1969

Water Resources Data for Maryland and Delaware

Part 1. Surface Water Records

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Prepared in cooperation with the States of Maryland and Delaware and with other agencies

Prepared in cooperation with

Delaware Geological Survey
Delaware State Highway Department
Maryland Geological Survey
Maryland State Roads Commission
Maryland Department of Health
Maryland National Capital Park and Planning Commission
Washington Suburban Sanitary Commission
City of Baltimore
Corps of Engineers, U. S. Army
National Park Service, U. S. Department of the Interior
District of Columbia

Water resources records, 1969, for Maryland and Delaware are in the following reports of the U.S. Geological Survey:

1. Water Resources Data for Maryland and Delaware
   Part 1: Surface Water Records

2. Water Resources Data for Maryland and Delaware
   Part 2: Water Quality Records

Copies of this report may be obtained from
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U. S. Geological Survey
8809 Satyr Hill Road
Parkville, Maryland 21234

1971

CONTENTS

ILLUSTRATIONS

IV GAGING STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

NORTH ATLANTIC SLOPE BASINS--Continued

WATER RESOURCES DATA FOR MARYLAND AND DELAWARE, 1969

PART 1. SURFACE WATER RECORDS

INTRODUCTION

Surface-water records for the 1969 water year for Maryland and Delaware, including records of streamflow or reservoir storage at gaging stations, partial-record stations, and miscellaneous sites, are given in this report and their locations shown in figure 1. Records for a few pertinent gaging stations in bordering States also are included. The records were collected and computed by the Water Resources Division of the U. S. Geological Survey under the direction of W. F. White, 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 Maryland and Delaware.

Through September 30, 1960, the records of discharge and stage of streams and contents and stage of lakes or reservoirs were published in an annual series of U. S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States."

Beginning with the 1961 water year, surface-water records have been released by the Geological Survey in annual reports on a State-boundary basis. Distribution of these reports is limited; they are designed primarily for rapid release of data shortly after the end of the water year to meet local needs. The discharge and reservoir storage records for 1961-65 have been published in a Geological Survey water-supply paper series entitled "Surface Water Supply of the United States 1961-65." There will be a similar series of water supply papers for the water years 1966-70.

COOPERATION

Cooperative agreements between the U. S. Geological Survey and organizations of the State of Maryland for the systematic collection of streamflow records began in 1896, continued through 1909, and after a lapse of 15 years, resumed in 1924. Similar agreements between the Survey and organizations of the State of Delaware began in 1943. Organizations that supplied data are acknowledged in station descriptions. Organizations that assisted in collecting data through cooperative agreements with the Survey are:

Delaware Geological Survey, R. R. Jordan, State geologist.

Delaware Department of Highways and Transportation, E. A. Davidson, director of operations.

Maryland Geological Survey, K. N. Weaver, director.

Maryland State Roads Commission, D. H. Fisher, commission chairman and director of highways.

Maryland Department of Health, W. J. Peeples, M.D., M.P.H., Commissioner.

Maryland National Capital Park and Planning Commission, R. C. McDonell, executive director.

Washington Suburban Sanitary Commission, R. J. McLeod, general manager and chief engineer.

District of Columbia Department of Sanitary Engineering, N. E. Jackson, director.

City of Baltimore, R. J. Kretzschmar, chief of water division.

Assistance in the form of funds or services was given by the Corps of Engineers, U. S. Army, in collecting records for 28 gaging stations published in this report.

Assistance was also furnished by the Weather Bureau, U. S. Department of Commerce; the National Park Service, U. S. Department of the Interior.

The following organizations aided in collecting records:

Maryland: Upper Potomac River Commission; Baltimore County; Harford County; municipalities of Bel Air, Cumberland, Frederick, and Salisbury; Celanese Fibers Co.; Congoleum-Nairn Inc.; W. J. Dickey and Sons, Inc.; Kelly Springfield Tire Co.; Potomac Edison Co.; Potomac Electric Power Co.; and West Virginia Pulp and Paper Co.

DEFINITION OF TERMS

Definition of terms related to streamflow 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 325,851 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, 1,9835 acre-feet, or 646,317 gallons, and represents a runoff of 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 7.48 gallons per second or 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.

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 herein include all closed basins, or non-contributing 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 more general term "stage," although gage height is more appropriate when used with a reading on a 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 obtained.

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

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.

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

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 reference 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 man-made 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.

International Hydrological Decade (IHD) River Stations provide a general index of runoff and materials in the water balance (discharge of water, and dissolved and transported solids) of the world. In the United States, IHD Stations provide indices of runoff and of the general distribution of water in the principal river basins of the conterminous United States and Alaska.

DOWNSTREAM ORDER AND STATION NUMBERS

Records 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 list of gaging 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 and partial-record 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 continuous-record 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. Gaps are left in the 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 01-6465.00, includes the part number "01" and a 6-digit station number. In this report the non-essential zeros are not shown. For example, the complete number 01-6465.00 would appear as 1-6465, just to the left of the station name. In this report, the records are listed in downstream order by parts. All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

EXPLANATION OF SURFACE-WATER DATA

Collection and Computation of Data

The base data collected at gaging stations consists of records of stage and measurements of discharge of streams, 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 determing the daily flow or volume of water in storage. Records of stage are obtained from a water-stage recorder that gives a continuous graph of the fluctuations (for digital recorders, a tape punched at 15-, 30-, or 60-minute intervals) or from direct readings on a nonrecording gage. 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 on the measurement of stream discharge. (See also SELECTED REFERENCES.) 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 a stream-gaging station rating tables giving the discharge for any stage are prepared from stage-discharge relation curves defined by discharge measurements. If extensions to the rating curves are necessary to define the extremes of discharge, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), velocity-area studies, and logarithmic plotting. The application of the daily mean gage heights to the rating table gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

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. Discharge over spillways is computed from a stage-discharge relation curve defined by discharge measurements. 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 recorded 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 basic data. For gaging stations on streams a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Records are published for the water year, which begin on October 1 and ends on September 30. A calendar for the 1969 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, and general remarks. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. 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 the 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 headed "Current year:" the data given are for the complete current water year unless otherwise specified. In the second paragraph under "EXTREMES" headed "Period of record:" the data given are for the period of record given in the 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 nonrecording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge 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."

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, 1933 stands for the water year October 1, 1932, to September 30, 1933. 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 tables for stream-gaging stations give the discharge corresponding to the daily mean gage height unless there are large or rapid changes in the discharge during a day. For days having large or rapid changes, discharge for the day is computed by averaging the mean discharge for several parts of a day. For digital recorders, the daily mean discharge is always the average of the discharges at each punched reading. For stations equipped with nonrecording gages, the daily discharge corresponds to once-daily readings of the gage or to the mean of twice-daily readings; but for periods of rapidly changing stage the discharge is determined from a gage-height graph based on gage readings.

The monthly summary is given below the daily table. For stream-gaging stations the line headed "TOTAL" gives the sum of the daily figures; it is the total cubic feet per second per day for the month. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines head "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."). Figures of cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion, if the drainage area includes large noncontributing areas, or if the average rainfall on the drainage basin is usually less than 20 inches.

For reservoir stations the monthly summary gives the elevation (or gage height) at the end of the month and the change in contents during the month. If elevation or gage height is given in the daily table, the monthly summary gives the contents at the end of the month, rather than the elevation or gage height.

In the yearly summary below the monthly summary, the figures of maximum are the maximum discharges for the calendar and water years; likewise, the minimums in this summary are the minimum daily discharges.

For reservoir stations the yearly summary gives the change in contents for the calendar year and for the water year.

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 subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030 and 1:30 p.m. is 1330.

In a general footnote, introduced by the word "NOTE" certain periods are indicated 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 are indicated only if they are a month or more in length and the accuracy of the record is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The method used in computing discharge for various unusual conditions have been explained in preceding paragraphs. Footnotes to reservoir tables may be used to explain the use of new capacity tables or for other special conditions.

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; "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, consumptive use, regulation, evaporation, or other factors. For such stations, discharge in cubic feet per second per square mile and runoff in inches are not published

unless satisfactory adjustments can be made for such effects. 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 unadjusted losses (consumptive use, evaporation, seepage, etc.) are large in comparison with the observed discharge.

Publications

Each volume of the 1960 series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States" contains a listing of the numbers of all water-supply papers in which records of surface-water data were published for the area covered by the individual volumes. Each volume also contains a list of water-supply papers that give detailed information on major floods for the area. A new series of water-supply papers containing surface-water records for the 5-year period October 1, 1960, to September 30, 1965, include lists of annual and special reports published as water-supply papers.

Records for the 5-year period October 1, 1960, to September 30, 1965, for the area covered by this report have been compiled and published in Water-Supply Papers 1902 (Pt. 1, vol. 2), 1903 (Pt. 1, vol. 3), and 1907 (Pt. 3, vol. 1).

Records through September 1950 for the area covered by this report have been compiled and published in Water-Supply Papers 1302 (1B), and 1305 (3A); records for October 1950 to September 1960 have been compiled and published in Water-Supply Papers 1722 (1B), and 1725 (3A). 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.

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

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

More detailed information 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. Many gaging-station records in Maryland and Delaware through 1967 have been analyzed to give several statistical summaries: (1) the number of days in each year that the daily discharge was between selected limits (duration tables); (2) the lowest

mean discharge for selected numbers of consecutive days in each year; and (3) the highest mean discharge for selected numbers of consecutive days in each year.

At or near some gaging stations, water-quality records also are collected. Data are obtained on the chemical quality of the stream water, on water temperature, on suspended-sediment concentration, and on the particle-size distribution of suspended sediment and bed material. These data are given in Part 2 of this report. Under the "REMARKS" paragraph of the gaging-station description, reference is made to water-quality records collected on a regular basis.

HYDROLOGIC CONDITIONS

Runoff, which was in the normal range at the end of the 1968 water year, declined during the 1969 water year to be well below normal. Streamflow was lowest in the western part of the district; for example, flow of the Potomac River averaged only about one-half of median during the year as a result of deficient flows from January to June. Monthly average flows are deficient when they are within the lowest 25 percent for the period of record. Streamflow was highest in the eastern part of the district (Delmarva peninsula), but was still below normal.

Graphical illustrations of streamflow conditions during the year in comparison with previous records for two stations are shown on the following page. Data for the station, Potomac River at Point of Rocks, Md., a long-term record, reflects runoff conditions in the Potomac River basin excluding the coastal plain. Data for the station, Choptank River at Greensboro, Md., reflects runoff from a 113 square mile area (21.6 square miles in Delaware) in the central part of the Delmarva peninsula. Annual mean discharge is is shown in figure 1 for the period of record of the two stations.

No wide-spread flooding occurred during the year. However, peak stages at some stations were the highest of record as a résult of intense thunderstorm activity during the summer months. Peak stages were the highest of record at the stations, St. Marys River at Great Mills, Md. (23 years of record) and Manokin Branch near Princess Anne, Md. (18 years of record). Annual maximum floods on some streams in urban areas approached or exceeded previous maximums. See the station records for the Northeast and Northwest Branches of the Anacostia River and Watts Branch near Rockville, Md.

A measurement of peak discharge on Nelson Run near Leonardtown, Md., for the flood of July 22, 1969 (see page 150) was made to document an unusually high rate of runoff from a small drainage area. A rain gage on the rim of the drainage basin recorded 10 inches of rain in 2 hours with a total of 12 inches in about 6 hours. The discharge of 2,460 cfs from an area of 1.73 sq mi gives a unit discharge of 1,420 cfsm. This unit discharge is the highest determined by this district on a Maryland stream. The previous high determined was 1,110 cfsm from an area of 3.96 sq mi (peak flow 4,410 cfs) on July 15, 1951 at Pylesville, Md. Although uncommon, such rates of runoff have been measured on small drainage areas along the east coast of the United States.

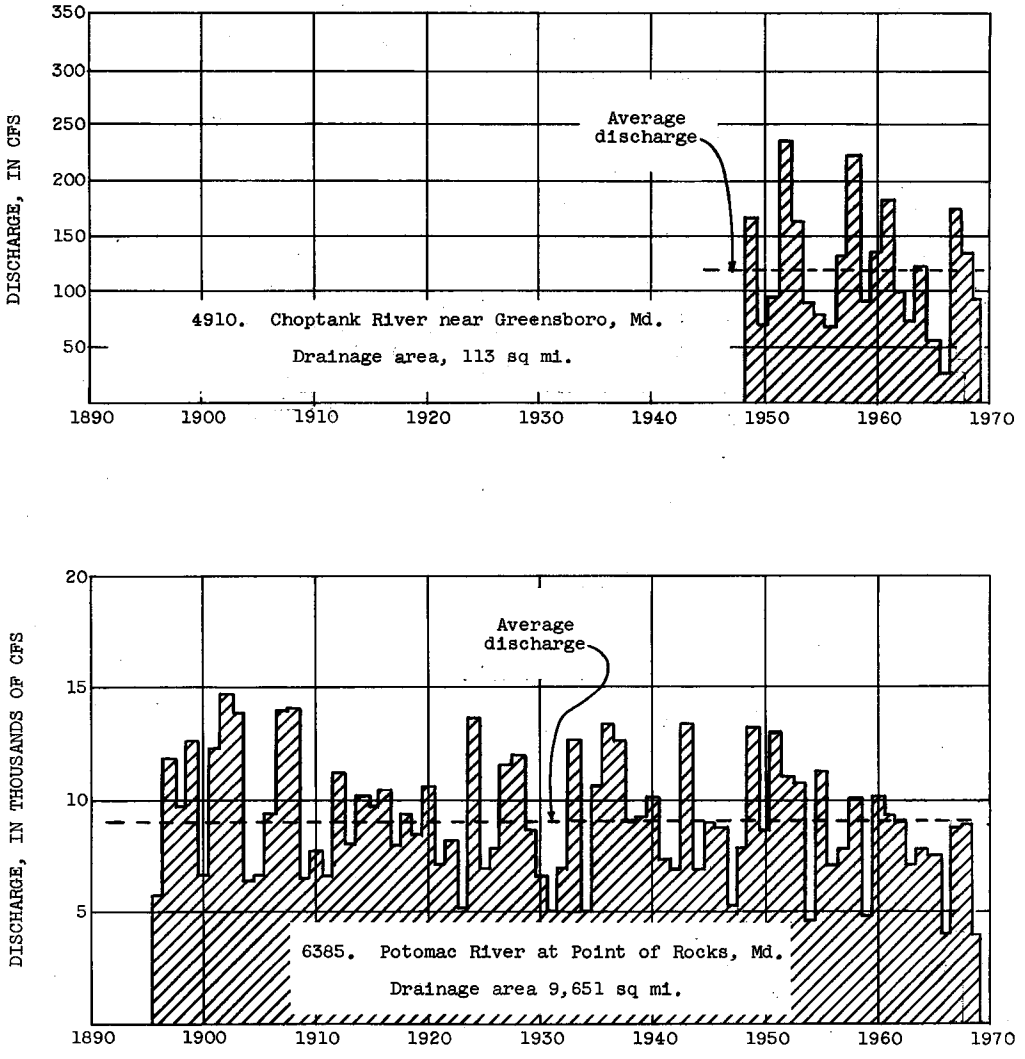

Figure 1.--Annual mean discharge at two gaging stations in Maryland.

DELAWARE RIVER BASIN

1-4778. Shellpot Creek at Wilmington, Del.

LOCATION.--Lat 39°45'39", long 75°31'10", on right bank 100 ft east of intersection of Forty-fourth and Pine Streets in Clifton Park, 700 ft downstream from highway bridge on North Market Street in Wilmington, New Castle County, 0.2 mile downstream from Matson Run, and 2.3 miles upstream from mouth.

DRAINAGE AREA.--7.46 sq mi.

PERIOD OF RECORD.--December 1945 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 15.16 ft above mean sea level.

AVERAGE DISCHARGE.--23 years (1946-69), 8.96 cfs (16.31 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,080 cfs Sept. 3 (gage height, 4.42 ft); minimum daily, 0.09 cfs Oct. 2, 4.
Period of record: Maximum discharge, 4,650 cfs Aug. 27, 1967 (gage height, 9.10 ft), from rating curve extended above 620 cfs on basis of computation of flow over dam at gage height 6.52 ft, and contracted-opening measurements at gage heights 6.52 and 7.97 ft (8.6 ft from floodmarks) and Type V Culvert measurement of peak flow; minimum daily, 0.09 cfs Oct. 2, 4, 1968.
Maximum stage known since at least 1940, that of Aug. 27, 1967. Flood of Aug. 1, 1945, reached a stage of about 8.5 ft, from floodmarks.

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 1382: 1948(m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.15	.38	1.1	3.0	12	6.6	2.0	1.4	.67	.74	2.7	.61
2	.09	.38	11	1.5	5.5	7.8	2.2	1.4	.69	.69	2.8	5.2
3	.11	.40	2.1	1.4	7.8	12	2.2	1.4	36	.55	4.2	200
4	.09	1.1	74	1.3	3.7	11	2.0	1.0	1.6	.59	102	69
5	.15	1.2	7.3	.97	2.1	7.4	2.2	1.0	1.1	.51	49	6.4
6	.13	.77	3.1	1.1	1.8	5.1	5.1	.93	.97	.51	7.7	3.1
7	48	13	2.1	1.5	1.8	15	2.1	.86	.85	13	3.5	2.7
8	1.4	11	1.8	1.3	1.6	11	1.9	.79	.70	4.5	2.6	9.6
9	.51	2.2	1.5	2.4	14	11	1.9	21	5.1	1.1	2.2	8.2
10	.39	51	1.1	2.2	6.4	6.2	3.2	3.8	.86	.66	27	3.6
11	.31	5.2	1.1	1.1	2.6	4.7	4.3	1.5	.64	.62	2.7	2.6
12	.35	56	1.2	1.1	2.7	3.0	1.8	1.1	.64	9.6	2.0	1.9
13	.39	8.1	1.4	1.1	2.6	2.8	1.6	.95	.62	3.0	1.7	1.2
14	.28	2.9	18	1.1	1.6	2.7	1.6	.92	1.1	.84	1.4	.96
15	.28	1.9	6.2	1.1	1.5	3.1	1.7	.87	10	.55	1.5	.96
16	.28	1.6	2.7	.92	1.4	2.5	16	.85	2.9	.55	3.5	1.0
17	.28	1.3	2.1	1.0	1.4	2.4	7.2	.76	.69	.55	1.6	1.0
18	.25	26	1.8	7.4	1.4	2.5	9.8	.70	3.2	2.0	3.3	.86
19	38	9.6	2.3	7.3	1.3	2.4	9.9	1.2	32	3.4	1.5	.69
20	3.8	2.3	3.4	2.5	2.0	2.1	3.5	126	1.6	2.0	1.3	.65
21	.79	1.7	2.1	20	4.7	2.0	2.4	10	1.1	4.1	.85	.64
22	.55	1.4	4.4	6.2	3.0	1.8	9.8	3.0	.69	1.1	.68	.62
23	.43	1.2	18	13	15	1.6	4.2	2.2	.64	23	.65	.64
24	.43	1.5	3.7	11	24	18	2.6	2.7	.74	2.2	.68	.65
25	13	2.8	2.0	5.9	19	38	2.0	1.9	37	.95	.72	.65
26	1.2	1.2	1.6	2.7	14	7.8	2.0	1.5	1.8	.72	.73	.74
27	.64	.93	1.7	1.7	9.5	3.8	1.7	1.2	1.4	3.6	.52	.82
28	.93	1.9	4.3	1.5	7.8	2.6	1.6	1.2	1.3	273	.46	.74
29	1.2	3.3	3.6	2.3	------	2.6	2.0	1.1	1.1	37	.46	.69
30	.69	1.4	1.8	8.2	------	4.0	1.5	.99	.79	17	.51	.71
31	.47	------	2.2	8.0	------	2.2	------	.72	------	4.0	.57	------
TOTAL	115.57	213.56	190.7	121.79	172.2	205.7	112.0	194.94	148.49	412.63	231.03	327.13
MEAN	3.73	7.12	6.15	3.93	6.15	6.64	3.73	6.29	4.95	13.3	7.45	10.9
MAX	48	56	74	20	24	38	16	126	37	273	102	200
MIN	.09	.38	1.1	.92	1.3	1.6	1.5	.70	.62	.51	.46	.61
CFSM	.50	.95	.82	.53	.82	.89	.50	.84	.66	1.78	1.00	1.46
IN.	.58	1.06	.95	.61	.86	1.03	.56	.97	.74	2.06	1.15	1.63

CAL YR 1968 TOTAL 2,951.37 MEAN 8.06 MAX 292 MIN .09 CFSM 1.08 IN 14.71
WTR YR 1969 TOTAL 2,445.74 MEAN 6.70 MAX 273 MIN .09 CFSM .90 IN 12.19

PEAK DISCHARGE (BASE, 550 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-20	1000	3.80	730	8- 4	2220	4.15	934
7-28	1650	4.14	934	9- 3	1200	4.42	1,080

1-4780. Christina River at Coochs Bridge, Del.

LOCATION.--Lat 39°38'16", long 75°43'46", on left bank at downstream side of highway bridge, 0.3 mile south of Coochs Bridge, New Castle County, 3.3 miles upstream from Muddy Run, 3.5 miles south of Newark, and 23.0 miles upstream from mouth.

DRAINAGE AREA.--20.5 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 25.6 ft above mean sea level. Prior to Sept. 14, 1944, non-recording gage on upstream side of bridge at same datum.

AVERAGE DISCHARGE.--26 years, 25.0 cfs (16.56 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,320 cfs June 3 (gage height, 9.89 ft); minimum daily, 0.80 cfs Oct. 6.
Period of record: Maximum discharge, 2,620 cfs May 1, 1947 (gage height, 12.41 ft); minimum daily, 0.2 cfs Aug. 7, 14, 18, 21, 27, 28, 1966.

REMARKS.--Records good. Low and medium flow regulated by mill above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	4.8	6.0	9.6	31	14	9.1	11	4.2	4.5	11	4.2
2	2.0	5.1	22	7.8	24	17	9.6	8.7	4.3	4.4	11	3.7
3	2.9	5.7	12	6.6	25	23	9.2	9.8	411	4.4	8.7	514
4	3.2	5.4	102	6.2	18	27	8.7	9.2	20	3.6	33	366
5	2.4	3.4	24	5.1	11	22	9.1	9.3	7.1	3.6	69	37
6	.80	5.0	12	5.1	9.2	16	14	8.6	8.3	4.0	20	16
7	62	12	8.6	7.1	9.4	27	9.3	7.3	8.6	13	13	11
8	8.0	19	8.2	4.7	8.9	27	8.0	9.1	5.1	11	9.8	17
9	4.5	8.5	7.8	7.1	17	27	7.7	41	16	8.1	7.8	24
10	2.7	57	9.2	8.1	15	19	8.7	23	14	8.4	61	11
11	3.3	21	5.4	5.6	10	15	16	13	19	6.0	13	8.1
12	4.0	66	6.2	5.0	9.6	11	8.5	10	7.4	29	9.8	5.9
13	2.5	26	6.0	6.2	9.2	11	8.0	9.0	9.1	24	6.0	6.5
14	3.5	12	42	5.5	6.7	11	8.4	10	13	8.0	6.8	4.3
15	4.4	8.6	26	5.1	7.4	11	8.1	9.0	19	7.0	6.4	5.4
16	3.5	8.2	11	5.7	7.0	10	32	8.0	13	5.3	7.0	5.8
17	3.9	7.0	9.1	6.3	7.3	10	34	9.0	14	5.3	5.4	5.6
18	3.1	32	6.8	13	7.1	10	26	7.0	12	4.3	12	5.8
19	27	30	7.8	22	8.6	10	37	10	56	4.7	7.7	3.6
20	15	13	10	10	10	9.1	23	90	7.3	9.2	6.5	4.6
21	8.3	9.6	8.5	46	11	9.1	16	30	5.1	9.4	5.2	3.9
22	4.6	8.6	11	27	9.9	8.2	21	15	4.6	6.0	7.6	7.1
23	4.6	7.5	40	20	32	7.8	21	11	4.0	11	4.8	4.9
24	4.8	7.0	15	37	78	10	17	9.0	4.8	10	4.6	5.4
25	13	14	8.3	22	47	34	13	10	46	4.2	4.4	9.6
26	6.0	6.4	7.3	13	28	22	13	8.0	15	7.2	4.7	3.1
27	4.8	6.6	7.8	8.6	18	13	11	6.6	7.8	2.5	3.5	5.6
28	4.4	7.4	11	7.4	16	11	11	6.2	6.5	573	3.8	3.0
29	4.6	9.7	12	9.6	------	10	13	9.0	5.3	101	7.2	4.7
30	4.6	7.3	6.5	22	------	11	11	4.9	5.2	49	2.7	4.3
31	4.6	------	7.5	31	------	9.6	------	4.4	------	17	4.3	------
TOTAL	224.80	433.8	477.0	395.4	491.3	472.8	441.4	426.1	772.7	958.1	377.7	1,107.1
MEAN	7.25	14.5	15.4	12.8	17.5	15.3	14.7	13.7	25.8	30.9	12.2	36.9
MAX	62	66	102	46	78	34	37	90	411	573	69	514
MIN	.80	3.4	5.4	4.7	6.7	7.8	7.7	4.4	4.0	2.5	2.7	3.0
CFSM	.35	.71	.75	.62	.86	.74	.72	.67	1.26	1.51	.59	1.80
IN.	.41	.79	.87	.72	.89	.86	.80	.77	1.40	1.74	.69	2.01

CAL YR 1968 TOTAL 8,265.40 MEAN 22.6 MAX 680 MIN .80 CFSM 1.10 IN 14.99
WTR YR 1969 TOTAL 6,573.20 MEAN 18.0 MAX 573 MIN .80 CFSM .88 IN 11.93

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.HT.	DISCHARGE
6- 3	0715	9.89	1,320
7-28	2030	9.76	1,290
9- 3	1330	9.74	1,270

1-4785. White Clay Creek above Newark, Del.

LOCATION.--Lat 39°42'50", long 75°45'35", on right bank at downstream wingwall of abandoned bridge, 0.9 mile downstream from small tributary, 1.7 miles southeast of Delaware-Maryland-Pennsylvania State corner, 2.1 miles downstream from Pennsylvania-Delaware State line, 2.2 miles north of Newark, New Castle County, and 12.8 miles upstream from mouth.

DRAINAGE AREA.--66.7 sq mi.

PERIOD OF RECORD.--February 1952 to September 1959, July 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 78.6 ft above mean sea level.

AVERAGE DISCHARGE.--14 years, 70.8 cfs (14.41 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,430 cfs July 28 (gage height, 6.93 ft), minimum daily, 20 cfs Oct. 3, 5, 11, 12, 17.
Period of record: Maximum discharge, 4,540 cfs Aug. 10, 1967 (gage height, 9.97 ft), from rating curve extended above 1,800 cfs on basis of contracted-opening measurement of peak flow; minimum, 4.6 cfs Dec. 7, 1954 (gage height, 0.55 ft), result of freezeup; minimum daily, 5.6 cfs Sept. 10, 1966.

REMARKS.--Records fair. Records do not include a negligible diversion above station by plant of E. I. du Pont de Nemours & Co. Records of suspended sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	22	33	39	78	67	47	41	29	25	56	26
2	21	25	64	37	76	57	48	39	29	25	52	28
3	20	28	50	47	66	57	47	39	172	24	47	131
4	22	31	250	45	61	65	44	39	47	23	104	190
5	20	29	90	41	52	73	47	39	37	22	208	96
6	25	30	60	45	46	56	51	37	32	22	73	53
7	150	54	52	52	48	63	45	35	30	32	54	46
8	40	80	46	50	44	61	43	35	28	36	48	54
9	22	50	43	56	51	73	42	58	43	28	44	81
10	21	150	42	50	45	62	43	51	30	26	91	44
11	20	100	41	43	45	57	50	40	28	25	50	38
12	20	150	40	42	47	49	43	37	27	52	43	36
13	22	110	45	42	42	50	41	37	26	62	39	35
14	24	60	130	46	37	49	41	37	25	29	38	33
15	22	48	90	46	35	50	41	34	25	25	38	32
16	21	43	54	44	36	49	61	34	27	24	38	32
17	20	40	50	50	36	49	71	31	24	24	36	32
18	23	110	45	47	38	50	55	30	27	23	42	31
19	110	80	41	68	38	52	88	32	65	105	44	30
20	80	54	45	49	46	51	62	201	31	36	51	30
21	34	45	40	93	46	52	51	102	26	39	51	30
22	25	43	41	70	47	51	55	48	25	30	31	29
23	24	40	78	56	55	48	57	41	24	78	29	29
24	23	42	55	72	108	55	51	41	25	55	29	29
25	100	54	42	63	169	177	48	40	306	35	28	30
26	40	41	43	49	111	89	46	36	67	31	27	29
27	28	37	44	46	67	62	44	33	42	29	26	29
28	26	40	47	43	63	55	44	32	36	952	26	29
29	29	45	50	45	------	53	45	31	30	280	26	30
30	26	37	41	62	------	53	44	30	26	147	26	29
31	23	------	40	96	------	49	------	29	------	71	26	------
TOTAL	1,102	1,718	1,832	1,634	1,633	1,884	1,495	1,389	1,389	2,415	1,521	1,371
MEAN	35.5	57.3	59.1	52.7	58.3	60.8	49.8	44.8	46.3	77.9	49.1	45.7
MAX	150	150	250	96	169	177	88	201	306	952	208	190
MIN	20	22	33	37	35	48	41	29	24	22	26	26
CFSM	.53	.86	.89	.79	.87	.91	.75	.67	.69	1.17	.74	.69
IN.	.61	.96	1.02	.91	.91	1.05	.83	.77	.77	1.35	.85	.76

CAL YR 1968 TOTAL 26,550 MEAN 72.5 MAX 700 MIN 20 CFSM 1.09 IN 14.80
WTR YR 1969 TOTAL 19,383 MEAN 53.1 MAX 952 MIN 20 CFSM .80 IN 10.81

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G.HT.	DISCHARGE
7-28	1830	6.93	2,430

NOTE.--No gage-height record Oct. 2 to Dec. 20.

1-4790. White Clay Creek near Newark, Del.

LOCATION.--Lat 39°42'00", long 75°41'10", on left bank 300 ft upstream from Baltimore & Ohio Railroad bridge, 0.4 mile downstream from Pike Creek, 3.5 miles east of Newark, New Castle County, and 5.5 miles upstream from mouth.

DRAINAGE AREA.--87.8 sq mi.

PERIOD OF RECORD.--October 1931 to September 1936, June 1943 to September 1957, October 1959 to current year. Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 11.6 ft above mean sea level. Nov. 17, 1931, to Sept. 30, 1936, at site 15 ft downstream at same datum.

AVERAGE DISCHARGE.--29 years, 102 cfs (15.78 inches per year).

EXTREMES.--Current year: Maximum discharge and gage height unknown (probably occurred July 28); minimum, 17 cfs Oct. 5 (gage height, 4.01 ft); minimum daily, 18 cfs Oct. 3, 5.
Period of record: Maximum discharge, 6,640 cfs Aug. 10, 1967 (gage height, 16.41 ft); minimum, 4.7 cfs Sept. 11, 1966; minimum gage height, 3.66 ft July 26, 1954; minimum daily discharge, 5.0 cfs Sept. 10, 1966. Maximum stage known, 23 ft in July 1937 (probably affected by backwater from railroad bridge which has since been raised and widened), from information by Baltimore & Ohio Railroad.

REMARKS.--Records good. Slight diurnal fluctuation at low flow caused by mills above station. Records do not include a negligible diversion above station by plant of E. I. du Pont de Nemours & Co.

REVISIONS (WATER YEARS).--WSP 1051: 1933(M). WSP 1382: 1932, 1934.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	28	38	45	90	77	52	45	26	31	70	26
2	20	30	67	43	94	70	53	42	25	30	60	30
3	18	33	53	52	78	73	52	40	350	28	54	518
4	19	37	270	50	72	78	50	39	67	27	140	452
5	18	35	120	45	57	87	53	41	48	27	260	148
6	21	35	71	48	51	65	65	37	38	28	90	69
7	157	57	60	56	52	85	53	35	35	46	64	58
8	47	83	57	53	47	75	49	35	33	51	58	73
9	27	56	49	60	62	88	46	89	54	37	52	97
10	25	172	48	56	50	74	50	66	37	33	120	52
11	25	119	47	47	50	65	63	43	32	32	64	44
12	25	175	46	46	52	51	49	39	30	94	54	40
13	26	138	49	46	45	55	47	37	28	99	48	38
14	27	71	125	49	40	53	46	36	27	40	45	37
15	26	56	119	49	38	52	44	34	30	30	43	35
16	26	51	66	46	39	50	83	33	32	28	45	34
17	26	47	56	52	39	51	96	34	25	26	40	33
18	27	95	48	50	41	49	74	34	27	25	52	32
19	102	126	50	68	41	52	110	35	118	120	58	31
20	98	61	54	51	50	51	82	280	40	47	66	31
21	39	49	49	122	49	51	62	152	32	54	64	31
22	30	46	52	102	48	49	69	60	30	38	38	30
23	30	42	108	68	76	47	70	48	29	96	35	30
24	29	43	72	91	122	54	61	50	30	70	33	28
25	104	56	50	76	172	207	57	47	398	45	31	29
26	47	45	52	58	156	113	54	41	93	38	30	29
27	34	40	53	50	80	75	52	36	59	35	29	28
28	32	42	56	47	72	64	49	33	50	1,200	28	29
29	35	47	62	51	------	62	51	31	41	350	27	30
30	32	41	48	69	------	64	49	30	35	180	25	28
31	28	------	46	115	------	57	------	27	------	90	26	------
TOTAL	1,221	1,956	2,141	1,861	1,863	2,144	1,791	1,629	1,899	3,075	1,849	2,170
MEAN	39.4	65.2	69.1	60.0	66.5	69.2	59.7	52.5	63.3	99.2	59.6	72.3
MAX	157	175	270	122	172	207	110	280	398	1,200	260	518
MIN	18	28	38	43	38	47	44	27	25	25	25	26
CFSM	.45	.74	.79	.68	.76	.79	.68	.60	.72	1.13	.68	.82
IN.	.52	.83	.91	.79	.79	.91	.76	.69	.80	1.30	.78	.92

CAL YR 1968 TOTAL 34,864 MEAN 95.3 MAX 1,230 MIN 18 CFSM 1.08 IN 14.77
WTR YR 1969 TOTAL 23,599 MEAN 64.7 MAX 1,200 MIN 18 CFSM .74 IN 10.00

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.HT.	DISCHARGE
7-28	Time and discharge unknown		

NOTE.--No gage-height record July 22 to Aug. 29.

1-4800. Red Clay Creek at Wooddale, Del.

LOCATION.--Lat 39°45'52", long 75°38'08", on right bank 12 ft upstream from bridge on State Highway 48, 0.3 mile south of Wooddale, New Castle County, 2.3 miles north of Marshallton, and 4.9 miles upstream from mouth.

DRAINAGE AREA.--47.0 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 81.46 ft above mean sea level. Prior to Sept. 21, 1950, nonrecording gage at site 10 ft downstream at same datum.

AVERAGE DISCHARGE.--26 years, 59.5 cfs (17.19 inches per year).

EXTREMES.--Current year: Maximum discharge, 4,500 cfs July 28 (gage height, 9.50 ft); minimum, 4.9 cfs Sept. 28; minimum daily, 13 cfs Oct. 5, 6, July 6, 16, 17.
Period of record: Maximum discharge, 4,780 cfs (revised) Sept. 12, 1960 (gage height, 9.93 ft); minimum, 2.9 cfs Sept. 4, 1966; minimum daily, 4.5 cfs Sept. 4, 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 the water-supply papers and Water Resources Data reports indicated.

Report	Water year	Date	Discharge (cfs)	Gage height (feet)
WSP 1672, WSP 1702, WSP 1722	1960	Sept. 12, 1960	4,780	9.93
WSP 1902	1964	Jan. 9, 1964	2,620	6.86
WRD Md. and Del.	1966	Feb. 13, 1966	2,730	7.00
WRD Md. and Del.	1967	Mar. 7, 1967	2,910	7.23

REMARKS.--Records good. Some diurnal fluctuation at low flow caused by mills above station. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1141: 1948. WSP 1272: 1951(m). WSP 1432: 1944(M), 1945, 1946(M), 1948, 1949(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	19	23	27	41	55	36	33	20	16	49	18
2	14	20	32	23	40	43	37	31	19	15	46	20
3	14	19	27	26	36	43	36	30	159	15	41	155
4	14	20	167	25	33	48	34	29	32	14	72	195
5	13	20	66	23	28	51	38	28	25	14	131	67
6	13	19	42	25	25	42	43	27	24	13	57	41
7	95	29	36	28	26	51	35	26	23	28	44	35
8	26	32	32	26	25	46	33	29	22	25	40	48
9	19	27	29	27	29	55	33	58	24	18	36	79
10	18	107	26	26	25	44	33	43	22	16	71	36
11	18	58	26	22	25	43	40	30	21	17	41	30
12	18	113	26	22	26	33	33	28	20	23	34	28
13	18	73	28	22	25	34	31	27	19	30	30	27
14	17	41	78	23	21	36	30	27	19	17	29	26
15	19	31	60	23	21	36	31	26	18	14	29	26
16	20	28	34	22	22	34	52	25	21	13	32	26
17	18	26	32	23	22	33	57	25	18	13	28	25
18	17	55	30	28	22	34	43	23	18	14	32	25
19	92	61	31	37	23	34	82	28	45	43	28	24
20	51	32	34	31	26	34	52	166	23	20	27	24
21	25	29	32	50	25	33	41	61	20	25	25	24
22	20	27	31	40	25	32	50	35	18	19	25	22
23	19	25	63	34	28	30	49	30	18	63	25	22
24	19	25	39	48	55	42	42	29	22	38	24	22
25	38	31	27	39	89	158	38	29	241	23	22	24
26	25	26	28	30	74	72	36	26	38	20	20	22
27	20	25	29	26	47	51	34	25	26	19	19	21
28	20	25	32	25	48	43	33	24	23	1,380	19	21
29	25	26	34	27	------	42	34	24	19	283	19	22
30	21	24	29	34	------	42	34	22	17	149	19	21
31	19	------	29	46	------	37	------	20	------	67	19	------
TOTAL	779	1,093	1,232	908	932	1,411	1,200	1,064	1,034	2,464	1,133	1,176
MEAN	25.1	36.4	39.7	29.3	33.3	45.5	40.0	34.3	34.5	79.5	36.5	39.2
MAX	95	113	167	50	89	158	82	166	241	1,380	131	195
MIN	13	19	23	22	21	30	30	20	17	13	19	18
CFSM	.53	.78	.85	.62	.71	.97	.85	.73	.73	1.69	.78	.83
IN.	.62	.86	.97	.72	.74	1.12	.95	.84	.82	1.95	.90	.93

CAL YR 1968 TOTAL 19,617 MEAN 53.6 MAX 666 MIN 12 CFSM 1.14 IN 15.52
WTR YR 1969 TOTAL 14,426 MEAN 39.5 MAX 1,380 MIN 13 CFSM .84 IN 11.41

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G.HT.	DISCHARGE
7-28	1900	9.50	4,500

1-4801. Little Mill Creek at Elsmere, Del.

LOCATION.--Lat 39°44'05", long 75°35'14", on left bank at downstream side of highway bridge on North du Pont Road at Elsmere, New Castle County, 0.5 mile downstream from unnamed tributary, and 2.2 miles upstream from mouth.

DRAINAGE AREA.--6.70 sq mi.

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

GAGE.--Water-stage recorder. Prior to March 19, 1964, nonrecording gage at same site and datum. Datum of gage is 48.62 ft above mean sea level.

AVERAGE DISCHARGE.--6 years, 8.58 cfs (17.39 inches per year).

EXTREMES.--Current year: Maximum discharge, 562 cfs Sept. 3 (gage height, 5.34 ft); minimum, 0.72 cfs Oct. 27. Period of record: Maximum discharge, 3,960 cfs Aug. 10, 1967 (gage height, 8.58 ft), from rating curve extended above 380 cfs on basis of contracted-opening measurement of peak flow; minimum, 0.10 cfs July 17, 18, Sept. 18, 19, 1966.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	2.6	2.2	3.0	9.4	4.6	4.2	3.7	2.2	2.8	3.7	1.4
2	1.2	3.0	10	2.8	4.8	7.6	4.2	4.0	2.4	2.6	3.4	16
3	1.2	3.4	3.4	3.2	7.2	13	4.0	3.7	47	3.0	3.2	162
4	1.2	10	44	3.0	4.0	9.8	3.7	3.4	3.4	1.8	31	73
5	1.2	3.0	7.6	2.6	3.2	6.8	4.0	3.4	2.8	1.5	20	10
6	1.4	2.8	4.6	2.6	3.2	5.6	6.9	3.2	2.4	1.6	5.6	5.6
7	60	13	4.0	3.2	3.2	15	4.6	2.8	2.4	9.5	4.2	4.6
8	5.1	14	3.2	2.8	2.6	8.5	4.8	2.6	2.2	4.8	3.4	11
9	1.6	4.0	3.0	4.2	13	7.6	5.2	13	9.2	2.8	2.8	6.1
10	1.6	40	3.2	3.7	5.2	5.6	7.4	4.0	2.8	2.2	22	4.0
11	1.6	6.8	3.2	2.6	4.6	4.6	7.6	2.2	2.4	2.2	3.7	4.2
12	1.6	43	3.4	2.0	3.4	3.7	4.8	1.8	2.4	26	3.2	4.0
13	1.4	9.4	3.4	2.4	3.4	3.7	4.2	2.0	2.4	4.9	3.0	3.4
14	1.4	4.2	20	2.6	3.0	3.7	4.8	1.8	2.4	2.4	2.8	3.0
15	1.4	4.0	7.2	2.6	2.6	3.7	4.8	1.6	6.2	2.2	2.8	2.8
16	1.6	3.2	4.2	2.4	2.6	3.7	23	1.8	2.8	2.2	2.8	2.8
17	1.6	2.6	4.2	2.6	2.4	4.2	9.3	1.8	2.0	2.2	2.4	2.8
18	2.0	22	4.0	5.2	2.8	4.6	11	1.6	4.7	4.9	5.1	2.8
19	22	8.5	4.6	4.2	2.8	4.0	8.9	3.0	29	5.2	2.6	2.6
20	2.2	3.4	5.2	2.2	5.2	3.4	3.7	47	3.0	9.9	2.6	2.2
21	1.0	2.8	4.0	22	7.2	3.7	3.0	8.0	2.4	4.2	2.6	2.0
22	1.4	2.6	7.5	6.4	4.0	3.2	5.2	4.6	1.8	2.4	2.4	2.4
23	1.4	2.6	14	7.6	16	2.8	3.4	4.0	2.0	15	2.0	2.6
24	2.2	2.6	3.7	8.9	21	7.1	3.2	4.8	2.4	3.4	1.6	2.6
25	3.8	4.0	3.2	4.6	13	23	2.6	3.4	39	2.4	1.8	2.6
26	1.0	2.4	2.8	2.8	8.5	11	2.8	3.2	4.6	2.2	1.8	2.6
27	.85	2.4	3.4	2.4	6.0	6.0	2.6	3.0	3.2	2.5	1.6	2.2
28	2.0	3.2	5.6	2.4	5.2	4.6	3.0	3.0	2.6	147	1.6	1.8
29	3.0	3.0	3.7	3.7	------	4.0	4.0	3.2	2.0	20	1.8	2.0
30	2.6	2.4	3.2	8.5	------	4.6	3.7	2.4	2.2	9.8	1.5	2.0
31	2.6	------	3.4	6.4	------	4.2	------	2.2	------	4.8	1.4	------
TOTAL	134.35	230.9	199.1	135.6	169.5	197.6	164.6	150.2	196.3	308.4	150.4	347.1
MEAN	4.33	7.70	6.42	4.37	6.05	6.37	5.49	4.85	6.54	9.95	4.85	11.6
MAX	60	43	44	22	21	23	23	47	47	147	31	162
MIN	.85	2.4	2.2	2.0	2.4	2.8	2.6	1.6	1.8	1.5	1.4	1.4
CFSM	.65	1.15	.96	.65	.90	.95	.82	.72	.98	1.49	.72	1.73
IN.	.75	1.28	1.11	.75	.94	1.10	.91	.83	1.09	1.71	.84	1.93

CAL YR 1968 TOTAL 2,920.05 MEAN 7.98 MAX 200 MIN .85 CFSM 1.19 IN 16.21
WAT YR 1969 TOTAL 2,384.05 MEAN 6.53 MAX 162 MIN .85 CFSM .97 IN 13.24

PEAK DISCHARGE (BASE, 350 CFS)

DATE	TIME	G.HT.	DISCHARGE
9-03	1230	5.34	562

1-4810. Brandywine Creek at Chadds Ford, Pa.

LOCATION.--Lat 39°52'11", long 75°35'37", Delaware County, on left bank 27 ft upstream from Penn Central Railroad bridge at Chadds Ford and 1,200 ft downstream from highway bridge on U.S.Highway 1.

DRAINAGE AREA.--287 sq mi.

PERIOD OF RECORD.--August 1911 to December 1953, October 1962 to current year. Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 150.45 ft above mean sea level. Prior to May 21, 1927, chain gage at same site and datum.

AVERAGE DISCHARGE.--49 years, 373 cfs (17.65 inches per year).

EXTREMES.--Current year: Maximum discharge, 7,270 cfs July 28 (gage height, 10.81 ft); minimum, 33 cfs July 18 (gage height, 0.87 ft).
Period of record: Maximum discharge, 17,200 cfs Mar. 5, 1920 (gage height, 15.0 ft, from floodmark), from rating curve extended above 7,000 cfs on basis of an area-depth study; minimum, 4.9 cfs Oct. 2, 1941 (gage height, 0.28 ft); minimum daily, 42 cfs Sept. 12, 1966.

REMARKS.--Records good except those for winter periods, which are fair. Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1969 are published in Part 2 of the Pennsylvania annual report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	138	194	183	354	240	217	221	134	138	358	134
2	105	138	265	162	363	224	224	201	131	134	322	134
3	102	141	261	150	286	232	224	197	438	125	286	377
4	105	138	750	140	349	236	209	190	201	118	980	481
5	99	138	568	130	240	244	221	179	162	115	830	291
6	99	134	313	140	190	224	265	172	151	115	429	205
7	340	176	253	140	170	261	221	169	158	176	326	187
8	194	217	236	150	150	248	201	172	145	179	278	295
9	141	172	205	160	140	261	194	286	228	141	253	453
10	128	424	176	140	130	248	194	278	172	125	661	217
11	125	462	170	130	140	220	286	205	148	121	358	183
12	125	573	160	140	150	201	224	183	141	194	269	169
13	128	583	170	145	140	213	197	176	138	257	240	162
14	125	386	438	140	130	228	187	169	134	155	228	155
15	125	335	558	130	120	291	183	165	141	118	224	148
16	125	391	244	140	136	265	265	158	169	109	224	145
17	121	308	291	150	140	257	448	155	145	102	217	141
18	121	443	228	183	150	248	295	151	138	102	213	145
19	340	785	213	240	158	240	810	155	169	261	205	151
20	344	358	224	217	176	232	448	641	138	197	197	141
21	176	269	217	190	176	224	313	313	125	190	183	134
22	145	240	213	194	176	217	326	205	118	155	176	131
23	134	221	335	201	190	201	377	179	205	462	165	131
24	128	217	322	236	265	240	304	183	805	637	162	128
25	433	236	197	253	510	875	269	179	1,100	244	162	131
26	209	217	180	205	405	578	244	169	367	179	155	128
27	165	201	180	150	253	344	228	155	228	165	145	125
28	155	197	228	130	232	278	217	151	190	3,430	145	145
29	197	213	274	150		257	228	148	169	2,900	141	128
30	155	209	217	228	------	257	232	141	148	795	138	128
31	141	------	213	443	------	232	------	134	------	467	141	------
TOTAL	5,135	8,660	8,493	5,490	6,019	8,516	8,251	6,180	6,836	12,606	8,811	5,623
MEAN	166	289	274	177	215	275	275	199	228	407	284	187
MAX	433	785	750	443	510	875	810	641	1,100	3,430	980	481
MIN	99	134	160	130	120	201	183	134	118	102	138	125
CFSM	.58	1.01	.95	.62	.75	.96	.96	.69	.79	1.42	.99	.65
IN.	.67	1.12	1.10	.71	.78	1.10	1.07	.80	.89	1.63	1.14	.73

CAL YR 1968 TOTAL 136,328 MEAN 372 MAX 3,500 MIN 99 CFSM 1.30 IN. 17.67
WTR YR 1969 TOTAL 90,620 MEAN 248 MAX 3,430 MIN 99 CFSM .87 IN. 11.74

PEAK DISCHARGE (BASE, 3,500 CFS)

DATE	TIME	G.HT.	DISCHARGE
7-28	1900	10.81	7,270

1-4815. Brandywine Creek at Wilmington, Del.

LOCATION.--Lat 39°46'10", long 75°34'20", on right bank in Rockford Park, 0.2 mile downstream from Henry Clay Bridge, in Wilmington, New Castle County, and 4.2 miles upstream from mouth.

DRAINAGE AREA.--314 sq mi.

PERIOD OF RECORD.--October 1946 to current year. Prior to December 1946, monthly discharge only, published in WSP 1302.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 68.23 ft above mean sea level.

AVERAGE DISCHARGE.--23 years, 430 cfs (18.60 inches per year).

EXTREMES.--Current year: Maximum discharge, 8,730 cfs July 28 (gage height, 9.21 ft); minimum, about 32 cfs Dec. 10, result of freezeup; minimum daily, 99 cfs Oct. 6.
Period of record: Maximum discharge, 17,800 cfs Aug. 19, 1955 (gage height, 13.89 ft); minimum, about 30 cfs Dec. 26, 1948, during period of ice effect; minimum daily, 56 cfs Aug. 23, 24, 1957.

REMARKS.--Records good. Some diurnal fluctuation at low flow caused by mills above station. No diversion just above station by plant of E. I. du Pont de Nemours & Co. since June 13, 1960. Records of chemical analyses and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1432: 1948, 1950.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	153	197	238	415	298	254	258	158	165	387	159
2	110	153	275	151	401	274	256	246	157	165	343	163
3	109	146	309	217	299	274	261	237	558	152	309	764
4	111	153	713	201	380	284	250	238	258	140	1,040	854
5	102	150	644	182	273	296	252	224	178	138	1,110	427
6	99	148	355	183	207	268	315	211	167	141	553	270
7	436	184	262	199	239	314	271	201	176	209	369	239
8	271	289	232	186	201	310	250	208	165	228	309	310
9	161	208	198	205	237	321	242	316	230	171	279	598
10	133	444	149	201	200	298	236	351	201	165	735	280
11	132	633	167	171	187	309	324	252	170	159	476	237
12	130	648	175	177	226	242	277	229	158	215	310	213
13	124	725	186	177	202	257	246	215	156	282	271	199
14	134	522	351	176	171	261	229	205	154	204	255	193
15	129	440	637	184	179	330	225	205	154	160	250	182
16	129	491	264	176	194	314	293	192	174	146	258	178
17	127	425	262	186	186	305	608	188	164	136	245	175
18	124	468	218	204	193	294	366	181	156	138	254	173
19	320	837	221	266	186	285	865	182	205	295	243	181
20	517	454	225	252	205	275	642	763	165	224	233	172
21	230	315	214	240	203	267	368	437	150	241	215	160
22	166	263	210	232	199	256	355	252	138	194	208	161
23	152	235	366	232	222	245	421	217	135	403	199	157
24	140	226	377	264	280	287	353	208	898	824	193	156
25	450	250	226	294	545	941	312	207	1,180	308	189	156
26	287	231	225	245	496	781	289	197	547	221	181	153
27	193	212	241	193	310	522	268	180	256	198	167	149
28	173	200	248	197	276	332	250	174	220	3,310	164	162
29	219	216	298	217	------	297	257	176	188	4,210	166	165
30	184	219	245	235	------	302	262	168	168	963	161	148
31	157	------	228	452	------	277	------	159	------	604	166	------
TOTAL	5,860	10,038	8,918	6,733	7,312	10,316	9,797	7,477	7,784	15,109	10,238	7,534
MEAN	189	335	288	217	261	333	327	241	259	487	330	251
MAX	517	837	713	452	545	941	865	763	1,180	4,210	1,110	854
MIN	99	146	149	151	171	242	225	159	135	136	161	148
CFSM	.60	1.07	.92	.69	.83	1.06	1.04	.77	.83	1.55	1.05	.80
IN.	.69	1.19	1.06	.80	.87	1.22	1.16	.89	.92	1.79	1.21	.89

CAL YR 1968 TOTAL 157,966 MEAN 432 MAX 4,490 MIN 99 CFSM 1.37 IN 18.71
WTR YR 1969 TOTAL 107,116 MEAN 293 MAX 4,210 MIN 99 CFSM .93 IN 12.69

PEAK DISCHARGE (BASE, 4,000 CFS)

DATE	TIME	G.HT.	DISCHARGE
7-28	2330	9.21	8,730

1-4832. Blackbird Creek at Blackbird, Del.

LOCATION.--Lat 39°21'58", long 75°40'10", on right bank 15 ft downstream from highway bridge, 0.5 mile upstream from Barlow Branch, 0.6 mile southwest of Blackbird, New Castle County, 5.6 miles northwest of Smyrna, and 13.8 miles upstream from mouth.

DRAINAGE AREA.--3.85 sq mi.

PERIOD OF RECORD.--Annual maximum, water years 1952-56, and occasional low-flow measurements, water years 1952-53, 1955-56. October 1956 to current year.

GAGE.--Water-stage recorder. Concrete control since May 23, 1968. Datum of gage is 19.38 ft above mean sea level. Mar. 5, 1951, to Oct. 16, 1956, nonrecording gage and crest-stage gage at site 15 ft upstream at same datum.

AVERAGE DISCHARGE.--13 years, 4.14 cfs (14.60 inches per year).

EXTREMES.--Current year: Maximum discharge, 229 cfs July 28 (gage height, 3.30 ft); no flow Oct. 3-6.
Period of record: Maximum discharge, 510 cfs Sept. 12, 1960 (gage height, 4.10 ft); no flow at times during 1964, 1965, 1966, 1969.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.55	1.2	2.0	3.5	2.6	2.7	2.1	.86	.09	1.8	1.1
2	.01	.64	1.7	1.4	3.1	3.0	2.7	1.9	.89	.09	1.8	8.6
3	0	.69	1.6	1.3	2.9	3.2	2.6	1.8	4.8	.08	2.2	20
4	0	.86	3.2	1.3	2.4	4.3	2.5	1.7	4.8	.07	22	10
5	0	.90	3.0	1.2	1.9	4.1	3.2	1.7	.69	.08	13	7.8
6	0	.81	1.7	1.1	1.8	3.5	4.5	1.6	.58	.07	5.8	3.2
7	.06	1.2	1.4	1.4	1.8	5.0	3.0	1.5	1.3	.06	2.9	2.3
8	.03	1.6	1.4	1.4	1.7	5.8	2.7	1.6	.91	.07	2.2	6.1
9	.03	1.5	1.4	1.6	4.3	5.0	2.5	3.8	.82	.09	1.8	5.1
10	.03	4.6	1.2	1.7	3.0	4.0	2.6	3.8	.82	.09	71	2.4
11	.01	4.4	1.1	1.3	2.1	3.3	3.4	1.9	.76	.09	10	1.9
12	.01	6.8	1.1	1.2	2.1	2.8	2.6	1.6	.72	.11	3.8	1.7
13	.01	7.1	1.3	1.2	1.9	3.0	2.4	1.5	.63	.12	2.8	1.7
14	.01	3.1	2.8	1.2	1.6	3.2	2.3	1.5	.35	.17	2.6	1.6
15	.01	1.7	3.3	1.3	1.6	3.0	2.4	1.4	.09	.17	2.6	1.6
16	.03	1.6	1.8	1.2	1.7	2.9	4.2	1.3	.41	.08	2.3	1.5
17	.03	1.5	1.5	1.3	1.7	2.9	5.8	1.3	1.3	.11	2.0	1.4
18	.01	1.9	1.4	1.8	1.8	3.0	4.2	1.2	1.3	.10	2.1	1.3
19	.29	2.3	1.7	2.7	1.8	3.2	5.0	1.3	1.5	.10	2.0	1.4
20	2.2	1.6	1.8	2.2	2.1	3.0	3.2	11	1.3	1.5	5.9	1.4
21	.91	1.5	1.6	3.7	2.5	2.9	2.8	9.5	.04	14	4.0	1.4
22	.67	1.4	1.7	3.6	2.8	2.9	3.4	3.0	.07	2.8	1.9	1.4
23	.58	1.3	3.6	4.1	5.2	2.8	3.2	2.1	.08	8.1	1.7	1.4
24	.53	1.4	2.2	4.1	11	3.3	2.8	2.0	.11	7.5	1.6	1.4
25	.61	1.6	1.5	2.6	7.0	6.0	2.6	1.9	2.2	1.9	1.5	1.4
26	.54	1.5	1.3	1.9	3.7	4.3	2.4	1.7	3.6	1.4	1.4	1.4
27	.52	1.4	1.4	1.6	2.8	3.2	2.2	1.5	.15	1.2	1.2	1.3
28	.52	1.5	1.9	1.5	2.6	2.8	2.1	1.4	.12	93	1.2	1.4
29	.57	1.5	1.9	1.7	------	2.8	2.3	1.3	.11	31	1.2	1.3
30	.52	1.3	1.5	2.4	------	3.6	2.2	1.1	.10	5.5	1.2	1.2
31	.51	------	1.5	2.7	------	2.8	------	.90	------	2.5	1.2	------
TOTAL	9.26	59.75	55.7	59.7	82.4	108.2	90.5	71.90	31.41	172.24	178.7	95.7
MEAN	.30	1.99	1.80	1.93	2.94	3.49	3.02	2.32	1.05	5.56	5.76	3.19
MAX	2.2	7.1	3.6	4.1	11	6.0	5.8	11	4.8	93	71	20
MIN	0	.55	1.1	1.1	1.6	2.6	2.1	.90	.04	.06	1.2	1.1
CFSM	.08	.52	.47	.50	.76	.91	.78	.60	.27	1.44	1.50	.83
IN.	.09	.58	.54	.58	.80	1.05	.87	.69	.30	1.66	1.73	.92

CAL YR 1968 TOTAL 1,365.13 MEAN 3.73 MAX 67 MIN 0 CFSM .97 IN 13.19
WTR YR 1969 TOTAL 1,015.46 MEAN 2.78 MAX 93 MIN 0 CFSM .72 IN 9.81

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G.HT	DISCHARGE
7-28	1300	3.30	229

1-4837. St. Jones River at Dover, Del.

LOCATION.--Lat 39°09'49", long 75°31'10", on left bank 150 ft upstream from Division Street Bridge in Dover, Kent County, and 1,950 ft downstream from Silver Lake.

DRAINAGE AREA.--31.9 sq mi.

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

GAGE.--Water-stage recorder. Datum of gage is 0.50 ft above mean sea level.

AVERAGE DISCHARGE.--11 years, 29.3 cfs (12.47 inches per year).

EXTREMES.--Current year: Maximum discharge, 505 cfs Sept. 2 (gage height, 5.27 ft); minimum, 0.18 cfs Dec. 3. Period of record: Maximum discharge, 1,900 cfs Sept. 13, 1960 (gage height, 9.45 ft, from floodmark); no flow at times in 1959, 1961, 1962.

REMARKS.--Records good. Flow affected by Silver Lake.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.88	4.3	14	4.6	27	25	27	21	7.7	2.7	41	8.1
2	1.0	5.2	8.4	4.9	26	33	26	20	6.2	1.8	20	59
3	5.0	4.6	.30	5.2	17	25	24	18	9.7	1.6	31	154
4	9.8	5.2	1.4	5.5	9.7	35	23	17	6.9	2.4	88	109
5	5.2	8.9	6.2	5.5	9.3	35	26	16	5.9	1.8	103	60
6	3.1	6.9	8.5	5.5	9.3	35	33	14	6.2	1.8	118	30
7	14	9.7	11	5.5	9.7	49	33	13	6.2	1.8	86	19
8	10	10	11	5.5	9.7	52	28	16	5.9	15	49	24
9	7.7	8.9	15	5.5	10	58	24	39	5.9	15	27	32
10	6.2	23	14	5.5	9.3	56	23	58	5.9	11	85	27
11	5.9	19	22	5.5	9.3	50	26	54	5.9	8.5	157	15
12	5.5	144	20	5.5	10	42	26	30	5.9	7.7	112	13
13	5.5	56	15	5.5	9.7	39	24	20	5.5	8.1	58	11
14	5.2	44	15	9.7	8.9	39	21	17	6.5	5.9	32	10
15	5.9	42	13	14	8.5	46	19	15	10	4.9	24	10
16	4.9	41	14	14	9.7	50	22	14	10	3.9	24	10
17	5.2	41	13	14	9.7	45	26	13	7.7	3.3	19	10
18	6.2	42	6.9	14	9.7	40	30	12	9.3	2.9	17	9.7
19	11	41	4.6	14	9.7	37	50	12	17	2.7	15	8.1
20	10	39	4.9	14	9.7	33	93	30	14	4.3	32	8.1
21	7.7	37	5.2	14	10	34	82	77	9.3	11	36	9.3
22	6.2	36	5.9	14	10	30	61	90	7.3	13	29	9.3
23	5.5	35	5.9	20	11	27	56	62	5.9	18	16	9.3
24	3.1	34	5.2	29	10	28	56	32	6.2	18	13	8.9
25	5.9	32	5.9	29	11	46	41	21	6.2	16	11	9.3
26	4.6	30	5.9	29	36	64	32	15	4.9	11	10	9.3
27	2.5	28	5.9	29	32	66	26	13	4.9	8.5	8.9	9.3
28	3.3	26	6.2	29	26	46	24	12	4.9	51	8.1	9.3
29	5.2	23	6.2	27	------	39	23	11	4.9	231	8.5	8.5
30	3.6	18	5.9	27	------	32	23	10	3.6	194	8.5	7.3
31	3.6	------	5.9	27	------	30	------	8.5	------	88	8.1	------
TOTAL	179.38	894.7	282.30	437.4	377.9	1,266	1,028	800.5	216.4	766.6	1,295.1	716.8
MEAN	5.79	29.8	9.11	14.1	13.5	40.8	34.3	25.8	7.21	24.7	41.8	23.9
MAX	14	144	22	29	36	66	93	90	17	231	157	154
MIN	.88	4.3	.30	4.6	8.5	25	19	8.5	3.6	1.6	8.1	7.3
CFSM	.18	.93	.29	.44	.42	1.28	1.08	.81	.23	.77	1.31	.75
IN.	.21	1.04	.33	.51	.44	1.48	1.20	.93	.25	.89	1.51	.84

CAL YR 1968 TOTAL 10,946.64 MEAN 29.9 MAX 352 MIN .30 CFSM .94 IN 12.77
WAT YR 1969 TOTAL 8,261.08 MEAN 22.6 MAX 231 MIN .30 CFSM .71 IN 9.63

1-4840. Murderkill River near Felton, Del.

LOCATION.--Lat 38°58'33", long 75°34'03", on left bank 30 ft downstream from northbound lane of bridge on U. S. Highway 13, 400 ft downstream from Black Swamp Creek, 1.3 miles upstream from Killen Pond, 2.2 miles south of Felton, Kent County, and 17.6 miles upstream from mouth.

DRAINAGE AREA.--13.6 sq mi.

PERIOD OF RECORD.--July 1931 to October 1933. Monthly discharge only for July to September 1931, published in WSP 1302. Annual maximum, water years 1952-60, and occasional low-flow measurements, water years 1952-53, 1955-57, 1959-60. June 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 22.18 ft above mean sea level. July 1931 to October 1933, nonrecording gage at bridge 200 ft upstream at datum 2.00 ft higher. March 1951 to May 1960, nonrecording gage and crest-stage gage at bridge 200 ft upstream at datum 2.00 ft higher.

AVERAGE DISCHARGE.--11 years (1931-33, 1960-69), 16.8 cfs (16.78 inches per year).

EXTREMES.--Current year: Maximum discharge, 388 cfs June 14 (gage height, 5.72 ft); minimum, 2.5 cfs Oct. 5, June 7, 8, July 6, 7.
Period of record: Maximum discharge, 2,090 cfs Aug. 4, 1967 (gage height, 8.83 ft); minimum, 0.80 cfs Aug. 28, 1966.

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 1432: 1932.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	3.5	3.9	7.8	11	9.4	15	13	3.6	3.8	23	8.1
2	3.0	3.5	4.7	5.3	10	11	15	12	3.8	3.6	21	22
3	3.1	3.5	4.1	5.1	11	14	14	11	4.4	4.4	226	64
4	3.7	3.5	4.1	4.7	9.5	17	13	9.8	4.0	4.7	272	32
5	3.2	3.5	4.3	3.9	8.8	18	16	9.5	3.7	3.3	183	20
6	2.9	3.5	5.1	4.0	8.2	17	26	8.9	3.6	3.0	123	16
7	6.9	5.0	8.6	4.9	8.3	29	19	8.5	3.2	3.9	56	14
8	4.3	6.0	6.4	4.6	7.4	35	15	8.5	2.9	165	34	36
9	3.7	4.5	5.7	5.4	20	38	14	24	3.7	51	26	55
10	3.6	8.0	5.5	5.3	14	31	13	26	4.0	17	56	26
11	3.6	5.0	4.5	4.2	11	30	20	12	3.8	12	34	19
12	3.3	17	4.0	3.6	10	25	15	10	3.5	11	24	16
13	3.2	15	4.5	4.0	8.8	24	12	9.5	3.2	10	20	14
14	3.8	9.0	6.0	4.4	8.1	30	12	9.0	79	7.8	19	13
15	4.2	6.4	8.0	4.4	7.4	35	11	8.3	192	6.8	18	13
16	4.2	5.5	6.6	4.3	7.8	32	15	7.5	39	6.2	16	13
17	4.3	5.1	5.2	4.5	7.5	29	18	6.5	16	5.6	14	12
18	4.3	5.5	4.7	4.9	7.1	27	16	5.8	12	5.3	16	12
19	6.1	7.5	5.8	8.4	6.9	24	21	9.4	38	8.7	15	11
20	5.9	5.6	6.5	6.8	8.2	21	41	18	16	13	91	10
21	4.0	5.1	5.4	17	9.7	20	27	13	9.6	10	79	11
22	3.7	4.8	5.7	15	9.1	18	30	9.7	8.1	16	29	11
23	3.5	4.4	11	14	15	16	33	8.3	7.5	17	20	10
24	3.5	4.3	7.4	13	36	17	24	7.4	6.6	12	16	9.7
25	6.0	4.9	5.4	10	20	45	19	7.0	5.7	9.8	15	9.6
26	4.5	4.7	5.0	8.5	14	42	16	6.4	5.6	8.2	13	9.0
27	4.0	4.5	5.7	7.8	11	26	14	6.0	5.1	7.5	12	8.0
28	3.7	4.1	6.4	7.4	10	19	13	5.6	4.3	102	11	7.1
29	4.5	4.6	5.7	8.7	------	16	15	5.2	3.6	281	11	7.4
30	4.0	4.1	5.3	9.9	------	21	14	4.4	3.5	132	9.7	7.4
31	3.7	------	6.0	9.4	------	18	------	3.7	------	42	8.8	------
TOTAL	125.5	171.6	177.2	221.2	315.8	754.4	546	303.9	499.0	983.6	1,511.5	516.3
MEAN	4.05	5.72	5.72	7.14	11.3	24.3	18.2	9.80	16.6	31.7	48.8	17.2
MAX	6.9	17	11	17	36	45	41	26	192	281	272	64
MIN	2.9	3.5	3.9	3.6	6.9	9.4	11	3.7	2.9	3.0	8.8	7.1
CFSM	.30	.42	.42	.52	.83	1.79	1.34	.72	1.22	2.33	3.59	1.27
IN.	.34	.47	.48	.60	.86	2.06	1.49	.83	1.36	2.69	4.13	1.41

CAL YR 1968 TOTAL 5,164.3 MEAN 14.1 MAX 164 MIN 2.4 CFSM 1.04 IN 14.12
WTR YR 1969 TOTAL 6,126.0 MEAN 16.8 MAX 281 MIN 2.9 CFSM 1.23 IN 16.75

PEAK DISCHARGE (BASE, 130 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-14	2045	5.72	388	8-04	0915	5.41	312
7-08	1145	5.14	243	8-20	1945	4.69	162
7-29	0200	5.52	340				

1-4841. Beaverdam Branch at Houston, Del.

LOCATION.--Lat 38°54'20", long 75°30'49", on left bank 15 ft upstream from bridge on State Highway 384, 0.8 mile south of Houston, Kent County, 2,000 ft upstream from unnamed stream, and 1.2 miles upstream from Blairs Pond and mouth.

DRAINAGE AREA.--2.83 sq mi.

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

GAGE.--Water-stage recorder and timber control. Datum of gage is 35.67 ft above mean sea level.

AVERAGE DISCHARGE.--11 years, 3.38 cfs (16.22 inches per year).

