00	.006	64	21	0	73	7.1	23
JUNE									
26...	.4	.10	.240	69	21	0	72	6.9	45
JULY									
01...	.1	.10	.100	66	21	0	71	6.8	45
15...	.3	.10	.110	67	15	2	50	6.7	40
AUG.									
01...	.1	.09	.006	67	26	0	84	6.9	20
15...	.1	.07	.003	59	20	0	65	7.2	45
SEP.									
01...	.1	.07	.003	64	25	0	77	7.3	23
15...	.1	.00	.000	61	24	0	75	7.3	40

CHOWAN RIVER BASIN

02052000 MEHERRIN RIVER AT EMPORIA, VA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	64	71	72	---	70	68	73	---	71	84	77
2	---	67	70	74	75	68	69	---	---	73	83	84
3	---	65	69	75	---	69	69	---	---	73	80	84
4	---	68	70	75	---	70	68	---	---	73	68	84
5	---	71	---	75	---	68	68	---	---	73	65	84
6	---	69	---	75	---	70	69	---	---	66	68	84
7	---	71	---	75	---	---	68	---	---	---	65	82
8	---	68	---	77	---	---	72	---	---	---	75	75
9	58	70	---	78	---	---	73	---	---	---	---	82
10	57	71	---	78	---	---	72	---	---	64	72	72
11	59	75	---	78	---	---	72	---	---	---	68	70
12	59	72	---	78	58	---	73	---	---	73	---	70
13	64	74	72	78	59	---	---	---	---	71	70	69
14	63	72	72	---	59	---	---	---	---	44	72	74
15	69	73	73	---	53	---	---	---	---	50	65	75
16	70	72	73	---	55	72	---	---	---	56	---	75
17	72	74	74	---	67	72	---	---	---	61	71	82
18	72	74	72	73	68	72	---	---	---	---	---	80
19	70	75	74	69	---	72	---	---	---	67	---	84
20	77	70	73	70	65	72	75	---	---	69	66	88
21	67	70	73	72	67	---	72	---	---	72	77	84
22	74	71	74	73	67	73	75	---	---	71	82	89
23	53	70	75	72	66	71	76	---	---	72	84	79
24	50	71	72	71	68	72	---	---	---	75	82	90
25	82	71	71	71	69	72	---	---	---	77	84	92
26	40	70	71	71	69	71	75	---	72	78	78	91
27	36	69	73	72	68	72	73	---	73	75	80	90
28	58	71	72	73	69	73	74	---	73	82	86	89
29	56	70	72	71	69	---	72	---	73	84	84	77
30	60	70	71	---	---	---	73	---	73	84	84	56
31	61	---	72	---	---	---	---	---	---	82	82	---
MONTH	---	71	---	74	---	---	---	---	---	71	76	80

CHOWAN RIVER BASIN

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02052000 MEHERRIN RIVER AT EMPORIA, VA.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	29.0	---	11.0	---	13.0	17.0	20.0	---	21.0	26.0	---
2	---	29.0	---	10.0	5.5	14.0	16.0	---	---	20.0	25.0	26.0
3	---	30.0	---	10.0	---	12.0	18.0	---	---	19.0	29.0	26.0
4	---	24.0	---	12.0	---	14.0	19.0	---	---	21.0	---	24.0
5	---	26.0	---	4.0	---	13.0	18.0	---	---	20.0	26.0	26.0
6	---	---	---	4.0	---	11.0	17.0	---	---	20.0	---	26.0
7	---	25.0	---	10.0	---	---	18.0	---	---	---	---	26.0
8	---	25.0	---	---	---	---	19.0	---	---	---	---	25.0
9	31.0	24.0	---	---	---	---	20.0	---	---	---	---	24.0
10	30.0	29.0	---	---	---	---	19.0	---	---	25.0	25.0	24.0
11	30.0	28.0	---	---	---	---	19.0	---	---	---	27.0	24.0
12	30.0	27.0	---	---	11.0	---	16.0	---	---	28.0	---	26.0
13	28.0	---	---	---	10.0	---	---	---	---	27.0	30.0	23.0
14	27.0	28.0	---	---	10.0	---	---	---	---	31.0	26.0	24.5
15	27.0	29.0	---	---	9.0	---	---	---	---	24.0	29.0	26.0
16	28.0	30.0	---	---	8.0	---	---	---	---	26.0	---	24.0
17	28.0	---	---	---	13.0	27.0	---	---	---	28.0	26.0	24.0
18	26.0	---	---	12.0	14.0	30.0	---	---	---	---	---	23.0
19	29.0	---	---	10.0	11.0	29.0	---	---	---	29.0	---	25.0
20	28.0	---	---	10.0	14.0	28.0	20.0	---	---	29.0	26.0	22.0
21	30.0	---	---	12.0	13.0	---	20.0	---	---	28.0	24.0	21.0
22	25.0	---	13.0	11.0	14.0	26.0	19.0	---	---	26.0	25.0	23.0
23	27.0	---	11.0	14.0	15.0	14.0	21.0	---	---	---	26.0	20.0
24	27.0	---	11.0	12.0	10.0	13.0	16.0	---	---	28.0	26.0	24.0
25	29.0	---	12.0	15.0	15.0	15.0	17.0	---	---	28.0	28.0	22.0
26	28.0	---	12.0	10.0	13.0	14.0	17.0	---	19.0	26.0	28.0	21.0
27	25.0	---	14.0	13.0	14.0	14.0	18.0	---	20.0	25.0	28.0	26.0
28	28.0	---	11.0	10.0	12.0	15.0	21.0	---	19.0	29.0	---	25.0
29	27.0	---	14.0	8.0	11.0	---	20.0	---	21.0	25.0	26.0	24.0
30	27.0	---	12.0	---	---	---	16.0	---	19.0	23.0	26.0	22.0
31	29.0	---	13.0	---	---	---	---	---	---	28.0	---	---
MONTH	---	---	---	---	---	---	---	---	---	25.5	---	24.0

ROANOKE RIVER BASIN

02060500 ROANOKE (STAUNTON) RIVER AT ALTAVISTA, VA.

LOCATION.--Lat 37°06'16", long 79°17'44", Pittsylvania County, at gaging station on right bank 12 ft upstream from bridge on U.S. Highway 29, 0.3 mile south of Altavista, 0.3 mile downstream from Sycamore Creek, 3.5 miles upstream from Big Otter River, and at mile 286.5.

DRAINAGE AREA.--1,789 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1950 to September 1951, February 1953 to September 1956, March 1967 to September 1972.

Water temperatures: October 1950 to September 1951, February 1953 to September 1956, April 1968 to September 1972.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT.										
01...	1140	9.8	20	15	5.3	6.0	3.0	71	10	7.0
15...	2350	8.5	20	15	5.4	5.8	2.5	69	9.8	8.4
NOV.										
01...	1290	5.9	150	12	5.4	5.0	2.3	60	9.2	7.6
15...	1070	7.0	30	14	5.6	5.8	2.4	66	10	5.3
DEC.										
01...	1230	12	40	13	4.0	4.3	2.7	50	11	7.0
16...	3910	15	80	13	4.1	5.0	2.3	58	8.8	6.6
JAN.										
01...	230	13	10	14	4.2	4.5	2.2	58	8.2	7.4
15...	450	15	120	12	4.2	4.3	2.0	53	9.6	5.9
FEB.										
01...	840	15	50	11	3.9	5.0	1.8	53	8.8	4.8
15...	6750	4.0	0	13	5.2	5.6	2.5	60	10	7.3
MAR.										
01...	5750	3.4	20	12	5.0	4.8	2.3	59	11	7.0
15...	1180	4.8	40	13	5.3	5.0	2.2	59	11	5.9
APR.										
01...	292	10	20	11	4.2	5.0	1.8	55	8.8	5.5
15...	3980	2.4	0	14	5.8	6.4	2.2	65	11	7.6
MAY										
01...	1290	4.2	0	13	6.0	5.6	2.2	64	10	7.5
15...	6370	6.8	20	12	4.2	4.2	2.5	51	10	6.1
JUNE										
01...	2580	5.3	20	14	5.4	5.3	2.3	62	11	6.9
15...	685	7.1	0	14	5.4	5.0	2.2	62	10	5.1
JULY										
01...	3400	6.7	50	13	5.0	4.9	2.1	60	11	6.0
15...	920	14	50	13	4.2	4.8	2.3	60	8.4	5.7
AUG.										
01...	1220	7.2	20	15	5.0	4.5	2.2	65	10	6.9
15...	1040	5.7	30	14	5.4	5.3	2.3	64	10	7.1
SEP.										
01...	1130	5.5	0	15	5.5	5.5	2.4	67	10	6.8
15...	215	5.0	0	14	5.9	5.6	2.4	69	11	6.1

ROANOKE RIVER BASIN

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02060500 ROANOKE (STAUNTON) RIVER AT ALTAVISTA, VA.--Continued

PERIOD OF RECORD.--Continued

Sediment records: February 1953 to September 1956.

EXTREMES.--1971-72:

Specific conductance: Maximum daily, 175 micromhos July 17, 21; minimum daily, 92 micromhos June 20.

Water temperatures: Maximum, 28.0°C July 15, 16, 22, 23; minimum, 3.0°C Jan. 16, 18.

Period of record:

Specific conductance (1968-72): Maximum daily, 580 micromhos Jan. 17, 1969; minimum daily, 54 micromhos

Aug. 18, 1955.

Water temperatures: Maximum, 30.0°C Aug. 10, 1951; minimum, freezing point on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOS- PHORUS (P) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)	COLOR (PLAT- INUM- COBAL T UNITS)
CCT.									
01...	.1	.40	.030	110	60	2	165	7.3	3
15...	.1	.20	.000	86	60	3	155	7.8	5
NOV.									
01...	.1	.20	.000	85	52	3	132	7.1	12
15...	.1	.40	.000	90	58	4	128	7.1	3
DEC.									
01...	.1	.40	.006	84	48	8	128	7.2	25
16...	.1	.30	.000	86	50	2	126	7.7	7
JAN.									
01...	.3	.30	.000	82	52	5	128	7.7	10
15...	.1	.50	.000	84	48	4	121	7.6	15
FEB.									
01...	.1	.20	.000	77	44	0	120	7.2	3
15...	.2	.20	.006	81	54	5	138	7.5	7
MAR.									
01...	.1	.10	.006	79	50	2	130	7.7	10
15...	.1	.10	.000	79	54	6	138	7.8	5
APR.									
01...	.2	.10	.000	77	45	0	126	7.6	15
15...	.1	.09	.006	90	59	6	155	7.8	25
MAY									
01...	.1	.20	.000	88	57	4	136	7.7	15
15...	.1	.30	.000	79	48	6	122	7.2	45
JUNE									
01...	.1	.20	.003	89	57	6	150	7.5	5
15...	.1	.20	.003	87	57	6	155	7.3	7
JULY									
01...	.2	.20	.000	82	53	4	146	7.7	5
15...	.1	.40	.003	84	50	1	160	7.6	15
AUG.									
01...	.2	.20	.003	86	58	4	144	7.7	12
15...	.1	.20	.003	90	57	4	146	7.7	15
SEP.									
01...	.2	.20	.000	88	60	5	150	7.5	15
15...	.1	.20	.000	89	60	3	155	7.8	30

ROANOKE RIVER BASIN

02060500 ROANOKE (STAUNTON) RIVER AT ALTAVISTA, VA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	165	132	128	128	120	130	126	136	150	146	144	150
2	138	130	130	142	132	128	123	138	144	148	150	132
3	137	124	160	140	134	138	144	126	148	155	136	138
4	160	132	122	142	136	126	138	104	155	128	155	130
5	165	142	126	144	108	128	140	122	155	155	144	150
6	164	120	132	144	106	124	140	128	---	160	150	150
7	---	122	---	128	112	130	150	128	150	130	148	150
8	---	144	---	120	128	136	142	126	150	118	153	155
9	---	140	---	122	132	138	148	114	157	116	155	140
10	---	144	---	144	140	140	150	116	148	132	148	142
11	---	146	---	142	142	142	140	114	149	132	155	155
12	---	132	---	136	108	142	142	120	155	134	153	155
13	150	155	---	136	108	140	138	120	160	155	150	148
14	155	152	---	144	118	136	150	122	170	160	148	150
15	155	144	---	121	138	138	155	122	155	160	146	155
16	142	142	126	120	128	148	146	120	160	165	148	144
17	144	130	148	147	138	147	152	132	138	175	148	146
18	150	132	122	148	132	120	153	130	138	170	146	154
19	155	138	120	119	132	120	149	130	170	170	128	150
20	157	134	142	147	126	136	148	132	92	173	126	150
21	148	132	146	149	130	136	140	130	94	175	146	155
22	150	126	124	128	129	140	140	134	150	155	148	148
23	153	132	122	126	132	149	146	136	96	165	150	165
24	155	134	120	138	128	150	146	136	140	167	150	160
25	122	126	118	144	114	138	140	153	140	126	142	150
26	124	122	116	144	104	140	134	157	154	132	140	155
27	120	126	118	150	102	140	136	148	155	146	138	150
28	126	124	122	146	126	138	139	152	151	142	144	150
29	142	126	118	126	124	140	142	150	150	132	144	155
30	126	122	120	128	---	144	142	150	152	142	142	138
31	128	---	122	150	---	140	---	152	---	150	146	---
MONTH	145	134	---	137	124	137	143	132	146	149	146	149

ROANOKE RIVER BASIN

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02060500 ROANOKE (STAUNTON) RIVER AT ALTAVISTA, VA.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	20.0	7.0	10.0	7.0	10.0	12.0	16.5	18.0	23.0	20.0	22.0
2	23.5	21.0	6.0	8.0	7.0	10.0	12.0	17.5	18.0	23.0	21.0	25.0
3	23.5	19.0	5.0	7.5	7.0	10.0	12.5	17.5	19.0	21.0	22.0	25.0
4	23.0	18.0	9.0	10.0	8.0	9.0	13.0	17.0	20.0	24.0	22.0	24.0
5	21.0	19.0	9.0	10.5	6.0	10.0	13.5	17.5	20.5	20.0	25.0	21.0
6	21.0	13.0	9.5	10.0	5.0	8.0	13.5	17.5	---	20.5	25.0	21.0
7	---	12.0	---	8.5	9.0	10.0	13.0	17.0	19.5	21.0	23.0	22.0
8	---	18.0	---	7.0	7.0	10.5	10.0	16.5	20.0	23.0	23.0	---
9	---	15.0	---	7.0	7.0	10.0	12.0	17.0	20.0	24.0	23.0	23.0
10	---	14.0	---	10.0	7.0	10.0	13.0	17.0	18.0	20.5	23.0	23.0
11	---	15.0	---	10.5	8.0	10.0	13.0	17.0	19.0	20.0	22.0	22.0
12	---	13.5	---	11.0	7.0	10.5	13.0	17.0	19.0	20.0	25.0	23.0
13	18.5	13.0	---	12.5	7.0	12.0	14.0	17.0	20.0	21.5	25.0	21.0
14	19.0	13.0	---	11.5	9.0	11.5	12.0	17.0	20.0	22.0	23.0	24.0
15	20.0	16.0	---	5.0	8.0	12.0	14.0	17.0	22.0	28.0	22.5	23.0
16	18.0	16.0	17.0	3.0	8.0	10.5	14.0	17.5	22.0	28.0	22.0	25.0
17	17.5	17.0	13.0	10.0	7.0	10.0	14.0	17.5	24.0	22.0	22.5	26.0
18	18.0	15.0	8.0	3.0	7.0	12.0	14.5	17.0	23.0	22.0	23.0	23.0
19	18.0	13.0	9.0	10.0	6.5	12.0	14.0	17.0	19.0	22.0	25.0	20.0
20	17.5	13.0	12.0	10.0	5.0	12.0	16.5	17.5	19.0	23.0	25.0	20.0
21	18.0	12.0	12.0	10.0	7.0	13.0	14.0	18.0	19.0	23.0	23.0	20.0
22	20.0	8.0	10.0	10.0	7.0	13.5	12.5	17.5	17.0	28.0	23.0	23.0
23	19.0	8.0	7.5	13.0	7.0	12.0	13.0	15.0	17.0	28.0	23.0	20.0
24	20.0	12.0	12.0	13.0	7.0	12.0	15.0	17.0	17.5	22.5	23.5	21.0
25	20.0	10.0	13.0	10.0	7.0	11.0	13.5	15.0	17.5	25.0	23.5	22.5
26	20.5	9.5	13.0	10.0	10.0	10.0	14.0	16.0	18.0	25.0	25.0	23.0
27	18.5	10.0	14.0	9.0	10.0	10.5	14.0	19.0	19.0	22.5	25.0	23.0
28	19.5	10.0	14.0	9.0	9.0	12.0	14.0	19.0	19.0	22.0	23.0	22.5
29	19.0	10.0	14.0	8.0	10.5	12.5	15.0	18.0	19.0	20.0	23.0	22.0
30	20.0	10.0	14.0	7.5	---	12.5	15.5	20.0	19.5	20.0	22.5	18.0
31	20.0	---	12.0	8.0	---	12.0	---	18.0	---	22.0	23.0	---
MONTH	19.5	14.0	---	9.0	7.5	11.0	13.5	17.5	19.5	23.0	23.0	22.5

ROANOKE RIVER BASIN

02066000 ROANOKE (STAUNTON) RIVER AT RANDOLPH, VA.

LOCATION.--Lat 36°54'54", long 78°44'28", Halifax County, at gaging station on right bank 14 ft downstream from bridge on State Highway 746, 2.8 miles northwest of Randolph, 3.6 miles upstream from Roanoke Creek, and at mile 227.3.

DRAINAGE AREA.--2,977 sq mi.

PERIOD OF RECORD.--Chemical analyses: April 1929 to March 1930, October 1950 to September 1956, February 1967 to September 1972.

Water temperatures: October 1950 to September 1956, April 1968 to September 1972.

Sediment records: January 1954 to September 1972.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT.										
01...	1720	10	50	9.9	4.2	5.2	3.6	47	8.2	6.4
15...	3370	12	40	9.3	4.2	6.3	3.4	49	10	6.1
NOV.										
01...	1550	11	130	10	4.0	5.2	5.5	43	9.2	6.9
15...	1050	14	20	8.4	3.1	5.6	3.6	45	6.6	5.0
DEC.										
01...	3430	13	40	8.0	3.2	4.7	2.1	37	7.2	7.3
15...	2240	14	80	7.6	3.1	6.0	2.1	40	7.0	4.9
JAN.										
01...	1820	12	60	8.8	3.4	5.2	2.8	45	6.6	6.5
15...	7900	8.0	60	5.1	2.1	4.1	2.7	23	7.2	3.4
FEB.										
01...	2520	13	40	9.0	3.0	4.8	2.0	43	7.2	4.0
15...	12300	7.5	30	5.6	3.0	3.8	7.4	18	17	4.6
MAR.										
01...	5180	7.3	20	9.4	4.0	4.5	2.3	42	10	5.2
15...	2360	9.2	40	9.0	3.6	4.9	2.4	45	8.2	4.8
APR.										
01...	2280	8.2	10	10	4.0	5.8	2.4	50	8.2	5.9
15...	7040	7.1	0	10	4.0	5.6	2.6	47	8.6	6.0
MAY										
01...	2250	8.5	60	10	4.2	5.6	3.4	46	9.0	6.7
15...	13800	8.1	0	6.8	2.1	3.3	1.7	27	6.2	3.7
JUNE										
01...	3380	9.1	20	10	4.0	5.8	2.5	49	9.0	6.0
JULY										
01...	7560	9.2	80	5.8	2.6	4.0	1.8	32	8.2	3.3
15...	6440	8.8	40	8.8	3.8	4.4	2.2	45	8.8	5.4
AUG.										
01...	4000	12	10	6.2	2.2	2.8	1.9	29	5.8	2.7
15...	1320	12	60	10	4.0	5.2	2.1	49	6.8	5.4
SEP.										
01...	1410	9.3	20	12	4.4	6.7	2.2	56	8.2	6.8
15...	1760	6.9	0	14	5.0	5.6	2.2	63	9.6	7.3

ROANOKE RIVER BASIN

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02066000 ROANOKE (STAUNTON) RIVER AT RANDOLPH, VA.--Continued

EXTREMES.--1971-72:

Specific conductance: Maximum daily, 340 micromhos June 16; minimum daily, 60 micromhos July 7.

Water temperatures: Maximum, 26.0°C July 18, 23, 24; minimum, 1.0°C Jan. 16, 22.

Period of record:

Specific conductance (1950-56, 1968-72): Maximum daily, 340 micromhos June 16, 1972; minimum daily, 54 micromhos May 14, 1971.

Water temperatures: Maximum, 35.0°C Aug. 15, 1968; minimum, freezing point on many days during winter period.

REMARKS.--Sediment samples collected once weekly.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOS- PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON-CAR- BONATE HARD- NESS (MG/L)	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)	COLOR (PLAT- INUM- COBALT UNITS)
CCT.									
01...	.1	.20	.010	77	42	4	124	7.0	10
15...	.1	.00	.010	74	40	0	114	6.7	10
NOV.									
01...	.2	1.7	.260	88	42	6	118	7.0	25
15...	.1	.54	.130	78	34	0	108	7.1	10
DEC.									
01...	.1	.10	.010	65	33	2	90	7.0	35
15...	.1	.20	.006	69	32	0	94	7.0	17
JAN.									
01...	.1	.07	.120	69	36	0	104	7.0	8
15...	.1	.50	.036	64	21	2	69	7.0	70
FEB.									
01...	.1	.20	.029	66	35	0	96	7.4	5
15...	.1	1.5	.150	73	26	12	94	6.5	30
MAR.									
01...	.1	.30	.003	70	40	5	108	7.5	20
15...	.1	.30	.020	78	38	0	112	7.6	10
APR.									
01...	.1	.09	.010	67	41	0	116	7.1	10
15...	.1	.40	.026	76	41	2	107	7.5	20
MAY									
01...	.1	1.4	.210	84	42	4	122	7.1	15
15...	.1	.20	.046	65	26	4	68	6.9	55
JUNE									
01...	.1	.20	.006	78	41	1	126	6.8	7
JULY									
01...	.2	.20	.049	60	25	0	84	6.9	27
15...	.1	.30	.003	71	38	0	110	7.0	23
AUG.									
01...	.1	.20	.006	57	24	0	74	7.0	45
15...	.1	.07	.010	70	41	1	108	7.0	15
SEP.									
01...	.1	.02	.003	79	48	2	128	7.3	17
15...	.2	.09	.000	84	56	4	143	7.1	25

ROANOKE RIVER BASIN

02066000 ROANOKE (STAUNTON) RIVER AT RANDOLPH, VA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124	118	90	104	96	108	116	122	126	84	74	128
2	114	114	92	106	126	114	102	104	132	82	110	116
3	104	108	94	93	100	120	104	116	132	110	106	126
4	106	106	92	94	96	120	116	98	124	108	100	126
5	108	124	108	112	88	122	114	104	134	112	136	118
6	106	136	122	126	84	108	112	67	120	92	138	100
7	146	116	98	130	86	90	119	116	110	60	106	142
8	130	112	99	130	82	92	92	94	132	82	98	132
9	132	118	98	124	106	114	100	92	132	112	110	140
10	122	120	116	126	108	104	100	92	140	112	120	130
11	110	130	118	100	124	104	111	94	141	114	126	129
12	136	128	100	122	104	120	106	100	142	110	116	119
13	104	124	98	120	100	119	108	100	122	---	120	116
14	112	126	104	82	96	104	106	102	132	---	114	144
15	114	108	94	69	94	112	107	68	320	110	108	143
16	138	104	90	78	104	106	108	90	340	104	100	114
17	120	116	124	79	106	106	108	94	132	106	126	119
18	122	120	126	74	100	114	114	99	---	112	116	134
19	112	118	122	75	114	106	116	116	118	110	114	121
20	130	114	120	---	108	98	115	108	120	106	118	131
21	---	112	112	136	108	92	106	102	144	112	112	132
22	142	114	110	155	112	104	112	108	61	130	114	134
23	144	102	126	136	108	106	108	96	74	114	94	136
24	104	97	114	126	106	108	106	118	90	116	114	140
25	100	99	128	102	106	124	106	124	120	130	116	141
26	99	90	98	155	86	136	104	110	120	130	132	128
27	98	98	97	148	87	108	112	130	138	120	98	126
28	---	92	114	126	77	138	114	112	132	112	114	140
29	96	80	118	100	76	121	112	112	121	82	122	122
30	98	92	120	116	---	108	124	116	120	114	122	122
31	100	---	118	114	---	118	---	112	---	116	124	---
MONTH	116	111	108	112	100	111	109	104	137	107	113	128

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	18.0	5.0	6.0	4.0	7.0	9.0	16.0	19.0	19.0	23.0	24.0
2	19.0	18.0	6.0	6.0	5.0	8.0	9.0	16.0	18.0	20.0	24.0	23.0
3	20.0	---	6.0	4.0	6.0	6.0	9.0	16.0	18.0	20.0	24.0	23.0
4	20.0	16.0	6.0	7.0	4.0	6.0	9.0	16.0	19.0	20.0	24.0	23.0
5	20.0	14.0	6.0	6.0	---	6.0	9.0	15.0	19.0	20.0	24.0	24.0
6	20.0	11.0	5.0	6.0	6.0	5.0	9.0	15.0	20.0	17.0	24.0	22.0
7	19.0	12.0	6.0	4.0	6.0	6.0	10.0	16.0	19.0	18.0	---	22.0
8	18.0	9.0	6.0	5.0	5.0	6.0	8.0	15.0	21.0	20.0	---	22.0
9	19.0	9.0	10.0	7.0	5.0	6.0	8.0	15.0	22.0	20.0	---	23.0
10	18.0	8.0	8.0	7.0	5.0	5.0	8.0	15.0	22.0	20.0	---	22.0
11	18.0	10.0	8.0	7.0	5.0	7.0	9.0	15.0	18.0	20.0	---	22.0
12	19.0	10.0	9.0	8.0	5.0	7.0	10.0	15.0	18.0	20.0	25.0	22.0
13	18.0	11.0	10.0	8.0	5.0	8.0	9.0	16.0	18.0	---	24.0	22.0
14	18.0	11.0	9.0	5.0	5.0	7.0	9.0	16.0	22.0	---	25.0	23.0
15	18.0	13.0	9.0	5.0	5.0	7.0	16.0	14.0	21.0	21.0	25.0	23.0
16	18.0	13.0	10.0	1.0	5.0	6.0	13.0	15.0	21.0	23.0	25.0	23.0
17	18.0	12.0	9.0	2.0	6.0	7.0	13.0	15.0	22.0	24.0	25.0	24.0
18	18.0	12.0	6.0	3.0	6.0	7.0	15.0	16.0	---	26.0	25.0	22.0
19	18.0	10.0	7.0	3.0	5.0	7.0	15.0	16.0	22.0	24.0	24.0	23.0
20	18.0	10.0	8.0	---	6.0	7.0	15.0	16.0	22.0	24.0	24.0	22.0
21	---	10.0	8.0	6.0	5.0	7.0	15.0	16.0	22.0	25.0	24.0	22.0
22	18.0	9.0	6.0	1.0	6.0	7.0	14.0	16.0	18.0	25.0	24.0	22.0
23	17.0	8.0	4.0	7.0	6.0	7.0	14.0	17.0	17.0	26.0	23.0	22.0
24	18.0	9.0	6.0	6.0	6.0	7.0	14.0	17.0	18.0	26.0	23.0	23.0
25	18.0	9.0	6.0	5.0	6.0	7.0	15.0	18.0	18.0	25.0	24.0	22.0
26	17.0	9.0	7.0	5.0	6.0	7.0	14.0	16.0	19.0	24.0	24.0	23.0
27	18.0	10.0	7.0	4.0	6.0	8.0	14.0	16.0	19.0	24.0	24.0	22.0
28	---	10.0	8.0	6.0	6.0	7.0	15.0	17.0	20.0	24.0	24.0	22.0
29	17.0	10.0	8.0	---	7.0	9.0	15.0	17.0	20.0	24.0	24.0	22.0
30	18.0	7.0	8.0	5.0	---	9.0	15.0	18.0	20.0	24.0	24.0	22.0
31	18.0	---	8.0	5.0	---	9.0	---	18.0	---	24.0	24.0	---
MONTH	18.5	11.0	7.5	5.0	5.5	7.0	12.0	16.0	19.5	22.5	24.0	22.5

02066000 ROANOKE (STAUNTON) RIVER AT RANDOLPH, VA.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

OCTOBER				NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1720	19	88	1550	40	167	3430	38	352
2	2530	21	143	2290	45	278	2730	35	258
3	1730	20	93	5310	65	932	2400	27	175
4	1270	18	62	10100	210	5730	2690	33	240
5	1420	15	58	11100	300	8990	2050	30	166
6	1800	17	83	8460	90	2060	1290	26	91
7	1990	19	102	2250	70	425	1730	23	107
8	1870	20	101	1460	20	79	3350	40	362
9	1800	22	107	2350	40	254	3210	37	321
10	3260	45	396	4830	52	678	3650	35	345
11	5910	78	1240	3400	48	441	4580	55	680
12	4610	65	809	2730	40	295	2050	41	227
13	2430	40	262	1280	28	97	1480	28	112
14	2090	31	175	1080	25	73	1780	20	96
15	3370	60	546	1050	23	65	2240	25	151
16	3290	45	400	1750	20	95	4810	60	779
17	1280	20	69	1970	22	117	2020	46	251
18	1020	18	50	1410	19	72	4400	58	689
19	1600	25	108	1890	20	102	1890	31	158
20	1730	30	140	2260	30	183	1160	20	63
21	1890	32	163	1570	27	114	2110	22	125
22	1940	40	210	976	20	53	4520	43	525
23	9120	400	9850	1100	21	62	2250	18	109
24	23800	1100	70700	2230	25	151	1790	15	72
25	34100	1200	110000	4450	42	505	1800	16	78
26	26800	800	57900	4840	49	640	1130	14	43
27	14800	650	26000	2750	32	238	1100	14	42
28	9390	600	15200	3050	35	288	1360	17	62
29	6540	512	9040	2550	30	207	2190	20	118
30	4770	300	3860	3210	35	303	2360	23	147
31	2340	110	695	--	--	--	2370	25	160
TOTAL	182210	--	308650	95246	--	23694	75920	--	7104
JANUARY				FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1820	20	98	2520	30	204	5180	30	420
2	1050	15	43	1850	21	105	6900	42	782
3	1070	16	46	4960	168	2250	7070	70	1340
4	1700	25	115	11000	320	9500	8600	85	1970
5	5320	61	876	11800	425	13500	4580	53	655
6	5250	55	780	4550	210	2580	1910	48	248
7	5510	53	788	2860	95	734	2890	60	468
8	2250	40	243	3580	98	947	2920	65	512
9	1670	20	90	4120	110	1220	5670	110	1680
10	1170	15	47	4620	121	1510	5280	100	1430
11	2230	21	126	7300	212	4180	4280	95	1100
12	2590	28	196	5530	90	1340	2220	50	300
13	2460	23	153	7610	328	6740	1500	23	93
14	7030	210	3990	16400	820	36300	2140	25	144
15	7900	325	6930	12300	610	20300	2360	31	198
16	3430	115	1070	8410	125	2840	2430	33	217
17	1810	50	244	4960	90	1210	4050	40	437
18	1800	50	243	5430	70	1030	5080	65	892
19	3910	62	655	7860	85	1800	2190	30	177
20	1780	40	192	6390	70	1210	1670	25	113
21	3670	42	416	2680	41	297	2310	37	231
22	4780	45	581	3920	45	476	2620	40	283
23	2300	20	124	4230	51	582	2950	41	327
24	1720	19	88	6890	59	1100	4710	51	649
25	2050	22	122	8370	90	2030	5610	61	924
26	2380	30	193	6360	60	1030	3200	45	389
27	2500	51	344	4670	40	504	1590	25	107
28	3270	60	530	3910	30	317	2210	28	167
29	5490	65	963	7180	35	679	2250	33	200
30	2420	30	196	--	--	--	2220	32	192
31	1410	16	61	--	--	--	2450	41	271
TOTAL	93740	--	20543	182260	--	116515	111040	--	16916

ROANOKE RIVER BASIN

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02075500 DAN RIVER AT PACES, VA.

LOCATION.--Lat 36°38'32", long 79°05'23", Halifax County, at gaging station on right bank 100 ft upstream from bridge on State Highway 658, 0.5 mile southeast of Paces, 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.

PERIOD OF RECORD.--Chemical analyses: October 1955 to August 1956.

Water temperatures: January 1954 to September 1956.

Sediment records: January 1954 to September 1972.

REMARKS.--Sediment samples collected once weekly.

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1290	40	139	3180	140	1200	3460	72	673
2	2780	70	525	3060	130	1070	2830	68	520
3	3840	90	933	3960	185	1980	2560	65	449
4	2860	80	618	11100	310	9290	2250	56	340
5	1870	75	379	6850	210	3880	2380	67	431
6	1500	70	284	4280	150	1730	2350	65	412
7	1680	68	308	3730	100	1010	2300	64	397
8	1550	60	251	3440	90	836	5210	60	844
9	1280	55	190	3240	50	437	6090	95	1560
10	3360	110	998	3030	45	368	4130	85	948
11	4480	230	2780	2950	40	319	3440	80	743
12	3770	100	1020	2860	40	309	3200	75	648
13	2210	80	477	2700	35	255	2730	50	369
14	1810	70	342	2730	38	280	2440	45	296
15	1770	60	287	2110	35	199	2720	50	367
16	1360	50	184	1940	30	157	2480	45	301
17	1910	60	309	2230	45	271	2650	45	322
18	2360	70	446	2360	50	319	2660	45	323
19	1760	65	309	2380	55	353	2530	35	239
20	1730	65	304	2250	60	365	2120	32	183
21	1780	60	288	2400	70	454	1980	30	160
22	1660	65	291	1850	50	250	2330	33	208
23	5390	400	5820	1640	40	177	2230	35	211
24	16900	900	41100	2180	45	265	2010	28	152
25	20500	1060	58700	5710	65	1000	2080	28	157
26	16900	700	31900	5400	60	875	2090	30	169
27	11000	400	11900	3500	55	520	1810	28	137
28	5610	320	4850	4270	78	899	1770	28	134
29	4510	300	3650	3730	75	755	1850	30	150
30	3940	260	2770	3450	70	652	1960	35	185
31	3440	240	2230	--	--	--	1920	35	181
TOTAL	136800	--	174582	104510	--	30475	82560	--	12209

ROANOKE RIVER BASIN

02075500 DAN RIVER AT PACES, VA.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1820	35	172	1970	54	287	3150	60	510
2	2230	60	361	2250	60	365	3000	55	446
3	1470	40	159	3400	85	780	3190	58	500
4	1600	41	177	12900	800	27900	3400	65	597
5	1880	45	228	12900	700	24400	3110	52	437
6	2000	50	270	5610	550	8330	2810	50	379
7	1950	48	253	3870	260	2720	2450	40	265
8	1720	45	209	3400	180	1650	2840	42	322
9	2130	70	403	3170	140	1200	2820	42	320
10	1440	60	233	2860	120	927	2810	42	319
11	2010	50	271	2730	110	811	2480	25	167
12	2870	72	558	2550	100	689	2570	32	222
13	3450	75	699	7540	580	11800	2300	38	236
14	4410	80	953	11200	600	18100	2150	40	232
15	10600	180	5150	6700	300	5430	2260	41	250
16	5310	110	1580	4300	210	2440	2330	45	283
17	3390	50	458	3940	190	2020	2830	48	367
18	2770	40	299	3950	190	2030	3400	53	487
19	3010	45	366	4060	195	2140	2950	35	279
20	2670	38	274	3950	100	1070	2600	30	211
21	2760	37	276	3150	50	425	2250	28	170
22	2780	38	285	2950	48	382	2670	31	223
23	2940	36	286	2990	40	323	5180	63	881
24	2600	35	246	3310	55	492	4390	57	676
25	2450	30	198	3360	55	499	3090	49	409
26	2580	30	209	3410	60	552	2840	40	307
27	2580	30	209	3740	70	707	2720	35	257
28	2480	29	194	3690	65	648	2490	28	188
29	2600	28	197	3160	60	512	2930	30	237
30	2920	31	244	--	--	--	2910	30	236
31	1800	25	122	--	--	--	3010	30	244
TOTAL	87220	--	15539	133010	--	119629	89930	--	10657
DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	3560	55	529	2320	50	313	4090	50	552
2	4060	60	658	2170	45	264	3720	45	452
3	3300	50	446	2850	55	423	3090	42	350
4	3110	45	378	8320	250	5620	2850	39	300
5	2840	40	307	16800	720	32700	2110	35	199
6	2680	30	217	10900	510	15000	2050	32	177
7	2600	28	197	4550	200	2460	2460	35	232
8	3610	45	439	3500	110	1040	2460	35	232
9	7110	160	3070	5410	140	2040	2390	30	194
10	4330	120	1400	6610	210	3750	2300	29	180
11	3310	100	894	4450	150	1800	2320	30	188
12	3750	135	1370	3760	100	1020	1770	28	134
13	6690	220	3970	3420	95	877	1610	25	109
14	7900	390	8320	7080	350	6690	1780	28	135
15	9000	610	14800	17600	690	32800	1830	30	148
16	5500	400	5940	21400	760	43900	1720	27	125
17	4230	250	2860	18400	500	24800	1720	27	125
18	3600	100	972	6500	400	7020	2250	40	243
19	3560	60	577	6420	250	4330	3190	180	1550
20	3470	50	468	5580	200	3010	3140	200	1700
21	3350	45	407	4890	100	1320	13400	300	10900
22	3420	100	923	3850	90	936	45400	625	76600
23	4400	210	2490	3460	80	747	63400	1100	188000
24	4320	210	2450	3730	85	856	47700	850	109000
25	3370	90	819	3560	90	865	18300	700	34600
26	3310	80	715	3230	75	654	7380	500	9960
27	3290	70	622	3040	60	492	6270	300	5080
28	3140	60	509	2880	50	389	4640	210	2630
29	2950	60	478	2420	45	294	6090	300	4930
30	2930	60	475	2170	40	234	8180	450	9940
31	--	--	--	2860	42	324	--	--	--
TOTAL	122690	--	57700	194130	--	196968	269610	--	458965