EXTREMES.--Current year: Maximum discharge, 60 cfs Sept. 9 (gage height, 3.89 ft); minimum daily, 0.55 cfs Oct. 26, Nov. 2, 3.
Period of record: Maximum discharge, 176 cfs Sept. 12, 1960 (gage height, 5.55 ft); minimum daily, 0.20 cfs Sept. 18, 19, 1966.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.63	.56	.62	1.1	1.5	2.0	4.0	2.9	1.9	1.3	1.3	2.7
2	.64	.55	.70	.96	1.5	2.1	4.1	3.1	1.8	1.3	1.3	2.7
3	.61	.55	.67	.93	1.5	2.2	4.0	3.0	1.9	1.4	4.2	3.5
4	.57	.56	1.1	.93	1.4	2.2	4.0	3.0	1.8	1.4	6.9	3.1
5	.58	.56	.97	.88	1.4	2.3	4.2	2.8	1.8	1.3	7.5	2.8
6	.60	.56	.84	.93	1.4	2.4	5.1	2.9	1.7	1.3	4.2	2.7
7	.98	.60	.75	.92	1.4	3.2	4.1	2.8	1.7	1.4	2.8	2.6
8	.72	.63	.71	.84	1.4	3.2	4.0	2.8	1.7	3.8	2.6	22
9	.67	.62	.68	.91	2.0	3.4	3.9	3.5	1.8	1.7	2.5	46
10	.66	1.4	.68	.84	1.6	3.0	3.7	3.0	1.7	1.6	2.9	12
11	.68	1.0	.68	.84	1.5	3.0	3.5	2.7	1.7	1.5	2.5	7.5
12	.66	2.0	.68	.84	1.5	2.9	3.4	2.6	1.6	5.0	2.3	6.2
13	.68	1.3	.68	.84	1.5	3.0	3.3	2.5	1.6	3.5	2.2	5.6
14	.68	.92	.93	.84	1.5	3.7	3.3	2.5	2.8	2.5	2.3	5.2
15	.67	.84	1.0	.84	1.5	4.2	3.3	2.5	2.9	2.3	2.3	5.0
16	.66	.79	.86	.84	1.5	4.3	3.6	2.4	2.2	2.1	2.2	4.8
17	.65	.72	.77	.84	1.5	4.2	3.7	2.3	1.8	2.0	2.2	4.6
18	.64	.80	.74	.90	1.5	4.3	3.6	2.3	1.8	1.9	2.3	4.5
19	.74	.91	.78	1.1	1.5	4.2	3.8	2.1	2.2	1.9	3.8	4.3
20	.69	.84	.84	1.0	1.6	4.0	4.4	2.4	1.8	2.1	27	4.2
21	.63	.79	.81	2.0	1.6	3.9	3.7	2.3	1.7	2.5	9.5	4.2
22	.62	.78	.85	1.6	1.7	3.8	4.1	2.2	1.7	2.1	4.6	4.1
23	.59	.74	1.2	1.5	2.6	3.8	4.0	2.2	1.7	3.5	3.9	4.0
24	.56	.74	.98	1.4	3.4	3.8	3.7	2.3	1.6	1.5	3.6	3.9
25	.58	.71	.90	1.2	2.3	5.3	3.5	2.2	1.6	1.2	3.4	3.9
26	.55	.68	.84	1.2	2.0	4.6	3.4	1.9	1.5	1.1	3.3	3.7
27	.56	.68	.86	1.2	2.0	4.2	3.3	1.6	1.5	1.1	3.1	3.6
28	.56	.68	.90	1.2	2.0	4.0	3.2	1.6	1.5	1.4	3.0	3.5
29	.58	.65	.84	1.3	------	4.0	3.3	1.9	1.4	1.6	2.9	3.4
30	.56	.62	.84	1.3	------	4.4	3.2	1.5	1.4	1.6	2.9	3.4
31	.56	------	.94	1.3	------	4.1	------	1.7	------	1.3	2.8	------
TOTAL	19.76	23.78	25.64	33.32	47.8	109.7	112.4	75.5	53.8	60.2	128.3	189.7
MEAN	.64	.79	.83	1.07	1.71	3.54	3.75	2.44	1.79	1.94	4.14	6.32
MAX	.98	2.0	1.2	2.0	3.4	5.3	5.1	3.5	2.9	5.0	27	46
MIN	.55	.55	.62	.84	1.4	2.0	3.2	1.5	1.4	1.1	1.3	2.6
CFSM	.23	.28	.29	.38	.60	1.25	1.32	.86	.63	.69	1.46	2.23
IN.	.26	.31	.34	.44	.63	1.44	1.48	.99	.71	.79	1.69	2.49

CAL YR 1968 TOTAL 1,086.48 MEAN 2.97 MAX 21 MIN .55 CFSM 1.05 IN 14.28
WTR YR 1969 TOTAL 879.90 MEAN 2.41 MAX 46 MIN .55 CFSM .85 IN 11.56

PEAK DISCHARGE (BASE, 30 CFS)

DATE	TIME	G.HT.	DISCHARGE
8-20	1500	3.57	44
9-09	0615	3.89	60

1-4843. Sowbridge Branch near Milton, Del.

LOCATION.--Lat 38°48'51", long 75°19'39", on left bank at downstream side of highway bridge, 1 mile downstream from Reynolds Pond, 2.5 miles north of Milton, Sussex County, and 0.7 mile upstream from mouth.

DRAINAGE AREA.--7.08 sq mi.

PERIOD OF RECORD.--October 1956 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3.43 ft above mean sea level.

AVERAGE DISCHARGE.--13 years, 9.54 cfs (18.30 inches per year).

EXTREMES.--Current year: Maximum discharge, 32 cfs Aug. 6, 21; maximum gage height, 5.27 ft Aug. 21; minimum discharge, 0.47 cfs Feb. 10 (gage height, 4.49 ft).
Period of record: Maximum discharge, 134 cfs Aug. 5, 1967 (gage height, 6.33 ft); minimum, 0.47 cfs Feb. 10, 1969.

REMARKS.--Records good. Flow regulated by Reynolds Pond.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	2.1	2.8	5.3	5.4	7.9	10	11	5.2	3.2	9.1	8.8
2	2.3	2.2	3.1	5.1	5.5	7.9	6.1	11	5.3	3.1	9.5	8.3
3	2.6	2.1	3.0	4.9	5.6	10	6.1	11	5.3	3.6	13	8.9
4	2.7	2.1	4.4	4.8	4.4	9.4	6.9	11	4.7	4.4	17	9.3
5	2.2	2.3	4.3	4.6	3.7	8.9	9.3	11	5.1	3.9	25	9.3
6	2.3	2.3	3.4	4.0	5.0	8.6	18	11	5.7	3.6	29	9.2
7	3.6	2.5	3.2	3.4	4.7	11	21	10	5.2	4.0	22	8.7
8	2.7	2.7	3.0	3.3	4.4	11	11	8.3	5.2	8.7	9.6	10
9	2.7	2.5	2.9	3.4	6.2	19	10	9.0	5.3	8.2	9.3	12
10	2.7	4.6	2.8	3.3	4.4	6.8	10	9.3	4.1	7.0	12	17
11	2.7	4.1	3.0	3.2	4.6	8.7	10	9.1	4.0	6.1	13	13
12	2.7	5.9	3.1	3.2	5.5	8.7	10	7.9	4.0	6.6	13	7.6
13	2.7	5.1	3.1	3.2	5.2	9.1	9.7	8.1	3.9	6.0	13	7.3
14	2.7	4.1	4.2	3.2	4.6	15	6.1	8.0	4.2	5.2	14	5.9
15	2.7	3.7	7.0	3.2	5.4	6.2	7.1	8.3	4.9	4.8	13	5.9
16	2.8	3.4	6.0	3.2	5.3	5.3	9.7	8.3	5.4	4.5	12	6.1
17	2.8	3.3	5.7	3.2	5.3	6.3	10	7.8	5.3	3.9	11	6.3
18	2.8	3.8	5.7	3.3	5.2	11	10	7.4	5.1	3.6	9.6	6.2
19	3.2	4.8	2.7	4.1	5.3	12	13	7.7	5.1	3.9	7.8	6.4
20	3.3	4.0	2.4	4.2	6.0	14	18	8.5	4.9	5.0	19	6.4
21	2.9	3.5	2.4	9.5	6.4	13	16	7.9	4.6	5.5	29	6.7
22	2.8	3.3	2.8	10	6.4	7.7	15	7.9	4.5	6.9	26	6.9
23	2.7	3.1	4.0	9.4	8.1	7.1	11	7.8	4.2	8.9	13	6.9
24	2.7	3.1	3.3	8.0	11	8.0	16	7.8	4.0	8.0	11	6.8
25	2.6	3.0	2.9	6.5	9.8	10	15	7.8	4.1	6.9	11	6.8
26	2.6	2.9	3.1	4.5	11	11	14	7.3	3.9	6.1	11	6.9
27	2.5	2.9	3.3	4.2	9.0	14	10	6.9	3.9	5.6	11	6.9
28	2.5	2.9	3.5	4.2	8.3	13	7.9	6.4	3.8	5.7	11	6.9
29	2.4	2.8	3.6	4.6	------	12	12	5.8	3.6	7.0	11	6.4
30	2.3	2.7	4.8	4.8	------	12	12	5.3	3.3	11	9.4	6.4
31	2.3	------	5.1	4.8	------	12	------	5.2	------	10	8.9	------
TOTAL	82.7	97.8	114.6	146.6	171.7	316.6	340.9	259.8	137.8	180.9	433.2	240.2
MEAN	2.67	3.26	3.70	4.73	6.13	10.2	11.4	8.38	4.59	5.84	14.0	8.01
MAX	3.6	5.9	7.0	10	11	19	21	11	5.7	11	29	17
MIN	2.2	2.1	2.4	3.2	3.7	5.3	6.1	5.2	3.3	3.1	7.8	5.9
CFSM	.38	.46	.52	.67	.87	1.44	1.60	1.18	.65	.82	1.97	1.13
IN.	.43	.51	.60	.77	.90	1.66	1.79	1.36	.72	.95	2.28	1.26

CAL YR 1968 TOTAL 2,535.2 MEAN 6.93 MAX 34 MIN 2.1 CFSM .98 IN 13.32
WTR YR 1969 TOTAL 2,522.8 MEAN 6.91 MAX 29 MIN 2.1 CFSM .98 IN 13.25

1-4845. Stockley Branch at Stockley, Del.

LOCATION.--Lat 38°38'19", long 75°20'31", on left bank at highway bridge in Stockley, Sussex County, 1.6 miles upstream from mouth and 4.4 miles southeast of Georgetown.

DRAINAGE AREA.--5.24 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 24.54 ft above mean sea level. Prior to Aug. 16, 1950, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--26 years, 6.86 cfs (17.78 inches per year).

EXTREMES.--Current year: Maximum discharge, 85 cfs Aug. 20 (gage height, 3.43 ft); minimum, 0.71 cfs Oct. 4, Dec. 10.
Period of record: Maximum discharge, 132 cfs June 4, 1948 (gage height, 5.0 ft, from graph based on gage readings), from rating curve extended above 50 cfs; minimum observed, 0.13 cfs Sept. 1-11, 1944.

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 1141: 1948(P). WSP 1432: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.82	.94	.95	1.8	2.1	3.6	7.6	6.9	3.0	1.8	8.5	7.3
2	.80	.94	1.0	1.2	2.0	4.2	7.6	6.6	3.0	1.8	8.4	7.0
3	.81	.92	1.0	1.1	2.1	4.2	7.4	6.4	3.1	2.0	13	8.0
4	.76	.94	1.4	1.1	2.0	4.5	7.2	6.0	3.0	2.2	12	6.9
5	.81	.88	1.1	1.1	2.0	4.6	7.6	6.0	2.7	1.8	43	6.8
6	.83	.87	.96	1.1	2.0	4.7	11	5.6	2.7	1.8	28	6.6
7	1.3	.91	.95	1.1	2.0	8.3	9.1	5.4	2.7	1.9	18	6.2
8	.97	.95	.95	1.1	2.0	7.5	8.4	5.4	2.7	14	13	13
9	.93	.96	.91	1.1	3.8	7.4	8.0	7.4	3.0	3.2	11	18
10	.91	2.1	.82	1.1	2.8	6.9	7.9	7.0	2.7	2.6	14	9.2
11	.95	1.5	.79	1.1	2.6	7.7	7.7	6.3	2.5	2.5	11	8.0
12	.94	3.0	.82	1.1	2.6	7.0	7.3	6.0	2.4	17	10	7.5
13	.94	1.5	.90	1.1	2.6	7.0	7.2	5.7	2.3	7.6	9.2	7.2
14	.94	1.1	1.1	1.1	2.4	7.4	7.1	5.6	2.6	4.4	8.9	6.9
15	.92	1.1	1.3	1.1	2.4	7.9	7.0	5.0	5.2	3.8	8.6	6.6
16	.91	1.1	1.1	1.1	2.4	8.1	7.0	4.8	5.5	3.3	8.2	6.4
17	.90	1.0	1.1	1.1	2.4	8.3	6.8	4.8	3.1	3.1	7.8	6.2
18	.91	1.1	1.0	1.2	2.4	8.4	6.9	4.7	2.9	2.9	7.6	6.0
19	.97	1.3	1.1	1.3	2.4	8.5	7.8	4.6	2.8	2.9	7.6	5.9
20	.91	1.1	1.0	1.2	2.6	8.1	8.5	5.1	2.6	3.8	61	5.6
21	.87	1.0	.95	2.8	2.6	8.0	7.5	4.7	2.6	4.8	40	5.9
22	.87	1.0	.98	2.1	2.7	7.7	11	4.2	2.5	3.6	21	5.3
23	.85	1.0	1.7	3.0	5.0	7.4	11	4.0	2.5	7.6	15	5.1
24	.87	1.0	1.2	2.3	7.0	7.5	9.3	4.2	2.4	5.5	12	5.0
25	1.3	1.0	1.1	1.9	5.0	10	8.4	4.2	2.3	4.9	11	5.1
26	.96	1.0	1.0	1.8	3.7	9.3	7.9	4.0	2.3	4.4	9.6	4.7
27	.95	1.0	1.0	1.7	3.7	8.5	7.5	3.8	2.2	4.2	8.5	4.7
28	.98	1.0	1.1	1.7	3.7	7.9	7.3	3.7	2.2	4.4	8.1	4.5
29	1.0	1.0	1.1	1.8	------	7.8	7.3	3.3	2.1	5.9	7.9	4.4
30	.95	.95	1.0	1.9	------	8.3	7.2	3.2	2.0	15	7.5	4.2
31	.95	------	1.2	1.9	------	7.8	------	3.1	------	7.2	7.1	------
TOTAL	28.78	34.16	32.58	46.1	81.0	224.5	239.5	157.7	83.6	151.9	456.5	204.2
MEAN	.93	1.14	1.05	1.49	2.89	7.24	7.98	5.09	2.79	4.90	14.7	6.81
MAX	1.3	3.0	1.7	3.0	7.0	10	11	7.4	5.5	17	61	18
MIN	.76	.87	.79	1.1	2.0	3.6	6.8	3.1	2.0	1.8	7.1	4.2
CFSM	.18	.22	.20	.28	.55	1.38	1.52	.97	.53	.94	2.81	1.30
IN.	.20	.24	.23	.33	.57	1.59	1.70	1.12	.59	1.08	3.24	1.45

CAL YR 1968 TOTAL 1,706.79 MEAN 4.66 MAX 40 MIN .76 CFSM .89 IN 12.11
WTR YR 1969 TOTAL 1,740.52 MEAN 4.77 MAX 61 MIN .76 CFSM .91 IN 12.35

PEAK DISCHARGE (BASE, 45 CFS)

DATE	TIME	G.HT.	DISCHARGE
7-12	1745	3.00	49
8-05	0645	3.04	55
8-20	1115	3.43	85

1-4850. Pocomoke River near Willards, Md.

LOCATION.--Lat 38°23'20", long 75°19'30", on left bank 30 ft downstream from bridge on State Highway 346, at Wicomico-Worcester County line, 0.6 mile upstream from Burnt Mill Branch, 1.3 miles east of Willards, Wicomico County, 1.3 miles west of Whaleysville, and 50.3 miles upstream from mouth.

DRAINAGE AREA.--60.5 sq mi.

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

GAGE.--Water-stage recorder. Datum of gage is 13.95 ft above mean sea level.

AVERAGE DISCHARGE.--19 years, (1950-69), 65.2 cfs (14.63 inches per year).

EXTREMES.--Current year: Maximum discharge, 541 cfs Aug. 6 (gage height, 11.12 ft); minimum, 3.0 cfs Oct. 4, 5. Period of record: Maximum discharge, 884 cfs Jan. 8, 1962; maximum gage height, 12.03 ft Mar. 21, 1958; minimum discharge, 2.2 cfs Aug. 18, 19, 1957 (gage height, 1.91 ft).

REMARKS.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	4.3	7.3	28	44	73	87	58	19	10	95	47
2	3.4	4.3	8.1	27	48	88	79	52	19	9.7	207	44
3	3.4	4.3	8.1	24	54	121	74	49	22	14	355	43
4	3.2	4.3	9.4	23	50	139	66	47	20	21	426	41
5	3.0	4.5	11	20	45	157	65	44	17	12	481	38
6	3.2	4.5	9.4	20	42	151	111	42	15	11	536	34
7	5.7	4.7	9.1	19	41	280	144	40	14	12	520	32
8	5.3	5.1	8.8	18	39	351	117	37	13	33	455	31
9	4.5	5.3	8.6	18	93	362	93	37	14	27	326	35
10	4.3	9.9	7.8	18	122	315	80	43	13	19	222	37
11	4.1	8.6	8.3	16	79	267	86	40	12	17	170	33
12	4.1	10	8.1	15	65	217	79	37	12	17	140	30
13	4.1	12	8.3	15	56	189	67	34	12	17	120	28
14	4.1	8.7	9.9	14	48	196	62	33	26	15	110	26
15	3.9	7.8	15	14	44	201	58	31	32	14	100	25
16	3.9	7.6	14	14	42	181	56	29	22	12	92	24
17	3.9	7.3	14	14	40	165	57	28	21	12	84	23
18	3.9	7.6	14	14	39	150	57	27	19	11	78	22
19	5.3	9.4	15	16	38	139	79	26	18	13	74	21
20	5.7	8.8	16	18	38	124	265	27	17	25	100	21
21	4.3	8.1	16	38	41	112	220	26	17	29	200	23
22	3.9	8.1	16	62	46	103	187	25	16	28	240	22
23	3.9	8.1	25	147	60	90	232	24	16	102	210	20
24	3.9	8.1	29	160	269	83	187	23	15	161	160	19
25	3.9	8.1	24	118	198	115	147	24	14	85	130	19
26	3.9	7.8	22	82	140	187	118	24	13	46	100	19
27	3.7	7.8	21	62	107	148	94	22	12	36	88	18
28	4.3	7.6	21	52	83	118	79	21	12	30	73	17
29	6.1	7.8	20	48	------	98	70	21	11	57	64	17
30	4.7	7.6	16	45	------	98	64	21	11	84	57	16
31	4.3	------	15	44	------	101	------	20	------	75	51	------
TOTAL	129.5	218.1	435.2	1,223	2,011	5,119	3,180	1,012	494	1,054.7	6,064	825
MEAN	4.18	7.27	14.0	39.5	71.8	165	106	32.6	16.5	34.0	196	27.5
MAX	6.1	12	29	160	269	362	265	58	32	161	536	47
MIN	3.0	4.3	7.3	14	38	73	56	20	11	9.7	51	16
CFSM	.07	.12	.23	.65	1.19	2.73	1.75	.54	.27	.56	3.24	.45
IN.	.08	.13	.27	.75	1.24	3.15	1.96	.62	.30	.65	3.73	.51

CAL YR 1968 TOTAL 17,679.7 MEAN 48.3 MAX 532 MIN 3.0 CFSM .80 IN 10.87
WAT YR 1969 TOTAL 21,765.5 MEAN 59.6 MAX 536 MIN 3.0 CFSM .99 IN 13.38

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.HT.	DISCHARGE
8-06	1800	11.12	541

1-4855. Nassawango Creek near Snow Hill, Md.

LOCATION.--Lat 38°13'45", long 75°28'20", on right bank 15 ft downstream from bridge on State Highway 12, 0.5 mile upstream from Furnace Branch, 0.6 mile downstream from Millville Creek and 5.5 miles northwest of Snow Hill, Worcester County.

DRAINAGE AREA.--44.9 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 12.29 ft above mean sea level.

AVERAGE DISCHARGE.--19 years (1950-69), 49.4 cfs (14.94 inches per year).

EXTREMES.--Current year: Maximum discharge, 480 cfs Aug. 22 (gage height, 6.59 ft); minimum, 1.5 cfs Oct. 2.
Period of record: Maximum discharge, 988 cfs Aug. 16, 1953 (gage height, 7.82 ft); minimum, 0.80 cfs Sept. 8, 9, 10, 1966.

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 1332: 1953.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	3.8	6.8	29	34	73	37	37	6.0	2.5	33	17
2	1.6	3.6	7.5	26	35	67	36	32	5.4	2.4	82	15
3	1.7	3.3	7.6	26	37	71	35	29	7.0	2.4	117	13
4	1.8	3.1	9.6	24	39	88	34	26	8.3	2.7	130	14
5	1.7	3.1	13	20	37	109	32	24	6.7	2.7	174	14
6	1.7	3.1	12	17	34	121	43	22	5.6	2.7	247	13
7	3.4	3.1	11	16	32	181	50	20	4.8	3.1	281	12
8	3.5	3.1	10	15	31	292	54	19	4.4	6.8	229	17
9	3.2	3.2	9.9	16	48	344	57	19	5.6	7.1	141	36
10	2.8	9.2	8.9	17	57	319	53	23	5.6	5.0	82	26
11	2.5	9.4	7.9	16	70	265	49	21	5.1	4.2	55	20
12	2.4	16	7.2	15	77	211	43	19	4.9	5.0	37	17
13	2.3	14	7.3	13	65	167	39	18	4.6	8.9	28	14
14	2.4	12	9.5	11	51	138	35	16	4.2	5.9	23	13
15	2.2	11	18	11	40	118	32	15	6.5	4.3	20	11
16	2.1	9.6	17	11	36	104	30	14	15	3.5	18	10
17	2.1	8.8	14	11	32	93	30	13	17	3.0	17	9.4
18	2.1	8.3	13	12	31	84	31	12	14	2.6	17	9.3
19	3.4	9.5	14	18	30	77	47	11	11	2.9	17	9.2
20	5.3	9.1	15	22	30	69	116	13	8.5	3.6	167	8.6
21	4.8	9.1	14	36	32	63	164	13	6.9	9.3	419	11
22	3.8	8.8	14	42	33	59	182	12	6.1	10	455	12
23	3.2	8.6	25	71	39	54	182	11	5.7	68	339	11
24	2.9	8.6	23	98	73	50	163	10	5.2	70	219	9.6
25	2.9	8.1	22	115	117	49	143	11	4.4	55	130	14
26	2.8	7.9	19	98	169	48	114	12	3.9	33	77	14
27	2.8	7.5	17	72	138	45	86	12	3.7	20	51	12
28	3.2	7.4	18	53	97	43	65	11	3.5	14	36	11
29	5.2	7.4	18	46	------	41	52	9.4	3.2	39	28	9.2
30	5.0	7.1	17	36	------	43	44	8.0	2.8	37	24	8.1
31	4.5	------	17	34	------	41	------	7.0	------	26	20	------
TOTAL	91.1	226.8	423.2	1,047	1,544	3,527	2,078	519.4	195.6	462.6	3,713	410.4
MEAN	2.94	7.56	13.7	33.8	55.1	114	69.3	16.8	6.52	14.9	120	13.7
MAX	5.3	16	25	115	169	344	182	37	17	70	455	36
MIN	1.6	3.1	6.8	11	30	41	30	7.0	2.8	2.4	17	8.1
CFSM	.07	.17	.30	.75	1.23	2.53	1.54	.37	.15	.33	2.67	.30
IN.	.08	.19	.35	.87	1.28	2.92	1.72	.43	.16	.38	3.08	.34

CAL YR 1968 TOTAL 14,256.5 MEAN 39.0 MAX 419 MIN 1.6 CFSM .87 IN 11.81
WTR YR 1969 TOTAL 14,238.1 MEAN 39.0 MAX 455 MIN 1.6 CFSM .87 IN 11.79

PEAK DISCHARGE (BASE, 280 CFS)

DATE	TIME	G.HT.	DISCHARGE
3-09	0745	6.01	347
8-07	0915	5.62	288
8-22	0230	6.59	480

1-4860. Manokin Branch near Princess Anne, Md.

LOCATION.--Lat 38°12'50", long 75°40'18", on right bank 5 ft downstream from farm bridge, 1.4 miles northeast of Princess Anne, Somerset County, and 1.6 miles upstream from confluence with Loretto Branch.

DRAINAGE AREA.--5.8 sq mi, approximately.

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

GAGE.--Water-stage recorder above gage height 1.4 ft; nonrecording gage below. Datum of gage is 7.03 ft above mean sea level. Prior to Nov. 26, 1968, recording gage at datum 1.0 ft higher.

AVERAGE DISCHARGE.--18 years, 4.30 cfs (10.07 inches per year).

EXTREMES.--Current year: Maximum discharge, 547 cfs Aug. 20 (gage height, 5.44 ft), from rating curve extended above 27 cfs based on channel-conveyance study; minimum daily, 0.16 cfs Oct. 1.
Period of record: Maximum discharge, 547 cfs Aug. 20, 1969 (gage height, 5.44 ft); no flow at times in 1954, 1963, 1964, 1966.

REMARKS.--Records poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	.43	.36	2.0	6.0	4.2	2.6	2.3	1.2	.61	2.9	2.0
2	.18	.38	.40	1.5	4.5	7.1	2.6	2.3	1.4	.61	9.4	2.0
3	.20	.36	.40	1.3	4.0	8.6	2.4	2.3	1.5	.61	20	4.5
4	.23	.35	.50	1.2	3.6	13	2.0	2.3	1.4	.70	22	2.1
5	.23	.35	.70	1.1	3.4	12	2.2	2.1	1.2	.61	93	1.2
6	.23	.35	.64	1.0	3.3	9.9	3.4	2.0	1.0	.61	57	.68
7	.46	.35	.60	1.0	3.3	36	5.1	2.0	.92	.61	36	.58
8	.29	.35	.52	1.0	3.3	30	4.2	2.0	.92	.70	21	.48
9	.29	.40	.50	1.5	17	24	3.2	2.0	1.4	.80	13	10
10	.29	1.5	.45	1.3	14	19	2.6	2.0	1.1	.80	8.3	3.7
11	.26	.80	.42	1.2	9.4	16	3.4	2.0	1.1	.80	7.1	2.3
12	.26	.70	.38	1.1	6.0	12	3.2	2.0	1.0	.80	5.3	1.9
13	.26	.60	.38	1.0	5.6	9.9	2.6	2.0	.92	.80	4.2	1.8
14	.26	.54	.50	.90	4.2	8.6	2.6	2.0	.92	.80	4.2	1.4
15	.26	.52	1.0	.90	3.2	6.4	2.6	2.0	1.1	.80	4.5	1.2
16	.26	.50	.90	.90	2.6	6.0	2.6	2.0	4.5	.80	3.4	1.2
17	.29	.50	.80	.90	2.6	5.6	3.2	1.8	1.2	.70	2.6	1.2
18	.32	.50	.70	1.1	2.6	4.8	2.9	1.7	.80	.61	2.4	1.3
19	.50	.60	.76	5.0	2.2	4.8	12	1.7	.80	.61	2.4	1.4
20	.58	.54	.80	4.0	2.4	4.8	52	2.0	.80	.92	251	1.4
21	.42	.50	.80	12	3.2	4.2	22	2.3	.80	5.2	124	1.4
22	.30	.48	.80	9.0	5.3	3.7	27	2.3	.80	.80	68	1.2
23	.25	.46	1.4	15	7.5	3.4	20	2.3	.80	59	37	1.2
24	.21	.44	1.2	10	21	3.2	12	2.0	.70	24	22	1.2
25	.16	.42	1.1	6.0	15	4.2	8.1	2.0	.61	14	14	2.1
26	.12	.41	1.0	4.5	9.9	4.0	6.2	2.0	.61	7.1	9.3	1.9
27	.10	.40	.90	3.5	7.1	2.9	4.5	2.0	.61	4.5	7.2	1.8
28	.10	.39	1.0	3.0	5.6	2.6	3.6	1.8	.61	2.6	4.1	1.8
29	.70	.38	1.0	2.7	------	2.6	3.0	1.5	.61	3.2	3.2	1.8
30	.60	.37	.90	2.6	------	2.9	2.5	1.4	.61	8.3	2.5	1.9
31	.50	------	.90	2.5	------	2.6	------	1.4	------	4.5	2.1	------
TOTAL	9.27	14.87	22.71	100.70	177.8	279.0	226.3	61.5	31.94	147.50	863.1	58.64
MEAN	.30	.50	.73	3.25	6.35	9.00	7.54	1.98	1.06	4.76	27.8	1.95
MAX	.70	1.5	1.4	15	21	36	52	2.3	4.5	59	251	10
MIN	.10	.35	.36	.90	2.2	2.6	2.0	1.4	.61	.61	2.1	.48
CFSM	.052	.086	.13	.56	1.09	1.55	1.30	.34	.18	.82	4.79	.34
IN.	.06	.10	.15	.65	1.14	1.79	1.45	.39	.20	.95	5.54	.38

CAL YR 1968 TOTAL 1,229.88 MEAN 3.36 MAX 86 MIN .10 CFSM .58 IN 7.89
WAT YR 1969 TOTAL 1,993.33 MEAN 5.46 MAX 251 MIN .10 CFSM .94 IN 12.78

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G.HT.	DISCHARGE
4-20	0300	1.60	72
7-23	0315	2.15	126
8-05	0045	2.00	111
8-20	1200	5.44	547

1-4865. Beaverdam Creek near Salisbury, Md.

LOCATION.--Lat 38°21'05", long 75°34'11", on upstream side of Schumaker Dam between spillway and emergency floodgate, three-quarters of a mile upstream from Beaglin Branch and 2 miles southeast of Salisbury, Wicomico County.

DRAINAGE AREA.--19.5 sq mi.

PERIOD OF RECORD.--October 1929 to August 1933, May 1934 to September 1935, May 1936 to current year. Prior to October 1948, published as East Branch Wicomico River near Salisbury.

GAGE.--Water-stage recorder and concrete spillway of dam for control. Datum of gage is 8.93 ft above mean sea level (city of Salisbury benchmark). Prior to Sept. 28, 1938, at site on left bank at datum 9.02 ft higher.

AVERAGE DISCHARGE.--34 years (1929-32, 1938-69), 23.1 cfs (16.09 inches per year).

EXTREMES.--Current year: Maximum discharge, 303 cfs Aug. 6 (gage height, 11.21 ft); minimum daily, 0.80 cfs Apr. 15 (leakage under dam following closing of floodgate).
Period of record: Maximum discharge not determined, occurred Aug. 23, 1933, when dam was partly washed out; maximum gage height, 14.31 ft Aug. 4, 1948, from high-water mark in well; minimum daily discharge recorded, 0.40 cfs Dec. 17, 1963 (leakage under dam following closing of floodgate).

REMARKS.--Records good except those for periods below 1 cfs, which are poor. Records represent total flow and include flow over spillway, through spillway valve, over or through floodgate, and leakage under dam. Occasional regulation at low and medium flow caused by mill above station. Records of chemical analyses for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 741: 1931(m). WSP 1232: Drainage area. WSP 1432: 1931, 1936-37, 1940.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.9	6.7	8.6	17	16	26	23	26	9.2	6.2	24	20
2	5.9	6.7	9.3	12	16	29	22	24	9.2	5.9	54	18
3	5.9	7.0	8.9	12	16	30	21	20	11	6.7	79	26
4	5.3	6.4	12	11	16	35	20	12	10	9.6	119	24
5	5.3	5.6	12	10	15	40	20	13	10	7.4	136	21
6	5.3	5.3	9.9	10	15	47	27	16	9.6	8.8	188	20
7	9.6	5.6	9.4	10	15	75	28	15	8.8	7.7	84	18
8	7.4	5.6	8.9	9.8	14	124	29	16	8.8	8.0	40	23
9	6.2	5.6	8.5	10	26	198	26	21	10	7.0	35	61
10	5.9	14	8.1	9.8	29	87	23	23	9.6	6.4	32	34
11	5.9	10	7.8	9.5	28	43	24	20	9.2	6.7	29	22
12	5.6	18	7.9	9.3	24	39	22	18	9.2	7.4	24	21
13	5.6	22	8.5	9.2	21	30	20	17	8.8	8.4	20	21
14	5.6	13	11	9.0	19	31	12	16	9.2	6.7	24	20
15	5.6	8.8	15	9.0	18	31	.80	14	11	6.2	32	18
16	5.6	6.4	11	9.0	18	30	.90	13	15	6.4	26	17
17	5.3	6.2	9.5	9.2	17	29	1.4	13	11	6.4	24	16
18	7.6	28	9.2	9.4	17	28	12	13	9.2	6.2	25	17
19	16	.90	9.3	13	17	28	21	14	9.6	6.2	24	16
20	12	.98	10	12	18	27	70	16	9.2	6.4	128	16
21	8.4	54	9.2	22	20	26	86	16	8.0	7.7	214	20
22	7.4	14	9.5	23	19	26	64	14	7.7	7.0	89	19
23	6.7	11	17	47	25	26	69	13	7.4	48	44	12
24	6.4	11	12	34	80	26	62	14	7.0	36	41	12
25	6.7	10	10	25	57	28	45	16	6.7	17	35	15
26	6.4	9.9	9.9	19	47	33	32	14	6.7	9.2	28	15
27	6.4	9.8	9.9	17	36	44	25	12	6.7	8.0	21	15
28	7.7	9.4	10	15	29	38	24	12	6.7	7.7	17	15
29	8.4	8.9	9.8	15	------	32	26	11	6.4	10	18	14
30	7.7	8.8	9.5	14	------	26	28	11	6.4	17	20	14
31	7.0	------	11	14	------	24	------	10	------	12	20	------
TOTAL	216.7	329.58	312.6	455.2	688	1,336	884.10	483	267.3	320.3	1,694	600
MEAN	6.99	11.0	10.1	14.7	24.6	43.1	29.5	15.6	8.91	10.3	54.6	20.0
MAX	16	54	17	47	80	198	86	26	15	48	214	61
MIN	5.3	.90	7.8	9.0	14	24	.80	10	6.4	5.9	17	12
CFSM	.36	.56	.52	.75	1.26	2.21	1.51	.80	.46	.53	2.80	1.03
IN.	.41	.63	.60	.87	1.31	2.55	1.69	.92	.51	.61	3.23	1.14

CAL YR 1968 TOTAL 7,360.11 MEAN 20.1 MAX 162 MIN .70 CFSM 1.03 IN 14.04
WAT YR 1969 TOTAL 7,586.78 MEAN 20.8 MAX 214 MIN .80 CFSM 1.07 IN 14.47

1-4870. Nanticoke River near Bridgeville, Del.

LOCATION.--Lat 38°43'42", long 75°33'44", on left bank at highway bridge, 800 ft downstream from Gum Branch, 2.5 miles southeast of Bridgeville, Sussex County, and 50.5 miles upstream from mouth.

DRAINAGE AREA.--75.4 sq mi.

PERIOD OF RECORD.--April 1943 to current year. Monthly discharge only for April 1943 published in WSP 1302. Prior to October 1955, published as Gravelly Fork near Bridgeville.

GAGE.--Water-stage recorder. Timber control since Sept. 3, 1947. Datum of gage is 13.64 ft above mean sea level (levels by Soil Conservation Service). Prior to Apr. 19, 1947 nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--26 years, 89.8 cfs (16.17 inches per year).

EXTREMES.--Current year: Maximum discharge, 227 cfs July 22 (gage height, 5.26 ft); minimum, 24 cfs Oct. 21.
Period of record: Maximum discharge, 2,360 cfs Aug. 5, 1967 (gage height, 8.86 ft); minimum observed, 6.3 cfs Sept. 29, 1943.
Maximum stage known, about 11.0 ft in September 1935, from information by local residents.

REMARKS.--Records fair. Records of chemical analyses for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1111: 1947. WSP 1232: 1945-49.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	28	30	42	45	72	92	101	57	39	58	83
2	27	29	31	37	46	78	91	97	57	37	60	82
3	28	27	29	37	46	79	88	94	58	42	79	101
4	29	26	36	36	45	79	83	91	54	46	118	95
5	28	27	34	35	44	80	85	88	54	40	100	95
6	28	27	31	35	44	80	132	85	54	39	80	84
7	36	28	29	36	44	105	127	81	52	39	66	79
8	29	29	28	35	43	113	116	80	50	87	60	130
9	29	26	27	36	58	123	110	92	52	61	60	145
10	29	41	26	35	56	120	106	97	50	48	100	130
11	29	34	25	34	53	116	104	86	50	46	80	120
12	29	66	25	33	52	110	99	81	49	46	70	115
13	27	54	26	33	50	105	95	79	47	45	66	110
14	27	41	31	33	48	110	94	77	46	41	62	107
15	27	39	33	33	48	115	92	75	58	40	60	100
16	28	37	29	33	48	116	100	73	64	39	58	96
17	27	36	29	33	48	115	110	72	53	38	56	93
18	27	38	28	34	48	115	111	69	51	37	56	89
19	29	42	29	38	48	114	128	70	52	35	80	86
20	27	38	30	37	50	110	151	80	49	41	150	83
21	25	37	29	54	50	107	142	75	48	61	160	84
22	25	37	29	52	49	102	153	70	48	166	150	80
23	27	36	40	48	61	97	164	68	46	88	140	78
24	27	35	36	45	97	97	146	67	45	63	130	76
25	29	35	34	43	85	113	132	67	43	57	125	75
26	27	34	33	41	78	114	124	65	41	54	115	73
27	25	33	33	40	75	104	117	63	41	51	107	70
28	25	33	35	39	73	94	110	62	42	57	101	68
29	26	32	36	41	------	89	110	61	39	66	97	66
30	27	31	34	41	------	97	106	60	37	73	93	64
31	27	------	36	41	------	95	------	59	------	60	89	------
TOTAL	857	1,056	961	1,190	1,532	3,164	3,418	2,385	1,487	1,682	2,826	2,757
MEAN	27.6	35.2	31.0	38.4	54.7	102	114	76.9	49.6	54.3	91.2	91.9
MAX	36	66	40	54	97	123	164	101	64	166	160	145
MIN	25	26	25	33	43	72	83	59	37	35	56	64
CFSM	.37	.47	.41	.51	.73	1.35	1.51	1.02	.66	.72	1.21	1.22
IN.	.42	.52	.47	.59	.76	1.56	1.69	1.18	.73	.83	1.39	1.36

CAL YR 1968 TOTAL 28,146 MEAN 76.9 MAX 452 MIN 25 CFSM 1.02 IN 13.89
WAT YR 1969 TOTAL 23,315 MEAN 63.9 MAX 166 MIN 25 CFSM .85 IN 11.50

PEAK DISCHARGE (BASE, 360 CFS)

DATE	TIME	G.HT.	DISCHARGE
7-22	0330	5.26	227

1-4875. Trap Pond Outlet near Laurel, Del.

LOCATION.--Lat 38°31'40", long 75°29'00", on left bank at downstream end of concrete spillway channel, 200 ft downstream from Trap Pond Dam and 5 miles southeast of Laurel, Sussex County.

DRAINAGE AREA.--16.7 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 27.57 ft above mean sea level.

AVERAGE DISCHARGE.--18 years, 15.9 cfs (12.93 inches per year).

EXTREMES.--Current year: Maximum discharge, 341 cfs Mar. 24 (result of removal of stop logs from dam and opening of bypass gate); maximum gage height, 3.00 ft Aug. 5; no flow Apr. 20, 21 after closing of bypass gate.
Period of record: Maximum discharge, 608 cfs Aug. 25, 1967 (gage height, 4.09 ft); no flow Aug. 12-14, Sept. 6, 1957, Sept. 11-13, 1966, Apr. 20,21, 1969.

REMARKS.--Records good except those for period when bypass channel was in use (Mar. 24 to Apr. 18), which are fair. Records include flow over spillway and diversion through bypass channel 200 ft east of spillway channel. Bypass channel with gate valve installed in 1968 by Delaware Division of Parks, Recreation and Forestry to drain Trap Pond for construction work in swimming area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.54	.49	.30	5.4	12	19	28	15	4.1	2.2	14	10
2	.50	.50	.36	5.3	12	25	26	14	3.6	2.1	20	9.3
3	.50	.49	.37	4.1	11	22	24	13	3.2	2.0	48	9.9
4	.44	.49	.47	4.0	11	24	22	12	3.3	1.8	113	9.1
5	.40	.48	1.4	3.7	10	26	22	11	2.9	2.6	189	8.4
6	.42	.43	1.2	3.6	10	27	33	10	2.8	3.0	208	8.1
7	.55	.39	1.0	3.9	9.8	51	39	10	2.5	2.8	102	7.6
8	.62	.35	.51	3.6	9.5	67	38	9.6	2.8	4.3	58	12
9	.61	.36	.66	4.1	17	66	32	14	3.0	5.3	38	15
10	.61	.41	1.1	3.9	19	53	31	15	2.8	3.3	34	11
11	.60	.42	1.0	3.5	18	42	28	12	2.7	3.1	31	9.3
12	.59	.27	1.0	3.3	15	37	26	11	2.8	3.3	26	8.5
13	.53	.29	1.2	3.2	13	32	22	10	2.6	3.4	21	7.9
14	.58	.29	2.8	3.2	12	30	20	9.7	2.4	3.3	19	7.5
15	.58	.31	4.6	3.1	12	31	18	9.3	7.8	3.4	20	7.1
16	.56	.30	3.1	3.1	11	29	17	8.2	11	3.3	18	6.8
17	.53	.35	1.8	3.1	11	27	18	7.6	6.0	3.4	16	5.8
18	.56	.32	1.6	3.6	10	25	12	7.4	4.1	3.3	14	4.6
19	.53	.22	1.8	7.2	9.6	24	.02	7.5	3.3	3.2	15	4.0
20	.46	.21	2.1	6.6	13	23	0	9.6	3.1	3.1	40	3.9
21	.44	.23	1.8	12	12	21	0	8.3	2.6	3.2	78	5.1
22	.47	.23	2.6	12	12	19	.69	6.8	2.3	4.8	54	4.3
23	.48	.25	5.8	17	18	19	6.0	6.3	2.2	16	34	3.5
24	.53	.29	2.5	19	37	91	37	6.6	2.1	11	24	3.8
25	.50	.24	2.7	17	42	79	32	7.3	1.9	7.8	19	5.9
26	.49	.19	2.5	14	31	56	25	6.5	1.8	5.8	16	5.5
27	.50	.24	2.5	13	25	45	22	5.7	1.9	5.2	14	5.0
28	.50	.27	3.4	11	21	36	18	5.1	2.5	5.4	13	4.7
29	.47	.28	1.8	11	------	31	17	4.7	2.7	9.9	12	4.1
30	.48	.27	2.8	11	------	29	16	4.7	2.4	21	11	3.8
31	.49	------	3.8	10	------	30	------	4.6	------	13	11	------
TOTAL	16.06	9.86	60.57	228.5	443.9	1,136	629.71	282.5	99.2	165.3	1,330	211.5
MEAN	.52	.33	1.95	7.37	15.9	36.6	21.0	9.11	3.31	5.33	42.9	7.05
MAX	.62	.50	5.8	19	42	91	39	15	11	21	208	15
MIN	.40	.19	.30	3.1	9.5	19	0	4.6	1.8	1.8	11	3.5
CFSM	.03	.02	.12	.44	.95	2.19	1.26	.55	.20	.32	2.57	.42
IN.	.04	.02	.13	.51	.99	2.53	1.40	.63	.22	.37	2.96	.47

CAL YR 1968 TOTAL 4,176.88 MEAN 11.4 MAX 118 MIN .19 CFSM .68 IN 9.30
WAT YR 1969 TOTAL 4,613.10 MEAN 12.6 MAX 208 MIN 0 CFSM .75 IN 10.28

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.HT.	DISCHARGE
3-24	1145	2.86	341
8-05	2230	3.00	271

1-4885. Marshyhope Creek near Adamsville, Del.

LOCATION.--Lat 38°51'00", long 75°40'29", on left bank 10 ft upstream from highway bridge, 1.5 miles northeast of Adamsville, Kent County, 1.7 miles upstream from Saulsbury Creek, and 5.3 miles northwest of Greenwood.

DRAINAGE AREA.--44.8 sq mi.

PERIOD OF RECORD.--April 1943 to March 1969.

GAGE.--Water-stage recorder. Datum of gage is 28.21 ft above mean sea level. Prior to Nov. 24, 1953, nonrecording gage and crest-stage gage at site 10 ft downstream at same datum.

AVERAGE DISCHARGE.--25 years (1943-68), 51.4 cfs (15.58 inches per year).

EXTREMES.--Maximum discharge during period October 1968 to March 1969, about 300 cfs Mar. 26; minimum daily discharge, 2.6 cfs Oct. 6, 10-12.
Period of record: Maximum discharge, 3,060 cfs Aug. 5, 1967 (gage height, 11.98 ft); minimum, 1.0 cfs Sept. 9, 10, 1964, Aug. 20, 1965.
Maximum stage known, 14.5 ft in September 1935, from information by local residents.

REMARKS.--Records poor.

REVISIONS (WATER YEARS).--WSP 1141: 1948 (P). WSP 1432: 1946 (M), 1948, 1952.

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER 1968 TO MARCH 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.5	3.9	20	18	35						
2	3.1	3.5	4.3	15	20	40						
3	3.0	3.5	4.5	12	19	50						
4	3.1	3.5	4.8	10	18	60						
5	2.8	3.5	5.6	9.0	17	80						
6	2.6	3.5	5.6	10	16	74						
7	3.1	5.0	5.2	11	15	110						
8	3.0	6.0	5.0	12	14	155						
9	2.8	5.0	5.0	14	40	210						
10	2.6	10	4.8	13	35	180						
11	2.6	9.0	4.5	10	28	175						
12	2.6	20	4.0	9.0	24	140						
13	3.5	18	3.8	10	22	120						
14	3.5	14	4.5	11	20	125						
15	3.2	9.7	6.0	11	19	190						
16	3.1	7.0	6.2	10	18	150						
17	3.0	5.6	5.8	11	17	115						
18	4.0	6.3	5.6	12	16	96						
19	5.2	7.2	5.6	15	15	84						
20	5.6	6.3	6.0	20	14	76						
21	4.5	5.4	9.0	40	18	68						
22	3.8	4.8	13	35	25	62						
23	3.5	4.1	14	30	50	60						
24	3.5	3.8	14	22	92	70						
25	6.0	3.4	13	21	70	200						
26	4.5	3.4	14	19	50	230						
27	4.0	3.3	14	18	40	140						
28	3.7	3.3	15	18	37	84						
29	4.5	3.6	14	17	------	60						
30	4.0	3.9	14	17	------	70						
31	3.7	------	16	17	------	60	------		------			------
TOTAL	111.1	189.1	250.7	499.0	787	3,369						
MEAN	3.58	6.30	8.09	16.1	28.1	109						
MAX	6.0	20	16	40	92	230						
MIN	2.6	3.3	3.8	9.0	14	35						
CFSM	.08	.14	.18	.36	.63	2.43						
IN.	.09	.16	.21	.41	.65	2.80						

CAL YR 1968 TOTAL 11,806.3 MEAN 32.3 MAX 385 MIN 2.4 CFSM 0.72 IN. 9.80
WTR YR 1969 TOTAL - MEAN - MAX - MIN - CFSM - IN. -

PEAK DISCHARGE (BASE, 450 CFS).--No peak above base.

NOTE.--Doubtful or no gage-height record Oct. 1 to Nov. 12, Dec. 11-22, Dec. 31 to Jan. 23 and Feb. 3 to Mar. 31.

1-4886. Marshyhope Creek at Adamsville, Del.

LOCATION.--Lat 38°49'52", long 75°41'12", on left bank under upstream side of bridge on State Highway 16, at Adamsville, Kent County, 0.2 mile downstream from Saulsbury Creek, and 5.7 miles northwest of Greenwood.

DRAINAGE AREA.--60.4 sq mi.

PERIOD OF RECORD.--April 1969 to September 1969.

GAGE.--Water-stage recorder. Datum of gage is 18.15 ft above mean sea level.

EXTREMES.--Maximum discharge during period April 1969 to September 1969, 1,300 cfs Aug. 20 (gage height, 11.81 ft); minimum, 11 cfs July 1 (gage height, 5.45 ft).

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, APRIL TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							70	47	18	12	87	32
2							64	42	18	13	68	31
3							62	44	18	15	354	85
4							60	41	17	16	742	79
5							90	39	16	14	662	57
6							70	37	16	13	512	46
7							55	36	16	14	225	39
8							50	35	16	33	98	497
9							47	44	16	41	64	950
10							58	64	16	28	149	469
11							46	52	15	20	105	188
12							43	43	15	18	64	96
13							41	38	15	17	52	70
14							39	33	14	16	46	59
15							39	30	15	15	44	52
16							41	29	21	15	40	48
17							49	27	18	16	36	45
18							50	27	16	16	40	42
19							51	26	25	31	82	39
20							95	34	30	36	841	37
21							94	41	21	69	813	36
22							81	36	18	388	311	35
23							111	31	16	73	122	34
24							93	28	15	40	75	33
25							72	27	14	33	59	31
26							60	25	16	28	52	30
27							55	23	14	24	46	29
28							51	22	14	127	42	28
29					------		48	21	14	437	38	28
30					------		48	20	13	246	36	28
31		------			------		------	19	------	141	34	------
TOTAL							1,833	1,061	506	2,005	5,939	3,273
MEAN							61.1	34.2	16.9	64.7	192	109
MAX							111	64	30	437	841	950
MIN							39	19	13	12	34	28
CFSM							1.01	.57	.28	1.07	3.18	1.80
IN.							1.13	.65	.31	1.23	3.66	2.02

CAL YR 1968: TOTAL - MEAN - MAX - MIN - CFSM - IN. -
WTR YR 1969: TOTAL - MEAN - MAX - MIN - CFSM - IN. -

PEAK DISCHARGE (BASE, 580 CFS)

DATE	TIME	G.HT.	DISCHARGE
8-04	0630	9.94	846
8-20	2015	11.81	1,300
9-09	0615	10.93	1,080

1-4890. Faulkner Branch at Federalsburg, Md.

LOCATION.--Lat 38°42'45", long 75°47'35", on right bank 25 ft downstream from highway bridge on Nichols Road, 0.9 mile upstream from mouth, and 1 mile northwest of Federalsburg, Caroline County.

DRAINAGE AREA.--7.10 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 16.70 ft above mean sea level.

AVERAGE DISCHARGE.--19 years, 8.59 cfs (16.43 inches per year).

EXTREMES.--Current year: Maximum discharge, 192 cfs Aug. 20 (gage height, 3.26 ft); no flow part of each day June 27 to July 7 and July 16-20 (result of pumpage for irrigation).
Period of record: Maximum discharge, 792 cfs Aug. 25, 1967 (gage height, 5.03 ft), from rating curve extended above 210 cfs on basis of slope-area measurement at gage height 4.10 ft; no flow at times during many years (result of pumpage for irrigation).

REMARKS.--Records good. Diversion for irrigation of about 100 acres above station during some years.

REVISIONS (WATER YEARS).--WSP 1552: 1952.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.84	1.2	1.6	3.1	4.8	6.3	8.4	8.0	3.1	.20	2.8	5.0
2	.89	1.1	1.9	2.3	4.8	6.7	8.4	7.5	3.0	.18	3.1	6.6
3	.85	1.1	1.8	2.3	5.0	7.1	7.7	7.1	3.6	.18	29	20
4	.73	1.1	2.2	2.2	4.8	7.9	7.3	6.8	2.0	.15	24	14
5	.88	1.1	2.1	2.0	4.5	8.1	7.6	6.4	1.8	.29	18	20
6	.96	1.1	1.8	2.0	4.4	7.9	20	5.4	2.0	.21	13	11
7	1.8	1.2	1.8	2.3	4.4	14	14	4.3	1.5	.18	8.5	9.3
8	1.1	1.4	1.8	2.0	4.2	16	11	4.4	1.5	5.9	7.0	18
9	.91	1.3	1.6	2.2	6.3	19	10	7.9	2.6	1.9	6.8	53
10	.83	3.4	1.6	2.1	5.3	16	9.7	7.1	1.9	1.6	28	23
11	.83	2.3	1.6	1.9	5.0	15	9.2	5.9	1.6	1.5	11	15
12	.82	5.5	1.6	1.9	5.0	12	8.2	5.3	1.6	8.5	8.2	12
13	.99	3.9	1.7	1.9	4.6	12	7.8	5.0	1.6	5.9	6.8	10
14	.83	2.5	2.4	1.9	4.4	11	7.7	4.8	2.0	2.4	6.5	9.2
15	.81	2.1	2.3	1.9	4.3	10	7.5	4.0	2.2	1.9	6.3	8.4
16	.79	2.0	1.9	1.9	4.5	9.4	9.2	3.2	2.6	1.1	5.6	7.8
17	.89	1.9	1.8	1.9	4.3	9.1	9.7	3.2	2.1	1.0	5.2	7.2
18	.88	2.1	1.7	2.1	4.2	8.9	9.0	2.9	2.0	.99	4.9	6.7
19	1.2	2.2	1.8	3.0	4.2	8.9	13	4.9	2.3	.90	4.8	6.2
20	1.3	1.9	1.8	2.6	4.5	8.0	34	9.0	1.9	1.5	109	5.9
21	1.1	1.8	1.7	5.2	4.6	7.9	19	8.2	1.9	1.8	37	5.7
22	1.1	1.8	1.8	4.6	4.7	7.4	18	6.2	1.9	1.6	18	5.4
23	1.1	1.8	3.2	5.1	7.5	7.0	18	5.4	1.8	3.4	14	5.2
24	1.4	1.8	2.5	5.0	12	7.3	14	5.2	1.6	2.1	11	5.1
25	1.8	1.8	2.1	4.7	8.6	23	12	5.0	1.5	1.8	9.8	5.0
26	1.2	1.7	2.0	4.3	7.6	15	11	4.5	1.5	1.6	8.8	4.7
27	1.2	1.6	2.1	4.1	6.9	11	9.9	4.1	.61	1.5	7.4	4.5
28	1.2	1.7	2.3	3.9	6.5	9.6	9.4	3.9	.37	2.6	6.8	4.4
29	1.2	1.7	2.1	4.1	------	9.0	9.4	2.7	.32	3.6	6.3	4.1
30	1.2	1.6	1.9	4.2	------	11	8.7	2.8	.44	2.4	5.9	4.0
31	1.2	------	2.2	4.1	------	9.2	------	3.3	------	1.9	5.5	------
TOTAL	32.83	57.7	60.7	92.8	151.7	330.7	348.8	164.4	54.84	60.78	439.0	316.4
MEAN	1.06	1.92	1.96	2.99	5.42	10.7	11.6	5.30	1.83	1.96	14.2	10.5
MAX	1.8	5.5	3.2	5.2	12	23	34	9.0	3.6	8.5	109	53
MIN	.73	1.1	1.6	1.9	4.2	6.3	7.3	2.7	.32	.15	2.8	4.0
CFSM	.15	.27	.28	.42	.76	1.50	1.64	.75	.26	.28	1.99	1.49
IN.	.17	.30	.32	.49	.79	1.73	1.83	.86	.29	.32	2.30	1.66

CAL YR 1968 TOTAL 2,041.98 MEAN 5.58 MAX 93 MIN .17 CFSM .79 IN 10.70
WTR YR 1969 TOTAL 2,110.65 MEAN 5.78 MAX 109 MIN .15 CFSM .81 IN 11.06

PEAK DISCHARGE (BASE, 60 CFS)

DATE	TIME	G.HT.	DISCHARGE
8-20	1200	3.26	192
9-09	1015	2.36	79

1-4900. Chicamacomico River near Salem, Md.

LOCATION.--Lat 38°30'45", long 75°52'50", on left bank 30 ft downstream from Big Mill Pond dam, 1.6 miles east of Salem, Dorchester County, 3.5 miles northwest of Vienna, and 13 miles upstream from mouth.

DRAINAGE AREA.--15.0 sq mi.

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

GAGE.--Water-stage recorder. Altitude of gage is 10 ft (from topographic map).

AVERAGE DISCHARGE.--18 years, 16.7 cfs (15.12 inches per year).

EXTREMES.--Current year: Maximum discharge, 169 cfs Aug. 3 (gage height, 3.26 ft); minimum daily, 3.2 cfs Oct. 5.
Period of record: Maximum discharge, 518 cfs Aug. 25, 1967 (gage height, 4.42 ft); minimum, 0.4 cfs May 23, 1964, June 11, 1965, result of regulation; minimum daily, 0.5 cfs June 11, 1965.

REMARKS.--Records fair. Occasional regulation by Big Mill Pond.

REVISIONS (WATER YEARS).--WSP 1332: 1952.

DISCHARGE, IN CUBIC FEET PER SECCND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	4.9	5.0	9.0	9.1	11	12	15	5.7	4.0	10	7.4
2	3.6	4.9	5.8	6.7	9.4	13	13	14	5.9	3.9	14	7.4
3	3.5	4.8	5.6	6.2	9.1	13	12	14	7.4	4.0	122	9.0
4	3.4	4.7	6.6	6.1	8.2	15	12	14	6.6	5.2	79	22
5	3.2	4.8	7.2	5.7	7.8	14	13	12	6.2	5.1	104	12
6	3.4	4.8	5.8	5.5	7.4	12	31	12	6.2	5.1	122	9.8
7	9.1	5.3	5.3	5.9	7.7	27	22	12	6.2	5.0	50	9.0
8	6.0	6.3	5.1	5.6	7.4	29	17	12	6.1	11	28	18
9	4.8	6.0	4.9	5.7	13	30	14	16	6.8	6.3	20	91
10	4.6	11	4.5	5.6	10	24	14	16	6.2	5.3	41	45
11	4.6	7.8	4.8	5.2	8.4	22	13	10	6.1	5.0	32	22
12	4.6	12	4.7	4.8	8.4	18	11	8.8	6.1	20	20	16
13	4.5	8.9	4.9	4.8	8.0	17	11	8.2	5.8	36	14	13
14	4.5	5.7	6.9	4.8	7.5	16	11	7.9	5.5	8.7	13	11
15	4.5	5.1	7.2	4.8	7.3	15	10	7.9	5.8	5.7	16	10
16	4.5	5.1	5.4	4.8	7.5	14	12	7.8	8.4	5.0	13	10
17	4.5	5.0	5.1	4.8	7.5	14	15	7.5	6.0	4.8	11	9.5
18	4.4	5.8	5.0	5.2	7.4	13	14	7.4	5.4	4.5	10	9.7
19	5.6	7.9	5.1	7.9	7.4	13	20	7.5	6.2	4.2	9.7	9.0
20	6.4	6.2	5.4	7.8	8.3	12	56	13	5.9	4.4	35	9.1
21	5.1	5.3	5.1	14	9.3	13	36	10	5.3	6.4	50	9.7
22	4.8	5.2	5.5	11	9.4	12	31	8.3	4.9	11	25	9.4
23	5.0	5.0	9.8	13	16	11	32	7.7	5.7	59	16	9.1
24	4.9	5.1	7.2	11	28	12	25	8.0	6.6	20	13	9.4
25	6.1	5.4	5.8	9.0	16	25	21	8.2	5.7	9.7	11	10
26	5.4	5.0	5.3	7.8	13	22	19	7.3	5.2	8.7	9.8	9.7
27	4.9	5.0	5.5	7.2	11	17	17	6.7	5.1	8.7	8.7	9.3
28	5.3	4.9	6.0	7.0	11	14	16	6.6	5.1	12	8.0	9.4
29	5.4	5.5	6.2	7.4	------	13	16	6.5	4.5	19	7.9	8.4
30	5.1	5.0	5.6	7.9	------	15	16	6.0	3.8	25	7.8	7.9
31	4.9	------	6.3	8.0	------	14	------	5.9	------	14	7.5	------
TOTAL	150.4	178.4	178.6	220.2	280.5	510	562	304.2	176.4	346.7	928.4	442.2
MEAN	4.85	5.95	5.76	7.10	10.0	16.5	18.7	9.81	5.88	11.2	29.9	14.7
MAX	9.1	12	9.8	14	28	30	56	16	8.4	59	122	91
MIN	3.2	4.7	4.5	4.8	7.3	11	10	5.9	3.8	3.9	7.5	7.4
CFSM	.32	.40	.38	.47	.67	1.10	1.25	.65	.39	.75	1.99	.98
IN.	.37	.44	.44	.55	.70	1.26	1.39	.75	.44	.86	2.30	1.10

CAL YR 1968 TOTAL 5,318.5 MEAN 14.5 MAX 144 MIN 3.2 CFSM .97 IN 13.19
WAT YR 1969 TOTAL 4,278.0 MEAN 11.7 MAX 122 MIN 3.2 CFSM .78 IN 10.61

1-4910. Choptank River near Greensboro, Md.

LOCATION.--Lat 38°59'50", long 75°47'10", on left bank at highway bridge, 0.1 mile upstream from Gravelly Branch, 2 miles northeast of Greensboro, Caroline County, and 60 miles upstream from mouth.

DRAINAGE AREA.--113 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3.51 ft above mean sea level.

AVERAGE DISCHARGE.--21 years, 121 cfs (14.54 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,620 cfs Aug. 5 (gage height, 8.02 ft); minimum, 10 cfs Oct. 1, 2, 3 (gage height, 1.85 ft); minimum daily, 10 cfs Oct. 1, 2.
Period of record: Maximum discharge, 6,970 cfs Aug. 4, 1967 (gage height, 14.47 ft) from rating curve extended above 3,600 cfs; minimum, 1.2 cfs Aug. 29, 1966.

REMARKS.--Records good. Slight diurnal fluctuation at low flow caused by mill above station. Records of chemical analyses for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1622: 1948.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	16	29	37	70	122	140	85	43	15	297	45
2	10	16	29	32	82	112	125	80	41	15	184	43
3	11	18	29	32	95	115	118	72	43	18	300	60
4	15	18	29	37	95	122	112	60	41	19	1,290	70
5	18	21	29	31	95	142	105	50	37	16	1,570	88
6	15	18	28	31	85	165	118	46	36	15	1,300	98
7	22	19	28	31	75	197	140	43	31	14	693	65
8	26	21	26	29	68	260	138	41	29	178	388	65
9	21	20	25	31	80	312	115	55	28	376	280	70
10	19	31	23	31	105	332	102	105	25	281	213	68
11	17	41	20	28	118	307	108	110	22	122	297	58
12	14	50	22	27	115	280	110	90	22	75	364	52
13	15	85	22	30	98	242	108	75	21	58	271	46
14	16	90	22	27	88	220	100	68	18	48	177	43
15	16	80	22	27	72	224	92	62	50	43	132	41
16	15	55	20	25	72	240	90	55	90	37	112	37
17	14	43	24	27	65	201	100	50	62	32	80	36
18	14	39	31	28	62	168	110	48	37	31	60	34
19	17	43	30	32	60	152	125	48	60	34	65	31
20	25	43	30	36	60	140	172	97	62	43	92	32
21	21	39	30	46	65	128	244	224	52	50	145	30
22	18	37	30	65	70	112	215	229	45	65	130	29
23	16	36	43	82	82	110	199	184	39	70	100	29
24	15	32	46	90	179	102	213	125	32	65	82	27
25	19	32	45	98	272	155	179	80	27	55	75	27
26	20	31	41	95	296	301	145	70	24	46	68	28
27	18	30	45	80	220	331	120	62	22	45	60	27
28	17	30	39	65	150	268	102	55	22	68	52	30
29	17	30	39	60	------	199	95	50	19	307	48	27
30	16	29	37	58	------	168	90	46	18	818	46	23
31	16	------	36	62	------	160	------	45	------	454	46	------
TOTAL	523	1,093	949	1,410	2,994	6,087	3,930	2,510	1,098	3,513	9,017	1,359
MEAN	16.9	36.4	30.6	45.5	107	196	131	81.0	36.6	113	291	45.3
MAX	26	90	46	98	296	332	244	229	90	818	1,570	98
MIN	10	16	20	25	60	102	90	41	18	14	46	23
CFSM	.15	.32	.27	.40	.95	1.73	1.16	.72	.32	1.00	2.58	.40
IN.	.17	.36	.31	.46	.99	2.00	1.29	.83	.36	1.16	2.97	.45

CAL YR 1968 TOTAL 36,941.4 MEAN 101 MAX 1,500 MIN 6.4 CFSM .89 IN. 12.16
WTR YR 1969 TOTAL 34,483 MEAN 94.5 MAX 1,570 MIN 10 CFSM .84 IN. 11.35

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.HT.	DISCHARGE
8-05	1800	8.02	1,620

1-4920. Beaverdam Branch at Matthews, Md.

LOCATION.--Lat 38°48'40", long 75°58'15", on left bank 50 ft upstream from bridge on State Highway 328, 1 mile west of Matthews, Talbot County, 1.2 miles upstream from mouth, and 6 miles northeast of Easton.

DRAINAGE AREA.--5.85 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2.33 ft above mean sea level.

AVERAGE DISCHARGE.--19 years, 6.42 cfs (14.90 inches per year).

EXTREMES.--Current year: Maximum discharge, 180 cfs Aug. 20 (gage height, 3.31 ft); minimum, 0.07 cfs July 17, 18, 19.
Period of record: Maximum discharge, 2,200 cfs Sept. 12, 1960 (gage height, 10.24 ft, from high-water mark in gage shelter) from rating curve extended above 440 cfs on basis of contracted-opening measurement at gage height 7.15 ft; no flow at times during many years.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.14	.45	1.0	3.1	4.2	3.8	4.2	2.9	.91	.30	.45	.62
2	.18	.45	1.6	1.8	4.0	4.5	4.3	2.5	.84	.31	.75	5.1
3	.27	.45	1.7	1.5	4.2	7.1	4.0	2.3	.87	.30	37	31
4	.22	.52	2.6	1.5	2.9	8.5	3.6	2.1	.77	.37	46	6.2
5	.18	.60	2.6	1.2	2.3	6.8	4.6	1.8	.73	.30	13	4.0
6	.22	.60	1.8	1.1	2.0	5.3	7.5	1.6	.71	.30	5.0	2.0
7	.77	.60	1.4	1.4	2.1	16	4.8	1.5	.67	.31	1.9	1.6
8	.34	.86	1.3	1.3	1.9	23	3.9	1.4	2.5	.36	1.2	39
9	.18	.68	1.2	1.6	7.1	21	3.4	8.9	3.8	.31	1.6	17
10	.20	4.6	1.1	1.7	3.8	11	3.3	6.4	1.5	.23	11	4.0
11	.20	2.4	1.0	1.3	2.6	9.7	3.3	2.6	1.2	.27	2.3	2.4
12	.18	11	1.0	1.1	2.5	6.7	2.8	1.9	1.0	.56	1.3	1.9
13	.22	5.4	1.2	1.0	2.1	6.5	2.6	1.7	.84	.43	1.0	1.6
14	.26	2.1	3.2	1.1	1.6	5.9	2.6	1.6	.72	.24	.90	1.4
15	.28	1.6	4.0	1.1	1.6	5.2	2.6	1.5	.77	.19	.88	1.4
16	.26	1.3	2.0	1.1	1.7	4.7	6.3	1.3	.90	.15	.77	1.3
17	.27	1.1	1.4	1.2	1.8	4.4	7.4	1.2	.72	.13	.67	1.2
18	.30	2.3	1.4	1.6	1.7	4.4	6.1	1.1	.71	.11	.77	1.2
19	.87	6.2	1.5	3.8	1.7	4.5	9.7	1.9	8.4	.11	.78	1.1
20	.61	2.6	1.6	2.9	2.1	4.1	27	69	1.7	.19	100	1.0
21	.28	1.8	1.4	8.3	3.7	4.0	8.3	67	.93	.34	12	1.1
22	.27	1.6	1.4	5.2	3.6	3.6	9.2	10	.87	.38	3.6	1.1
23	.27	1.4	6.0	7.7	18	3.3	8.2	5.3	.73	1.2	2.1	.96
24	.27	1.3	2.7	5.5	32	3.8	6.0	3.9	.58	.39	1.6	.91
25	1.0	1.7	1.7	3.2	8.2	47	4.7	3.4	.49	.36	1.3	.97
26	.45	1.4	1.4	2.3	5.8	12	3.9	2.5	.46	.33	1.2	.91
27	.27	1.3	1.5	1.7	4.5	7.3	3.4	2.0	.45	.29	.91	.84
28	.32	1.3	2.0	1.6	4.1	5.7	2.9	1.7	.40	3.8	.85	.80
29	.60	1.3	2.1	1.9	------	5.0	3.6	1.4	.35	1.6	.80	.70
30	.52	1.2	1.5	2.5	------	6.7	3.3	1.2	.31	1.7	.75	.70
31	.45	------	1.6	2.5	------	5.0	------	1.0	------	.61	.69	------
TOTAL	10.85	60.11	57.9	74.8	133.8	266.5	167.5	214.6	35.83	16.47	253.07	134.01
MEAN	.35	2.00	1.87	2.41	4.78	8.60	5.58	6.92	1.19	.53	8.16	4.47
MAX	1.0	11	6.0	8.3	32	47	27	69	8.4	3.8	100	39
MIN	.14	.45	1.0	1.0	1.6	3.3	2.6	1.0	.31	.11	.45	.62
CFSM	.06	.34	.32	.41	.82	1.47	.95	1.18	.20	.09	1.39	.76
IN.	.07	.38	.37	.48	.85	1.69	1.07	1.36	.23	.10	1.61	.85

CAL YR 1968 TOTAL 1,709.27 MEAN 4.67 MAX 122 MIN .14 CFSM .80 IN 10.87
WAT YR 1969 TOTAL 1,425.44 MEAN 3.91 MAX 100 MIN .11 CFSM .67 IN 9.06

PEAK DISCHARGE (BASE, 120 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-20	1445	2.77	124
8-03	1745	3.18	166
8-20	1115	3.31	180

1-4930. Unicorn Branch near Millington, Md.

LOCATION.--Lat 39°15'00", long 75°51'40", on right bank 20 ft upstream from bridge on State Highway 313, 0.9 mile upstream from mouth and 1.4 miles southwest of Millington, Kent County.

DRAINAGE AREA.--22.3 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3.57 ft above mean sea level.

AVERAGE DISCHARGE.--21 years, 22.8 cfs (13.89 inches per year).

EXTREMES.--Current year: Maximum discharge, 430 cfs July 28 (gage height, 4.70 ft); minimum, 0.50 cfs Nov. 25, 26 (gage height, 1.63 ft), result of regulation.
Period of record: Maximum discharge, 1,060 cfs Sept. 12, 1960 (gage height, 7.17 ft); no flow for part of each day June 13, 14, 1965, caused by regulation at Unicorn Lake dam.

REMARKS.--Records good. Occasional regulation at low flow by fish hatchery above station.

REVISIONS (WATER YEARS).--WSP 1382: 1952(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	8.0	6.4	12	16	22	18	13	8.4	7.4	33	13
2	7.0	8.1	7.0	13	16	21	17	13	8.7	7.7	26	13
3	7.1	8.0	9.8	12	16	13	17	12	9.6	7.1	43	26
4	6.9	8.5	13	11	15	9.6	16	12	8.8	7.3	78	35
5	7.1	8.4	19	11	15	10	17	11	8.1	6.7	144	27
6	7.4	8.3	11	11	14	16	23	11	8.5	7.0	97	19
7	20	10	11	9.7	13	15	21	11	7.8	7.6	59	16
8	11	9.8	10	5.2	10	36	18	11	7.9	14	36	31
9	8.8	8.8	9.7	5.3	12	42	17	19	8.2	16	27	37
10	8.3	19	9.4	5.6	15	38	16	27	8.5	10	229	25
11	8.2	16	11	5.6	15	32	20	17	8.3	9.4	182	18
12	8.2	29	12	5.6	15	27	19	13	8.4	9.6	74	15
13	8.1	37	12	9.5	15	24	16	12	8.0	9.4	44	14
14	8.4	16	12	13	12	22	15	12	7.9	8.0	33	13
15	8.2	14	12	13	9.0	21	15	11	9.9	7.6	32	13
16	8.0	14	12	13	9.0	19	19	10	19	7.2	28	12
17	8.1	14	12	13	9.0	18	25	10	11	7.2	25	12
18	8.1	16	12	9.3	9.0	17	25	9.7	13	7.2	24	11
19	16	17	12	3.7	9.0	17	29	10	34	18	24	11
20	13	16	12	3.7	9.5	17	28	37	18	23	36	11
21	9.3	15	12	7.8	12	16	22	74	12	39	39	12
22	8.8	14	12	14	12	16	23	49	11	24	26	11
23	8.4	14	12	17	12	15	23	25	10	17	20	11
24	8.7	6.3	12	18	15	16	20	19	9.9	14	18	11
25	9.7	.77	12	18	22	27	18	16	9.2	12	16	11
26	8.5	3.1	12	21	24	35	16	14	9.1	11	15	11
27	8.3	6.4	12	20	25	27	15	12	8.9	11	14	11
28	8.3	6.4	12	19	24	23	14	11	8.4	161	13	11
29	8.0	6.3	12	18	------	20	14	10	7.8	304	13	10
30	8.0	6.4	12	17	------	21	13	9.3	7.7	127	13	10
31	8.0	------	12	17	------	20	------	8.7	------	58	13	------
TOTAL	279.0	364.57	351.3	372.0	399.5	672.6	569	529.7	316.0	975.4	1,474	481
MEAN	9.00	12.2	11.3	12.0	14.3	21.7	19.0	17.1	10.5	31.5	47.5	16.0
MAX	20	37	13	21	25	42	29	74	34	304	229	37
MIN	6.9	.77	6.4	3.7	9.0	9.6	13	8.7	7.7	6.7	13	10
CFSM	.40	.55	.51	.54	.64	.97	.85	.77	.47	1.41	2.13	.72
IN.	.47	.61	.59	.62	.67	1.12	.95	.88	.53	1.63	2.46	.80

CAL YR 1968 TOTAL 7,155.77 MEAN 19.6 MAX 197 MIN .77 CFSM .88 IN 11.94
WAT YR 1969 TOTAL 6,784.07 MEAN 18.6 MAX 304 MIN .77 CFSM .83 IN 11.32

PEAK DISCHARGE (BASE, 180 CFS)

DATE	TIME	G.HT.	DISCHARGE
7-28	2100	4.70	430
8-10	1600	4.32	335

1-4935. Morgan Creek near Kennedyville, Md.