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SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	5260	300	4260	2730	105	774	1340	65	235
2	3720	275	2760	2540	100	686	1310	61	216
3	2780	200	1500	2910	115	904	1300	58	204
4	2680	180	1300	2800	110	832	1150	55	171
5	5780	225	3510	2810	110	835	1370	60	222
6	9910	300	8030	2750	100	743	2420	70	457
7	5430	260	3810	1990	90	484	2850	90	693
8	4590	170	2110	1880	85	431	1860	85	427
9	4110	100	1110	3020	95	775	1520	80	328
10	3870	90	940	2510	90	610	1540	80	333
11	3710	85	851	2180	85	500	1160	75	235
12	3850	85	884	2110	80	456	1180	75	239
13	4750	90	1150	2040	70	386	1510	86	351
14	3710	75	751	1450	60	235	1240	80	268
15	3160	72	614	1470	51	202	1590	90	386
16	2980	70	563	1630	55	242	1480	70	280
17	2230	65	391	1700	60	275	1470	50	198
18	2420	70	438	1730	60	280	1260	48	163
19	2690	75	545	1690	55	251	1590	55	236
20	2660	75	539	1880	74	376	1490	48	193
21	2580	75	522	1900	80	410	1300	52	183
22	2510	75	508	1480	75	300	1260	50	170
23	2360	70	446	1470	75	298	1260	50	170
24	1760	65	309	1430	68	263	1180	45	143
25	1760	65	309	1440	68	264	997	40	108
26	2220	90	539	1420	68	261	982	40	106
27	2180	85	500	1380	65	242	1080	50	146
28	2210	90	537	1380	65	242	1420	60	230
29	2230	92	554	1430	70	270	2560	90	622
30	2390	98	632	1690	85	388	7850	130	2760
31	2760	110	820	1470	70	278	--	--	--
TOTAL	105150	--	41732	60310	--	13493	50519	--	10473
TOTAL DISCHARGE FOR YEAR (CFS-DAYS)									1436439
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS)									1142422

OHIO RIVER BASIN

KANAWHA RIVER BASIN

03164000 NEW RIVER NEAR GALAX, VA.

LOCATION.--Lat 36°38'50", long 80°58'45", Grayson County, at gaging station on left bank at upstream side of bridge on U.S. Highway 58, 500 ft downstream from Meadow Creek, 1.2 miles southwest of Old Town, 3.1 miles southwest of Galax, and 3.6 miles downstream from Elk Creek.

DRAINAGE AREA.--1,131 sq mi.

PERIOD OF RECORD.--Chemical analyses: April 1930 to March 1931, October to December 1949, October 1951 to September 1952, February 1967 to September 1972.
Water temperatures: October to December 1949, April 1968 to September 1972.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT.										
01...	1140	13	40	4.1	1.8	3.4	1.8	23	3.2	3.6
15...	1390	12	60	3.3	1.5	2.8	1.5	17	3.6	3.4
NOV.										
01...	2810	12	180	3.8	1.0	2.5	1.1	18	2.6	3.3
15...	1750	10	40	4.6	1.4	7.6	2.2	31	4.2	3.8
DEC.										
01...	2440	12	20	4.1	1.8	3.2	1.3	17	4.8	3.8
15...	2000	12	20	3.3	1.1	2.6	1.2	17	1.2	3.1
JAN.										
01...	1500	12	10	3.1	1.2	2.9	1.0	17	3.6	2.8
15...	2480	12	10	3.3	1.2	2.9	1.5	16	5.2	2.2
FEB.										
01...	2060	12	0	3.2	1.4	3.6	1.2	14	5.2	4.2
15...	3040	11	0	3.9	1.5	3.9	1.1	13	5.0	5.2
MAR.										
01...	3670	10	20	3.2	1.2	4.3	1.0	15	5.2	2.6
15...	1500	11	80	3.2	1.2	3.0	1.0	15	4.4	2.3
APR.										
01...	2200	10	0	3.2	1.4	3.6	1.0	16	4.0	1.8
15...	3700	11	20	3.2	1.2	4.4	1.1	14	4.6	2.5
MAY										
01...	1700	12	20	3.3	1.1	5.9	1.1	18	3.8	2.4
15...	7000	12	50	3.3	1.4	2.4	1.2	16	4.0	1.7
JUNE										
01...	2100	12	20	3.4	1.2	3.2	1.2	18	4.0	2.6
15...	1540	11	70	3.4	1.3	3.0	1.3	17	5.0	1.9
JULY										
01...	2360	12	10	3.5	1.3	3.1	1.0	17	4.2	2.1
15...	1820	12	0	3.6	1.5	3.0	1.2	18	3.0	3.4
AUG.										
01...	2830	13	10	4.1	1.4	3.0	1.4	20	3.6	3.2
15...	1040	11	20	3.7	1.8	3.8	1.3	20	3.4	4.1
SEP.										
01...	901	9.0	20	4.0	1.6	3.6	1.8	21	4.0	3.4
15...	870	11	0	3.6	1.7	3.8	1.4	22	3.8	2.7

KANAWHA RIVER BASIN

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03164000 NEW RIVER NEAR GALAX, VA.--Continued

EXTREMES.--1971-72:

Specific conductance: Maximum daily, 88 micromhos Nov. 13; minimum daily, 39 micromhos Apr. 14-16.

Water temperatures: Maximum, 30.0°C on several days in August; minimum, 3.0°C on several days in February.

Period of record:

Specific conductance (1968-72): Maximum daily, 88 micromhos Nov. 13, 1971; minimum daily, 30 micromhos Feb. 11, 1969.

Water temperatures (1968-72): Maximum, 31.0°C July 17, 18, 1969; minimum, freezing point on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	DIS- SOLVED FLUOR- IDE (F) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOS- PHORUS (P) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)	COLOR (PLAT- INUM- COBALT UNITS)
CCT.									
01...	.1	.30	.000	43	18	0	58	7.0	10
15...	.1	.50	.000	38	14	0	48	7.0	10
NOV.									
01...	.1	.50	.000	50	14	0	44	7.0	3
15...	.1	.02	.620	48	18	0	68	6.9	5
DEC.									
01...	.1	.40	.000	38	18	4	49	6.7	3
15...	.1	.50	.000	37	12	0	44	6.8	7
JAN.									
01...	.1	.40	.003	40	12	0	44	6.8	5
15...	.1	.70	.170	37	13	0	45	6.7	5
FEB.									
01...	.1	.80	.006	45	14	2	48	6.8	5
15...	.1	.80	.000	49	16	5	50	6.9	10
MAR.									
01...	.1	.80	.013	51	13	0	45	7.0	10
15...	.1	.60	.006	40	13	0	43	7.0	15
APR.									
01...	.1	.60	.006	43	14	1	46	6.9	20
15...	.1	.60	.006	50	13	2	39	6.8	7
MAY									
01...	.1	.60	.042	45	12	0	44	6.7	7
15...	.1	.60	.000	46	14	1	42	6.7	20
JUNE									
01...	.1	.30	.006	43	14	0	49	6.2	3
15...	.1	.50	.010	51	14	0	49	6.6	12
JULY									
01...	.1	.40	.000	38	14	0	50	7.0	5
15...	.1	.40	.003	41	15	0	50	6.8	5
AUG.									
01...	.1	.40	.003	43	16	0	54	6.8	17
15...	.1	.30	.003	44	16	0	52	7.0	17
SEP.									
01...	.1	.20	.003	52	16	0	53	6.7	20
15...	.1	.20	.000	41	16	0	53	7.0	35

KANAWHA RIVER BASIN

03164000 NEW RIVER NEAR GALAX, VA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	44	49	44	48	45	46	44	49	50	54	53
2	57	43	48	44	48	45	46	42	49	50	53	53
3	56	44	49	44	50	44	45	46	50	51	53	55
4	54	43	47	44	48	46	46	52	48	50	55	53
5	55	44	48	43	48	43	46	43	49	51	53	54
6	56	44	44	43	48	43	45	46	49	49	55	53
7	57	45	44	43	50	43	43	42	49	50	52	50
8	56	44	43	43	48	42	44	43	50	51	52	55
9	57	46	45	43	48	42	44	42	49	51	52	52
10	---	47	44	43	50	43	40	42	49	51	53	50
11	---	60	45	44	51	42	40	42	49	51	51	55
12	---	68	45	43	50	42	40	42	49	46	52	54
13	---	88	45	43	50	43	40	42	48	47	50	55
14	48	72	45	44	50	44	39	42	49	47	50	55
15	48	68	44	45	50	43	39	42	49	50	52	53
16	48	50	44	44	50	44	39	46	49	49	59	56
17	48	49	44	50	52	43	40	47	49	49	54	55
18	47	50	44	48	51	43	43	47	50	49	57	56
19	46	49	43	50	51	43	43	48	50	52	53	55
20	47	50	43	49	52	42	43	47	51	52	53	54
21	46	51	44	50	51	42	43	46	51	---	50	56
22	47	50	43	50	52	43	40	48	46	52	50	60
23	47	51	43	49	51	43	40	48	46	52	49	61
24	46	49	43	48	50	42	41	48	46	53	49	59
25	47	48	45	48	51	42	41	48	46	---	50	57
26	45	50	43	48	51	42	42	48	48	52	51	59
27	46	46	44	46	50	42	42	48	48	54	52	60
28	44	49	44	49	46	43	43	47	46	53	52	62
29	46	48	44	49	44	45	43	48	47	55	53	60
30	46	53	44	50	---	46	44	49	51	54	52	56
31	43	---	44	49	---	46	---	48	---	53	51	---
MONTH	50	51	45	46	50	43	42	46	49	51	52	56

KANAWHA RIVER BASIN

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03164000 NEW RIVER NEAR GALAX, VA.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	16.0	12.0	15.0	7.0	5.0	9.0	16.0	20.0	24.0	27.0	26.0
2	22.0	16.0	17.0	15.0	7.0	5.0	9.0	16.0	20.0	24.0	27.0	26.0
3	21.0	16.0	17.0	15.0	7.0	6.0	10.0	16.0	20.0	24.0	27.0	26.0
4	21.0	16.0	17.0	16.0	6.0	6.0	10.0	16.0	21.0	24.0	28.0	26.0
5	21.0	16.0	17.0	11.0	7.0	6.0	10.0	16.0	21.0	24.0	28.0	26.0
6	21.0	16.0	17.0	11.0	6.0	6.0	10.0	16.0	22.0	25.0	28.0	25.0
7	21.0	10.0	18.0	11.0	6.0	7.0	10.0	16.0	22.0	25.0	28.0	25.0
8	21.0	16.0	18.0	11.0	6.0	6.0	10.0	16.0	21.0	25.0	28.0	25.0
9	22.0	16.0	18.0	11.0	6.0	7.0	10.0	16.0	23.0	26.0	28.0	25.0
10	---	15.0	17.0	10.0	6.0	7.0	11.0	16.0	22.0	26.0	28.0	25.0
11	---	15.0	17.0	10.0	5.0	7.0	11.0	17.0	22.0	26.0	28.0	26.0
12	---	15.0	17.0	10.0	5.0	8.0	11.0	17.0	22.0	26.0	28.0	25.0
13	---	15.0	17.0	10.0	5.0	8.0	11.0	17.0	23.0	26.0	29.0	25.0
14	19.0	15.0	17.0	9.0	5.0	9.0	11.0	17.0	23.0	27.0	29.0	25.0
15	19.0	15.0	17.0	9.0	5.0	9.0	12.0	17.0	23.0	25.0	---	25.0
16	19.0	15.0	17.0	9.0	6.0	9.0	12.0	16.0	23.0	25.0	29.0	25.0
17	19.0	15.0	16.0	9.0	5.0	9.0	12.0	16.0	23.0	26.0	29.0	25.0
18	19.0	14.0	16.0	9.0	5.0	10.0	12.0	16.0	24.0	26.0	29.0	22.0
19	18.0	14.0	16.0	8.0	4.0	10.0	13.0	17.0	24.0	26.0	28.0	22.0
20	18.0	14.0	16.0	8.0	3.0	10.0	13.0	17.0	24.0	26.0	28.0	22.0
21	18.0	13.0	16.0	9.0	3.0	10.0	14.0	17.0	24.0	---	28.0	22.0
22	17.0	14.0	16.0	8.0	3.0	10.0	14.0	17.0	22.0	27.0	28.0	22.0
23	17.0	15.0	16.0	8.0	3.0	10.0	14.0	17.0	22.0	28.0	30.0	22.0
24	17.0	14.0	14.0	8.0	3.0	10.0	14.0	17.0	22.0	28.0	30.0	23.0
25	17.0	15.0	14.0	8.0	3.0	11.0	15.0	18.0	23.0	---	30.0	23.0
26	17.0	14.0	15.0	8.0	3.0	10.0	15.0	18.0	23.0	26.0	30.0	25.0
27	17.0	14.0	15.0	8.0	3.0	10.0	13.0	18.0	23.0	26.0	30.0	25.0
28	17.0	15.0	15.0	8.0	3.0	10.0	16.0	18.0	24.0	26.0	30.0	25.0
29	17.0	14.0	15.0	8.0	5.0	10.0	16.0	19.0	24.0	27.0	30.0	25.0
30	17.0	14.0	15.0	8.0	---	11.0	16.0	20.0	24.0	27.0	28.0	25.0
31	16.0	---	15.0	8.0	---	10.0	---	20.0	---	27.0	28.0	---
MONTH	19.0	14.5	16.0	10.0	5.0	8.5	12.0	17.0	22.5	26.0	28.5	24.5

KANAWHA RIVER BASIN

03176500 NEW RIVER AT GLEN LYN, VA.

LOCATION.--Lat 37°22'20", long 80°51'45", Giles County, on left bank at the steam electric plant of the Appalachian Electric Power Company, at Glen Lyn, 0.3 mile upstream from East River, and 6.3 miles downstream from Wolf Creek.

DRAINAGE AREA.--3,768 sq mi.

PERIOD OF RECORD.--Chemical analyses: April 1930 to March 1931, October 1949 to September 1950, October 1951 to September 1956, February 1967 to September 1972.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SiO_2) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO_3) (MG/L)	DIS- SOLVED SULFATE (SO_4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT.										
01...	2780	6.4	0	17	6.4	4.0	1.9	63	21	3.3
15...	4490	7.4	20	14	5.1	3.4	1.8	56	12	3.8
NOV.										
01...	5000	7.5	200	15	5.4	2.4	1.7	61	11	3.8
15...	2700	7.2	0	16	6.2	3.2	1.5	66	16	3.0
DEC.										
01...	6370	8.4	0	17	5.1	3.0	1.5	55	18	5.4
15...	5160	7.3	0	13	4.8	2.8	1.4	53	12	4.0
JAN.										
01...	2780	7.6	0	14	5.5	3.1	1.1	57	13	4.2
15...	6020	7.6	10	14	4.5	2.7	1.2	51	14	3.6
FEB.										
01...	7160	8.6	30	13	4.3	2.5	1.1	53	9.0	3.0
23...	8670	6.9	0	18	4.9	2.6	1.2	59	14	4.8
MAR.										
01...	12400	7.8	10	16	4.5	2.9	1.2	55	11	5.6
APR.										
01...	4470	7.8	0	16	5.6	2.8	1.3	62	12	2.9
15...	26100	6.4	20	12	3.8	2.8	1.2	49	8.4	1.7
JULY										
01...	7340	7.6	50	14	4.5	2.3	1.5	52	11	2.4
15...	6000	7.0	40	16	5.0	2.3	1.4	54	13	2.0
AUG.										
01...	9500	7.5	30	15	4.8	2.2	1.4	55	12	2.5
15...	2860	6.5	0	25	6.9	2.8	1.4	79	24	3.9
SEP.										
01...	2350	6.5	0	25	7.6	3.6	1.6	76	30	3.3
15...	2030	6.2	0	27	7.6	4.0	1.6	75	35	3.9

KANAWHA RIVER BASIN

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03176500 NEW RIVER AT GLEN LYN, VA.--Continued

PERIOD OF RECORD.--Continued

Water temperatures: October 1964 to September 1972.

EXTREMES.--Period of record:

Specific conductance (1968-71): Maximum daily, 350 micromhos Nov. 6, 1968; minimum daily, 93 micromhos Jan. 1, Apr. 4, 1970.