LOCATION.--Lat 39°16'50", long 76°00'55", on right bank 200 ft upstream from highway bridge, 2 miles southwest of Kennedyville, Kent County, and 4.5 miles upstream from mouth.

DRAINAGE AREA.--10.5 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 15 ft (from topographic map).

AVERAGE DISCHARGE.--18 years, 8.85 cfs (11.45 inches per year).

EXTREMES.--Current year: Maximum discharge, 392 cfs Aug. 10 (gage height, 5.68 ft); minimum, 1.2 cfs July 18 (gage height, 1.23 ft).
Period of record: Maximum discharge, 1,530 cfs Sept. 12, 1960 (gage height, 8.88 ft), from rating curve extended above 440 cfs; minimum, 0.60 cfs Aug. 28, 29, 1966.

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 1552: 1952, 1953(P), 1954(M), 1955, 1956-57(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	3.5	4.4	4.7	7.8	4.4	3.9	3.4	1.9	1.5	3.3	2.7
2	1.8	3.6	6.8	3.2	7.1	5.1	4.1	3.1	1.9	1.6	3.5	2.7
3	1.8	3.6	5.6	3.1	6.7	6.5	3.9	3.0	3.6	1.8	15	13
4	1.9	3.9	8.4	3.4	5.4	6.2	3.9	3.0	2.5	1.6	14	18
5	1.8	3.8	7.2	2.8	4.5	4.9	4.5	2.8	2.3	1.5	62	6.2
6	2.0	3.7	4.9	2.8	4.3	4.6	6.0	2.6	2.2	1.5	13	3.9
7	12	4.0	4.5	3.6	4.7	8.4	4.2	2.6	2.1	2.2	5.1	3.2
8	9.7	5.2	4.5	3.8	4.4	8.5	3.8	2.7	2.1	2.5	3.9	6.0
9	3.8	4.4	4.0	4.4	7.8	6.9	3.7	7.5	2.3	2.2	3.5	5.5
10	3.2	9.8	3.8	4.7	5.7	5.4	4.1	6.0	2.5	2.0	164	3.3
11	3.0	10	3.4	3.7	4.5	4.6	6.4	3.4	2.3	2.2	21	2.8
12	3.1	13	3.6	3.3	4.9	4.0	4.0	3.0	2.2	2.3	8.4	2.8
13	3.1	15	4.9	3.4	4.3	4.4	3.7	2.9	2.0	2.7	4.5	2.7
14	3.3	9.3	9.3	3.7	3.7	4.5	3.6	2.9	2.2	1.7	4.1	2.6
15	3.3	5.5	8.0	3.8	3.9	4.3	3.7	2.9	3.7	1.5	4.1	2.6
16	3.3	5.0	4.2	3.6	4.2	4.3	7.2	2.7	4.6	1.5	3.8	2.6
17	3.3	5.2	3.6	4.0	4.3	4.3	7.5	2.6	2.6	1.4	3.5	2.5
18	3.2	7.0	3.4	5.8	4.6	4.4	5.4	2.4	3.1	1.6	3.9	2.5
19	8.1	7.6	4.1	7.9	4.6	4.5	6.1	2.8	6.0	5.1	3.8	2.5
20	10	5.6	4.6	6.0	5.2	4.3	4.7	15	3.2	21	7.7	2.5
21	4.8	4.7	4.1	8.2	6.3	4.3	4.0	16	2.5	92	5.4	2.7
22	3.5	4.6	4.3	7.8	5.7	4.3	4.9	8.7	2.5	18	3.5	2.5
23	3.4	4.6	7.4	7.3	8.3	4.1	4.8	3.9	2.4	6.7	3.3	2.6
24	3.3	4.6	4.5	8.3	13	4.7	4.0	3.6	2.2	3.9	3.2	2.6
25	5.4	6.0	3.4	6.4	7.0	7.2	3.7	3.5	2.1	3.3	3.1	2.8
26	4.8	4.9	2.9	4.6	5.4	5.1	3.5	3.1	2.1	3.2	2.9	2.7
27	3.5	4.6	3.4	3.9	4.7	4.4	3.3	2.8	2.1	3.3	2.6	2.6
28	3.4	4.8	5.2	3.9	4.4	4.1	3.2	2.7	2.0	135	2.7	2.7
29	3.5	5.2	5.3	4.6	------	4.2	3.4	2.6	1.7	46	2.8	2.7
30	3.7	4.5	3.7	6.0	------	5.2	3.6	2.3	1.5	9.8	2.8	2.5
31	3.4	------	3.9	6.6	------	4.2	------	2.1	------	4.0	2.7	------
TOTAL	126.3	177.2	151.3	149.3	157.4	156.3	132.8	128.6	76.4	384.4	387.1	117.0
MEAN	4.07	5.91	4.88	4.82	5.62	5.04	4.43	4.15	2.55	12.4	12.5	3.90
MAX	12	15	9.3	8.3	13	8.5	7.5	16	6.0	135	164	18
MIN	1.8	3.5	2.9	2.8	3.7	4.0	3.2	2.1	1.5	1.4	2.6	2.5
CFSM	.39	.56	.46	.46	.54	.48	.42	.40	.24	1.18	1.19	.37
IN.	.45	.63	.54	.53	.56	.55	.47	.46	.27	1.36	1.37	.41

CAL YR 1968 TOTAL 2,322.7 MEAN 6.35 MAX 168 MIN 1.6 CFSM .60 IN 8.23
WTR YR 1969 TOTAL 2,144.1 MEAN 5.87 MAX 164 MIN 1.4 CFSM .56 IN 7.59

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G.HT.	DISCHARGE
7-21	0200	4.86	221
7-28	1015	4.99	243
8-10	0630	5.68	392

1-4950. Big Elk Creek at Elk Mills, Md.

LOCATION.--Lat 39°39'26", long 75°49'20", on right bank 100 ft downstream from highway bridge at Elk Mills, Cecil County, 3.5 miles north of Elkton, and 7 miles upstream from confluence with Little Elk Creek.

DRAINAGE AREA.--52.6 sq mi.

PERIOD OF RECORD.--April 1932 to current year. Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 68.5 ft above mean sea level. Apr. 10, 1932 to May 16, 1946, nonrecording gage at bridge 100 ft upstream at same datum.

AVERAGE DISCHARGE.--37 years, 66.1 cfs (17.07 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,050 cfs July 28 (gage height, 5.23 ft); minimum, 7.0 cfs Jan. 2 (result of freezeup); minimum daily, 13 cfs Aug. 28, Sept. 1, 2.
Period of record: Maximum discharge, 10,600 cfs July 5, 1937 (gage height, 14.5 ft, from floodmarks), from rating curve extended above 1,700 cfs on basis of velocity-area and conveyance studies; minimum, 4.5 cfs Jan. 21, 1955 (result of freezeup); minimum daily, 4.8 cfs Sept. 8-10, 1966; minimum gage height observed, 2.09 ft Sept. 19, 22-24, 1932.
Maximum stage known, about 19 ft in June 1884, from information by local residents.

REMARKS.--Records good. Slight diurnal fluctuation caused by mills above station.

REVISIONS (WATER YEARS).--WSP 1432: 1932-33, 1934(M), 1935, 1936(M), 1938, 1939-40(M), 1942(M), 1943-51, 1952-53(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	20	26	28	67	43	34	30	17	17	30	13
2	17	20	43	20	67	38	35	29	16	17	30	13
3	17	20	36	35	54	39	35	28	174	16	27	138
4	17	21	157	29	48	43	33	27	33	16	105	188
5	17	20	66	24	36	49	35	25	24	15	101	53
6	17	20	42	29	30	37	41	24	22	16	46	31
7	75	26	36	32	33	43	34	22	20	24	33	26
8	32	43	34	30	32	42	32	23	19	28	28	49
9	22	34	31	32	36	55	30	45	35	21	25	62
10	21	98	29	30	31	43	32	42	22	19	76	29
11	21	74	31	25	39	38	41	28	19	19	34	24
12	21	102	34	25	32	29	31	25	18	35	25	22
13	21	83	38	28	30	31	30	24	17	48	22	21
14	21	48	91	28	27	30	29	23	16	21	20	20
15	22	38	73	28	24	30	29	23	17	17	21	19
16	22	34	39	25	24	29	50	21	19	15	20	19
17	21	31	34	30	24	28	59	21	16	15	19	19
18	22	60	32	37	26	29	45	20	17	14	24	18
19	58	86	36	45	26	30	74	22	58	42	22	18
20	56	40	35	35	29	29	55	157	23	20	20	18
21	23	33	32	70	27	30	40	110	17	24	17	18
22	19	31	32	60	26	28	44	40	16	21	17	18
23	18	28	66	43	39	26	55	32	16	41	16	17
24	18	28	44	60	100	29	42	31	17	48	16	17
25	64	36	30	50	135	128	38	29	176	24	15	18
26	28	30	32	38	90	70	35	26	42	21	15	17
27	21	28	39	30	50	48	33	23	28	20	15	17
28	20	27	40	29	41	41	31	22	24	453	13	17
29	29	30	39	37	------	39	33	21	20	159	14	17
30	23	27	34	51	------	40	31	19	18	69	14	16
31	20	------	34	93	------	36	------	17	------	39	14	------
TOTAL	820	1,216	1,365	1,156	1,223	1,250	1,166	1,029	976	1,354	894	972
MEAN	26.5	40.5	44.0	37.3	43.7	40.3	38.9	33.2	32.5	43.7	28.8	32.4
MAX	75	102	157	93	135	128	74	157	176	453	105	188
MIN	17	20	26	20	24	26	29	17	16	14	13	13
CFSM	.50	.77	.84	.71	.83	.77	.74	.63	.62	.83	.55	.62
IN.	.58	.86	.97	.82	.80	.88	.82	.73	.69	.96	.63	.69

CAL YR 1968 TOTAL 20,191 MEAN 55.2 MAX 640 MIN 17 CFSM 1.05 IN 14.28
WAT YR 1969 TOTAL 13,421 MEAN 36.8 MAX 453 MIN 13 CFSM .70 IN 9.49

PEAK DISCHARGE (BASE, 1,700 CFS).--No peak above base.

1-4959. Elk River near Town Point, Md.

LOCATION.--Lat 39°30'09", long 75°54'58", at site of Old Town Point Wharf, at the Corps of Engineers substation, on left bank of Elk River, 1.8 miles downstream from Courthouse Point and mouth of Back Creek, 0.7 mile west of Port Herman, 5.8 miles southwest of Chesapeake City, and 1.1 miles northwest of Town Point, Cecil County.

PERIOD OF RECORD.--June 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 12.99 ft below mean sea level (Corps of Engineers bench mark). Gage-height record converted to elevation above or below (-) mean sea level for publication.

Summaries of the elevations during the period of record are as follows:

TIDE ELEVATIONS, IN FEET, JUNE TO SEPTEMBER 1966

		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Maximum	Elev									2.99	3.19	3.35	3.64
high tide	Date									27	19	1	22
Minimum	Elev									-1.60	-1.70	-1.31	-1.10
low tide	Date									11	20	24	7
Mean high tide										1.97	2.03	2.06	2.12
Mean water level										.84	.90	.92	.99
Mean low tide										- .29	- .26	- .21	- .14

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Maximum	Elev	3.23	5.07	3.29	3.27	3.00	3.36	3.80	3.63	3.60	3.22	3.26	
high tide	Date	31	28	22	27	10	28	30	27	22	3	9	
Minimum	Elev	-1.45	-1.86	-2.52	-1.76	-3.53	-2.46	-1.77	-1.00	-1.49	- .76	- .89	
low tide	Date	30	19	27	22	26	1	25	21	20	16	11	
Mean high tide		1.72	1.84	1.43	1.55	1.11	1.65	1.87	2.11	2.18	2.13	2.17	
Mean water level		.66	.80	.39	.47	.16	.60	.78	.98	1.02	.99	1.03	
Mean low tide		- .40	- .26	- .65	- .60	- .76	- .42	- .26	- .06	- .10	- .14	- .07	

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Maximum	Elev		4.04	4.02		3.66	2.99	3.71	3.59	3.74	3.23		
high tide	Date		2	12		9	23	24	30	12	19		
Minimum	Elev		-2.15	-1.82		-2.08	-2.48	-2.08	-1.31	- .68	- .98		
low tide	Date		16	23		21	18	6	11	21,23	20		
Mean high tide			1.67	1.84		1.30	1.48	1.93	2.05	2.28	2.11		
Mean water level			.63	.72		.35	.44	.78	.93	1.13	.95		
Mean low tide			- .37	- .36		- .59	- .57	- .30	- .17	.00	- .19		

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Maximum	Elev	3.19	3.73	3.45		3.01							3.41
high tide	Date	22	18	4		28							24
Minimum	Elev	-1.48	-2.58	-2.29		-3.08							-1.16
low tide	Date	4,20	12	25		10							18
Mean high tide		1.86	1.84	1.20		1.29							2.11
Mean water level		.81	.78	.22		.25							1.12
Mean low tide		- .24	- .25	- .76		- .75							- .02

1-4960. Northeast Creek at Leslie, Md.

LOCATION.--Lat 39°37'40", long 75°56'40", on left bank at downstream side of highway bridge, 0.7 mile northeast of Leslie, Cecil County, 1.5 miles southeast of Bay View, and 1.7 miles upstream from confluence with Little Northeast Creek.

DRAINAGE AREA.--24.3 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 115.0 ft above mean sea level.

AVERAGE DISCHARGE.--21 years, 31.6 cfs (17.66 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,440 cfs Aug. 4 (gage height, 4.88 ft); minimum, 3.5 cfs July 18; minimum daily, 4.2 cfs Oct. 5, 6.
Period of record: Maximum discharge, 4,060 cfs Aug. 10, 1967 (gage height, 7.74 ft), on basis of contracted-opening measurement of peak flow; minimum, 1.2 cfs Sept. 8, 9, 10, 11, 12, 13, 14, 1966; minimum daily, 1.2 cfs Sept. 9, 10, 12, 13, 1966.

REMARKS.--Records good. Slight diurnal fluctuation at low flow caused by powerplant above station.

REVISIONS (WATER YEARS).--WSP 1232: 1949-51.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	7.1	12	16	42	20	16	14	7.7	5.4	11	5.7
2	4.3	7.3	21	13	40	19	16	13	8.1	5.4	9.9	6.5
3	4.5	7.2	20	13	33	21	16	12	138	5.2	11	79
4	4.3	7.2	163	12	29	26	15	12	19	5.0	742	188
5	4.2	7.5	49	11	18	28	16	11	13	5.0	98	31
6	4.2	7.5	23	10	18	21	20	11	11	5.1	30	18
7	27	8.7	18	12	16	24	16	10	10	7.2	19	15
8	14	18	17	13	15	26	15	11	9.1	8.7	15	14
9	6.8	18	15	13	17	34	14	19	12	7.0	13	20
10	6.1	61	14	13	14	26	15	20	12	6.2	56	14
11	6.0	48	14	11	14	22	22	13	8.8	6.2	22	11
12	6.0	87	14	11	15	16	17	11	8.2	6.5	15	11
13	6.0	62	18	11	14	16	14	10	7.8	7.6	12	9.8
14	6.0	26	63	12	12	16	14	10	12	6.7	11	9.5
15	6.2	18	58	12	14	16	14	9.8	8.3	5.5	11	9.1
16	6.2	16	28	12	11	15	24	9.1	8.9	5.2	11	8.4
17	6.0	14	20	12	12	15	34	8.7	7.7	5.1	10	8.2
18	6.0	39	19	17	12	15	25	8.2	7.6	5.2	11	7.9
19	14	66	16	32	12	15	49	8.6	24	5.7	11	8.3
20	26	22	17	22	13	15	32	141	12	5.3	10	7.8
21	9.7	16	16	54	13	15	20	213	8.4	5.3	8.7	7.7
22	6.9	15	17	74	14	15	22	28	7.2	5.3	7.7	7.5
23	6.6	13	42	27	19	13	32	18	7.2	5.8	7.5	7.3
24	6.8	13	27	44	79	14	22	16	7.2	10	7.2	7.5
25	16	17	21	33	113	116	19	15	7.8	6.0	7.0	7.7
26	13	15	17	22	63	49	16	13	10	5.3	6.6	7.7
27	8.1	13	16	18	26	26	15	12	7.4	5.7	5.9	7.1
28	7.3	13	17	16	21	21	14	11	7.1	100	5.7	7.3
29	9.2	14	21	16	------	18	15	10	6.4	97	5.9	6.9
30	9.6	13	16	25	------	19	15	9.4	5.5	80	5.7	6.5
31	7.4	------	15	61	------	17	------	8.2	------	16	5.7	------
TOTAL	268.8	689.5	844	668	719	729	594	716.0	419.4	455.6	1,202.5	555.4
MEAN	8.67	23.0	27.2	21.5	25.7	23.5	19.8	23.1	14.0	14.7	38.8	18.5
MAX	27	87	163	74	113	116	49	213	138	100	742	188
MIN	4.2	7.1	12	10	11	13	14	8.2	5.5	5.0	5.7	5.7
CFSM	.36	.95	1.12	.88	1.06	.97	.81	.95	.58	.60	1.60	.76
IN.	.41	1.06	1.29	1.02	1.10	1.12	.91	1.10	.64	.70	1.84	.85

CAL YR 1968 TOTAL 10,959.6 MEAN 29.9 MAX 653 MIN 4.2 CFSM 1.23 IN 16.78
WAT YR 1969 TOTAL 7,861.2 MEAN 21.5 MAX 742 MIN 4.2 CFSM .88 IN 12.03

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-20	2345	4.08	918
8-04	0815	4.88	1,440

1-4962. Principio Creek near Principio Furnace, Md.

LOCATION.--Lat 39°37'34", long 76°02'27", on left bank, 55 ft downstream from highway bridge on Belvedere Road, Cecil County, 3.5 miles north of Principio Furnace, and 4.9 miles upstream from mouth.

DRAINAGE AREA.--9.03 sq mi.

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

GAGE.--Water-stage recorder. Altitude of gage is 215 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 7,060 cfs Aug. 4 (gage height, 9.26 ft), from rating curve extended above 170 cfs on basis of slope-area measurements at gage heights 8.89 and 9.26 ft; minimum, 1.6 cfs Oct. 4, 5, July 17, 18.
Period of record: Maximum discharge, 7,060 cfs Aug. 4 (gage height, 9.26 ft); minimum, 1.6 cfs Oct. 4, 5, 1968 and July 17, 18, 1969.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	3.2	3.7	4.7	16	6.5	6.0	4.5	3.0	1.9	3.1	2.1
2	1.7	3.2	7.0	4.5	10	6.8	6.3	4.3	3.0	1.8	3.2	2.2
3	1.7	3.3	4.9	4.9	12	7.3	5.8	4.2	32	1.8	72	45
4	1.7	3.4	43	4.5	7.8	8.8	5.7	4.1	4.6	1.7	549	46
5	1.6	3.5	9.5	4.5	6.4	7.6	6.1	3.9	4.0	1.7	23	8.8
6	1.7	3.3	6.4	5.5	6.1	6.7	7.0	3.7	3.8	1.8	11	5.7
7	13	4.4	5.3	5.7	6.1	8.2	5.7	3.6	3.5	3.2	7.3	4.9
8	2.8	6.0	4.9	4.9	5.5	9.2	5.4	3.7	3.3	2.8	5.8	6.2
9	2.4	4.4	4.5	5.0	7.2	9.4	5.3	7.4	3.4	2.3	5.1	7.6
10	2.3	22	4.3	4.5	4.5	7.6	5.9	4.8	3.2	2.0	23	4.5
11	2.3	7.8	4.3	4.1	5.8	6.3	7.9	4.0	3.1	2.1	6.1	4.0
12	2.3	30	4.5	4.1	5.8	5.8	5.5	3.8	3.0	3.5	4.8	3.8
13	2.4	12	4.5	4.1	5.3	5.4	5.2	3.6	2.8	3.3	4.3	3.6
14	2.6	7.2	23	3.9	6.1	5.3	5.1	3.6	5.7	2.2	4.1	3.5
15	2.8	5.5	9.3	3.9	5.1	5.1	5.2	3.5	3.4	1.9	4.0	3.4
16	2.8	4.9	5.8	3.9	4.9	5.0	9.7	3.4	3.6	1.8	3.8	4.5
17	2.8	4.7	4.7	3.9	4.9	5.0	9.2	3.3	2.9	1.7	3.7	3.2
18	2.9	17	4.5	6.5	4.9	5.0	8.2	3.2	3.2	1.8	4.3	3.2
19	7.5	11	5.1	9.2	4.9	5.0	17	3.8	8.1	1.9	3.8	3.1
20	4.8	5.5	5.1	5.8	5.3	4.9	8.1	46	3.3	2.0	3.6	3.1
21	3.0	4.7	4.7	21	5.3	4.9	6.1	34	2.9	2.4	3.1	3.1
22	2.8	4.5	5.2	11	5.3	4.6	9.6	6.9	2.8	2.2	3.0	2.9
23	2.8	4.3	13	8.8	12	4.4	8.4	5.3	2.8	3.3	2.9	2.9
24	2.8	4.3	6.2	16	42	7.5	6.5	5.2	2.8	2.8	2.8	3.0
25	5.7	5.5	5.3	10	31	37	5.6	4.9	2.6	2.4	2.7	3.1
26	3.4	4.5	5.0	7.1	11	12	5.2	4.3	2.6	2.1	2.6	2.9
27	3.0	4.3	5.0	6.4	7.6	8.3	4.9	3.9	2.5	2.2	2.3	2.8
28	3.0	4.1	6.3	5.5	6.8	7.2	4.8	3.8	2.4	39	2.3	2.9
29	3.3	4.3	5.9	5.7	------	7.0	4.9	3.6	2.1	8.5	2.4	2.7
30	3.0	3.7	4.7	15	------	6.9	4.7	3.3	1.9	20	2.3	2.6
31	3.0	------	4.7	17	------	6.2	------	3.1	------	3.9	2.3	------
TOTAL	99.7	206.5	230.3	221.6	255.6	236.9	201.0	200.7	128.3	132.0	773.7	197.3
MEAN	3.22	6.88	7.43	7.15	9.13	7.64	6.70	6.47	4.28	4.26	25.0	6.58
MAX	13	30	43	21	42	37	17	46	32	39	549	46
MIN	1.6	3.2	3.7	3.9	4.5	4.4	4.7	3.1	1.9	1.7	2.3	2.1
CFSM	.36	.76	.82	.79	1.01	.85	.74	.72	.47	.47	2.77	.73
IN.	.41	.85	.95	.91	1.05	.98	.83	.83	.53	.54	3.19	.81

CAL YR 1968 TOTAL 3,491.4 MEAN 9.54 MAX 192 MIN 1.6 CFSM 1.06 IN 14.38
WAT YR 1969 TOTAL 2,883.6 MEAN 7.90 MAX 549 MIN 1.6 CFSM .87 IN 11.88

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-20	2315	5.07	354
8-04	0030	9.26	7,060

1-5785. Octoraro Creek near Rising Sun, Md.

LOCATION (revised).--Lat 39°41'24", long 76°07'43", on right bank at downstream side of Porter Bridge, 300 ft downstream from Love Run, 3.5 miles west of Rising Sun, Cecil County, and 3.5 miles upstream from mouth.

DRAINAGE AREA.--193 sq mi.

PERIOD OF RECORD.--April 1932 to September 1958, annual maximum, water years 1963-68, December 1968 to current year. Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 73.77 ft above mean sea level.

AVERAGE DISCHARGE.--26 years, 256 cfs (18.01 inches per year), adjusted for storage and diversion since October 1951.

EXTREMES.--Maximum discharge during period December 1968 to September 1969, 1,580 cfs July 29 (gage height, 6.50 ft); minimum, 19 cfs June 13 (gage height, 3.40 ft); minimum daily, 33 cfs June 21.
Period of record: Maximum discharge, 35,000 cfs Aug. 9, 1942 (gage height, 17.57 ft), from rating curve extended above 5,000 cfs on basis of velocity-area studies; minimum, 18 cfs July 30, 31, Aug. 2, 1954; minimum daily, 22 cfs Aug. 2, 1954.
Floods of 1884 and 1918 reached stages of 24.3 and 16.5 ft, respectively, from floodmarks.

REMARKS.--Records good. Slight diurnal fluctuation caused by mills above station. Flow regulated by Pine Grove Reservoir beginning Feb. 22, 1951 (capacity, 2,800,000,000 gal). Diversion above station by Octoraro Water Co., and from Pine Grove Reservoir beginning November 1951 by Chester Municipal Authority for municipal supply of Chester and surrounding boroughs.

REVISIONS (WATER YEARS).--WSP 1051: Drainage area. WSP 1432: 1933, 1935, 1936(M), 1937-38, 1939(M), 1944-45, 1947(M), 1949.

DISCHARGE, IN CUBIC FEET PER SECOND, DECEMBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			72	64	222	111	83	80	43	44	105	38
2			69	88	203	110	78	71	39	46	92	43
3			76	96	165	104	81	63	89	47	74	119
4			114	78	167	100	77	64	55	46	455	203
5			260	78	124	103	77	63	48	46	334	89
6			160	74	98	97	94	57	48	45	185	64
7			110	68	91	105	89	50	45	62	125	59
8			98	72	84	105	80	45	44	65	95	58
9			90	68	86	111	70	61	91	48	80	69
10			86	62	80	109	66	84	62	48	158	58
11			81	58	76	99	82	74	52	48	134	57
12			78	58	70	79	80	65	51	57	94	55
13			76	54	68	79	68	56	41	69	71	56
14			159	50	48	73	63	49	44	47	59	50
15			225	45	56	68	62	48	46	44	50	47
16			139	44	62	66	84	41	54	40	47	48
17			118	47	52	67	116	39	47	39	44	44
18			106	63	54	66	116	49	48	39	66	43
19			92	86	51	66	205	46	88	49	59	48
20			90	87	52	64	254	76	44	46	51	54
21			86	172	54	63	162	155	33	52	48	53
22			86	146	53	65	154	77	39	47	48	49
23			129	98	63	61	142	43	42	53	46	48
24			128	121	157	65	136	43	42	56	41	46
25			90	116	289	167	121	72	110	50	39	42
26			88	100	264	217	98	63	263	47	38	38
27			82	74	164	157	84	60	130	43	56	38
28			88	70	119	120	81	67	81	501	43	35
29			103	64	------	105	85	60	53	972	40	34
30			78	90	------	101	86	44	40	297	40	34
31		------	87	230	------	92	------	44	------	157	38	------
TOTAL			3,344	2,621	3,072	2,995	3,074	1,909	1,912	3,250	2,855	1,719
MEAN			108	84.5	110	96.6	102	61.6	63.7	105	92.1	57.3
MAX			260	230	289	217	254	155	263	972	455	203
MIN			69	44	48	61	62	39	33	39	38	34
(†)			+47.7	+55.0	+47.1	+51.2	+50.5	+36.0	+58.9	+51.2	+34.8	+40.0
MEAN‡			156	140	157	148	152	97.6	123	156	127	97.3
CFSM‡			.81	.73	.81	.77	.79	.51	.64	.81	.66	.50
IN‡			.93	.83	.85	.88	.88	.58	.71	.93	.76	.56

CAL YR 1968 TOTAL - MEAN - MAX - MIN - MEAN‡ - CFSM‡ - IN‡ -
WTR YR 1969 TOTAL - MEAN - MAX - MIN - MEAN‡ - CFSM‡ - IN‡ -

† Diversion above station and diversion from and change in contents in Pine Grove Reservoir, equivalent in cubic feet per second; furnished by Octoraro Water Co. and Chester Municipal Authority, respectively.
‡ Adjusted for diversion and change in reservoir contents.

1-5800. Deer Creek at Rocks, Md.

LOCATION.--Lat 39°37'49", long 76°24'13", Harford County, on right bank 0.3 mile upstream from highway bridge on Cherry Hill Road, 0.8 mile southeast of Rocks, 1.2 miles upstream from Stirrup Run, and 23.5 miles upstream from mouth.

DRAINAGE AREA.--94.4 sq mi.

PERIOD OF RECORD.--October 1926 to current year. Monthly discharge only, November and December 1926, published in WSP 1302.

GAGE.--Water-stage recorder. Concrete control since Sept. 7, 1938. Datum of gage is 250.40 ft above mean sea level (city of Baltimore bench mark).

AVERAGE DISCHARGE.--43 years, 116 cfs (16.69 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,690 cfs July 28 (gage height, 5.91 ft); minimum, 24 cfs Sept. 1 (gage height, 1.87 ft).
Period of record: Maximum discharge, 13,600 cfs Aug. 23, 1933 (gage height, 17.7 ft from floodmarks), from rating curve extended above 3,000 cfs on basis of slope-area measurements at gage heights 13.3 and 17.7 ft; minimum, 8 cfs Dec. 16, 1930, Jan. 26, 1939, result of regulation; minimum daily, 8.6 cfs Sept. 11, 12, 1966.
Maximum stage known since at least 1888, that of Aug. 23, 1933.

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 726: Drainage area. WSP 1502: 1927-36 (maximum and minimum only 1927-29, maximum only 1930-32, 1936).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	56	70	70	105	108	76	62	40	31	51	27
2	42	56	90	65	101	81	78	61	39	31	53	29
3	42	56	85	65	110	78	76	59	71	29	56	99
4	42	56	130	60	95	66	73	59	47	28	180	181
5	42	56	110	60	79	79	76	56	43	28	109	71
6	42	54	90	75	75	76	79	54	42	28	75	51
7	90	57	85	79	73	83	71	54	41	66	60	45
8	65	79	80	73	67	81	69	54	39	49	52	56
9	52	69	75	76	73	96	67	71	40	39	47	51
10	50	98	65	69	65	86	71	69	41	35	63	42
11	47	103	65	62	70	88	81	59	39	35	49	38
12	50	143	70	55	70	76	69	57	39	35	43	37
13	49	125	75	55	65	78	66	56	37	41	41	36
14	50	106	150	55	65	90	66	54	36	35	39	35
15	50	106	130	55	65	100	66	54	41	33	39	35
16	49	123	85	55	60	90	84	52	160	30	40	34
17	49	108	85	70	60	95	88	50	59	29	38	35
18	49	193	80	78	57	90	78	50	49	28	41	70
19	174	208	80	88	57	84	101	54	86	28	42	41
20	114	127	75	74	61	81	83	73	49	30	40	37
21	65	108	75	98	61	78	73	59	42	34	36	36
22	58	100	75	103	61	76	79	52	40	33	34	34
23	57	93	100	79	66	71	79	50	39	37	33	34
24	54	90	90	86	78	79	73	50	39	39	32	35
25	95	91	70	83	115	193	71	52	36	34	32	34
26	72	84	75	70	121	131	67	49	36	34	31	34
27	64	81	75	65	84	103	66	46	35	33	29	33
28	62	79	80	65	95	91	62	46	34	729	29	33
29	62	81	80	70	------	88	64	45	32	268	29	33
30	59	75	75	86	------	86	69	43	31	84	29	32
31	56	------	75	127	------	79	------	41	------	61	28	------
TOTAL	1,896	2,861	2,645	2,271	2,154	2,781	2,221	1,691	1,402	2,074	1,500	1,388
MEAN	61.2	95.4	85.3	73.3	76.9	89.7	74.0	54.5	46.7	66.9	48.4	46.3
MAX	174	208	150	127	121	193	101	73	160	729	180	181
MIN	42	54	65	55	57	66	62	41	31	28	28	27
CFSM	.65	1.01	.90	.78	.81	.95	.78	.58	.50	.71	.51	.49
IN.	.75	1.13	1.04	.89	.85	1.10	.87	.67	.55	.82	.59	.55

CAL YR 1968 TOTAL 36,989 MEAN 101 MAX 976 MIN 40 CFSM 1.07 IN 14.57
WTR YR 1969 TOTAL 24,884 MEAN 68.2 MAX 729 MIN 27 CFSM .72 IN 9.80

PEAK DISCHARGE (BASE, 1,900 CFS).--No peak above base.

1-5802. Deer Creek near Kalmia, Md.

LOCATION.--Lat 39°37'16", long 76°17'57", Harford County, on left bank 50 ft upstream from bridge on U.S. Highway 1, 1 mile north of Kalmia, 6.5 miles northeast of Bel Air, and 12.5 miles upstream from mouth.

DRAINAGE AREA.--125 sq mi.

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

GAGE.--Water-stage recorder. Altitude of gage is 145 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 1,680 cfs July 28 (gage height, 6.09 ft); minimum, 35 cfs Sept. 2. Period of record: Maximum discharge, 6,130 cfs Aug. 27, 1967 (gage height, 10.45 ft), from rating curve extended above 1,300 cfs; minimum, 35 cfs Sept. 2, 1969.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	73	99	95	138	154	99	89	53	41	68	36
2	59	74	127	90	152	115	101	81	53	40	65	40
3	59	72	117	90	140	109	101	79	97	39	68	127
4	59	74	182	80	140	109	95	79	71	38	224	319
5	57	74	152	80	109	105	99	75	59	38	160	109
6	57	72	121	100	100	105	107	73	56	38	103	73
7	120	77	113	110	95	115	95	71	56	85	79	61
8	98	107	109	100	93	113	89	71	53	77	68	69
9	72	105	100	110	99	136	87	87	54	57	62	71
10	68	145	95	95	90	119	91	101	57	50	96	57
11	68	170	95	85	95	123	111	81	53	50	71	53
12	64	237	100	75	95	97	93	75	53	48	59	50
13	68	206	100	75	90	105	87	73	51	56	54	48
14	68	160	198	75	90	113	85	73	50	50	53	48
15	68	149	187	75	90	127	85	73	54	46	53	47
16	68	172	120	75	85	115	111	69	186	41	54	47
17	66	152	120	95	85	127	125	68	85	39	51	47
18	67	236	110	110	83	121	109	68	64	38	54	90
19	196	362	111	120	79	111	161	71	113	39	57	59
20	200	182	107	100	83	105	123	97	69	39	54	50
21	94	149	103	130	83	103	103	83	57	44	48	48
22	82	136	103	160	83	99	113	71	53	46	46	47
23	79	125	136	109	89	93	113	68	51	48	44	46
24	76	119	120	115	115	101	101	69	53	53	43	46
25	117	125	95	115	163	261	95	69	50	47	41	47
26	100	113	100	101	191	198	93	66	48	46	40	46
27	82	109	100	93	125	140	87	63	48	44	38	44
28	79	107	111	90	121	123	85	61	47	604	38	44
29	84	109	113	95	------	115	85	59	44	520	38	44
30	77	103	99	107	------	113	89	57	41	115	38	43
31	74	------	95	177	------	105	------	54	------	83	38	------
TOTAL	2,591	4,094	3,638	3,127	3,001	3,775	3,018	2,274	1,879	2,599	2,009	1,956
MEAN	83.6	136	117	101	107	122	101	73.4	62.6	83.8	64.8	65.2
MAX	200	362	198	177	191	261	161	101	186	604	224	319
MIN	57	72	95	75	79	93	85	54	41	38	38	36
CFSM	.67	1.09	.94	.81	.86	.98	.81	.59	.50	.67	.52	.52
IN.	.77	1.22	1.08	.93	.89	1.12	.90	.68	.56	.77	.60	.58

CAL YR 1968 TOTAL 50,200 MEAN 137 MAX 1,710 MIN 55 CFSM 1.10 IN 14.94
WAT YR 1969 TOTAL 33,961 MEAN 93.0 MAX 604 MIN 36 CFSM .74 IN 10.11

PEAK DISCHARGE (BASE, 2,500 CFS).--No peak above base.

1-5815. Bynum Run at Bel Air, Md.

LOCATION.--Lat 39°32'30", long 76°19'50", Harford County, on right bank 30 ft downstream from bridge on State Highway 22, 1.0 mile east of Bel Air, and 8.5 miles upstream from mouth.

DRAINAGE AREA.--8.52 sq mi.

PERIOD OF RECORD.--June 1944 to April 1951, July 1955 to current year. October 1950 to September 1955 at site 0.5 mile upstream, published as "near Bel Air," station number 1-5810; records not equivalent.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 251.43 ft (revised) above mean sea level.

AVERAGE DISCHARGE.--20 years (1944-50, 1955-69), 10.2 cfs (16.26 inches per year).

EXTREMES.--Current year: Maximum discharge, 169 cfs Sept. 3 (gage height, 2.42 ft); minimum, 0.42 cfs July 2 (gage height, 0.81 ft).
Period of record: Maximum discharge, 3,620 cfs July 19, 1945 (gage height, 6.25 ft), from rating curve extended above 560 cfs on basis of contracted-opening measurement at gage height 6.18 ft; no flow for part of each day Sept. 8-10, 1966; minimum daily, 0.10 cfs Sept. 4, 5, 7-12, 1966.

REMARKS.--Records good. Prior to April 1955, small diversion above station for municipal supply of Bel Air; no diversion since April 1955, when pumping plant was put on standby basis.

REVISIONS (WATER YEARS).--WSP 1171: 1944-49. WSP 1202: 1950. WSP 1502: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	2.2	4.3	4.0	13	7.0	5.0	3.9	1.9	1.0	1.8	.90
2	1.4	2.2	9.5	3.7	9.0	7.7	5.3	3.6	2.1	.80	2.2	1.2
3	1.4	2.5	6.3	3.4	12	8.3	5.0	3.4	7.7	1.0	2.1	49
4	1.3	2.7	44	3.4	7.7	11	4.6	3.4	2.2	.90	7.7	40
5	1.3	2.4	10	3.2	6.0	9.0	5.3	3.2	2.1	.90	2.5	4.3
6	1.4	2.3	7.0	3.2	5.0	7.7	7.0	3.2	2.1	.90	2.2	2.7
7	19	3.5	6.0	3.2	5.3	10	5.0	3.0	2.1	6.7	1.8	2.1
8	2.2	13	5.3	3.2	4.6	10	4.3	3.2	1.9	2.1	1.6	4.6
9	2.0	5.8	4.6	3.2	6.0	11	4.3	8.0	1.9	1.8	1.3	3.2
10	1.8	36	4.3	3.2	4.0	8.0	4.6	4.6	1.9	1.3	18	2.1
11	1.8	11	3.7	3.2	4.6	6.7	5.0	3.4	1.8	1.8	2.4	1.9
12	1.9	54	3.9	3.0	5.3	6.3	4.3	3.2	1.8	1.6	1.8	1.8
13	1.9	19	4.6	3.0	4.6	5.7	3.7	3.0	1.6	1.6	1.5	1.6
14	1.9	11	33	3.2	3.7	5.3	3.7	3.0	1.6	1.1	1.3	1.6
15	1.8	8.7	12	3.2	3.4	5.0	3.9	3.0	3.0	1.2	1.8	1.3
16	1.8	7.2	10	3.0	3.7	5.0	15	2.8	2.4	1.1	1.8	1.5
17	1.7	6.5	5.3	3.4	3.7	4.6	10	2.7	1.8	1.1	1.5	5.9
18	1.8	43	5.0	7.0	3.7	5.0	.9.0	2.7	2.5	2.1	2.1	9.3
19	23	17	5.7	8.3	3.7	5.0	49	3.9	5.0	3.9	1.9	2.2
20	4.8	8.0	5.7	5.3	4.6	5.0	14	8.0	1.9	1.8	1.6	2.0
21	2.4	5.9	5.3	19	4.6	5.0	8.0	3.4	1.6	1.9	1.2	2.0
22	2.2	4.8	6.7	9.5	4.6	4.3	15	2.8	1.5	1.6	1.2	1.7
23	2.0	4.4	15	8.3	8.3	3.9	10	2.7	1.6	2.4	1.1	1.6
24	2.1	4.7	7.3	11	27	14	7.3	3.0	1.5	1.6	1.1	1.6
25	9.3	6.0	5.0	8.3	21	38	6.3	2.8	1.0	1.3	1.0	1.8
26	2.8	4.3	4.3	5.7	12	11	5.3	2.7	1.3	1.2	1.0	1.5
27	2.3	6.0	4.6	4.6	8.3	7.7	4.6	2.8	1.2	1.6	.90	1.5
28	3.0	5.3	7.0	3.9	7.3	6.3	4.2	2.8	1.2	42	.90	1.6
29	3.9	5.3	6.7	4.6	------	6.0	5.0	2.2	1.0	6.0	.90	1.3
30	2.5	4.3	5.0	7.7	------	6.0	4.6	2.1	.90	2.4	.90	1.3
31	2.2	------	5.0	9.5	------	5.3	------	1.9	------	1.8	.90	------
TOTAL	110.2	309.0	262.1	168.4	206.7	250.8	238.3	104.4	62.10	98.50	70.00	155.10
MEAN	3.55	10.3	8.45	5.43	7.38	8.09	7.94	3.37	2.07	3.18	2.26	5.17
MAX	23	54	44	19	27	38	49	8.0	7.7	42	18	49
MIN	1.3	2.2	3.7	3.0	3.4	3.9	3.7	1.9	.90	.80	.90	.90
CFSM	.42	1.21	.99	.64	.87	.95	.93	.40	.24	.37	.27	.61
IN.	.48	1.35	1.14	.74	.90	1.09	1.04	.46	.27	.43	.31	.68

CAL YR 1968 TOTAL 3,749.7 MEAN 10.2 MAX 254 MIN 1.3 CFSM 1.20 IN 16.37
WTR YR 1969 TOTAL 2,035.60 MEAN 5.58 MAX 54 MIN .80 CFSM .65 IN 8.89

PEAK DISCHARGE (BASE, 440 CFS).--No Peak above base.

1-5817. Winters Run near Benson, Md.

LOCATION.--Lat 39°31'12", long 76°22'24", Harford County, on left bank 30 ft downstream from bridge on U.S. Highway 1, 0.1 mile upstream from Heavenly Waters tributary, 1.2 miles northeast of Benson, 1.8 miles southwest of Bel Air, and 10.5 miles upstream from mouth.

DRAINAGE AREA.--34.8 sq mi.

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

GAGE.--Water-stage recorder. Altitude of gage is 195 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 364 cfs Sept. 3 (gage height, 3.24 ft); minimum, 7.2 cfs July 5. Period of record: Maximum discharge, about 4,300 cfs Sept. 10, 1968 (gage height about 8.9 ft, from highwater mark on outside-staff gage), from rating curve extended above 1,500 cfs; minimum, 7.2 cfs July 5, 1969.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	21	28	26	38	32	27	22	12	8.0	12	9.0
2	14	21	34	28	32	30	27	22	12	8.0	17	10
3	14	21	30	26	34	30	27	21	29	7.6	14	86
4	14	21	60	24	30	32	24	20	16	7.6	77	109
5	14	21	40	22	27	35	24	19	14	7.6	39	28
6	14	21	32	20	26	32	27	19	14	8.0	20	21
7	44	22	30	20	24	35	24	19	14	26	15	18
8	22	32	30	20	23	32	24	19	14	15	14	24
9	20	28	28	20	24	36	24	25	13	12	12	20
10	20	53	26	20	22	32	24	23	12	12	44	16
11	20	44	26	20	24	30	28	20	13	12	17	15
12	20	91	26	20	23	27	24	20	13	12	14	14
13	20	60	28	20	22	27	24	20	12	12	12	12
14	20	46	70	20	24	27	24	19	12	10	12	12
15	19	44	44	20	28	27	24	19	12	8.4	17	12
16	19	40	32	20	22	25	38	17	13	8.0	17	12
17	19	34	34	22	22	27	37	16	11	7.6	13	13
18	20	80	30	26	21	28	33	14	12	8.6	13	38
19	68	74	30	32	21	27	77	16	22	25	14	15
20	35	40	30	26	22	27	39	27	14	13	14	13
21	24	36	29	54	22	26	31	18	11	12	12	13
22	23	34	29	37	22	25	34	15	12	11	11	12
23	22	31	41	29	26	25	30	14	12	13	10	12
24	21	30	34	31	60	32	27	15	11	12	9.6	12
25	26	33	30	30	80	84	25	16	10	10	9.3	12
26	24	30	34	25	47	46	24	14	9.6	10	9.0	11
27	22	29	28	26	34	34	23	14	9.6	14	8.6	10
28	22	29	30	26	30	32	22	14	9.6	100	9.0	11
29	27	29	32	23	------	30	24	13	8.8	30	9.6	10
30	24	28	28	26	------	30	23	12	8.4	20	9.6	9.6
31	22	------	28	34	------	28	------	12	------	20	9.3	------
TOTAL	707	1,123	1,031	793	830	990	863	554	386.0	480.4	514.0	609.6
MEAN	22.8	37.4	33.3	25.6	29.6	31.9	28.8	17.9	12.9	15.5	16.6	20.3
MAX	68	91	70	54	80	84	77	27	29	100	77	109
MIN	14	21	26	20	21	25	22	12	8.4	7.6	8.6	9.0
CFSM	.66	1.08	.96	.74	.85	.92	.83	.51	.37	.45	.48	.58
IN.	.76	1.20	1.10	.85	.89	1.06	.92	.59	.41	.51	.55	.65

CAL YR 1968 TOTAL 15,068 MEAN 41.2 MAX 600 MIN 14 CFSM 1.18 IN 16.10
WTR YR 1969 TOTAL 8,881.0 MEAN 24.3 MAX 109 MIN 7.6 CFSM .70 IN 9.49

PEAK DISCHARGE (BASE, 1,000 CFS).--No peak above base.

1-5820. Little Falls at Blue Mount, Md.

LOCATION.--Lat 39°36'16", long 76°37'16", Baltimore County, on left bank at downstream side of Pennsylvania Railroad bridge, 0.2 mile north of Blue Mount, 0.6 mile upstream from mouth, 0.9 mile downstream from First Mine Branch, and 1.2 miles south of White Hall.

DRAINAGE AREA.--52.9 sq mi.

PERIOD OF RECORD.--June 1944 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 305 ft (from topographic map).

AVERAGE DISCHARGE.--25 years, 62.2 cfs (15.97 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,000 cfs July 28 (gage height, 6.09 ft); minimum, 13 cfs July 3, 4, 5, 18.
Period of record: Maximum discharge, 5,730 cfs Sept. 10, 1950 (gage height, 11.93 ft in gage well, 13.32 ft from floodmark), from rating curve extended above 1,300 cfs on basis of contracted-opening measurement of peak flow; minimum, 1.9 cfs Aug. 29, 1966; minimum daily, 4.5 cfs Sept. 11, 1966.
Flood in August 1933 reached a stage of about 14 ft, from information by Pennsylvania Railroad.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Slight diurnal fluctuation at low flow caused by mill above station.

REVISIONS (WATER YEARS).--WSP 1111: 1944 (M), 1945-47(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	26	39	34	66	54	41	34	21	16	28	15
2	23	26	53	34	53	45	42	33	22	16	29	24
3	23	26	44	34	60	43	40	32	40	15	31	58
4	22	26	68	34	48	45	39	31	25	14	63	121
5	22	26	52	34	42	46	42	30	24	15	50	41
6	23	26	47	34	41	43	43	30	23	17	34	31
7	57	26	44	34	39	48	38	30	22	34	28	25
8	29	36	43	33	37	50	37	30	22	25	25	36
9	25	32	40	36	40	55	37	42	23	22	24	28
10	24	50	38	33	36	50	41	35	22	21	33	22
11	25	60	41	32	45	48	44	31	22	21	25	20
12	25	95	38	30	39	41	38	30	22	22	23	18
13	24	85	41	30	36	43	36	30	21	23	22	18
14	25	65	86	31	36	50	36	30	27	18	21	18
15	25	65	56	30	38	49	37	29	33	16	22	17
16	24	60	48	34	46	49	51	28	80	15	23	17
17	24	55	55	31	39	50	47	27	27	14	20	21
18	26	120	46	38	33	47	43	27	26	14	24	48
19	120	110	40	44	33	45	52	32	38	18	24	20
20	55	70	40	35	35	43	43	38	26	20	23	18
21	36	60	40	60	35	42	39	30	23	22	20	18
22	30	55	40	50	35	40	42	28	22	20	18	18
23	28	50	60	41	38	39	40	27	22	27	18	17
24	28	50	50	44	60	43	39	28	21	23	18	18
25	36	52	44	42	81	119	37	28	21	21	18	18
26	30	44	40	35	58	69	36	26	20	20	16	17
27	28	43	40	34	46	55	35	25	20	24	15	17
28	28	42	42	34	55	49	34	24	19	636	15	17
29	30	42	44	34	------	47	36	24	17	89	15	16
30	26	40	38	52	------	47	35	22	16	43	15	16
31	26	------	36	66	------	42	------	21	------	33	14	------
TOTAL	970	1,563	1,433	1,167	1,250	1,536	1,200	912	767	1,334	754	788
MEAN	31.3	52.1	46.2	37.6	44.6	49.5	40.0	29.4	25.6	43.0	24.3	26.3
MAX	120	120	86	66	81	119	52	42	80	636	63	121
MIN	22	26	36	30	33	39	34	21	16	14	14	15
CFSM	.59	.98	.87	.71	.84	.94	.76	.56	.48	.81	.46	.50
IN.	.68	1.10	1.01	.82	.88	1.08	.84	.64	.54	.94	.53	.55

CAL YR 1968 TOTAL 19,161 MEAN 52.4 MAX 711 MIN 21 CFSM .99 IN 13.47
WTR YR 1969 TOTAL 13,674 MEAN 37.5 MAX 636 MIN 14 CFSM .71 IN 9.61

PEAK DISCHARGE (BASE, 1,000 CFS).--July 28 (1730) 2,000 cfs (6.09 ft).

NOTE.--No gage-height record Oct. 19 to Nov. 25.

1-5830. Slade Run near Glyndon, Md.

LOCATION.--Lat 39°29'40", long 76°47'45", Baltimore County, on left bank at downstream side of bridge on Longnecker Road, 1.1 miles upstream from mouth, 1.6 miles northeast of Glyndon, and 2.6 miles northeast of Reisterstown.

DRAINAGE AREA.--2.09 sq mi.

PERIOD OF RECORD.--September 1947 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 420 ft (from topographic map).

AVERAGE DISCHARGE.--22 years, 2.07 cfs (13.45 inches per year).

EXTREMES.--Current year: Maximum discharge, 51 cfs July 27 (gage height, 2.92 ft); minimum, 0.23 cfs Aug. 26, 27 (gage height, 1.16 ft).
Period of record: Maximum discharge, 485 cfs July 21, 1956 (gage height, 4.68 ft), from rating curve extended above 92 cfs on basis of slope-area measurement at gage height 3.96 ft; no flow many days in August and September 1966.

REMARKS.--Records fair.

REVISIONS.--WSP 1502: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	.93	1.4	1.4	2.3	1.8	1.5	1.3	1.7	.36	.58	.32
2	.60	.98	1.9	1.3	1.7	1.7	1.6	1.3	1.2	.36	.69	.80
3	.60	.93	1.5	1.2	1.7	1.6	1.4	1.3	1.6	.36	.68	1.6
4	.60	.93	2.6	1.1	1.5	1.9	1.4	1.3	.80	.31	1.3	6.0
5	.60	.98	1.9	1.0	1.4	1.7	1.5	1.2	.90	.36	1.1	2.0
6	.70	.93	1.6	1.0	1.3	1.6	1.5	1.1	.80	.36	.80	.90
7	2.0	1.2	1.6	1.1	1.3	1.8	1.5	1.1	.71	.41	.62	.80
8	1.0	1.5	1.5	1.1	1.2	1.8	1.5	1.1	.71	.47	.54	1.0
9	.90	1.2	1.4	1.1	1.3	1.8	1.5	1.7	.71	.47	.47	.71
10	.80	2.4	1.3	1.1	1.2	1.7	1.5	1.3	.71	.41	.90	.54
11	.80	2.0	1.3	1.0	1.2	1.6	1.5	1.1	.71	.41	.54	.54
12	.80	3.3	1.4	1.0	1.3	1.8	1.4	1.1	.71	1.2	.47	.47
13	.80	2.4	1.5	1.0	1.2	1.7	1.4	1.1	.62	1.3	.50	.47
14	.75	2.1	3.2	1.0	1.1	1.7	1.4	1.2	1.1	.50	.46	.47
15	.75	2.6	2.1	1.1	1.1	1.6	1.5	1.1	.80	.42	.49	.47
16	.72	2.3	1.6	1.0	1.1	1.6	2.0	1.1	.80	.38	.48	.47
17	.75	1.8	1.5	1.1	1.1	1.6	1.8	.99	.71	.35	.44	.54
18	.80	4.4	1.4	1.6	1.1	1.6	1.7	.92	.80	.32	1.1	1.0
19	3.4	3.1	1.5	1.6	1.1	1.6	2.0	1.3	1.3	.33	.74	.47
20	1.6	2.2	1.5	1.3	1.2	1.5	1.8	1.7	.65	.75	.64	.41
21	1.1	1.9	1.4	2.7	1.1	1.4	1.7	1.0	.58	.87	.52	.41
22	1.1	1.7	1.7	1.8	1.1	1.3	1.8	.90	.57	.60	.45	.41
23	.93	1.6	2.4	1.7	1.4	1.3	1.7	.90	.58	.70	.44	.41
24	.88	1.6	1.6	1.7	1.8	1.6	1.6	.90	.58	.58	.42	.47
25	1.3	1.7	1.4	1.6	2.2	4.2	1.5	.90	.57	.54	.39	.54
26	.98	1.6	1.4	1.3	1.9	2.4	1.4	.80	.56	.53	.36	.41
27	.93	1.5	1.4	1.3	1.9	2.0	1.4	.80	.56	1.8	.27	.41
28	.98	1.5	1.5	1.2	2.3	1.8	1.4	.80	.52	6.1	.32	.41
29	.98	1.5	1.5	1.3	------	1.7	1.5	.71	.47	1.6	.33	.36
30	.93	1.4	1.4	1.5	------	1.7	1.4	.71	.43	.85	.34	.36
31	.93	------	1.4	1.6	------	1.6	------	.90	------	.66	.34	------
TOTAL	30.61	54.18	50.8	40.8	40.1	54.7	46.8	33.63	23.46	24.66	17.72	24.17
MEAN	.99	1.81	1.64	1.32	1.43	1.76	1.56	1.08	.78	.80	.57	.81
MAX	3.4	4.4	3.2	2.7	2.3	4.2	2.0	1.7	1.7	6.1	1.3	6.0
MIN	.60	.93	1.3	1.0	1.1	1.3	1.4	.71	.43	.31	.27	.32
CFSM	.47	.87	.78	.63	.68	.84	.75	.52	.37	.38	.27	.39
IN.	.54	.96	.90	.73	.71	.97	.83	.60	.42	.44	.32	.43

CAL YR 1968 TOTAL 577.20 MEAN 1.58 MAX 29 MIN .47 CFSM .76 IN 10.27
WAT YR 1969 TOTAL 441.63 MEAN 1.21 MAX 6.1 MIN .27 CFSM .58 IN 7.86

PEAK DISCHARGE (BASE, 90 CFS).--No peak above base.

1-5835. Western Run at Western Run, Md.

LOCATION.--Lat 39°30'38", long 76°40'37", Baltimore County, on right bank 100 ft downstream from bridge on Western Run Road, 0.3 mile southeast of Western Run, 2.5 miles northwest of Cockeysville, 3.2 miles upstream from Beaverdam Run, and 5 miles upstream from mouth.

DRAINAGE AREA.--59.8 sq mi.

PERIOD OF RECORD.--September 1944 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 260 ft (from topographic map).

AVERAGE DISCHARGE.--25 years, 61.3 cfs (13.92 inches per year).

EXTREMES.--Current year: Maximum discharge 936 cfs July 28 (gage height, 4.29 ft); minimum, 12 cfs July 3, 4, 5, 17, 18, Sept. 2.
Period of record: Maximum discharge, 5,590 cfs July 21, 1956 (gage height, 10.84 ft); from rating curve extended above 3,200 cfs on basis of slope-area measurements at gage heights 8.55 and 9.88 ft; minimum, 2.4 cfs Sept. 12, 1966.

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 1502: 1945-46, 1948(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	27	41	37	76	74	48	37	21	14	22	13
2	20	27	55	44	63	59	49	36	22	14	25	21
3	19	27	46	40	62	55	47	35	42	13	24	39
4	19	27	73	38	54	60	45	34	26	13	99	201
5	18	27	57	40	48	67	48	33	24	13	65	94
6	19	27	48	37	46	57	49	32	25	14	34	41
7	69	29	45	38	46	61	45	32	34	16	26	40
8	30	42	44	38	44	63	43	32	24	18	22	38
9	25	35	41	38	48	76	42	43	23	17	21	32
10	24	62	40	36	44	61	43	39	23	16	31	25
11	25	67	38	35	45	56	46	34	22	17	22	22
12	24	113	40	35	45	49	42	33	23	36	21	22
13	24	94	40	34	43	50	40	32	20	72	19	21
14	24	73	93	33	42	53	40	32	29	21	19	20
15	24	77	66	33	47	51	41	31	25	16	19	19
16	24	81	51	35	40	49	53	30	26	14	19	19
17	23	63	58	33	40	50	51	29	21	13	18	18
18	23	138	50	39	39	50	46	28	22	14	22	26
19	146	139	43	47	39	49	59	33	35	23	23	19
20	63	78	44	38	41	48	51	42	23	19	22	18
21	37	65	42	91	41	47	45	33	20	22	19	18
22	32	59	43	81	42	45	46	30	19	18	17	18
23	30	54	70	55	46	43	46	29	19	22	17	18
24	29	52	53	56	68	49	43	30	19	20	16	18
25	42	54	46	53	101	143	41	30	18	18	15	17
26	33	48	42	47	86	89	39	28	17	18	14	17
27	30	46	41	46	67	66	38	26	17	21	13	17
28	30	45	46	46	75	58	37	26	17	337	14	17
29	32	45	47	43	------	55	39	25	15	72	14	16
30	28	42	40	49	------	54	38	23	14	36	14	15
31	28	------	40	63	------	50	------	21	------	26	13	------
TOTAL	1,013	1,763	1,523	1,378	1,478	1,837	1,340	978	685	1,003	739	919
MEAN	32.7	58.8	49.1	44.5	52.8	59.3	44.7	31.5	22.8	32.4	23.8	30.6
MAX	146	139	93	91	101	143	59	43	42	337	99	201
MIN	18	27	38	33	39	43	37	21	14	13	13	13
CFSM	.55	.98	.82	.74	.88	.99	.75	.53	.38	.54	.40	.51
IN.	.63	1.10	.95	.86	.92	1.14	.83	.61	.43	.62	.46	.57

CAL YR 1968 TOTAL 19,311 MEAN 52.8 MAX 796 MIN 18 CFSM .88 IN 12.01
WTR YR 1969 TOTAL 14,656 MEAN 40.2 MAX 337 MIN 13 CFSM .67 IN 9.11

PEAK DISCHARGE (BASE, 1,000 CFS).--No peak above base.

1-5835.8. Baisman Run at Broadmoor, Md.

LOCATION.--Lat 39°28'45", long 76°40'42", Baltimore County, on right bank at upstream side of bridge on Ivy Hill Road, 0.3 mile upstream from mouth, 0.6 mile southwest of Broadmoor, and 1.8 miles west of Cockeysville.

DRAINAGE AREA.--1.47 sq mi.

PERIOD OF RECORD.--August 1964 to September 1969 (discontinued).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 330 ft, corrected (from topographic map).

AVERAGE DISCHARGE.--5 years, 1.03 cfs (9.52 inches per year).

EXTREMES.--Current year: Maximum discharge 178 cfs July 28 (gage height, 3.35 ft); minimum, 0.20 cfs Sept. 1 (gage height, 1.23 ft).
Period of record: Maximum discharge, 490 cfs Sept. 10, 1968 (gage height, 5.43 ft), from rating curve extended above 30 cfs on basis of computation of peak flow through culvert and over road, and slope-area measurement made prior to establishment of station at gage height 2.87 ft; no flow many days in August and September, 1966.

REMARKS.--Records good. Occasional regulation by pond above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.58	.74	.95	.91	1.2	1.2	.99	.87	.48	.28	.63	.25
2	.58	.74	1.4	.87	.99	1.2	.99	.83	.52	.28	.70	1.4
3	.58	.74	1.0	.87	1.0	1.1	.95	.83	1.6	.25	.66	2.3
4	.55	.78	1.7	.78	.91	1.2	.95	.78	.66	.24	1.7	3.8
5	.55	.78	1.2	.50	.90	1.2	1.0	.74	.62	.28	.91	2.3
6	.62	.74	1.0	.50	.90	1.1	1.0	.74	.62	.25	.66	.87
7	2.5	.98	.99	.83	.87	1.2	.95	.74	.66	.35	.58	.78
8	.83	1.2	.99	.78	.87	1.2	.95	.78	.58	.42	.51	1.1
9	.74	.91	.95	.83	.90	1.2	.95	1.0	.58	.38	.48	.74
10	.70	1.6	.91	.78	.80	1.1	.99	.87	.58	.38	1.8	.58
11	.70	1.3	.87	.74	.83	1.0	.95	.78	.58	.38	.62	.51
12	.70	2.2	.70	.70	.80	1.0	.91	.78	.55	1.1	.51	.45
13	.70	1.7	.95	.74	.80	.99	.91	.74	.51	1.2	.48	.42
14	.70	1.5	2.2	.74	.80	1.1	.91	.74	.51	.45	.48	.42
15	.70	1.6	1.4	.70	.78	1.1	.95	.70	.58	.38	.48	.42
16	.70	1.5	1.2	.60	.78	1.0	1.5	.70	.55	.32	.48	.42
17	.70	1.3	.99	.74	.83	1.0	1.2	.70	.48	.28	.45	2.1
18	.74	2.9	.99	.91	.78	1.0	1.0	.66	.62	.28	.73	1.3
19	3.0	2.0	1.0	.95	.78	1.0	1.3	.87	.70	.42	.62	.51
20	1.2	1.7	.99	.87	.91	.99	1.2	.99	.51	.62	.51	.45
21	.87	1.5	.99	1.1	.87	.95	.99	.74	.45	.58	.42	.45
22	.83	1.3	1.1	.99	.87	.91	1.2	.70	.48	.51	.38	.42
23	.78	1.2	1.5	.99	.99	.91	1.1	.70	.48	.58	.35	.42
24	.82	1.2	1.1	.99	1.4	1.3	.99	.74	.45	.51	.35	.45
25	1.3	1.2	.95	.91	1.3	2.2	.95	.70	.45	.48	.32	.45
26	.87	1.0	.91	.78	1.2	1.4	.91	.62	.42	.45	.28	.42
27	.83	1.0	.95	.78	1.0	1.2	.91	.62	.42	3.6	.25	.42
28	.90	1.0	1.2	.74	1.1	1.0	.91	.62	.38	6.7	.28	.42
29	.89	1.0	1.0	.83	------	1.0	.95	.58	.32	1.2	.28	.35
30	.78	.99	.95	.95	------	.99	.91	.51	.32	.87	.28	.35
31	.74	------	.95	.95	------	.99	------	.48	------	.66	.28	------
TOTAL	27.68	38.30	33.98	25.35	26.16	34.73	30.37	22.85	16.66	24.68	17.46	25.27
MEAN	.89	1.28	1.10	.82	.93	1.12	1.01	.74	.56	.80	.56	.84
MAX	3.0	2.9	2.2	1.1	1.4	2.2	1.5	1.0	1.6	6.7	1.8	3.8
MIN	.55	.74	.70	.50	.78	.91	.91	.48	.32	.24	.25	.25
CFSM	.61	.87	.75	.56	.63	.76	.69	.50	.38	.54	.38	.57
IN.	.70	.97	.86	.64	.66	.88	.77	.58	.42	.62	.44	.64

CAL YR 1968 TOTAL 536.88 MEAN 1.47 MAX 41 MIN .51 CFSM 1.00 IN 13.59
WAT YR 1969 TOTAL 323.49 MEAN .89 MAX 6.7 MIN .24 CFSM .61 IN 8.19

PEAK DISCHARGE (BASE, 25 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7-27	2230	2.94	116	9- 4	0400	2.39	40
7-28	1230	3.35	178	9- 5	0400	2.26	28
8-10	0130	2.30	31	9-17	2230	2.34	35

1-5845. Little Gunpowder Falls at Laurel Brook, Md.

LOCATION.--Lat 39°30'18", long 76°25'56", Baltimore County, on right bank 700 ft upstream from Laurel Brook, 750 ft upstream from bridge on Bottom Road, 5 miles southwest of Bel Air, and 10.5 miles upstream from mouth.

DRAINAGE AREA.--36.1 sq mi.

PERIOD OF RECORD.--October 1926 to current year. Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 261.43 ft above mean sea level (city of Baltimore bench mark).

AVERAGE DISCHARGE.--43 years, 44.6 cfs (16.78 inches per year).

EXTREMES.--Current year: Maximum discharge 214 cfs Sept. 4 (gage height, 2.63 ft); minimum, 6.7 cfs Feb. 10, result of freezeup; minimum daily, 8.6 cfs July 4, 5, 17.
Period of record: Maximum discharge, 9,200 cfs Aug. 23, 1933 (gage height, 10.3 ft), from rating curve extended above 2,300 cfs on basis of slope-area measurement of peak flow; minimum recorded, 3.1 cfs Feb. 15, 1931, Mar. 15, 1932, Feb. 20, 1947, result of freezeups; minimum daily, 3.0 cfs Sept. 7-11, 1966 (during period period of no gage-height record).

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 726: 1927-31, drainage area. WSP 1502: 1936(M), 1944-46, 1947-48(P), 1949(M), 1950-51.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	21	25	23	40	33	26	22	14	9.2	13	9.9
2	15	21	35	23	35	31	27	22	14	9.2	18	12
3	15	21	30	23	38	30	26	22	38	8.9	15	47
4	15	22	52	22	32	31	25	20	18	8.6	70	102
5	15	21	36	20	28	33	27	19	16	8.6	42	28
6	15	21	30	20	27	31	29	19	15	8.9	22	20
7	47	23	29	23	26	33	25	19	15	16	16	17
8	22	33	28	21	25	29	25	19	14	14	14	27
9	19	27	26	24	28	34	24	25	15	12	13	21
10	19	46	25	22	24	30	24	24	14	11	34	16
11	19	42	23	20	26	29	27	20	14	11	17	15
12	19	73	24	20	26	26	24	20	14	11	14	14
13	19	57	26	20	24	27	24	19	14	13	13	14
14	19	44	61	20	24	28	24	19	13	10	12	13
15	19	43	41	21	24	28	24	19	15	9.4	16	13
16	18	38	31	20	24	26	34	18	15	8.9	16	13
17	18	33	33	22	24	27	32	18	13	8.6	14	13
18	19	68	29	26	22	27	30	17	13	9.5	14	27
19	61	66	28	31	22	28	46	20	22	30	15	14
20	37	38	28	26	24	27	34	29	14	14	15	13
21	25	33	27	48	23	27	30	21	12	13	13	13
22	22	31	27	39	24	26	32	18	12	12	11	12
23	21	29	41	31	27	25	28	18	11	14	11	12
24	20	29	31	34	68	29	26	19	11	13	11	12
25	39	32	29	32	68	75	24	19	11	12	11	12
26	25	28	28	27	46	44	24	17	11	11	10	12
27	22	28	26	27	34	34	24	16	11	14	9.8	12
28	22	28	29	27	32	31	22	16	11	85	10	12
29	27	28	30	25	------	29	24	15	9.8	30	10	12
30	23	26	26	29	------	29	24	15	9.2	20	10	12
31	21	------	26	37	------	27	------	14	------	15	10	------
TOTAL	712	1,050	960	803	865	964	815	598	429.0	470.8	519.8	569.9
MEAN	23.0	35.0	31.0	25.9	30.9	31.1	27.2	19.3	14.3	15.2	16.8	19.0
MAX	61	73	61	48	68	75	46	29	38	85	70	102
MIN	15	21	23	20	22	25	22	14	9.2	8.6	9.8	9.9
CFSM	.64	.97	.86	.72	.86	.86	.75	.53	.40	.42	.46	.53
IN.	.73	1.08	.99	.83	.89	.99	.84	.62	.44	.49	.54	.59

CAL YR 1968 TOTAL 14,212 MEAN 38.8 MAX 811 MIN 15 CFSM 1.08 IN 14.64
WTR YR 1969 TOTAL 8,756.5 MEAN 24.0 MAX 102 MIN 8.6 CFSM .66 IN 9.02

PEAK DISCHARGE (BASE, 1,000 CFS).--No peak above base.

1-5851. Whitemarsh Run at White Marsh, Md.

LOCATION.--Lat 39°22'15", long 76°26'46", Baltimore County, on left bank at upstream side of bridge on State Highway 7, 1 mile southwest of White Marsh, and 3 miles upstream from mouth.

DRAINAGE AREA.--7.61 sq mi.

PERIOD OF RECORD.--February 1959 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 40 ft (from topographic map).

AVERAGE DISCHARGE.--10 years, 8.44 cfs (15.06 inches per year).

EXTREMES.--Current year: Maximum discharge, 282 cfs June 19 (gage height, 2.93 ft); minimum, 0.16 cfs Oct. 6 (gage height, 1.17 ft), result of regulation; minimum daily, 0.30 cfs July 4-5.
Period of record: Maximum discharge, 1,580 cfs Sept. 12, 1960 (gage height, 6.60 ft), from rating curve extended above 600 cfs on basis of peak flow through culvert study; no flow for part of Mar. 20, 1965, caused by construction work above station; minimum daily, 0.10 cfs, Sept. 11, 1966.