Water temperatures (1964-71): Maximum, 28.5°C Aug. 16, 1965; minimum, freezing point on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA, MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLATINUM-COBALT UNITS)
OCT.									
01...	.1	1.3	.010	105	69	18	180	7.1	7
15...	.1	.80	.010	80	56	10	134	7.3	8
NOV.									
01...	.1	.70	.010	87	60	10	132	7.3	7
15...	.1	.90	.010	94	66	12	155	7.1	7
DEC.									
01...	.1	1.2	.010	91	64	18	148	7.5	7
15...	.1	.60	.000	77	52	9	124	7.2	2
JAN.									
01...	.1	.70	.009	79	58	11	130	7.2	0
15...	.1	1.0	.006	81	54	12	128	7.3	5
FEB.									
01...	.1	.70	.000	74	50	6	120	7.2	0
23...	.1	1.2	.006	88	65	16	140	7.4	10
MAR.									
01...	.1	1.0	.003	80	58	14	124	7.2	10
APR.									
01...	.1	.80	.016	84	63	12	144	7.3	15
15...	.1	.70	.016	71	46	6	107	7.1	25
JULY									
01...	.1	1.0	.010	73	54	11	130	7.3	7
15...	.1	1.0	.006	82	60	16	165	7.6	7
AUG.									
01...	.1	.90	.010	81	58	12	138	7.0	5
15...	.1	1.6	.006	124	91	26	195	7.4	12
SEP.									
01...	.1	1.9	.003	131	94	32	215	7.3	12
15...	.2	2.2	.020	143	99	38	210	7.1	15

KANAWHA RIVER BASIN

03176500 NEW RIVER AT GLEN LYN, VA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	180	132	148	130	120	124	144	---	---	130	138	215
2	165	120	120	142	138	132	140	---	---	144	140	200
3	155	134	130	144	136	126	---	---	---	170	150	195
4	160	112	136	150	126	120	---	---	---	183	138	190
5	157	114	138	124	132	126	---	---	---	158	130	205
6	146	118	165	118	134	---	---	---	---	120	150	215
7	138	120	---	116	160	---	---	---	---	131	165	138
8	140	118	114	127	146	---	---	---	---	135	170	155
9	155	126	110	128	134	---	---	---	---	134	138	146
10	175	150	112	141	148	---	---	---	---	155	139	165
11	165	122	118	122	146	---	---	---	---	215	140	160
12	200	132	120	115	144	---	---	---	---	190	165	190
13	166	126	126	138	---	---	---	---	---	189	165	195
14	170	133	130	119	---	---	127	---	---	165	170	190
15	134	155	124	128	---	---	107	---	---	165	195	210
16	136	180	126	122	---	---	116	---	---	197	185	180
17	150	155	132	138	---	---	120	---	---	215	197	205
18	165	128	134	140	---	---	132	---	---	196	200	235
19	190	132	122	128	---	---	138	---	---	167	157	210
20	150	142	148	128	---	---	138	---	---	165	180	230
21	165	155	165	116	---	---	138	---	---	164	175	185
22	155	160	134	112	---	150	148	---	---	167	185	230
23	153	195	136	108	140	136	148	---	---	144	190	215
24	140	144	126	132	126	120	144	---	---	160	175	245
25	110	146	134	124	108	142	153	---	---	185	180	250
26	106	136	144	122	116	142	---	---	---	195	195	205
27	110	126	170	122	112	138	---	---	---	165	190	250
28	112	140	160	130	112	132	---	---	---	180	180	200
29	118	144	136	112	124	157	---	---	149	210	200	205
30	114	150	138	106	---	146	---	---	148	170	185	165
31	122	---	144	118	---	150	---	---	---	140	195	---
MONTH	148	138	135	126	---	---	---	---	---	168	170	199

KANAWHA RIVER BASIN

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03176500 NEW RIVER AT GLEN LYN, VA.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	18.0	---	7.0	5.0	7.0	10.0	---	---	20.0	23.0	24.0
2	21.0	18.0	12.0	7.0	5.0	7.0	9.0	---	---	21.0	23.0	23.5
3	20.5	18.0	12.0	6.0	5.0	7.5	8.0	---	---	22.0	23.0	23.0
4	22.0	15.0	12.0	7.0	3.0	7.0	10.0	---	---	22.0	23.0	24.5
5	23.0	14.0	12.0	7.0	1.5	6.0	8.0	---	---	20.5	23.5	23.0
6	21.0	13.0	6.0	5.0	2.0	---	10.0	---	---	18.0	23.5	21.5
7	21.0	14.0	---	5.0	4.0	---	11.5	---	---	18.0	24.0	22.0
8	18.0	11.0	8.0	3.5	3.0	---	11.0	---	---	19.5	25.0	24.0
9	18.0	11.0	9.0	4.0	4.0	---	7.0	---	---	20.5	25.0	24.5
10	19.0	11.0	10.0	6.0	5.0	---	8.0	---	---	21.0	24.0	22.5
11	16.0	10.0	9.0	8.0	5.0	---	10.0	---	---	22.5	23.5	22.0
12	16.0	10.0	8.5	8.0	5.0	---	10.0	---	---	22.5	22.5	23.5
13	16.0	11.5	9.0	9.0	---	---	11.5	---	---	22.5	24.5	24.0
14	17.0	16.0	9.0	9.0	---	---	11.5	---	---	24.5	24.0	24.0
15	18.0	18.0	9.0	5.0	---	---	11.0	---	---	23.0	25.5	24.5
16	18.5	20.0	10.0	2.0	---	---	12.0	---	---	24.0	24.5	23.5
17	18.0	19.0	11.0	1.0	---	---	13.0	---	---	24.0	22.5	23.5
18	18.0	20.0	12.0	2.0	---	---	14.0	---	---	26.0	23.5	24.0
19	18.0	21.0	9.0	5.0	---	---	15.0	---	---	26.0	23.5	24.5
20	18.0	19.0	5.0	5.0	---	---	15.0	---	---	25.5	23.0	23.5
21	18.0	19.0	8.0	6.0	---	---	15.0	---	---	25.0	23.5	23.5
22	18.0	16.0	9.0	7.5	---	11.0	15.0	---	---	25.0	25.0	23.5
23	18.0	13.0	7.0	7.5	7.0	10.0	13.0	---	---	25.0	25.0	23.0
24	17.0	15.0	6.0	9.0	6.0	7.0	13.0	---	---	27.0	26.0	23.0
25	18.0	11.0	7.5	10.0	6.0	6.0	14.0	---	---	26.0	26.0	23.0
26	16.0	11.0	10.0	7.0	7.0	7.0	13.5	---	---	27.0	26.0	23.5
27	16.0	13.0	10.0	7.0	5.0	7.0	11.5	---	---	25.5	26.0	25.0
28	15.5	13.0	10.0	7.0	5.0	9.0	13.0	---	---	25.0	25.0	23.5
29	16.0	15.0	9.0	7.0	8.0	10.0	14.0	---	21.0	24.0	25.0	22.5
30	16.0	15.0	9.0	7.0	---	9.0	14.5	---	20.0	22.0	24.5	21.0
31	16.5	---	10.0	6.0	---	9.0	---	---	---	20.5	24.0	---
MONTH	18.0	15.0	9.0	6.0	---	---	11.5	---	---	23.0	24.0	23.5

BIG SANDY RIVER BASIN

03207800 LEVISA FORK AT BIG ROCK, VA.

LOCATION.--Lat 37°21'13", long 82°11'45", Buchanan County, at gaging station on left bank at Big Rock, 2,000 ft downstream from Rocklick Creek, and 2,500 ft downstream from bridge on State Highway 645.

DRAINAGE AREA.--297 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1969 to June 1972 (discontinued).

Water temperatures: October 1969 to June 1972 (discontinued).

Sediment: January 1970 to June 1972 (discontinued).

EXTREMES.--October 1971 to June 1972:

Specific conductance: Maximum daily, 680 micromhos June 15; minimum daily, 138 micromhos Apr. 11.

WATER QUALITY DATA, PERIOD OCTOBER 1971 TO JUNE 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT.										
05...	1120	8.2	20	20	7.6	9.0	4.0	52	51	5.3
10...	212	9.1	20	29	13	17	4.2	43	110	8.7
15...	98	7.4	0	37	17	29	5.5	57	160	14
20...	166	--	--	--	--	--	--	--	110	--
20...	166	7.4	20	28	13	18	4.5	50	110	10
25...	1390	9.0	100	15	7.6	7.3	3.0	27	58	4.5
31...	247	8.5	220	30	13	15	2.7	42	110	8.0
NOV.										
05...	554	9.8	150	20	8.8	9.6	2.5	30	71	5.6
10...	222	8.0	0	29	13	17	3.6	42	110	10
15...	140	6.7	20	35	16	23	3.7	51	140	15
17...	122	--	--	--	--	--	--	--	150	--
20...	117	6.6	0	38	17	29	3.3	54	150	26
25...	201	7.6	0	33	15	21	2.8	44	130	20
30...	193	6.9	0	25	13	19	2.7	40	110	16
DEC.										
05...	144	6.0	40	32	14	23	2.6	38	120	19
10...	436	7.7	50	24	10	14	2.9	32	89	9.6
15...	290	--	--	--	--	--	--	--	100	--
15...	290	7.1	140	31	12	15	6.4	51	100	11
20...	437	7.7	20	20	10	12	2.2	27	85	9.4
25...	286	7.1	60	26	12	15	2.2	32	100	8.6
31...	191	7.6	0	23	10	10	2.4	27	82	7.5
JAN.										
05...	4660	8.1	0	13	5.3	5.0	1.9	17	41	4.7
10...	719	8.3	240	23	11	12	2.5	24	100	8.5
15...	950	8.3	20	21	10	12	2.4	24	91	8.8
20...	2000	--	--	--	--	--	--	--	130	--
20...	2000	7.2	20	18	7.2	5.4	2.2	37	54	3.3
25...	1110	8.3	0	25	12	13	2.8	25	110	5.3
31...	876	8.5	30	26	12	14	2.6	25	120	5.6
FEB.										
05...	366	9.1	30	32	16	20	2.5	34	150	6.8
10...	260	8.7	30	33	16	22	2.7	34	160	9.4
15...	1410	7.8	20	18	9.2	9.7	2.3	16	78	6.8
16...	925	--	--	--	--	--	--	--	84	--
20...	553	7.3	20	26	14	15	2.6	28	120	7.8
25...	5980	7.5	0	16	6.8	7.8	2.0	15	64	4.8
29...	1030	7.8	0	28	14	15	3.3	27	130	6.7
MAR.										
05...	544	7.0	0	28	14	15	2.9	31	130	8.5
10...	386	7.3	30	31	15	19	5.2	35	140	10
15...	286	--	--	--	--	--	--	--	72	--
15...	286	6.7	10	32	16	20	3.0	39	150	10
20...	210	6.5	30	35	16	25	3.3	45	160	10
25...	229	6.2	20	33	15	26	2.5	41	150	17
31...	223	5.9	0	32	15	27	2.7	42	140	19
APR.										
05...	244	6.0	0	30	14	20	2.7	39	130	12
10...	812	7.0	0	20	9.9	13	2.1	26	88	8.5
15...	4220	7.5	0	20	9.6	9.2	2.5	22	82	4.6
17...	1640	--	--	--	--	--	--	--	94	--
20...	564	8.5	0	31	15	18	2.9	38	140	9.2
25...	325	8.1	20	33	16	25	3.0	44	150	17
30...	226	7.2	0	37	18	26	3.3	48	160	12
MAY										
05...	671	7.9	0	16	8.3	9.6	2.2	27	66	6.1
10...	751	8.1	10	16	8.4	9.2	2.1	27	67	5.9
15...	609	7.3	20	20	9.8	10	2.3	32	80	5.9
17...	574	--	--	--	--	--	--	--	82	--
20...	504	6.8	20	20	9.6	12	2.2	33	86	9.6
25...	420	6.3	0	21	9.8	13	2.9	37	87	9.3
31...	213	7.5	30	35	15	25	2.8	58	140	15

03207800 LEVISA FORK AT BIG ROCK, VA.--Continued

EXTREMES.--October 1971 to June 1972--Continued

Water temperatures: Maximum, 29.5°C June 2; minimum, freezing point on Jan. 15, 16.

Sediment concentrations: Maximum daily, 1,590 mg/l Apr. 14; minimum daily, 2 mg/l Apr. 30, May 27.

Sediment discharge: Maximum daily, 38,700 tons/day Apr. 14; minimum daily, 0.57 ton/day June 14.

Period of record:

Specific conductance: Maximum daily, 1,180 micromhos Oct. 12, 1969; minimum daily, 138 micromhos Apr. 11, 1972.

Water temperatures: Maximum, 31.0°C July 1, 26, 27, 1970; minimum, freezing point on many days during December to January.

Sediment concentrations: Maximum daily, 9,020 mg/l May 6, 1971; minimum daily, 1 mg/l Oct. 19, 1970.

Sediment discharge: Maximum daily, 107,000 tons/day May 6, 1971; minimum daily, 0.04 ton/day Oct. 19, 1970.

WATER QUALITY DATA, PERIOD OCTOBER 1971 TO JUNE 1972

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL ORTHOPHOS- PHORUS (P) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)	COLOR (PLAT- INUM- COBALT UNITS)
OCT.									
05...	.3	.80	.200	142	82	38	230	7.1	0
10...	.2	.40	.000	220	130	91	340	7.4	5
15...	.2	.60	.000	312	160	120	460	7.0	3
20...	--	--	--	--	130	--	218	8.0	5
20...	.2	.50	.000	240	120	82	350	6.9	3
25...	.1	.40	.010	128	69	47	195	6.9	25
31...	.2	.40	.000	219	130	94	290	7.1	7
NOV.									
05...	.2	.60	.000	152	86	62	215	7.1	3
10...	.2	.40	.000	225	130	92	330	7.0	7
15...	.2	.20	.000	278	150	110	420	7.2	3
17...	--	--	--	--	180	--	250	7.8	10
20...	.1	.09	.000	316	160	120	470	6.9	2
25...	.2	.29	.000	264	130	98	400	7.0	0
30...	.2	.25	.000	231	120	83	350	7.0	5
DEC.									
05...	.2	.20	.000	246	140	110	372	7.4	7
10...	.1	.40	.000	181	100	75	290	7.2	7
15...	--	--	--	--	120	--	208	7.3	3
15...	.2	.20	.026	220	130	85	330	7.4	10
20...	.2	.30	.000	170	91	69	260	7.2	5
25...	.2	.40	.000	204	110	88	320	7.0	3
31...	.2	.80	.022	164	98	76	260	7.0	3
JAN.									
05...	.1	.80	.036	95	54	40	146	6.8	7
10...	.2	.70	.000	183	100	83	288	7.0	5
15...	.2	.50	.000	170	94	74	270	7.2	5
20...	--	--	--	--	120	--	219	7.2	5
20...	.2	.60	.078	127	74	44	185	6.8	5
25...	.2	.60	.033	196	110	92	290	6.8	2
31...	.2	.50	.003	210	110	94	320	6.8	2
FEB.									
05...	.2	.50	.000	266	150	120	410	7.2	0
10...	.2	.50	.000	278	150	120	415	7.2	5
15...	.2	.60	.000	144	83	70	215	7.1	10
16...	--	--	--	--	86	--	168	7.0	0
20...	.2	.70	.000	211	120	100	330	7.0	3
25...	.1	.80	.036	123	68	56	190	7.1	5
29...	.2	.70	.003	227	130	110	340	7.1	5
MAR.									
05...	.2	.70	.000	226	130	100	350	7.2	5
10...	.2	.50	.003	262	140	110	370	7.5	5
15...	--	--	--	--	150	--	260	7.2	3
15...	.2	.50	.000	268	150	110	395	7.4	5
20...	.2	.40	.003	254	150	120	440	7.2	3
25...	.2	.40	.003	282	140	110	420	7.3	3
31...	.2	.20	.000	272	140	110	420	7.0	5
APR.									
05...	.2	.20	.000	248	130	100	370	7.3	7
10...	.1	.50	.000	162	90	69	261	6.8	10
15...	.1	.60	.006	158	90	72	235	7.1	15
17...	--	--	--	--	110	--	176	7.3	15
20...	.2	.70	.006	256	140	110	370	7.0	10
25...	.1	.60	.003	300	150	110	440	7.4	2
30...	.2	.30	.000	310	170	130	440	7.3	2
MAY									
05...	.1	.30	.000	136	74	52	205	6.9	5
10...	.1	.30	.000	140	74	52	210	7.1	8
15...	.1	.30	.000	163	90	64	240	7.1	10
17...	--	--	--	--	92	--	168	7.7	20
20...	.1	.10	.000	170	90	62	260	7.1	7
25...	.1	.10	.000	176	93	62	265	7.2	3
31...	.2	.50	.006	280	150	100	460	7.3	10

BIG SANDY RIVER BASIN

03207800 LEVISA FORK AT BIG ROCK, VA.--Continued

WATER QUALITY DATA, PERIOD OCTOBER 1971 TO JUNE 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SIC2) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
JUNE										
02...	144	2.8	60	42	20	34	2.7	70	180	21
03...	129	2.4	20	42	20	34	3.0	72	180	20
04...	120	2.5	50	42	20	34	3.0	70	180	20
05...	134	2.8	20	48	19	31	3.2	69	180	17
06...	161	7.6	0	48	19	30	3.2	77	190	15
09...	109	5.6	0	46	21	35	3.2	75	190	16
10...	103	6.1	0	44	20	34	3.3	76	190	16
15...	65	5.4	0	55	24	45	4.8	86	220	26
20...	125	6.5	0	46	20	30	4.2	67	180	18
21...	300	--	--	--	--	--	--	--	140	--
25...	144	7.6	0	36	15	33	2.6	53	140	27
30...	111	4.8	0	43	17	28	2.4	60	170	16

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOS- PHORUS (P) (MG/L)	DIS- SOLVED SOLICS DUE AT 180 C) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)	COLOR (PLAT- INUM- COBALT UNITS)
JUNE									
02...	.2	.02	.000	344	190	130	560	7.7	5
03...	.2	.10	.003	344	190	130	570	7.3	5
04...	.2	.20	.003	348	190	130	560	7.5	5
05...	.2	.50	.003	338	200	140	540	7.3	10
06...	.3	.80	.042	360	200	140	570	7.1	10
09...	.2	.70	.006	364	200	140	600	7.1	10
10...	.2	.00	.003	374	190	130	580	7.5	3
15...	.3	.70	.003	444	240	160	680	7.1	7
20...	.2	1.1	.036	362	200	140	560	7.5	12
21...	--	--	--	--	180	--	285	7.6	3
25...	.1	1.1	.000	308	150	110	500	7.2	15
30...	.3	.50	.062	332	180	130	520	7.4	5

03207800 LEVISA FORK AT BIG ROCK, VA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), PERIOD OCTOBER 1971 TO JUNE 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	520	310	370	255	350	360	400	460	470	---	---	---
2	519	320	372	250	370	380	380	450	560	---	---	---
3	520	195	400	180	410	370	385	380	570	---	---	---
4	530	210	370	200	410	350	370	195	560	---	---	---
5	230	215	372	146	410	350	370	205	540	---	---	---
6	235	255	370	200	400	355	365	260	570	---	---	---
7	300	270	215	312	390	350	350	270	500	---	---	---
8	290	290	220	320	420	360	192	300	510	---	---	---
9	350	310	240	290	410	360	193	210	600	---	---	---
10	340	330	290	288	415	370	261	210	580	---	---	---
11	430	340	287	290	185	380	138	240	580	---	---	---
12	420	390	282	298	180	370	140	260	600	---	---	---
13	440	400	---	311	185	380	200	260	660	---	---	---
14	440	380	300	270	185	390	142	260	650	---	---	---
15	460	420	330	270	215	395	235	240	680	---	---	---
16	310	400	210	289	240	390	238	235	610	---	---	---
17	300	420	215	291	260	390	320	280	560	---	---	---
18	310	440	280	310	310	420	310	280	580	---	---	---
19	330	460	250	180	320	420	340	260	640	---	---	---
20	350	470	260	185	330	440	370	260	560	---	---	---
21	370	520	263	260	335	430	400	270	390	---	---	---
22	400	500	280	280	290	430	400	255	390	---	---	---
23	165	510	290	270	155	435	420	240	380	---	---	---
24	155	520	300	300	160	425	420	250	510	---	---	---
25	195	400	320	290	190	420	440	265	500	---	---	---
26	195	390	300	270	240	420	430	300	490	---	---	---
27	230	380	320	149	235	420	460	370	520	---	---	---
28	235	370	330	146	310	410	450	370	530	---	---	---
29	255	380	400	250	340	420	435	440	570	---	---	---
30	293	350	390	260	---	420	440	460	520	---	---	---
31	290	---	260	320	---	420	---	460	---	---	---	---
MONTH	336	372	303	256	298	395	333	297	546	---	---	---