REMARKS.--Records good. Low flow affected by operations of sand and gravel plant in vicinity of gage.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.79	1.6	2.6	2.4	8.6	4.4	3.0	2.4	.79	.54	1.4	.41
2	.89	1.6	8.4	2.0	5.4	6.9	3.2	2.2	.89	.41	2.0	6.2
3	.89	1.6	3.8	1.8	7.3	9.1	3.2	2.2	16	.41	2.6	42
4	.70	2.2	44	1.8	4.0	7.3	3.0	2.2	1.8	.30	9.1	41
5	.70	2.0	6.9	1.6	2.8	5.8	3.5	2.0	1.5	.30	2.2	4.0
6	.89	1.8	4.1	1.5	2.8	6.9	5.0	1.8	1.2	.41	1.5	2.4
7	28	3.4	3.5	1.6	3.0	13	3.0	1.6	1.1	1.1	1.2	2.0
8	2.2	6.9	3.0	1.8	2.8	6.5	2.8	1.6	.99	.99	.99	5.7
9	1.6	2.6	2.6	2.0	6.9	5.0	2.6	8.4	1.1	.79	.85	2.4
10	1.5	28	2.2	2.2	4.4	3.8	3.0	3.5	1.1	.70	35	1.2
11	1.5	4.7	2.2	2.2	3.4	3.5	4.4	2.0	.99	.70	2.4	1.1
12	1.5	60	2.4	1.8	3.2	3.8	2.8	1.8	.99	7.1	1.5	.99
13	1.5	11	2.6	2.0	2.8	3.2	2.6	1.6	.79	2.4	1.1	.89
14	1.5	5.0	28	2.2	2.6	3.0	2.6	1.6	.79	.79	.99	.89
15	1.5	3.8	8.0	2.2	2.4	2.8	2.6	1.6	2.7	.54	.99	.79
16	1.5	3.2	4.7	2.0	2.4	2.8	21	1.5	1.6	.47	.99	1.2
17	1.4	2.8	3.2	2.0	2.6	2.8	9.8	1.4	.79	.41	.99	1.4
18	2.6	35	3.0	5.7	2.8	3.0	8.6	1.5	3.6	.35	3.4	3.8
19	20	9.6	3.5	6.1	2.6	3.0	3.9	3.9	32	2.9	1.5	1.7
20	3.9	4.4	3.5	3.2	3.8	3.0	4.1	8.8	2.6	11	1.5	.82
21	2.0	3.5	3.0	26	3.8	2.8	3.5	2.4	1.6	11	.89	.86
22	1.6	3.2	5.4	8.2	3.5	2.6	9.4	1.8	1.4	4.6	.62	1.2
23	1.5	3.0	14	6.1	18	2.8	5.8	1.6	1.1	5.0	.54	1.4
24	1.8	3.0	4.0	9.1	18	5.4	3.8	1.8	1.1	2.0	.54	1.8
25	7.0	6.1	3.0	5.4	8.2	12	3.5	1.8	.79	1.5	.47	1.9
26	2.0	3.0	2.4	3.4	5.4	3.2	2.8	1.4	.70	1.4	.47	.90
27	1.6	3.0	2.6	3.0	4.4	3.5	2.6	1.2	.70	1.5	.35	.77
28	2.3	2.8	4.6	2.8	4.4	3.2	2.6	1.1	.70	57	1.2	1.1
29	3.8	2.8	3.5	3.0	------	3.2	3.2	.99	.47	7.5	3.5	1.3
30	1.8	2.4	2.4	4.1	------	3.5	2.6	.89	.54	2.8	2.0	1.6
31	1.6	------	2.6	5.0	------	2.8	------	.79	------	1.6	.47	------
TOTAL	102.06	224.0	189.7	124.2	142.3	144.6	139.5	69.37	82.42	128.51	79.25	133.72
MEAN	3.29	7.47	6.12	4.01	5.08	4.66	4.65	2.24	2.75	4.15	2.56	4.46
MAX	28	60	44	26	18	13	21	8.8	32	57	35	42
MIN	.70	1.6	2.2	1.5	2.4	2.6	2.6	.79	.47	.30	.35	.41
CFSM	.43	.98	.80	.53	.67	.61	.61	.29	.36	.54	.34	.59
IN.	.50	1.09	.93	.61	.70	.71	.68	.34	.40	.63	.39	.65

CAL YR 1968 TOTAL 2,838.96 MEAN 7.76 MAX 288 MIN .47 CFSM 1.02 IN 13.87
WTR YR 1969 TOTAL 1,559.63 MEAN 4.27 MAX 60 MIN .30 CFSM .56 IN 7.62

PEAK DISCHARGE (BASE, 390 CFS).--No peak above base.

1-5852. West Branch Herring Run at Idlewylde, Md.

LOCATION.--Lat 39°22'25", long 76°35'05", Baltimore County, on left bank 40 ft downstream from bridge on Regester Avenue, at Idlewylde, 0.1 mile north of Baltimore city limits, 1 mile upstream from mouth, and 1.3 miles east of State Highway 45.

DRAINAGE AREA.--2.13 sq mi.

PERIOD OF RECORD.--July 1957 to May 1965, January 1966 to current year.

GAGE.--Water-stage recorder and concrete control. Prior to May 31, 1965, at site 40 ft upstream at datum 3.24 ft higher. Altitude of gage is 285 ft (from topographic map).

AVERAGE DISCHARGE.--10 years (1957-64, 1966 to current year), 2.16 cfs (13.77 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,080 cfs Sept. 2 (gage height, 5.66 ft); minimum daily, 0.26 cfs Aug. 30.
Period of record: Maximum discharge, 1,540 cfs Aug. 27, 1967 (gage height, 6.46 ft), from rating curve extended above 90 cfs on basis of slope-area measurement at gage height 6.37 ft; no flow Aug. 14-24, 1957.

REMARKS.--Records good. Diurnal fluctuation (occasionally extensive) caused by ready-mixed concrete plant above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	.48	2.0	.76	3.1	1.2	.80	.70	.54	.34	1.7	.30
2	.34	.45	2.8	.68	.92	2.4	.90	.60	1.9	.33	1.7	21
3	.39	.45	.84	.68	1.8	3.2	.90	.60	10	.33	3.8	14
4	.34	1.9	10	.64	.76	1.3	.70	.60	.64	.30	3.8	13
5	.48	.54	1.0	.60	.68	1.0	1.1	.60	.57	.38	1.1	.92
6	2.8	.48	.96	.60	.68	.96	2.0	.60	.54	.48	.45	.76
7	14	3.6	.92	.60	.72	4.0	.72	.60	.54	.95	.36	.64
8	.54	2.6	.92	.60	.72	1.3	.72	.60	.51	.85	.57	5.8
9	.42	.65	.88	.60	3.1	1.0	.64	6.0	.54	.40	.86	.76
10	.45	9.7	.76	.60	.92	.96	2.2	.64	.48	.40	16	.51
11	.42	1.0	.76	.57	.88	.84	.92	.54	.48	.38	.57	.48
12	.45	14	.84	.60	.80	.84	.68	.51	.45	9.4	.57	.51
13	.45	5.4	.80	.60	.68	.84	.68	.72	.39	4.9	1.1	.48
14	.45	1.7	10	.60	.64	.80	.68	.68	.39	.76	.36	.45
15	.42	1.3	1.1	.70	.68	.80	3.8	.60	1.7	.33	.55	.36
16	.45	1.0	.88	.68	.68	.70	9.5	.80	.39	.70	.51	.39
17	.54	1.3	.84	.72	.64	.70	1.6	.64	.34	.40	.80	5.7
18	2.1	12	.84	4.1	.64	.70	5.6	.51	7.8	.36	2.4	1.3
19	11	1.7	1.1	1.4	.60	.70	5.9	3.5	3.4	.36	.42	.48
20	.60	1.2	.80	.68	2.2	.70	1.2	6.5	.48	2.4	1.3	.45
21	.54	1.1	.76	5.7	1.0	.70	1.0	.48	.53	3.6	.74	.45
22	.45	1.2	4.6	1.0	.72	.60	4.4	.48	.43	.67	.30	.62
23	.48	1.0	1.8	1.0	7.3	.60	1.0	.48	.79	2.6	.30	.45
24	.64	2.2	.84	1.2	3.4	5.0	.92	.80	.59	.53	.50	.70
25	3.7	1.3	.76	.88	1.3	5.0	.88	1.1	.52	.79	.32	1.4
26	.48	1.2	.76	.76	1.0	.80	1.5	2.4	.51	.88	.30	.36
27	.48	1.6	.84	.68	.88	.70	2.4	1.8	.43	.66	.32	.38
28	2.3	.88	2.3	.68	.88	.70	1.5	.72	.45	15	.51	.89
29	.58	.80	.92	1.0	------	.80	1.1	.80	.40	2.1	.32	.29
30	.48	.72	.80	1.5	------	.90	.95	.92	.37	.52	.26	.35
31	.60	------	1.4	.92	------	.80	------	.51	------	.43	.30	------
TOTAL	47.71	73.45	54.82	32.33	38.32	41.54	56.89	37.03	37.10	52.53	43.09	74.18
MEAN	1.54	2.45	1.77	1.04	1.37	1.34	1.90	1.19	1.24	1.69	1.39	2.47
MAX	14	14	10	5.7	7.3	5.0	9.5	6.5	10	15	16	21
MIN	.34	.45	.76	.57	.60	.60	.64	.48	.34	.30	.26	.29
CFSM	.72	1.15	.83	.49	.64	.63	.89	.56	.58	.80	.65	1.16
IN.	.83	1.28	.96	.56	.67	.73	.99	.65	.65	.92	.75	1.30

CAL YR 1968 TOTAL 781.92 MEAN 2.14 MAX 68 MIN .32 CFSM 1.00 IN 13.65
WTR YR 1969 TOTAL 588.99 MEAN 1.61 MAX 21 MIN .26 CFSM .76 IN 10.28

PEAK DISCHARGE (BASE, 230 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-18	2300	3.42	285	8-10	0100	4.21	503
7-12	1600	3.78	375	9- 2	1600	5.66	1,080
7-27	2300	3.37	272				

1-5853. Stemmers Run at Rossville, Md.

LOCATION.--Lat 39°20'20", long 76°29'15", Baltimore County, on left bank at downstream side of bridge on State Highway 7, at Rossville, 0.8 mile upstream from Brien Run, and 2 miles upstream from mouth.

DRAINAGE AREA.--4.94 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 20 ft (from topographic map).

AVERAGE DISCHARGE.--10 years (1959-69), 5.64 cfs (15.50 inches per year).

EXTREMES.--Current year: Maximum discharge, 507 cfs June 19 (gage height, 4.49 ft); minimum, 0.09 cfs Aug. 21 (gage height, 1.19 ft), result of regulation; minimum daily, 0.21 cfs Aug. 27.
Period of record: Maximum discharge, 1,720 cfs Aug. 4, 1965 (gage height, 7.86 ft), from rating curve extended above 500 cfs on basis of contracted-opening measurement of peak flow; minimum daily, 0.10 cfs many days in 1962, 1964, and 1966.

REMARKS.--Records good. Slight diurnal fluctuation at times from unknown source.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.64	.76	1.5	1.5	7.5	2.0	1.2	1.2	.62	.47	.65	.35
2	.64	.90	5.5	1.2	3.2	4.7	1.3	1.1	1.3	.46	1.3	35
3	.76	.90	1.9	1.2	5.3	6.2	1.3	1.1	17	.37	2.0	57
4	.64	1.5	34	1.0	2.4	3.8	1.1	1.0	.84	.33	4.1	30
5	.64	.90	3.6	1.0	1.9	2.5	1.4	1.0	.71	.28	1.2	1.8
6	.76	.90	2.3	1.0	1.7	2.2	2.7	.93	.64	.30	.66	1.1
7	21	2.7	1.9	1.0	1.8	9.0	1.2	.93	.68	1.4	.54	.86
8	1.0	3.9	1.7	1.0	1.7	3.3	1.1	.96	.64	.58	.54	5.5
9	.90	1.4	1.5	1.0	7.9	2.5	1.0	7.5	.60	.44	.89	1.6
10	.76	24	1.4	1.0	3.4	2.1	2.9	1.4	.59	.42	34	.73
11	.76	2.5	1.4	.90	2.2	1.7	2.6	1.0	.58	.42	.98	.64
12	.76	54	1.4	.90	2.0	1.5	1.2	.94	.55	14	.70	.63
13	.76	6.1	1.4	1.0	1.5	1.5	1.2	.90	.44	2.0	.54	.59
14	.76	2.5	22	1.0	1.6	1.5	1.2	.93	.47	.51	.51	.56
15	.76	2.1	3.6	1.0	1.5	1.4	1.2	.87	2.6	.34	.53	.54
16	.76	1.7	2.1	.90	1.5	1.2	20	.89	1.1	.32	.48	.56
17	.76	1.5	1.7	.90	1.4	1.2	4.8	.90	.48	.30	.39	.54
18	1.9	31	1.5	4.0	1.4	1.2	6.5	.91	10	.40	4.2	3.7
19	15	4.8	1.7	3.3	1.3	1.2	4.4	3.4	22	.38	.89	.55
20	1.5	2.3	1.9	1.5	2.8	1.2	2.1	7.0	.99	5.6	1.4	.54
21	.90	1.9	1.4	20	1.9	1.2	1.7	1.2	.71	2.2	.54	.52
22	.90	1.7	5.4	5.0	1.6	1.0	7.5	1.0	.61	1.8	.38	.48
23	.90	1.7	9.6	3.3	23	1.0	3.0	1.2	.64	3.7	.37	.48
24	1.0	1.7	2.3	4.5	11	2.7	1.9	1.3	1.4	.77	.33	.45
25	6.0	3.6	1.5	2.6	4.4	6.8	1.5	1.3	.52	.62	.29	1.2
26	.90	1.7	1.5	1.7	2.8	1.8	1.5	1.2	.50	.60	.28	.49
27	.90	1.7	1.5	1.6	2.2	1.4	1.4	1.1	.51	1.3	.21	.45
28	2.3	1.7	3.2	1.3	1.9	1.2	1.4	1.0	.56	34	.23	.81
29	1.7	1.7	2.1	1.7	------	1.2	1.8	.92	.47	2.4	.24	.46
30	.90	1.5	1.4	2.5	------	1.4	1.4	.77	.39	.96	.22	.39
31	.76	------	1.9	2.8	------	1.3	------	.63	------	.71	.30	------
TOTAL	69.62	165.26	125.8	73.30	102.8	72.9	83.5	46.48	69.14	78.38	59.89	148.52
MEAN	2.25	5.51	4.06	2.36	3.67	2.35	2.78	1.50	2.30	2.53	1.93	4.95
MAX	21	54	34	20	23	9.0	20	7.5	22	34	34	57
MIN	.64	.76	1.4	.90	1.3	1.0	1.0	.63	.39	.28	.21	.35
CFSM	.45	1.12	.82	.48	.74	.48	.56	.30	.47	.51	.39	1.00
IN.	.52	1.24	.95	.55	.77	.55	.63	.35	.52	.59	.45	1.12

CAL YR 1968 TOTAL 2,003.18 MEAN 5.47 MAX 250 MIN .25 CFSM 1.11 IN 15.08
WTR YR 1969 TOTAL 1,095.59 MEAN 3.00 MAX 57 MIN .21 CFSM .61 IN 8.25

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-19	0015	4.49	507	9- 2	1645	4.44	494
8-10	0215	4.38	479	9- 3	1430	4.16	426

1-5854. Brien Run at Stemmers Run, Md.

LOCATION.--Lat 39°20'01", long 76°28'23", Baltimore County, on right bank 0.2 mile upstream from mouth and 0.3 mile north of Stemmers Run.

DRAINAGE AREA.--1.97 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 10 ft (from topographic map).

AVERAGE DISCHARGE.--11 years, 1.97 cfs (13.58 inches per year).

EXTREMES.--Current year: Maximum discharge, 191 cfs Sept. 3 (gage height, 3.01 ft); minimum, 0.21 cfs May 6. Period of record: Maximum discharge, 506 cfs Sept. 12, 1960 (gage height, 5.03 ft), from rating curve extended above 180 cfs on basis of velocity-area study; no flow at times many years.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.31	.43	.43	.50	2.7	.50	.37	.37	.26	.31	.43	.58
2	.31	.43	1.5	.43	1.2	1.1	.37	.37	1.1	.31	.58	3.3
3	.31	.43	.76	.43	1.6	1.4	.37	.37	5.3	.31	.76	36
4	.31	.76	13	.43	.95	1.1	.37	.31	.43	.31	1.6	13
5	.31	.50	1.2	.37	.67	.67	.43	.31	.37	.31	.76	.85
6	.37	.43	.67	.37	.58	.58	.58	.26	.31	.31	.50	.50
7	6.7	.95	.58	.43	.58	2.8	.43	.26	.31	.50	.50	.43
8	.43	1.4	.58	.43	.58	1.2	.43	.26	.31	.43	.50	2.3
9	.37	.58	.50	.43	2.5	.76	.43	2.4	.31	.37	.43	.85
10	.37	8.0	.50	.43	1.1	.67	.67	.50	.31	.37	12	.43
11	.31	1.1	.43	.43	.76	.50	.76	.37	.26	.37	.67	.37
12	.31	17	.43	.43	.67	.50	.43	.31	.26	1.9	.50	.31
13	.31	2.0	.43	.43	.58	.58	.37	.31	.31	.58	.43	.31
14	.31	.95	6.3	.43	.50	.50	.37	.31	.26	.43	.37	.31
15	.31	.76	1.4	.43	.50	.43	.37	.31	1.4	.31	.43	.31
16	.31	.70	.67	.43	.50	.43	6.5	.31	.43	.31	.43	.37
17	.31	.60	.50	.43	.50	.43	1.8	.31	.26	.31	.43	.37
18	.43	9.0	.43	.95	.50	.43	2.5	.31	7.3	.26	4.4	.43
19	2.6	1.5	.50	1.2	.43	.43	1.7	.95	3.4	1.1	.67	.37
20	.58	1.0	.58	.67	.67	.37	.76	1.9	.50	5.0	.50	.31
21	.43	.60	.50	8.4	.58	.37	.50	.76	.37	.95	.43	.31
22	.37	.58	1.4	2.0	.58	.37	1.6	.37	.31	.88	.43	.37
23	.37	.50	3.0	1.4	7.8	.37	.85	.31	.31	1.9	.37	.43
24	.37	.58	.76	2.0	4.4	.58	.50	.31	.37	.50	.37	.37
25	2.7	.76	.50	1.1	1.2	2.0	.43	.31	.31	.43	.43	.37
26	.50	.58	.43	.67	.76	.58	.43	.31	.31	.43	.50	.31
27	.43	.50	.43	.58	.67	.50	.37	.31	.31	.37	.50	.31
28	.99	.50	.76	.50	.58	.43	.37	.31	.31	17	.50	.37
29	.76	.50	.67	.50	------	.43	.43	.31	.31	1.4	.58	.31
30	.50	.43	.50	.76	------	.43	.37	.26	.31	.50	.58	.31
31	.43	------	.50	.95	------	.37	------	.26	------	.31	.58	------
TOTAL	23.42	54.05	40.84	28.94	34.64	21.81	25.86	14.62	26.61	38.77	32.16	65.16
MEAN	.76	1.80	1.32	.93	1.24	.70	.86	.47	.89	1.25	1.04	2.17
MAX	6.7	17	13	8.4	7.8	2.8	6.5	2.4	7.3	17	12	36
MIN	.31	.43	.43	.37	.43	.37	.37	.26	.26	.26	.37	.31
CFSM	.38	.91	.67	.47	.63	.36	.44	.24	.45	.63	.53	1.10
IN.	.44	1.02	.77	.55	.65	.41	.49	.28	.50	.73	.61	1.23

CAL YR 1968 TOTAL 686.44 MEAN 1.88 MAX 77 MIN .31 CFSM .95 IN 12.96
WTR YR 1969 TOTAL 406.88 MEAN 1.11 MAX 36 MIN .26 CFSM .57 IN 7.68

PEAK DISCHARGE (BASE, 120 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7-28	1630	2.46	125	9-3	1545	3.01	191

1-5855. Cranberry Branch near Westminster, Md.

LOCATION.--Lat 39°35'35", long 76°58'05", Carroll County, on left bank 80 ft upstream from small wooden bridge, 0.7 mile upstream from mouth, and 1.8 miles northeast of Westminster.

DRAINAGE AREA.--3.29 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 670 ft (from topographic map).

AVERAGE DISCHARGE.--20 years, 3.23 cfs (unadjusted for storage).

EXTREMES.--Current year: Maximum discharge, 151 cfs Sept. 4 (gage height, 3.76 ft); minimum daily, 0.89 cfs July 24.
Period of record: Maximum discharge, 720 cfs July 4, 1951 (gage height, 5.14 ft, from high-water mark in well), from rating curve extended above 200 cfs; minimum daily, 0.30 cfs Sept. 16, 1966.
Flood of July 12, 1949, reached a stage of 5.2 ft, from floodmarks (discharge, 750 cfs).

REMARKS.--Records good. Occasional small diversions to and releases from Cranberry Reservoir located offstream 1 mile above station since August 1957 (capacity, 113,700,000 gal).

REVISIONS (WATER YEARS).--WSP 1432: Drainage area, 1954-55.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.8	2.5	2.2	2.8	3.0	2.4	1.9	1.5	2.1	1.9	1.4
2	1.4	1.8	3.5	2.0	1.8	2.5	1.8	1.9	1.5	2.1	1.5	2.0
3	1.4	1.8	2.7	2.0	1.8	2.6	1.2	1.9	2.4	2.1	4.6	5.0
4	1.4	1.8	3.0	2.0	2.2	3.4	2.2	1.9	1.6	2.0	5.1	29
5	1.4	1.8	2.1	1.9	2.5	2.9	2.5	1.7	1.5	2.0	1.1	2.2
6	1.5	1.8	2.5	1.9	2.5	2.6	2.4	1.6	1.5	1.4	1.4	4.2
7	3.7	2.8	2.5	2.0	2.5	2.7	2.1	1.6	1.6	1.3	2.5	4.9
8	1.8	3.0	2.5	1.9	2.5	3.4	2.2	1.6	1.5	1.2	2.0	7.0
9	1.6	2.5	2.5	2.0	2.5	3.4	2.1	2.6	1.5	1.4	2.0	3.5
10	1.5	5.6	2.5	1.9	2.4	2.8	2.7	2.0	1.5	1.3	2.7	2.9
11	1.6	3.4	2.4	1.8	2.4	2.5	2.5	1.6	1.5	1.3	2.2	2.6
12	1.6	5.4	2.4	1.6	2.5	2.4	2.2	1.6	1.4	2.3	2.1	2.5
13	1.6	3.0	2.6	1.6	2.2	2.6	2.1	1.6	1.7	2.3	2.4	2.4
14	1.6	2.0	5.5	1.8	2.2	2.8	2.1	1.7	2.1	1.3	1.8	2.2
15	1.6	4.0	3.4	1.8	2.1	2.7	2.2	1.6	1.6	2.1	2.2	2.2
16	1.6	2.5	2.8	1.6	2.0	2.8	2.7	1.6	1.6	2.5	1.8	2.1
17	1.5	1.6	2.6	1.8	2.0	2.6	2.6	1.6	1.4	2.4	1.8	2.2
18	1.8	3.5	2.4	2.6	2.0	2.5	2.5	1.6	1.6	2.5	4.3	2.5
19	10	3.2	2.5	2.8	2.0	2.5	3.5	2.0	1.8	1.8	2.7	2.1
20	2.8	1.6	2.5	2.4	2.0	2.5	2.5	3.0	1.4	4.9	2.7	2.1
21	2.2	1.4	2.5	4.2	2.1	2.5	2.3	2.2	1.3	1.5	1.9	2.1
22	2.0	1.8	2.8	3.1	2.1	2.4	1.9	2.1	1.3	3.0	2.4	2.0
23	1.9	2.8	4.9	2.8	2.2	2.1	1.8	2.0	1.3	2.7	1.6	1.9
24	1.8	3.0	2.8	3.1	2.7	2.8	2.4	2.0	1.4	.89	1.6	1.9
25	2.7	3.2	2.4	2.7	3.3	8.3	2.3	1.9	1.3	1.2	1.9	2.2
26	2.4	2.7	2.2	2.2	2.8	1.4	2.1	1.8	1.2	1.2	2.1	1.8
27	2.1	2.7	2.4	2.1	2.8	2.2	2.0	1.7	1.8	10	2.4	1.9
28	2.0	2.7	3.1	2.0	3.8	2.6	2.0	1.7	2.5	27	1.5	1.9
29	1.9	2.7	2.7	2.2	------	2.6	2.2	1.6	2.0	2.5	2.0	1.9
30	1.9	2.5	2.4	5.0	------	2.6	2.0	1.5	2.0	1.5	1.5	1.8
31	1.8	------	2.5	4.3	------	2.4	------	1.5	------	1.5	1.4	------
TOTAL	65.6	85.4	86.1	73.3	66.7	87.1	67.5	56.6	48.3	93.29	69.1	104.4
MEAN	2.12	2.85	2.78	2.36	2.38	2.81	2.25	1.83	1.61	3.01	2.23	3.48
MAX	10	8.5	5.5	5.0	3.8	8.3	3.5	3.0	2.5	27	5.1	29
MIN	1.4	1.4	2.1	1.6	1.8	1.4	1.2	1.5	1.2	.89	1.1	1.4

CAL YR 1968 TOTAL 1,048.0 MEAN 2.86 MAX 27 MIN 1.4
WTR YR 1969 TOTAL 903.39 MEAN 2.48 MAX 29 MIN .89

PEAK DISCHARGE (BASE, 80 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7-27	2400	3.41	116	9-4	0130	3.76	151

1-5860. North Branch Patapsco River at Cedarhurst, Md.

LOCATION.--Lat 39°30'00", long 76°53'00", Carroll County, on left bank at downstream side of private footbridge at Cedarhurst, 0.8 mile downstream from Roaring Run, 8 miles southeast of Westminster, and 16.5 miles upstream from mouth.

DRAINAGE AREA.--56.6 sq mi.

PERIOD OF RECORD.--September 1945 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 425 ft (from topographic map).

AVERAGE DISCHARGE.--24 years, 57.8 cfs (13.87 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,120 cfs Sept. 4 (gage height, 7.40 ft); minimum, 2.5 cfs July 26 (gage height, 1.15 ft), result of filling pond above station; minimum daily, 10 cfs July 3, 4.
Period of record: Maximum discharge, 4,130 cfs Aug. 13, 1955 (gage height, 10.38 ft), from rating curve extended above 1,700 cfs; minimum, 1.9 cfs Sept. 10, 1966, result of filling pond above station; minimum daily, 3.1 cfs Sept. 10, 12, 1966.

REMARKS.--Records good. Slight diurnal fluctuation at low and medium flow caused by mill above station. Low flow affected slightly by Cranberry Reservoir since August 1957 (capacity, 113,700,000 gal). Records do not include a mean discharge of 1.64 cfs diverted above station for municipal supply of Westminster; sewage effluent discharged into Little Pipe Creek in Monocacy River basin.

REVISIONS (WATER YEARS).--WSP 1903: 1959-60.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	23	35	29	72	58	38	28	18	11	29	20
2	15	23	51	25	50	44	39	27	18	12	32	18
3	15	23	41	28	52	42	35	26	38	10	178	43
4	14	23	67	27	42	53	35	26	20	10	202	636
5	14	24	47	24	38	54	39	26	18	11	58	101
6	16	23	39	26	36	46	42	24	18	13	41	54
7	63	29	38	28	35	48	34	24	26	14	35	105
8	25	58	37	26	34	54	34	24	18	15	30	121
9	20	35	32	29	37	60	33	45	18	14	27	65
10	19	67	28	27	30	49	36	32	20	14	40	47
11	19	63	27	27	34	44	46	26	18	14	28	40
12	19	101	30	23	35	36	33	24	18	53	26	37
13	20	76	34	24	30	39	31	24	18	78	24	34
14	20	61	90	24	27	42	30	24	51	18	22	32
15	19	86	53	25	28	40	31	24	22	14	22	31
16	20	90	35	23	29	42	43	22	22	14	22	28
17	19	59	37	26	29	40	43	22	18	13	22	28
18	21	175	34	36	28	40	36	22	18	12	39	42
19	205	112	37	47	28	40	54	28	26	15	38	27
20	54	68	37	35	30	39	43	72	18	81	37	27
21	33	54	35	72	30	39	36	27	16	65	24	27
22	27	50	37	62	31	36	38	26	16	55	22	26
23	26	47	68	45	35	34	38	24	16	102	20	25
24	25	45	45	47	44	39	36	26	15	31	20	25
25	45	50	32	44	68	170	34	24	14	22	22	25
26	29	42	33	33	58	70	32	22	14	20	22	24
27	26	41	35	30	50	54	30	20	14	48	20	24
28	26	39	44	29	63	48	29	20	14	740	20	24
29	25	39	42	33	------	45	32	20	13	100	20	23
30	26	37	34	48	------	46	29	18	12	50	18	23
31	23	------	34	68	------	39	------	18	------	33	18	------
TOTAL	943	1,663	1,268	1,070	1,103	1,530	1,089	815	585	1,702	1,178	1,782
MEAN	30.4	55.4	40.9	34.5	39.4	49.4	36.3	26.3	19.5	54.9	38.0	59.4
MAX	205	175	90	72	72	170	54	72	51	740	202	636
MIN	14	23	27	23	27	34	29	18	12	10	18	18
CFSM	.54	.98	.72	.61	.70	.87	.64	.46	.34	.97	.67	1.05
IN.	.62	1.09	.83	.70	.72	1.01	.72	.54	.38	1.12	.77	1.17

CAL YR 1968 TOTAL 17,563 MEAN 48.0 MAX 557 MIN 14 CFSM .85 IN 11.54
WTR YR 1969 TOTAL 14,728 MEAN 40.4 MAX 740 MIN 10 CFSM .71 IN 9.68

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7-28	0230	6.58	1,710	9-4	0430	7.40	2,120
8- 3	2300	5.79	1,380				

1-5875. South Branch Patapsco River at Henryton, Md.

LOCATION.--Lat 39°21'05", long 76°54'50", Howard County, on right bank at downstream side of bridge on Henryton Road at Henryton, 1.3 miles upstream from Piney Run, 2.5 miles upstream from confluence with North Branch, and 3.2 miles southeast of Sykesville.

DRAINAGE AREA.--64.4 sq mi.

PERIOD OF RECROD.--August 1948 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 289.15 ft above mean sea level.

AVERAGE DISCHARGE.--21 years, 63.3 cfs (13.35 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,820 cfs Sept. 4 (gage height, 5.90 ft); minimum, 9.4 cfs July 19 (gage height, 1.53 ft).
Period of record: Maximum discharge, 12,100 cfs July 21, 1956 (gage height, 19.40 ft), from rating curve extended above 1,900 cfs on basis of slope-area measurement at gage height 7.88 ft and contracted-opening measurements at gage heights 10.12 and 19.40 ft; minimum, 0.40 cfs Sept. 9-12, 1966.

REMARKS.--Records good. Records of chemical analyses for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	27	38	38	70	67	46	34	19	12	28	13
2	15	27	52	33	60	59	47	34	22	12	32	19
3	15	26	43	36	55	55	45	34	56	12	27	33
4	15	27	82	33	48	59	43	33	26	12	53	409
5	14	27	58	28	43	58	46	32	23	12	50	44
6	14	27	45	32	42	53	55	32	21	12	32	30
7	61	29	42	33	40	59	44	32	20	12	25	25
8	24	50	41	29	39	58	41	33	19	14	22	33
9	19	38	38	34	45	61	40	49	20	14	19	28
10	19	57	36	32	41	54	41	38	19	13	51	22
11	19	75	33	28	44	50	49	32	19	13	27	19
12	19	112	34	26	45	45	40	30	19	16	21	18
13	19	92	38	29	41	46	38	29	17	23	19	17
14	19	70	89	28	38	48	38	29	62	13	18	17
15	20	75	63	29	42	49	38	28	26	12	19	16
16	20	74	44	28	33	49	52	27	24	11	18	16
17	20	55	41	30	38	58	50	26	19	11	18	20
18	22	150	39	39	33	59	44	25	19	10	46	107
19	221	144	39	51	36	55	47	30	23	10	46	24
20	64	77	41	39	38	52	43	102	18	127	28	20
21	36	63	39	101	38	50	39	39	17	82	20	19
22	29	56	41	104	38	46	42	32	16	22	18	18
23	28	51	82	55	43	43	45	29	17	30	16	17
24	26	49	54	56	63	49	40	29	16	20	15	17
25	38	51	39	53	89	153	38	29	15	17	15	18
26	34	44	39	43	74	86	37	26	14	208	14	16
27	29	42	40	38	60	64	36	24	14	44	14	16
28	29	42	47	36	64	56	34	23	14	591	13	16
29	33	42	50	38	------	53	37	23	13	115	13	15
30	28	38	39	42	------	52	36	21	12	48	14	15
31	27	------	38	56	------	48	------	19	------	33	13	------
TOTAL	991	1,737	1,444	1,277	1,340	1,794	1,271	1,003	639	1,581	764	1,097
MEAN	32.0	57.9	46.6	41.2	47.9	57.9	42.4	32.4	21.3	51.0	24.6	36.6
MAX	221	150	89	104	89	153	55	102	62	591	53	409
MIN	14	26	33	26	33	43	34	19	12	10	13	13
CFSM	.50	.90	.72	.64	.74	.90	.66	.50	.33	.79	.38	.57
IN.	.57	1.00	.83	.74	.77	1.04	.73	.58	.37	.91	.44	.63

CAL YR 1968 TOTAL 20,878 MEAN 57.0 MAX 708 MIN 14 CFSM .89 IN 12.06
WTR YR 1969 TOTAL 14,938 MEAN 40.9 MAX 591 MIN 10 CFSM .64 IN 8.63

PEAK DISCHARGE (BASE, 950 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7-28	0230	5.37	1,610	9-4	0430	5.90	1,820

1-5890. Patapsco River at Hollofield, Md.

LOCATION.--Lat 39°18'36", long 76°47'39", Howard County, on right bank at downstream side of highway bridge, at Hollofield, 0.3 mile downstream from Dogwood Run, 3.0 miles north of Ellicott City, and 28 miles upstream from mouth.

DRAINAGE AREA.--285 sq mi.

PERIOD OF RECORD.--May 1944 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 190 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 2,360 cfs Sept. 4 (gage height, 4.40 ft); minimum 19 cfs July 18, 19 (gage height, 0.97 ft).
Period of record: Maximum discharge, 19,000 cfs July 21, 1956 (gage height, 15.88 ft); minimum, 6 cfs Sept. 6, 1944 (gage height, 0.83 ft); minimum daily, 9.6 cfs Aug. 12, 1963.
Flood in August 1933 reached a stage of 19.5 ft, from information by Maryland State Roads Commission.

REMARKS.--Records good. Flow regulated by Liberty Reservoir 11 miles upstream beginning July 22, 1954 (usable capacity, 42,070,000,000 gal; dead storage, 1,260,000,000 gal). Diversion above station for municipal supply of Westminster (sewage effluent discharged into Little Pipe Creek) and from Liberty Reservoir beginning Feb. 26, 1953, for municipal supply of Baltimore.

COOPERATION.--Records of reservoir contents furnished by Baltimore Department of Public Works. Records of diversions for municipal supply of cities of Westminster and Baltimore furnished by cities of Westminster and Baltimore respectively.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	52	75	69	118	131	90	67	40	26	47	24
2	33	53	103	55	123	115	92	66	48	26	63	25
3	33	52	94	72	108	107	90	64	143	25	50	97
4	34	55	153	66	96	115	86	63	63	23	90	775
5	32	55	128	55	83	116	90	59	49	23	110	138
6	32	54	96	60	77	103	108	58	47	25	60	75
7	145	60	88	62	83	118	88	56	44	25	48	60
8	62	97	83	58	75	115	84	56	43	29	41	73
9	43	77	77	66	83	121	80	88	44	30	38	67
10	40	124	72	66	70	106	84	84	44	29	126	49
11	40	152	65	55	75	98	101	63	44	29	57	42
12	40	239	70	55	75	82	84	58	43	85	43	40
13	39	203	75	56	70	90	79	58	43	63	37	39
14	38	154	164	56	70	92	77	56	114	32	36	37
15	39	143	142	56	70	93	79	56	55	26	37	36
16	39	144	88	55	70	91	103	53	54	23	36	36
17	42	113	90	62	70	101	106	52	45	21	34	37
18	43	242	85	72	66	103	92	49	45	20	71	212
19	258	262	81	103	64	98	101	56	80	20	86	57
20	154	141	85	85	72	94	90	143	46	37	53	45
21	70	115	79	117	73	92	82	80	40	228	42	41
22	58	104	81	177	72	85	88	60	37	47	35	39
23	54	94	146	108	90	80	95	55	38	57	32	39
24	51	91	113	108	147	90	84	57	40	44	30	37
25	89	98	77	103	177	225	79	56	35	36	29	40
26	69	89	80	85	163	168	75	52	34	206	29	37
27	55	84	81	65	120	125	71	48	32	64	27	36
28	56	82	90	70	116	110	71	47	33	697	25	37
29	64	84	101	77	------	103	75	46	29	218	25	35
30	55	77	81	77	------	101	71	44	27	86	25	35
31	53	------	77	99	------	95	------	41	------	58	25	------
TOTAL	1,892	3,390	2,920	2,370	2,576	3,363	2,595	1,891	1,479	2,358	1,487	2,340
MEAN	61.0	113	94.2	76.5	92.0	108	86.5	61.0	49.3	76.1	48.0	78.0
MAX	258	262	164	177	177	225	108	143	143	697	126	775
MIN	32	52	65	55	64	80	71	41	27	20	25	24
(†)	39,930	40,910	41,140	40,920	41,040	41,670	41,520	40,320	38,590	38,000	36,700	36,640
(‡)	124	123	122	126	123	126	129	146	157	139	143	144

CAL YR 1968 TOTAL 39,635 MEAN 108 MAX 1,360 MIN 31 ‡ 138
WTR YR 1969 TOTAL 28,661 MEAN 78.5 MAX 775 MIN 20 ‡ 134

† Month-end contents, in millions of gallons, in Liberty Reservoir (contents on Sept. 30, 1968, 40,480 million gallons).
‡ Diversions, in cubic feet per second, above station for municipal supply of Westminster, and from Liberty Reservoir for municipal supply of Baltimore.

1-5891. East Branch Herbert Run at Arbutus, Md.

LOCATION.--Lat 39°14'24", long 76°41'33", Baltimore County, on right bank at downstream side of highway bridge on Tom Day Boulevard at U. S. Route 1 in Arbutus, 0.5 mile upstream from mouth, and 2 miles south of Baltimore city limits.

DRAINAGE AREA.--2.47 sq mi.

PERIOD OF RECORD.--August 1957 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 45 ft (from topographic map).

AVERAGE DISCHARGE.--12 years, 2.80 cfs (15.39 inches per year).

EXTREMES.--Current year: Maximum discharge, 503 cfs July 20 (gage height, 3.76 ft); minimum daily, 0.55 cfs Aug. 17.
Period of record: Maximum discharge, 872 cfs Sept. 10, 1968 (gage height, 4.99 ft), from rating curve extended above 250 cfs on basis of slope-area measurement made prior to establishment of station at gage height 5.7 ft; minimum daily, 0.30 cfs July 24, Sept. 4, 11, 1966.
Flood of July 20, 1956, reached a stage of 5.7 ft from flood marks (discharge 1,090 cfs from rating curve extended as explained above).

REMARKS.--Records good. Slight regulation at low flow from unknown source above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.4	1.5	1.1	4.5	1.9	1.4	1.3	.87	.96	3.2	.60
2	1.2	1.1	4.0	1.2	1.4	3.7	1.6	1.3	2.3	.93	2.3	3.1
3	1.2	.79	1.5	1.2	2.3	2.6	1.4	1.1	10	.93	1.2	3.1
4	1.2	1.9	16	1.2	1.5	1.8	1.3	.79	1.3	.72	4.3	6.2
5	.85	1.3	2.3	.85	1.5	1.7	1.7	1.1	1.3	.72	.90	1.4
6	1.3	1.4	1.7	1.1	1.5	1.6	1.5	1.3	1.3	.70	.80	1.1
7	14	5.5	1.5	1.3	1.4	6.0	.95	1.2	1.0	1.2	.70	.92
8	1.7	2.8	1.1	1.3	1.5	1.8	1.3	1.3	.77	1.3	.60	6.6
9	1.5	1.4	1.2	1.4	6.0	1.4	1.4	7.7	1.2	1.1	1.5	1.3
10	1.7	14	1.2	1.4	1.5	1.6	3.7	1.9	1.3	1.1	12	1.2
11	1.6	1.7	1.4	1.2	1.6	1.6	1.6	1.6	1.3	1.1	1.2	1.1
12	1.2	33	1.5	.79	1.6	1.5	1.3	1.4	1.4	12	.96	1.2
13	.85	6.0	1.5	1.1	1.4	1.5	.85	1.3	1.2	1.9	.77	.92
14	1.3	2.6	10	1.3	1.4	1.5	1.3	1.3	.94	1.6	.78	.84
15	1.3	2.3	1.6	1.2	1.3	1.3	1.8	1.2	1.7	1.3	.79	1.0
16	1.4	1.8	1.5	1.2	1.0	1.1	5.7	1.2	1.0	1.2	.66	1.1
17	1.2	1.5	1.6	1.3	1.0	1.3	1.6	.99	1.1	1.2	.55	1.1
18	2.6	15	1.5	3.7	1.0	1.5	3.2	.79	17	1.6	5.7	1.2
19	10	2.8	1.6	1.6	1.0	1.4	4.2	3.0	3.4	6.5	1.8	1.1
20	1.3	2.3	1.5	1.8	2.6	1.5	1.3	9.6	1.4	23	1.0	.84
21	1.6	2.0	1.2	10	1.5	1.5	1.3	2.2	1.1	2.4	.70	.76
22	1.3	1.8	4.7	2.4	1.4	1.2	5.5	1.4	.78	5.0	.70	1.0
23	1.3	1.8	2.8	1.9	10	1.1	1.6	1.4	1.2	9.2	.60	1.1
24	1.3	1.5	1.3	1.9	3.7	3.3	1.5	1.3	1.3	1.4	.60	1.1
25	5.0	1.9	.95	1.5	2.1	4.7	1.4	.84	1.5	1.0	.70	2.1
26	.85	1.5	1.2	.95	1.8	1.6	1.2	1.1	1.4	.72	.70	1.2
27	.68	1.5	1.2	1.3	1.7	1.6	.95	1.3	1.4	1.2	.70	.94
28	3.3	1.2	2.4	1.4	1.6	1.6	1.5	1.3	.92	9.5	.80	1.8
29	1.4	1.2	1.1	1.7	------	1.5	1.4	1.3	.71	2.3	.80	1.0
30	1.6	1.1	1.2	2.1	------	1.2	1.4	.98	.87	1.2	.60	1.1
31	1.2	------	2.3	1.7	------	1.3	------	.86	------	.81	.60	------
TOTAL	68.13	116.09	76.05	54.09	60.8	58.9	56.85	55.35	62.96	95.79	49.21	48.02
MEAN	2.20	3.87	2.45	1.74	2.17	1.90	1.90	1.79	2.10	3.09	1.59	1.60
MAX	14	33	16	10	10	6.0	5.7	9.6	17	23	12	6.6
MIN	.68	.79	.95	.79	1.0	1.1	.85	.79	.71	.70	.55	.60
CFSM	.89	1.57	.99	.71	.88	.77	.77	.72	.85	1.25	.64	.65
IN.	1.03	1.75	1.15	.81	.92	.89	.86	.83	.95	1.44	.74	.72

CAL YR 1968 TOTAL 1,070.02 MEAN 2.92 MAX 92 MIN .46 CFSM 1.18 IN 16.11
WTR YR 1969 TOTAL 802.24 MEAN 2.20 MAX 33 MIN .55 CFSM .89 IN 12.08

PEAK DISCHARGE (BASE, 260 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-18	2300	3.31	368	7-20	1915	3.76	503
7-12	1630	3.22	337	8-10	0115	3.06	281

1-5892. Gwynns Falls near Owings Mills, Md.

LOCATION.--Lat 39°26'16", long 76°46'57", Baltimore County, on left bank at downstream side of bridge on railroad siding, 0.4 mile upstream from small right bank tributary, 1.2 miles north of Owings Mills, and 21 miles upstream from mouth.

DRAINAGE AREA.--4.90 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 520 ft (from topographic map).

AVERAGE DISCHARGE.--11 years, 4.03 cfs (11.17 inches per year).

EXTREMES.--Current year: Maximum discharge, 208 cfs Sept. 4 (gage height, 2.50 ft); minimum daily, 1.3 cfs many days June, July, August and September.
Period of record: Maximum discharge, 1,330 cfs Aug. 27, 1967 (gage height, 5.06 ft), from rating curve extended above 100 cfs on basis of contracted-opening measurement of peak flow; minimum daily, 0.5 cfs Sept. 6, 8, 1966.

REMARKS.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	2.2	3.6	1.8	5.1	3.8	2.7	2.5	2.2	1.3	1.6	1.3
2	1.8	2.2	6.0	1.8	2.9	3.8	2.9	2.5	2.2	1.3	2.0	13
3	1.8	2.2	3.8	1.8	3.3	4.0	2.9	2.2	7.6	1.3	2.0	8.5
4	1.8	2.2	9.2	1.8	2.5	4.0	2.9	2.0	1.8	1.3	8.6	50
5	1.8	2.2	4.3	1.8	2.2	3.6	3.1	1.8	1.7	1.3	3.6	7.4
6	2.0	2.2	3.6	1.8	2.2	3.6	3.3	1.8	1.7	1.3	2.2	2.9
7	12	3.9	3.3	1.8	2.2	4.6	2.5	2.0	1.6	1.3	1.8	3.1
8	2.2	5.4	3.3	1.8	2.2	4.0	2.5	2.2	1.6	1.4	1.8	3.8
9	2.0	3.8	3.1	2.0	2.5	4.0	2.5	4.6	1.6	1.3	1.8	2.2
10	2.0	11	2.5	1.8	2.2	3.6	3.1	2.2	1.6	1.3	4.1	2.0
11	2.0	5.4	2.2	1.8	2.2	3.1	3.3	2.0	1.6	1.3	1.8	1.7
12	2.0	13	2.2	1.8	2.3	2.9	2.9	2.0	1.6	12	1.6	1.7
13	2.0	8.8	2.2	1.8	2.2	3.3	2.9	1.8	1.6	4.0	1.6	1.6
14	2.0	6.3	12	1.8	2.2	3.6	3.1	1.8	3.9	2.2	1.6	1.6
15	1.8	9.5	3.6	1.8	2.2	3.3	3.5	1.8	4.5	1.8	1.6	1.6
16	1.8	6.0	2.5	1.8	2.2	3.3	7.3	1.8	2.2	1.8	1.6	1.6
17	1.8	4.3	2.3	1.8	2.2	3.3	4.3	1.8	1.6	1.8	1.6	4.1
18	1.8	20	2.2	3.5	2.2	3.3	3.3	1.7	1.8	1.8	3.5	5.0
19	20	7.4	2.5	3.3	2.3	3.3	5.6	2.6	2.2	1.8	1.7	1.6
20	3.8	4.0	2.5	2.5	2.3	3.3	3.6	3.9	1.3	4.2	1.4	1.4
21	2.7	3.6	2.5	5.1	2.3	3.1	2.9	2.0	1.3	2.5	1.3	1.4
22	2.5	3.3	3.9	3.1	2.3	2.9	3.3	1.8	1.3	2.2	1.3	1.4
23	2.5	3.3	6.2	3.6	3.2	2.9	2.9	1.8	1.3	2.3	1.3	1.3
24	2.5	3.6	2.7	3.1	6.7	5.4	2.5	2.0	1.3	2.0	1.3	1.3
25	5.5	4.0	2.2	2.7	5.4	13	2.5	2.0	1.3	1.7	1.3	1.3
26	2.7	3.3	2.2	2.2	4.0	4.8	2.3	1.8	1.3	1.6	1.3	1.3
27	2.5	3.3	2.2	2.0	3.6	3.6	2.3	1.8	1.3	4.4	1.3	1.3
28	2.9	3.6	3.1	2.0	4.3	3.1	2.7	1.8	1.3	21	1.3	1.3
29	2.5	3.6	2.5	2.2	------	3.1	2.9	1.8	1.3	3.6	1.3	1.3
30	2.2	3.6	2.2	2.5	------	3.1	2.7	1.8	1.3	2.0	1.3	1.3
31	2.2	------	2.0	2.9	------	2.9	------	1.7	------	1.6	1.3	------
TOTAL	98.9	157.2	108.6	71.5	81.4	119.6	95.2	65.3	58.9	90.7	61.8	129.3
MEAN	3.19	5.24	3.50	2.31	2.91	3.86	3.17	2.11	1.96	2.93	1.99	4.31
MAX	20	20	12	5.1	6.7	13	7.3	4.6	7.6	21	8.6	50
MIN	1.8	2.2	2.0	1.8	2.2	2.9	2.3	1.7	1.3	1.3	1.3	1.3
CFSM	.65	1.07	.71	.47	.59	.79	.65	.43	.40	.60	.41	.88
IN.	.75	1.19	.82	.54	.62	.91	.72	.50	.45	.69	.47	.98

CAL YR 1968 TOTAL 1,551.8 MEAN 4.24 MAX 92 MIN 1.3 CFSM .87 IN 11.78
WAT YR 1969 TOTAL 1,138.4 MEAN 3.12 MAX 50 MIN 1.3 CFSM .64 IN 8.64

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-19	1300	2.05	100	9-2	1830	2.13	115
7-28	0100	2.20	130	9-4	0700	2.50	208

1-5893. Gwynns Falls at Villa Nova, Md.

LOCATION.--Lat 39°20'45", long 76°44'01", Baltimore County, on right bank 300 ft downstream from bridge on Essex Road, 300 ft north of State Highway 26 (Liberty Road), in Villa Nova, 1.1 miles west of Baltimore city limits, and 11.5 miles upstream from mouth.

DRAINAGE AREA.--32.5 sq mi.

PERIOD OF RECORD.--February 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 361.32 ft above mean sea level (Baltimore County bench mark). Prior to Aug. 27, 1963, at site 300 ft upstream at same datum.

AVERAGE DISCHARGE.--12 years, 28.9 cfs (12.08 inches per year).

EXTREMES.--Current year: Maximum discharge, 987 cfs Sept. 4 (gage height, 5.99 ft); minimum, 6.0 cfs July 4, 5 (gage height, 0.58 ft).
Period of record: Maximum discharge, 2,850 cfs Sept. 10, 1968 (gage height, 10.70 ft); minimum, 1.7 cfs Sept. 7, 8, 1966 (gage height, 0.50 ft).
Flood of July 21, 1956, reached a stage of 12.6 ft (discharge, 5,270 cfs) on basis of contracted-opening measurement.

REMARKS.--Records good. Slight diurnal fluctuation at times from unknown source above station. Small diversion for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	14	20	18	38	30	20	16	9.3	7.8	14	6.2
2	9.3	14	38	17	27	30	20	15	18	6.5	17	22
3	9.3	14	24	15	28	32	20	15	85	6.2	15	73
4	9.6	16	79	15	22	33	19	14	13	6.0	35	411
5	8.6	15	31	15	19	30	21	14	12	7.6	43	68
6	10	14	24	15	17	26	27	14	11	7.6	14	22
7	113	23	22	15	18	37	20	13	11	7.6	11	21
8	16	29	22	15	18	31	19	13	11	8.2	11	30
9	13	18	20	16	22	33	19	37	10	7.6	10	18
10	12	74	19	15	15	27	25	18	10	7.6	85	14
11	11	40	19	15	15	24	25	14	9.6	7.6	13	13
12	11	123	19	15	17	20	20	14	9.6	102	11	12
13	11	80	19	15	15	20	18	13	9.0	42	9.6	11
14	11	49	105	15	13	22	18	13	15	11	9.3	11
15	11	52	41	15	16	22	19	12	14	9.0	10	11
16	10	39	24	15	15	21	42	12	15	7.9	9.3	10
17	11	29	21	17	14	21	31	12	9.0	7.6	8.6	101
18	14	160	20	37	16	22	29	11	27	6.5	34	119
19	118	70	20	35	16	22	34	17	24	7.6	15	16
20	29	32	21	20	19	21	29	28	10	35	11	14
21	18	27	20	44	18	20	22	15	8.6	24	9.3	12
22	16	25	30	33	17	20	28	13	8.6	10	8.6	12
23	14	22	54	26	33	19	23	12	9.5	18	7.9	11
24	14	23	27	29	54	33	20	13	8.6	11	7.6	11
25	45	27	22	25	46	86	19	13	8.2	9.6	7.6	12
26	18	22	22	20	36	36	18	12	7.9	9.6	6.8	11
27	16	21	22	18	30	27	18	11	7.9	38	6.5	10
28	18	21	30	18	30	23	17	11	7.9	182	6.5	11
29	18	22	25	18	------	22	18	11	7.6	35	6.5	9.6
30	14	20	20	20	------	22	17	10	7.6	16	6.2	9.6
31	14	------	19	24	------	20	------	9.6	------	12	6.5	------
TOTAL	652.1	1,135	899	630	644	852	675	445.6	414.9	674.1	465.8	1,117.4
MEAN	21.0	37.8	29.0	20.3	23.0	27.5	22.5	14.4	13.8	21.7	15.0	37.2
MAX	118	160	105	44	54	86	42	37	85	182	85	411
MIN	8.6	14	19	15	13	19	17	9.6	7.6	6.0	6.2	6.2
CFSM	.65	1.16	.89	.62	.71	.85	.69	.44	.42	.67	.46	1.14
IN.	.75	1.30	1.03	.72	.74	.98	.77	.51	.47	.77	.53	1.28

CAL YR 1968 TOTAL 11,357.7 MEAN 31.0 MAX 756 MIN 6.5 CFSM .95 IN 13.00
WAT YR 1969 TOTAL 8,604.9 MEAN 23.6 MAX 411 MIN 6.0 CFSM .73 IN 9.85

PEAK DISCHARGE (BASE, 540 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
9-4	1045	5.99	987	9-17	2245	4.60	610

1-5893.3. Dead Run at Franklintown, Md.

LOCATION.--Lat 39°18'40", long 76°43'02", Baltimore County, on right bank at downstream side of bridge on Colonial Road at Security Boulevard at Franklintown, 0.3 mile west of Baltimore City limits, 1.2 miles southwest of Woodlawn, and 2.5 miles upstream from mouth.

DRAINAGE AREA.--5.52 sq mi.

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 310 ft (from topographic map).

AVERAGE DISCHARGE.--10 years, 5.81 cfs (14.29 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,110 cfs Aug. 10 (gage height, 5.95 ft); minimum, 0.25 cfs, Feb. 13 (gage height, 0.63 ft), result of freezeup.
Period of record: Maximum discharge, 2,750 cfs Sept. 10, 1968 (gage height, 10.22 ft, from high-water mark in well); minimum, 0.10 cfs Sept. 11-12, 1966 (gage height, 0.57 ft).

REMARKS.--Records good except those below 2 cfs, which are fair. Occasional regulation at low flow from unknown source above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.82	1.2	1.1	2.0	13	3.2	2.0	1.6	1.3	.76	2.6	.57
2	.82	1.4	9.0	1.6	3.6	6.3	2.2	1.6	3.8	.67	3.6	4.0
3	.92	1.4	2.2	1.6	6.3	6.3	2.0	1.4	46	.68	2.2	6.3
4	.82	3.2	49	1.6	2.2	4.9	2.0	1.4	1.2	.60	3.6	24
5	.82	1.4	4.0	1.2	1.6	3.6	2.6	1.4	.98	.64	2.0	3.2
6	4.1	1.2	2.6	1.2	1.4	3.2	6.0	1.6	.98	.63	1.2	.98
7	64	11	2.2	1.2	1.4	14	2.0	1.2	.74	1.2	.98	.85
8	1.5	5.5	2.0	1.2	1.6	4.9	1.6	1.4	.74	.96	.81	6.3
9	1.1	2.2	1.6	1.2	7.5	4.0	1.6	14	.84	.67	2.0	.98
10	1.1	34	1.4	.98	1.6	2.9	10	1.6	.74	.62	77	.71
11	.92	3.6	1.4	.98	1.4	2.2	3.6	1.4	.74	.68	1.6	.70
12	.92	63	1.4	.84	1.2	2.2	2.2	1.4	.74	45	1.2	.66
13	1.1	31	1.6	.98	1.0	2.2	2.0	1.4	.84	3.2	.98	.67
14	.82	9.5	37	.98	1.0	2.0	1.6	1.4	.82	.80	.98	.67
15	.82	6.3	3.2	.98	1.0	2.0	2.0	1.2	2.0	.76	.98	.57
16	.92	3.6	2.6	.98	1.2	2.0	9.5	.98	.81	.69	.98	.63
17	.92	2.9	2.0	.98	1.2	2.0	2.9	.98	.67	.70	.84	14
18	3.3	66	1.6	6.4	1.4	2.2	8.9	.98	23	4.0	6.3	4.9
19	65	7.1	2.0	3.2	1.4	2.2	32	3.2	4.9	3.6	1.6	.65
20	2.1	3.2	2.0	2.0	3.6	2.2	4.0	16	1.2	14	2.6	.57
21	1.1	2.2	1.6	27	2.2	2.6	2.9	1.4	.84	1.9	.84	.57
22	1.1	2.2	11	4.4	2.0	2.2	10	.98	.76	2.2	.73	.57
23	.92	2.0	13	3.2	18	2.2	3.2	1.2	1.2	14	.74	.57
24	1.2	2.9	2.2	3.6	30	13	2.9	1.6	1.6	1.2	.74	.57
25	28	3.4	1.6	2.6	11	25	2.6	1.2	.71	1.2	.67	2.0
26	1.1	1.6	1.6	1.2	4.4	4.0	2.6	.98	.81	.81	.68	.65
27	.92	1.6	2.2	1.0	3.2	2.9	2.2	.98	.85	24	.59	.57
28	8.8	1.6	3.6	1.4	2.9	2.2	2.6	.98	.74	30	.54	1.6
29	2.2	1.4	2.6	2.6	------	2.2	2.9	.98	.71	3.6	.67	.57
30	1.4	.84	2.0	3.2	------	2.0	2.0	.98	.68	1.4	.66	.57
31	1.2	------	2.8	3.6	------	2.0	------	.84	------	.99	.65	------
TOTAL	200.76	278.44	174.1	85.90	128.3	134.8	134.6	68.26	101.94	162.16	121.56	80.15
MEAN	6.48	9.28	5.62	2.77	4.58	4.35	4.49	2.20	3.40	5.23	3.92	2.67
MAX	65	66	49	27	30	25	32	16	46	45	77	24
MIN	.82	.84	1.1	.84	1.0	2.0	1.6	.84	.67	.60	.54	.57
CFSM	1.17	1.68	1.02	.50	.83	.79	.81	.40	.62	.95	.71	.48
IN.	1.35	1.88	1.17	.58	.86	.91	.91	.46	.69	1.09	.82	.54

CAL YR 1968 TOTAL 2,469.82 MEAN 6.75 MAX 290 MIN .50 CFSM 1.22 IN 16.64
WTR YR 1969 TOTAL 1,670.97 MEAN 4.58 MAX 77 MIN .54 CFSM .83 IN 11.26

PEAK DISCHARGE (BASE, 550 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6- 3	0100	3.94	580	7-27	2315	3.83	552
7-12	1645	5.04	855	8-10	0130	5.95	1,110

1-5894.4. Jones Falls at Sorrento, Md.

LOCATION.--Lat 39°23'30", long 76°39'42", Baltimore County, on right bank 0.3 mile downstream from bridge on State Highway 25 (Falls Road), 0.4 mile downstream from Slaughterhouse Branch and Sorrento, and 18 miles upstream from mouth.

DRAINAGE AREA.--25.2 sq mi.

PERIOD OF RECORD.--Annual maximum, water years 1958-66. April 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 240 ft (from topographic map). January 1958 to April 1966, non-recording gage at site 450 ft upstream at same datum.

EXTREMES.--Current year: Maximum discharge, 405 cfs June 3 (gage height, 4.63 ft); minimum, 6.0 cfs Aug. 27, 28, 29 (gage height, 1.34 ft).
Period of record: Maximum discharge, 2,160 cfs Sept. 10, 1968 (gage height, 11.30 ft); minimum, 1.8 cfs Sept. 7, 8, 1966 (gage height, 1.16 ft).

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	15	20	18	24	21	17	14	10	7.5	11	6.8
2	9.2	15	26	18	21	22	18	14	11	7.2	12	15
3	9.6	15	21	16	21	22	17	15	66	7.0	12	36
4	10	16	47	16	18	22	16	14	14	6.2	23	102
5	11	15	27	14	18	22	18	12	12	7.1	14	46
6	12	14	23	15	18	20	20	13	12	8.1	11	16
7	62	17	22	16	18	26	16	12	11	8.1	9.7	13
8	16	21	22	15	17	23	16	13	11	8.8	9.3	16
9	14	17	20	17	19	24	16	20	11	8.4	8.7	13
10	13	39	17	16	16	22	18	16	10	8.0	41	11
11	12	26	17	15	16	20	18	14	11	7.8	11	10
12	12	71	17	15	16	19	18	13	10	25	9.4	9.6
13	13	48	18	16	16	19	17	12	9.3	19	8.5	9.2
14	13	34	53	16	15	19	16	12	9.4	9.4	8.2	8.7
15	12	36	27	16	14	18	16	12	9.3	8.2	8.2	9.2
16	12	29	20	16	15	18	27	12	10	7.3	8.7	9.2
17	13	24	18	16	15	18	21	12	9.1	7.1	8.4	13
18	14	79	18	21	15	18	22	12	12	6.8	12	49
19	55	46	19	22	15	18	36	14	16	6.9	10	12
20	22	29	19	18	16	17	22	20	10	19	9.1	11
21	18	26	18	25	16	17	19	13	9.2	13	7.8	11
22	16	24	22	22	16	16	22	12	9.1	9.7	7.6	11
23	15	22	32	20	24	16	20	12	9.3	11	7.6	10
24	14	22	22	21	30	24	18	12	8.4	9.8	7.5	10
25	24	24	19	20	26	44	17	12	8.0	9.2	7.0	10
26	17	21	18	18	24	24	17	12	8.0	8.9	6.6	9.6
27	16	20	18	16	20	20	16	11	8.2	20	6.3	9.6
28	16	20	22	16	20	18	16	11	8.3	84	6.3	10
29	16	20	22	16	------	18	16	11	7.8	21	6.6	9.6
30	15	20	18	18	------	18	16	11	7.4	13	6.9	9.2
31	14	------	19	19	------	17	------	10	------	10	7.1	------
TOTAL	525.4	825	701	543	519	640	562	403	357.8	402.5	322.5	515.7
MEAN	16.9	27.5	22.6	17.5	18.5	20.6	18.7	13.0	11.9	13.0	10.4	17.2
MAX	62	79	53	25	30	44	36	20	66	84	41	102
MIN	9.2	14	17	14	14	16	16	10	7.4	6.2	6.3	6.8
CFSM	.67	1.09	.90	.70	.74	.82	.74	.52	.47	.52	.41	.68
IN.	.78	1.22	1.03	.80	.77	.94	.83	.59	.53	.59	.48	.76

CAL YR 1968 TOTAL 9,081.4 MEAN 24.8 MAX 579 MIN 5.9 CFSM .98 IN 13.40
WTR YR 1969 TOTAL 6,316.9 MEAN 17.3 MAX 102 MIN 6.2 CFSM .69 IN 9.32

PEAK DISCHARGE (BASE, 470 CFS).--No peak above base.

1-5900. North River near Annapolis, Md.

LOCATION.--Lat 38°59'09", long 76°37'21", Anne Arundel County, on left bank 500 ft downstream from bridge on State Highway 450, 0.8 mile upstream from mouth, and 7 miles west of Annapolis.

DRAINAGE AREA.--8.5 sq mi, approximately.

PERIOD OF RECORD.--December 1931 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 6.73 ft above mean sea level. Prior to Nov. 2, 1933, staff gage at same site and datum.

AVERAGE DISCHARGE.--37 years (1932-69), 10.0 cfs (15.98 inches per year).

EXTREMES.--Current year: Maximum discharge, 124 cfs Aug. 10 (gage height, 2.37 ft); minimum, 1.58 cfs July 4, 5 (gage height, 0.89 ft).
Period of record: Maximum discharge, 5,000 cfs Aug. 2, 1944 (gage height, 6.22 ft), from rating curve extended above 260 cfs on basis of velocity-area studies; minimum, 0.90 cfs Sept. 12, 1966 (gage height, 0.78 ft).

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 1432: 1932-38, 1939(M), 1942(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	4.9	5.9	6.9	9.1	6.9	6.2	6.2	2.5	1.9	5.2	3.0
2	3.2	5.2	8.8	5.5	8.4	8.0	6.6	5.9	2.5	1.9	13	3.0
3	3.2	5.2	7.6	5.0	8.0	8.8	6.2	5.5	7.6	1.8	60	4.9
4	3.7	5.5	12	5.0	7.3	9.5	6.2	5.5	4.3	1.7	48	4.6
5	3.2	5.5	9.1	4.6	6.6	8.0	6.9	5.2	3.0	1.7	23	4.0
6	3.5	5.5	6.9	4.2	6.2	7.3	9.9	5.2	2.8	1.8	13	3.5
7	12	6.9	6.6	5.5	6.6	12	7.2	4.9	2.6	1.9	8.8	3.5
8	6.9	12	6.6	5.0	6.2	12	6.6	5.2	2.6	2.5	7.3	6.9
9	4.6	7.6	5.9	6.0	11	9.1	6.2	14	4.0	2.5	6.6	6.6
10	4.0	15	5.2	5.5	8.5	8.4	6.2	12	3.2	2.2	93	3.7
11	4.0	13	4.6	5.0	7.0	7.6	8.0	6.9	3.0	2.2	28	3.5
12	4.0	30	4.9	4.4	6.0	6.9	6.6	5.2	3.0	11	13	3.0
13	4.0	24	6.2	4.6	5.5	6.9	5.9	4.9	2.6	21	9.1	3.0
14	4.3	13	15	4.6	6.0	6.9	5.9	4.9	2.5	4.3	8.0	2.8
15	4.3	9.5	14	4.4	5.0	6.6	6.2	4.9	3.7	2.6	7.6	3.0
16	4.0	8.4	7.6	4.2	5.0	6.2	12	4.3	8.4	2.3	6.9	2.8
17	4.3	8.0	6.6	5.0	5.0	6.6	12	4.0	3.7	2.2	6.2	2.8
18	4.6	9.9	6.2	7.3	5.0	6.6	9.1	4.0	3.2	2.0	17	2.8
19	7.6	10	6.9	12	4.8	6.6	12	5.2	23	2.3	21	2.6
20	8.8	7.6	7.3	8.4	6.0	6.2	11	10	6.6	9.1	19	2.8
21	5.9	6.9	6.6	14	8.0	6.6	8.4	8.0	3.7	23	12	3.0
22	5.2	6.6	6.6	12	8.0	6.2	9.1	6.2	3.2	7.3	7.6	3.0
23	4.9	6.2	13	9.5	13	5.9	9.1	4.9	3.0	34	6.6	3.0
24	4.9	6.6	8.4	9.1	16	6.9	7.6	4.3	2.8	9.5	5.2	3.0
25	8.0	8.0	5.9	8.0	9.9	14	7.3	4.3	3.7	6.2	4.9	3.0
26	6.2	6.9	5.5	6.9	8.4	9.1	6.9	4.0	2.8	4.9	4.6	3.0
27	5.2	6.6	6.6	6.0	7.3	7.3	6.6	3.2	2.6	4.0	3.7	3.0
28	5.2	6.6	8.0	5.5	7.3	6.6	6.2	3.2	2.5	39	3.7	3.0
29	5.9	6.9	8.0	6.0	------	6.6	6.6	3.0	2.2	31	3.5	2.8
30	5.2	6.2	6.2	6.9	------	7.3	6.6	2.8	1.9	11	3.5	2.8
31	4.9	------	6.2	8.0	------	6.6	------	2.6	------	6.9	3.5	------
TOTAL	158.9	274.2	234.9	205.0	211.1	240.2	231.3	170.4	123.2	255.7	472.5	102.4
MEAN	5.13	9.14	7.58	6.61	7.54	7.75	7.71	5.50	4.11	8.25	15.2	3.41
MAX	12	30	15	14	16	14	12	14	23	39	93	6.9
MIN	3.2	4.9	4.6	4.2	4.8	5.9	5.9	2.6	1.9	1.7	3.5	2.6
CFSM	.60	1.08	.89	.78	.89	.91	.91	.65	.48	.97	1.79	.40
IN.	.70	1.20	1.03	.90	.92	1.05	1.01	.75	.54	1.12	2.07	.45

CAL YR 1968 TOTAL 3,059.4 MEAN 8.36 MAX 60 MIN 2.9 CFSM .98 IN 13.39
WTR YR 1969 TOTAL 2,679.8 MEAN 7.34 MAX 93 MIN 1.7 CFSM .86 IN 11.72

PEAK DISCHARGE (BASE, 75 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7-28	2000	2.14	89	8-10	0530	2.37	124
8-03	0400	2.32	114				

1-5910. Patuxent River near Unity, Md.

LOCATION.--Lat 39°14'18", long 77°03'23", Montgomery County, on right bank at downstream side of bridge on State Highway 97, 0.8 mile upstream from Cattail Creek, 0.8 mile upstream from Triadelphia Reservoir, and 1.1 miles northeast of Unity, and 97 miles upstream from mouth.

DRAINAGE AREA.--34.8 sq mi.

PERIOD OF RECORD.--July 1944 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 364.76 ft above mean sea level (Washington Suburban Sanitary Commission bench mark). Prior to Aug. 14, 1946, wire-weight gage and crest-stage gage at same site and datum.

AVERAGE DISCHARGE.--25 years, 34.4 cfs (13.42 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,590 cfs July 26 (gage height, 7.18 ft), from rating curve extended as explained below; minimum, 3.3 cfs July 18, 19 (gage height, 1.83 ft).
Period of record: Maximum discharge, 10,700 cfs July 21, 1956 (gage height, 14.35 ft), from rating curve extended above 870 cfs on basis of slope-area measurement at gage height 13.58 ft; minimum, 0.20 cfs Sept. 10, 11, 12, 1966 (gage height, 1.66 ft).

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

REVISIONS (WATER YEARS).--WSP 1111: 1947. WSP 1432: 1948.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.4	11	19	20	38	38	25	18	9.3	5.0	17	8.9
2	7.4	12	30	19	34	34	26	17	10	5.0	22	18
3	7.3	12	24	19	33	33	25	16	43	4.8	116	28
4	7.1	12	46	18	27	36	24	16	14	4.8	49	474
5	6.8	12	33	16	25	34	26	15	11	4.8	24	45
6	7.0	12	26	16	23	32	33	14	11	5.0	18	31
7	29	17	24	16	23	35	25	13	10	5.4	14	24
8	12	28	22	16	22	35	23	14	9.7	6.8	12	34
9	9.8	16	20	18	28	36	22	28	10	7.1	12	27
10	9.7	36	19	17	22	33	24	20	10	6.8	47	19
11	9.7	37	18	15	22	29	35	16	10	6.8	17	17
12	9.7	70	18	15	22	27	26	14	10	6.8	13	16
13	9.7	51	20	15	22	27	23	14	9.3	7.4	12	14
14	9.7	39	48	15	20	28	22	14	8.9	5.4	12	13
15	9.8	42	37	15	20	27	23	12	9.7	4.5	12	13
16	9.7	42	34	15	20	26	33	12	10	4.0	12	12
17	9.5	33	30	16	21	28	31	12	8.5	3.8	12	12
18	9.6	71	28	24	19	28	28	11	9.3	3.6	47	35
19	82	72	22	33	19	28	28	16	16	3.3	39	14
20	32	41	24	24	22	27	25	53	8.9	10	27	13
21	16	33	22	42	22	26	23	20	7.8	27	17	13
22	13	30	24	45	22	24	27	15	7.4	11	14	12
23	12	28	40	33	28	23	27	14	7.8	26	12	12
24	11	26	30	33	48	28	23	14	7.8	9.3	11	12
25	21	28	24	31	55	62	22	14	7.1	8.2	11	13
26	14	23	20	25	44	42	21	12	6.4	410	10	12
27	12	22	22	22	36	34	19	11	6.8	33	9.7	11
28	12	22	26	20	36	31	18	11	6.8	350	9.3	12
29	13	22	28	21	------	29	21	10	5.7	67	9.3	11
30	12	19	22	25	------	28	18	9.7	5.0	33	9.3	10
31	12	------	22	32	------	26	------	9.3	------	22	8.9	------
TOTAL	442.9	919	822	691	773	974	746	485.0	307.2	1,107.6	655.5	985.9
MEAN	14.3	30.6	26.5	22.3	27.6	31.4	24.9	15.6	10.2	35.7	21.1	32.9
MAX	82	72	48	45	55	62	35	53	43	410	116	474
MIN	6.8	11	18	15	19	23	18	9.3	5.0	3.3	8.9	8.9
CFSM	.41	.88	.76	.64	.79	.90	.72	.45	.29	1.03	.61	.95
IN.	.47	.98	.88	.74	.83	1.04	.80	.52	.33	1.18	.70	1.05

CAL YR 1968 TOTAL 10,936.3 MEAN 29.9 MAX 325 MIN 6.0 CFSM .86 IN 11.69
WAT YR 1969 TOTAL 8,909.1 MEAN 24.4 MAX 474 MIN 3.3 CFSM .70 IN 9.52

PEAK DISCHARGE (BASE, 770 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7-26	0800	7.18	1,590	8-3	2130	5.92	929
7-28	0330	5.78	872	9-4	0430	6.46	1,180

NOTE.--No gage-height record Dec. 16 to Jan. 17.

1-5925. Patuxent River near Laurel, Md.

LOCATION.--Lat 39°06'56", long 76°52'27", Prince Georges County, on right bank at Rocky Gorge Pumping station, 600 ft downstream from Rocky Gorge Dam, 0.7 mile upstream from Walker Branch, 1.3 miles northwest of Laurel, and 81 miles upstream from mouth.

DRAINAGE AREA.--132 sq mi.

PERIOD OF RECORD.--October 1944 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 160 ft (from topographic map). Prior to Oct. 1, 1955, water-stage recorder and concrete control at site 0.3 mile downstream at different datum. Oct. 1, 1955, to Sept. 30, 1956, nonrecording gage at present site at datum 1.2 ft lower. Oct. 1, 1956, to Jan. 27, 1957, nonrecording gage at present site and datum.

EXTREMES.--Current year: Maximum discharge, 40 cfs Oct. 23 (gage height, 2.47 ft); maximum gage height, 3.56 ft Aug. 18 (backwater from construction); minimum daily discharge, 6.4 cfs Sept. 6, 7.
Period of record: Maximum discharge, 11,800 cfs July 21, 1956 (gage height, 17.7 ft from floodmarks, present site and datum), from rating curve developed on basis of a relationship curve with the former gage 0.3 mile downstream; minimum, 0.1 cfs Sept. 25, 1964 (valve closed for repair); minimum daily, 1.1 cfs June 26, 1956.

REMARKS.--Records fair. Records do not include diversion at Patuxent (formerly Willis School) filtration plant for supply of Washington Suburban Sanitary District. Flow regulated by Triadelphia Reservoir, and since March 1954 by Rocky Gorge Reservoir (combined usable capacity, 12,500,000,000 gal; dead storage, 80,000,000 gal).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	14	14	14	14	14	15	15	17	12	13	13
2	16	14	14	14	14	14	15	15	17	9.0	14	13
3	16	14	14	14	14	14	16	15	16	13	14	10
4	16	14	14	14	14	14	15	15	16	12	14	7.2
5	16	14	14	14	14	14	15	15	16	13	15	6.5
6	16	14	14	14	14	14	15	15	15	12	16	6.4
7	16	14	14	14	14	14	15	15	15	13	16	6.4
8	16	14	14	14	14	14	15	15	15	13	16	7.8
9	16	14	14	14	14	14	15	15	15	13	18	11
10	16	14	14	14	14	14	15	15	14	13	16	11
11	15	14	14	14	14	14	15	15	14	13	15	11
12	15	14	14	14	14	14	15	15	14	13	13	11
13	15	14	14	14	14	14	15	15	14	13	11	11
14	15	15	14	14	14	14	15	15	14	13	11	10
15	15	14	14	14	14	14	15	15	14	13	13	8.6
16	15	14	14	14	14	14	15	14	14	13	14	8.6
17	15	14	14	14	14	14	15	14	14	13	13	12
18	15	14	14	14	14	14	15	14	15	13	16	13
19	15	14	14	14	14	14	15	14	15	13	16	14
20	15	14	14	14	14	14	15	15	14	13	16	14
21	15	14	14	14	14	14	15	15	14	13	15	14
22	15	14	14	14	14	14	15	15	14	12	13	13
23	15	14	14	14	14	14	15	15	14	13	13	12
24	14	14	14	14	14	14	15	15	14	12	13	12
25	14	14	14	14	14	14	15	15	14	12	13	12
26	14	14	14	14	14	14	15	15	14	12	13	11
27	14	14	14	14	14	15	15	15	14	12	14	11
28	14	14	14	14	14	15	15	15	14	12	14	11
29	14	14	14	14	------	15	15	16	14	12	13	11
30	14	14	14	14	------	15	15	20	14	14	13	11
31	14	------	14	14	------	15	------	17	------	14	13	------
TOTAL	467	421	434	434	392	439	451	469	438	391.0	437	323.5
MEAN	15.1	14.0	14.0	14.0	14.0	14.2	15.0	15.1	14.6	12.6	14.1	10.8
MAX	16	15	14	14	14	15	16	20	17	14	18	14
MIN	14	14	14	14	14	14	15	14	14	9.0	11	6.4
(†)	8,940	9,430	9,420	9,230	9,610	10,120	10,210	9,500	8,620	8,750	9,240	9,770
(‡)	73.0	65.2	74.6	76.5	65.0	62.2	66.3	80.0	83.9	78.9	72.6	73.0

CAL YR 1968 TOTAL 15,763.0 MEAN 43.1 MAX 381 MIN 13 ‡ 81.6
WAT YR 1969 TOTAL 5,096.5 MEAN 14.0 MAX 20 MIN 6.4 ‡ 72.7

† Combined month-end total contents, in millions of gallons, in Triadelphia and Rocky Gorge Reservoirs (contents on Sept. 30, 1968: 9,730 million gallons); furnished by Washington Suburban Sanitary Commission.
‡ Diversion, in cubic feet per second, above station at Patuxent (formerly Willis School) filtration plant for supply of Washington Suburban Sanitary District. Records furnished by Washington Suburban Sanitary Commission.

1-5935. Little Patuxent River at Guilford, Md.

LOCATION.--Lat 39°10'04", long 76°51'07", Howard County, on left bank 75 ft upstream from bridge on State Highway 32, 1 mile west of Guilford, 3 miles upstream from Middle Patuxent River, 4 miles north of Laurel, and 20.1 miles upstream from mouth.

DRAINAGE AREA.--38.0 sq mi.

RECORDS AVAILABLE.--April 1932 to current year. Monthly discharge only for April 1932, published in WSP 1302.

GAGE.--Water-stage recorder. Concrete control since June 20, 1946. Altitude of gage is 260 ft (from topographic map). Prior to June 25, 1946, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--37 years, 38.7 cfs (13.83 inches per year).

EXTREMES.--Current year: Maximum discharge, 684 cfs Sept. 2 (gage height, 6.63 ft); minimum, 4.0 cfs July 18, 19.
Period of record: Maximum discharge, 5,300 cfs Sept. 1, 1952 (gage height, 13.26 ft), from rating curve extended above 1,800 cfs on basis of contracted-opening measurement of peak flow; minimum, no flow Sept. 8, and parts of Sept. 6, 7, 9-12, 1966.

REMARKS.--Records good. Low flow affected by regulation from unknown source.

REVISIONS (WATER YEARS).--WSP 1502: 1933, 1934 (M) 1939(M), 1945(M), 1948(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.3	13	20	22	38	33	24	20	9.4	5.9	11	7.8
2	8.3	14	34	20	34	36	25	19	10	6.4	40	182
3	8.3	13	27	20	33	37	25	18	87	5.4	30	69
4	7.8	14	82	19	29	40	24	17	19	5.4	57	294
5	8.3	14	42	17	26	38	26	17	13	5.4	39	130
6	8.8	14	29	17	25	34	30	16	12	5.4	22	31
7	61	18	26	17	23	43	24	15	11	5.4	15	22
8	19	33	24	17	21	42	25	15	11	7.4	13	40
9	13	21	22	20	27	41	23	36	12	7.4	12	27
10	12	53	20	18	24	35	23	26	12	6.4	287	18
11	12	45	18	16	22	31	34	18	11	6.9	32	16
12	11	128	20	16	22	31	25	17	11	14	19	14
13	11	82	22	16	22	28	22	16	10	28	15	14
14	11	50	71	16	22	27	21	15	9.4	9.4	14	13
15	11	42	48	16	22	26	22	15	10	6.4	14	13
16	11	33	45	15	22	25	31	14	12	5.4	13	13
17	11	28	37	17	20	25	33	14	8.8	5.4	12	13
18	12	100	35	23	20	25	29	13	10	4.5	27	16
19	42	77	24	33	20	26	56	17	74	4.5	37	12
20	31	37	25	25	21	25	46	29	17	17	23	11
21	16	29	24	58	22	25	29	19	12	105	15	12
22	14	27	25	49	22	23	36	14	10	85	12	11
23	13	25	50	35	39	22	32	14	10	69	11	11
24	12	24	30	35	83	27	28	15	11	19	11	12
25	28	29	26	31	82	65	24	15	9.4	13	10	23
26	18	24	22	26	56	39	23	13	8.3	30	9.4	17
27	14	23	23	24	38	30	21	12	7.8	14	8.8	12
28	14	22	29	22	34	27	21	11	8.3	164	8.3	12
29	21	24	31	22	------	26	22	11	6.9	83	8.3	11
30	15	21	24	24	------	26	21	11	6.4	23	8.3	10
31	14	------	24	29	------	25	------	9.4	------	13	8.3	------
TOTAL	496.8	1,077	979	735	869	983	825	511.4	459.7	780.0	842.4	1,086.8
MEAN	16.0	35.9	31.6	23.7	31.0	31.7	27.5	16.5	15.3	25.2	27.2	36.2
MAX	61	128	82	58	83	65	56	36	87	164	287	294
MIN	7.8	13	18	15	20	22	21	9.4	6.4	4.5	8.3	7.8
CFSM	.42	.94	.83	.62	.82	.83	.72	.43	.40	.66	.72	.95
IN.	.49	1.05	.96	.72	.85	.96	.81	.50	.45	.76	.82	1.06

CAL YR 1968 TOTAL 12,897.0 MEAN 35.2 MAX 706 MIN 6.9 CFSM .93 IN 12.62
WTR YR 1969 TOTAL 9,645.1 MEAN 26.4 MAX 294 MIN 4.5 CFSM .70 IN 9.44

PEAK DISCHARGE (BASE, 600 CFS).--Sept. 2 (2200) 684 cfs (6.63 ft).

1-5945. Western Branch near Largo, Md.

LOCATION.--Lat 38°52'34", long 76°47'54", Prince Georges County, on right bank 200 ft upstream from culvert on State Highway 202, 200 ft downstream from small tributary, 0.1 mile upstream from Southwest Branch, 2.3 miles southeast of Largo, 4.8 miles northwest of Upper Marlboro, and 11 miles upstream from mouth.

DRAINAGE AREA.--30.2 sq mi.

PERIOD OF RECORD.--October 1949 to current year. Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 46.50 ft above mean sea level (levels by private consultant engineers).

AVERAGE DISCHARGE.--20 years, 28.5 cfs (12.82 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,080 cfs Aug. 3 (gage height, 8.21 ft), from rating curve extended above 520 cfs; minimum daily, 0.70 cfs July 4-6.
Period of record: Maximum discharge, 1,580 cfs Aug. 13, 1955 (gage height, 8.51 ft from high-water mark in well); minimum, no flow Sept. 8-13, 1966.

REMARKS.--Records good except those for period of indefinite stage discharge relation, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	9.0	13	16	23	23	15	12	3.8	.80	20	5.2
2	2.7	8.5	24	15	26	25	15	11	4.2	.75	41	5.0
3	3.5	8.1	25	14	25	29	15	10	60	.75	502	5.2
4	3.7	8.3	53	13	21	33	14	9.5	58	.70	391	5.4
5	3.2	7.9	44	12	19	29	16	9.2	21	.70	120	5.8
6	3.1	7.9	27	11	16	26	23	8.2	11	.70	66	5.6
7	51	14	21	14	16	42	19	7.8	7.8	.80	34	5.4
8	23	31	18	12	15	55	16	7.6	8.8	1.4	24	137
9	11	24	15	14	34	44	15	25	41	1.6	25	25
10	8.7	96	13	13	38	35	15	31	28	1.5	565	11
11	7.5	75	11	12	30	29	16	19	16	1.4	369	7.4
12	6.3	322	11	11	25	23	14	14	11	3.6	74	6.3
13	5.6	262	15	11	20	22	14	11	7.6	7.4	33	5.6
14	5.4	117	50	11	20	20	13	9.2	6.6	3.9	22	5.2
15	5.1	60	62	11	16	18	14	8.5	26	1.2	18	4.7
16	4.9	36	44	11	14	17	21	7.8	52	.90	16	5.0
17	4.8	27	30	11	13	16	32	7.2	24	.80	15	4.3
18	4.9	41	25	14	13	16	31	6.4	14	.80	20	4.0
19	13	45	24	26	13	16	35	7.4	110	7.4	44	3.8
20	14	30	23	24	14	15	47	16	46	3.8	191	4.0
21	10	23	21	66	17	16	34	26	10	3.8	134	4.3
22	7.8	20	22	84	19	15	31	17	4.2	15	50	4.3
23	6.9	18	41	54	38	14	35	10	2.8	533	24	4.1
24	29	17	32	39	88	16	28	8.8	1.9	143	19	4.3
25	60	20	26	30	64	31	22	8.0	1.5	43	17	4.3
26	25	17	19	22	40	28	19	7.0	1.2	23	12	4.3
27	15	16	19	22	30	23	16	6.0	1.0	16	12	4.0
28	14	16	22	16	25	19	14	5.4	1.0	288	12	3.8
29	16	16	21	16	------	17	14	5.0	.90	209	11	3.6
30	11	14	18	18	------	18	13	4.4	.80	105	9.2	3.6
31	9.9	------	18	20	------	16	------	3.8	------	39	7.1	------
TOTAL	389.1	1,406.7	807	663	732	746	626	339.2	582.10	1,458.70	2,897.3	301.5
MEAN	12.6	46.9	26.0	21.4	26.1	24.1	20.9	10.9	19.4	47.1	93.5	10.1
MAX	60	322	62	84	88	55	47	31	110	533	565	137
MIN	2.7	7.9	11	11	13	14	13	3.8	.80	.70	7.1	3.6
CFSM	.42	1.55	.86	.71	.87	.80	.69	.36	.64	1.56	3.09	.33
IN.	.48	1.73	.99	.82	.90	.92	.77	.42	.72	1.80	3.57	.37

CAL YR 1968 TOTAL 12,633.4 MEAN 34.5 MAX 554 MIN 2.6 CFSM 1.14 IN 15.56
WTR YR 1969 TOTAL 10,948.60 MEAN 30.0 MAX 565 MIN .70 CFSM .99 IN 13.48

PEAK DISCHARGE (BASE, 340 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
11-12	0930	4.58	433	8- 3	0300	8.21	1,080
7-23	0530	7.15	738	8-10	0830	6.59	618
7-28	0730	5.53	445				

NOTE.--Indefinite stage-discharge relationship June 20 to July 22.

1-5946. Cocktown Creek near Huntingtown, Md.

LOCATION.--Lat 38°38'27", long 76°38'07", Calvert County, on right bank at downstream side of bridge, 2 miles northwest of Huntingtown, 2.8 miles southeast of Lower Marlboro, and 3.5 miles upstream from mouth.

DRAINAGE AREA.--3.85 sq mi.

PERIOD OF RECORD.--December 1956 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 40 ft (from topographic map).

AVERAGE DISCHARGE.--12 years (1957-69), 3.93 cfs (13.86 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,080 cfs July 23 (gage height, 7.91 ft), from rating curve extended as explained below; minimum daily, 0.60 cfs many days in June and July.
Period of record: Maximum discharge, 1,120 cfs June 14, 1960 (gage height, 7.96 ft) from rating curve extended above 150 cfs on basis of contracted-opening measurement of peak flow; no flow many days in July and August 1957, September 1963, July, August, and September 1964.

REMARKS.--Records poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.80	.73	1.3	2.0	3.1	3.4	3.3	2.8	1.3	.60	3.2	2.2
2	.80	.79	2.2	1.7	3.0	4.1	3.4	2.6	1.8	.60	6.1	6.0
3	.80	.79	1.8	1.5	3.0	3.9	3.1	2.6	1.5	.60	13	11
4	.80	.81	2.3	1.4	2.7	4.5	3.3	2.5	1.3	.60	11	5.0
5	.80	.85	2.0	1.3	2.6	3.7	3.5	2.5	1.3	.60	8.6	3.4
6	.80	.84	1.7	1.3	2.5	3.0	3.6	2.3	1.2	.60	5.9	2.8
7	1.7	1.1	1.7	1.5	2.6	6.4	3.1	2.3	1.1	.60	4.5	2.6
8	1.0	1.7	1.6	1.3	2.5	6.4	3.1	2.3	1.1	.65	4.0	3.0
9	.90	1.0	1.5	1.5	5.0	4.9	3.0	4.5	2.4	.65	3.5	4.0
10	.80	5.2	1.4	1.3	3.0	4.5	3.1	3.0	1.4	.60	5.1	2.8
11	.85	2.2	1.5	1.3	2.8	4.3	3.0	2.5	1.1	.65	3.4	2.6
12	.80	15	1.7	1.3	2.8	3.9	2.9	2.3	1.0	.95	3.0	2.4
13	.80	[illegible]3	1.8	1.4	2.6	3.8	2.9	2.3	1.0	.90	2.8	2.4
14	.75	3.2	4.2	1.3	2.8	3.8	2.9	2.2	1.1	.60	2.9	2.2
15	.75	2.2	2.5	1.3	3.2	3.7	2.9	2.1	2.6	.60	2.9	2.2
16	.75	1.7	1.9	1.2	2.3	3.6	4.8	2.1	1.3	.60	2.7	2.0
17	.70	1.5	1.6	1.5	2.3	3.6	3.8	2.0	1.2	.60	2.6	1.9
18	.80	3.0	1.8	2.2	2.4	3.6	3.6	2.0	2.0	.60	2.6	2.3
19	6.0	2.4	1.8	3.3	2.4	3.5	4.5	2.0	1.5	11	2.6	2.0
20	1.0	2.0	1.7	2.4	2.8	3.4	6.4	17	1.1	4.9	23	2.2
21	.80	1.8	1.6	11	3.1	3.4	3.8	4.5	1.0	2.4	6.3	2.4
22	.70	1.6	2.6	5.6	3.0	3.3	4.1	3.5	.90	9.2	4.4	2.1
23	.67	1.5	3.7	4.6	7.8	3.3	3.6	2.4	.85	118	3.6	1.9
24	.64	1.4	2.1	4.1	5.6	3.7	3.4	2.0	.85	6.8	3.0	1.9
25	.85	2.0	1.7	3.5	4.0	7.4	3.2	1.7	.80	3.5	3.2	1.9
26	.71	1.6	1.6	3.1	3.5	4.3	3.1	1.7	.70	3.1	2.8	1.8
27	.68	1.4	1.9	2.9	3.4	3.7	3.0	1.5	.70	2.8	2.6	1.8
28	.73	1.7	2.3	3.0	3.3	3.4	2.9	1.5	.65	12	2.6	1.6
29	.86	1.5	1.8	3.0	------	3.4	3.2	1.4	.60	5.1	2.4	1.5
30	.71	1.4	1.6	3.1	------	3.4	2.9	1.3	.60	3.6	2.4	1.6
31	.70	------	1.9	2.9	------	3.3	------	1.5	------	3.4	2.2	------
TOTAL	30.45	66.21	60.8	78.8	90.1	124.6	103.4	86.9	35.95	197.40	148.9	83.5
MEAN	.98	2.21	1.96	2.54	3.22	4.02	3.45	2.80	1.20	6.37	4.80	2.78
MAX	6.0	15	4.2	11	7.8	7.4	6.4	17	2.6	118	23	11
MIN	.64	.73	1.3	1.2	2.3	3.0	2.9	1.3	.60	.60	2.2	1.5
CFSM	.26	.57	.51	.66	.84	1.04	.90	.73	.31	1.65	1.25	.72
IN.	.29	.64	.59	.76	.87	1.20	1.00	.84	.35	1.91	1.44	.81

CAL YR 1968 TOTAL 1,015.40 MEAN 2.77 MAX 39 MIN .15 CFSM .72 IN 9.81
WTR YR 1969 TOTAL 1,107.01 MEAN 3.03 MAX 118 MIN .60 CFSM .79 IN 10.69

PEAK DISCHARGE (BASE, 80 CFS).--July 23 (0115) 1,080 cfs (7.91 ft).

1-5950. North Branch Potomac River at Steyer, Md.

LOCATION.--Lat 39°18'07", long 79°18'26", Garrett County, on left bank 0.3 mile southeast of Steyer, 0.35 mile downstream from Steyer Run, 2 miles northeast of Gorman, and at mile 81.8.

DRAINAGE AREA.--73.0 sq mi.

PERIOD OF RECORD.--July 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,276.01 ft above mean sea level.

AVERAGE DISCHARGE.--13 years, 159 cfs (29.58 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,310 cfs Mar. 24 (gage height, 4.95 ft); minimum, 8.1 cfs Oct. 1, 2, 3 (gage height, 2.10 ft).
Period of record: Maximum discharge, 6,240 cfs Mar. 5, 1963 (gage height, 9.13 ft), from rating curve extended above 3,000 cfs; minimum, 2.9 cfs Sept. 10, 1965 (gage height, 2.03 ft).
Flood of Oct. 15, 1954, reached a stage of 13.0 ft, from floodmarks.

REMARKS.--Records fair except those for winter periods and period of no gage-height record, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.6	14	86	195	515	67	239	132	28	14	26	32
2	6.5	15	145	180	410	66	373	115	24	17	23	32
3	8.3	17	117	190	379	65	452	104	31	11	21	96
4	17	25	208	160	306	68	320	100	30	8.3	24	100
5	11	22	221	130	254	70	433	90	28	17	29	86
6	9.0	19	172	120	210	62	768	79	23	107	27	213
7	25	146	150	120	187	67	426	71	20	93	20	128
8	22	255	132	110	168	63	319	77	19	132	13	191
9	15	154	117	130	180	62	253	328	41	49	21	137
10	13	90	100	160	146	61	228	256	36	36	450	95
11	12	65	86	110	155	60	211	233	29	29	170	75
12	11	65	92	90	126	66	169	244	20	162	84	61
13	9.3	62	110	80	112	70	148	208	18	93	60	53
14	8.7	66	250	80	108	59	134	178	18	43	46	46
15	8.8	243	201	78	107	58	131	155	42	29	53	42
16	8.6	494	140	74	124	59	135	134	31	22	330	37
17	8.6	323	130	84	107	70	120	115	24	19	220	35
18	9.8	544	140	110	94	126	111	100	24	20	450	51
19	83	498	150	420	92	249	134	97	33	33	820	41
20	57	276	245	270	84	471	123	96	26	51	500	58
21	26	196	177	200	71	814	108	80	18	90	250	135
22	19	164	188	190	79	517	128	73	18	55	160	69
23	16	152	495	230	82	355	208	70	16	84	120	50
24	16	144	296	306	83	657	331	67	14	110	86	41
25	15	180	227	247	83	959	280	56	18	76	72	46
26	14	143	210	169	78	545	228	49	17	56	60	43
27	14	126	193	150	71	393	192	47	12	42	52	37
28	13	119	504	140	70	326	179	39	12	46	44	35
29	15	105	580	430	------	355	179	35	11	42	40	34
30	15	92	326	482	------	331	150	31	8.7	31	39	32
31	15	------	253	471	------	265	------	28	------	27	36	------
TOTAL	528.2	4,814	6,441	5,906	4,481	7,456	7,210	3,487	689.7	1,644.3	4,346	2,131
MEAN	17.0	160	208	191	160	241	240	112	23.0	53.0	140	71.0
MAX	83	544	580	482	515	959	768	328	42	162	820	213
MIN	6.5	14	86	74	70	58	108	28	8.7	8.3	13	32
CFSM	.23	2.20	2.85	2.61	2.19	3.29	3.29	1.54	.31	.73	1.92	.97
IN.	.27	2.45	3.28	3.01	2.28	3.80	3.67	1.78	.35	.84	2.21	1.09

CAL YR 1968 TOTAL 52,601.8 MEAN 144 MAX 2,840 MIN 6.5 CFSM 1.97 IN 26.80
WTR YR 1969 TOTAL 49,134.2 MEAN 135 MAX 959 MIN 6.5 CFSM 1.84 IN 25.03

PEAK DISCHARGE (BASE, 2,200 CFS).--No peak above base.

NOTE.--No gage-height record July 24 to Sept. 5.

1-5952. Stony River near Mt. Storm, W. Va.

LOCATION.--Lat 39°16'10", long 79°15'45", Grant County, on left bank 100 ft downstream from highway bridge on U. S. Highway 50, and 1.0 mile west of Mt. Storm.

DRAINAGE AREA.--48.8 sq mi.

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,554.54 ft above mean sea level.

AVERAGE DISCHARGE.--8 years, 83.1 cfs (23.12 inches per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 1,230 cfs Mar. 25 (gage height, 5.85 ft), from rating curve extended above 1,000 cfs; minimum daily, 3.0 cfs Oct. 9-13.
Period of record: Maximum discharge, 3,120 cfs Mar. 19, 1963, from rating curve extended above 1,000 cfs; maximum gage height, 8.41 ft Mar. 5, 1963 (ice jam); minimum discharge, 1.8 cfs July 13, 1968 (gage height, 1.98 ft).

REMARKS.--Records fair. Flow regulated by Stony River Reservoir, 14 miles upstream from station (capacity, 1,948,000,000 gal, of which 1,681,000,000 gal is controlled above minimum pool). Since 1963, minor regulation by Virginia Electric and Power Company dam 4 miles upstream from station. Records of water temperatures for the water year 1969 are published in Part 2 of the West Virginia annual basic-data report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	23	81	130	206	38	108	48	23	7.6	23	27
2	5.4	18	84	120	193	37	142	45	25	8.3	20	27
3	7.5	19	81	110	306	37	253	42	30	7.3	20	71
4	9.2	21	91	95	353	37	279	39	25	7.3	21	53
5	8.4	21	89	86	293	38	290	36	20	12	20	37
6	7.5	19	82	81	242	37	362	35	16	24	20	56
7	5.4	37	77	74	206	37	287	33	15	28	3.9	49
8	3.3	52	74	77	123	37	250	33	16	32	5.0	88
9	3.0	40	72	79	62	37	225	66	31	21	11	63
10	3.0	30	70	76	60	36	210	62	22	18	108	48
11	3.0	26	66	69	60	35	198	62	19	16	33	40
12	3.0	26	66	63	59	34	158	63	14	18	23	40
13	3.0	33	66	58	57	33	45	59	18	21	19	46
14	3.1	34	77	53	54	33	42	51	48	19	16	43
15	3.1	62	72	50	52	33	42	48	44	18	20	41
16	3.1	82	71	48	51	33	43	44	36	18	45	35
17	3.3	74	70	50	51	35	42	41	30	15	35	32
18	4.8	89	68	59	51	28	46	39	28	13	65	36
19	42	84	66	91	51	48	56	84	28	18	99	31
20	29	82	74	79	49	98	63	88	25	21	65	47
21	21	89	66	72	47	165	68	55	24	28	43	65
22	17	93	68	72	49	123	71	47	24	28	35	45
23	15	88	88	88	47	110	76	43	24	58	29	37
24	15	91	79	120	46	282	86	40	22	49	25	35
25	16	97	72	112	44	924	77	37	6.6	45	22	35
26	16	93	70	95	43	560	68	34	5.4	39	28	30
27	16	97	100	86	41	314	60	31	13	35	18	21
28	16	95	172	81	40	287	58	30	5.4	35	16	22
29	19	88	165	116	------	225	56	27	4.8	30	21	20
30	39	82	142	144	------	105	53	25	3.7	27	21	18
31	42	------	135	163	------	103	------	23	------	24	29	------
TOTAL	387.5	1,785	2,654	2,697	2,936	3,979	3,814	1,410	645.9	740.5	958.9	1,238
MEAN	12.5	59.5	85.6	87.0	105	128	127	45.5	21.5	23.9	30.9	41.3
MAX	42	97	172	163	353	924	362	88	48	58	108	88
MIN	3.0	18	66	48	40	28	42	23	3.7	7.3	3.9	18
(†)	1,055	1,150	1,333	1,280	1,135	1,198	1,202	1,701	1,711	1,760	1,775	1,800

CAL YR 1968 TOTAL 28,843.0 MEAN 78.8 MAX 1,270 MIN 1.9 CFSM 1.61 IN 21.98
WTR YR 1969 TOTAL 23,245.8 MEAN 63.7 MAX 924 MIN 3.0 CFSM 1.31 IN 17.72

† Month-end contents, in millions of gallons, in Stony River Reservoir; furnished by West Virginia Pulp and Paper Company.

1-5955. North Branch Potomac River at Kitzmiller, Md.

LOCATION.--Lat 39°23'38", long 79°10'55", Garrett County, on left bank 0.6 mile downstream from bridge on State Highway 38 in Kitzmiller, 1.5 miles downstream from Wolfden Run, and at mile 68.9.

DRAINAGE AREA.--225 sq mi.

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

GAGE.--Water-stage recorder. Datum of gage is 1,572.26 ft above mean sea level. Prior to Oct. 15, 1954, at site 0.3 mile upstream at datum 7.58 ft higher. Oct. 15, 1954, to Nov. 20, 1955, nonrecording gage at bridge 0.5 mile upstream at datum 21.51 ft higher.

AVERAGE DISCHARGE.--20 years, 418 cfs (25.23 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 3,910 cfs Mar. 25 (gage height, 6.75 ft); minimum discharge, 9.1 cfs Oct. 1, 2 (gage height, 2.07 ft).
Period of record: Maximum discharge, 33,400 cfs Oct. 15, 1954 (gage height, 13.73 ft, from floodmarks, present site and datum); minimum discharge, 4.6 cfs Oct. 3-7, 1953.

REMARKS.--Records good except those for winter months, which are fair. Regulation at low flow by Stony River Reservoir, 30 miles above station (see preceding page). Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	29	188	455	1,160	167	632	277	66	22	55	70
2	9.5	23	288	354	1,050	157	766	246	64	35	48	69
3	11	23	270	375	1,070	150	1,090	223	71	31	44	206
4	15	31	430	311	1,060	155	928	205	68	25	49	221
5	18	32	490	249	866	150	938	194	58	37	62	177
6	14	30	346	246	732	155	1,920	175	53	171	56	507
7	23	134	295	243	656	162	1,180	157	49	141	41	285
8	38	354	260	214	544	148	936	152	47	325	27	516
9	25	234	227	271	415	152	797	473	78	127	43	345
10	19	129	202	314	342	140	719	495	84	91	992	232
11	17	89	170	214	334	123	674	415	68	77	361	177
12	16	89	183	178	322	131	554	430	54	142	180	144
13	16	86	227	160	270	140	375	379	47	168	129	137
14	15	89	500	157	243	134	318	322	78	84	96	120
15	14	269	388	155	223	123	303	284	140	61	132	111
16	14	852	277	140	243	116	326	249	118	49	694	97
17	13	614	260	167	223	150	307	217	86	42	463	87
18	16	830	270	209	211	284	277	194	74	41	959	100
19	84	902	290	838	202	525	326	241	89	41	1,790	97
20	124	495	320	544	188	1,130	307	441	75	96	1,100	115
21	54	371	342	405	175	1,950	280	256	60	122	541	296
22	35	338	307	366	194	1,330	314	205	56	125	340	171
23	27	303	410	445	200	944	420	183	55	140	245	123
24	25	284	584	632	200	1,610	662	170	52	231	187	107
25	23	350	425	650	202	3,190	572	155	45	159	153	114
26	23	295	362	401	185	1,890	465	134	39	119	130	103
27	23	277	358	338	167	1,260	396	118	34	90	108	86
28	21	263	816	318	170	1,040	350	106	35	97	92	80
29	22	239	1,190	701	------	1,040	366	92	29	92	86	77
30	23	205	700	1,060	------	824	311	82	24	67	82	68
31	29	------	572	1,080	------	680	------	74	------	57	76	------
TOTAL	816.0	8,259	11,947	12,190	11,847	20,150	17,809	7,344	1,896	3,105	9,361	5,038
MEAN	26.3	275	385	393	423	650	594	237	63.2	100	302	168
MAX	124	902	1,190	1,080	1,160	3,190	1,920	495	140	325	1,790	516
MIN	9.5	23	170	140	167	116	277	74	24	22	27	68
(†)	1,055	1,150	1,333	1,280	1,135	1,198	1,202	1,701	1,711	1,760	1,774	1,800

CAL YR 1968 TOTAL 128,475.0 MEAN 351 MAX 5,440 MIN 9.5 CFSM 1.56 IN 21.24
WTR YR 1969 TOTAL 109,762.0 MEAN 301 MAX 3,190 MIN 9.5 CFSM 1.34 IN 18.14

PEAK DISCHARGE (BASE, 3,400 CFS).--Mar. 25 (0100) 3,910 cfs (6.75 ft).

† Month-end contents, in millions of gallons, in Stony River Reservoir (contents on Sept. 30, 1968, 932 million gallons); furnished by West Virginia Pulp & Paper Co.

1-5958. North Branch Potomac River at Barnum, W. Va.

LOCATION.--Lat 39°26'44", long 79°06'39", Garrett County, Md., on left bank at bridge at Barnum, W.Va., 0.45 mile upstream from Folly Run, and 4.0 miles southwest of Piedmont, W. Va.

DRAINAGE AREA.--266 sq mi.

PERIOD OF RECORD.--July 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,151.93 ft above mean sea level.

EXTREMES.--Current year: Maximum discharge, 3,970 cfs Mar. 25 (gage height, 6.70 ft); minimum discharge, 10 cfs Oct. 2, 3 (gage height, 1.69 ft).
Period of record: Maximum discharge, 12,200 cfs Mar. 7, 1967 (gage height, 9.70 ft); minimum, 10 cfs Oct. 2, 3, 1969 (gage height, 1.69 ft).

REMARKS.--Records good. Regulation at low flow by Stony River Reservoir, 39 miles above station (see page 74).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	30	195	481	1,170	190	677	308	80	23	54	75
2	10	30	285	363	1,100	180	743	279	77	26	50	71
3	11	26	292	390	1,080	169	1,160	251	80	29	43	181
4	13	27	400	332	1,090	171	987	232	80	26	46	248
5	18	36	534	264	905	168	901	217	69	28	54	147
6	18	34	374	259	759	174	2,000	196	63	133	60	502
7	22	60	315	264	677	183	1,270	177	56	146	44	326
8	33	346	281	231	580	169	1,020	168	53	330	30	493
9	32	263	245	264	445	176	862	413	72	153	40	385
10	24	146	218	354	374	161	768	534	98	103	865	264
11	20	101	182	232	364	143	725	428	77	85	413	201
12	19	99	212	198	356	144	603	438	64	89	201	162
13	19	92	245	174	296	157	450	402	53	216	139	146
14	18	94	542	167	275	152	366	344	72	100	104	132
15	16	156	423	164	246	139	342	307	133	70	88	120
16	16	820	298	160	267	126	356	272	139	53	636	107
17	16	639	281	193	252	161	353	242	100	44	511	95
18	17	776	280	193	234	299	313	215	81	40	786	96
19	55	956	305	1,090	225	506	352	242	86	39	1,720	112
20	155	520	469	725	205	1,120	347	526	81	79	1,170	110
21	72	384	374	490	196	2,070	317	312	68	102	563	300
22	43	355	325	405	211	1,460	331	244	59	146	369	210
23	32	315	804	423	219	1,030	419	216	55	134	270	146
24	28	293	617	615	220	1,490	649	201	52	241	203	124
25	27	347	448	685	228	3,360	593	181	52	174	165	125
26	26	314	392	426	211	2,160	490	158	41	128	140	123
27	24	287	387	357	202	1,400	421	140	36	98	119	105
28	24	273	664	338	188	1,130	378	127	37	92	102	92
29	24	252	1,280	603	------	1,140	392	112	33	103	90	92
30	24	221	738	1,060	------	926	346	100	26	74	88	82
31	27	------	587	1,140	------	747	------	89	------	59	81	------
TOTAL	893	8,292	12,992	13,040	12,575	21,601	18,931	8,071	2,073	3,163	9,244	5,372
MEAN	28.8	276	419	421	449	697	631	260	69.1	102	298	179
MAX	155	956	1,280	1,140	1,170	3,360	2,000	534	139	330	1,720	502
MIN	10	26	182	160	188	126	313	89	26	23	30	71

CAL YR 1968 TOTAL 148,220 MEAN 405 MAX 6,140 MIN 10 CFSM 1.52 IN 20.72
WTR YR 1969 TOTAL 116,247 MEAN 318 MAX 3,360 MIN 10 CFSM 1.20 IN 16.25

PEAK DISCHARGE (BASE, 4,000 CFS).--No peak above base.

1-5965. Savage River near Barton, Md.

LOCATION.--Lat 39°34'05", long 79°06'10", Garrett County, on right bank 0.9 mile upstream from Bear Pen Run, 1.5 miles downstream from Popular Lick Run, 5.4 miles northwest of Barton, and 10 miles upstream from mouth.

DRAINAGE AREA.--49.1 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 1,605 ft (from topographic map).

AVERAGE DISCHARGE.--21 years, 69.7 cfs (19.28 inches per year).

EXTREMES.--Current year: Maximum discharge, 415 cfs Mar. 25 (gage height, 2.80 ft); minimum discharge, 0.84 cfs Oct. 1 (gage height, 1.02 ft).
Period of record: Maximum discharge, 7,510 cfs Oct. 15, 1954 (gage height, 8.45 ft), from rating curve extended above 1,600 cfs on basis of slope-area measurement of peak flow; minimum discharge, 0.40 cfs Sept. 3, 4, 1966 (gage height, 0.96 ft).

REMARKS.--Records good except those for winter months, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.84	3.0	17	68	146	24	85	29	9.3	2.7	28	7.5
2	1.0	3.0	26	60	148	23	87	26	9.8	2.6	22	7.7
3	1.4	2.8	33	55	128	26	89	25	14	2.3	19	20
4	1.7	2.8	85	50	102	32	77	23	10	2.2	25	34
5	1.4	2.8	119	48	90	40	81	22	8.3	5.2	31	30
6	1.5	3.1	90	44	80	35	127	20	7.6	12	19	56
7	4.5	30	62	40	66	31	120	19	7.7	13	15	35
8	3.6	53	52	38	57	27	109	18	7.0	27	13	35
9	3.0	28	42	36	53	26	94	41	7.2	14	14	30
10	2.4	19	52	34	41	23	83	42	6.6	86	43	23
11	2.4	14	66	33	38	19	74	39	6.4	127	27	18
12	2.4	13	80	32	34	18	61	37	5.8	68	21	15
13	2.2	15	98	32	32	18	53	35	12	64	18	13
14	2.1	14	115	34	30	17	47	33	37	43	14	11
15	1.9	31	126	35	28	17	45	31	21	30	14	9.8
16	1.9	123	105	41	26	23	47	28	19	22	73	8.7
17	1.8	140	95	48	24	35	42	25	13	17	97	7.9
18	2.0	207	80	56	22	78	39	24	11	14	103	8.4
19	15	161	73	188	21	153	43	26	10	12	114	7.1
20	11	95	80	175	20	240	37	38	8.4	14	85	11
21	5.5	62	54	151	26	344	32	30	6.8	41	58	17
22	3.7	47	40	117	29	249	34	25	5.9	35	43	14
23	3.0	39	51	114	28	177	36	24	6.7	48	32	11
24	2.8	33	46	181	28	223	42	22	7.4	68	25	8.6
25	2.6	30	44	233	27	387	39	20	5.8	56	19	8.0
26	2.6	25	60	152	26	290	38	18	4.6	45	17	7.2
27	2.6	22	80	135	25	200	36	16	3.8	30	14	6.4
28	2.6	21	115	120	24	152	36	14	3.2	98	12	6.3
29	3.8	22	200	125	------	134	36	13	3.0	79	10	5.5
30	3.8	19	139	135	------	116	32	12	2.6	54	9.3	5.0
31	3.3	------	105	146	------	98	------	10	------	39	8.2	------
TOTAL	100.34	1,280.5	2,430	2,756	1,399	3,275	1,801	785	280.9	1,171.0	1,042.5	477.1
MEAN	3.24	42.7	78.4	88.9	50.0	106	60.0	25.3	9.36	37.8	33.6	15.9
MAX	15	207	200	233	148	387	127	42	37	127	114	56
MIN	.84	2.8	17	32	20	17	32	10	2.6	2.2	8.2	5.0
CFSM	.07	.87	1.60	1.81	1.02	2.15	1.22	.52	.19	.77	.68	.32
IN.	.08	.97	1.84	2.09	1.06	2.48	1.36	.59	.21	.89	.79	.36

CAL YR 1968 TOTAL 23,670.07 MEAN 64.7 MAX 1,200 MIN .84 CFSM 1.32 IN 17.93
WTR YR 1969 TOTAL 16,798.34 MEAN 46.0 MAX 387 MIN .84 CFSM .94 IN 12.72

PEAK DISCHARGE (BASE, 800 CFS).--No peak above base.

1-5970. Crabtree Creek near Swanton, Md.

LOCATION.--Lat 39°30'00", long 79°09'35", Garrett County, on left bank, 0.5 mile upstream from mouth, 1.0 mile downstream from Springlick Run, and 5.0 miles northeast of Swanton.

DRAINAGE AREA.--16.7 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,529.06 ft above mean sea level (Corps of Engineers bench mark).

AVERAGE DISCHARGE.--21 years, 27.5 cfs (22.36 inches per year).

EXTREMES.--Current year: Maximum discharge, 150 cfs Mar. 21 (gage height, 1.95 ft); minimum discharge, 1.4 cfs Oct. 1, 2 (gage height, 0.68 ft).
Period of record: Maximum discharge, 3,260 cfs July 12, 1949 (gage height, 5.01 ft), from rating curve extended above 210 cfs on basis of slope-area and contracted-opening measurements of peak flow; minimum discharge, 0.1 cfs Dec. 3, 1953 (gage height, 0.56 ft); minimum daily, 0.8 cfs Nov. 6, 1953.

REMARKS.--Records good except those for the winter months, which are fair. Small diversion above station by Baltimore and Ohio Railroad.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.9	6.7	16	58	11	38	17	5.4	2.7	3.1	2.3
2	1.4	1.8	10	14	59	11	40	15	5.1	2.5	3.2	2.5
3	1.6	1.9	10	13	58	11	43	14	5.1	2.4	2.9	7.6
4	2.0	2.0	24	12	51	11	35	13	4.9	2.3	3.2	6.9
5	1.7	1.9	32	11	44	12	38	12	4.3	4.6	3.1	8.2
6	1.7	2.1	26	10	37	12	48	11	4.1	5.0	2.7	12
7	3.1	7.7	20	9.2	32	13	47	11	3.9	8.2	2.5	9.6
8	2.1	9.5	16	8.8	28	12	42	11	4.1	8.3	2.3	17
9	1.8	6.4	12	8.4	25	12	43	20	5.1	5.1	4.1	15
10	1.8	4.8	9.1	8.0	21	11	41	17	4.1	4.7	17	12
11	1.8	3.9	9.4	7.7	20	10	35	19	4.1	4.4	9.0	9.5
12	1.8	4.4	10	7.5	17	9.4	30	19	3.8	3.6	7.0	7.7
13	1.7	4.1	11	7.3	16	9.2	26	17	4.9	3.5	5.6	6.4
14	1.7	3.9	16	7.4	15	9.0	24	16	8.2	3.0	4.5	5.4
15	1.7	11	14	7.6	14	8.9	22	14	9.2	2.7	4.1	4.9
16	1.7	27	13	7.8	13	9.8	23	13	5.7	2.6	5.8	4.3
17	1.7	33	12	8.1	12	13	20	12	4.5	2.5	4.8	3.9
18	1.9	44	11	22	11	25	20	11	4.3	2.4	5.6	3.6
19	7.5	39	10	74	11	42	21	12	4.4	2.5	6.3	3.3
20	3.4	27	9.8	33	10	88	18	12	3.7	2.7	7.0	5.4
21	2.5	19	9.5	19	10	125	16	10	3.3	3.7	5.8	5.1
22	2.2	14	9.7	15	11	79	20	9.8	3.4	3.2	5.0	3.8
23	2.1	12	10	17	12	54	22	9.4	3.9	8.3	4.2	3.3
24	2.0	11	11	24	13	64	27	9.0	3.5	9.2	3.7	3.3
25	2.0	10	12	25	13	121	28	8.4	3.6	6.0	3.4	3.6
26	2.0	8.7	13	18	12	106	29	7.8	3.0	4.4	3.2	3.1
27	2.0	8.3	14	17	12	76	27	7.2	2.7	3.7	2.9	3.1
28	2.0	7.9	18	16	11	59	26	6.8	3.4	7.3	2.7	3.1
29	2.0	7.6	37	15	------	54	24	6.2	2.8	4.6	2.6	2.8
30	2.0	6.8	34	15	------	48	20	6.0	2.5	3.7	2.5	2.7
31	1.9	------	25	33	------	42	------	5.4	------	3.4	2.4	------
TOTAL	66.2	342.6	475.2	506.8	646	1,168.3	893	372.0	131.0	133.2	142.2	181.4
MEAN	2.14	11.4	15.3	16.3	23.1	37.7	29.8	12.0	4.37	4.30	4.59	6.05
MAX	7.5	44	37	74	59	125	48	20	9.2	9.2	17	17
MIN	1.4	1.8	6.7	7.3	10	8.9	16	5.4	2.5	2.3	2.3	2.3
CFSM	.13	.68	.92	.98	1.38	2.26	1.78	.72	.26	.26	.27	.36
IN.	.15	.76	1.06	1.13	1.44	2.60	1.99	.83	.29	.30	.32	.40

CAL YR 1968 TOTAL 8,628.7 MEAN 23.6 MAX 361 MIN 1.4 CFSM 1.41 IN 19.22
WTR YR 1969 TOTAL 5,057.9 MEAN 13.9 MAX 125 MIN 1.4 CFSM .83 IN 11.26

PEAK DISCHARGE (BASE, 330 CFS).--No peak above base.

1-5975. Savage River, below Savage River Dam, near Bloomington, Md.

LOCATION.--Lat 39°30'05", long 79°07'25", Garrett County, on left bank 0.7 mile downstream from Savage River Dam, 1.1 miles downstream from Crabtree Creek, 3.2 miles northwest of Bloomington, and 3.7 miles upstream from mouth.

DRAINAGE AREA.--106 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,276.40 ft above mean sea level (Corps of Engineers bench mark).

AVERAGE DISCHARGE.--21 years, 155 cfs (19.86 inches per year), adjusted for storage since December 1950.

EXTREMES.--Current year: Maximum discharge, 5,390 cfs Aug. 7 (gage height, 7.03 ft); minimum discharge, 0.80 cfs Nov. 22 (gage height, 0.56 ft).
Period of record: Maximum discharge, 6,530 cfs Oct. 16, 1954 (gage height, 7.70 ft); minimum discharge, 0.35 cfs Oct. 27, 1966 (gage height, 0.57 ft); minimum daily, 0.6 cfs July 27-31, Aug. 5, 6, 9, 10, 1951.

REMARKS.--Records good. Diversions above station by Baltimore & Ohio Railroad and by cities of Frostburg and Westernport for municipal supply. Flow regulated by Savage River Reservoir beginning December 1950 (capacity, 20,000 acre-ft).

REVISIONS (WATER YEARS).--WSP 1432: 1955.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	77	103	263	504	80	53	15	24	73	59	70
2	95	77	103	205	417	80	50	15	22	75	70	54
3	100	77	103	105	260	80	56	15	25	68	83	54
4	105	77	105	105	260	43	56	14	24	67	86	43
5	95	76	105	105	260	23	57	14	26	67	86	28
6	86	69	105	69	260	23	58	14	35	45	65	29
7	84	58	105	51	152	38	58	14	38	16	134	50
8	83	31	105	84	95	47	58	14	45	14	94	382
9	65	11	103	103	95	47	58	14	47	14	96	479
10	73	11	103	103	95	47	58	14	28	14	42	77
11	77	11	105	102	95	24	58	14	14	14	14	94
12	80	12	105	102	95	11	58	14	32	18	14	118
13	80	11	105	68	95	11	58	22	39	19	14	118
14	80	11	103	37	64	11	32	68	28	14	14	118
15	83	12	103	28	44	272	16	73	21	28	42	118
16	82	12	102	28	44	144	16	68	14	43	32	117
17	86	12	102	28	44	11	16	63	15	54	14	117
18	84	13	102	28	45	11	16	58	16	59	14	117
19	63	12	102	72	45	11	16	62	19	59	73	117
20	27	10	102	100	45	13	16	80	20	59	358	117
21	32	8.8	102	100	45	16	16	65	24	41	272	117
22	56	3.9	102	100	45	16	16	54	40	20	59	79
23	64	12	102	100	46	16	16	52	39	14	59	56
24	62	12	286	100	46	415	16	49	39	14	59	30
25	73	70	400	197	46	727	16	47	52	15	59	13
26	80	226	396	251	46	679	16	41	49	15	76	158
27	80	288	352	192	67	495	16	36	55	15	86	340
28	78	288	266	95	82	236	16	35	64	67	86	374
29	78	223	266	95	------	53	16	34	67	124	86	76
30	77	103	266	95	------	53	16	30	70	86	86	101
31	77	------	266	375	------	53	------	24	------	61	86	------
TOTAL	2,380	1,914.7	4,875	3,486	3,437	3,786	1,024	1,132	1,031	1,292	2,418	3,761
MEAN	76.8	63.8	157	112	123	122	34.1	36.5	34.4	41.7	78.0	125
MAX	105	288	400	375	504	727	58	80	70	124	358	479
MIN	27	3.9	102	28	44	11	16	14	14	14	14	13
(†)	6,200	7,040	5,020	4,480	4,630	11,730	18,580	20,040	19,320	20,060	18,420	13,800

CAL YR 1968 TOTAL 51,863.7 MEAN 142 MAX 2,680 MIN 3.9 CFSM 1.34 IN 18.20
WTR YR 1969 TOTAL 30,536.7 MEAN 83.7 MAX 727 MIN 3.9 CFSM 0.79 IN 10.71

† Month-end contents, in acre-ft, in Savage River Reservoir (contents on Sept. 30, 1968, 10,160 acre-ft). Records furnished by Corps of Engineers.

1-5985. North Branch Potomac River at Luke, Md.

LOCATION.--Lat 39°28'45", long 79°03'55", Mineral County, W. Va., on right bank 0.2 mile downstream from Savage River, 0.5 mile northwest of Luke, and at mile 53.3.

DRAINAGE AREA.--404 sq mi.

PERIOD OF RECORD.--June 1899 to July 1906 (published as "at Piedmont, W. Va."), October 1949 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 946.25 ft above mean sea level, adjustment of 1912. June 27, 1899, to July 15, 1906, nonrecording gage at bridge 1.1 miles downstream at datum about 35 feet lower.

AVERAGE DISCHARGE.--26 years (1899-1905, 1949-1969), 670 cfs (22.52 inches per year), adjusted for storage since 1949.

EXTREMES.--Current year: Maximum discharge, 4,840 cfs Mar. 25 (gage height, 7.05 ft); maximum gage height, 10.89 ft Jan. 19 (backwater from ice); minimum discharge 74 cfs Oct. 24 (gage height, 1.06 ft).
Period of record: Maximum discharge, 39,400 cfs Oct. 15, 1954 (gage height, 17.15 ft); minimum daily, 6 cfs Sept. 4, 1904.

REMARKS.--Records good. Flow regulated since 1913 by Stony River Reservoir, 45 miles above station (see p. 74) and, since December 1950, by Savage River Reservoir, 5 miles above station (see preceding page). Some regulation at low flow by West Virginia Pulp and Paper Company at site used 1899-1906. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 192: 1899-1904. WSP 1432: 1905-6, drainage area at former site.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	103	310	720	1,650	278	900	382	110	99	115	150
2	100	103	388	540	1,560	267	790	347	104	99	120	135
3	103	99	415	450	1,330	257	1,210	316	107	103	126	130
4	113	98	508	450	1,390	231	1,060	287	107	98	133	383
5	104	106	667	360	1,200	199	972	273	99	100	138	272
6	104	102	510	340	1,050	209	2,080	251	99	162	132	503
7	106	114	438	320	868	228	1,430	226	98	192	143	482
8	109	371	403	300	720	234	1,170	211	102	346	124	760
9	104	292	360	320	586	238	1,020	369	111	185	134	1,010
10	98	165	325	380	490	221	914	640	131	126	727	450
11	98	120	300	340	474	188	868	510	99	108	564	290
12	96	117	290	300	478	157	753	518	99	94	277	290
13	95	110	320	250	403	167	618	486	103	242	188	260
14	94	109	450	210	344	171	498	466	110	122	149	250
15	95	140	560	195	310	425	438	442	159	97	140	230
16	93	848	390	190	330	280	450	396	165	99	556	220
17	96	685	360	180	325	175	454	357	121	99	622	210
18	96	769	380	205	295	298	411	319	103	100	595	200
19	116	1,000	400	300	281	498	438	319	111	101	1,620	205
20	188	564	470	780	264	1,100	434	636	112	128	1,620	230
21	106	415	550	580	254	2,060	400	458	96	131	1,050	384
22	100	368	450	500	267	1,500	411	351	100	190	500	375
23	96	335	590	520	281	1,080	502	310	104	161	360	220
24	91	310	920	620	278	1,830	700	287	99	270	290	190
25	98	401	850	840	284	4,260	680	259	106	205	240	160
26	100	529	740	740	273	3,140	595	226	94	155	210	180
27	99	582	810	600	275	2,160	526	192	97	120	200	290
28	99	564	760	430	284	1,610	478	175	101	146	180	343
29	98	495	1,300	450	------	1,360	478	159	103	235	170	153
30	98	331	1,060	800	------	1,200	434	137	98	165	165	170
31	99	------	900	1,560	------	1,000	------	123	------	124	160	------
TOTAL	3,192	10,345	17,174	14,770	16,544	27,021	22,112	10,428	3,248	4,602	11,748	9,125
MEAN	103	345	554	476	591	872	737	336	108	148	379	304
MAX	188	1,000	1,300	1,560	1,650	4,260	2,080	640	165	346	1,620	1,010
MIN	91	98	290	180	254	157	400	123	94	94	115	130

CAL YR 1968 TOTAL 212,480 MEAN 581 MAX 8,830 MIN 91 CFSM 1.44 IN 19.56
WTR YR 1969 TOTAL 150,309 MEAN 412 MAX 4,260 MIN 91 CFSM 1.02 IN 13.84

1-5990. Georges Creek at Franklin, Md.

LOCATION.--Lat 39°29'38", long 79°02'42", Allegany County, on right bank at Franklin, and 1.2 miles upstream from Westernport and mouth.

DRAINAGE AREA.--72.4 sq mi.

PERIOD OF RECORD.--May 1905 to July 1906 (published as "at Westernport"), October 1929 to current year.

GAGE.--Water-stage recorder. Datum of gage is 958.96 ft above mean sea level (West Virginia Pulp and Paper Co. bench mark). May 4, 1905, to July 15, 1906, nonrecording gage at bridge 0.8 mile downstream at different datum. Oct. 16, 1929, to Oct. 1, 1937, water-stage recorder at site 95 ft downstream at present datum.

AVERAGE DISCHARGE.--40 years (1929-69), 75.9 cfs (14.24 inches per year).

EXTREMES.--Current year: Maximum discharge, 490 cfs Mar. 24 (gage height, 5.03 ft); minimum discharge, 3.9 cfs Oct. 1-3 (gage height, 3.02 ft).
Period of record: Maximum discharge, 8,500 cfs Mar. 17, 1936 (gage height, 9.6 ft, site then in use), from rating curve extended above 2,000 cfs on basis of slope-area measurement of peak flow; minimum discharge, 1.6 cfs Sept. 29 to Oct. 13, 1930.
Flood of Mar. 29, 1924, reached a stage of about 10 ft, from floodmarks, at site 95 ft downstream.

REMARKS.--Records good. Records include about 0.5 cfs of sewage from city of Frostburg, which obtains its water supply from Big Piney Run (Monongahela River basin) and Savage River. A negligible discharge diverted above station by Frostburg Water Co. for municipal supplies of Eckhart and Welch Hill. An undetermined amount of water is diverted from the upper third of basin into the Wills Creek basin by the Hoffman drainage tunnel. Miscellaneous measurements of discharge from the Hoffman drainage tunnel have been made in the water years 1944, 1965-69 by the U. S. Geological Survey and in the water years 1958 and 1959 by the Maryland Geological Survey.

REVISIONS (WATER YEARS).--WSP 726: Drainage area. WSP 1502: 1940.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	5.5	14	23	81	25	79	35	12	5.9	17	8.6
2	3.9	5.1	29	22	76	25	78	33	12	5.5	17	8.6
3	4.7	6.3	28	21	76	25	72	31	15	5.1	12	28
4	5.5	6.7	57	20	63	26	63	30	13	4.7	15	55
5	4.7	6.7	50	18	57	26	65	29	12	9.6	16	28
6	5.1	7.2	38	17	50	27	85	28	11	12	13	38
7	12	35	31	16	48	29	69	27	11	12	11	25
8	7.2	37	28	16	43	26	65	26	10	22	9.1	35
9	6.3	20	25	15	38	26	61	59	14	13	11	29
10	5.9	14	21	15	35	25	62	48	11	56	34	21
11	5.9	11	19	14	33	23	61	42	11	69	18	17
12	5.9	16	21	13	31	22	52	37	9.6	27	12	14
13	5.5	16	23	13	29	21	49	35	15	29	11	14
14	5.5	15	28	14	28	19	47	32	50	18	9.1	12
15	5.5	31	28	15	27	18	48	30	23	14	14	11
16	5.5	66	21	16	26	19	69	29	18	10	65	9.6
17	5.5	55	20	17	25	24	57	27	14	9.1	53	9.1
18	6.7	95	19	45	24	44	58	25	12	8.6	63	9.1
19	28	70	19	150	24	83	63	31	13	8.1	67	8.6
20	14	42	18	60	23	137	50	40	10	8.6	51	16
21	8.6	33	18	31	23	178	48	30	8.6	22	38	21
22	7.6	28	18	25	27	133	50	26	8.6	31	30	14
23	7.2	23	19	28	27	107	51	25	9.6	25	25	10
24	7.6	20	21	39	28	192	51	23	9.6	48	21	9.1
25	7.2	19	22	41	30	394	48	22	8.6	30	17	9.1
26	6.7	16	23	30	30	250	44	21	7.6	23	15	8.6
27	6.7	15	26	28	27	188	42	18	7.2	17	14	8.1
28	6.3	15	32	21	25	145	40	17	7.2	21	11	8.1
29	5.9	14	56	21	------	128	42	16	6.3	19	11	7.6
30	5.9	13	42	24	------	105	40	15	5.9	14	11	7.2
31	5.9	------	37	85	------	87	------	14	------	11	10	------
TOTAL	222.8	756.5	851	913	1,054	2,577	1,709	901	375.8	608.2	721.2	499.4
MEAN	7.19	25.2	27.5	29.5	37.6	83.1	57.0	29.1	12.5	19.6	23.3	16.6
MAX	28	95	57	150	81	394	85	59	50	69	67	55
MIN	3.9	5.1	14	13	23	18	40	14	5.9	4.7	9.1	7.2
CFSM	.10	.35	.38	.41	.52	1.15	.79	.40	.17	.27	.32	.23
IN.	.11	.39	.44	.47	.54	1.32	.88	.46	.19	.31	.37	.26

CAL YR 1968 TOTAL 25,486.5 MEAN 69.6 MAX 896 MIN 3.9 CFSM .96 IN 13.09
WTR YR 1969 TOTAL 11,188.9 MEAN 30.7 MAX 394 MIN 3.9 CFSM .42 IN 5.75

PEAK DISCHARGE (BASE, 1,200 CFS).--No peak above base.

1-6000. North Branch Potomac River at Pinto, Md.

LOCATION.--Lat 39°33'59", long 78°50'25", Mineral County, W. Va., on right bank at downstream side of Western Maryland Railway bridge at Pinto, 2.8 miles downstream from Mill Run, and at mile 32.6.

DRAINAGE AREA.--596 sq mi.

PERIOD OF RECORD.--October 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 648.23 ft above mean sea level (Corps of Engineers bench mark). Prior to Dec. 10, 1938, nonrecording gage at highway bridge 250 ft downstream at same datum.

AVERAGE DISCHARGE.--31 year, 845 cfs (19.25 inches per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 5,400 cfs Mar. 25 (gage height, 8.31 ft); minimum 99 cfs June 29 (gage height, 1.73 ft).
Period of record: Maximum discharge, 37,000 cfs Oct. 16, 1954 (gage height, 23.23 ft); minimum, 31 cfs Dec. 18, 19, 1943 (gage height, 1.37), result of freezeup.
Flood of Mar. 29, 1924, reached a stage of about 24 ft (discharge, about 55,000 cfs). Flood of Mar. 17, 1936, reached a stage of about 23.5 ft, from floodmarks (discharge, about 50,000 cfs).

REMARKS.--Records good. Some regulation at low flow by Stony River Reservoir, 66 miles above station (see p. 74), and since December 1950, by Savage River Reservoir (see p. 79).

REVISIONS (WATER YEARS).--WSP 1332: 1943.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	108	347	892	1,730	343	958	442	145	108	143	178
2	105	118	380	648	1,850	339	934	398	130	108	151	156
3	110	115	490	545	1,440	323	1,280	367	132	108	151	154
4	120	108	500	550	1,590	315	1,240	339	135	108	162	402
5	118	108	802	420	1,380	261	1,120	319	130	118	175	300
6	112	120	636	398	1,200	265	1,940	299	115	132	173	426
7	136	144	510	367	1,070	276	1,610	265	115	235	191	525
8	122	321	460	323	862	295	1,300	250	113	323	157	618
9	125	388	416	380	752	291	1,120	322	125	306	156	1,150
10	110	257	367	438	620	299	1,020	759	145	207	606	492
11	108	173	327	388	560	280	988	560	143	250	787	323
12	108	173	319	331	565	202	868	545	120	170	343	327
13	105	173	359	307	510	211	741	535	135	227	221	291
14	105	150	548	232	438	232	576	490	201	212	173	280
15	103	147	675	214	351	424	500	470	198	140	143	265
16	105	682	456	200	375	346	535	429	221	120	526	247
17	103	850	411	190	375	266	550	393	181	115	772	237
18	110	762	420	221	363	278	495	355	145	118	594	224
19	167	1,220	438	482	343	505	520	498	135	118	1,450	227
20	198	768	545	874	331	1,090	525	994	138	120	1,860	257
21	170	525	592	648	307	1,980	480	670	128	175	1,260	336
22	118	434	495	560	315	1,810	465	465	113	214	582	429
23	110	388	776	576	339	1,320	545	393	128	188	424	265
24	105	359	1,030	717	343	1,440	747	359	120	341	335	221
25	103	371	950	952	355	4,640	796	327	118	306	280	173
26	105	515	770	856	355	3,510	693	287	120	224	244	216
27	108	620	850	687	335	2,360	598	247	106	175	234	361
28	105	609	808	510	347	1,770	530	221	110	162	215	531
29	105	592	1,670	525	------	1,490	520	207	113	237	201	246
30	105	398	1,220	1,150	------	1,290	490	181	113	240	192	187
31	105	------	1,000	1,540	------	1,060	------	162	------	178	187	------
TOTAL	3,617	11,696	19,567	17,121	19,401	29,511	24,684	12,548	4,071	5,783	13,088	10,044
MEAN	117	390	631	552	693	952	823	405	136	187	422	335
MAX	198	1,220	1,670	1,540	1,850	4,640	1,940	994	221	341	1,860	1,150
MIN	103	108	319	190	307	202	465	162	106	108	143	154

CAL YR 1968 TOTAL 264,300 MEAN 722 MAX 9,650 MIN 103 CFSM 1.21 IN 16.49
WTR YR 1969 TOTAL 171,131 MEAN 469 MAX 4,640 MIN 103 CFSM 0.79 IN 10.68

1-6015. Wills Creek near Cumberland, Md.

LOCATION.--Lat 39°40"07", long 78°47'18", Allegany County, on right bank at downstream side of Western Maryland Railway bridge, 2.0 miles upstream from Cumberland, and mouth.

DRAINAGE AREA.--247 sq mi.

PERIOD OF RECORD.--May 1905 to July 1906 (published as "at Cumberland"), October 1929 to current year.

GAGE.--Water-stage recorder. Datum of gage is 640.89 ft above mean sea level (Corps of Engineers bench mark). May 6, 1905, to July 14, 1906, nonrecording gage at highway bridge 700 ft upstream at different datum. Oct. 18, 1929, to Mar. 17, 1936, water-stage recorder, and Apr. 1, 1936, to Mar. 19, 1937, nonrecording gage at site 200 ft upstream at present datum.

AVERAGE DISCHARGE.--40 years (1929-69), 305 cfs (16.77 inches per year).

EXTREMES.--Current year: Maximum discharge, 4,330 cfs Aug. 19 (gage height, 6.89 ft); minimum discharge, 13 cfs Oct. 2 (gage height, 1.35 ft).
Period of record: Maximum discharge, 38,100 cfs Mar. 17, 1936 (gage height, 20.2 ft, from floodmarks at present site), from rating curve extended above 6,500 cfs on basis of slope-area measurements at gage heights 13.45 and 20.2 ft; minimum, 9 cfs Oct. 14, 1930.

REMARKS.--Records good. Records include drainage from numerous active and abandoned coal mines. An undetermined amount of water is diverted into basin from Georges Creek basin by Hoffman drainage tunnel (see p. 81). Slight diurnal fluctuation at low flow caused by quarry upstream.

REVISIONS (WATER YEARS).--WSP 726: Drainage area. WSP 1432: 1906, 1930(M), 1933-34(M), 1936-37, 1945(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	21	74	116	433	122	298	129	55	24	201	61
2	14	22	77	64	483	122	282	122	70	24	218	59
3	14	22	110	106	433	113	268	118	60	23	138	162
4	14	19	300	100	370	118	234	114	55	23	122	142
5	14	20	480	75	313	114	234	107	61	30	120	96
6	16	26	430	62	250	120	286	99	65	97	102	85
7	20	107	300	92	237	138	272	96	54	113	84	79
8	20	198	230	95	204	118	264	96	56	111	72	196
9	20	105	190	60	196	129	254	193	51	90	71	207
10	21	72	124	44	140	120	247	180	55	96	116	150
11	21	57	95	78	130	113	264	150	52	93	102	120
12	20	74	84	48	110	94	231	145	51	87	77	100
13	20	70	120	44	98	104	212	138	55	71	67	87
14	17	64	136	52	94	100	201	131	131	59	59	77
15	19	82	114	51	93	102	198	127	91	48	54	69
16	17	313	90	36	90	87	228	120	88	42	210	63
17	18	370	84	32	88	102	210	113	74	37	215	59
18	20	505	91	44	90	167	198	111	60	34	147	55
19	64	460	105	104	92	286	212	116	58	33	1,090	51
20	69	298	118	138	90	442	198	125	54	38	1,990	59
21	42	204	109	109	96	580	182	105	47	84	788	64
22	31	157	99	105	109	525	174	93	44	172	465	57
23	27	133	118	96	122	420	182	87	51	704	302	48
24	25	114	90	140	120	585	185	85	48	438	215	45
25	26	104	60	180	129	1,280	172	81	43	282	167	47
26	24	93	50	169	127	992	162	74	39	193	133	46
27	23	84	82	120	120	754	154	64	35	145	109	42
28	18	81	120	138	118	580	145	60	33	210	94	40
29	19	79	167	120	------	483	152	56	30	190	84	38
30	20	78	172	162	------	406	142	52	25	131	75	36
31	23	------	157	467	------	334	------	46	------	104	67	------
TOTAL	730	4,032	4,576	3,247	4,975	9,750	6,441	3,333	1,691	3,826	7,754	2,440
MEAN	23.5	134	148	105	178	315	215	108	56.4	123	250	81.3
MAX	69	505	480	467	483	1,280	298	193	131	704	1,990	207
MIN	14	19	50	32	88	87	142	46	25	23	54	36
CFSM	.10	.54	.60	.42	.72	1.27	.87	.44	.23	.50	1.01	.33
IN.	.11	.61	.69	.49	.75	1.47	.97	.50	.25	.58	1.17	.37

CAL YR 1968 TOTAL 97,959 MEAN 268 MAX 3,700 MIN 14 CFSM 1.08 IN 14.75
WTR YR 1969 TOTAL 52,795 MEAN 145 MAX 1,990 MIN 14 CFSM .59 IN 7.95

PEAK DISCHARGE (BASE, 3,500 CFS).--Aug. 19 (2130) 4,330 cfs (6.89 ft).

1-6030. North Branch Potomac River near Cumberland, Md.

LOCATION.--Lat 39°37'16", long 78°46'24", Allegany County, on left bank at downstream side of Wiley Ford Bridge, 2.1 miles downstream from Wills Creek, 2.0 miles south of Cumberland, and at mile 19.6.

DRAINAGE AREA.--875 sq mi.

PERIOD OR RECORD.--May 1929 to current year. Gage-height records collected at various sites about 2 miles upstream from September 1901 to December 1932 and thereafter at present site, are contained in reports of U. S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 585.22 ft above mean sea level (Corps of Engineers bench mark). Prior to June 18, 1929, non-recording gage at same site and datum.