TEMPERATURE (°C) OF WATER, PERIOD OCTOBER 1971 TO JUNE 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	19.0	6.0	8.5	4.0	9.5	9.0	16.0	28.0	---	---	---
2	24.5	19.5	3.0	8.0	4.5	9.0	6.0	14.5	29.5	---	---	---
3	25.5	13.0	2.5	7.5	5.0	7.5	9.5	16.0	27.5	---	---	---
4	23.0	10.0	7.0	10.0	5.5	5.0	8.0	13.0	24.0	---	---	---
5	19.5	9.5	8.0	7.0	4.0	4.5	7.0	15.0	24.0	---	---	---
6	19.0	7.0	10.0	6.0	3.0	7.5	14.0	15.0	21.0	---	---	---
7	15.5	6.0	12.0	7.0	4.0	8.0	13.0	10.0	22.0	---	---	---
8	15.0	6.5	11.0	8.0	5.0	5.0	7.0	15.0	23.5	---	---	---
9	15.0	7.5	11.5	7.5	6.0	4.0	6.5	12.0	24.0	---	---	---
10	14.0	7.0	10.0	10.0	5.0	8.0	10.0	14.0	20.0	---	---	---
11	15.0	8.0	11.5	11.0	6.0	9.5	10.0	17.0	19.5	---	---	---
12	14.5	13.5	10.5	8.0	5.5	9.0	12.5	11.0	20.0	---	---	---
13	17.5	14.5	---	6.5	6.0	13.0	16.0	14.0	21.0	---	---	---
14	16.0	13.0	10.5	3.0	7.0	12.0	13.0	16.0	21.0	---	---	---
15	19.5	12.5	13.0	0.0	6.5	11.0	15.0	17.0	22.0	---	---	---
16	16.0	13.5	13.0	0.0	6.5	10.5	16.0	16.0	23.0	---	---	---
17	19.0	14.0	9.0	2.0	6.0	8.0	15.5	16.0	23.0	---	---	---
18	18.5	13.0	9.5	7.0	5.0	9.0	17.0	17.0	25.0	---	---	---
19	18.0	13.5	4.5	7.0	4.5	11.0	17.0	16.5	24.0	---	---	---
20	19.0	12.5	8.0	6.0	3.0	12.0	19.0	17.0	23.0	---	---	---
21	17.5	8.0	10.5	8.0	4.5	14.0	14.0	19.0	22.0	---	---	---
22	18.0	4.0	7.0	9.0	6.0	11.0	16.5	16.0	21.0	---	---	---
23	16.5	3.5	6.0	11.5	5.0	8.0	16.0	17.0	21.0	---	---	---
24	17.5	5.0	11.0	12.0	7.0	7.0	17.5	17.0	21.0	---	---	---
25	15.5	4.5	10.0	5.0	8.0	7.0	14.0	22.0	22.5	---	---	---
26	16.5	4.0	8.0	6.0	4.0	8.0	15.0	22.0	23.0	---	---	---
27	16.0	7.0	10.5	7.0	6.0	8.0	14.0	21.0	25.0	---	---	---
28	16.5	6.0	10.5	6.0	9.5	11.0	15.0	23.0	23.0	---	---	---
29	17.0	8.0	10.0	6.0	9.0	12.0	16.0	23.0	23.0	---	---	---
30	18.0	7.0	11.5	5.0	---	9.0	19.0	21.0	24.0	---	---	---
31	17.0	---	9.0	4.5	---	11.0	---	17.0	---	---	---	---
MONTH	18.0	9.5	9.0	7.0	5.5	9.0	13.5	16.5	23.0	---	---	---

BIG SANDY RIVER BASIN

03207800 LEVISA FORK AT BIG ROCK, VA.--Continued

SUSPENDED-SEDIMENT DISCHARGE, PERIOD OCTOBER 1971 TO JUNE 1972

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	96	14	3.6	227	20	12	168	16	7.3
2	90	14	3.4	231	133	83	147	15	6.0
3	83	10	2.2	860	340	789	142	16	6.1
4	76	15	3.1	854	210	484	148	12	4.8
5	1120	1500	4540	554	122	182	144	14	5.4
6	2300	1160	7200	424	41	47	142	90	35
7	584	152	240	347	30	28	835	464	1050
8	340	98	90	276	18	13	792	123	263
9	247	75	50	242	20	13	541	191	279
10	212	65	37	222	19	11	436	135	159
11	172	48	22	198	22	12	384	116	120
12	142	57	22	181	18	8.8	321	152	132
13	124	14	4.7	166	11	4.9	307	143	119
14	107	53	15	154	10	4.2	275	94	70
15	98	18	4.8	140	9	3.4	290	179	140
16	201	116	63	129	4	1.4	667	270	486
17	325	115	101	122	5	1.6	633	180	308
18	247	196	131	117	4	1.3	493	174	232
19	201	54	29	114	5	1.5	412	156	174
20	166	52	23	117	18	5.7	437	106	125
21	142	41	16	113	3	.92	398	90	97
22	142	41	16	111	4	1.2	353	85	81
23	181	90	44	95	4	1.0	320	64	55
24	2260	479	2920	126	71	24	307	12	9.9
25	1390	104	390	201	44	24	286	17	13
26	896	71	172	179	50	24	265	19	14
27	614	64	106	191	146	75	245	16	11
28	450	64	78	190	116	60	230	19	12
29	350	24	23	189	70	36	214	17	9.8
30	286	14	11	193	50	26	198	15	8.0
31	247	33	22	--	--	--	191	15	7.7
TOTAL	13889	--	16382.8	7263	--	1978.92	10721	--	4040.0
DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	173	144	67	637	98	169	718	62	120
2	785	585	1240	552	86	128	607	70	115
3	1370	660	2440	514	75	104	618	66	110
4	1490	886	3560	462	34	42	552	24	36
5	4660	672	8460	366	38	38	544	24	35
6	2520	235	1600	330	45	40	481	14	18
7	1160	364	1140	399	78	84	461	19	24
8	681	421	774	334	42	38	469	30	38
9	598	102	165	290	72	56	405	24	26
10	719	120	233	260	57	40	386	20	21
11	670	141	255	280	34	26	368	24	24
12	596	125	201	307	107	89	353	28	27
13	563	400	608	1820	144	708	329	25	22
14	952	656	1690	2300	160	994	316	20	17
15	950	536	1370	1410	149	567	286	18	14
16	631	300	511	925	69	172	278	18	14
17	500	280	378	764	60	124	285	18	14
18	400	265	286	652	63	111	266	17	12
19	320	200	173	622	57	96	235	16	10
20	2000	730	3940	553	50	75	210	15	8.5
21	9470	1400	35800	500	95	128	200	15	8.1
22	2740	800	5920	664	215	385	253	53	36
23	1610	700	3040	1020	300	826	252	41	28
24	1070	392	1130	4090	1200	13300	240	18	12
25	1110	293	878	5980	1320	21300	229	10	6.2
26	1030	185	514	4600	746	9270	223	11	6.6
27	871	148	348	3240	206	1800	225	12	7.3
28	3690	471	4690	1750	84	397	232	9	5.6
29	2860	400	3090	1030	58	161	235	8	5.1
30	1520	145	595	--	--	--	233	10	6.3
31	876	118	279	--	--	--	223	14	8.4
TOTAL	48585	--	85375	36651	--	51268	10712	--	835.1

BIG SANDY RIVER BASIN

303

03207800 LEVISA FORK AT BIG ROCK, VA.--Continued

SUSPENDED-SEDIMENT DISCHARGE, PERIOD OCTOBER 1971 TO JUNE 1972

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	238	18	12	212	7	4.0	165	7	3.1
2	244	13	8.6	208	6	3.4	144	4	1.6
3	227	17	10	319	12	10	129	5	1.7
4	243	15	9.8	703	139	264	120	10	3.2
5	244	15	9.9	671	118	214	134	24	8.7
6	242	15	9.8	496	40	54	161	100	43
7	366	600	593	411	30	33	196	38	20
8	3630	859	8420	397	22	24	128	45	16
9	1580	359	1530	610	28	46	109	22	6.5
10	812	226	495	751	25	51	103	21	5.8
11	613	161	266	583	23	36	93	7	1.8
12	5060	1450	19800	473	6	7.7	82	6	1.3
13	2780	1000	7510	418	8	9.0	72	3	.58
14	9020	1590	38700	541	9	13	70	3	.57
15	4220	300	3420	609	115	189	65	4	.70
16	2670	133	959	645	71	124	125	140	47
17	1640	60	266	574	26	40	151	137	56
18	955	57	147	472	38	48	100	126	34
19	678	46	84	420	16	18	81	96	21
20	564	44	67	504	31	42	125	216	73
21	483	40	52	474	17	22	300	233	189
22	467	37	47	544	70	103	337	154	140
23	405	30	33	598	57	92	219	66	39
24	361	30	29	519	18	25	172	60	28
25	325	17	15	420	16	18	144	58	23
26	295	24	19	333	8	7.2	118	24	7.6
27	264	14	10	262	2	1.4	100	16	4.3
28	243	3	2.0	222	3	1.8	94	14	3.6
29	231	4	2.5	199	4	2.1	92	18	4.5
30	226	2	1.2	184	8	4.0	111	40	12
31	--	--	--	213	123	71	--	--	--
TOTAL	39326	--	82527.8	13985	--	1577.6	4040	--	796.55

TOTAL DISCHARGE FOR PERIOD

185172

TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR PERIOD

244781.77

TENNESSEE RIVER BASIN

03473000 SOUTH FORK HOLSTON RIVER AT VESTAL, VA.

LOCATION.--Lat 36°39'06", long 81°50'39", Washington County, at gaging station on right bank 500 ft upstream from bridge on U.S. Highway 58 at Vestal, 0.7 mile downstream from Laurel Creek, 3.2 miles northwest of Damascus, 4.9 miles upstream from Middle Fork Holston River, and at mile 77.2.

DRAINAGE AREA.--301 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1949 to September 1950, October 1951 to September 1952, October 1971 to September 1972.

Water temperatures: October 1949 to September 1950, October 1967 to September 1972.

EXTREMES.--1971-72:

Water temperatures: Maximum, 25.5°C July 23, 24; minimum, freezing point on Feb. 5.

Period of record:

Water temperatures: Maximum, 28.0°C June 29, 1971; minimum, freezing point on many days during winter period.

REMARKS.--Temperature records furnished by Tennessee Valley Authority.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT.										
08...	139	6.0	10	19	7.6	4.6	1.8	87	14	4.6
NOV.										
03...	629	6.6	60	13	4.4	2.8	2.2	57	6.0	4.0
DEC.										
07...	539	5.4	20	9.0	3.6	3.0	1.2	40	7.0	4.7
JAN.										
10...	879	5.6	50	10	3.3	1.7	1.2	41	4.0	3.5
FEB.										
03...	772	5.6	0	13	4.1	1.7	1.2	56	6.2	2.1
MAR.										
10...	643	5.7	0	14	4.4	1.8	1.2	56	6.8	3.4
APR.										
07...	569	5.7	20	10	3.8	1.4	1.2	46	4.8	2.2
JUNE										
06...	320	4.3	20	15	5.6	2.4	1.4	68	7.4	1.9
AUG.										
08...	341	7.0	20	19	5.6	1.3	1.8	82	5.6	3.4
SEP.										
07...	263	5.9	170	19	5.9	2.9	1.7	80	10	1.7

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOS- PHORUS (P) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)	TEMP- ERATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)
OCT.										
08...	.1	.20	.000	102	79	8	188	7.5	11.5	7
NOV.										
03...	.1	.40	.030	70	50	4	110	7.1	15.5	20
DEC.										
07...	.1	.40	.003	55	38	4	88	7.3	9.5	7
JAN.										
10...	.1	.60	.006	61	38	5	84	7.2	7.5	20
FEB.										
03...	.1	.80	.006	62	50	4	112	7.7	5.5	2
MAR.										
10...	.1	.80	.000	70	53	7	116	7.3	4.5	5
APR.										
07...	.1	.40	.010	61	40	3	90	7.5	10.5	5
JUNE										
06...	.1	.40	.003	74	60	5	140	7.5	17.0	2
AUG.										
08...	.1	.50	.003	89	70	4	150	7.3	19.0	17
SEP.										
07...	.1	.60	.013	96	72	6	155	7.8	15.0	22

03473000 SOUTH FORK HOLSTON RIVER AT VESTAL, VA.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972
(CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	21.0	18.5	17.0	15.5	5.5	4.0	7.0	5.5	4.5	3.5	10.0	8.0
2	18.5	18.0	18.0	16.5	5.5	3.5	8.0	7.0	6.0	4.5	11.5	9.5
3	19.0	17.0	17.0	12.0	5.0	2.0	8.0	6.0	6.0	4.0	10.5	6.0
4	20.0	16.5	12.0	8.5	5.5	2.0	8.5	6.5	4.0	0.5	8.0	4.5
5	19.0	18.0	9.0	7.0	6.0	4.0	9.5	6.5	2.0	0.0	8.0	5.0
6	18.5	16.5	10.5	8.0	7.0	6.0	5.5	4.5	3.0	1.0	6.0	4.0
7	17.0	14.5	10.5	6.5	9.5	8.0	4.5	3.5	4.0	2.0	8.5	5.0
8	14.5	11.5	6.5	5.0	10.0	9.5	5.0	3.5	3.0	0.5	9.5	5.5
9	14.0	12.0	6.0	4.5	10.0	10.0	7.0	4.5	4.0	1.0	6.5	4.5
10	13.0	11.5	8.0	6.0	11.0	10.0	9.0	8.5	4.5	1.5	8.0	4.5
11	13.5	10.0	8.0	5.0	11.0	10.0	9.5	9.5	6.0	3.5	8.5	4.5
12	14.5	10.5	8.5	5.5	10.0	10.0	9.0	8.0	5.5	4.0	10.0	6.5
13	14.5	11.0	9.5	6.5	10.5	10.0	10.0	9.0	5.0	4.0	12.0	8.5
14	15.5	12.0	10.5	8.0	10.0	10.0	10.0	7.0	6.0	4.0	11.0	6.5
15	16.0	12.0	11.0	8.5	11.0	10.0	6.0	3.0	5.0	4.5	10.0	8.0
16	16.0	14.5	12.0	9.5	12.0	12.0	3.0	1.0	5.5	4.0	9.5	8.0
17	17.0	14.5	12.0	9.5	11.0	8.5	2.0	1.0	5.5	5.0	8.0	5.5
18	16.5	14.5	11.5	9.0	8.0	4.5	3.5	1.0	5.5	4.5	7.0	6.0
19	16.0	13.0	10.5	9.5	5.5	3.5	5.5	3.5	4.5	1.5	10.0	6.5
20	15.5	15.0	10.5	9.0	6.0	5.0	7.0	5.5	3.5	0.5	11.0	6.5
21	15.5	14.5	9.0	6.0	8.0	6.0	9.0	7.0	3.5	1.0	11.5	9.0
22	16.5	15.0	6.0	4.0	7.0	5.0	9.5	8.5	6.5	3.5	10.5	8.5
23	16.5	15.5	4.0	2.0	5.5	5.0	10.0	8.5	5.0	4.0	8.5	4.5
24	16.0	15.0	3.5	3.0	6.5	5.0	11.0	9.5	6.5	5.0	6.5	4.0
25	15.5	14.5	4.5	2.0	7.0	6.0	10.5	6.0	9.0	6.0	5.0	3.5
26	15.0	14.0	4.0	2.0	8.0	6.5	6.0	4.5	8.5	6.0	7.0	3.0
27	15.0	12.0	4.5	3.5	8.5	7.0	6.0	4.5	8.0	5.5	7.0	5.5
28	15.5	13.0	5.5	4.0	9.0	7.0	8.0	6.0	9.0	6.0	9.5	7.0
29	16.0	13.5	6.5	5.0	8.5	6.5	8.0	6.0	10.0	6.5	13.5	9.0
30	16.0	14.0	6.0	4.5	9.0	8.5	8.0	6.0	---	---	12.0	10.0
31	16.0	15.0	---	---	8.0	6.0	6.0	4.5	---	---	10.0	8.5
MONTH	21.0	10.0	18.0	2.0	12.0	2.0	11.0	1.0	10.0	0.0	13.5	3.0

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.5	8.5	17.0	14.0	16.5	13.0	20.5	16.0	19.5	16.0	20.5	18.0
2	9.5	7.0	16.5	16.0	18.0	13.0	20.5	17.0	19.5	17.0	20.5	16.5
3	11.5	6.0	15.5	14.5	19.0	13.5	20.0	18.5	20.0	17.0	20.0	17.0
4	10.5	9.0	13.5	11.0	19.0	15.0	19.0	18.0	20.0	18.0	19.0	18.0
5	12.0	7.0	14.5	10.0	21.0	16.5	18.0	15.5	21.0	18.0	19.0	17.0
6	14.5	9.5	15.5	10.5	20.0	16.0	18.0	15.0	20.5	18.0	19.0	16.0
7	13.0	10.5	16.5	12.0	21.0	16.0	19.0	14.5	21.0	18.5	18.5	15.0
8	12.0	6.0	15.0	13.5	20.5	16.0	20.0	15.0	20.0	18.0	18.0	15.0
9	9.0	5.0	14.5	12.0	19.5	17.0	18.0	16.0	19.0	18.0	19.5	16.5
10	9.0	6.0	15.0	10.5	18.5	16.0	21.0	15.5	21.0	17.0	19.5	15.5
11	9.5	9.0	16.0	10.5	18.5	13.5	23.0	17.0	20.0	18.0	19.5	15.5
12	10.5	9.5	17.0	12.0	19.0	14.5	22.0	18.0	21.5	18.0	20.0	16.0
13	13.5	10.0	16.0	13.5	18.5	15.5	23.5	19.0	21.5	18.5	20.0	16.0
14	14.0	13.5	16.5	13.0	22.0	16.5	23.5	19.0	21.5	18.0	19.5	16.5
15	15.5	11.5	16.0	13.5	22.0	18.5	22.0	19.0	21.5	18.5	20.0	17.0
16	15.0	11.5	15.5	13.0	21.0	19.0	21.5	19.0	21.5	19.5	20.5	18.0
17	14.0	10.5	16.5	13.0	20.0	18.0	21.5	19.0	21.0	19.0	19.0	18.0
18	15.0	9.0	16.5	13.5	18.5	16.0	23.5	19.0	20.5	17.0	19.5	17.0
19	16.0	10.0	16.0	13.5	19.5	17.0	23.5	19.5	18.5	16.0	20.0	17.0
20	16.0	13.0	15.0	14.0	20.0	17.0	25.0	20.0	18.5	16.0	20.0	16.5
21	16.0	12.0	16.5	13.5	17.0	14.0	25.0	20.5	19.0	16.0	19.0	15.5
22	13.5	10.5	16.5	14.0	14.5	13.0	25.0	21.0	19.5	16.5	19.5	16.0
23	14.5	9.0	15.5	13.5	13.0	13.0	25.5	21.0	19.5	16.5	19.0	16.5
24	14.5	10.0	16.5	13.0	14.0	13.0	25.5	21.5	19.5	17.0	20.0	18.0
25	11.5	7.0	17.0	13.5	16.5	13.0	23.5	20.5	21.0	17.0	20.5	17.0
26	11.5	6.5	17.0	14.5	17.0	14.5	25.0	20.5	20.5	18.5	20.0	18.0
27	13.5	7.0	17.0	13.0	19.5	15.0	23.0	20.0	20.5	18.5	20.0	18.5
28	13.0	9.0	17.0	14.0	18.5	16.0	20.5	20.0	20.5	18.5	20.0	18.5
29	15.0	7.0	18.0	15.0	19.5	16.0	20.5	19.5	21.0	18.0	19.0	18.0
30	16.0	7.0	18.0	15.0	18.0	16.0	20.5	19.5	21.0	17.0	18.0	13.5
31	---	---	18.0	16.0	---	---	21.0	19.0	20.5	18.0	---	---
MONTH	16.0	5.0	18.0	10.0	22.0	13.0	25.5	14.5	21.5	16.0	20.5	13.5

TENNESSEE RIVER BASIN

03490000 NORTH FORK HOLSTON RIVER NEAR GATE CITY, VA.

LOCATION.--Lat 36°36'31", long 82°34'05", Scott County, at gaging station on left bank 75 ft upstream from bridge on U.S. Highway 23, 1.6 miles downstream from Big Moccasin Creek, 2.1 miles southeast of Gate City, and at mile 8.8.