AVERAGE DISCHARGE.--40 years, 1,188 cfs (18.44 inches per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 7,260 cfs Mar. 25 (gage height, 8.10 ft); minimum discharge, 107 cfs Oct. 18 (gage height, 2.28 ft).
Period of record: Maximum discharge, 88,200 cfs Mar. 17, 1936 (gage height, 29.1 ft), from rating curve extended above 21,000 cfs on basis of slope-area measurement of peak flow; minimum (river only), 12 cfs Sept. 22, 1932 (gage height, 2.38 ft); minimum daily (including flow in canal), 38 cfs Sept. 24, 1932.
Maximum stage known, 29.2 ft June 1, 1889 (discharge, about 89,000 cfs). Flood of Mar. 29, 1924, reached a stage of 28.4 ft (discharge, about 82,000 cfs).

REMARKS.--Records good. Regulation by Stony River Reservoir, about 79 miles above station (see p. 74), and since December 1950, by Savage River Reservoir (see p. 79). Prior to July 1957, small amount of inflow from industrial wastes and sewage from city of Cumberland from water diverted from Evitts Creek, mouth of which is below station. Diversion to Chesapeake and Ohio Canal prior to 1935. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 726: Drainage area. WSP 781: 1932(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	138	138	430	1,010	2,250	471	1,260	568	201	155	370	248
2	142	142	457	716	2,560	471	1,200	513	201	147	396	251
3	142	142	600	656	1,950	450	1,510	478	191	147	300	330
4	142	138	806	656	2,040	443	1,520	443	191	155	294	499
5	155	129	1,230	499	1,750	402	1,360	416	191	178	306	450
6	147	147	1,020	464	1,460	382	2,270	389	178	248	284	436
7	178	257	806	464	1,330	423	2,080	358	169	350	248	640
8	164	469	689	423	1,060	430	1,630	328	169	389	266	671
9	151	552	608	443	950	430	1,420	486	178	464	224	1,340
10	160	376	492	485	770	436	1,310	842	201	340	463	770
11	147	253	423	471	707	409	1,260	707	224	370	1,040	471
12	133	272	402	382	743	328	1,130	664	205	322	478	430
13	133	267	464	352	664	311	995	672	210	248	311	385
14	129	229	560	300	552	340	815	624	334	316	248	358
15	129	219	851	272	471	380	734	608	340	210	205	339
16	124	801	568	238	471	526	779	552	334	173	421	322
17	115	1,260	499	224	485	436	788	506	300	164	1,010	307
18	119	1,230	513	267	464	409	725	457	243	160	696	286
19	262	1,770	520	383	457	734	752	506	219	160	2,380	280
20	272	1,180	616	1,050	436	1,420	743	1,090	205	182	4,450	328
21	272	806	716	770	402	2,550	664	833	205	286	2,340	361
22	169	624	608	664	416	2,630	640	592	187	396	1,080	515
23	151	560	742	672	464	1,830	698	499	191	980	752	347
24	147	499	1,120	860	471	1,940	860	464	201	752	576	276
25	138	457	1,010	1,130	485	6,060	959	436	182	648	471	237
26	138	568	820	1,050	492	5,590	833	389	182	464	396	205
27	138	698	932	806	464	3,800	734	340	173	376	352	336
28	138	698	923	680	471	2,820	672	300	160	402	316	508
29	129	664	1,790	648	------	2,220	648	278	155	409	294	466
30	133	528	1,450	1,170	------	1,900	640	253	164	402	278	225
31	138	------	1,160	1,930	------	1,510	------	224	------	300	267	------
TOTAL	4,773	16,073	23,825	20,135	25,235	42,481	31,629	15,815	6,284	10,293	21,512	12,617
MEAN	154	536	769	650	901	1,370	1,054	510	209	332	694	421
MAX	272	1,770	1,790	1,930	2,560	6,060	2,270	1,090	340	980	4,450	1,340
MIN	115	129	402	224	402	311	640	224	155	147	205	205

CAL YR 1968 TOTAL 375,677 MEAN 1,026 MAX 13,900 MIN 115 CFSM 1.17 IN 15.97
WTR YR 1969 TOTAL 230,672 MEAN 632 MAX 6,060 MIN 115 CFSM 0.72 IN 9.80

PEAK DISCHARGE (BASE, 10,000 CFS).--No peak above base.

1-6035. Evitts Creek near Centerville, Pa.

LOCATION.--Lat 39°47'23", long 78°38'48", Bedford County, on left bank 2 miles upstream from Thomas W. Koon Dam, 3.0 miles south of Centerville, 7.0 miles upstream from Rock Gully Creek, and at mile 16.3.

DRAINAGE AREA.--30.2 sq mi.

PERIOD OF RECORD.--September 1932 to current year. Prior to October 1952, published as "near Bedford Valley".

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,027.59 ft above mean sea level (city of Cumberland bench mark).

AVERAGE DISCHARGE.--37 years, 29.4 cfs (13.22 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,490 cfs July 23 (gage height, 4.00 ft); minimum discharge, 1.8 cfs Oct. 1, 2 (gage height, 1.01 ft).
Period of record: Maximum discharge, 5,240 cfs Mar. 17, 1936 (gage height 7.13 ft), from rating curve extended above 400 cfs on basis of slope-area measurements at gage heights 4.64 and 7.13 ft; minimum discharge, 0.70 cfs Dec. 17, 1958 (gage height, 0.79 ft), result of freezeup.
Maximum stage known, about 8 ft, from floodmark, date unknown.

REMARKS.--Records good except those for winter months, which are fair.

REVISIONS (WATER YEARS).--WSP 781: 1933(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	2.7	8.9	7.8	39	11	21	13	5.0	4.4	36	17
2	1.9	2.7	22	7.2	25	11	21	12	21	4.2	139	16
3	2.1	2.8	15	8.1	21	11	20	11	34	3.9	51	24
4	2.0	2.8	54	7.8	18	12	18	11	11	3.8	50	21
5	2.0	2.8	33	6.0	17	10	18	10	8.5	8.5	39	18
6	2.1	3.0	23	6.4	19	10	21	9.8	7.9	14	31	16
7	3.1	24	19	6.6	14	11	17	9.5	7.8	11	25	16
8	2.7	27	15	6.5	13	11	17	9.5	6.9	13	22	61
9	2.4	10	12	4.7	14	13	16	46	8.0	8.7	21	30
10	2.4	6.3	9.0	4.5	14	12	17	28	6.8	7.7	31	19
11	2.4	5.0	9.0	4.6	12	10	19	23	6.1	7.2	19	16
12	2.4	8.6	8.6	4.7	11	9.8	16	21	9.7	6.9	16	15
13	2.4	11	13	5.1	10	9.9	15	19	35	6.2	14	14
14	2.3	11	14	5.7	9.7	8.7	15	18	47	4.4	12	12
15	2.4	17	11	6.0	9.4	8.5	15	16	58	3.8	12	12
16	2.3	54	10	5.2	9.0	8.0	21	14	81	3.4	146	11
17	2.4	43	9.3	4.5	9.0	8.6	19	13	38	3.2	50	11
18	2.4	65	8.9	4.9	9.0	9.2	18	13	28	3.1	49	11
19	19	51	10	5.3	9.2	10	19	16	27	4.3	547	9.3
20	6.9	30	12	5.8	9.0	11	17	15	18	46	426	9.7
21	3.7	23	11	6.2	9.6	14	16	12	14	25	162	11
22	3.0	22	9.7	12	10	14	17	10	12	21	104	9.3
23	2.8	18	12	10	11	14	19	9.9	14	575	75	8.2
24	2.8	15	8.2	10	14	52	17	9.5	11	131	58	8.9
25	3.0	14	6.0	11	16	107	16	8.7	9.4	77	46	14
26	2.8	12	5.0	7.5	14	53	15	7.9	7.9	51	39	9.3
27	2.7	11	8.9	6.3	12	40	14	7.2	6.8	40	32	8.2
28	2.7	11	14	6.2	11	33	14	6.7	6.0	61	28	7.8
29	2.7	12	20	7.0	------	30	15	6.4	5.1	37	24	7.2
30	2.7	9.7	12	19	------	26	14	5.8	4.5	31	22	6.9
31	2.7	------	11	26	------	23	------	5.2	------	24	19	------
TOTAL	99.1	527.4	434.5	238.6	388.9	611.7	517	417.1	555.4	1,240.7	2,345	449.8
MEAN	3.20	17.6	14.0	7.70	13.9	19.7	17.2	13.5	18.5	40.0	75.6	15.0
MAX	19	65	54	26	39	107	21	46	81	575	547	61
MIN	1.9	2.7	5.0	4.5	9.0	8.0	14	5.2	4.5	3.1	12	6.9
CFSM	.11	.58	.46	.25	.46	.65	.57	.45	.61	1.33	2.50	.50
IN.	.12	.65	.54	.29	.48	.75	.64	.51	.68	1.53	2.89	.55

CAL YR 1968 TOTAL 9,268.4 MEAN 25.3 MAX 418 MIN 1.7 CFSM .84 IN 11.41
WTR YR 1969 TOTAL 7,825.2 MEAN 21.4 MAX 575 MIN 1.9 CFSM .71 IN 9.64

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7-23	0800	4.00	1,490	8-19	1915	3.96	1,450

1-6085, South Branch Potomac River near Springfield, W. Va.

LOCATION.--Lat 39°26'49", long 78°39'16", Hampshire County, on left bank at highway bridge, 2 miles east of Springfield, and at mile 13.4.

DRAINAGE AREA.--1,471 sq mi.

PERIOD OF RECORD.--June 1894 to February 1896 (fragmentary), June 1899 to February 1902, August 1903 to July 1906, August 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 562.02 ft above mean sea level. June 1894 to February 1896, nonrecording gage at Baltimore & Ohio Railroad bridge 11.2 miles upstream at different datum. June 26, 1899, to Feb. 2, 1902, nonrecording gage at bridge 10 miles upstream at different datum. Aug. 28, 1903, to July 14, 1906, nonrecording gage at present site at different datum. Aug. 8 to Sept. 24, 1928, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--45 years (1899-1901, 1903-5, 1928-69), 1,226 cfs (11.32 inches per year).

EXTREMES.--Current year: Maximum discharge 7,900 cfs Mar. 26 (gage height, 8.09 ft); minimum, 61 cfs Oct. 1 (gage height, 1.16 ft).
Period of record: Maximum discharge, 143,000 cfs Mar. 18, 1936 (gage height, 34.2 ft), from rating curve extended above 18,000 cfs on basis of measurement made about 10 miles upstream from station, adjusted for storage and inflow and slope-area measurement at gage height 29.84 ft; minimum, 29 cfs Jan. 28, 1956 (result of freezeup), July 30, 1966; minimum gage height, 0.39 ft July 30, 1966.
Flood in November 1887 reached a stage of about 34 ft, from floodmarks (discharge, 140,000 cfs).

REMARKS.--Records good except those for ice-affected days in January, which are poor.

REVISIONS (WATER YEARS).--WSP 1552: 1903-6, 1929-30(M), 1932-33(M), 1935(M), 1937-40(M), 1942-43(M), 1945(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	132	286	630	1,500	405	1,290	690	242	172	449	238
2	63	126	282	560	1,700	390	1,160	618	242	153	378	218
3	66	129	279	500	1,700	390	1,180	558	242	146	449	218
4	68	129	286	450	1,500	371	1,570	513	228	141	728	260
5	68	126	320	400	1,400	356	1,510	478	221	138	1,720	632
6	70	123	360	350	1,300	351	1,590	443	218	146	1,620	720
7	82	137	412	320	1,200	366	1,720	422	198	153	1,080	513
8	88	170	380	300	1,100	390	1,410	405	184	164	765	513
9	95	167	356	300	1,000	400	1,200	466	181	186	594	564
10	95	158	300	290	1,000	411	1,060	526	175	205	661	551
11	95	179	293	280	900	438	959	1,210	166	249	3,410	449
12	98	215	300	270	800	427	902	1,200	189	275	1,940	366
13	98	258	290	260	750	411	810	1,130	192	329	1,180	316
14	100	279	297	250	700	405	735	977	205	676	848	279
15	98	262	286	250	650	405	676	840	231	605	653	253
16	98	360	300	250	600	395	661	743	307	427	539	231
17	95	704	300	262	550	380	646	646	545	333	472	215
18	95	992	300	261	500	366	625	564	495	275	466	201
19	123	1,140	309	258	450	405	618	513	400	235	513	189
20	173	1,330	319	273	443	551	773	478	342	242	480	198
21	396	960	309	356	416	1,080	1,020	489	299	303	810	279
22	388	698	331	364	390	2,210	986	472	263	295	1,470	848
23	282	560	317	320	390	2,030	977	427	231	279	1,020	1,030
24	227	480	350	389	400	1,610	1,080	400	195	329	765	720
25	200	420	350	1,150	422	4,280	1,090	376	205	380	598	571
26	179	388	400	800	432	6,740	1,080	351	192	386	489	495
27	164	360	400	700	432	4,130	1,020	329	184	395	411	418
28	155	336	458	640	422	2,780	926	307	271	416	356	371
29	146	316	484	640	------	2,110	833	283	205	395	316	329
30	140	300	941	900	------	1,730	765	263	192	1,050	287	295
31	134	------	707	1,200	------	1,500	------	249	------	564	260	------
TOTAL	4,242	11,934	11,302	14,153	23,047	38,213	30,812	17,366	7,440	10,041	25,695	12,478
MEAN	137	398	365	457	823	1,233	1,027	560	248	324	829	416
MAX	396	1,330	941	1,200	1,700	6,740	1,720	1,210	545	1,050	3,410	1,030
MIN	63	123	279	250	390	351	618	249	166	138	260	189
CFSM	.09	.27	.25	.31	.56	.84	.70	.38	.17	.22	.56	.28
IN	.11	.30	.29	.36	.58	.97	.78	.44	.19	.25	.65	.32

CAL YR 1968 TOTAL 363,420 MEAN 993 MAX 10,700 MIN 61 CFSM .68 IN 9.19
WTR YR 1969 TOTAL 206,723 MEAN 566 MAX 6,740 MIN 63 CFSM .39 IN 5.23

PEAK DISCHARGE (BASE, 10,000 CFS).--No peak above base.

1-6090. Town Creek near Oldtown, Md.

LOCATION.--Lat 39°33'12", long 78°33'19", Allegany County, at highway bridge 2 miles upstream from Sawpit Run, 3 miles northeast of Oldtown, and 4 miles upstream from mouth.

DRAINAGE AREA.--148 sq mi.

PERIOD OF RECORD.--July 1928 to September 1935, June 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 550 ft (from topographic map). July 1928, to September 1935, nonrecording gage at present site at datum 0.08 ft lower.

AVERAGE DISCHARGE.--9 years (1928-35, 1967-69), 119 cfs (10.92 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,260 cfs Aug. 20 (gage height, 8.72 ft); minimum discharge, 3.6 cfs Oct. 1, 2, 5 (gage height, 1.89 ft).
Period of record: Maximum discharge 9,700 cfs Oct. 23, 1929 (gage height, 14.08 ft, from graph based on gage readings), from rating curve extended above 1,100 cfs on basis of contracted-opening determination at gage height, 19.08 ft; minimum discharge, 0.9 cfs Aug. 2, 3, 7-14, 1930 (gage height, 1.49 ft).
Flood of Mar. 17 or 18, 1936, reached a stage of 19.08 ft, from floodmarks (discharge, 27,000 cfs, from rating curve extended above 1,100 cfs as explained above).

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	8.7	35	34	179	61	122	51	18	9.5	90	35
2	3.6	7.8	45	25	275	62	116	47	18	8.5	212	31
3	4.1	8.2	71	38	198	59	109	44	28	8.2	257	30
4	4.4	8.7	164	35	145	58	98	42	37	7.8	237	31
5	3.8	8.2	281	27	115	58	93	39	26	8.2	203	33
6	4.1	8.2	171	23	90	55	109	37	21	10	146	33
7	6.1	13	123	32	86	59	102	35	19	23	112	39
8	7.1	120	102	34	76	59	89	34	19	27	86	120
9	7.8	101	86	22	70	59	84	95	19	27	70	121
10	7.4	57	72	20	61	67	80	219	19	23	78	71
11	7.4	39	54	19	58	62	84	140	17	24	76	49
12	7.1	46	47	19	50	60	77	120	16	20	50	39
13	6.8	69	70	16	47	56	66	102	14	16	41	33
14	6.8	64	72	16	45	54	61	88	20	19	33	29
15	6.8	64	52	16	42	46	60	79	84	14	30	27
16	6.8	195	31	14	41	42	82	67	127	11	27	24
17	6.4	215	35	16	40	40	105	58	108	9.1	71	22
18	6.4	200	40	18	40	40	87	52	66	8.2	72	21
19	19	322	45	21	40	41	86	53	52	7.9	244	17
20	61	198	51	26	42	46	89	79	53	7.2	1,390	18
21	30	131	46	26	43	50	77	61	33	11	473	23
22	17	103	43	24	47	58	78	47	27	34	261	20
23	12	83	49	62	54	59	87	41	25	153	175	18
24	9.6	70	44	76	58	69	80	34	25	305	130	16
25	9.1	59	20	62	88	1,190	71	36	22	161	104	16
26	9.1	51	21	35	87	671	64	33	18	109	86	16
27	9.1	46	30	30	78	377	59	29	16	77	68	16
28	8.7	43	49	30	67	258	56	27	14	74	56	15
29	9.1	40	60	40	------	197	59	25	12	115	49	14
30	9.1	38	66	53	------	165	57	23	10	186	44	12
31	9.1	------	58	104	------	138	------	20	------	150	39	------
TOTAL	318.4	2,416.8	2,133	1,013	2,262	4,316	2,487	1,857	983	1,663.6	5,010	989
MEAN	10.3	80.6	68.8	32.7	80.8	139	82.9	59.9	32.8	53.7	162	33.0
MAX	61	322	281	104	275	1,190	122	219	127	305	1,390	121
MIN	3.6	7.8	20	14	40	40	56	20	10	7.2	27	12
CFSM	.07	.54	.46	.22	.55	.94	.56	.40	.22	.36	1.09	.22
IN.	.08	.61	.54	.25	.57	1.08	.62	.47	.25	.42	1.26	.25

CAL YR 1968 TOTAL 39,560.3 MEAN 108 MAX 1,630 MIN 3.4 CFSM .73 IN 9.94
WTR YR 1969, TOTAL 25,448.8 MEAN 69.7 MAX 1,390 MIN 3.6 CFSM .47 IN 6.39

PEAK DISCHARGE (BASE, 1,500 CFS).--Aug. 20 (0830) 2,260 cfs (8.72 ft).

1-6100. Potomac River at Paw Paw, W. Va.

LOCATION.--Lat 39°32'13", long 78°27'28", Allegany County, Md., on left bank 250 ft upstream from bridge on Maryland State Highway 51 at Paw Paw, 3.3 miles downstream from Little Cacapon River, and at mile 277.

DRAINAGE AREA.--3,109 sq mi.

PERIOD OF RECORD.--October 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 487.88 ft above mean sea level (Corps of Engineers bench mark). Prior to Mar. 25, 1939, nonrecording gage at bridge 250 ft downstream at same datum.

AVERAGE DISCHARGE.--31 years, 3,011 cfs (13.16 inches per year).

EXTREMES.--Current year: Maximum discharge, 15,500 cfs Mar. 26 (gage height, 13.70 ft); minimum discharge, 226 cfs Oct. 1, 2, 3 (gage height, 3.04 ft).
Period of record: Maximum discharge, 111,000 cfs Oct. 16, 1942 (gage height, 38.36 ft); minimum discharge, 164 cfs Sept. 10, 11, 1966.
Maximum stage known, 54.0 ft Mar. 18, 1936 (discharge, 240,000 cfs, from rating curve extended above 85,000 cfs on basis of slope-area measurement of peak flow at site 5 miles upstream at Okonoko, W. Va.).

REMARKS.--Records good. Low flow affected by Stony River Reservoir (see p. 74) and, since December 1950, by Savage River Reservoir (see p. 79).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	226	335	980	1,990	4,550	1,220	3,330	1,600	518	370	1,240	659
2	226	335	965	1,580	5,460	1,220	3,020	1,450	500	340	1,470	608
3	226	330	1,060	1,390	5,100	1,190	2,930	1,340	566	310	1,410	626
4	238	340	1,280	1,320	4,580	1,150	3,600	1,240	524	290	1,420	706
5	238	340	2,060	1,000	4,090	1,100	3,480	1,160	489	286	2,110	1,080
6	246	325	2,080	920	3,510	1,020	3,590	1,090	472	330	2,710	1,510
7	268	375	1,780	920	3,110	1,060	4,630	1,030	440	425	2,060	1,420
8	310	685	1,550	840	2,700	1,100	3,810	972	405	659	1,570	1,530
9	300	980	1,370	860	2,440	1,130	3,250	1,070	400	734	1,290	2,270
10	295	800	1,100	965	2,120	1,160	2,910	1,580	400	748	1,270	2,160
11	305	652	900	920	1,940	1,200	2,740	2,000	400	770	3,860	1,480
12	290	652	900	822	1,920	1,130	2,570	1,800	420	792	3,490	1,130
13	282	838	996	785	1,830	1,050	2,290	1,750	445	748	2,250	1,000
14	282	830	1,070	700	1,620	1,020	2,030	1,650	518	815	1,640	882
15	282	762	1,270	620	1,400	1,010	1,820	1,550	713	1,210	1,300	792
16	277	965	1,080	560	1,280	1,210	1,770	1,450	762	890	1,120	720
17	277	2,430	988	520	1,280	1,080	1,850	1,350	1,040	678	1,850	672
18	268	3,000	988	560	1,280	980	1,770	1,300	1,010	566	2,130	620
19	395	3,750	996	672	1,230	1,120	1,720	1,350	868	494	2,220	578
20	590	3,840	1,140	1,190	1,210	1,700	1,750	2,000	727	467	7,180	578
21	633	2,850	1,270	1,400	1,150	3,020	2,020	1,600	633	548	4,600	678
22	912	2,100	1,240	1,320	1,100	4,810	2,030	1,410	566	800	3,820	882
23	652	1,690	1,230	1,270	1,120	4,470	2,000	1,210	500	1,170	2,770	1,850
24	506	1,440	1,620	1,340	1,170	3,750	2,130	1,080	467	1,800	2,090	1,330
25	472	1,290	1,700	1,710	1,220	9,480	2,360	988	450	1,520	1,660	1,100
26	420	1,210	1,570	2,630	1,300	14,200	2,320	912	435	1,360	1,380	912
27	385	1,290	1,540	2,310	1,300	13,900	2,170	830	405	1,130	1,160	852
28	370	1,330	1,740	1,870	1,240	6,800	2,000	755	415	1,280	1,010	1,000
29	350	1,280	2,070	1,660		5,280	1,840	692	512	1,290	898	1,040
30	345	1,200	2,880	2,170	------	4,480	1,740	626	400	2,290	800	741
31	340	------	2,590	3,700	------	3,850	------	578	------	1,760	727	------
TOTAL	11,206	38,244	44,003	40,514	62,250	96,890	75,470	39,413	16,400	26,870	64,505	31,406
MEAN	361	1,275	1,419	1,307	2,223	3,125	2,516	1,271	547	867	2,081	1,047
MAX	912	3,840	2,880	3,700	5,460	14,200	4,630	2,000	1,040	2,290	7,180	2,270
MIN	226	325	900	520	1,100	980	1,720	578	400	286	727	578

CAL YR 1968 TOTAL 945,561 MEAN 2,584 MAX 27,000 MIN 226 CFSM 0.83 IN 11.31
WTR YR 1969 TOTAL 547,171 MEAN 1,499 MAX 14,200 MIN 226 CFSM 0.48 IN 6.55

PEAK DISCHARGE (BASE, 20,000 CFS).--No peak above base.

1-6101.55. Sideling Hill Creek near Bellegrove, Md.

LOCATION.--Lat 39°38'58", long 78°20'40", Washington County, on left bank at highway bridge on Pearre Road, 4.0 miles south of Bellegrove, and 1.2 miles upstream from mouth.

DRAINAGE AREA.--102 square miles.

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

GAGE.--Water-stage recorder. Altitude of gage is 450 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 1,550 cfs Aug. 20 (gage height, 4.63 ft); minimum discharge, 0.10 cfs Oct. 6 (gage height, 0.91 ft).
Period of record: Maximum discharge, 1,840 cfs Mar. 17, 1968 (gage height, 5.06 ft); minimum discharge, no flow for many days in August and September 1968.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.15	1.2	15	26	118	32	79	27	2.1	.87	115	6.1
2	.13	1.2	19	11	183	33	72	24	1.9	.57	185	5.0
3	.12	1.2	31	16	137	31	68	22	89	.37	149	4.6
4	.10	1.2	80	15	118	31	58	20	64	.25	139	4.4
5	.12	1.2	219	12	93	31	55	18	32	.27	140	4.9
6	.12	1.2	134	10	69	29	66	16	20	.36	99	12
7	.15	2.3	90	14	68	31	62	14	14	.63	67	21
8	.15	48	68	15	48	31	54	14	10	.79	47	41
9	.15	69	50	9.4	34	31	50	27	8.1	.67	35	72
10	.15	39	32	8.6	30	35	47	100	6.5	.81	36	47
11	.15	25	30	8.0	28	33	48	65	5.6	2.5	36	32
12	.15	34	26	8.0	26	32	44	54	5.3	12	23	22
13	.15	47	38	7.0	24	30	37	43	4.6	24	15	16
14	.15	46	32	7.0	23	28	34	36	5.0	10	11	12
15	.15	51	28	6.0	20	24	32	31	19	5.2	8.2	9.1
16	.15	180	16	4.5	19	22	37	27	57	3.2	6.5	7.1
17	.15	172	20	5.2	18	21	55	22	58	1.9	5.6	5.8
18	.18	149	16	7.0	18	21	47	18	35	1.3	16	4.8
19	4.0	246	16	9.0	18	22	47	19	24	.87	106	4.3
20	16	154	16	11	18	24	46	22	21	2.1	805	3.5
21	18	92	17	11	19	26	39	20	14	2.9	237	3.9
22	11	65	16	12	19	31	38	14	9.0	2.4	117	3.5
23	6.8	49	18	23	24	31	47	11	7.0	18	69	2.8
24	4.9	39	19	32	25	36	44	9.2	5.5	149	48	2.6
25	3.7	32	8.6	31	41	1,090	40	7.9	4.6	63	35	2.3
26	2.7	28	9.0	25	45	622	36	6.8	4.0	38	27	1.9
27	2.3	23	13	19	41	332	33	6.0	3.0	25	20	1.4
28	1.9	20	15	17	36	207	31	5.0	2.3	176	15	1.1
29	1.4	19	42	19	------	154	31	4.1	1.9	145	11	.98
30	1.4	17	55	22	------	119	32	3.4	1.3	634	8.9	1.1
31	1.2	------	41	79	------	94	------	2.7	------	221	7.4	------
TOTAL	77.87	1,653.5	1,229.6	499.7	1,360	3,314	1,409	709.1	534.7	1,542.96	2,639.6	356.18
MEAN	2.51	55.1	39.7	16.1	48.6	107	47.0	22.9	17.8	49.8	85.1	11.9
MAX	18	246	219	79	183	1,090	79	100	89	634	805	72
MIN	.10	1.2	8.6	4.5	18	21	31	2.7	1.3	.25	5.6	.98
CFSM	.02	.54	.39	.16	.48	1.05	.46	.22	.17	.49	.83	.12
IN.	.03	.60	.45	.18	.50	1.21	.51	.26	.19	.56	.96	.13

CAL YR 1968 TOTAL 22,903.53 MEAN 62.6 MAX 1,440 MIN 0 CFSM .61 IN 8.35
WTR YR 1969 TOTAL 15,326.21 MEAN 42.0 MAX 1,090 MIN .10 CFSM .41 IN 5.59

PEAK DISCHARGE (BASE, 1,100 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
3-25	0645	4.48	1,460	8-20	0045	4.63	1,550
7-30	0645	4.40	1,400				

1-6130. Potomac River at Hancock, Md.

LOCATION.--Lat 39°41'49", long 78°10'39", Washington County on left bank 0.2 mile downstream from Little Tonoloway Creek, 0.5 mile downstream from bridge on U. S. Highway 522 at Hancock, 1.1 miles upstream from Tonoloway Creek (formerly called Great or Big Tonoloway Creek), and at mile 239.

DRAINAGE AREA.--4,073 sq mi.

PERIOD OF RECORD.--October 1932 to current year. Gage-height records collected at same site since June 1925 are contained in reports of U. S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 383.46 ft above mean sea level, adjustment of 1912. Oct. 1, 1932, to Jan. 5, 1935, Mar. 18, 1936, to Jan. 20, 1937, non-recording gage, on former highway bridge just upstream at same datum. Jan. 6, 1935, to Mar. 18, 1936, Jan. 21, 1937, to current year, water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--37 years, 3,871 cfs (12.91 inches per year).

EXTREMES.--Current year: Maximum discharge, 17,700 cfs Mar. 26 (gage height, 11.48 ft); minimum discharge, 290 cfs Oct. 1 (gage height, 2.30 ft).
Period of record: Maximum discharge, 340,000 cfs Mar. 18, 1936 (gage height, 47.6 ft), from rating curve extended above 120,000 cfs on basis of slope-area measurement of peak flow; minimum observed, 180 cfs Oct. 4, 1932 (gage height, 2.01 ft).
Maximum stage known prior to 1932, about 40 ft in May 1889 (discharge, about 220,000 cfs).

REMARKS.--Records good. Slight regulation at low flow from power plants upstream. Low flow affected slightly by Stony River Reservoir (see p. 74) and since December 1950 by Savage River Reservoir (see p. 79). Records of water temperatures for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 781: 1933(M). WSP 801: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	294	397	1,290	2,400	5,600	1,470	4,040	2,010	614	409	2,040	797
2	299	395	1,120	2,000	6,100	1,460	3,570	1,840	574	378	1,670	717
3	307	400	1,150	1,700	6,540	1,430	3,310	1,680	601	360	1,870	686
4	310	398	1,400	1,600	5,520	1,390	3,550	1,550	729	332	1,960	705
5	309	402	2,060	1,200	5,010	1,340	3,880	1,440	623	329	2,240	846
6	311	404	2,510	1,150	4,260	1,300	3,720	1,350	572	328	3,300	1,370
7	338	455	2,230	1,150	3,680	1,270	4,640	1,260	537	355	3,070	1,870
8	348	522	1,940	1,050	3,300	1,300	4,570	1,190	502	417	2,290	1,930
9	375	934	1,690	1,100	2,890	1,340	3,870	1,270	482	589	1,800	2,130
10	379	1,140	1,430	1,200	2,570	1,400	3,430	1,670	463	680	1,580	3,080
11	376	962	1,250	1,150	2,310	1,450	3,140	2,120	454	775	1,600	2,500
12	383	897	1,090	1,000	2,190	1,460	2,970	2,650	457	798	5,670	1,790
13	371	960	1,110	960	2,110	1,380	2,750	2,530	469	806	3,590	1,390
14	365	1,130	1,300	860	1,970	1,290	2,470	2,400	490	750	2,480	1,200
15	358	1,100	1,500	760	1,750	1,270	2,200	2,090	566	850	1,890	1,030
16	357	1,280	1,350	680	1,590	1,250	2,060	1,970	814	1,130	1,520	920
17	354	1,870	1,200	640	1,470	1,440	2,140	1,800	904	833	1,300	830
18	349	3,650	1,200	680	1,490	1,280	2,160	1,620	1,200	647	2,300	743
19	434	4,430	1,200	820	1,450	1,170	2,090	1,510	1,180	543	2,890	686
20	497	4,880	1,400	1,450	1,390	1,420	2,080	1,450	982	501	5,950	623
21	728	4,010	1,550	1,700	1,340	2,260	2,430	1,950	808	500	7,540	632
22	817	2,930	1,500	1,600	1,270	4,050	2,650	1,830	702	493	4,820	762
23	1,070	2,290	1,500	1,550	1,260	5,070	2,530	1,500	628	754	3,890	1,170
24	777	1,900	2,000	1,650	1,300	4,360	2,570	1,290	551	1,490	2,900	1,980
25	630	1,650	2,100	2,100	1,380	8,240	2,690	1,170	511	1,750	2,270	1,500
26	543	1,460	1,900	3,200	1,500	16,500	2,830	1,070	478	1,580	1,850	1,200
27	487	1,390	1,900	2,900	1,550	13,500	2,660	975	456	1,360	1,530	999
28	451	1,470	2,200	2,400	1,530	9,280	2,460	892	427	1,340	1,280	933
29	429	1,460	2,500	2,100	------	6,930	2,280	809	407	1,840	1,130	1,090
30	418	1,380	3,500	2,600	------	5,580	2,120	737	487	2,310	986	1,100
31	405	------	3,200	4,710	------	4,730	------	672	------	2,870	884	------
TOTAL	13,869	46,546	53,270	50,060	74,320	107,610	87,860	48,295	18,668	28,097	80,090	37,209
MEAN	447	1,552	1,718	1,615	2,654	3,471	2,929	1,558	622	906	2,584	1,240
MAX	1,070	4,880	3,500	4,710	6,540	16,500	4,640	2,650	1,200	2,870	7,540	3,080
MIN	294	395	1,090	640	1,260	1,170	2,060	672	407	328	884	623
CFSM	.11	.38	.42	.40	.65	.85	.72	.38	.15	.22	.63	.30
IN.	.13	.43	.49	.46	.68	.98	.80	.44	.17	.26	.73	.34

CAL YR 1968 TOTAL 1,254,965 MEAN 3,429 MAX 37,100 MIN 272 CFSM .84 IN 11.46
WTR YR 1969 TOTAL 645,894 MEAN 1,770 MAX 16,500 MIN 294 CFSM .43 IN 5.90

PEAK DISCHARGE (BASE, 23,000 CFS).--No peak above base.

1-6145. Conococheague Creek at Fairview, Md.

LOCATION.--Lat 39°42'57", long 77°49'28", Washington County, on right bank 0.7 mile upstream from highway bridge in Fairview, 2 miles upstream from Rockdale Run, 6½ miles northwest of Hagerstown, and 18.7 miles upstream from mouth.

DRAINAGE AREA.--494 sq mi.

PERIOD OF RECORD.--June 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 391.77 ft above mean sea level, adjustment of 1912. Prior to Dec. 6, 1932, non-recording gage at highway bridge 0.7 mile downstream at datum 2.85 ft lower. Dec. 6, 1932, to Oct. 7, 1933, non-recording gage 150 ft downstream from former site at datum 4.84 ft lower than present datum. Oct. 8, 1933, to current year, water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--41 years, 540 cfs (14.84 inches per year).

EXTREMES.--Current year: Maximum discharge, 4,680 cfs Mar. 25 (gage height, 7.88 ft); minimum discharge, 58 cfs July 19.
Period of record: Maximum discharge, 17,100 cfs Nov. 22, 1952 (gage height, 15.16 ft, from high-water mark in well); minimum discharge, 21 cfs Aug. 8, Sept. 12, 1966; minimum daily, 25 cfs Nov. 28, 1930.
Maximum stage known, about 16.5 ft (present datum) sometime in 1889, from information by local residents (discharge, about 22,000 cfs).

REMARKS.--Records fair. Low flow partly regulated by small powerplants near Mercersburg, Pa. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 756: Drainage area. WSP 1432: 1929(M), 1930, 1931-32(M), 1935(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89	95	279	250	340	250	602	303	120	84	436	124
2	84	94	340	250	310	250	562	282	125	79	685	121
3	84	96	378	260	300	240	525	268	144	78	993	130
4	84	96	593	260	280	240	478	254	136	73	1,380	144
5	82	96	949	240	260	250	462	243	133	73	1,540	153
6	83	95	712	220	250	240	545	232	120	89	919	243
7	97	130	553	230	260	260	485	223	115	90	637	228
8	117	984	468	250	250	250	420	219	117	97	484	193
9	106	728	403	230	273	250	393	341	117	94	407	235
10	98	459	338	220	242	250	386	480	135	91	392	223
11	97	345	314	220	270	250	437	340	126	91	335	169
12	98	419	300	210	253	242	422	286	115	90	280	150
13	96	696	310	200	215	245	365	266	107	96	241	138
14	94	674	320	200	206	237	345	250	192	95	216	126
15	93	659	293	200	208	223	339	236	271	86	199	121
16	93	845	280	200	224	211	372	220	406	77	188	122
17	88	972	270	210	198	205	442	207	386	70	192	110
18	85	1,160	260	230	198	207	405	197	227	69	235	115
19	213	1,740	280	250	199	213	413	212	191	60	349	113
20	487	1,220	274	230	207	228	410	252	170	96	499	111
21	276	867	241	230	208	235	353	229	147	206	323	104
22	181	695	230	230	221	232	367	198	130	171	242	100
23	150	573	280	230	222	220	444	180	123	155	209	101
24	133	493	279	270	246	235	421	176	121	473	186	96
25	128	447	300	250	280	3,450	390	171	119	320	170	97
26	124	405	260	220	260	2,800	358	163	135	498	168	100
27	114	363	270	210	240	1,620	337	155	122	482	151	101
28	110	332	300	200	230	1,180	325	146	112	1,300	143	93
29	107	316	310	220	------	941	347	141	98	1,360	138	87
30	100	303	270	460	------	793	338	133	88	797	133	90
31	96	------	260	390	------	676	------	122	------	680	127	------
TOTAL	3,887	16,397	10,914	7,470	6,850	17,123	12,488	7,125	4,648	8,120	12,597	4,038
MEAN	125	547	352	241	245	552	416	230	155	262	406	135
MAX	487	1,740	949	460	340	3,450	602	480	406	1,360	1,540	243
MIN	82	94	230	200	198	205	325	122	88	60	127	87
CFSM	.25	1.11	.71	.49	.50	1.12	.84	.47	.31	.53	.82	.27
IN.	.29	1.23	.82	.56	.52	1.29	.94	.54	.35	.61	.95	.30

CAL YR 1968 TOTAL 173,198 MEAN 473 MAX 3,750 MIN 82 CFSM .96 IN 13.04
WTR YR 1969 TOTAL 111,657 MEAN 306 MAX 3,450 MIN 60 CFSM .62 IN 8.41

PEAK DISCHARGE (BASE, 4,300 CFS).--Mar. 25 (2000) 4,680 cfs (7.88 ft).

1-6178. Marsh Run at Grimes, Md.

LOCATION.--Lat 39°30'53", long 77°46'38", Washington County, on right bank 220 ft upstream from bridge on Sprecher Road, 0.1 mile downstream from unnamed tributary, 0.5 mile southwest of Grimes, 1.5 miles upstream from mouth, and 2.2 miles southwest of Fairplay.

DRAINAGE AREA.--18.9 sq mi.

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

GAGE.--Water-stage recorder. Altitude of gage is 360 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 8.36 cfs (6.01 inches per year).

EXTREMES.--Current year: Maximum discharge (discharge not determined, probably occurred Aug. 17 or 18); minimum discharge, not determined (occurred during period of ice effect); minimum daily, 1.7 cfs July 18, 19.
Period of record: Maximum discharge, 105 cfs Jan. 9, 1964 (gage height, 2.42 ft); minimum daily, 0.40 cfs Jan. 31, 1966, result of freezeup.

REMARKS.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	4.6	4.8	4.2	6.0	5.4	5.7	4.0	2.4	2.3	3.4	3.0
2	4.3	4.5	6.3	4.0	6.0	5.7	5.4	3.7	2.5	2.4	3.4	3.2
3	4.4	4.4	5.4	4.5	6.0	6.0	5.0	3.7	3.0	2.3	3.9	3.5
4	4.3	4.3	6.3	4.0	5.7	5.7	4.7	3.7	2.5	2.3	5.1	5.2
5	4.3	4.3	5.5	4.1	5.4	5.4	5.0	3.7	2.5	2.7	4.2	4.0
6	4.2	4.3	5.2	4.3	5.4	5.4	5.0	4.2	2.4	2.7	3.7	3.5
7	5.4	5.8	5.3	3.8	5.4	6.0	4.4	3.5	2.4	2.9	3.3	4.4
8	4.5	7.1	5.3	3.8	5.4	5.7	4.4	3.5	2.3	2.9	2.9	4.6
9	4.3	5.6	5.7	3.8	5.4	5.7	4.4	5.0	2.6	2.8	3.0	4.0
10	4.2	6.1	4.9	3.8	5.4	5.4	4.4	4.3	3.0	2.8	4.6	3.5
11	4.3	5.7	4.5	3.6	5.3	5.4	4.4	4.3	3.0	2.8	3.6	3.2
12	4.4	8.7	4.5	3.6	5.2	5.3	4.2	4.3	2.8	2.7	3.4	3.2
13	4.4	7.5	4.7	4.0	5.0	5.2	4.2	4.3	3.0	2.8	3.3	3.0
14	4.3	6.8	4.9	3.6	4.8	5.2	4.2	4.0	4.5	2.5	3.3	3.0
15	4.3	6.0	4.9	3.5	4.5	5.0	4.2	4.0	3.4	2.4	3.2	3.0
16	4.3	6.6	4.5	3.4	4.7	5.0	4.4	4.0	3.1	2.2	3.2	3.0
17	4.2	7.4	4.5	3.5	4.7	5.0	4.2	3.7	2.9	1.8	3.2	3.0
18	4.3	8.4	4.5	3.7	4.7	5.0	4.2	3.5	3.1	1.7	15	3.3
19	10	13	4.5	3.7	4.4	5.2	4.4	4.0	3.2	1.7	7.6	3.5
20	6.1	9.0	4.6	3.5	4.7	5.2	4.2	4.1	2.8	2.2	5.0	3.2
21	4.7	7.4	4.5	4.0	4.7	5.4	4.0	3.5	2.7	3.6	4.4	3.0
22	4.5	6.7	4.5	4.4	4.7	5.2	5.0	3.5	2.7	2.7	4.0	3.0
23	4.3	6.1	6.0	4.0	5.2	5.2	4.7	3.5	2.7	3.0	3.7	3.0
24	4.1	5.6	5.4	4.2	5.4	6.0	4.4	3.6	2.4	3.2	3.5	3.0
25	4.3	5.6	4.5	4.3	5.7	8.9	4.2	3.4	2.1	2.9	3.4	3.0
26	4.3	5.3	4.2	4.0	5.4	6.8	4.4	3.3	2.2	3.1	3.4	3.0
27	4.6	5.2	4.5	3.7	5.4	6.2	3.7	3.1	2.6	3.1	3.3	3.0
28	4.6	5.3	4.7	3.6	5.4	6.0	4.0	2.7	2.7	7.2	3.2	2.8
29	4.3	5.0	5.0	4.4	------	6.0	4.2	2.6	2.4	5.4	3.1	2.2
30	4.4	4.8	4.7	5.4	------	6.0	4.0	2.4	2.4	4.0	3.1	2.4
31	4.3	------	4.5	5.4	------	5.7	------	2.2	------	3.6	3.0	------
TOTAL	143.3	187.1	153.3	123.8	146.0	175.3	133.6	113.3	82.3	90.7	126.4	98.7
MEAN	4.62	6.24	4.95	3.99	5.21	5.65	4.45	3.65	2.74	2.93	4.08	3.29
MAX	10	13	6.3	5.4	6.0	8.9	5.7	5.0	4.5	7.2	15	5.2
MIN	4.1	4.3	4.2	3.4	4.4	5.0	3.7	2.2	2.1	1.7	2.9	2.2
CFSM	.24	.33	.26	.21	.28	.30	.24	.19	.15	.15	.22	.17
IN.	.28	.37	.30	.24	.29	.34	.26	.22	.16	.18	.25	.19

CAL YR 1968 TOTAL 4,038.7 MEAN 11.0 MAX 48 MIN 4.1 CFSM .58 IN 7.95
WTR YR 1969 TOTAL 1,573.8 MEAN 4.31 MAX 15 MIN 1.7 CFSM .23 IN 3.10

PEAK DISCHARGE (BASE, 40 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
*	Unknown	1.86	53	†	‡	‡	‡

NOTE.--No gage-height record Aug. 15 to Sept. 9.
* Nov. 18 or 19.
† Aug. 17 or 18.
‡ Unknown (discharge greater than base).

1-6180. Potomac River at Shepherdstown, W. Va.

LOCATION.--Lat 39°26'04", long 77°48'07", Jefferson County, on right bank 0.1 mile downstream from Rumsey Bridge at Shepherdstown, 3.3 miles upstream from Antietam Creek, and at mile 184.

DRAINAGE AREA.--5,936 sq mi.

PERIOD OF RECORD.--August 1928 to September 1953. Annual maximums water years 1954-64. July 1964 to current year. Gage-height record and estimated discharge October 1953 to June 1964 available in files of Maryland district office.

GAGE.--Water-stage recorder. Datum of gage is 281.00 ft above mean sea level, adjustment of 1912.

AVERAGE DISCHARGE.--30 years (1928-53, 1964-69), 5,575 cfs (12.76 inches per year).

EXTREMES.--Current year: Maximum discharge, 23,600 cfs Mar. 26 (gage height, 8.96 ft); minimum discharge 435 cfs July 4, (gage height, 1.44 ft).
Period of record: Maximum discharge, 335,000 cfs Mar. 19, 1936 (gage height, 42.1 ft, from floodmarks), from rating curve extended above 200,000 cfs on basis of slope-area measurements of peak flow at gage heights 32.68 and 42.1 ft; minimum, 170 cfs Aug. 1, 1966; minimum daily 185 cfs July 31, 1966.
Floods in June 1889 and May 1924 reached stages of 39.2 and 29.8 ft respectively, from floodmarks (discharges, about 290,000 and 168,000 cfs, respectively, from rating curve extended as explained above).

REMARKS.--Records good. Some regulation at low flow by powerplants above station, Stony River Reservoir (see p. 74), and since December 1950 by Savage River Reservoir (see p. 79).

REVISIONS (WATER YEARS).--WSP 756: Drainage area. WSP 781: 1929(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	606	639	2,170	2,200	4,300	2,310	5,900	2,910	1,000	673	4,360	1,920
2	567	572	2,150	1,700	6,800	2,290	5,170	2,740	862	676	3,360	1,900
3	536	466	2,030	1,900	8,950	2,260	4,710	2,540	971	643	3,570	1,820
4	601	619	2,300	1,800	8,000	2,250	4,400	2,340	988	461	4,770	1,780
5	606	760	3,500	1,650	6,820	2,250	4,740	2,200	967	501	6,190	1,800
6	548	837	4,200	1,750	6,030	2,200	4,890	2,050	1,010	575	5,590	1,940
7	623	833	3,900	1,600	5,260	2,220	4,870	1,950	926	577	5,660	2,520
8	642	775	3,300	1,500	4,670	2,160	5,870	1,840	843	612	4,850	3,560
9	624	1,610	2,900	1,500	4,260	2,200	5,250	1,850	873	664	3,940	3,670
10	666	1,590	2,500	1,300	3,630	2,260	4,650	2,130	858	841	3,510	3,770
11	706	1,760	2,100	1,250	3,310	2,300	4,270	2,720	724	1,020	3,280	4,440
12	688	1,870	1,800	1,200	3,100	2,280	4,020	2,870	646	1,140	3,620	3,750
13	676	2,020	1,700	1,300	3,000	2,210	3,780	3,360	723	1,240	6,540	3,020
14	673	2,450	1,800	1,250	2,900	2,150	3,480	3,140	827	1,320	4,780	2,540
15	648	2,510	2,100	1,250	2,600	2,040	3,200	2,930	998	1,200	3,780	2,300
16	659	2,770	1,750	1,300	2,300	1,950	2,990	2,680	1,110	1,070	3,180	2,030
17	636	3,950	1,850	1,250	2,300	1,900	2,950	2,460	1,270	1,360	2,790	1,910
18	626	4,930	1,650	1,200	2,150	2,020	3,090	2,260	1,490	1,020	2,790	1,630
19	816	7,620	1,750	1,250	2,050	1,910	3,130	2,160	1,500	829	4,450	1,550
20	1,080	8,280	1,750	1,200	2,000	1,830	3,250	2,050	1,560	912	5,540	1,490
21	1,460	7,280	1,900	1,320	2,000	2,010	3,400	2,000	1,320	941	10,300	1,380
22	1,390	5,660	2,000	1,560	2,000	2,910	3,550	2,330	1,150	1,220	8,380	1,300
23	1,310	4,410	2,200	1,800	1,900	5,030	3,780	2,230	1,090	1,310	6,370	1,310
24	1,350	3,610	2,200	2,230	2,000	5,490	3,810	1,920	965	1,360	5,290	1,640
25	1,210	3,120	1,900	2,320	2,100	7,690	3,750	1,700	804	2,300	4,320	2,630
26	912	2,810	1,700	2,320	2,300	21,100	3,750	1,560	791	2,790	3,700	2,160
27	861	2,500	2,000	2,660	2,370	21,100	3,730	1,460	760	2,710	3,200	1,990
28	911	2,340	2,250	3,380	2,390	14,500	3,510	1,380	671	2,900	2,830	1,480
29	928	2,330	2,300	2,840	------	10,600	3,310	1,210	710	4,350	2,560	1,480
30	847	2,260	2,600	2,740	------	8,230	3,100	1,130	707	4,210	2,340	1,570
31	736	------	2,750	3,090	------	6,870	------	1,080	------	4,370	2,120	------
TOTAL	25,142	83,181	71,000	55,610	101,390	148,520	120,300	67,180	29,114	45,795	137,960	66,280
MEAN	811	2,773	2,290	1,794	3,621	4,791	4,010	2,167	970	1,477	4,450	2,209
MAX	1,460	8,280	4,200	3,380	8,850	21,100	5,900	3,360	1,560	4,370	10,300	4,440
MIN	536	466	1,650	1,200	1,900	1,830	2,950	1,080	646	461	2,120	1,300
CFSM	.14	.47	.39	.30	.61	.81	.68	.37	.16	.25	.75	.37
IN.	.16	.52	.44	.35	.64	.93	.75	.42	.18	.29	.86	.42

CAL YR 1968 TOTAL 1,756,943 MEAN 4,800 MAX 53,400 MIN 383 CFSM .81 IN 11.01
WTR YR 1969 TOTAL 951,472 MEAN 2,607 MAX 21,100 MIN 461 CFSM .44 IN 5.96

PEAK DISCHARGE (BASE, 23,000 CFS).--Mar. 26 (2330) 23,600 cfs (8.96 ft).

1-6190. Antietam Creek near Waynesboro, Pa.

LOCATION.--Lat 39°42'59", long 77°36'28", Washington County, Md., on right bank 100 ft upstream from highway bridge at Rocky Forge, 0.4 mile downstream from Pennsylvania-Maryland State line, 0.7 mile downstream from confluence of west and east branches, 1.9 miles northeast of Leitersburg, Md., 2.5 miles southwest of Waynesboro, Pa., and 36.6 miles upstream from mouth.

DRAINAGE AREA.--93.5 sq mi.

PERIOD OF RECORD.--May 1948 to September 1951, October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 550.64 ft above mean sea level (Corps of Engineers bench mark). May 1948 to September 1951, nonrecording gage 100 ft downstream at present datum.

AVERAGE DISCHARGE.--7 years (1948-51, 1965-69), 98.9 cfs (14.36 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,030 cfs July 27 (gage height, 5.80 ft); minimum, 24 cfs Feb. 14 (gage height, 3.10 ft).
Period of record: Maximum discharge, 1,490 cfs Nov. 25, 1950 (gage height, 8.55 ft) from rating curve extended above 400 cfs; minimum daily, 11 cfs Jan. 30, 1966.

REMARKS.--Records good. Occasional regulation from mills above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	31	60	48	65	48	65	80	36	34	53	36
2	32	31	82	47	60	48	65	68	40	34	50	36
3	32	33	67	49	56	46	63	65	68	33	65	39
4	32	32	91	50	53	46	60	61	42	32	144	50
5	32	32	79	47	49	48	67	59	39	41	81	43
6	31	31	68	42	48	46	70	57	37	46	64	39
7	46	68	63	44	49	51	60	55	36	42	57	45
8	36	109	62	47	48	48	56	56	35	40	55	53
9	33	46	60	44	51	49	54	113	41	39	52	43
10	32	41	60	43	45	49	62	81	37	37	69	37
11	34	41	59	42	48	49	67	62	37	38	53	36
12	33	76	57	40	48	47	54	58	35	48	48	34
13	32	62	59	38	45	47	51	56	83	60	45	33
14	32	51	63	38	41	47	51	56	212	38	44	32
15	32	62	59	39	41	45	51	53	93	31	44	32
16	32	111	54	39	43	44	67	51	139	29	43	32
17	31	106	52	40	43	46	65	49	87	29	55	38
18	32	184	51	44	43	50	60	48	81	31	107	52
19	88	184	54	48	43	53	91	56	79	43	87	35
20	49	134	54	44	46	53	74	62	64	173	73	32
21	37	110	51	44	45	54	72	51	56	81	53	32
22	34	99	55	44	46	52	99	46	52	49	48	31
23	34	87	68	45	48	49	106	45	52	63	45	31
24	33	84	61	51	53	61	88	45	48	59	44	31
25	34	88	58	48	54	186	82	43	46	44	43	32
26	32	75	50	41	49	121	80	42	44	42	41	31
27	31	71	51	40	46	101	76	41	42	158	40	30
28	32	67	58	39	45	88	77	41	41	247	38	31
29	31	65	61	43	------	79	82	40	37	106	38	30
30	31	61	52	88	------	74	76	38	36	71	37	29
31	31	------	50	74	------	67	------	37	------	59	36	------
TOTAL	1,092	2,272	1,869	1,430	1,351	1,892	2,091	1,715	1,775	1,877	1,752	1,085
MEAN	35.2	75.7	60.3	46.1	48.3	61.0	69.7	55.3	59.2	60.5	56.5	36.2
MAX	88	184	91	88	65	186	106	113	212	247	144	53
MIN	31	31	50	38	41	44	51	37	35	29	36	29
CFSM	.38	.81	.64	.49	.52	.65	.75	.59	.63	.65	.60	.39
IN.	.43	.90	.74	.57	.54	.75	.83	.68	.71	.75	.70	.43

CAL YR 1968 TOTAL 35,324 MEAN 96.5 MAX 558 MIN 30 CFSM 1.03 IN 14.05
WTR YR 1969 TOTAL 20,201 MEAN 55.3 MAX 247 MIN 29 CFSM .59 IN 8.04

PEAK DISCHARGE (BASE, 850 CFS).--July 27 (2130) 1,030 cfs (5.80 ft).

1-6195. Antietam Creek near Sharpsburg, Md.

LOCATION.--Lat 39°27'01", long 77°43'52", Washington County, on left bank 400 ft downstream from Burnside Bridge, 1 mile southeast of Sharpsburg, and 4 miles upstream from mouth.

DRAINAGE AREA.--281 sq mi.

PERIOD OF RECORD.--June 1897 to September 1905. August 1928 to current year. Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Water-stage recorder. Concrete control since Mar. 29, 1934. Datum of gage is 311.00 ft above mean sea level, adjustment of 1912. June 24, 1897, to Aug. 25, 1905, nonrecording gage a few hundred feet downstream from Middle Bridge, 1.2 miles upstream at datum about 12 feet higher. Aug. 21, 1928, to July 13, 1933, nonrecording gage at Burnside Bridge at present datum. July 14, 1933 to current year, water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--46 years (1897-1903, 1904-5, 1930-1969), 255 cfs (12.32 inches per year), adjusted for inflow since 1930.

EXTREMES.--Current year: Maximum discharge, 2,070 cfs Aug. 18 (gage height, 6.33 ft); minimum discharge, 80 cfs Jan. 12 (gage height 2.26 ft) result of freezeup; minimum daily, 81 cfs July 17, 19.
Period of record: Maximum discharge, 12,600 cfs July 20, 1956 (gage height, 16.73 ft), from rating curve extended above 4,300 cfs on basis of contracted-opening measurement of peak flow; minimum discharge, 9.4 cfs Nov. 22, 1957, result of regulation caused by construction work above station; minimum daily, 37 cfs Jan. 30, 1966.

REMARKS.--Records good. Some diurnal fluctuation caused by powerplant above station. Since 1928, records include pumpage from Potomac River for municipal supply of Hagerstown. This water later enters Anitetam Creek above station as sewage. Records of chemical analyses and water temperatures for the water year 1969, are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 192: 1897-1905. WSP 726: Drainage area. WSP 1432: 1929-31(M), 1933, 1935(M), 1937(M), 1949(M), 1952(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	92	146	124	173	134	166	160	106	95	131	111
2	99	93	171	119	162	140	164	160	106	95	123	113
3	101	92	170	145	156	139	165	154	147	95	124	126
4	101	94	178	121	147	138	162	146	143	92	216	196
5	97	92	186	122	142	137	159	142	119	95	228	141
6	97	93	173	128	138	136	167	137	112	103	162	130
7	126	105	157	112	137	143	168	134	112	110	142	162
8	117	188	152	111	135	144	161	132	110	110	132	169
9	106	177	152	113	138	139	155	163	108	103	127	150
10	100	133	144	113	136	138	153	210	112	100	143	130
11	100	124	135	107	129	136	165	166	117	99	143	121
12	100	160	136	108	132	132	161	146	110	99	126	115
13	98	203	141	122	130	131	148	143	110	121	119	113
14	96	173	147	105	123	131	143	141	229	120	114	110
15	97	168	146	103	117	129	144	137	232	95	112	107
16	96	212	135	102	121	126	151	135	176	86	111	107
17	95	240	135	102	121	125	160	132	200	81	112	106
18	95	262	135	107	120	128	161	130	160	83	530	124
19	194	410	133	114	121	132	158	140	157	81	323	128
20	186	290	136	112	122	134	164	157	150	105	223	110
21	124	242	133	122	127	134	166	152	135	292	178	104
22	108	216	131	145	124	133	171	138	126	160	151	103
23	103	200	159	122	128	130	178	124	122	133	141	103
24	100	185	151	130	136	134	195	124	122	135	134	102
25	100	186	137	129	143	228	190	124	115	123	129	103
26	97	179	123	121	146	309	173	119	112	110	127	101
27	94	166	127	110	138	236	165	117	108	110	123	100
28	93	160	136	108	134	211	162	115	108	502	121	100
29	94	154	142	116	------	192	163	112	103	288	119	97
30	93	150	139	132	------	184	165	110	99	179	117	98
31	92	------	129	183	------	173	------	106	------	145	115	------
TOTAL	3,298	5,239	4,515	3,708	3,776	4,756	4,903	4,306	3,966	4,145	4,896	3,580
MEAN	106	175	146	120	135	153	163	139	132	134	158	119
MAX	194	410	186	183	173	309	195	210	232	502	530	196
MIN	92	92	123	102	117	125	143	106	99	81	111	97
+	-11.7	-10.6	-10.0	-8.8	-9.0	-10.4	-10.4	-10.8	-11.7	-13.4	-14.7	-14.4
MEAN‡	94.3	164	136	111	126	143	153	128	120	121	143	105
CFSM‡	.34	.58	.48	.40	.45	.51	.54	.46	.43	.43	.51	.37
IN ‡	.39	.65	.56	.46	.47	.59	.61	.53	.48	.50	.59	.42

CAL YR 1968 TOTAL 93,543 MEAN 256 MAX 1,130 MIN 92 MEAN‡ 245 CFSM‡ .87 IN‡ 11.86
WTR YR 1969 TOTAL 51,088 MEAN 140 MAX 530 MIN 81 MEAN‡ 129 CFSM‡ .46 IN‡ 6.21

PEAK DISCHARGE (BASE, 1,500 CFS).--Aug. 18 (1930) 2,070 cfs (6.33 ft).

† Pumpage, in cubic feet per second, from Potomac River for municipal supply of Hagerstown.
‡ Adjusted for pumpage.

1-6365. 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 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.--54 years (1895-1908, 1928-69), 2,588 cfs (11.56 inches per year).

EXTREMES.--Current year: Maximum discharge, 14,800 cfs Aug. 22 (gage height, 8.36 ft); minimum, 342 cfs July 20 (gage height, 1.13 ft); minimum daily, 429 cfs Oct. 2.
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 in 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 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	447	569	1,150	886	2,320	1,200	2,270	1,140	695	534	2,910	1,370
2	429	564	1,090	897	2,510	1,280	1,950	1,110	792	501	2,740	1,200
3	438	538	1,060	794	2,510	1,240	1,820	1,100	1,080	492	7,460	1,200
4	467	577	1,030	935	2,390	1,230	1,780	1,090	992	472	7,450	1,230
5	435	496	1,030	930	2,230	1,300	1,580	1,030	872	439	7,370	2,030
6	436	598	978	811	2,050	1,320	1,670	1,010	815	456	5,910	3,290
7	510	575	959	810	1,900	1,350	1,610	983	694	461	4,560	3,190
8	532	585	963	938	1,840	1,420	1,470	892	757	489	3,670	2,870
9	522	626	967	933	1,730	1,500	1,450	956	730	653	2,890	2,700
10	493	657	853	935	1,730	1,620	1,370	980	608	739	2,840	2,280
11	513	682	814	953	1,690	1,780	1,390	966	662	806	5,040	2,060
12	542	929	762	840	1,540	1,960	1,320	958	651	864	5,920	1,670
13	551	1,130	804	710	1,610	1,890	1,280	919	631	799	4,020	1,440
14	516	1,260	999	792	1,480	1,800	1,210	911	619	1,200	2,950	1,360
15	517	1,220	943	778	1,350	1,610	1,200	834	630	1,460	2,400	1,270
16	507	1,600	844	742	1,370	1,600	1,200	849	680	1,020	1,920	1,140
17	506	2,110	675	740	1,330	1,530	1,260	849	889	940	1,830	1,150
18	495	2,530	797	832	1,200	1,460	1,410	843	1,210	768	1,760	1,100
19	630	3,680	923	843	1,190	1,410	1,570	785	1,210	656	1,850	1,170
20	787	3,810	927	847	1,210	1,400	1,780	842	1,200	699	1,910	1,690
21	917	4,140	846	843	1,190	1,430	1,730	800	1,070	718	1,770	1,770
22	1,360	3,330	856	1,060	1,060	1,510	1,660	1,010	964	637	11,000	2,620
23	1,280	2,570	856	1,430	1,120	1,650	1,700	1,670	839	987	6,850	3,410
24	817	2,170	917	1,720	1,140	2,040	1,680	1,360	640	1,590	4,650	2,900
25	745	1,770	866	1,820	1,150	2,440	1,610	1,190	700	1,540	3,580	2,460
26	703	1,660	715	2,460	1,150	2,670	1,490	1,100	617	1,610	2,920	2,190
27	671	1,400	815	2,850	1,190	4,610	1,430	1,130	607	1,690	2,380	2,610
28	597	1,380	1,080	2,470	1,170	4,530	1,340	1,050	600	2,630	2,070	2,090
29	578	1,230	988	2,160	------	3,700	1,280	935	599	2,530	1,720	1,670
30	578	1,180	904	1,980	------	3,430	1,290	905	584	2,420	1,590	1,500
31	570	------	895	2,060	------	2,570	------	823	------	3,140	1,470	------
TOTAL	19,089	45,566	28,306	37,799	44,350	60,480	45,800	31,020	23,637	33,940	117,400	58,630
MEAN	616	1,519	913	1,219	1,584	1,951	1,527	1,001	788	1,095	3,787	1,954
MAX	1,360	4,140	1,150	2,850	2,510	4,610	2,270	1,670	1,210	3,140	11,000	3,410
MIN	429	496	675	710	1,060	1,200	1,200	785	584	439	1,470	1,100
CFSM	.20	.50	.30	.40	.52	.64	.50	.33	.26	.36	1.25	.64
IN	.23	.56	.35	.46	.54	.74	.56	.38	.29	.42	1.44	.72

CAL YR 1968 TOTAL 734,939 MEAN 2,008 MAX 16,000 MIN 429 CFSM .66 IN 8.99
WTR YR 1969 TOTAL 546,017 MEAN 1,496 MAX 11,000 MIN 429 CFSM .49 IN 6.68

PEAK DISCHARGE (BASE, 15,000 CFS).--No peak above base.

1-6370. Little Catoctin Creek at Harmony, Md.

NOTE.--Records for the 1969 water year have been withheld pending better definition of the stage-discharge relation. They will be published in a subsequent annual report.

1-6375. Catoctin Creek near Middletown, Md.

LOCATION.--Lat 39°25'35", long 77°33'25", Frederick County, on right bank 300 ft downstream from bridge on State Highway 17, 1.3 miles south of Middletown, 2.2 miles downstream from Little Catoctin Creek, and 14.8 miles upstream from mouth.

DRAINAGE AREA.--66.9 sq mi.

PERIOD OF RECORD.--August 1947 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 385 ft (from topographic map).

AVERAGE DISCHARGE.--22 years, 66.2 cfs (13.44 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,460 cfs Aug. 18 (gage height, 4.54 ft); minimum discharge, 2.1 cfs July 19 (gage height, 0.86 ft).
Period of record: Maximum discharge, 7,760 cfs July 18, 1949 (gage height, 11.18 ft), from rating curve extended above 1,500 cfs on basis of slope-area measurement of peak flow; no flow Aug. 27 to Sept. 12, 1966.

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 1432: 1947-48.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	8.0	26	21	82	41	50	42	16	4.0	9.5	8.5
2	2.9	8.0	57	21	71	38	50	37	17	3.9	9.0	14
3	3.1	8.0	43	25	61	36	47	32	27	3.9	18	46
4	3.4	8.0	53	22	54	39	43	28	20	3.4	39	240
5	3.4	8.0	53	17	49	37	48	24	16	4.1	31	66
6	3.8	10	41	17	46	36	63	20	15	5.0	18	44
7	11	37	37	17	41	39	46	17	14	5.8	13	64
8	10	41	35	17	35	36	40	16	14	7.5	10	113
9	6.2	20	28	19	35	39	38	71	13	7.6	9.0	71
10	5.1	30	26	17	31	37	40	76	14	7.3	16	50
11	5.1	26	25	14	35	32	53	41	15	7.7	15	39
12	5.0	105	24	13	34	28	40	35	14	12	9.5	33
13	5.1	64	24	13	29	30	36	33	12	26	7.0	28
14	4.9	56	40	13	28	28	34	31	64	12	5.5	26
15	5.0	78	38	14	39	27	35	28	28	5.9	5.5	22
16	4.7	96	22	13	28	26	43	26	24	4.2	5.0	20
17	4.6	64	34	15	32	30	47	25	16	3.3	5.2	18
18	4.8	120	26	19	27	37	40	24	14	2.7	307	18
19	76	105	25	27	25	43	67	32	20	2.4	119	16
20	36	97	27	23	26	45	58	118	15	21	73	15
21	8.4	76	25	33	25	41	48	52	12	51	42	15
22	8.4	65	30	45	25	37	67	36	9.9	36	31	14
23	8.4	55	63	44	31	33	86	32	9.9	20	26	13
24	7.0	50	56	57	62	38	73	32	9.8	18	22	13
25	10	52	33	46	59	155	68	30	8.5	13	18	14
26	10	41	41	34	48	98	62	26	7.3	12	15	13
27	10	36	37	30	39	77	57	24	6.9	9.5	13	12
28	10	34	48	25	37	67	52	23	7.1	106	12	11
29	8.0	33	56	26	------	63	56	22	5.7	30	10	10
30	8.0	28	38	52	------	66	48	19	4.7	18	10	10
31	8.0	------	34	80	------	55	------	16	------	12	9.0	------
TOTAL	299.3	1,459.0	1,145	829	1,134	1,434	1,535	1,068	469.8	475.2	932.2	1,076.5
MEAN	9.65	48.6	36.9	26.7	40.5	46.3	51.2	34.5	15.7	15.3	30.1	35.9
MAX	76	120	63	80	82	155	86	118	64	106	307	240
MIN	2.9	8.0	22	13	25	26	34	16	4.7	2.4	5.0	8.5
CFSM	.14	.73	.55	.40	.61	.69	.76	.51	.23	.23	.45	.54
IN.	.17	.81	.64	.46	.63	.80	.85	.59	.26	.26	.52	.60

CAL YR 1968 TOTAL 22,480.6 MEAN 61.4 MAX 979 MIN 1.9 CFSM .92 IN 12.50
WTR YR 1969 TOTAL 11,857.0 MEAN 32.5 MAX 307 MIN 2.4 CFSM .49 IN 6.59

PEAK DISCHARGE (BASE, 1,200 CFS).--Aug. 18 (1800) 1,460 cfs (4.54 ft).

1-6385. 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 at present datum.

AVERAGE DISCHARGE.--74 years, 9,041 cfs (12.72 inches per year).

EXTREMES.--Current year: Maximum discharge, 27,800 cfs Mar. 27 (gage height, 7.15 ft); minimum, 852 cfs Nov. 4, July 6 (gage height, 0.52 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 (see p. 74) and since December 1950 by Savage River Reservoir (see p. 79). Low flow affected extensively at times by run-of-the-river hydroelectric plants. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

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 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,060	1,510	3,660	3,480	7,120	3,930	9,600	4,700	1,960	1,270	7,890	2,840
2	1,070	1,350	3,630	2,800	10,100	3,990	8,380	4,320	1,910	1,200	6,390	2,770
3	1,020	1,300	3,450	3,000	12,300	3,890	7,590	4,120	2,130	1,150	10,300	2,770
4	1,020	1,060	3,510	3,000	11,900	3,890	7,070	3,860	2,270	1,100	12,400	3,200
5	1,030	1,310	3,790	2,800	10,400	3,920	6,940	3,610	2,010	953	13,900	2,780
6	1,020	1,380	5,280	2,800	9,370	3,920	7,570	3,350	1,940	885	12,500	4,950
7	1,130	1,660	5,720	2,600	8,220	3,950	7,310	3,220	1,850	1,030	10,600	4,670
8	1,190	1,730	5,250	2,600	7,430	4,040	7,830	3,070	1,850	1,010	9,210	5,430
9	1,230	1,800	4,580	2,600	6,920	4,120	7,900	3,050	1,950	1,190	7,360	5,950
10	1,180	2,640	4,060	2,400	6,290	4,290	7,070	3,300	1,680	1,340	6,200	5,570
11	1,210	2,680	3,220	2,400	5,560	4,550	6,590	3,760	1,590	1,660	7,530	5,540
12	1,230	3,300	2,890	2,200	5,300	4,670	6,200	4,070	1,550	2,000	9,350	5,340
13	1,300	3,730	2,660	2,200	5,170	4,730	5,850	4,580	1,430	2,030	10,200	4,100
14	1,250	4,260	3,100	2,200	4,760	4,470	5,460	4,540	1,500	2,060	8,360	3,450
15	1,220	4,440	3,390	2,200	4,300	4,160	5,070	4,300	1,650	2,880	6,320	3,110
16	1,210	4,780	2,800	2,200	4,010	3,940	4,910	3,890	1,830	2,480	4,970	2,770
17	1,210	6,510	2,790	2,150	3,920	3,790	4,760	3,650	2,000	2,010	4,230	2,640
18	1,200	8,090	2,660	2,190	3,630	3,740	5,010	3,450	2,600	2,010	5,500	2,540
19	1,620	11,600	2,890	2,260	3,490	3,750	5,580	3,280	2,860	1,730	6,020	2,330
20	1,800	13,400	2,890	2,200	3,480	3,590	5,670	3,420	2,990	1,570	6,860	2,570
21	2,110	12,800	2,970	2,340	3,420	3,610	6,080	3,150	2,840	1,830	9,380	3,090
22	2,510	10,800	3,050	2,760	3,330	4,220	5,890	3,200	2,480	1,920	18,000	2,870
23	2,990	8,480	3,390	3,470	3,330	6,280	6,350	4,220	2,230	2,530	14,500	5,010
24	2,580	6,960	3,400	4,310	3,430	8,440	6,410	3,890	1,990	2,440	10,500	4,390
25	2,350	5,930	3,000	4,550	3,640	9,330	6,130	3,340	1,740	3,180	8,090	4,060
26	2,100	5,100	2,600	4,950	3,730	21,300	6,050	2,950	1,580	3,920	6,560	4,380
27	1,860	4,500	3,080	5,720	3,890	27,100	5,930	2,900	1,440	4,470	5,360	4,450
28	1,600	4,160	3,600	6,330	3,920	22,200	5,660	2,750	1,440	5,900	4,500	4,080
29	1,670	3,950	3,600	5,880	------	16,600	5,350	2,550	1,340	6,540	3,830	3,230
30	1,660	3,790	3,800	5,170	------	13,300	5,030	2,310	1,320	7,370	3,320	2,770
31	1,610	------	4,000	5,570	------	11,100	------	2,170	------	7,600	3,090	------
TOTAL	47,240	145,000	108,710	101,250	162,360	224,810	191,240	108,970	57,950	79,258	253,220	113,650
MEAN	1,524	4,833	3,507	3,266	5,799	7,252	6,375	3,515	1,932	2,557	8,168	3,788
MAX	2,990	13,400	5,720	6,330	12,300	27,100	9,600	4,700	2,990	7,600	18,000	5,950
MIN	1,020	1,060	2,600	2,150	3,330	3,590	4,760	2,170	1,320	885	3,090	2,330
CFSM	.16	.50	.36	.34	.60	.75	.66	.36	.20	.26	.85	.39
IN.	.18	.56	.42	.39	.63	.87	.74	.42	.22	.31	.98	.44

CAL YR 1968 TOTAL 2,791,350 MEAN 7,627 MAX 69,800 MIN 1,010 CFSM .79 IN 10.76
WTR YR 1969 TOTAL 1,593,658 MEAN 4,366 MAX 27,100 MIN 885 CFSM .45 IN 6.14

PEAK DISCHARGE (BASE, 35,000 CFS).--No peak above base.