DRAINAGE AREA.--672 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1949 to September 1951.

Water temperatures: October 1949 to September 1951, October 1967 to September 1972.

EXTREMES.--1971-72:

Water temperatures: Maximum, 30.5°C July 21; minimum, freezing point on Jan. 17, 18, Feb. 8.

Period of record:

Water temperatures: Maximum, 31.0°C July 24, 1968, and on several days during August 1968; minimum, freezing point on many days during winter period.

REMARKS.--Temperature records furnished by Tennessee Valley Authority.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972
(CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	24.0	22.0	19.0	17.0	5.5	4.5	6.0	5.5	5.5	4.5	9.5	8.0
2	23.5	22.0	19.0	18.0	5.0	4.0	6.5	6.0	4.5	4.0	10.0	9.5
3	22.0	21.0	19.0	15.5	4.5	3.0	6.5	6.0	5.0	3.5	10.0	8.5
4	24.0	22.0	15.5	13.0	5.0	3.0	7.0	6.0	3.0	1.0	8.5	7.0
5	23.5	21.0	13.0	11.0	6.0	4.5	8.0	7.0	1.5	0.5	8.0	6.0
6	22.0	20.0	12.0	10.5	7.0	6.0	6.5	5.0	1.0	0.5	6.5	5.0
7	20.0	18.0	11.5	9.5	9.5	7.0	5.0	4.0	1.5	0.5	7.0	5.0
8	19.0	17.0	9.5	8.0	10.0	9.0	4.5	3.5	1.5	0.0	8.5	6.5
9	17.0	16.0	8.5	7.0	9.5	9.5	5.0	4.0	2.0	0.5	7.0	5.5
10	16.0	14.5	9.0	8.0	11.0	9.5	8.0	5.0	3.0	1.0	8.0	5.5
11	16.0	14.0	9.0	6.5	11.0	9.5	9.0	8.0	4.5	2.0	8.5	5.5
12	16.5	14.5	9.0	7.0	10.0	9.5	9.0	8.5	4.5	3.0	9.5	6.5
13	16.5	15.0	10.0	8.0	10.5	9.5	8.5	8.0	5.0	4.5	11.0	8.5
14	18.5	15.5	10.5	8.5	10.0	9.5	8.5	6.5	5.5	4.5	11.5	9.5
15	19.0	16.0	11.5	9.5	11.0	9.5	6.5	4.0	5.0	4.5	11.5	9.5
16	19.0	18.5	13.0	10.5	12.0	11.0	4.0	0.5	5.0	4.0	10.5	9.0
17	20.5	18.5	13.0	11.0	11.0	8.0	1.0	0.0	5.0	4.5	9.5	7.0
18	19.5	18.0	13.0	11.0	8.0	4.5	1.5	0.0	5.0	4.5	8.5	7.0
19	19.5	18.0	12.0	10.0	5.0	4.0	3.0	1.0	4.5	1.5	10.0	7.0
20	19.0	16.5	10.0	9.5	6.0	5.0	5.0	3.5	3.0	1.0	11.5	8.0
21	18.5	17.0	9.5	7.0	8.0	6.0	7.0	5.0	2.0	1.0	12.0	10.0
22	19.0	17.0	7.0	5.0	7.0	5.0	9.0	8.0	4.5	2.0	13.0	10.0
23	18.5	17.0	5.0	4.5	5.5	5.0	9.5	9.0	4.0	3.5	10.0	6.5
24	18.5	17.0	4.5	4.5	6.5	5.0	10.5	9.5	5.5	3.5	9.0	6.0
25	17.0	16.0	5.0	3.5	7.0	6.0	10.5	9.0	7.0	5.5	6.0	4.0
26	16.5	15.0	4.5	3.5	8.0	6.5	9.0	6.5	8.5	7.0	7.0	4.0
27	16.0	15.0	5.0	4.5	8.5	7.0	6.5	5.5	7.0	6.0	6.5	5.5
28	16.5	15.0	6.0	5.0	9.0	7.0	7.0	6.0	8.0	6.0	8.5	6.5
29	18.0	15.5	7.0	6.0	8.5	6.5	7.0	7.0	9.0	6.5	10.5	8.0
30	18.5	16.0	6.5	5.5	9.0	8.0	7.0	6.5	---	---	11.0	9.5
31	18.5	16.5	---	---	8.0	6.0	6.5	5.5	---	---	9.5	8.5
MONTH	24.0	14.0	19.0	3.5	12.0	3.0	10.5	0.0	9.0	0.0	13.0	4.0

TENNESSEE RIVER BASIN

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03490000 NORTH FORK HOLSTON RIVER NEAR GATE CITY, VA.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.5	7.0	20.0	16.0	20.5	17.0	24.5	20.5	22.0	20.5	25.0	23.0
2	8.0	6.0	20.0	18.0	21.5	17.0	24.5	22.0	23.0	21.0	25.0	22.0
3	9.0	6.0	18.5	16.5	23.5	18.0	25.0	23.0	24.0	21.5	24.5	22.0
4	10.0	7.0	17.0	15.0	23.5	20.0	24.0	23.0	24.5	23.0	24.5	23.0
5	11.0	7.0	16.0	14.5	25.5	21.5	23.0	20.5	25.0	23.0	23.5	22.0
6	4.5	9.0	16.5	14.0	24.5	21.0	21.5	19.0	25.5	23.0	23.0	20.5
7	14.0	12.0	18.5	15.5	24.5	20.5	21.5	19.0	25.5	23.5	23.5	21.0
8	13.0	9.5	18.0	17.0	24.5	20.5	23.0	19.5	25.5	23.5	21.5	21.0
9	10.0	8.5	18.0	16.5	24.0	21.5	24.5	21.0	24.0	23.0	23.0	20.5
10	9.5	8.5	18.5	15.5	23.0	19.5	25.5	22.0	25.0	22.0	23.0	20.5
11	10.0	9.5	18.5	15.5	22.0	19.5	26.5	23.0	24.5	22.0	23.5	21.0
12	11.5	9.5	19.0	16.0	23.5	19.5	27.0	24.0	25.0	23.0	24.0	21.5
13	13.0	11.5	18.0	16.5	23.5	20.5	27.0	24.5	26.0	23.5	24.5	21.5
14	14.0	13.0	18.5	16.0	25.5	21.5	27.0	24.5	26.5	23.5	24.5	21.5
15	14.0	13.0	19.5	17.0	26.5	23.5	26.5	24.5	26.5	24.5	24.5	22.0
16	15.0	13.5	19.0	17.0	25.5	23.5	25.5	24.5	27.0	24.5	24.5	22.0
17	15.0	14.0	19.0	17.0	26.0	23.5	26.5	24.0	26.0	24.5	23.5	23.0
18	15.5	13.5	19.0	17.0	26.0	23.0	28.0	24.5	26.5	24.5	23.0	22.0
19	17.0	14.5	19.0	17.0	25.0	23.5	29.5	25.5	25.5	19.5	24.0	21.5
20	18.0	16.0	18.0	17.0	24.5	23.0	30.0	26.0	20.5	19.0	24.0	21.0
21	18.0	16.5	18.5	16.5	24.5	19.5	30.5	27.0	22.0	20.0	23.5	21.0
22	17.0	15.5	19.0	18.0	19.5	16.5	30.0	27.0	23.5	21.0	23.5	21.0
23	17.0	14.0	18.5	17.0	16.5	15.5	29.5	27.0	24.0	21.5	23.0	21.0
24	16.0	15.0	19.0	16.5	18.0	15.5	28.5	26.0	24.5	22.0	23.5	21.5
25	15.0	13.5	21.0	17.0	19.5	16.0	27.0	25.0	25.5	22.0	24.5	21.5
26	15.0	11.5	21.0	18.5	21.0	18.0	29.0	25.5	26.0	23.5	24.0	22.0
27	15.5	12.0	21.0	16.5	22.0	19.0	27.0	25.5	25.5	24.0	23.0	22.0
28	15.5	13.5	21.0	18.0	21.5	20.5	25.5	24.0	24.5	23.0	23.5	21.5
29	17.0	14.5	21.5	19.0	23.0	20.5	24.5	23.5	25.0	23.0	23.0	19.5
30	19.0	15.5	22.0	19.5	21.5	20.0	23.5	21.5	25.0	22.0	19.5	16.5
31	---	---	21.0	19.0	---	---	23.0	21.0	25.0	23.0	---	---
MONTH	19.0	6.0	22.0	14.0	26.5	15.5	30.5	19.0	27.0	19.0	25.0	16.5

TENNESSEE RIVER BASIN

03527000 CLINCH RIVER AT SPEERS FERRY, VA.

LOCATION.--Lat 36°38'55", long 82°45'02", Scott County, at gaging station on right bank 200 ft downstream from bridge on U.S. Highway 58, 0.5 mile downstream from Copper Creek, 0.8 mile northwest of Speers Ferry, 1.8 miles downstream from Clinchport, and at mile 211.0.

DRAINAGE AREA.--1,126 sq mi.

PERIOD OF RECORD.--Chemical analyses: April 1930 to March 1931, October 1949 to September 1950, October 1951 to September 1952, May 1968 to September 1972.
Water temperatures: November 1964 to September 1967.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	MEAN DIS- CHARGE (CFS)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT. 07...	1300	5.0	100	32	10	6.0	3.0	112	30	4.2
NOV. 01...	1260	7.0	70	38	9.9	3.4	1.8	144	18	5.0
DEC. 06...	780	1.8	30	32	9.0	4.2	1.6	123	20	6.2
JAN. 06...	11300	6.2	70	29	6.3	2.5	2.1	99	15	3.0
FEB. 01...	4000	6.3	40	29	8.0	2.6	1.4	111	19	3.4
MAR. 09...	2090	5.5	0	34	8.0	3.7	1.4	116	23	4.4
APR. 06...	1130	.9	20	28	8.2	3.8	1.3	106	22	3.2
MAY 01...	1100	2.9	20	33	9.5	4.4	1.7	129	22	2.9
JUNE 05...	712	1.2	20	34	11	4.4	1.6	134	22	3.9
AUG. 04...	2230	6.8	20	35	6.8	7.0	1.4	122	16	2.8
SEP. 05...	448	1.4	100	38	11	5.0	2.1	153	23	3.2

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL CRTHO PHOS- PHORUS (P) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)	TEMP- ERATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)
OCT. 07...	.1	.80	.040	153	120	29	280	7.6	--	25
NOV. 01...	.1	.90	.020	156	136	18	260	7.9	--	5
DEC. 06...	.1	.30	.003	134	120	16	245	8.3	6.5	17
JAN. 06...	.1	.90	.033	126	98	18	201	7.4	7.0	30
FEB. 01...	.2	1.2	.013	138	110	14	235	7.7	5.5	10
MAR. 09...	.1	1.1	.013	141	120	23	250	7.8	7.5	5
APR. 06...	.1	.20	.006	122	100	16	215	8.2	9.0	8
MAY 01...	.1	.60	.003	142	120	16	255	8.1	16.0	7
JUNE 05...	.1	.30	.000	148	130	20	270	8.1	23.0	5
AUG. 04...	.2	1.1	.059	158	116	16	260	7.6	22.0	0
SEP. 05...	.1	.40	.016	162	140	14	280	8.2	23.0	17

TENNESSEE RIVER BASIN

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03530510 NORTH FORK POWELL RIVER AT U.S. HIGHWAY 58 ALT., AT PENNINGTON GAP, VA.

LOCATION.--Lat 36°45'40", long 83°00'51", Lee County, at bridge on U.S. Highway Alt. 58, near east town limit of Pennington Gap, 3.6 miles downstream from Straight Creek, and at mile 2.3.

DRAINAGE AREA.--80 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1971 to September 1972.

WATER QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)
NOV.										
01...	7.3	80	12	5.2	5.8	1.7	27	37	3.8	.1
DEC.										
06...	6.0	100	11	5.0	5.6	1.4	25	36	4.0	.1
JAN.										
06...	6.2	330	8.1	3.8	3.3	1.2	12	26	2.7	.1
FEB.										
01...	6.5	190	11	4.9	5.4	1.2	17	43	2.6	.1
MAR.										
09...	5.8	60	11	5.0	5.8	1.4	20	42	3.8	.1
APR.										
05...	6.8	0	9.5	4.7	5.0	1.2	19	37	1.0	.1
MAY										
01...	5.7	60	13	5.3	7.6	1.5	26	47	2.3	.1
JUNE										
05...	4.8	440	20	7.4	12	1.9	47	64	2.3	.1
AUG.										
04...	6.2	0	15	5.9	6.0	1.6	30	45	1.5	.1
SEP.										
05...	4.5	60	30	8.6	11	3.4	51	80	3.8	.2

DATE	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOS- PHORUS (P) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)	TEMP- ERATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)
NOV.									
01...	.10	.000	90	52	30	144	7.2	--	10
DEC.									
06...	.20	.006	84	48	28	136	7.2	7.5	17
JAN.									
06...	.40	.010	62	36	26	86	6.7	5.5	20
FEB.									
01...	.40	.003	86	48	34	138	6.9	--	5
MAR.									
09...	.40	.000	89	48	32	144	6.8	3.5	5
APR.									
05...	.30	.052	80	43	28	126	6.9	--	10
MAY									
01...	.30	.003	102	54	33	155	7.1	19.0	7
JUNE									
05...	.07	.000	137	80	42	240	7.1	23.5	3
AUG.									
04...	.20	.020	104	62	38	180	7.0	22.0	0
SEP.									
05...	.40	.065	179	110	68	280	7.1	20.0	15

PART 3. GROUND-WATER RECORDS

WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

ACCOMACK COUNTY

375600N0752800.2. Local number 67M2. U.S. Naval Air Station well B31, Wallops Station. Drilled unused water-table well in sand of Columbia Group of Pleistocene age, diam 8 in, depth about 60 ft, cased with steel. Lsd 34.10 ft above msl. MP top of casing, 6.09 ft above lsd. Highest water level 17.82, May 9, 1963; lowest 22.31, Jan. 20, 1967. Records available: 1963-72.

Date	Water level	Date	Water level
Jan. 14, 1972	20.61	Apr. 16, 1972	19.46
Mar. 1	20.41	July 25	18.56

ALBEMARLE COUNTY

380333N0782648.1. Local number 43N1. Key West Development, Charlottesville. State of Virginia well 28. Drilled unused water-table well in Lynchburg Formation of Precambrian age, diam 6 in, depth 409 ft, cased to 52 ft. Lsd about 335 ft above msl. MP top of casing, 0.3 ft above lsd. Highest water level 11.58, May 31, 1971; lowest 19.50, Oct. 15, 1968. Records available: 1967-72. Records furnished by State of Virginia.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	18.19	16.60	16.78	...	...	16.22	17.34	17.00	...	...	17.32	18.12
10	18.17	16.62	...	17.03	...	16.69	17.33	17.32	17.77	...	17.52	18.22
15	17.85	16.80	...	17.32	...	16.78	17.40	17.30	17.87	16.70	17.60	18.37
20	17.93	16.80	...	17.33	16.48	17.01	17.53	17.40	...	16.91	17.80	18.52
25	16.12	16.98	...	17.26	15.92	17.08	17.53	17.38	...	17.11	17.88	18.60
Eom	16.29	16.65	...	17.25	15.10	17.20	17.63	17.46	...	17.21	18.04	18.55

APPOMATTOX COUNTY

372133N0784937.1. Local number 40G1. Town of Appomattox. State of Virginia well 12. Drilled unused water-table well in metamorphic rock of uncertain age, diam 8 in, depth 288 ft, cased to 40 ft. Lsd about 860 ft above msl. MP top of casing, 1.0 ft above lsd. Highest water level 40.01, Sept. 14, 1972; lowest 51.68, Dec. 20, 1970. Records available: 1967-72. Records furnished by State of Virginia.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	47.30	47.16	46.52	45.71	45.40	...	43.84	43.24	42.46	41.78	40.99	40.17
10	47.23	46.86	46.03	45.36	...	...	43.75	43.24	42.55	41.60	40.87	40.32
15	47.32	46.86	45.95	45.61	...	44.07	43.53	42.78	42.22	41.40	40.60	40.12
20	47.32	46.57	45.84	45.32	44.91	44.29	43.39	42.69	42.01	41.35	40.93	40.32
25	47.02	46.61	...	45.50	...	43.95	43.31	42.87	41.94	41.12	40.32	40.30
Eom	47.03	41.67	45.70	...	...	43.80	43.30	42.42	41.79	41.08	40.33	40.20

ARLINGTON COUNTY

385346N0770737.1. Local number 53V1. Arlington County School Dept., Langston School. 4854 Lee Highway, Arlington. Dug unused water-table well in Brandywine Formation of Pleistocene age and Bryn Mawr (?) Gravel of Pliocene (?) age, overlying the Sykesville Formation of Precambrian age, diam 24 in, depth 35 ft, terra-cotta casing. Lsd 410 ft above msl. MP inner flange of manhole at lsd. Highest water level 17.74, Apr. 20, 1935; lowest 34.80, Jan. 4, 1932. Records available: 1931-72.