1-6390. Monocacy River at Bridgeport, Md.

LOCATION.--Lat 39°40'43", long 77°14'06", Frederick County, on right bank 60 ft downstream from bridge on State Highway 97 at Bridgeport, 0.9 mile upstream from Cattail Branch, 3.4 miles northwest of Taneytown, 4.8 miles downstream from confluence of Rock and Marsh Creeks at Pennsylvania-Maryland State line, and 49 miles (revised) upstream from mouth.

DRAINAGE AREA.--173 sq mi.

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

GAGE.--Water-stage recorder. Concrete control since Sept. 15, 1947. Datum of gage is 340.83 ft above mean sea level (Corps of Engineers bench mark). Prior to May 3, 1946, nonrecording gage and crest-stage gages at site 0.3 mile downstream at datum 0.98 ft lower.

AVERAGE DISCHARGE.--27 years, 183 cfs (14.36 inches per year).

EXTREMES.--Current year: Maximum discharge, 4,270 cfs Aug. 4 (gage height, 9.59 ft); minimum, 3.4 cfs Sept. 2 (gage height, 1.82 ft).
Period of record: Maximum discharge, 15,000 cfs May 21, 1943 (gage height, 20.53 ft, former site and datum), from rating curve extended above 6,700 cfs on basis of velocity-area studies; no flow July 24-29, 1966.
Flood of Aug. 24, 1933, reached a stage of about 25 ft, present site and datum, from floodmarks; stage exceeded that of June 1889, from information by local residents.

REMARKS.--Records good. Occasional regulation at low flow from unknown source above station.

REVISIONS (WATER YEARS).--WSP 1382: 1944(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	8.8	56	44	225	158	104	54	8.2	13	27	3.8
2	5.1	9.2	198	42	254	122	100	49	9.4	11	21	3.6
3	4.7	9.6	206	36	222	122	101	45	34	10	19	8.1
4	5.1	10	698	33	201	242	85	42	48	9.1	2,120	245
5	4.1	13	422	27	130	205	85	38	23	8.4	274	283
6	4.1	14	221	24	80	141	136	35	18	8.4	121	139
7	9.8	15	129	25	85	150	93	33	15	12	65	64
8	18	180	90	25	60	185	73	31	15	16	41	362
9	17	97	60	27	60	240	65	47	16	18	30	163
10	11	58	50	29	50	174	62	130	28	16	39	66
11	8.8	108	46	25	55	133	113	59	21	15	50	38
12	8.0	136	42	20	50	79	88	44	17	14	29	27
13	9.2	274	47	19	46	81	64	37	16	16	19	22
14	9.2	241	76	19	36	72	57	34	195	12	15	18
15	8.8	300	134	20	36	65	55	31	68	13	15	15
16	8.4	580	70	19	36	61	67	28	501	9.3	13	14
17	8.4	271	55	20	34	59	119	26	129	8.5	12	16
18	7.4	896	44	25	36	62	87	24	64	7.5	13	259
19	25	1,030	46	37	39	74	308	25	56	6.7	15	66
20	116	275	50	40	44	91	190	133	49	8.0	20	33
21	35	182	51	39	43	97	116	94	35	8.8	17	25
22	21	143	50	86	66	90	123	43	28	18	14	21
23	15	117	173	63	66	72	204	31	26	31	11	18
24	12	98	183	73	80	71	139	28	26	103	9.1	16
25	13	127	105	85	377	2,520	106	27	24	40	7.2	15
26	13	105	77	55	301	619	86	25	45	35	6.3	13
27	14	81	54	44	163	288	73	21	24	39	5.3	13
28	12	72	62	36	148	203	65	18	21	718	4.7	12
29	11	71	212	39	------	169	64	17	17	168	4.5	11
30	13	65	90	85	------	161	61	16	15	69	4.3	10
31	12	------	75	355	------	125	------	13	------	40	4.0	------
TOTAL	464.1	5,586.6	3,872	1,516	3,023	6,931	3,089	1,278	1,591.6	1,501.7	3,045.4	1,999.5
MEAN	15.0	186	125	48.9	108	224	103	41.2	53.1	48.4	98.2	66.7
MAX	116	1,030	698	355	377	2,520	308	133	501	718	2,120	362
MIN	4.1	8.8	42	19	34	59	55	13	8.2	6.7	4.0	3.6
CFSM	.09	1.08	.72	.28	.62	1.29	.60	.24	.31	.28	.57	.39
IN.	.10	1.20	.83	.33	.65	1.49	.66	.27	.34	.32	.65	.43

CAL YR 1968 TOTAL 58,057.3 MEAN 159 MAX 3,490 MIN 3.2 CFSM .92 IN 12.48
WTR YR 1969 TOTAL 33,897.9 MEAN 92.9 MAX 2,520 MIN 3.6 CFSM .54 IN 7.29

PEAK DISCHARGE (BASE, 4,800 CFS).--No peak above base.

1-6395. Big Pipe Creek at Bruceville, Md.

LOCATION.--Lat 39°36'45", long 77°14'10", Carroll County, on left bank 300 ft downstream from bridge on State Highway 194, 800 ft downstream from Bruceville, 3.5 miles upstream from Detour, and confluence with Little Pipe Creek.

DRAINAGE AREA.--102 sq mi.

PERIOD OF RECORD.--October 1947 to current year. Prior to December 1947, monthly discharge only, published in WSP 1302.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 340 ft (from topographic map).

AVERAGE DISCHARGE.--22 years, 96.4 cfs (12.83 inches per year).

EXTREMES.--Current year: Maximum discharge, 4,180 cfs July 20 (gage height, 8.83 ft); minimum, 10 cfs June 30, part of each day July 2-7, 17-19 (gage height, 0.77 ft); minimum daily, 15 cfs July 5, 17, 18.
Period of record: Maximum discharge, 9,500 cfs July 12, 1949 (gage height, 11.92 ft), from rating curve extended above 2,300 cfs on basis of slope-area measurement at gage height 8.38 ft and slope-conveyance study; minimum daily, 1.0 cfs Sept. 12, 1966.

REMARKS.--Records good. Occasional diversion for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	33	65	50	128	127	68	49	26	17	34	18
2	23	33	109	50	119	93	69	46	27	19	52	19
3	22	33	85	48	111	93	67	45	82	17	49	88
4	20	33	147	48	91	128	61	43	40	16	117	1,550
5	19	34	108	42	75	127	66	42	31	15	67	263
6	21	33	80	48	70	101	68	39	30	17	46	105
7	62	38	73	49	66	112	59	38	43	25	36	157
8	40	109	70	45	60	110	56	37	31	33	32	902
9	29	75	60	50	65	135	53	56	31	23	29	191
10	26	107	55	46	40	106	54	64	28	23	34	117
11	27	131	50	39	50	91	70	44	28	23	34	90
12	27	171	55	38	55	65	55	40	28	23	28	75
13	27	181	60	40	50	76	50	38	95	94	26	65
14	27	150	121	39	40	82	49	37	246	33	22	58
15	27	207	118	39	42	78	49	36	49	21	26	53
16	26	239	58	37	42	73	59	34	52	18	22	50
17	26	164	55	43	42	79	67	33	37	15	24	47
18	26	502	62	49	42	78	57	32	32	15	37	139
19	206	367	64	73	45	76	150	33	42	17	62	56
20	120	182	65	61	49	73	95	115	34	558	48	48
21	52	143	60	70	50	71	73	57	27	106	36	45
22	41	125	61	130	52	65	78	41	27	33	27	42
23	37	108	156	75	55	59	89	38	26	178	24	40
24	35	101	101	83	75	61	73	37	26	50	23	39
25	70	114	50	81	136	239	66	37	24	37	21	40
26	53	90	60	57	124	141	60	35	25	33	21	37
27	40	83	71	48	98	102	56	31	23	41	19	36
28	37	79	80	48	111	86	53	29	23	330	19	35
29	36	78	93	54	------	81	57	29	20	161	19	33
30	33	69	60	95	------	90	53	29	18	56	19	32
31	33	------	55	149	------	74	------	26	------	40	18	------
TOTAL	1,290	3,812	2,399	1,824	1,983	2,972	1,980	1,290	1,251	2,087	1,071	4,470
MEAN	41.6	127	77.4	58.8	70.8	95.9	66.0	41.6	41.7	67.3	34.5	149
MAX	206	502	156	149	136	239	150	115	246	558	117	1,550
MIN	19	33	50	37	40	59	49	26	18	15	18	18
CFSM	.41	1.25	.76	.58	.69	.94	.65	.41	.41	.66	.34	1.46
IN.	.47	1.39	.87	.67	.72	1.08	.72	.47	.46	.76	.39	1.63

CAL YR 1968 TOTAL 32,138 MEAN 87.8 MAX 791 MIN 17 CFSM .86 IN 11.72
WTR YR 1969 TOTAL 26,429 MEAN 72.4 MAX 1,550 MIN 15 CFSM .71 IN 9.64

PEAK DISCHARGE (BASE, 1,600 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-20	2100	8.83	4,180	9- 8	0300	6.43	2,360
9- 4	0400	8.75	4,100				

1-6405. Owens Creek at Lantz, Md.

LOCATION.--Lat 39°40'36", long 77°27'50", Frederick County, on right bank 0.5 mile west of Lantz Post Office (Deerfield station on Western Maryland Railway), 1.5 miles south of Sabillasville, 4.5 miles northwest of Thurmont, and 14.2 miles upstream from mouth.

DRAINAGE AREA.--5.93 sq mi.

PERIOD OF RECORD.--October 1931 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 965 ft (from topographic map).

AVERAGE DISCHARGE.--38 years, 8.51 cfs (19.49 inches per year), adjusted for diversions.

EXTREMES.--Current year: Maximum discharge, 77 cfs Mar. 25 (gage height, 2.54 ft); minimum discharge, 0.20 cfs Sept. 1 (gage height, 0.91 ft).
Period of record: Maximum discharge, 3,270 cfs Dec. 1, 1934 (gage height, 8.4 ft); from rating curve extended above 750 cfs on basis of slope-area measurements at gage heights 5.11 and 6.30 ft; no flow Sept. 2-11, 1966.

REMARKS.--Records good. A small diversion is occasionally made to Victor Cullen State School at Cullen, 0.5 mile above station.

REVISIONS (WATER YEARS).--WSP 921: 1932(M). WSP 1202: 1935(M). WSP 1382: Drainage area. WSP 1432: 1937(M), 1943(M), 1949(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.27	.70	2.2	2.8	8.0	2.5	10	6.7	2.0	.91	.53	.22
2	.25	.74	6.0	2.7	5.7	2.6	10	6.2	2.2	.91	.53	.22
3	.28	.70	3.5	2.6	5.3	2.7	9.0	5.9	4.9	.82	1.0	.79
4	.32	.74	9.7	2.7	4.4	3.3	8.3	5.4	2.4	.76	2.6	4.7
5	.28	.74	5.2	3.0	3.9	3.2	11	5.0	2.1	.86	1.5	.80
6	.33	.87	3.8	3.2	4.2	3.1	10	4.7	1.8	1.2	.87	.62
7	1.3	12	3.4	3.3	3.5	3.3	7.7	4.5	1.9	1.1	.58	1.0
8	.49	12	3.0	1.9	3.5	3.6	7.0	4.7	1.8	1.3	.48	2.5
9	.42	3.1	2.5	1.8	3.2	3.9	6.6	19	1.8	1.2	.46	1.2
10	.43	2.9	2.2	1.6	3.0	3.5	9.0	8.6	1.8	.94	1.7	.51
11	.47	3.1	1.9	1.4	3.2	2.6	10	6.3	1.9	.98	.63	.39
12	.44	5.1	2.2	1.3	2.9	3.2	7.0	5.8	1.6	.98	.46	.34
13	.43	4.1	2.7	1.2	2.7	3.9	6.5	5.4	2.6	1.2	.43	.31
14	.43	3.4	5.2	1.2	2.5	3.4	6.3	5.1	7.2	.80	.39	.30
15	.43	8.3	3.2	1.2	2.4	3.5	6.4	4.8	3.6	.66	.44	.28
16	.43	21	2.6	1.3	2.3	5.1	8.7	4.5	3.3	.78	.41	.26
17	.43	13	2.2	1.5	2.3	11	7.3	4.2	2.3	.78	.58	1.8
18	.46	29	1.9	2.6	2.5	16	6.9	3.9	2.1	.54	4.1	2.4
19	9.4	15	2.5	3.3	2.5	16	10	5.9	2.4	.54	2.2	.49
20	2.0	6.4	2.6	2.2	2.5	14	7.1	11	1.9	.92	1.5	.41
21	.92	4.7	2.4	2.3	2.5	13	6.5	4.8	1.7	1.9	.60	.39
22	.70	4.1	2.6	3.4	2.4	10	13	4.1	1.7	1.1	.44	.35
23	.65	3.5	6.4	5.1	2.4	8.3	11	3.9	1.8	2.8	.41	.32
24	.63	3.5	5.4	7.0	2.7	26	10	3.9	1.6	1.4	.36	.34
25	.68	4.3	4.0	4.0	2.9	60	8.8	3.6	1.5	1.0	.32	.37
26	.65	3.1	3.2	3.2	2.6	33	8.0	3.1	1.5	.87	.29	.33
27	.65	2.8	2.8	3.1	2.5	23	7.4	2.9	1.4	3.2	.26	.31
28	.65	2.7	7.9	2.6	2.4	19	7.4	2.8	1.4	8.8	.26	.42
29	.63	2.6	7.0	1.9	------	17	8.0	2.5	1.2	1.8	.26	.44
30	.63	2.2	5.0	10	------	15	7.4	2.2	1.1	.96	.25	.41
31	.65	------	4.0	8.0	------	13	------	2.0	------	.63	.25	------
TOTAL	26.73	176.39	119.2	93.4	90.9	347.7	252.3	163.4	66.5	42.64	25.09	23.22
MEAN	.86	5.88	3.85	3.01	3.25	11.2	8.41	5.27	2.22	1.38	.81	.77
MAX	9.4	29	9.7	10	8.0	60	13	19	7.2	8.8	4.1	4.7
MIN	.25	.70	1.9	1.2	2.3	2.5	6.3	2.0	1.1	.54	.25	.22
CFSM	.15	.99	.65	.51	.55	1.89	1.42	.89	.37	.23	.14	.13
IN.	.17	1.11	.75	.59	.57	2.18	1.58	1.02	.42	.27	.16	.15

CAL YR 1968 TOTAL 2,901.94 MEAN 7.93 MAX 68 MIN .25 CFSM 1.34 IN 18.20
WTR YR 1969 TOTAL 1,427.47 MEAN 3.91 MAX 60 MIN .22 CFSM .66 IN 8.95

PEAK DISCHARGE (BASE, 120 CFS).--No peak above base.

NOTE.--No gage-height record June 17 to July 24.

1-6410. Hunting Creek at Jimtown, Md.

LOCATION.--Lat 39°35'40", long 77°23'50", Frederick County, on right bank just downstream from highway bridge, 0.4 mile southwest of Jimtown, about 2.2 miles southeast of Thurmont, 2.2 miles upstream from Little Hunting Creek, and 5.2 miles upstream from mouth.

DRAINAGE AREA.--18.4 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 355 ft (from topographic map).

AVERAGE DISCHARGE.--20 years, 22.2 cfs (16.38 inches per year).

EXTREMES.--Current year: Maximum discharge 482 cfs June 13 (gage height, 3.33 ft); minimum discharge, 1.2 cfs Oct. 2 (gage height, 1.53 ft).
Period of record: Maximum discharge, 1,170 cfs Sept. 1, 1952 (gage height, 4.94 ft), from rating curve extended above 500 cfs; minimum discharge, 0.4 cfs Sept. 9, 1966 (gage height, 1.48 ft, corrected).

REMARKS.--Records good. Slight regulation at irregular intervals caused by pumpage at recreation camp near Foxville, and from occasional draining and refilling of pond near Thurmont by Maryland Game and Inland Fish Commission.

REVISIONS (WATER YEARS).--WSP 1332: 1952.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	4.8	5.9	5.9	21	11	26	19	6.0	3.1	3.2	1.8
2	2.0	4.7	17	5.6	19	12	26	18	6.3	3.1	3.2	2.0
3	1.5	4.4	9.9	5.4	19	12	24	18	11	2.9	8.4	9.6
4	2.4	4.9	30	5.6	15	12	22	17	7.0	2.7	11	25
5	2.7	5.0	17	6.2	12	11	26	16	6.3	3.0	7.2	7.7
6	1.6	5.1	11	7.6	11	10	27	14	6.0	4.3	5.1	5.9
7	4.6	24	9.4	8.7	10	14	22	13	5.8	4.1	3.9	15
8	2.8	28	8.3	9.7	10	13	21	13	5.4	4.6	3.5	30
9	2.2	9.9	6.2	7.6	9.5	14	20	37	5.3	4.4	3.2	13
10	2.1	9.2	5.2	5.9	9.5	12	22	26	5.3	3.3	5.2	6.4
11	2.3	8.3	5.6	5.1	10	12	26	19	5.7	3.4	3.8	4.9
12	2.6	27	5.6	4.9	9.4	11	20	17	5.3	3.4	3.1	4.3
13	2.6	21	7.3	4.8	8.3	11	19	16	55	4.3	2.9	3.9
14	2.7	12	13	4.7	7.3	11	18	14	42	2.7	2.8	3.6
15	3.0	13	9.6	4.6	7.2	10	19	14	16	2.3	2.8	3.7
16	2.8	28	6.3	4.6	7.2	10	26	13	12	2.7	2.7	3.5
17	2.4	22	5.8	4.5	7.2	14	22	12	8.1	2.7	2.9	4.0
18	2.8	59	5.2	6.2	7.5	22	23	11	7.4	1.9	9.1	7.4
19	24	36	6.6	8.6	8.0	24	35	17	8.6	1.9	7.6	3.9
20	6.8	17	6.9	6.3	8.3	24	24	55	6.5	3.6	5.7	3.6
21	3.2	12	6.5	7.5	8.4	23	22	17	5.5	6.8	3.5	3.6
22	2.9	10	8.5	8.3	7.9	20	30	14	5.6	3.8	2.8	3.6
23	2.9	8.5	21	11	9.3	18	29	13	5.7	11	2.7	3.6
24	3.2	8.3	15	17	16	49	28	13	5.2	6.8	2.3	3.6
25	3.3	9.5	8.8	12	16	138	24	12	4.9	4.6	2.2	5.5
26	3.4	7.5	8.2	6.7	13	63	23	10	4.8	5.1	2.0	3.2
27	3.7	6.8	7.6	6.4	11	45	22	9.0	4.7	13	1.8	3.3
28	3.8	6.8	11	5.4	10	37	21	8.6	4.6	32	1.9	3.4
29	4.0	6.6	15	4.0	------	34	22	7.9	4.1	8.9	2.0	3.5
30	4.4	5.7	9.0	13	------	32	21	7.0	3.7	5.1	1.9	3.6
31	4.5	------	8.2	22	------	28	------	6.2	------	3.8	1.8	------
TOTAL	115.4	425.0	310.6	235.8	308.0	757	710	496.7	279.8	165.3	122.2	196.1
MEAN	3.72	14.2	10.0	7.61	11.0	24.4	23.7	16.0	9.33	5.33	3.94	6.54
MAX	24	59	30	22	21	138	35	55	55	32	11	30
MIN	1.5	4.4	5.2	4.0	7.2	10	18	6.2	3.7	1.9	1.8	1.8
CFSM	.20	.77	.54	.41	.60	1.33	1.29	.87	.51	.29	.21	.36
IN.	.23	.86	.63	.48	.62	1.53	1.44	1.00	.57	.33	.25	.40

CAL YR 1968 TOTAL 7,364.1 MEAN 20.1 MAX 327 MIN 1.3 CFSM 1.09 IN 14.88
WTR YR 1969 TOTAL 4,121.9 MEAN 11.3 MAX 138 MIN 1.5 CFSM .61 IN 8.33

PEAK DISCHARGE (BASE, 350 CFS).--June 13 (2130) 482 cfs (3.33 ft).

1-6415. Fishing Creek near Lewistown, Md.

LOCATION.--Lat 39°31'35", long 77°28'00", Frederick County, on left bank immediately upstream from Fishing Creek Reservoir, 50 ft downstream from Little Fishing Creek, 2.8 miles west of Lewistown, and 9.9 miles upstream from mouth.

DRAINAGE AREA.--7.29 sq mi.

PERIOD OF RECORD.--October 1947 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 735 ft (from topographic map).

AVERAGE DISCHARGE.--22 years, 10.1 cfs (18.81 inches per year).

EXTREMES.--Current year: Maximum discharge, 49 cfs Sept. 4 (gage height, 1.95 ft); minimum discharge, 0.90 cfs Oct. 1, 2, 3, 4, 5 (gage height, 1.16 ft).
Period of record: Maximum discharge, 500 cfs July 12, 1949 (gage height, 3.73 ft); from rating curve extended above 100 cfs on basis of slope-area measurement of peak flow; minimum discharge, 0.6 cfs Sept. 10, 11, 12, 1966.

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

REVISIONS (WATER YEARS).--WSP 1432: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.2	2.3	3.4	6.0	5.7	16	12	7.0	2.9	2.5	1.7
2	1.0	1.2	3.8	3.2	5.5	5.8	16	12	7.0	2.9	2.5	1.8
3	1.0	1.2	2.7	3.1	6.0	5.7	15	12	9.5	2.7	3.6	9.0
4	1.0	1.2	5.5	3.2	5.5	5.9	14	12	6.0	2.7	3.8	24
5	1.0	1.2	3.6	3.5	5.5	5.7	15	11	5.5	2.9	3.1	7.0
6	1.0	1.2	3.1	3.6	5.5	5.5	14	10	5.0	2.9	2.7	6.0
7	2.3	7.0	3.1	3.8	6.0	6.2	12	10	5.0	3.1	2.7	7.5
8	1.2	3.8	3.1	3.3	5.5	5.8	12	9.5	4.6	3.1	2.5	10
9	1.1	1.8	2.9	3.6	6.5	6.1	12	16	4.6	3.1	2.3	8.0
10	1.1	2.3	2.7	3.3	6.5	6.0	12	12	4.6	2.9	3.1	6.5
11	1.2	2.2	2.3	2.9	6.0	5.6	12	9.5	5.0	2.9	2.2	6.0
12	1.1	2.9	2.7	2.7	6.0	5.9	10	9.0	4.6	3.6	2.0	5.5
13	1.1	2.3	2.7	2.5	5.5	5.1	10	8.5	8.0	3.8	1.8	5.0
14	1.1	2.0	4.2	2.5	5.3	5.1	10	8.5	12	2.9	2.0	4.6
15	1.1	3.6	3.3	2.5	5.1	5.0	10	8.5	7.5	2.7	2.0	4.6
16	1.1	5.0	2.9	2.7	5.5	5.3	12	8.0	6.5	2.5	1.8	4.2
17	1.1	3.8	2.6	3.1	5.5	6.2	10	8.0	5.0	2.3	3.1	4.2
18	1.2	10	2.3	3.8	5.5	7.3	10	7.5	5.5	2.3	15	3.8
19	11	7.0	2.9	3.8	5.5	8.1	14	9.5	5.5	2.3	7.5	3.6
20	2.2	5.5	2.9	3.3	5.5	8.7	12	17	5.0	3.8	4.6	3.8
21	1.6	4.2	2.9	3.3	5.0	9.0	12	9.5	4.6	7.0	3.1	3.6
22	1.4	3.6	3.1	3.6	5.0	9.0	16	9.0	4.2	4.2	2.7	3.6
23	1.3	3.3	6.0	4.2	5.5	9.0	15	9.0	4.2	5.5	2.7	3.3
24	1.2	3.1	4.6	5.5	6.0	14	15	9.0	3.8	3.6	2.9	3.3
25	1.4	3.1	3.3	4.2	6.8	32	14	8.5	3.6	3.1	2.3	3.3
26	1.3	2.7	2.9	3.6	6.2	27	14	8.5	3.6	2.9	2.2	3.3
27	1.2	2.7	3.1	3.5	5.8	25	14	8.5	3.6	3.6	2.0	3.1
28	1.2	2.5	5.0	3.0	5.5	23	14	8.0	3.3	9.5	2.0	2.9
29	1.2	2.5	5.0	3.3	------	21	14	7.5	3.1	3.8	1.8	2.9
30	1.2	2.3	4.2	4.6	------	20	13	7.0	2.9	3.1	1.8	2.9
31	1.2	------	3.8	5.5	------	18	------	6.5	------	2.5	1.8	------
TOTAL	48.1	96.4	105.5	108.1	159.7	327.7	389	301.5	160.3	107.1	96.1	159.0
MEAN	1.55	3.21	3.40	3.49	5.70	10.6	13.0	9.73	5.34	3.45	3.10	5.30
MAX	11	10	6.0	5.5	6.8	32	16	17	12	9.5	15	24
MIN	1.0	1.2	2.3	2.5	5.0	5.0	10	6.5	2.9	2.3	1.8	1.7
CFSM	.21	.44	.47	.48	.78	1.45	1.78	1.33	.73	.47	.43	.73
IN.	.25	.49	.54	.55	.81	1.67	1.98	1.54	.82	.55	.49	.81

CAL YR 1968 TOTAL 3,135.40 MEAN 8.57 MAX 48 MIN .80 CFSM 1.18 IN 16.00
WTR YR 1969 TOTAL 2,058.5 MEAN 5.64 MAX 32 MIN 1.0 CFSM .77 IN 10.50

PEAK DISCHARGE (BASE, 100 CFS).--No peak above base.

1-6425. Linganore Creek near Frederick, Md.

LOCATION.--Lat 39°24'55", long 77°20'00", Frederick County, on left bank 2.4 miles (revised) upstream from mouth and 4 miles east of Frederick.

DRAINAGE AREA.--82.3 sq mi.

PERIOD OF RECORD.--November 1931 to March 1932, September 1934 to current year

GAGE.--Water-stage recorder. Concrete control since Sept. 23, 1946. Altitude of gage is 270 ft (from topographic map). Prior to Mar. 27, 1932, nonrecording gage at Frederick pumping station, 1.5 miles downstream at datum about 20 ft lower. Sept. 12, 1934, to Sept. 25, 1946, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--35 years (1934-69), 77.9 cfs (12.85 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,730 cfs July 26 (gage height, 10.71 ft); minimum 7.5 cfs July 18, 19 (gage height, 1.47 ft).
Period of record: Maximum discharge, 4,130 cfs Aug. 13, 1955 (gage height, 11.39 ft), from rating curve extended above 1,500 cfs on basis of slope-area measurement at gage height 10.01 ft; maximum gage height, 12.22 ft June 2, 1946; minimum discharge, 2.0 cfs Sept. 8, 1966 (gage height, 1.14 ft).
Flood of Aug. 23 or 24, 1933, reached a stage of 10.5 ft, from floodmarks (discharge, 2,920 cfs).

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 891: 1938-39. WSP 1432: 1934, 1936, 1937(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	19	37	38	81	85	61	43	20	11	41	13
2	13	19	52	36	70	64	61	41	24	11	38	28
3	12	19	43	34	67	60	58	40	62	11	35	64
4	12	19	69	32	54	70	55	39	30	10	74	242
5	12	19	57	30	46	74	59	38	25	12	51	55
6	12	19	44	34	42	65	70	36	24	12	41	40
7	42	27	41	36	42	72	54	35	22	12	32	35
8	20	56	40	34	42	71	51	35	21	15	28	54
9	17	34	36	36	40	76	48	68	21	15	26	42
10	16	57	32	34	36	65	48	52	21	14	35	30
11	16	71	30	30	40	59	53	40	22	14	30	27
12	16	116	35	28	46	46	46	37	21	13	24	26
13	16	100	37	30	40	52	43	36	20	26	21	24
14	16	80	67	30	34	53	43	35	39	13	20	23
15	16	94	59	30	34	51	44	33	26	11	21	22
16	16	93	40	28	34	50	56	32	26	9.5	20	21
17	16	65	42	34	34	54	56	31	20	8.8	19	21
18	16	154	44	40	34	57	51	29	20	8.4	69	66
19	127	154	40	59	34	55	110	37	26	8.0	54	26
20	54	80	40	44	36	52	92	66	20	119	33	23
21	28	64	38	70	36	50	65	39	18	243	24	22
22	23	58	38	119	38	46	68	33	18	238	21	21
23	21	52	95	61	42	43	73	31	18	138	19	20
24	20	48	56	59	60	46	60	32	17	53	18	20
25	38	52	40	56	100	314	55	32	16	38	17	20
26	29	44	44	41	95	153	51	29	15	951	16	19
27	22	42	48	34	78	107	48	26	15	97	15	18
28	21	41	50	34	80	87	46	25	15	943	15	18
29	20	42	53	39	------	78	48	25	13	110	14	17
30	19	38	40	49	------	74	45	22	12	67	14	17
31	19	------	39	62	------	65	------	20	------	50	14	------
TOTAL	738	1,776	1,426	1,321	1,415	2,294	1,718	1,117	667	3,281.7	899	1,074
MEAN	23.8	59.2	46.0	42.6	50.5	74.0	57.3	36.0	22.2	106	29.0	35.8
MAX	127	154	95	119	100	314	110	68	62	951	74	242
MIN	12	19	30	28	34	43	43	20	12	8.0	14	13
CFSM	.29	.72	.56	.52	.61	.90	.70	.44	.27	1.29	.35	.43
IN.	.33	.80	.64	.60	.64	1.04	.78	.50	.30	1.48	.41	.49

CAL YR 1968 TOTAL 22,187 MEAN 60.6 MAX 858 MIN 12 CFSM .74 IN 10.03
WTR YR 1969 TOTAL 17,726.7 MEAN 48.6 MAX 951 MIN 8.0 CFSM .59 IN 8.01

PEAK DISCHARGE (BASE, 1,400 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7-22	2130	6.26	1,460	7-26	0400	10.71	3,730

1-6430. Monocacy River at Jug Bridge near Frederick, Md.

LOCATION.--Lat 39°24'13", long 77°21'58", Frederick County, on right bank 0.2 mile upstream from Jug Bridge on U.S. Highway 40, 0.4 mile downstream from Linganore Creek, 2 miles east of Frederick, and 16.6 miles (revised) upstream from mouth.

DRAINAGE AREA.--817 sq mi.

PERIOD OF RECORD.--October 1929 to current year. Monthly discharge only for October, November 1929, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 231.92 ft above mean sea level (Corps of Engineers bench mark).

AVERAGE DISCHARGE.--40 years, 848 cfs (14.10 inches per year).

EXTREMES.--Current year: Maximum discharge, 6,930 cfs Sept. 4 (gage height, 9.40 ft); minimum, 79 cfs Oct. 5
Period of record: Maximum discharge, 51,000 cfs Aug. 24, 1933 (gage height, 28.1 ft); minimum daily, 19 cfs Sept. 7-13, 1966.
Flood in June 1889 reached a stage of 30 ft, from floodmarks (discharge, 56,000 cfs).

REMARKS.--Records good. Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 711: 1930.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	128	348	360	957	785	600	392	166	98	249	99
2	87	131	430	320	977	713	590	363	166	92	220	114
3	88	125	694	280	841	645	550	341	250	90	221	309
4	85	128	900	240	831	818	517	325	292	86	1,770	4,140
5	81	131	1,700	220	530	924	499	306	244	92	1,310	1,600
6	82	131	828	220	440	730	575	288	196	90	530	826
7	143	176	610	220	474	697	555	274	178	92	352	763
8	178	374	490	220	434	812	458	260	175	103	262	2,580
9	153	614	412	230	385	856	424	342	166	127	216	1,570
10	135	426	280	240	324	818	408	535	158	127	221	728
11	120	576	280	230	360	660	454	449	169	124	219	473
12	112	712	280	220	340	521	494	332	175	124	213	369
13	110	1,140	280	210	300	463	412	299	169	175	182	309
14	107	1,060	360	211	260	458	368	282	983	214	158	273
15	108	930	630	200	260	449	360	264	605	142	149	246
16	108	1,470	380	180	260	420	400	254	332	106	142	228
17	108	1,190	360	202	260	416	469	247	647	96	138	218
18	110	1,360	340	220	280	432	481	238	306	92	509	589
19	346	3,970	344	271	285	449	870	244	250	86	458	591
20	754	1,500	328	299	288	472	1,050	526	238	151	343	300
21	379	920	332	302	309	476	659	677	211	1,530	256	240
22	228	731	324	437	331	458	592	363	184	437	206	216
23	184	618	645	480	369	424	771	296	166	542	172	202
24	162	540	884	440	431	404	707	264	160	399	154	193
25	164	545	416	484	851	2,890	593	257	153	310	138	188
26	203	547	380	408	1,280	3,200	521	241	150	1,290	130	186
27	174	457	360	292	852	1,350	475	223	151	334	116	174
28	155	418	420	280	697	984	441	211	154	2,190	109	168
29	146	403	560	280	------	829	436	205	124	1,450	102	158
30	137	380	575	316	------	779	427	193	112	531	103	152
31	128	------	420	779	------	697	------	181	------	326	102	------
TOTAL	5,163	21,831	15,590	9,291	14,206	25,029	16,156	9,672	7,430	11,646	9,450	18,202
MEAN	167	728	503	300	507	807	539	312	248	376	305	607
MAX	754	3,970	1,700	779	1,280	3,200	1,050	677	983	2,190	1,770	4,140
MIN	81	125	280	180	260	404	360	181	112	86	102	99
CFSM	.20	.89	.62	.37	.62	.99	.66	.38	.30	.46	.37	.74
IN.	.24	.99	.71	.42	.65	1.14	.74	.44	.34	.53	.43	.83

CAL YR 1968 TOTAL 242,561 MEAN 663 MAX 9,510 MIN 79 CFSM .81 IN 11.04
WTR YR 1969 TOTAL 163,666 MEAN 448 MAX 4,140 MIN 81 CFSM .55 IN 7.45

PEAK DISCHARGE (BASE, 8,800 CFS).--No peak above base.

1-6435. Bennett Creek at Park Mills, Md.

LOCATION.--Lat 39°17'40", long 77°24'30", Frederick County, on left bank 75 ft downstream from highway bridge, 0.2 mile south of Park Mills, 1.8 miles upstream from mouth, and 3.7 miles southwest of Urbana.

DRAINAGE AREA.--62.8 sq mi.

PERIOD OF RECORD.--July 1948 to September 1958. Annual maximum, water years 1960-66. August 1966 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 240 ft (from topographic map). Oct. 1, 1959 to July 31, 1966, crest-stage gage at same site and datum.

AVERAGE DISCHARGE.--13 years (1948-58, 1966-69), 62.2 cfs (13.45 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,430 cfs Sept. 4 (gage height, 7.46 ft); minimum, 5.1 cfs July 19 (gage height, 0.89 ft).
Period of record: Maximum discharge, 3,230 cfs Nov. 21, 1952 (gage height, 10.34 ft in gage well, 10.77 ft from outside gage), from rating curve extended above 1,500 cfs on basis of slope-area measurement at gage height, 8.12 ft; minimum, 0.30 cfs Sept. 8, 1966 (gage height, 0.80 ft).

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	20	28	32	75	70	51	32	15	7.3	21	10
2	9.6	21	42	30	69	67	51	30	19	7.3	20	21
3	9.1	21	34	27	65	66	48	29	57	6.8	19	54
4	9.6	21	66	26	52	73	46	28	22	6.4	23	662
5	8.6	21	51	24	48	66	50	27	19	6.4	22	63
6	10	21	38	24	45	60	65	25	18	6.8	19	42
7	48	32	35	24	44	71	48	25	16	6.8	16	33
8	17	48	33	25	39	70	44	25	17	9.1	15	49
9	14	26	31	29	45	70	42	54	20	10	14	35
10	14	52	28	25	42	63	44	35	18	9.1	33	26
11	14	62	26	23	40	56	64	28	18	9.6	18	23
12	14	116	28	22	40	52	45	26	17	10	15	22
13	14	96	30	22	39	50	42	25	17	21	14	20
14	14	72	58	22	38	48	40	24	20	9.1	14	19
15	14	79	48	22	34	46	41	24	17	7.8	15	19
16	14	76	39	20	34	45	59	23	17	6.4	14	18
17	14	54	35	23	34	45	57	22	14	6.0	12	18
18	14	98	30	34	32	46	50	21	14	5.5	191	30
19	175	113	31	50	34	46	54	27	17	5.0	95	18
20	63	66	32	35	38	44	48	46	14	20	54	18
21	25	53	29	80	39	43	44	27	12	50	27	18
22	20	46	32	88	40	40	49	23	12	55	22	17
23	19	42	87	61	45	38	50	22	14	61	19	16
24	19	38	50	63	75	45	45	23	13	18	17	16
25	28	40	36	57	107	269	40	23	10	15	16	17
26	23	35	32	44	91	130	39	20	9.6	80	14	16
27	19	34	36	40	73	90	36	19	9.6	40	14	16
28	19	33	44	40	67	73	34	19	9.6	100	12	17
29	22	33	44	36	------	66	35	18	8.6	70	12	16
30	20	29	34	45	------	62	33	16	7.8	34	11	16
31	19	------	33	55	------	55	------	15	------	23	11	------
TOTAL	732.5	1,498	1,200	1,148	1,424	2,065	1,394	801	492.2	722.4	819	1,365
MEAN	23.6	49.9	38.7	37.0	50.9	66.6	46.5	25.8	16.4	23.3	26.4	45.5
MAX	175	116	87	88	107	269	65	54	57	100	191	662
MIN	8.6	20	26	20	32	38	33	15	7.8	5.0	11	10
CFSM	.38	.80	.62	.59	.81	1.06	.74	.41	.26	.37	.42	.72
IN.	.43	.89	.71	.68	.84	1.22	.83	.47	.29	.43	.49	.81

CAL YR 1968 TOTAL 18,794.5 MEAN 51.4 MAX 700 MIN 8.6 CFSM .82 IN 11.13
WTR YR 1969 TOTAL 13,661.1 MEAN 37.4 MAX 662 MIN 5.0 CFSM .60 IN 8.09

PEAK DISCHARGE (BASE, 1,200 CFS).--Sept. 4 (0700) 2,430 cfs (7.46 ft).

1-6450. Seneca Creek at Dawsonville, Md.

LOCATION.--Lat 39°07'41", long 77°20'13", Montgomery County, on right bank 60 ft downstream from bridge on State Highway 28, 150 ft downstream from mouth of Great Seneca Creek, half a mile east of Dawsonville, and 5.8 miles upstream from mouth.

DRAINAGE AREA.--101 sq mi.

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

GAGE.--Water-stage recorder. Concrete control since Mar. 3, 1934. Datum of gage is 214.15 ft above mean sea level, adjustment of 1912. Sept. 26 to Nov. 9, 1930, chain gage and Nov. 10, 1930, to Apr. 6, 1934, water-stage recorder, at highway bridge 60 ft upstream at same datum.

AVERAGE DISCHARGE.--39 years, 89.4 cfs (12.02 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,490 cfs Sept. 4 (gage height, 8.26 ft); minimum, 12 cfs July 18, 19 (gage height, 1.72 ft).
Period of record: Maximum discharge, 15,000 cfs July 21, 1956 (gage height, 12.17 ft), from rating curve extended above 2,700 cfs on basis of contracted-opening and flow-over-road measurement at gage height 9.78 ft; minimum observed, 1.7 cfs Sept. 28, 29, 1930 (gage height, 0.56 ft).

REMARKS.--Records good. Small diversion at times for irrigation above station. Records of chemical analyses for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 726: Drainage area. WSP 1232: 1930. WSP 1272: 1933. WSP 1432: 1934-35(M), 1941(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	29	43	48	92	82	51	42	26	19	41	23
2	17	29	65	45	88	85	52	41	35	19	56	48
3	17	28	56	45	82	84	51	40	232	18	58	211
4	17	29	104	40	70	91	50	39	43	17	37	1,840
5	15	29	78	36	65	80	53	38	33	16	35	137
6	16	29	59	36	59	74	73	36	31	16	32	82
7	76	40	54	36	61	90	59	36	28	16	27	67
8	30	89	52	38	57	89	62	36	80	19	25	104
9	23	45	47	40	66	84	55	65	70	21	26	76
10	22	104	40	38	60	76	50	50	35	20	296	57
11	23	99	39	34	55	69	65	39	33	21	47	48
12	23	202	42	32	55	61	52	36	32	20	34	44
13	23	163	45	34	50	63	49	35	28	38	29	41
14	23	106	106	34	50	60	47	35	27	21	28	39
15	23	99	89	32	50	58	48	34	29	17	28	37
16	23	84	65	32	50	56	67	32	37	15	27	36
17	23	67	60	36	50	56	68	31	27	14	27	35
18	23	144	51	49	50	56	59	30	60	14	207	69
19	160	184	51	84	50	56	64	38	307	13	208	36
20	76	89	53	58	55	54	70	131	43	54	193	36
21	36	72	50	121	60	53	55	47	33	68	67	35
22	30	65	54	146	60	50	62	36	30	24	46	34
23	29	59	134	86	85	49	68	34	29	108	39	32
24	27	56	76	88	210	58	57	34	30	31	35	32
25	47	61	60	80	182	109	53	35	27	26	33	35
26	35	52	57	65	118	79	50	32	24	182	29	32
27	30	50	54	50	94	63	50	30	24	61	27	30
28	30	51	63	50	84	57	45	30	24	427	26	32
29	35	50	65	59	------	56	48	30	21	121	25	30
30	30	45	52	63	------	55	44	27	19	54	25	28
31	28	------	51	77	------	53	------	24	------	38	24	------
TOTAL	1,028	2,248	1,915	1,712	2,108	2,106	1,677	1,223	1,497	1,548	1,837	3,386
MEAN	33.2	74.9	61.8	55.2	75.3	67.9	55.9	39.5	49.9	49.9	59.3	113
MAX	160	202	134	146	210	109	73	131	307	427	296	1,840
MIN	15	28	39	32	50	49	44	24	19	13	24	23
CFSM	.33	.74	.61	.55	.75	.67	.55	.39	.49	.49	.59	1.12
IN.	.38	.83	.71	.63	.78	.78	.62	.45	.55	.57	.68	1.25

CAL YR 1968 TOTAL 27,757 MEAN 75.8 MAX 868 MIN 15 CFSM .75 IN 10.22
WTR YR 1969 TOTAL 22,285 MEAN 61.1 MAX 1,840 MIN 13 CFSM .60 IN 8.21

PEAK DISCHARGE (BASE, 1,300 CFS).--Sept. 4 (0815) 3,490 cfs (8.26 ft).

1-6452. Watts Branch at Rockville, Md.

LOCATION.--Lat 39°05'03", long 77°10'38", Montgomery County, on left bank 0.2 mile south of State Highway 28, 1.3 miles west of post office in Rockville, and 9.4 miles upstream from mouth.

DRAINAGE AREA.--3.70 sq mi.

PERIOD OF RECORD.--June 1957 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 330 ft (from topographic map).

AVERAGE DISCHARGE.--12 years, 3.23 cfs (11.86 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,540 cfs Aug. 10 (gage height, 5.84 ft), from rating curve extended as explained below; minimum, 0.22 cfs July 18 (gage height, 1.14 ft).
Period of record: Maximum discharge, 1,540 cfs Aug. 10, 1969 (gage height, 5.84 ft), from rating curve extended above 660 cfs on basis of velocity-area studies; minimum, 0.10 cfs Sept. 2, 1966 (gage height, 1.10 ft).

REMARKS.--Records good except those for period of fragmentary or no gage-height record, which are fair. Some regulation of low flow from unknown cause.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.78	.72	2.5	1.4	4.4	2.6	1.5	1.2	.94	.55	10	1.0
2	.77	.74	4.2	1.3	2.3	3.1	1.6	1.2	6.3	.55	20	1.5
3	.88	.77	2.0	1.3	2.4	3.2	1.4	1.2	139	.60	25	10
4	.72	.95	11	1.3	1.7	2.7	1.4	1.1	1.8	.50	2.0	50
5	.63	.81	1.8	1.2	1.6	2.1	2.1	1.0	1.3	.50	1.2	3.0
6	.95	.82	1.6	1.3	1.6	2.1	2.1	1.0	1.2	.47	1.0	5.0
7	14	5.7	1.5	1.3	1.6	4.9	1.4	1.0	1.0	.55	.90	2.0
8	.90	2.8	1.4	1.5	1.6	2.6	1.3	1.3	91	.65	.70	10
9	.90	.93	1.3	1.6	2.8	2.4	1.3	7.0	3.2	.59	5.0	1.5
10	.85	13	1.1	1.3	1.6	2.1	2.2	1.2	2.0	.60	80	1.2
11	.82	1.7	1.1	1.2	1.9	1.8	1.6	1.0	1.8	.60	3.0	1.1
12	.78	22	1.1	1.2	2.2	1.7	1.3	1.0	1.6	.76	1.5	1.0
13	.75	6.8	1.3	1.2	1.6	1.7	1.2	.97	1.4	.60	1.3	.98
14	.80	3.7	11	1.2	1.3	1.6	1.2	.96	1.4	.41	2.0	.91
15	.82	2.6	2.0	1.2	1.4	1.6	1.6	.94	2.4	.35	1.8	.90
16	.82	2.0	1.6	1.2	1.4	1.6	2.5	.93	1.5	.34	1.6	.90
17	.81	1.8	1.4	1.3	1.4	1.6	1.6	.89	1.0	.33	1.5	.87
18	.91	17	1.3	3.8	1.4	1.6	1.8	.89	47	.33	30	1.6
19	12	3.4	1.7	3.2	1.4	1.6	1.5	3.5	5.6	.49	7.0	.84
20	.93	1.9	1.5	1.8	2.4	1.6	1.3	11	1.4	20	10	1.0
21	.82	1.7	1.3	12	1.8	1.5	1.2	7.0	1.3	1.2	2.0	.93
22	.65	1.6	9.4	3.2	1.6	1.4	3.7	1.3	1.2	1.5	1.7	.82
23	.63	1.5	4.5	2.4	17	1.3	2.0	1.2	1.2	1.4	1.5	.83
24	1.6	2.0	2.0	2.3	10	3.6	1.6	1.3	.93	.68	1.4	1.4
25	6.7	2.0	1.5	1.9	3.6	6.5	1.5	1.2	1.0	.63	1.5	1.7
26	.83	1.8	1.5	1.5	2.6	1.9	1.5	1.1	.82	1.1	1.5	.80
27	.78	1.8	1.6	1.4	2.2	1.7	1.3	.94	.72	1.7	1.3	.74
28	2.1	2.3	2.8	1.3	2.0	1.6	1.6	.95	.72	15	1.2	1.2
29	.97	2.0	1.8	2.3	------	1.6	1.5	.93	.62	5.0	1.1	.82
30	.80	1.9	1.5	2.3	------	1.5	1.3	.88	.55	1.5	1.0	.71
31	.72	------	1.6	2.2	------	1.5	------	.87	------	1.0	1.0	------
TOTAL	57.42	108.74	81.9	63.6	78.8	68.3	49.1	56.95	321.90	60.48	220.70	105.25
MEAN	1.85	3.62	2.64	2.05	2.81	2.20	1.64	1.84	10.7	1.95	7.12	3.51
MAX	14	22	11	12	17	6.5	3.7	11	139	20	80	50
MIN	.63	.72	1.1	1.2	1.3	1.3	1.2	.87	.55	.33	.70	.71
CFSM	.50	.98	.71	.55	.76	.60	.44	.50	2.90	.53	1.92	.95
IN.	.58	1.09	.82	.64	.79	.69	.49	.57	3.24	.61	2.22	1.06

CAL YR 1968 TOTAL 1,537.41 MEAN 4.20 MAX 175 MIN .39 CFSM 1.14 IN 15.45
WTR YR 1969 TOTAL 1,273.14 MEAN 3.49 MAX 139 MIN .33 CFSM .94 IN 12.80

PEAK DISCHARGE (BASE, 220 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-20	2330	4.30	235	8- 2	2145	4.66	360
6- 3	0030	5.83	1,530	8-10	0130	5.84	1,540
6- 8	1815	5.73	1,410	8-18	0215	5.42	1,040
6-18	2200	5.36	976	8-20	0530	4.63	345
7-20	1800	4.86	488	9- 3	2330	5.34	954
8- 1	2030	4.28	231				

NOTE.--Fragmentary or no gage-height record July 28 to Sept. 11.

1-6465. Potomac River near Washington, D. C.

LOCATION.--Lat 38°56'58", long 77°07'40", Montgomery County, 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, Va., 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 sea level. Prior to June 7, 1930, staff gage at site 1 mile upstream on right bank at same datum. June 7, 1930 to Jan. 22, 1965, water-stage recorder at site 1 mile upstream on right bank at same datum.
AVERAGE DISCHARGE.--39 years, 10,640 cfs, adjusted for diversions (12.50 inches per year).
EXTREMES.--Current year: Maximum discharge, 30,600 cfs Mar. 27 (gage height, 5.75); minimum daily, 598 cfs July 7 (does not include diversion of 493 cfs for municipal use); minimum daily (adjusted) 1,080 cfs July 8 (includes diversion of 426 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 March 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 (see p. 74) and since December 1950, by Savage River Reservoir (see p. 79). Low flow affected extensively at times by run-of-the-river hydroelectric plants.
REVISIONS.--WSP 726: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	979	1,770	4,320	4,680	7,260	5,230	11,500	5,490	2,160	791	6,560	2,780
2	937	1,640	4,320	3,840	9,870	5,290	9,880	5,110	2,190	899	7,970	2,760
3	899	1,520	4,340	3,200	12,500	5,300	8,750	4,750	4,430	723	9,260	3,040
4	801	1,420	4,800	3,400	13,200	5,410	7,950	4,540	2,990	657	10,900	7,550
5	838	1,370	5,240	3,200	12,100	5,450	7,470	4,300	2,650	690	13,500	8,580
6	809	1,220	5,840	3,000	10,700	5,510	7,640	4,060	2,310	723	13,300	5,240
7	1,290	1,460	6,280	3,000	9,700	5,400	8,090	3,820	2,070	598	10,600	5,270
8	1,290	2,080	6,060	2,800	8,680	5,830	7,830	3,650	1,900	657	9,110	5,700
9	1,330	2,410	5,300	3,240	7,820	5,770	8,240	3,530	2,260	754	7,860	8,090
10	1,370	2,910	4,900	3,230	6,640	5,650	7,880	3,650	2,130	782	12,600	6,800
11	1,380	4,020	4,240	2,730	6,340	5,450	7,330	3,880	1,840	976	7,060	5,730
12	1,340	4,850	3,660	2,600	5,770	5,350	6,860	4,190	1,670	1,250	7,260	5,230
13	1,290	7,060	3,410	2,760	5,680	5,400	6,430	4,380	1,550	1,710	8,120	4,880
14	1,290	6,380	3,470	2,690	5,260	5,300	6,060	4,700	1,490	1,860	8,830	4,020
15	1,310	6,360	3,950	2,700	4,890	5,090	5,630	4,630	1,690	1,750	6,710	3,490
16	1,210	6,190	3,710	2,600	4,660	4,970	5,560	4,410	2,520	2,330	5,230	3,200
17	1,180	7,070	3,540	2,550	4,510	4,680	5,400	4,030	2,140	2,120	4,210	2,890
18	1,160	8,850	3,410	2,750	4,310	4,510	5,320	3,820	2,490	1,610	4,290	2,640
19	1,430	13,300	3,670	3,090	3,910	4,430	5,610	3,690	3,800	1,530	6,600	2,700
20	2,830	16,500	3,670	3,110	3,940	4,350	6,520	3,910	3,180	1,990	7,170	3,170
21	2,930	14,700	3,480	3,490	4,080	4,320	6,750	4,040	3,110	2,260	6,810	3,020
22	2,600	13,300	3,500	5,160	4,050	4,270	6,750	3,880	2,920	3,090	10,400	3,420
23	2,620	10,800	4,360	4,940	4,320	4,750	6,730	3,520	2,570	4,550	17,100	3,240
24	3,070	8,640	4,630	5,350	5,100	6,990	7,070	4,220	2,270	3,210	11,300	4,400
25	2,930	7,230	3,600	5,880	5,640	9,850	7,060	4,030	2,000	2,630	8,560	4,190
26	2,490	6,340	3,400	5,710	5,480	17,500	6,670	3,470	1,670	3,070	6,580	3,880
27	2,280	5,670	3,150	5,680	5,810	29,100	6,550	3,150	1,380	5,080	5,420	4,040
28	2,130	5,070	4,330	6,050	5,470	28,100	6,310	2,980	1,160	5,630	4,510	4,120
29	1,860	4,590	4,830	6,770	------	21,100	6,120	2,840	975	8,030	3,890	3,850
30	1,720	4,440	4,540	6,440	------	16,400	5,790	2,570	975	7,460	3,400	3,250
31	1,770	------	4,690	6,010	------	13,200	------	2,300	------	6,580	2,990	------
TOTAL	51,363	179,160	132,640	122,650	187,690	259,950	211,750	121,540	66,490	75,990	248,100	131,170
MEAN	1,657	5,972	4,279	3,956	6,703	8,385	7,058	3,921	2,216	2,451	8,003	4,372
MAX	3,070	16,500	6,280	6,770	13,200	29,100	11,500	5,490	4,430	8,030	17,100	8,580
MIN	801	1,220	3,150	2,550	3,910	4,270	5,320	2,300	975	598	2,990	2,640
(†)	371	350	347	365	373	381	377	433	469	503	458	440
MEAN‡	2,028	6,322	4,626	4,321	7,076	8,766	7,435	4,354	2,685	2,954	8,461	4,812
CFSM‡	.18	.55	.40	.37	.61	.76	.64	.38	.23	.26	.73	.42
IN‡	.21	.61	.46	.43	.64	.88	.71	.44	.26	.30	.84	.47

CAL YR 1968 TOTAL 3,177,963 MEAN 8,683 MAX 75,400 MIN 801 MEAN‡ 9,080 CFSM‡ .79 IN‡ 10.75
WTR YR 1969 TOTAL 1,788,493 MEAN 4,900 MAX 29,100 MIN 598 MEAN‡ 5,306 CFSM‡ .46 IN‡ 6.24

PEAK DISCHARGE (BASE, 45,000 CFS).-- No peak above base.

† 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.

1-6465.5. Little Falls Branch near Bethesda, Md.

LOCATION.--Lat 38°57'27", long 77°06'31", Montgomery County, on left bank at downstream side of bridge on Massachusetts Avenue, 0.3 mile downstream from Willett Branch, 1.7 miles upstream from mouth, and 2.0 miles southwest of Bethesda.

DRAINAGE AREA.--4.1 sq mi, approximately.

PERIOD OF RECORD.--June 1944 to September 1959. Annual maximum, water years 1960-61. Occasional low-flow measurements water years 1960-62, December 1961 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 169.32 ft above mean sea level (Maryland State Roads Commission bench mark). Prior to Oct. 1, 1959, water-stage recorder and concrete control at site 50 ft upstream at same datum. Oct. 1, 1959 to Nov. 30, 1961, crest-stage gage at present site and datum.

AVERAGE DISCHARGE.--22 years (1945-59, 1963-69), 3.15 cfs (10.43 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,620 cfs Aug. 9 (gage height, 5.29 ft), from rating curve extended as explained below; minimum daily, 0.30 cfs July 18, 19.
Period of record: Maximum discharge, 2,680 cfs Sept. 14, 1966 (gage height, 6.82 ft), from rating curve extended above 630 cfs on basis of slope-area measurement at gage height 5.92 ft; no flow at times in 1944 1954, 1959, minima not available Oct. 1959 to Nov. 1961.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. Occasional slight regulation at low flow from unknown source above station.

REVISIONS (WATER YEARS).--WSP 1171: 1945.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.75	.52	1.0	.75	5.0	3.7	.94	.84	2.3	.42	5.0	1.0
2	.75	.52	6.0	.60	1.2	5.7	1.5	.84	5.7	.40	25	12
3	1.1	.45	2.4	.50	1.7	4.0	1.1	.75	9.5	.70	50	1.1
4	.67	3.7	18	.50	.94	1.7	1.1	.75	1.1	.38	3.0	18
5	.59	2.1	2.0	.45	.94	1.3	4.0	.75	1.1	.36	1.4	1.4
6	2.0	2.1	1.2	.50	.94	1.4	1.7	.84	.94	.34	1.0	3.7
7	22	9.5	.84	.50	1.1	11	.94	.84	.75	.44	.94	1.2
8	.52	5.0	.84	.55	1.1	1.5	1.2	.94	2.0	.65	.90	8.5
9	.45	.75	.75	.60	10	2.1	1.2	9.5	.94	.40	87	1.1
10	.52	16	.75	.50	1.5	1.3	4.4	.94	.67	.40	41	.94
11	.52	.94	.84	.47	1.5	1.2	1.4	.84	.67	.40	1.4	.94
12	.45	32	.94	.45	3.4	1.2	.94	.84	.75	.70	.94	.84
13	.45	7.0	.94	.45	1.4	1.2	.94	.84	.67	1.8	1.1	.84
14	.45	3.4	14	.45	1.1	1.2	1.4	.84	.59	.60	1.5	.75
15	.52	2.2	1.1	.45	1.1	1.1	1.7	.75	3.4	.40	1.3	.84
16	.52	1.4	.94	.45	.94	1.1	5.0	.84	1.1	.36	1.2	.84
17	.52	2.4	.94	.94	.94	1.2	1.2	.75	.90	.32	1.2	.84
18	1.1	28	.94	7.0	.94	1.2	2.3	.75	5.0	.30	12	.84
19	13	2.6	.94	5.0	.94	1.2	4.4	3.4	1.5	.30	5.0	.75
20	.59	2.0	.84	4.7	5.3	1.2	1.7	7.5	1.0	25	7.0	2.1
21	.52	1.6	.75	31	1.2	1.2	1.2	2.7	.90	1.5	1.2	1.7
22	.52	1.2	12	3.7	.94	1.2	6.5	.94	.80	.55	1.1	.94
23	.52	1.0	2.5	1.8	28	1.2	1.2	.94	.70	6.5	1.1	.94
24	1.2	1.3	.94	1.4	2.7	7.0	1.1	.84	.90	2.0	1.1	2.1
25	6.0	1.7	.84	1.1	1.5	11	.94	.75	1.3	.55	1.1	2.3
26	.45	1.2	.94	.90	1.3	1.2	.94	.84	.60	11	1.1	1.1
27	.45	1.0	1.1	.85	1.2	1.2	1.2	.94	.55	1.8	1.1	.94
28	2.3	2.0	3.4	.80	1.1	1.1	1.1	.94	.50	15	1.1	1.1
29	.67	1.2	.94	3.4	------	1.2	.94	.94	.48	3.0	1.1	.94
30	.52	1.0	.94	1.3	------	.94	.94	.84	.46	1.5	.94	.94
31	.52	------	1.3	1.1	------	.94	------	.84	------	.90	.94	------
TOTAL	61.14	135.78	81.85	73.16	79.92	73.68	55.12	45.85	47.77	78.97	259.76	71.42
MEAN	1.97	4.53	2.64	2.36	2.85	2.38	1.84	1.48	1.59	2.55	8.38	2.38
MAX	22	32	18	31	28	11	6.5	9.5	9.5	25	87	18
MIN	.45	.45	.75	.45	.94	.94	.94	.75	.46	.30	.90	.75
CFSM	.48	1.10	.64	.58	.70	.58	.45	.36	.39	.62	2.04	.58
IN.	.55	1.23	.74	.66	.72	.67	.50	.42	.43	.72	2.36	.65

CAL YR 1968 TOTAL 1,035.60 MEAN 2.83 MAX 80 MIN .16 CFSM .69 IN 9.39
WTR YR 1969 TOTAL 1,064.42 MEAN 2.92 MAX 87 MIN .30 CFSM .71 IN 9.66

PEAK DISCHARGE (BASE, 450 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
8-9	2300	5.29	1,620	9-4	1545	3.48	646

NOTE.--No gage-height record June 17 to Aug. 5.

1-6476.85. Williamsburg Run near Olney, Md.

LOCATION.--Lat 39°08'32", long 77°05'48", Montgomery County, on right bank 200 ft downstream from vehicle bridge on golf course of Norbeck Country Club, 0.2 mile downstream from Cashell Road, 0.5 mile upstream from mouth, and 1.8 miles southwest of Olney.

DRAINAGE AREA.--2.25 sq mi.

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 390 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 522 cfs Aug. 2 (gage height, 4.99 ft); minimum, 0.14 cfs Oct. 2-6, July 25 (gage height, 1.02 ft).
Period of record: Maximum discharge, 522 cfs, Aug. 2, 1969 (gage height, 4.99 ft); minimum, 0.10 cfs Sept. 26, 1968 (gage height, 0.98 ft).

REMARKS.--Records good. Records of suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.15	.37	.73	.90	2.5	1.4	1.1	.88	.47	.32	2.5	.65
2	.15	.37	1.4	.73	1.5	1.5	1.1	.83	1.3	.32	40	.78
3	.15	.37	.98	.78	1.4	2.1	1.1	.81	12	.28	3.3	8.7
4	.14	.40	4.1	.73	1.1	2.1	1.1	.81	.72	.27	3.1	35
5	.14	.37	1.2	.69	1.1	1.5	1.1	.76	.62	.27	1.2	1.8
6	.15	.40	.98	.67	1.1	1.4	1.7	.74	.58	.26	.93	1.3
7	3.2	2.3	.90	.66	1.1	2.5	1.1	.74	.54	.28	.75	1.1
8	.24	1.7	.80	.64	1.1	2.1	1.1	.79	.73	.31	.69	3.5
9	.24	.53	.74	.66	1.2	1.9	1.1	1.8	.61	.30	4.9	1.2
10	.24	4.3	.72	.66	.98	1.4	1.2	.83	.56	.28	28	1.0
11	.24	1.1	.73	.66	.98	1.2	1.2	.74	.55	.28	1.2	.98
12	.24	7.2	.78	.62	1.1	1.1	1.1	.71	.51	.53	.90	.92
13	.24	3.4	.90	.62	.98	1.1	1.1	.68	.46	.37	.83	.87
14	.24	2.3	5.6	.62	.90	1.1	1.0	.68	.45	.23	.80	.86
15	.24	1.4	1.4	.62	.86	1.1	1.0	.68	.49	.21	.76	.84
16	.26	1.1	.98	.64	.86	1.1	1.3	.66	.45	.20	.73	.85
17	.26	1.1	.90	.73	.90	1.1	1.2	.63	.40	.19	.69	.90
18	.26	9.6	.83	1.2	1.0	1.1	1.3	.61	8.6	.17	22	.83
19	2.7	2.5	.90	1.5	1.0	1.1	1.9	.77	2.5	.17	4.0	.71
20	.46	1.1	.90	.98	1.1	1.1	1.3	1.9	.64	7.5	5.8	.72
21	.37	1.1	.83	6.2	1.2	1.1	1.1	1.4	.55	.66	1.3	.74
22	.31	.98	2.5	2.3	1.2	1.1	1.4	.70	.51	21	1.1	.71
23	.28	.90	2.7	1.5	6.2	1.1	1.2	.68	.50	1.6	.93	.68
24	.34	.90	1.2	1.5	8.2	1.7	1.1	.78	.45	.62	.86	.69
25	1.9	1.1	.98	1.2	3.2	3.4	1.0	.72	.42	.51	.82	.73
26	.40	.90	.90	1.1	1.9	1.5	.96	.68	.40	.47	.77	.68
27	.37	.83	.90	.90	1.5	1.2	.90	.65	.41	.45	.72	.64
28	.61	.73	1.2	.90	1.4	1.1	.90	.63	.39	1.9	.71	.65
29	.53	.73	1.1	.98	------	1.1	.97	.56	.34	1.2	.70	.61
30	.40	.73	.98	1.2	------	1.1	.90	.51	.32	.55	.69	.60
31	.37	------	.98	1.5	------	1.1	------	.47	------	.47	.67	------
TOTAL	15.82	50.81	40.74	34.59	47.56	44.5	34.53	24.83	37.47	42.17	132.35	70.24
MEAN	.51	1.69	1.31	1.12	1.70	1.44	1.15	.80	1.25	1.36	4.27	2.34
MAX	3.2	9.6	5.6	6.2	8.2	3.4	1.9	1.9	12	21	40	35
MIN	.14	.37	.72	.62	.86	1.1	.90	.47	.32	.17	.67	.60
CFSM	.23	.75	.58	.50	.76	.64	.51	.36	.56	.60	1.90	1.04
IN.	.26	.84	.67	.57	.79	.74	.57	.41	.62	.70	2.19	1.16

CAL YR 1968 TOTAL 587.52 MEAN 1.61 MAX 47 MIN .14 CFSM .72 IN 9.71
WAT YR 1969 TOTAL 575.61 MEAN 1.58 MAX 40 MIN .14 CFSM .70 IN 9.52

PEAK DISCHARGE (BASE, 90 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
6- 3	0130	2.58	96	8-10	0100	3.74	259
6-18	2245	2.53	90	8-18	0200	2.77	118
7-22	1930	3.66	246	9- 4	0245	4.13	331
8- 2	2030	4.99	522				

1-6477.2. North Branch Rock Creek near Norbeck, Md.

LOCATION.--Lat 39°06'59", long 77°06'09", Montgomery County, on left bank 550 ft downstream from bridge on Muncaster Mill Road (State Highway 115), 0.7 mile upstream from Manor Run, 1.5 miles northwest of Norbeck, and 2 miles upstream from mouth.

DRAINAGE AREA.--9.73 sq mi.

PERIOD OF RECORD.--December 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 320 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 706 cfs Sept. 4 (gage height, 4.92 ft); minimum daily, 0.40 cfs July 17, 18.
Period of record: Maximum discharge, 823 cfs Aug. 25, 1967 (gage height, 5.31 ft); minimum daily, 0.40 cfs July 17-18, 1969.
Flood of Sept. 14, 1966, reached a stage of 5.60 ft, from floodmarks (discharge, 930 cfs).

REMARKS.--Records good. Diversion at low flow for irrigation of golf courses above station. Records of suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.76	1.6	3.8	4.5	9.4	7.1	5.0	4.0	1.5	.71	3.8	2.2
2	.80	1.6	6.6	4.0	7.6	7.4	5.5	3.8	2.7	.80	78	2.4
3	.84	1.6	5.0	3.5	7.1	8.4	5.2	3.6	36	.67	64	19
4	.80	1.9	14	3.2	5.8	9.5	5.0	3.4	3.4	.59	18	164
5	.99	2.1	6.8	3.2	5.5	8.0	5.8	3.4	2.5	.59	6.0	10
6	1.3	1.9	5.0	3.2	5.0	7.1	7.8	3.0	1.8	.59	4.2	6.6
7	7.5	5.8	4.6	3.2	5.2	9.8	5.5	2.8	1.5	.71	3.0	5.2
8	1.4	7.1	4.0	3.2	5.0	10	5.2	3.4	1.9	.80	2.5	12
9	1.1	2.8	3.5	3.2	6.0	9.1	5.0	7.6	2.5	1.1	7.1	6.3
10	1.1	13	3.5	3.2	5.0	7.4	5.0	4.2	2.2	.76	116	4.6
11	1.1	6.3	3.6	3.0	5.0	6.6	6.3	2.8	1.9	.80	6.3	4.2
12	1.1	27	3.6	3.0	5.0	6.0	5.0	2.8	1.9	.71	4.0	4.0
13	1.2	16	4.2	3.0	5.0	5.8	4.8	2.8	1.4	1.4	3.4	3.8
14	1.3	11	17	3.0	5.0	5.8	4.6	2.8	1.5	.71	3.0	3.6
15	1.4	8.7	7.0	3.0	4.5	5.8	4.8	2.5	1.4	.46	3.0	3.6
16	1.6	6.6	5.0	3.0	4.5	5.5	6.6	2.5	1.8	.42	2.7	3.4
17	1.9	6.0	4.4	3.6	4.6	5.5	6.0	2.2	1.4	.40	2.5	3.2
18	1.9	27	4.2	5.2	4.8	5.5	5.8	2.1	11	.40	61	3.4
19	8.8	13	4.6	8.3	4.8	5.5	7.4	3.0	26	.42	15	3.2
20	3.0	6.0	4.6	5.2	5.2	5.2	8.0	8.3	3.0	14	26	3.2
21	1.8	5.0	4.4	20	5.8	5.2	5.5	8.4	2.2	3.1	6.6	3.2
22	1.5	4.8	6.3	12	6.0	5.0	6.8	3.2	1.9	50	4.6	3.0
23	1.5	4.4	14	7.8	17	4.8	6.3	2.8	1.8	17	4.0	3.0
24	1.6	4.2	6.3	7.6	29	6.6	5.2	3.0	1.4	2.5	3.6	2.8
25	6.3	4.8	4.5	6.6	15	15	4.8	2.8	1.2	1.9	3.2	3.8
26	2.2	4.2	4.0	5.2	9.9	8.0	4.6	2.5	1.1	1.8	2.7	3.2
27	1.8	4.2	4.4	5.0	8.0	6.3	4.4	2.2	1.1	1.5	2.7	3.0
28	2.1	4.0	6.0	4.6	7.1	5.5	4.2	2.1	1.2	17	2.4	2.8
29	3.4	4.2	5.8	4.6	------	5.5	4.6	1.9	.84	11	2.4	2.8
30	2.5	3.8	4.6	5.5	------	5.5	4.2	1.8	.76	2.8	2.5	2.7
31	2.0	------	4.6	6.8	------	5.2	------	1.6	------	1.9	2.2	------
TOTAL	66.59	210.6	179.9	160.4	207.8	213.6	164.9	103.3	120.80	137.54	466.4	298.2
MEAN	2.15	7.02	5.80	5.17	7.42	6.89	5.50	3.33	4.03	4.44	15.0	9.94
MAX	8.8	27	17	20	29	15	8.0	8.4	36	50	116	164
MIN	.76	1.6	3.5	3.0	4.5	4.8	4.2	1.6	.76	.40	2.2	2.2
CFSM	.22	.72	.60	.53	.76	.71	.57	.34	.41	.46	1.54	1.02
IN.	.25	.81	.69	.61	.79	.82	.63	.39	.46	.53	1.78	1.14

WAT YR 1969 TOTAL 2,330.03 MEAN 6.38 MAX 164 MIN .40 CFSM .66 IN 8.91

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-22	2315	3.45	332	8-10	0100	4.17	498
8- 2	2400	4.82	676	9- 4	0630	4.92	706

1-6477.25. Manor Run near Norbeck, Md.