Date	Water level	Date	Water level	Date	Water level
Oct. 29, 1971	24.75	Mar. 31, 1972	21.17	June 30, 1972	19.45
Nov. 30	24.37	Apr. 28	20.78	Aug. 2	19.95
Dec. 30	23.82	May 30	19.92	30	21.65
Jan. 28, 1972	23.93	June 25	19.36	Sept. 29	23.31
Mar. 1	22.11				

385253N0770423.1. Local number 54V3. National Capitol Parks. Arlington National Cemetery. Dug unused water-table well in terrace gravels of Recent age and sand of Early Cretaceous age, diam 4 ft, depth 50 ft. Lsd 205 ft above msl. MP top of stone and brick casing, 3.00 ft above lsd. Highest water level 40.73, Aug. 2, 1972; lowest 44.90, Mar. 4, 1966. Records available: 1958-72.

Date	Water level	Date	Water level	Date	Water level
Oct. 29, 1971	42.56	Mar. 31, 1972	41.29	June 30, 1972	40.98
Nov. 30	42.59	Apr. 28	41.14	Aug. 2	40.73
Dec. 30	42.05	May 30	41.02	30	41.23
Jan. 28, 1972	42.18	June 25	40.98	Sept. 29	41.59
Feb. 29	41.88				

BOTETOURT COUNTY

372744N0795841.1. Local number 31H1. Universal-Atlas Cement Co., Haymakertown. State of Virginia well 14. Drilled unused well in the Conococheague Formation of Upper Cambrian age, diam 6 in, depth 399 ft, cased to 27 ft. Lsd about 1340 ft above msl. MP top of casing, 0.5 ft above lsd. Highest water level 2.90, Oct. 31, 1970 (previously reported 1971); lowest 5.48, Sept. 30, 1968. Records available: 1967-72. Records furnished by State of Virginia.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	4.35	4.15	4.29	4.27	3.89	3.96	4.25	4.32	4.50	3.90	4.26	4.40
10	4.34	4.30	4.18	4.23	4.08	4.10	4.09	4.36	4.43	4.01	4.30	4.41
15	4.41	4.35	4.24	...	3.38	4.18	4.13	4.32	4.45	4.20	4.30	4.50
20	4.46	4.42	4.29	...	3.96	4.22	4.72	4.05	4.37	4.30	4.29	4.63
25	3.12	4.42	4.31	...	3.40	3.92	4.02	4.25	3.20	4.34	4.33	4.70
Eom	4.06	4.04	4.42	...	3.51	...	4.15	4.40	3.67	4.17	4.39	3.80

CITY OF COLONIAL HEIGHTS

371644N0772446.1. Local number 51G1. Johnson and Swearingen. Pilcher well, Matoaka Manor. Drilled unused water-table well in Petersburg Granite of late Paleozoic age, diam 6 in, depth 100 ft, cased with steel to 50 ft, open hole 50-100. Lsd 57.30 ft above msl. MP top of casing, 1.0 ft above lsd. Highest water level 11.13, Jan. 18, 1960; lowest 19.09, Jan. 14, 1942. Records available: 1939-72.

Date	Water level	Date	Water level	Date	Water level
Oct. 29, 1971	15.33	Feb. 28, 1972	14.05	July 19, 1972	14.46
Nov. 29	14.57	Mar. 29	14.22	26	14.67
Dec. 28	14.80	Apr. 25	14.03	Aug. 28	15.34
Jan. 27, 1972	15.38	May 26	13.81	Sept. 26	16.01

FAIRFAX COUNTY

385152N0772113.1. Local number 52U1. Atwell Somerville. Fair Acres Farm. Northwest of Fairfax on U.S. Highway 50. Dug unused water-table well in Wissahickon Schist of early Paleozoic (?) age, diam 4 ft, depth 24 ft, uncemented stone casing. Lsd 400 ft above msl. MP top of access pipe, 3.05 ft above lsd. Highest water level 9.17, June 25, 1972; lowest 23.58, Dec. 26, 1931. Records available: 1931-72.

Date	Water level	Date	Water level	Date	Water level
Oct. 29, 1971	14.05	Mar. 31, 1972	11.85	June 30, 1972	9.28
Nov. 30	13.36	Apr. 28	11.13	Aug. 1	11.74
Dec. 30	13.83	May 30	11.56	30	13.84
Jan. 28, 1972	14.02	June 25	9.17	Sept. 29	15.20
Feb. 29	11.52				

384518N0771635.1. Local number 52U4. Sydenstricker Church. East of intersection of State Highways 641 and 643, Springfield. Dug unused water-table well in granite of undetermined age, diam 24 in, depth 28 ft. Lsd 340 ft above msl. MP hole in cement platform, 0.67 ft above lsd. Highest water level 13.86, June 25, 1972; lowest 27.57, Nov. 30, 1964. Records available: 1957-72.

Date	Water level	Date	Water level	Date	Water level
Oct. 29, 1971	21.38	Mar. 31, 1972	16.04	June 30, 1972	13.97
Nov. 30	20.67	Apr. 28	15.14	Aug. 3	15.41
Dec. 30	19.89	May 30	14.13	30	17.67
Jan. 31, 1972	19.12	June 25	13.86	Sept. 29	19.36
Feb. 29	17.25				

FLOYD COUNTY

365436N0801904.1. Local number 28D1. Town of Floyd. State of Virginia well 20. Drilled unused water-table well in Lynchburg Formation of Precambrian age, diam 8 in, depth 90 ft, cased to 52 ft. Lsd about 2460 ft above msl. MP top of casing, 0.8 ft above lsd. Highest water level 12.09, July 6, 1972; lowest 18.85, Oct. 29, 1970. Records available: 1969-72. Records furnished by State of Virginia.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	17.42	15.77	15.62	15.53	15.55	...	14.83	14.01	14.17	12.34	12.78	13.68
10	17.30	15.62	15.32	15.53	15.49	...	14.69	14.00	14.34	12.20	12.97	13.83
15	17.23	15.62	15.30	15.48	15.28	...	14.30	13.87	14.40	12.33	13.10	13.97
20	17.23	15.54	15.33	15.52	15.32	...	14.13	13.88	14.25	12.51	13.21	14.13
25	16.47	15.68	15.44	15.57	15.14	...	14.10	14.03	12.30	12.68	13.36	14.28
Eom	15.88	15.62	15.54	15.60	15.10	...	14.12	14.04	12.45	12.82	13.57	14.30

WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

CITY OF FRANKLIN

364047N0765524.1. Local number 55B22. City of Franklin. 5th Ave. and Middle St. Jetted observation well in sand of Early Cretaceous age, diam 4 in, depth 354 ft, screened 335-354. Lsd 21.24 ft above msl. MP top edge of manhole at lsd. Highest water level 14.5, June 25, 1942; lowest 178.8, Jan. 4, 1969. Records available: 1942-72. Water level affected by local pumpage.

Date	Water level	Date	Water level	Date	Water level
Oct. 4, 1971	170.46	Feb. 7, 1972	173.08	June 12, 1972	178.75
Nov. 15	171.07	Mar. 20	174.31	July 19	171.80
Dec. 20	173.45	May 1	175.23	Sept. 6	169.11

HALIFAX COUNTY

364550N0785623.1. Local number 39C1. Town of Halifax. State of Virginia well 11. Drilled unused water-table well in granite and gneiss of uncertain age, diam 8 in, depth 303 ft, cased to 52 ft. Lsd about 380 ft above msl. MP top of casing, 1.2 ft above lsd. Highest water level 39.44, Sept. 14, 1972; lowest 45.09, Dec. 30, 1968. Records available: 1968-72. Records furnished by State of Virginia.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	42.52	42.26	41.72	41.33	41.21	40.90	40.63	40.47	40.10	39.70	39.60	39.47
10	42.44	42.05	41.53	41.24	41.13	40.90	40.67	40.47	40.16	39.66	39.63	39.58
15	42.43	42.00	41.47	41.39	41.00	40.73	40.59	40.28	39.95	39.59	39.58	39.48
20	42.42	41.80	41.37	41.21	41.15	40.88	40.52	40.24	39.80	39.55	39.51	39.54
25	42.24	41.81	41.40	41.32	40.97	40.71	40.42	40.31	39.78	39.49	39.50	39.51
Bom	42.26	41.82	41.37	41.18	40.82	40.63	40.41	40.05	39.70	39.50	39.51	39.53

CITY OF HOPEWELL

371801N0771642.1. Local number 52G1. Old Dominion Water Corp., Hopewell. Drilled unused artesian well in sand of Early Cretaceous age, diam 6 in, reported depth 300 ft, screen depth unknown. Lsd 50.26 ft above msl. MP top of casing, 0.34 ft above lsd. Highest water level 20.73, Jan. 25, 1954; lowest 56.95, Aug. 14, 1943. Records available: 1939-72.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Oct. 1, 1971	36.24	Jan. 7, 1972	36.36	Apr. 7, 1972	35.14	July 7, 1972	34.57
8	35.32	14	35.94	14	34.79	14	34.40
15	35.04	21	35.67	21	35.21	21	34.80
22	36.50	28	35.82	28	35.11	28	34.87
29	36.32	Feb. 4	34.78	May 5	34.59	Aug. 4	34.92
Nov. 5	36.54	11	35.76	12	34.31	11	35.06
12	36.51	18	34.97	19	34.26	18	35.17
19	36.56	25	35.78	26	35.16	25	35.11
26	36.59	Mar. 3	35.66	June 2	34.76	Sept. 1	35.09
Dec. 3	36.64	10	35.63	9	35.16	8	35.09
10	36.42	17	35.05	16	34.61	15	35.07
17	36.54	24	34.98	23	34.17	22	35.08
24	36.76	31	35.12	30	34.37	29	35.00
31	36.39						

ISLE OF WIGHT COUNTY

364059N0765449.1. Local number 55B16. Union Camp Corp., Franklin. Lumberyard well. Drilled observation well in sand of Early Cretaceous age, diam 6 in, depth 305 ft, screened 285-305. Lsd 25 ft above msl. MP top edge of recorder shelf, 3.5 ft above lsd. Highest water level 99.00, Dec. 27, 1960; lowest 186.34, Oct. 15, 1970. Records available: 1960-72. Water level affected by local pumpage.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	177.29	177.64	181.10	175.51	180.18	180.75	182.11	182.83	184.52	180.00	180.98	178.30
10	177.58	...	181.21	177.23	180.75	180.60	182.05	182.38	...	177.40	181.07	179.93
15	178.15	177.93	180.98	178.08	180.64	181.10	181.92	183.55	185.34	...	181.02	181.09
20	177.65	178.83	180.82	178.93	180.87	181.39	181.88	183.60	185.60	179.71	181.06	181.48
25	177.10	180.18	177.73	179.66	180.43	181.65	181.85	183.92	185.74	181.39	181.22	181.05
Bom	177.11	179.82	171.82	179.66	180.57	181.27	182.25	184.23	185.18	180.97	181.28	180.82

364116N0765450.1. Local number 55B35. Union Camp Corp., Franklin. Drilled observation artesian well in sand of Early Cretaceous age, diam 4 in, depth 628 ft, cased with steel, screened 430-435, 475-480, 580-585, 618-623. Lsd 32 ft above msl. MP top edge of recorder platform, 3.4 ft above lsd. Highest water level 169.51, Dec. 29, 1970; lowest 205.72, Oct. 14, 1970. Records available: 1969-72. Water level affected by local pumpage. Recorder installed Feb. 26, 1969; recorder removed Nov. 16, 1971.

Lowest water level for the day, from recorder graph, water year October 1968 to September 1969												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	...	...	...	...	...	184.61	183.04	189.34	191.49	...	192.36	186.35
10	...	...	...	...	...	188.51	186.70	187.96	189.06	...	193.26	189.54
15	...	...	...	...	...	188.41	182.43	189.57	192.66	...	...	191.25
20	...	...	...	...	...	189.40	185.53	188.74	194.15	189.25	...	194.25
25	...	...	...	...	...	185.87	185.87	190.33	193.74	192.61	...	193.27
Eom	...	...	...	...	183.26	...	188.75	189.13	190.88	193.69	...	192.53
Water year October 1969 to September 1970												
5	...	...	189.10	...	...	...	...	...	...	...	200.43	203.23
10	...	...	...	...	...	...	190.60	...	...	196.23	198.83	197.79
15	...	...	190.26	...	...	...	189.84	...	...	199.62	198.85	198.90
20	189.68	...	...	...	...	...	189.40	195.95	...	201.73	196.32	200.10
25	...	...	...	194.22	...	...	195.99	...	...	201.55	200.06	202.60
Eom	...	...	...	...	...	...	...	...	...	202.61	200.92	203.70
Water year October 1970 to September 1971												
5	204.89	200.85	200.01	...	198.78	...	198.86	195.14	195.08	193.27	199.44	193.41
10	204.91	199.60	199.65	192.78	...	201.53	197.03	195.89	196.30	194.56	199.89	191.43
15	204.71	200.07	200.50	195.65	...	201.13	194.60	191.65	190.92	197.78	200.37	195.18
20	203.14	199.80	198.15	195.87	198.04	200.58	189.35	191.71	196.15	196.50	201.40	194.59
25	202.03	199.41	...	197.49	197.99	201.27	191.32	195.53	196.60	198.51	...	194.39
Eom	...	200.08	182.84	...	200.80	201.00	195.55	...	197.17	198.20	...	193.40
Water year October 1971 to September 1972												
Date		Water level		Date		Water level		Date		Water level		
Oct. 5, 1971		*195.70		Nov. 5, 1971		*194.08		Mar. 21, 1972		197.94		
10		*196.34		10		*194.74		May 1		199.27		
15		*195.14		16		194.82		June 12		202.08		
20		*194.28		Dec. 21		197.67		July 14		195.25		
25		*195.40		Feb. 8, 1972		195.95		Sept. 6		192.89		
31		*195.13										

* Lowest water level for the day from recorder graph. Water levels from Nov. 16, 1971 to date from taped measurements.

364125N0765448.1. Local number 55B36. Union Camp Corp., Franklin. Drilled observation artesian well in sand of Early Cretaceous age, diam 4 in, depth 860 ft, screened 720-725, 800-805, 855-860. Lsd 37 ft above msl. MP top edge of recorder platform, 3.2 ft above lsd. Highest water level 156.65, Dec. 27, 1969; lowest 190.89, June 12, 1972. Records available: 1969-72. Water level affected by local pumpage. Recorder installed Mar. 5, 1969; recorder removed Nov. 16, 1971.

Lowest water level for the day, from recorder graph, water year October 1968 to September 1969												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	...	...	...	...	...	170.60	...	...	...	...	176.48	170.98
10	...	...	...	...	...	...	172.20	...	...	...	177.22	171.83
15	...	...	...	...	...	...	170.78	...	...	...	177.93	174.04
20	...	...	...	...	...	...	172.02	...	...	...	176.72	175.38
25	...	...	...	...	...	...	172.28	...	...	...	177.02	173.70
Eom	...	...	...	...	...	...	...	174.35	...	174.75	175.24	175.61
Water year October 1969 to September 1970												
5	173.60	170.85	172.59	171.19	171.83	172.14	170.12	170.47	176.60	...	182.70	184.26
10	173.90	172.09	173.28	172.60	172.62	173.92	170.15	173.33	180.36	177.60	180.49	182.24
15	171.76	173.03	173.92	...	170.96	171.70	171.82	...	178.96	180.77	179.95	182.13
20	173.82	174.44	174.64	...	170.00	171.82	170.67	174.62	183.02	182.95	176.18	181.67
25	172.65	...	166.91	172.75	170.31	172.06	169.70	175.19	184.67	182.88	179.31	183.97
Eom	172.55	...	168.51	172.78	170.52	172.04	170.10	176.60	...	183.84	180.20	185.67
Water year October 1970 to September 1971												
5	187.40	184.56	183.27	173.39	180.81	184.75	187.68	185.14	184.25	187.99	188.32	184.76
10	187.24	182.33	182.70	175.25	182.36	186.03	186.13	185.58	185.17	186.61	189.53	184.31
15	188.33	180.60	183.15	177.14	183.44	185.48	183.76	174.32	173.40	186.30	187.38	186.68
20	186.32	182.06	182.82	178.60	181.96	185.81	181.63	172.03	183.43	184.66	186.71	185.90
25	184.22	182.24	168.90	181.49	184.89	187.01	181.30	182.42	184.87	196.64	...	186.16
Eom	184.06	182.72	169.58	182.76	185.34	189.12	186.05	...	186.02	186.07	...	187.79
Water year October 1971 to September 1972												
Date		Water level		Date		Water level		Date		Water level		
Oct. 5, 1971		*188.03		Nov. 5, 1971		*186.57		Mar. 21, 1972		187.81		
10		*189.20		10		*186.23		May 1		189.95		
15		*187.93		15		*188.26		June 12		190.89		
20		*186.05		16		186.90		July 19		187.60		
25		*186.70		Dec. 21		186.93		Sept. 6		184.77		
31		*186.95		Feb. 8, 1972		185.18						

* Lowest water level for the day from recorder graph. Water levels from Nov. 16, 1971 to date from taped measurements.

WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

365942N0763753.1. Local number 57D1. Gwaltney, Inc., Smithfield. State of Virginia well 5. Drilled unused artesian well in sand of Early Cretaceous age, diam 6 in, depth 454 ft. Lsd about 20 ft above msl. MP top of casing, 1.0 ft above lsd. Highest water level 70.95, Feb. 25, 1968; lowest 109.88, Sept. 27, 1971. Records available: 1968-72. Water level affected by local pumpage. Records furnished by State of Virginia.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	104.70	101.84	...	99.99	97.07	92.18	98.33	100.13	...	...	98.18	100.64
10	92.90	100.02	100.62	97.98	100.09	99.08	96.61	100.32	...	...	100.13	94.86
15	101.23	99.61	101.00	97.78	99.78	99.30	97.47	98.02	...	...	99.50	102.96
20	100.30	...	99.69	100.79	92.82	97.74	100.00	96.89	...	...	92.68	102.51
25	98.68	...	92.69	99.80	98.65	96.91	99.58	99.82	...	...	100.92	100.70
Eom	92.67	...	98.13	98.62	98.39	98.60	96.82	97.59	...	98.30	100.77	99.30

JAMES CITY COUNTY

371749N0764418.1. Local number 57G1. Eastern State Hospital, Williamsburg. State of Virginia well 1. Drilled unused artesian well in sand of Early Cretaceous age, diam 8 in, depth 555 ft, screened 410-435, 500-550. Lsd about 92 ft above msl. MP top of casing, 1.0 ft above lsd. Highest water level 127.42, July 2, 1968; lowest 142.18, Sept. 20, 1972. Records available: 1968-72. Records furnished by State of Virginia.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	...	138.92	137.41	137.14	136.69	136.51	136.70	137.56	138.53	139.84	140.99	141.85
10	...	138.43	137.21	136.79	136.67	136.50	136.79	137.72	138.73	139.98	141.27	141.89
15	...	138.12	137.28	137.04	136.36	136.41	136.80	137.63	138.90	140.07	141.44	141.86
20	...	137.88	137.37	136.87	136.41	136.50	137.21	137.87	139.20	140.46	141.51	142.18
25	...	137.70	137.28	136.88	136.39	136.50	137.33	138.08	139.23	140.79	141.67	141.94
Eom	138.80	137.49	137.40	136.71	136.39	136.44	137.40	138.10	139.40	140.98	141.57	141.79

LANCASTER COUNTY

374249N0762301.1. Local number 59K1. County High School, Kilmarnock. State of Virginia well 15. Drilled unused artesian well in sand of Early Cretaceous age, diam 4 in from 0 to 168 ft, 2 in from 168 to 716 ft, depth 716 ft. Lsd about 85 ft above msl. MP top of casing at lsd. Highest water level 95.81, Feb. 11, 1968; lowest 108.17, Sept. 25, 1972. Records available: 1967-72. Records furnished by State of Virginia.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	103.70	104.20	104.16	104.29	104.26	103.74	103.80	104.01	104.10	104.20	105.50	107.40
10	103.43	103.91	104.20	104.15	104.22	104.14	103.76	103.91	103.98	104.45	105.66	107.59
15	104.00	103.99	104.10	104.38	104.22	104.02	103.92	103.72	104.10	104.62	105.50	107.92
20	104.07	103.98	104.29	104.32	104.10	103.92	103.88	103.93	104.02	104.53	105.42	108.07
25	103.63	103.88	104.30	104.20	104.08	103.87	103.68	103.97	103.73	104.52	106.65	108.17
Eom	103.63	104.03	104.60	104.22	103.89	103.86	103.88	103.92	104.20	105.48	107.60	...

LOUDOUN COUNTY

391542N0774238.1. Local number 49Y1. American Telephone & Telegraph Co., Harpers Ferry. State of Virginia well 22. Drilled unused water-table well in bedrock, diam 8 in, cased to 45 ft, 6-inch open hole 45-516. Lsd about 940 ft above msl. MP top of casing, 1.0 ft above lsd. Highest water level 48.00, June 22, 1972; lowest 60.12, Oct. 25, 1970. Records available: 1969-72. Records furnished by State of Virginia.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	58.70	57.30	56.93	58.20	57.00	54.27	57.48	56.48	...	56.48	58.71	59.28
10	58.82	57.80	53.66	58.07	57.41	55.94	57.60	54.72	58.11	57.40	58.87	59.37
15	58.28	58.20	55.46	57.80	54.12	56.33	55.94	55.28	58.38	57.86	59.02	59.40
20	58.52	58.30	56.89	57.83	55.53	55.20	54.88	56.58	58.50	58.20	59.13	59.46
25	58.27	58.50	57.70	58.00	56.76	55.70	54.35	55.54	53.25	58.38	59.19	59.50
Eom	55.73	57.44	58.03	58.16	54.22	56.80	55.70	...	55.15	58.60	59.23	59.70

LOUISA COUNTY

380217N0781337.1. Local number 45N1. Tyler well. Near Thelma, 3 mi southwest of Boswells Tavern on Tyler property near State Route 640. Drilled observation water-table well in Wissahickon Formation of late Precambrian (?) age, diam 6 in, depth 56 ft, length of casing unknown. Lsd about 500 ft above msl. MP top of casing, 3.10 ft above lsd. Highest water level 15.10, Apr. 24, 1953; lowest 34.24 (previously reported 32.24), Oct. 15, 1966. Records available: 1952-72. Records furnished by State of Virginia.

Water level at noon, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	28.84	25.64	24.06	22.81	22.84	20.10	19.90	20.48	19.81	19.26	21.62	23.78
10	27.80	25.08	23.42	22.64	22.66	19.98	20.01	20.46	20.12	19.46	22.01	24.28
15	27.62	24.82	23.23	22.95	21.80	19.58	20.10	20.16	20.46	19.66	22.26	24.44
20	...	24.52	22.96	22.69	21.74	19.80	20.17	20.06	20.68	20.10	22.63	24.98
25	...	24.44	22.95	22.82	21.32	19.56	20.34	19.91	...	20.48	22.96	25.30
Eom	...	24.12	22.69	22.82	20.62	19.60	20.31	19.76	19.19	21.62	23.46	25.50

NANSEMOND COUNTY

364635N0763232.1. Local number 58C1. Nestle Co., Wilroy. State of Virginia well 4. Drilled unused artesian well in sand of Early Cretaceous age, diam 20 in from 0 to 455 ft, 12 in from 455 to 884 ft, depth 884 ft, screened 546-556, 584-604, 640-650, 854-874. Lsd about 20 ft above msl. MP top of casing, 2.0 ft above lsd. Highest water level 33.38, Apr. 1, 1966; lowest 65.45, Feb. 21, 1971. Records available: 1966-72. Records furnished by State of Virginia.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	60.48	60.50	60.66	60.46	60.94	61.16	61.27	61.22	61.10	61.27	61.57	61.97
10	60.27	60.53	60.55	60.44	60.93	61.34	61.32	61.08	61.09	61.37	61.64	62.07
15	60.42	60.61	60.57	60.54	60.90	61.27	61.27	61.08	61.18	...	61.66	62.00
20	60.52	60.67	60.52	60.66	61.17	61.35	61.30	61.10	61.17	...	61.76	62.04
25	60.37	60.62	60.64	60.82	61.10	61.27	61.19	61.02	61.17	...	61.84	62.17
Eom	60.50	60.60	60.57	60.78	61.19	61.16	61.20	61.08	61.18	62.57	61.94	62.01

PRINCE WILLIAM COUNTY

384930N0774208.1. Local number 49U1. Virginia Dept. of Highways. North of State Highway 55 near Thoroughfare Gap, 3.7 mi west of Haymarket. Drilled observation artesian well in shale and sandstone of Newark Group of Triassic age, diam 7 in, depth 345 ft, cased to 20 ft, open hole 20-345. Lsd 383 ft above msl. MP top of casing, 2.0 ft above lsd. Highest water level 2.89, Feb. 26, 1972; lowest 10.22, Nov. 8, 9, 1968 (previously reported 9.65), Oct. 28, 1970. Records available: 1968-72.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	7.95	5.67	4.77	5.62	4.88	4.05	5.08	4.40	5.40	4.32	6.52	7.95
10	7.84	5.66	4.38	5.01	4.97	4.59	5.21	4.61	6.00	4.79	6.92	8.32
15	7.14	6.30	4.73	5.28	3.79	4.47	4.50	4.56	6.16	5.29	7.16	8.37
20	7.31	6.20	4.98	5.35	3.81	4.29	4.42	4.75	6.39	5.47	7.27	8.58
25	5.69	6.59	5.32	5.70	3.61	4.25	3.44	4.38	3.66	5.89	7.51	8.59
Eom	5.32	4.12	5.89	5.63	3.51	4.69	4.11	4.78	4.07	6.28	7.86	8.55

385607N0773811.1. Local number 49V1. J. H. Hutchison. North of Haymarket at intersection of State Highways 600 and 615. Drilled observation artesian well in shale and sandstone of Newark Group of Triassic age, diam 7 in, depth 165 ft, cased to 10 ft, open hole 10-165. Lsd 420 ft above lsd. MP top of casing, 1.0 ft above lsd. Highest water level 7.54, Feb. 28, 1972; lowest 12.28, July 12, 13, 1970. Records available: 1968-72.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	9.19	...	...	9.27	8.55	8.13	9.04	8.65	9.61	...	9.98	...
10	9.31	...	...	8.86	8.94	8.80	8.93	8.63	9.93	8.19	10.19	...
15	...	...	8.61	9.02	8.18	8.75	8.50	8.72	10.01	8.79	10.28	...
20	...	9.66	9.05	9.29	8.11	8.31	8.21	8.95	8.88	9.15	10.39	...
25	...	9.74	9.31	9.13	8.03	8.33	7.82	8.87	7.79	9.60	...	10.80
Eom	...	...	9.70	9.15	7.74	8.85	8.52	9.76	7.68	...	...	10.68

383634N0771513.1. Local number 52S4. District of Columbia Dept. of Sanitary Engineering. Featherstone test well 1. Woodbridge. Drilled observation artesian well in sand and gravel of Early Cretaceous age, diam 10 in, depth 186 ft, screened 156-176. Lsd 28 ft above msl. MP top edge of recorder shelf, 3.3 ft above lsd. Highest water level 17.37, June 24, 1972; lowest 20.05, June 30, 1969. Records available: 1969-72.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	18.51	18.92	...	18.85	19.09	18.63	18.53	18.47	18.33	18.27	18.25	18.16
10	18.76	...	18.59	18.93	19.27	19.07	18.63	18.32	18.45	18.15	18.34	18.27
15	18.90	...	18.86	18.99	18.67	18.54	18.30	18.14	18.43	18.16	18.39	18.41
20	18.62	...	19.12	19.11	19.05	18.48	18.42	18.13	18.40	18.26	18.22	18.52
25	18.40	...	19.07	18.79	18.93	18.66	18.33	18.13	17.54	18.27	18.19	18.25
Eom	18.75	...	18.98	18.89	18.50	18.25	18.47	18.14	17.92	18.09	18.37	18.11

383634N0771513.2. Local number 52S5. District of Columbia Dept. of Sanitary Engineering. Featherstone test well 2. Woodbridge. Drilled observation artesian well in sand and gravel of Early Cretaceous age, diam 6 in, depth 114 ft, screened 95-105. Lsd 28 ft above msl. MP top of casing, 2.2 ft above lsd. Highest water level 17.04, May 22, 1972; lowest 18.96, July 1, 1969. Records available: 1969-72.

Date	Water level	Date	Water level	Date	Water level
Nov. 5, 1971	18.28	Feb. 4, 1972	17.64	May 22, 1972	17.04
Dec. 9	17.86	Mar. 10	18.02	July 18	17.29
23	18.46	Apr. 10	17.72	Sept. 6	17.28

ROANOKE COUNTY

371653N0795521.1. Local number 31G1. Nelson-Roanoke Corp., Roanoke. State of Virginia well 8. Drilled unused water-table well in Elbrook Formation, diam 6 in, depth 48 ft. Lsd about 917 ft above msl. MP top of casing, 0.9 ft above lsd. Highest water level 16.20, June 25, 1972; lowest 19.26, Aug. 20 (previously reported July 20), 1968. Records available: 1967-72. Records furnished by State of Virginia.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	18.16	17.73	17.90	17.74	...	17.51	17.89	17.30	17.93	16.80	17.39	17.68
10	18.00	17.94	17.56	17.73	...	17.70	17.70	17.49	17.95	16.85	17.50	17.63
15	18.08	18.08	17.60	17.78	...	17.77	17.80	17.50	17.70	17.17	17.61	17.70
20	18.00	18.13	17.62	17.80	...	17.84	17.90	17.52	17.35	17.35	17.43	17.77
25	16.88	18.14	17.67	17.76	...	17.82	17.80	17.70	16.20	17.49	17.00	17.78
Eom	17.56	17.90	17.70	17.68	...	17.87	17.90	17.84	16.70	17.23	17.64	17.34

ROCKINGHAM COUNTY

382150N0784240.1. Local number 41Q1. Virginia Dept. of Highways, McGaheysville. Drilled observation artesian well in Conococheague Limestone of Late Cambrian age, diam 6 1/4 in, depth 310 ft, cased to 131 ft, open hole 131-310. Lsd 1105 ft above msl. MP top edge of recorder shelf, 3.5 ft above lsd. Highest water level 61.38, June 30, 1972; lowest 81.70, Oct. 31, 1970. Records available: 1970-72.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	68.76	65.42	66.56	67.07	67.61	64.77	66.12	65.98	66.29	62.11	64.24	66.06
10	68.13	65.61	66.46	67.14	67.54	65.21	66.29	65.65	66.59	62.53	64.47	66.38
15	67.70	65.87	66.49	67.35	66.40	65.44	66.42	65.85	66.86	62.94	64.80	66.68
20	67.66	66.03	66.57	67.39	66.13	65.67	65.55	65.92	67.05	63.38	65.08	67.15
25	66.45	66.36	66.75	67.55	65.85	65.75	66.41	65.90	61.78	63.81	65.40	67.48
Eom	65.17	66.43	66.93	67.60	64.56	65.93	66.53	66.05	61.45	64.03	65.78	67.80

SMYTH COUNTY

364722N0814046.1. Local number 17C1. Bonham Bros. Orchards, Chilhowie. State of Virginia well 25. Drilled unused water-table well in Athens Shale, diam 6 in, depth 220 ft, cased to 50 ft. Lsd about 2000 ft above msl. MP top of casing, 1.7 ft above lsd. Highest water level 0.92, Feb. 25, 1972; lowest 5.70, Dec. 25, 1969. Records available: 1969-72. Records furnished by State of Virginia.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	3.86	3.74	4.10	3.11	...	1.50	3.20	2.51	3.40	3.46	3.83	4.05
10	3.80	3.99	4.08	2.90	...	1.96	2.70	2.90	3.31	3.76	3.97	4.14
15	4.00	4.11	4.01	2.30	...	2.34	1.62	2.86	3.67	3.80	4.07	4.20
20	3.97	4.16	4.10	2.60	1.70	2.60	2.23	3.22	3.70	3.95	3.18	4.24
25	3.10	4.20	4.10	1.78	0.92	2.90	2.61	2.47	2.73	4.00	3.82	4.30
Eom	3.90	3.80	4.16	1.31	1.22	3.03	3.00	2.98	3.34	3.38	3.98	2.15

SOUTHAMPTON COUNTY

363457N0771149.1. Local number 53A2. Town of Boykins. Near elementary school at Bryant Ave. and Elizabeth St. Drilled unused artesian well in sand of Early Cretaceous age, diam 8 in, depth 270 ft, screen depth unknown. Lsd 38 ft above msl. MP top of casing, 1.5 ft above lsd. Highest water level 46.88, Mar. 10, 1969; lowest 61.38, Sept. 16, 17, 1972. Records available: 1968-72. Water level affected by local pumpage.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	56.92	57.13	57.60	57.12	57.96	58.20	57.50	57.85	57.97	58.71	58.84	...
10	57.12	57.03	57.71	57.15	58.55	58.33	57.79	57.69	57.83	59.03	60.19	60.03
15	57.30	57.07	57.35	57.35	57.40	57.74	57.73	57.67	58.90	58.22	...	60.93
20	57.17	57.21	57.19	57.61	57.45	57.30	57.90	57.89	58.22	58.65	...	60.79
25	57.05	57.40	56.90	57.60	58.07	57.68	57.62	57.88	58.35	58.79	...	60.67
Eom	57.12	57.57	57.25	57.62	58.06	57.50	57.73	57.85	58.70	58.80	...	60.28

364706N0770723.1. Local number 54C1. Norfolk and Western Railway. Sebrell. Drilled unused artesian well in sand and gravel of pre-Miocene age, diam 10 in, depth 344 ft, depth to screen unknown. Lsd 58.4 ft above msl. MP top of casing at lsd. Highest water level 15 ft, 1907; lowest 86.34, Sept. 5, 1972. Records available: 1907, 1940-46, 1948-72.

Date	Water level	Date	Water level	Date	Water level
Oct. 4, 1971	84.53	Feb. 7, 1972	84.57	June 12, 1972	86.00
Nov. 15	84.79	Mar. 20	85.00	July 19	85.99
Dec. 20	84.80	May 1	85.54	Sept. 5	86.34

SURRY COUNTY

370408N0764601.1. Local number 56E1. Buster Cox. On State Highway 617, 3.2 mi southwest of Bacons Castle. Drilled unused artesian well in sand of Early Cretaceous age, diam 18 in, depth 705 ft, six screened intervals from 401-705. Lsd 93 ft above msl. MP top edge of recorder shelf, 3.6 ft above lsd. Highest water level 73.52, Mar. 10, 1942; lowest 128.42, Sept. 20, 1972. Records available: 1942, 1969-72.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	125.38	...	125.71	125.69	125.74	125.78	125.93	126.06	126.31	126.83	127.34	128.04
10	125.38	...	125.63	125.62	125.82	125.94	125.96	126.10	126.41	126.99	127.54	128.18
15	125.51	125.60	125.65	125.75	125.69	125.86	125.92	126.02	126.50	126.88	127.65	128.22
20	...	125.52	125.70	125.72	125.73	125.90	125.99	126.08	126.58	127.05	127.75	128.42
25	...	125.60	125.75	125.79	125.73	125.84	125.96	126.16	126.55	127.18	127.86	128.29
Eom	...	125.59	125.78	125.79	125.73	125.88	126.07	126.15	126.59	127.29	128.02	128.16

WESTMORELAND COUNTY

380534N0764908.1. Local number 56N1. Washington and Lee School Board, Montross. State of Virginia well 16. Drilled unused artesian well in sand of Early Cretaceous age, diam 4 in from 0 to 189 ft, 2 in from 189 to 646 ft, screened 608-628. Lsd about 149 ft above msl. MP top of casing, 1.0 ft above lsd. Highest water level 133.47, Aug. 28, 1967; lowest 146.27, Oct. 14, 1970. Records available: 1967-72. Records furnished by State of Virginia.

Lowest water level for the day, from recorder graph, water year October 1971 to September 1972												
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5	144.70	...	...	143.46	143.79	144.00	143.85	144.04	144.00	144.29	144.70	144.90
10	144.83	...	143.83	143.40	143.90	144.11	143.97	143.90	144.29	144.00	144.73	144.88
15	144.71	...	143.73	143.80	143.60	143.86	143.99	143.72	144.20	144.22	144.81	144.97
20	144.72	...	143.75	144.50	143.62	143.97	140.00	143.98	144.11	144.52	144.97	144.88
25	144.47	...	143.81	143.90	143.92	144.07	143.73	144.05	144.03	144.58	144.80	144.96
Eom	144.39	...	143.52	143.66	143.68	143.98	143.90	143.97	144.16	144.86	144.70	145.28

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