LOCATION.--Lat 36°06'36", long 77°06'00", Montgomery County, on left bank 100 ft downstream from ford on farm lane, 0.5 mile upstream from mouth, and 1.2 miles west of Norbeck.

DRAINAGE AREA.--1.01 sq mi.

PERIOD OF RECORD.--December 1966 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 330 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 288 cfs Aug. 9 (gage height, 4.18 ft); minimum daily, 0.17 cfs Oct. 1-5.
Period of record: Maximum discharge, 299 cfs (revised) Aug. 25, 1967 (gage height, 4.28 ft); minimum daily, 0.17 cfs Aug. 17, 1967, Sept. 30, Oct. 1-5, 1968.
REVISIONS.--Figures of maximum discharge for the water years 1967 and 1968 have been revised to 299 cfs Aug. 25, 1967 (gage height, 4.28 ft) and 196 cfs Sept. 10, 1968 (gage height, 3.34 ft), superseding figures published in WRD MD. and DEL., 1967 and 1968.

REMARKS.--Records fair. Farm pond inlet above station. Records of suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

REVISIONS.--The figures of peak discharge for water years 1967 and 1968 have been revised as shown below. They supersede figures published in WRD MD. and DEL., 1967 and 1968.
REVISED PEAK DISCHARGE.--1967: Mar. 7 (0615) 182 cfs (3.20 ft); Aug. 25 (0030) 299 cfs (4.28 ft).
1968: June 16 (1630) 161 cfs (2.99 ft); June 19 (1930) 194 cfs (3.32 ft); Sept. 10 (1515) 196 cfs (3.34 ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP.
1	.17	.30	.48	.50	1.6	.82	.60	.50	.28	.28	1.7	.38
2	.17	.30	1.3	.43	.90	.99	.60	.48	7.5	.28	5.1	.60
3	.17	.30	.54	.43	.90	1.4	.57	.46	11	.28	1.3	4.8
4	.17	.35	2.9	.40	.60	1.2	.57	.46	.43	.28	.54	6.6
5	.17	.30	.74	.40	.60	.90	.60	.45	.43	.27	.43	.67
6	.20	.30	.54	.38	.60	.82	.82	.45	.34	.26	.43	.43
7	1.7	1.5	.50	.38	.60	1.7	.67	.43	.34	.26	.34	.38
8	.19	1.1	.45	.38	.60	1.1	.67	.42	2.3	.31	.31	1.2
9	.19	.54	.43	.40	.74	.90	.67	2.5	.48	.28	16	.38
10	.19	2.9	.43	.39	.54	.74	.80	.50	.38	.28	10	.34
11	.19	.90	.43	.37	.52	.67	.70	.43	.38	.28	.54	.34
12	.19	4.1	.48	.35	.58	.60	.58	.41	.38	.40	.43	.34
13	1.9	1.8	.54	.34	.54	.60	.54	.40	.43	.30	.38	.31
14	.26	1.0	3.2	.34	.50	.60	.54	.38	.34	.27	.48	.31
15	.23	.67	.82	.34	.48	.60	.60	.34	.54	.26	.34	.31
16	.21	.54	.60	.34	.48	.60	.90	.34	.34	.25	.31	.28
17	.21	.60	.54	.43	.48	.60	.70	.34	.34	.25	.31	.28
18	.21	4.0	.54	1.1	.50	.60	.70	.31	4.2	.28	11	.28
19	1.9	1.2	.54	1.2	.54	.60	1.2	.48	.82	.23	.90	.31
20	.34	.60	.60	.60	.74	.54	.60	7.8	.38	2.7	2.6	.34
21	.25	.54	.54	4.2	.74	.54	.56	1.7	.38	.34	.54	.28
22	.23	.48	2.0	1.4	.67	.54	1.3	.48	.34	1.8	.48	.31
23	.23	.48	1.6	.99	4.4	.54	.90	.43	.34	.60	.38	.28
24	.60	.54	.74	.90	3.4	.81	.70	.43	.31	.31	.38	.38
25	1.1	.54	.54	.74	1.5	2.0	.60	.38	.31	.31	.34	.38
26	.31	.48	.54	.60	.99	.82	.54	.34	.31	.43	.38	.28
27	.28	.43	.54	.54	.82	.67	.50	.34	.31	.28	.34	.25
28	.63	.48	.90	.48	.74	.60	.50	.31	.38	3.4	.34	.31
29	.34	.43	.67	.67	------	.60	.54	.31	.34	.67	.34	.25
30	.31	.43	.54	.82	------	.60	.52	.28	.31	.38	.34	.25
31	.30	------	.60	.99	------	.60	------	.28	------	.34	.34	------
TOTAL	13.54	28.13	25.81	21.83	26.30	24.90	20.29	23.16	34.96	16.86	57.64	21.85
MEAN	.44	.94	.83	.70	.94	.80	.68	.75	1.17	.54	1.86	.73
MAX	1.9	4.1	3.2	4.2	4.4	2.0	1.3	7.8	11	3.4	16	6.6
MIN	.17	.30	.43	.34	.48	.54	.50	.28	.28	.23	.31	.25
CFSM	.44	.93	.82	.69	.93	.79	.67	.74	1.16	.53	1.84	.72
IN.	.50	1.04	.95	.80	.97	.92	.75	.85	1.29	.62	2.12	.80

CAL YR 1968 TOTAL 350.94 MEAN .96 MAX 27 MIN .17 CFSM .95 IN 12.93
WAT YR 1969 TOTAL 315.27 MEAN .86 MAX 16 MIN .17 CFSM .85 IN 11.61

PEAK DISCHARGE (BASE, 150 CFS, REVISED)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
5-20	2230	3.46	209	8- 9	2400	4.18	288
6- 2	2345	3.75	240	8-18	0100	3.40	202
8- 2	1930	2.99	161	9- 3	2045	2.89	151

1-6477.4. North Branch Rock Creek near Rockville, Md.

NOTE.--Records for the 1969 water year have been withheld pending better definition of the stage-discharge relation. They will be published in a subsequent annual report.

1-6480. Rock Creek at Sherrill Drive, Washington, D. C.

LOCATION.--Lat 38°58'21", long 77°02'25", District of Columbia, on left bank 125 ft downstream from new Sherrill Drive Bridge in Rock Creek Park in Washington, and 7½ miles upstream from mouth.

DRAINAGE AREA.--62.2 sq mi.

PERIOD OF RECORD.--October 1929 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 148.87 ft above mean sea level, datum of 1929.

AVERAGE DISCHARGE.--40 years, 55.3 cfs (12.07 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,020 cfs Aug. 10 (gage height, 9.75 ft); minimum, 7.4 cfs Oct. 2, 3, 5, 6 (gage height, 1.20 ft).
Period of record: Maximum discharge, 7,220 cfs July 21, 1956 (gage height, 13.19 ft, from high-water mark in gage house), from rating curve extended above 4,400 cfs on basis of contracted-opening measurement of peak flow; minimum, 0.5 cfs Oct. 1-7, 1930 (gage height, 1.04 ft).

REMARKS.--Records good. Flow affected by two reservoirs upstream; Needwood Lake on Rock Creek since Sept. 1966 and Bernard Frank Lake on North Branch Rock Creek since 1968.

REVISIONS (WATER YEARS).--WSP 1432: 1933 (M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	12	24	24	63	47	20	23	16	15	46	26
2	11	13	77	22	40	69	21	22	32	14	107	151
3	9.8	13	27	22	40	55	21	21	411	13	122	146
4	11	17	136	20	33	49	20	21	62	12	198	372
5	7.4	14	43	20	30	44	23	21	41	13	96	164
6	8.1	13	33	20	30	41	43	21	34	13	62	110
7	165	47	32	22	29	95	20	20	36	12	44	94
8	14	75	28	22	27	52	20	21	140	18	35	131
9	10	21	25	22	66	46	20	123	132	13	85	65
10	8.9	126	22	20	40	42	26	32	30	12	1,390	51
11	10	50	20	18	31	38	41	23	24	12	139	41
12	9.8	276	24	16	77	35	24	22	21	12	93	37
13	9.8	122	24	16	82	35	21	22	19	15	61	35
14	9.8	78	139	19	35	34	20	21	19	10	97	33
15	10	56	50	19	24	32	21	21	65	10	29	31
16	10	44	40	16	23	32	47	20	30	11	23	30
17	11	38	36	17	24	32	29	19	17	12	22	28
18	14	127	30	39	25	24	33	17	75	13	382	27
19	105	94	27	64	69	21	46	31	263	15	154	25
20	27	52	28	29	63	20	39	99	51	245	258	27
21	11	41	25	191	40	20	30	173	39	124	79	26
22	11	35	55	83	33	19	64	33	44	42	55	23
23	11	32	114	51	208	19	43	25	23	120	47	23
24	12	31	39	47	127	47	30	22	22	61	42	22
25	85	43	30	40	78	113	28	21	21	38	40	61
26	16	27	26	35	58	33	26	19	18	32	37	22
27	14	25	28	30	47	26	25	18	17	28	34	20
28	19	28	35	26	42	23	23	18	17	177	31	22
29	31	24	28	30	------	21	27	17	17	128	29	19
30	13	23	25	33	------	21	24	16	15	70	28	18
31	12	------	27	35	------	20	------	16	------	46	27	------
TOTAL	709.6	1,597	1,297	1,068	1,484	1,205	875	998	1,751	1,356	3,892	1,880
MEAN	22.9	53.2	41.8	34.5	53.0	38.9	29.2	32.2	58.4	43.7	126	62.7
MAX	165	276	139	191	208	113	64	173	411	245	1,390	372
MIN	7.4	12	20	16	23	19	20	16	15	10	22	18
CFSM	.37	.86	.67	.55	.85	.62	.47	.52	.94	.70	2.02	1.01
IN.	.42	.95	.78	.64	.89	.72	.52	.60	1.05	.81	2.33	1.12

CAL YR 1968 TOTAL 18,491.6 MEAN 50.5 MAX 760 MIN 7.4 CFSM .81. IN 11.06
WTR YR 1969 TOTAL 18,112.6 MEAN 49.6 MAX 1,390 MIN 7.4 CFSM .80 IN 10.83

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G.HT.	DISCHARGE	m DATE	TIME	G.HT.	DISCHARGE
6- 3	0800	4.78	943	8-10	0415	9.75	3,020
6- 8	2330	4.47	857	8-18	0615	4.89	974
6-19	0215	4.55	879	9- 2	1800	4.43	845
7-20	1900	5.31	1,090	9- 4	1930	4.83	957

1-6495. Northeast Branch Anacostia River at Riverdale, Md.

LOCATION.--Lat 38°57'37", long 76°55'34", Prince Georges County, on right bank at downstream side of bridge on Riverdale Road, in Riverdale, 1.8 miles downstream from Indian Creek, and 1.8 miles upstream from confluence with Northwest Branch.

DRAINAGE AREA.--72.8 sq mi.

PERIOD OF RECORD.--August 1938 to current year.

GAGE.--Water-stage recorder at bridge, at datum 14.00 ft above mean sea level (Washington Suburban Sanitary Commission bench mark). Prior to June 12, 1942, nonrecording gage at same site and datum. Mar. 23, 1966 to Apr. 11, 1967, nonrecording gage 600 ft downstream at datum 4.75 ft lower.

AVERAGE DISCHARGE.--31 years, 76.0 cfs (14.17 inches per year).

EXTREMES.--Current year: Maximum discharge, 5,660 cfs Aug. 10 (gage height, 7.28 ft), from rating curve extended as explained below; minimum daily, 9.2 cfs July 18.
Period of record: Maximum discharge, 5,660 cfs Aug. 10, 1969 (gage height, 7.28 ft) from rating curve extended above 3,000 cfs; maximum gage height, 12.93 ft Oct. 16, 1942; minimum daily discharge, 1.4 cfs Sept. 12, 1966.
Maximum stage known, about 15.5 ft Aug. 23 or 24, 1933, from floodmarks (discharge, 10,500 cfs from rating curve extended above 3,000 cfs on basis of velocity-area study).
REVISIONS.--The maximum discharge for the water year 1967 has been revised to 4,570 cfs Aug. 25 (gage height, 6.44 ft), superseding figure published in WRD Md. and Del., 1967.

REMARKS.--Records fair. Some regulation at low flow by sand and gravel plants above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	26	29	33	84	53	34	28	28	11	74	27
2	12	27	85	31	66	78	37	27	83	11	363	180
3	12	24	48	30	60	81	35	28	385	10	895	93
4	12	31	217	28	51	73	33	26	56	11	278	93
5	12	28	91	28	43	63	46	23	29	12	132	44
6	13	26	55	28	40	55	58	22	23	11	80	28
7	235	88	45	28	40	141	39	22	20	12	54	26
8	44	119	39	28	39	101	35	23	210	16	42	93
9	24	54	36	28	103	82	33	128	91	15	117	32
10	19	199	33	28	75	63	39	56	30	14	2,850	24
11	19	86	32	27	54	53	50	30	22	14	335	23
12	20	555	32	26	46	51	38	23	19	32	104	24
13	18	235	34	26	42	43	34	22	18	36	58	24
14	16	92	170	26	45	41	33	20	17	18	46	23
15	17	58	94	26	45	40	35	21	184	13	41	22
16	18	48	70	26	38	38	82	20	52	10	40	24
17	18	44	53	27	38	37	61	20	22	11	35	24
18	21	139	39	55	38	36	59	19	124	9.2	520	22
19	105	101	39	86	37	38	67	30	253	10	211	20
20	52	58	39	59	57	36	64	82	38	303	656	22
21	28	45	36	248	51	36	43	207	27	236	109	23
22	23	39	69	154	50	35	84	57	22	329	48	22
23	22	35	125	91	266	33	63	39	20	386	38	21
24	22	39	66	76	285	47	46	35	18	66	34	21
25	95	52	46	61	137	113	37	34	16	28	30	26
26	40	36	36	48	81	63	35	30	15	34	29	22
27	29	32	40	42	61	46	33	28	14	29	28	22
28	32	35	50	38	52	39	31	28	15	871	28	22
29	35	32	45	42	------	39	32	25	15	509	28	21
30	26	30	36	46	------	39	29	26	14	122	28	21
31	26	------	35	52	------	35	------	26	------	72	27	------
TOTAL	1,076	2,413	1,864	1,572	2,024	1,728	1,345	1,205	1,880	3,261.2	7,358	1,089
MEAN	34.7	80.4	60.1	50.7	72.3	55.7	44.8	38.9	62.7	105	237	36.3
MAX	235	555	217	248	285	141	84	207	385	871	2,850	180
MIN	11	24	29	26	37	33	29	19	14	9.2	27	20
CFSM	.48	1.10	.83	.70	.99	.77	.62	.53	.86	1.44	3.26	.50
IN.	.55	1.23	.95	.80	1.03	.88	.69	.62	.96	1.67	3.76	.56

CAL YR 1968 TOTAL 27,338.0 MEAN 74.7 MAX 1,490 MIN 11 CFSM 1.03 IN 13.97
WAT YR 1969 TOTAL 26,815.2 MEAN 73.5 MAX 2,850 MIN 9.2 CFSM 1.01 IN 13.70

PEAK DISCHARGE (BASE, 1,250 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6- 3	0100	3.65	1,740	7-28	1500	4.36	2,330
6- 8	1945	3.51	1,630	8- 2	2245	4.69	2,640
6-19	0015	3.56	1,670	8-10	0715	7.28	5,660
7-22	2200	4.40	2,370	8-20	0630	4.08	2,080

1-6500.5. Northwest Branch Anacostia River at Norwood, Md.

LOCATION.--Lat 39°07'36", long 77°01'15", Montgomery County, on left bank 20 ft downstream from bridge on Ednor Road, 0.2 mile downstream from tributary, 0.4 mile east of Norwood, 1.6 miles south of Sandy Spring, and 19 miles upstream from confluence with Northeast Branch.

DRAINAGE AREA.--2.45 sq mi.

PERIOD OF RECORD.--December 1966 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 360 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 496 cfs Aug. 2 (gage height, 4.14 ft); minimum daily, 0.05 cfs, July 19.
Period of record: Maximum discharge, 496 cfs Aug. 2, 1969 (gage height, 4.14 ft); minimum daily, 0.05 cfs, July 19, 1969.
Flood of Aug. 8, 1953, reached a stage of 5.31 ft, from floodmark.

REMARKS.--Records good. Records of suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.56	.73	.75	1.8	1.3	1.1	.93	.45	.27	.49	.47
2	.11	.55	1.2	.69	1.3	1.3	1.1	.93	1.4	.25	27	.74
3	.26	.53	.87	.67	1.3	1.6	1.1	.90	9.7	.23	2.5	1.2
4	.13	.57	2.9	.62	1.0	1.8	1.1	.86	.78	.17	3.6	5.0
5	.14	.59	1.2	.62	.95	1.5	1.1	.86	.66	.18	1.1	1.4
6	.16	.58	.89	.60	.95	1.3	1.4	.86	.60	.18	.79	.86
7	1.5	.93	.86	.60	.95	2.0	1.3	.85	.81	.23	.64	.74
8	.23	.92	.80	.62	.95	1.9	1.1	.88	.83	.33	.54	1.2
9	.25	.58	.77	.62	1.1	1.7	1.0	1.5	.62	.30	8.0	.78
10	.24	2.0	.71	.60	.95	1.3	1.0	.88	.62	.28	35	.62
11	.30	.95	.69	.60	.87	1.2	1.1	.76	.55	.28	1.3	.56
12	.34	3.9	.72	.58	.90	1.1	.99	.69	.54	.30	.80	.54
13	.35	2.0	.76	.56	.86	1.1	.95	.69	.47	.36	.67	.52
14	.37	1.3	3.6	.55	.80	1.1	.95	.69	.46	.13	.62	.50
15	.39	1.1	1.3	.55	.77	1.1	.95	.68	.61	.10	.63	.47
16	.38	.85	.88	.55	.75	1.0	1.2	.62	.52	.08	.62	.47
17	.39	.78	.78	.55	.75	1.0	1.2	.60	.42	.07	.58	.50
18	.40	5.6	.74	.70	.75	1.1	1.2	.59	4.6	.06	14	.60
19	1.2	1.8	.78	1.1	.80	1.1	1.6	.77	1.7	.05	2.3	.55
20	.60	.97	.77	.90	.97	1.0	1.3	1.1	.65	4.6	3.7	.52
21	.47	.80	.70	5.5	.97	1.0	1.4	.87	.55	.60	1.1	.50
22	.45	.77	1.2	1.8	.97	.95	1.8	.67	.53	1.4	.88	.49
23	.41	.71	2.1	1.3	4.1	.97	1.3	.63	.50	.84	.74	.49
24	.41	.70	1.0	1.3	5.3	1.4	1.2	.66	.46	.45	.69	.50
25	1.2	.76	.80	1.2	2.8	3.2	1.1	.66	.40	.43	.67	.70
26	.49	.69	.74	.95	1.7	1.6	1.0	.60	.38	2.6	.63	.54
27	.50	.70	.78	.86	1.3	1.3	.88	.55	.40	.49	.53	.50
28	.55	.72	.96	.77	1.3	1.2	.90	.55	.38	2.6	.50	.50
29	.66	.73	.86	.86	------	1.2	.97	.53	.30	1.4	.50	.47
30	.50	.69	.77	.95	------	1.2	.95	.50	.28	.64	.49	.45
31	.50	------	.78	1.2	------	1.1	------	.45	------	.54	.47	------
TOTAL	13.98	34.33	32.64	29.72	37.91	41.62	34.24	23.31	31.17	20.44	112.08	23.38
MEAN	.45	1.14	1.05	.96	1.35	1.34	1.14	.75	1.04	.66	3.62	.78
MAX	1.5	5.6	3.6	5.5	5.3	3.2	1.8	1.5	9.7	4.6	35	5.0
MIN	.10	.53	.69	.55	.75	.95	.88	.45	.28	.05	.47	.45
CFSM	.18	.47	.43	.39	.55	.55	.47	.31	.42	.27	1.48	.32
IN.	.21	.52	.50	.45	.58	.63	.52	.35	.47	.31	1.70	.35

CAL YR 1968 TOTAL 492.74 MEAN 1.35 MAX 43 MIN .10 CFSM .55 IN 7.48
WAT YR 1969 TOTAL 434.82 MEAN 1.19 MAX 35 MIN .05 CFSM .49 IN 6.60

PEAK DISCHARGE (BASE, 150 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
8- 2	2015	4.14	496	8-18	0145	1.99	155
8-10	0045	3.95	441				

1-6500.85. Nursery Run at Cloverly, Md.

LOCATION.--Lat 39°07'05", long 77°00'24", Montgomery County, on left bank 300 ft upstream from culvert on Bryants Nursery Road, 350 ft upstream from mouth, 0.8 mile northwest of Cloverly, and 2.4 miles southeast of Sandy Spring.

DRAINAGE AREA.--0.35 sq mi.

PERIOD OF RECORD.--November 1966 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 400 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 54 cfs Aug. 2 (gage height, 2.84 ft); minimum, 0.07 cfs Oct. 2-5, Jan. 16, and July 16-18 (gage height, 1.57 ft).
Period of record: Maximum discharge, 120 cfs Aug. 25, 1967 (gage height, 3.46 ft); minimum, 0.07 Aug. 30, 31, Oct. 2-5, 1968, Jan. 16, and July 16-18, 1969.

REMARKS.--Records good. Records of suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	.12	.15	.17	.39	.31	.25	.22	.12	.10	.19	.15
2	.08	.12	.32	.14	.28	.35	.25	.19	.19	.10	3.7	.76
3	.08	.12	.19	.14	.31	.39	.25	.19	.72	.10	.85	.64
4	.08	.12	.61	.13	.25	.39	.25	.19	.15	.09	.80	2.5
5	.08	.12	.25	.12	.22	.35	.28	.17	.15	.10	.43	.58
6	.08	.13	.20	.11	.22	.31	.35	.17	.13	.10	.28	.35
7	.53	.30	.19	.11	.22	.48	.28	.17	.13	.10	.19	.31
8	.12	.25	.18	.11	.22	.39	.25	.19	.22	.11	.17	.43
9	.11	.15	.16	.11	.28	.39	.22	.53	.17	.11	1.1	.28
10	.10	.54	.15	.11	.22	.35	.28	.25	.15	.11	2.3	.25
11	.10	.24	.14	.10	.22	.31	.31	.19	.15	.10	.31	.22
12	.11	.85	.15	.10	.22	.28	.25	.17	.13	.13	.25	.19
13	.11	.45	.16	.10	.21	.28	.25	.17	.12	.12	.22	.19
14	.11	.29	.65	.10	.19	.28	.25	.17	.12	.10	.19	.19
15	.11	.24	.26	.10	.17	.28	.25	.17	.19	.09	.19	.19
16	.11	.20	.19	.10	.17	.25	.39	.17	.15	.08	.17	.19
17	.11	.19	.17	.13	.18	.25	.28	.15	.12	.08	.17	.17
18	.13	.65	.16	.28	.18	.22	.28	.15	1.5	.08	2.1	.17
19	.57	.32	.17	.31	.19	.25	.43	.19	.42	.09	.53	.17
20	.16	.23	.17	.22	.22	.25	.28	.57	.19	1.2	1.0	.17
21	.13	.19	.16	.94	.25	.25	.28	.48	.15	.19	.35	.17
22	.12	.19	.31	.39	.22	.25	.43	.19	.13	1.0	.28	.16
23	.11	.17	.37	.31	.94	.22	.31	.17	.13	.30	.22	.16
24	.12	.17	.22	.31	.85	.39	.28	.17	.12	.17	.19	.17
25	.38	.20	.18	.28	.53	.64	.28	.17	.12	.15	.19	.26
26	.13	.17	.15	.25	.39	.35	.25	.15	.12	.28	.19	.18
27	.12	.17	.16	.19	.35	.31	.22	.15	.12	.13	.17	.16
28	.17	.17	.21	.19	.31	.28	.22	.15	.11	.77	.17	.17
29	.15	.16	.18	.22	------	.28	.22	.13	.10	.34	.17	.16
30	.13	.15	.17	.25	------	.28	.22	.13	.10	.19	.17	.16
31	.12	------	.18	.28	------	.25	------	.12	------	.13	.15	------
TOTAL	4.64	7.37	6.91	6.40	8.40	9.86	8.34	6.38	6.42	6.74	17.39	9.85
MEAN	.15	.25	.22	.21	.30	.32	.28	.21	.21	.22	.56	.33
MAX	.57	.85	.65	.94	.94	.64	.43	.57	1.5	1.2	3.7	2.5
MIN	.08	.12	.14	.10	.17	.22	.22	.12	.10	.08	.15	.15
CFSM	.43	.71	.63	.60	.86	.91	.80	.60	.60	.63	1.60	.94
IN.	.49	.78	.73	.68	.89	1.05	.89	.68	.68	.72	1.85	1.05

WAT YR 1969 TOTAL 98.70 MEAN .27 MAX 3.7 MIN .08 CFSM .77 IN 10.49

PEAK DISCHARGE (BASE, 30 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
6-18	2145	2.58	35	9-4	1600	2.54	32
8- 2	2000	2.84	54				

1-8504.5, Bel Pre Creek at Layhill, Md.

LOCATION.--Lat 39°05'27", long 77°03'11", Montgomery County, on right bank 130 ft upstream from bridge on Bel Pre Road, 0.5 mile west of Layhill, 1.2 miles upstream from Lutes Run, 1.8 miles southeast of Norbeck, and 2.9 miles upstream from mouth.

DRAINAGE AREA.--1.89 sq mi.

PERIOD OF RECORD.--November 1966 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 350 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 395 cfs Aug. 10 (gage height, 5.98 ft), from rating curve extended above 205 cfs; minimum daily, 0.05 cfs Oct. 3.
Period of record: Maximum discharge, 475 cfs Aug. 25, 1967 (gage height, 6.18 ft); minimum daily, 0.04 cfs Aug. 25, 26, Sept. 1, 1968.

REMARKS.--Records good except those for June to September above 1.0 cfs, which are poor. Diversions at low flow for irrigation of golf courses above station. Some regulation at low flow from unknown cause. Records of suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.20	.30	.31	2.5	.81	.33	.25	.10	.12	6.8	.23
2	.10	.15	1.7	.23	.86	.89	.40	.25	7.0	.14	3.0	1.2
3	.05	.15	.44	.23	1.1	1.8	.34	.22	22	.13	6.2	1.6
4	.07	.16	6.6	.21	.42	1.4	.34	.22	.44	.19	3.9	9.3
5	.07	.15	.72	.19	.34	.78	.72	.21	.24	.12	.43	.87
6	.17	.15	.38	.19	.33	.57	.74	.24	.25	.09	.28	.43
7	4.5	2.3	.31	.18	.34	2.7	.38	.17	.14	.13	.23	.33
8	.16	1.4	.28	.18	.31	1.5	.33	.25	2.6	.18	.19	.87
9	.12	.27	.23	.19	.77	1.1	.32	2.2	.44	.15	24	.43
10	.13	6.2	.21	.19	.40	.63	.63	.39	.23	.13	34	.28
11	.15	.70	.20	.18	.33	.46	.48	.27	.21	.13	.53	.23
12	.15	11	.22	.17	.40	.37	.34	.24	.21	.23	.33	.23
13	.13	4.0	.25	.17	.30	.38	.32	.21	.25	.10	.23	.19
14	.13	1.4	6.3	.17	.27	.36	.32	.19	.20	.06	.28	.15
15	.16	.71	.91	.17	.25	.33	.36	.19	.56	.29	.23	.15
16	.18	.39	.37	.17	.25	.33	.91	.22	.25	.08	.23	.15
17	.16	.40	.29	.21	.26	.33	.53	.16	.21	.09	.19	.15
18	.27	8.7	.27	1.1	.26	.33	.65	.14	5.7	.27	20	.19
19	3.7	1.6	.33	1.5	.29	.38	1.4	.53	1.5	.09	.77	.19
20	.35	.45	.29	.47	.71	.37	.45	10	.27	13	2.8	.19
21	.17	.32	.28	9.8	.50	.34	.36	4.8	.19	1.2	.78	.24
22	.15	.27	3.2	2.7	.53	.34	1.5	.53	.19	4.3	.63	.19
23	.15	.23	3.1	1.0	9.3	.31	.73	.28	.22	1.7	.43	.15
24	.40	.33	.56	.90	9.0	1.1	.45	.28	.16	.27	.38	.15
25	2.2	.52	.34	.58	2.6	4.1	.37	.23	.13	.20	.33	.30
26	.19	.24	.28	.38	1.0	.86	.34	.18	.23	.26	.38	.15
27	.15	.23	.27	.25	.61	.49	.35	.15	.20	.13	.38	.12
28	.68	.29	.67	.23	.46	.39	.36	.21	.11	5.4	.38	.18
29	.28	.25	.42	.49	------	.39	.35	.16	.12	1.1	.48	.12
30	.18	.23	.30	.60	------	.38	.30	.14	.12	.26	.33	.12
31	.20	------	.34	1.0	------	.33	------	.09	------	.19	.23	------
TOTAL	15.60	43.39	30.36	24.34	34.69	24.65	15.40	23.60	44.49	30.73	109.35	19.08
MEAN	.50	1.45	.98	.79	1.24	.80	.51	.76	1.48	.99	3.53	.64
MAX	4.5	11	6.6	9.8	9.3	4.1	1.5	10	22	13	34	9.3
MIN	.05	.15	.20	.17	.25	.31	.30	.09	.10	.06	.19	.12
CFSM	.30	.86	.58	.47	.73	.47	.30	.45	.88	.59	2.09	.38
IN.	.34	.96	.67	.54	.76	.54	.34	.52	.98	.68	2.41	.42

CAL YR 1968 TOTAL 469.22 MEAN 1.28 MAX 45 MIN .04 CFSM .76 IN 10.33
WAT YR 1969 TOTAL 415.68 MEAN 1.14 MAX 34 MIN .05 CFSM .67 IN 9.15

PEAK DISCHARGE (BASE, 140 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
5-20	2300	4.52	191	8-10	0015	5.98	*395
6- 3	0030	4.75	218	8-18	0130	5.21	*227
7-20	1745	5.27	*239	9- 4	1600	4.85	*172

* About.

1-6505. Northwest Branch Anacostia River near Colesville, Md.

LOCATION.--Lat 39°03'55", long 77°01'48", Montgomery County, on right bank 400 ft upstream from bridge on State Highway 183, 1.5 miles southwest of Colesville, 3 miles upstream from Burnt Mills, 10 miles upstream from Sligo Creek, and 12.5 miles upstream from confluence with Northeast Branch.

DRAINAGE AREA.--21.1 sq mi.

PERIOD OF RECORD.--October 1923 to current year. Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 264.85 ft above mean sea level, adjustment of 1912. Prior to Apr. 22, 1932, nonrecording gages in same general vicinity at different datums. Apr. 22, 1932, to Apr. 11, 1934, nonrecording gages at present site and datum.

AVERAGE DISCHARGE (UNADJUSTED).--46 years, 21.2 cfs (13.64 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,100 cfs Aug. 10 (gage height, 7.82 ft); minimum, 0.55 cfs Oct. 4 (gage height, 1.37 ft).
Period of record: Maximum discharge, 4,910 cfs Aug. 8, 1953 (gage height, 10.99 ft), from rating curve extended above 1,200 cfs on basis of contracted-opening and flow-over-road measurement of peak flow; minimum, no flow on several days during August and September, 1966.

REMARKS.--Records good. Inflow pumped from Patuxent River to augment water supply for Washington Suburban Sanitary District August 1939 to August 1960. Diversions at low flow since 1962 for irrigation of golf courses above station. Records of suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1432: 1924(M), 1925-26, 1929-30(M), 1933(M), 1939(P), 1940(M), 1943-46, 1948-49(P). WSP 1903: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	4.8	7.6	7.0	22	14	11	8.8	4.1	1.8	6.5	5.1
2	1.3	4.8	17	6.8	16	16	11	8.0	8.4	1.7	39	29
3	1.8	4.8	10	6.5	16	18	11	8.4	94	1.7	60	25
4	1.2	5.0	44	6.5	12	20	10	8.0	9.7	1.5	38	109
5	1.4	5.5	16	6.5	11	18	12	7.6	7.2	2.1	13	26
6	1.7	5.5	11	6.5	11	15	14	6.8	6.2	2.1	8.8	12
7	28	11	9.7	6.5	11	26	11	6.5	5.8	2.4	6.5	9.7
8	4.1	16	8.8	6.5	10	22	10	7.2	17	3.5	5.8	16
9	3.2	6.8	7.5	6.5	14	20	10	22	8.8	3.5	68	9.7
10	3.2	34	7.5	6.2	9.5	16	11	9.7	6.8	3.0	313	8.0
11	3.8	14	7.5	6.2	11	13	13	8.0	6.5	3.5	17	7.2
12	3.5	71	7.6	6.0	11	11	10	6.8	5.8	4.4	9.7	6.5
13	3.2	32	8.0	6.0	9.5	12	9.2	6.8	5.1	5.4	8.0	6.5
14	3.2	20	43	6.0	8.5	11	9.2	6.5	5.1	2.2	7.6	6.2
15	3.5	13	17	6.0	8.0	11	9.7	7.2	8.0	2.0	6.8	5.8
16	3.5	10	10	6.0	8.0	11	13	6.5	6.5	1.3	6.8	5.8
17	3.8	9.2	9.7	6.8	9.0	11	12	6.5	4.8	1.1	5.8	5.4
18	4.8	51	9.2	11	9.2	11	12	5.8	32	1.2	129	5.4
19	22	28	9.2	18	9.2	11	16	8.0	45	1.7	25	5.1
20	8.4	12	9.7	11	11	11	12	25	8.8	66	66	5.1
21	5.1	10	8.8	67	11	11	11	40	6.5	15	14	5.8
22	4.4	9.2	12	31	11	10	18	9.2	6.2	32	11	5.4
23	4.1	8.4	34	18	56	9.7	14	8.0	5.8	22	8.4	5.1
24	4.1	8.4	12	17	66	15	12	7.2	5.1	6.5	7.2	5.0
25	18	10	9.0	14	33	37	10	7.2	4.4	5.1	6.8	8.0
26	6.2	8.4	8.5	11	20	18	9.7	6.5	4.1	9.7	6.2	6.0
27	5.1	8.0	9.2	9.5	16	13	9.2	5.8	3.0	5.8	5.8	5.5
28	6.8	8.4	12	9.2	14	12	8.8	5.4	3.2	35	4.8	5.5
29	7.2	8.4	11	11	------	12	9.2	5.1	2.4	24	5.1	5.4
30	5.1	7.6	8.8	12	------	11	8.8	4.8	2.0	7.6	5.1	5.1
31	4.8	------	8.5	14	------	11	------	4.1	------	5.4	5.1	------
TOTAL	177.8	445.2	403.8	362.2	453.9	457.7	337.8	283.4	338.3	280.2	919.8	365.3
MEAN	5.74	14.8	13.0	11.7	16.2	14.8	11.3	9.14	11.3	9.04	29.7	12.2
MAX	28	71	44	67	66	37	18	40	94	66	313	109
MIN	1.2	4.8	7.5	6.0	8.0	9.7	8.8	4.1	2.0	1.1	4.8	5.0
CFSM	.27	.70	.62	.55	.77	.70	.53	.43	.53	.43	1.41	.58
IN.	.31	.78	.71	.64	.80	.81	.60	.50	.60	.49	1.62	.64

CAL YR 1968 TOTAL 5,605.6 MEAN 15.3 MAX 438 MIN 1.2 CFSM .73 IN 9.88
WTR YR 1969 TOTAL 4,825.4 MEAN 13.2 MAX 313 MIN 1.1 CFSM .63 IN 8.51

PEAK DISCHARGE (BASE, 600 CFS).--August 10 (0030) 1,100 cfs (7.82 ft).

1-6510. Northwest Branch Anacostia River near Hyattsville, Md.

LOCATION.--Lat 38°57'09", long 76°58'00", Prince Georges County, on right bank at downstream side of bridge on Queens Chapel Road (State Highway 500), 0.8 mile downstream from Sligo Branch, 1 mile west of Hyattsville, and 1.6 miles upstream from mouth.

DRAINAGE AREA.--49.4 sq mi.

PERIOD OF RECORD.--July 1938 to current year. Monthly discharge only for July 1938 published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 17.30 ft above mean sea level, adjustment of 1912. Prior to Oct. 22, 1938, nonrecording gage; Oct. 22, 1938 to Sept. 17, 1951, water-stage recorder; Sept. 17, 1951, to Aug. 29, 1952, nonrecording gage and crest-stage gage.

AVERAGE DISCHARGE.--31 years, 39.5 cfs (10.86 inches per year) unadjusted.

EXTREMES.--Current year: Maximum discharge, 6,050 cfs Aug. 10 (gage height, 13.20 ft), from rating curve extended above 4,000 cfs; minimum daily, 2.8 cfs Oct. 5, 6, July 17.
Period of record: Maximum discharge, 7,000 cfs Sept. 14, 1966 (gage height, 13.50 ft), from rating curve extended above 4,000 cfs; minimum, 0.2 cfs Sept. 11, 1966.
Maximum stage known, about 13.5 ft Aug. 24, 1933, and Sept. 14, 1966.

REMARKS.--Records poor. Prior to June 1961, low flow regulated by storage at Burnt Mills Dam, 7 miles above station. Inflow pumped from Patuxent River to augment water supply for Washington Suburban Sanitary District, August 1939 to August 1960. Small diversion since 1962 for irrigation of golf courses above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	9.6	14	14	51	34	19	14	10	4.8	41	12
2	3.6	9.1	50	13	32	51	21	14	86	5.6	208	99
3	3.6	8.0	19	13	31	37	20	15	236	6.2	152	99
4	4.5	14	117	12	25	35	18	15	22	4.8	119	286
5	2.8	9.1	32	12	21	31	27	14	15	5.6	50	95
6	2.8	9.6	23	12	19	26	37	13	13	6.2	28	29
7	155	52	21	12	20	68	20	12	12	7.0	19	22
8	15	50	20	12	19	40	19	14	155	14	15	106
9	7.3	14	18	12	65	35	19	95	34	8.6	113	22
10	6.6	95	16	11	31	29	22	22	16	6.2	1,440	16
11	7.0	33	16	11	22	25	32	14	14	6.2	69	14
12	5.9	240	16	11	22	26	18	12	12	11	32	13
13	5.9	57	19	10	22	22	16	12	11	18	20	12
14	7.0	33	100	10	22	21	16	12	10	6.2	16	12
15	5.9	25	38	10	25	20	18	11	137	3.9	15	11
16	5.9	21	28	10	19	20	45	11	25	3.6	16	11
17	5.9	18	28	13	18	19	22	11	12	2.8	14	10
18	12	70	21	40	17	19	25	10	138	3.6	314	9.6
19	88	56	20	50	16	20	31	26	161	5.2	97	9.6
20	21	26	19	27	38	19	30	63	27	264	320	12
21	9.1	20	18	138	24	19	18	128	15	56	38	15
22	7.3	18	48	66	21	18	45	21	13	141	26	11
23	7.3	16	70	35	155	18	26	15	13	84	24	10
24	8.6	17	27	32	91	37	20	14	12	18	20	9.6
25	51	27	22	26	56	78	18	14	9.6	12	17	29
26	12	16	18	22	35	31	17	12	8.6	13	15	11
27	8.0	15	19	20	29	22	16	11	7.6	24	13	9.6
28	12	18	31	19	25	20	15	10	7.0	369	13	9.6
29	16	16	22	18	------	22	18	9.6	5.6	72	12	9.1
30	9.1	14	17	22	------	21	14	8.6	5.6	22	12	8.6
31	8.6	------	16	27	------	19	------	9.1	------	13	12	------
TOTAL	519.5	1,026.4	943	740	971	902	682	662.3	1,243.0	1,217.5	3,300	1,022.7
MEAN	16.8	34.2	30.4	23.9	34.7	29.1	22.7	21.4	41.4	39.3	106	34.1
MAX	155	240	117	138	155	78	45	128	236	369	1,440	286
MIN	2.8	8.0	14	10	16	18	14	8.6	5.6	2.8	12	8.6
CFSM	.34	.69	.62	.48	.70	.59	.46	.43	.84	.80	2.15	.69
IN.	.39	.77	.71	.56	.73	.68	.51	.50	.94	.92	2.49	.77

CAL YR 1968 TOTAL 13,597.3 MEAN 37.2 MAX 900 MIN 2.8 CFSM .75 IN 10.24
WAT YR 1969 TOTAL 13,229.4 MEAN 36.2 MAX 1,440 MIN 2.8 CFSM .73 IN 9.96

PEAK DISCHARGE (BASE, 1,250 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
6- 8	2000	7.46	1,530	8- 2	2145	8.82	2,090
6-15	1530	6.84	1,260	8-10	0215	13.20	6,050
6-18	2315	8.43	1,920	8-20	0630	7.42	1,510
7-22	2030	8.04	1,770	9- 4	1600	8.82	2,090
7-28	1230	7.20	1,420				

1-6535. Henson Creek at Oxon Hill, Md.

LOCATION.--Lat 38°47'16", long 76°58'42", Prince Georges County, on left bank 100 ft downstream from bridge on Tucker Road, 1.0 mile south of Oxon Hill, and 1.4 miles upstream from Carey Branch and mouth.

DRAINAGE AREA.--16.7 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 62 ft (from topographic map).

AVERAGE DISCHARGE.--21 years, 18.1 cfs (14.72 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,840 cfs July 22 (gage height, 6.20 ft), from rating curve extended as explained below; minimum, 0.35 cfs July 19 (gage height, 0.38 ft).
Period of record: Maximum discharge, 3,000 cfs Aug. 13, 1955 (gage height, 7.33 ft), from rating curve extended above 520 cfs on basis of slope-area measurements at gage heights 6.63 and 7.27 ft; no flow at times during some summer months in 1954, 1955, 1957, 1962-64, and 1966.

REMARKS.--Records fair. Some diversion above station for irrigation of truck farm. Some regulation at low flow by sand and gravel plant above station.

REVISIONS (WATER YEARS).--WSP 1232: 1949(M), 1950.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	4.4	7.6	8.9	12	12	8.2	6.9	3.7	1.2	10	4.2
2	1.1	4.3	22	7.0	10	16	8.2	6.2	5.1	1.2	107	12
3	5.8	4.2	9.9	6.3	9.3	18	8.2	6.5	51	1.4	315	14
4	4.4	7.6	30	6.0	10	14	8.2	6.2	5.1	1.0	174	6.5
5	1.3	5.8	13	5.5	10	11	10	5.4	4.0	3.7	34	5.5
6	1.6	4.7	8.9	6.0	9.3	11	14	5.4	3.7	4.8	21	5.0
7	62	21	8.7	6.7	10	24	7.8	5.4	3.4	3.7	15	4.8
8	4.4	16	7.9	6.8	9.3	17	7.8	5.8	5.1	1.6	12	154
9	2.7	6.7	7.1	6.5	45	11	7.8	19	7.8	1.8	44	13
10	2.2	56	6.4	5.0	17	11	7.8	6.2	4.8	1.8	283	6.5
11	2.4	15	6.2	4.5	13	10	7.8	5.1	4.8	2.2	22	5.5
12	3.0	211	5.9	4.0	10	9.3	7.3	4.4	3.7	2.4	15	4.9
13	2.4	43	7.1	4.4	9.0	9.3	7.8	4.0	3.4	4.0	14	5.1
14	2.2	21	48	4.4	10	8.7	6.9	4.0	3.7	1.4	14	4.7
15	2.2	16	15	4.2	9.2	8.7	7.8	4.0	68	.85	13	3.9
16	2.4	13	10	4.0	9.0	8.2	12	4.0	13	.65	12	3.5
17	2.2	11	8.5	4.6	9.0	8.2	8.7	4.0	4.6	.65	11	8.1
18	2.2	26	7.5	6.0	9.0	8.2	14	3.4	5.7	.65	10	9.9
19	18	15	8.0	14	8.7	8.2	12	5.8	18	2.4	16	4.1
20	7.8	8.8	8.3	11	14	8.2	15	14	5.4	43	92	8.8
21	5.1	7.1	7.8	49	12	8.2	8.7	15	4.0	57	14	5.4
22	3.7	6.4	16	22	11	8.2	18	5.1	3.7	230	10	4.1
23	3.0	6.0	31	12	71	7.8	12	4.4	3.7	341	8.0	3.5
24	14	5.9	11	12	27	8.2	9.3	5.1	2.7	18	7.0	3.8
25	43	13	9.3	12	14	20	8.2	4.8	2.4	12	6.0	4.0
26	6.6	8.0	8.9	11	12	12	8.2	4.0	2.0	11	5.5	3.8
27	5.1	7.8	8.1	10	11	10	7.3	4.0	2.2	8.3	5.0	3.9
28	12	9.7	12	8.5	11	9.3	6.5	3.7	2.4	337	4.8	3.4
29	14	7.8	9.1	9.0	------	10	7.8	3.4	2.0	42	4.6	3.0
30	5.8	7.7	7.6	9.5	------	11	6.9	2.7	1.6	97	5.0	2.9
31	5.0	------	7.4	10	------	8.2	------	2.7	------	13	4.4	------
TOTAL	248.8	589.9	374.2	290.8	411.8	344.9	280.2	180.6	250.7	1,246.70	1,308.3	321.8
MEAN	8.03	19.7	12.1	9.38	14.7	11.1	9.34	5.83	8.36	40.2	42.2	10.7
MAX	62	211	48	49	71	24	18	19	68	341	315	154
MIN	1.1	4.2	5.9	4.0	8.7	7.8	6.5	2.7	1.6	.65	4.4	2.9
CFSM	.48	1.18	.72	.56	.88	.66	.56	.35	.50	2.41	2.53	.64
IN.	.55	1.31	.83	.65	.92	.77	.62	.40	.56	2.78	2.91	.72

CAL YR 1968 TOTAL 5,820.70 MEAN 15.9 MAX 411 MIN 1.1 CFSM .95 IN 12.97
WAT YR 1969 TOTAL 5,848.70 MEAN 16.0 MAX 341 MIN .65 CFSM .96 IN 13.03

PEAK DISCHARGE (BASE, 450 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7-22	2330	6.20	1,840	8-10	0400	3.80	673
7-28	1700	3.78	667	9- 8	0700	3.10	481
8- 3	0030	4.92	1,090				

1-6536. Piscataway Creek at Piscataway, Md.

LOCATION.--Lat 38°42'20", long 76°58'00", Prince Georges County, on left bank 70 ft upstream from bridge on State Highway 223, at Piscataway, 0.4 mile upstream from Tinker Creek, and 4.8 miles upstream from mouth.

DRAINAGE AREA.--39.5 sq mi.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 10 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 830 cfs July 23 (gage height, 6.40 ft), from rating curve extended above 520 cfs; minimum daily, 0.20 cfs July 1, 2.
Period of record: Maximum discharge, 938 cfs Jan. 14, 1968 (gage height, 6.76 ft), from rating curve extended above 520 cfs, no flow during parts of July, August, and September 1966.

REMARKS.--Records good except those for periods of no gage-height record and backwater from debris, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.82	7.1	17	29	41	40	33	26	4.0	.20	17	9.4
2	.79	6.7	38	22	40	47	34	20	11	.20	27	8.0
3	.76	6.7	30	22	40	52	33	20	6.2	.30	174	32
4	3.4	8.0	46	20	35	58	31	17	3.6	.80	300	15
5	1.3	7.6	39	18	33	44	34	13	2.1	8.0	76	14
6	.82	7.1	26	16	30	41	40	11	12	5.0	43	10
7	37	18	23	21	31	84	32	11	5.1	2.0	28	9.7
8	15	49	22	19	29	84	29	13	4.3	1.3	20	182
9	5.6	20	20	22	108	63	28	25	3.6	.95	24	35
10	4.3	80	18	19	71	58	27	24	1.7	.79	278	15
11	4.3	67	17	14	46	52	28	15	24	.91	61	12
12	4.0	263	17	14	42	44	24	13	8.0	.85	29	9.3
13	3.8	253	20	14	36	43	23	12	1.6	3.8	20	8.0
14	4.5	63	70	14	30	40	23	11	3.0	1.2	17	7.1
15	5.1	44	66	14	28	38	23	12	45	.50	18	6.2
16	5.1	41	32	13	28	37	34	10	8.0	.48	15	5.4
17	5.4	32	28	15	30	36	36	9.3	4.0	.48	12	5.1
18	4.5	45	26	20	29	36	40	8.4	25	.48	11	8.4
19	27	51	26	51	28	36	62	11	4.3	1.8	10	5.6
20	51	31	26	37	32	33	73	29	1.0	30	415	8.9
21	13	26	22	148	40	33	40	17	.70	93	156	10
22	8.4	24	25	126	38	31	60	11	.60	57	47	7.6
23	7.1	22	79	61	90	29	50	8.9	.60	580	33	6.4
24	6.4	22	39	53	138	32	40	9.3	.50	90	25	5.6
25	25	31	28	44	62	101	34	8.9	.40	25	21	5.9
26	14	22	26	37	50	62	32	7.1	.30	17	17	5.6
27	8.0	20	27	32	43	47	28	5.6	.40	13	14	4.5
28	8.0	20	33	30	40	40	24	5.1	.50	190	13	4.3
29	18	22	31	30	------	37	30	4.3	.30	235	11	3.6
30	11	18	23	38	------	37	26	3.2	.30	40	11	3.2
31	7.6	------	25	37	------	36	------	4.0	------	24	10	------
TOTAL	310.99	1,327.2	965	1,050	1,288	1,451	1,051	395.1	182.10	1,424.04	1,953	461.8
MEAN	10.0	44.2	31.1	33.9	46.0	46.8	35.0	12.7	6.07	45.9	63.0	15.4
MAX	51	263	79	148	138	101	73	29	45	580	415	182
MIN	.76	6.7	17	13	28	29	23	3.2	.30	.20	10	3.2
CFSM	.25	1.12	.79	.86	1.16	1.18	.89	.32	.15	1.16	1.59	.39
IN.	.29	1.25	.91	.99	1.21	1.37	.99	.37	.17	1.34	1.84	.43

CAL YR 1968 TOTAL 14,347.82 MEAN 39.2 MAX 731 MIN .76 CFSM .99 IN 13.51
WTR YR 1969 TOTAL 11,859.23 MEAN 32.5 MAX 580 MIN .20 CFSM .82 IN 11.17

PEAK DISCHARGE (BASE, 450 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
11-12	2330	5.19	492	7-28	2330	5.16	485
7-23	1930	6.40	830	8-20	1530	6.03	659

NOTE.--No gage-height record June 12 to July 8. Backwater from debris July 24 to Sept. 9.

1-6580. Mattawoman Creek near Pomonkey, Md.

LOCATION.--Lat 38°35'45", long 77°03'25", Charles County, on left bank 50 ft downstream from bridge on State Highway 227, 80 ft downstream from Old Womans Run, 1.2 miles southeast of Pomonkey, and 12.6 miles upstream from mouth.

DRAINAGE AREA.--57.7 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 40 ft (from topographic map).

AVERAGE DISCHARGE.--19 years (1950-69), 50.6 cfs (11.91 inches per year).

EXTREMES.--Current year: Maximum discharge, 204 cfs Feb. 25 (gage height, 3.50 ft); no flow many days in June, July, and September.
Period of record: Maximum discharge, 9,300 cfs Aug. 13, 1955 (gage height 7.52 ft), from rating curve extended above 6,000 cfs; no flow at times each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	3.2	17	25	43	59	36	19	1.2	0	3.9	2.1
2	0	3.2	21	20	48	63	35	18	.80	0	10	2.0
3	0	3.3	26	18	47	70	34	17	1.8	0	23	8.5
4	0	3.1	28	17	43	85	31	16	1.0	0	40	4.0
5	0	3.2	34	16	36	76	34	15	.70	0	100	2.0
6	0	3.2	27	15	32	63	43	15	.50	0	55	1.5
7	.80	5.5	22	16	31	95	37	13	2.1	0	26	1.9
8	2.5	15	20	18	29	155	29	12	1.2	0	16	3.1
9	1.0	16	19	19	111	144	25	16	1.0	0	12	6.5
10	.80	24	17	17	164	121	24	28	.50	0	30	4.2
11	.70	60	16	15	130	110	25	18	.40	0	48	1.0
12	.60	86	16	14	88	89	22	15	.30	0	17	.40
13	.60	125	17	13	67	73	21	13	.20	0	6.5	.30
14	.70	135	27	13	46	63	19	12	.20	0	3.9	.30
15	.90	85	66	12	38	54	19	12	1.0	0	4.5	.20
16	1.1	47	44	12	31	47	29	11	2.1	0	4.4	.20
17	1.2	34	28	13	28	42	41	9.5	.90	0	3.5	.20
18	1.3	32	24	15	28	39	40	8.1	1.0	0	3.0	2.3
19	1.2	39	24	33	30	37	80	8.4	2.4	0	2.8	3.4
20	7.7	31	23	45	30	34	89	15	1.1	0	8.0	2.0
21	17	23	21	92	41	32	77	18	.70	0	29	3.8
22	8.4	21	21	140	47	29	66	14	.50	2.0	10	3.1
23	4.1	19	62	141	79	26	76	13	.40	17	6.0	1.9
24	2.8	18	62	112	189	27	59	11	.20	9.7	4.5	1.0
25	3.8	21	36	83	199	104	42	9.3	0	1.5	4.0	.60
26	6.0	21	27	61	141	158	34	7.9	0	.40	3.8	.40
27	6.3	19	26	44	89	104	27	6.0	0	.10	3.5	.30
28	4.1	18	28	32	68	71	23	4.9	0	5.0	3.3	.20
29	3.7	19	31	38	------	56	21	3.7	0	55	2.8	.20
30	3.3	19	25	42	------	50	20	2.7	0	29	2.5	.20
31	3.2	------	23	44	------	42	------	2.1	------	10	2.3	------
TOTAL	83.80	951.7	878	1,195	1,953	2,218	1,158	383.6	22.20	129.70	489.2	57.80
MEAN	2.70	31.7	28.3	38.5	69.8	71.5	38.6	12.4	.74	4.18	15.8	1.93
MAX	17	135	66	141	199	158	89	28	2.4	55	100	8.5
MIN	0	3.1	16	12	28	26	19	2.1	0	0	2.3	.20
CFSM	.05	.55	.49	.67	1.21	1.24	.67	.21	.01	.07	.27	.03
IN.	.05	.61	.57	.77	1.26	1.43	.75	.25	.01	.08	.32	.04

CAL YR 1968 TOTAL 12,923.80 MEAN 35.3 MAX 643 MIN 0 CFSM .61 IN 8.33
WTR YR 1969 TOTAL 9,520.00 MEAN 26.1 MAX 199 MIN 0 CFSM .45 IN 6.14

PEAK DISCHARGE (BASE, 400 CFS).--No peak above base.

1-6610. Chaptico Creek at Chaptico, Md.

LOCATION.--Lat 38°22'45", long 76°46'56", St. Marys County, on right bank at downstream side of highway culvert, 0.8 mile north of Chaptico, and 0.8 mile upstream from Chaptico Bay.

DRAINAGE AREA.--10.7 sq mi.

PERIOD OF RECORD.--June 1947 to current year.

GAGE.--Water-stage recorder. Concrete control prior to Oct. 25, 1961. Altitude of gage is 15 ft (from topographic map).

AVERAGE DISCHARGE.--22 years, 9.57 cfs (12.15 inches per year).

EXTREMES.--Current year: Maximum discharge, 281 cfs May 20 (gage height, 4.67 ft); minimum, no flow part or all of each day July 4-8, 18-20.
Period of record: Maximum discharge, 7,800 cfs Sept. 10, 1950 (gage height, 8.56 ft), from rating curve extended above 410 cfs on basis of slope-area measurement of peak flow; no flow at times in 1954, 55, 57, 62-64, 66, 68, 69.

REMARKS.--Records fair. Occasional small diversion above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.39	1.6	3.6	7.7	8.2	7.9	6.9	5.9	2.2	.36	3.6	1.4
2	.35	2.1	7.2	4.9	7.6	11	7.2	5.4	1.8	.28	11	1.9
3	.29	2.1	5.1	4.6	7.1	11	6.7	5.0	2.0	.28	58	12
4	.17	2.1	6.3	4.5	5.8	9.7	7.3	4.5	1.5	.02	29	3.7
5	.05	2.3	6.0	3.8	5.5	8.2	8.4	4.1	1.5	C	18	2.5
6	.03	2.5	4.1	3.4	5.3	8.2	14	3.6	1.4	0	10	1.8
7	5.5	3.6	3.9	5.1	5.4	28	8.5	3.3	1.3	C	5.7	1.5
8	1.8	5.8	3.7	4.2	5.2	18	7.4	3.3	1.4	1.4	3.9	1.8
9	1.0	3.2	3.4	5.3	18	13	6.8	7.0	2.8	2.0	3.9	6.2
10	.98	18	3.0	4.8	7.7	12	6.7	5.7	2.5	1.1	20	2.0
11	.98	8.0	2.6	3.6	6.5	12	6.8	3.7	2.0	1.7	6.2	1.4
12	.98	45	2.9	3.4	6.3	9.4	5.8	3.2	2.0	4.1	4.3	1.0
13	1.0	17	4.0	3.2	5.4	8.9	5.7	2.9	1.1	3.2	3.2	1.0
14	1.0	7.7	12	3.0	5.0	8.4	5.7	2.7	1.0	.52	5.5	.92
15	1.0	5.9	8.6	3.0	4.6	8.0	5.9	2.6	4.8	.16	6.7	.84
16	1.1	5.1	4.8	3.4	4.8	7.8	17	2.1	5.5	.08	4.3	.84
17	1.1	4.6	4.4	4.2	4.8	7.7	13	1.8	2.2	.04	3.2	.68
18	1.1	7.0	4.3	4.8	4.8	7.7	11	1.4	1.9	0	2.8	2.7
19	7.7	8.8	4.5	10	4.7	7.7	14	2.7	5.5	0	2.8	1.8
20	7.1	5.1	4.8	7.9	5.4	7.2	23	98	2.5	.36	69	2.5
21	2.5	4.2	3.8	40	7.2	7.3	11	33	1.7	3.2	13	2.8
22	1.4	4.0	4.9	18	6.2	6.7	12	9.9	2.7	3.9	6.4	2.2
23	1.4	3.7	19	11	28	6.4	10	7.0	2.8	36	4.6	1.4
24	1.4	4.0	7.1	9.4	20	7.5	8.4	6.2	2.0	3.4	3.6	1.3
25	2.7	7.6	4.9	7.8	11	22	7.6	5.5	1.7	2.2	3.2	1.7
26	2.3	4.8	4.4	6.4	8.9	11	7.0	4.6	1.4	1.5	2.7	1.7
27	1.4	4.2	4.8	5.7	7.8	8.5	6.4	4.1	1.9	1.0	1.8	1.1
28	1.4	4.5	7.1	5.0	7.4	7.8	5.8	3.7	1.8	16	1.7	.92
29	2.1	5.1	6.5	5.0	------	7.4	8.5	3.4	1.0	11	1.5	.68
30	1.6	3.8	4.5	5.5	------	8.6	6.6	2.8	.52	5.0	1.8	.68
31	1.4	------	5.1	5.0	------	7.2	------	2.7	------	3.4	1.5	------
TOTAL	53.22	203.4	171.3	213.6	225.0	312.2	271.1	251.8	64.42	102.20	313.3	62.96
MEAN	1.72	6.78	5.53	6.89	8.04	10.1	9.04	8.12	2.15	3.30	10.1	2.10
MAX	7.7	45	19	40	28	28	23	98	5.5	36	69	12
MIN	.03	1.6	2.6	3.0	4.6	6.4	5.7	1.4	.52	0	1.5	.68
CFSM	.16	.63	.52	.64	.75	.94	.84	.76	.20	.31	.94	.20
IN.	.19	.71	.60	.74	.78	1.09	.94	.88	.22	.36	1.09	.22

CAL YR 1968 TOTAL 2,371.67 MEAN 6.48 MAX 165 MIN 0 CFSM .61 IN 8.25
WAT YR 1969 TOTAL 2,244.50 MEAN 6.15 MAX 98 MIN 0 CFSM .57 IN 7.80

PEAK DISCHARGE (BASE, 160 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-20	1200	4.67	281	8-20	1330	4.18	161
8- 3	0530	4.19	163				

1-6610.50. St. Clement Creek near Clements, Md.

LOCATION.--Lat 38°28'00", long 76°43'31", St. Marys County, on left bank 60 ft downstream from bridge on State Highway 242, 0.5 mile north of Clements, 2.3 miles upstream from mouth, and 5.7 miles northwest of Leonardtown.

DRAINAGE AREA.--18.5 sq mi.

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 8 ft (from topographic map). Prior to Jan. 3, 1969, water-stage recorder 140 ft downstream at different datum.

EXTREMES.--Current year: Maximum discharge, 1,060 cfs July 23 (gage height, 5.55 ft) from rating curve extended above 420 cfs; minimum, 0.20 cfs July 5 (gage height, 0.75 ft).

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.48	1.6	3.2	14	15	13	12	10	3.0	.46	6.7	3.0
2	.48	1.7	6.2	9.0	14	21	13	9.2	2.5	.51	7.1	6.0
3	.48	2.0	5.2	7.2	13	21	12	8.6	3.1	.39	92	12
4	.56	2.1	5.8	6.9	9.7	21	12	8.0	2.5	.39	78	7.0
5	.52	2.2	5.5	5.6	8.9	14	17	7.5	2.2	.32	88	4.6
6	.60	2.2	5.2	5.4	8.2	12	40	6.8	2.2	.41	48	4.0
7	4.9	3.6	3.6	6.2	8.9	59	20	6.4	2.0	1.2	18	3.4
8	1.9	6.8	3.4	6.7	8.3	48	15	6.1	1.9	3.4	12	4.4
9	1.2	3.2	3.1	7.6	37	29	14	9.8	3.4	2.1	8.0	7.0
10	1.2	25	2.6	7.2	15	24	13	10	4.0	1.1	17	5.5
11	1.2	18	2.4	5.6	11	21	13	6.3	3.0	1.4	9.8	4.6
12	1.2	58	2.4	4.9	11	16	11	5.6	3.4	53	6.5	4.2
13	1.2	52	3.0	4.6	8.9	15	11	5.4	2.4	30	5.0	3.8
14	1.2	12	7.0	4.6	7.0	13	11	5.2	2.2	4.5	4.4	3.4
15	1.2	6.8	10	5.1	6.8	12	11	5.2	3.0	2.6	6.0	3.0
16	1.3	5.5	5.2	4.6	8.4	11	34	4.7	5.0	1.9	5.0	2.8
17	1.4	4.8	4.1	5.5	8.3	11	31	4.3	3.6	1.3	4.0	2.8
18	1.6	6.5	3.6	6.8	8.1	11	22	3.9	3.0	1.1	3.6	4.4
19	4.2	9.7	4.1	22	7.7	11	33	5.9	5.0	1.6	5.0	4.2
20	6.2	5.2	5.2	17	9.1	11	57	160	3.6	20	30	4.0
21	2.2	4.1	4.1	80	14	11	24	121	2.6	32	15	5.2
22	1.9	3.8	4.8	53	13	9.9	23	24	2.4	15	10	4.2
23	1.7	3.8	34	24	51	9.2	21	11	2.2	477	7.0	3.4
24	1.6	4.0	10	20	56	11	16	9.3	1.8	32	5.0	3.3
25	1.9	7.9	5.0	14	22	79	14	8.2	1.2	13	4.4	3.9
26	2.0	5.0	4.5	11	16	34	12	6.4	1.0	7.9	3.8	4.1
27	1.4	4.1	5.0	8.9	13	18	11	5.6	1.2	6.3	3.6	3.4
28	1.4	4.1	13	7.9	12	14	10	5.0	1.0	19	3.4	3.2
29	1.5	4.1	13	10	------	14	14	4.5	.76	27	3.2	2.6
30	1.6	3.6	5.8	12	------	19	11	3.8	.52	22	3.2	2.6
31	1.6	------	6.0	11	------	14	------	3.2	------	15	3.0	------
TOTAL	51.82	273.4	196.0	408.3	421.3	627.1	558	490.9	75.68	793.88	515.7	130.0
MEAN	1.67	9.11	6.32	13.2	15.0	20.2	18.6	15.8	2.52	25.6	16.6	4.33
MAX	6.2	58	34	80	56	79	57	160	5.0	477	92	12
MIN	.48	1.6	2.4	4.6	6.8	9.2	10	3.2	.52	.32	3.0	2.6
CFSM	.090	.49	.34	.71	.81	1.09	1.01	.85	.14	1.38	.90	.23
IN.	.10	.55	.39	.82	.85	1.26	1.12	.99	.15	1.60	1.04	.26

WAT YR 1969 TOTAL 4,542.08 MEAN 12.4 MAX 477 MIN .32 CFSM .67 IN 9.13

PEAK DISCHARGE (BASE, 150 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-20	1400	3.58	238	7-23	0330	5.55	1,060
7-12	2200	2.96	168				

NOTE.--No gage-height record Aug. 12 to Sept. 17

1-6615. St. Marys River at Great Mills, Md.

LOCATION.--Lat 38°14'36", long 76°30'13", St. Marys County, on left bank at downstream side of brdige on State Highway 471 in Great Mills, 0.3 mile downstreatm from Western Branch, and 12.0 miles upstream from mouth.

DRAINAGE AREA.--24.0 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 10 ft (from topographic map).

AVERAGE DISCHARGE.--23 years, 23.0 cfs (13.01 inches per year).

EXTREMES.--Current year: Maximum discharge, 7,950 cfs Aug. 20 (gage height, 13.34 ft); from rating curve extended as explained below; minimum, 1.0 cfs Oct. 1, 4, 5 (gage height 1.23).
Period of record: Maximum discharge, 7,950 cfs Aug. 20, 1969 (gage height, 13.34 ft), from rating curve extended above 1,500 cfs on basis of contracted-opening measurement at gage height 12.08 ft; minimum, 0.2 cfs Sept. 7, 1966 (gage height, 1.13 ft).

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 1702: 1946, 1948-49, 1955, 1957-58.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	2.5	4.6	13	14	17	14	13	3.6	1.4	12	7.9
2	1.2	2.8	6.9	8.0	15	31	14	12	3.9	1.4	11	17
3	1.1	2.8	6.9	6.9	14	32	13	11	6.9	1.4	37	112
4	1.1	3.0	6.9	6.5	11	52	13	10	5.1	4.1	22	39
5	1.1	3.0	8.4	5.4	9.5	51	16	9.5	4.0	3.3	222	22
6	1.2	3.3	6.5	4.6	8.4	34	88	8.4	3.7	2.2	130	17
7	5.0	3.5	5.7	5.7	8.9	143	56	7.6	3.4	1.8	39	15
8	5.0	6.1	5.4	5.4	8.4	137	29	7.6	3.3	2.2	20	14
9	3.3	4.3	5.0	6.5	26	80	22	9.5	5.1	2.6	13	19
10	2.5	19	4.3	6.1	19	56	18	13	5.1	2.2	12	13
11	2.3	15	4.0	4.6	14	46	17	8.6	4.6	2.2	11	11
12	2.1	90	4.0	4.2	12	29	14	7.1	4.6	35	8.4	10
13	2.1	40	4.6	4.3	10	23	13	6.6	3.7	51	7.0	8.9
14	2.1	13	9.5	4.3	8.0	19	13	6.4	3.3	9.7	6.8	8.0
15	2.1	8.0	13	4.6	7.5	17	12	6.3	4.2	4.3	8.3	7.6
16	2.1	6.9	7.6	4.3	8.0	15	28	5.8	5.8	2.8	7.7	6.9
17	2.1	6.5	5.7	5.0	8.0	14	34	5.5	4.6	2.2	6.5	6.5
18	1.9	6.9	5.4	5.7	7.6	14	27	5.2	3.6	1.9	6.0	7.6
19	3.3	12	5.4	13	7.6	14	49	7.6	4.3	2.9	7.1	7.6
20	5.4	8.0	6.1	15	8.4	13	187	101	3.8	8.4	2,180	7.2
21	3.5	6.1	5.4	74	13	13	65	41	3.2	16	302	7.1
22	2.8	5.7	6.1	59	15	12	43	18	3.1	9.8	57	6.9
23	2.5	5.0	22	49	73	11	38	12	3.0	785	30	5.4
24	2.3	5.4	13	46	178	12	26	9.7	2.6	104	20	5.1
25	3.0	6.9	8.0	25	58	93	21	9.0	2.2	29	16	5.3
26	3.8	6.5	6.5	16	30	65	18	7.3	2.0	16	14	5.0
27	3.3	5.7	6.5	13	21	31	16	6.1	2.0	9.3	12	4.6
28	2.8	5.4	8.0	10	16	21	14	5.5	1.9	27	11	4.4
29	2.8	5.7	8.9	10	------	17	15	4.9	1.8	52	9.9	4.0
30	2.5	5.0	6.9	11	------	21	14	4.4	1.6	22	9.1	4.0
31	2.5	------	6.9	10	------	17	------	4.1	------	16	8.3	------
TOTAL	79.9	314.0	224.1	456.1	629.3	1,150	947	383.7	110.0	1,229.1	3,256.1	409.0
MEAN	2.58	10.5	7.23	14.7	22.5	37.1	31.6	12.4	3.67	39.6	105	13.6
MAX	5.4	90	22	74	178	143	187	101	6.9	785	2,180	112
MIN	1.1	2.5	4.0	4.2	7.5	11	12	4.1	1.6	1.4	6.0	4.0
CFSM	.11	.44	.30	.61	.94	1.55	1.32	.52	.15	1.65	4.38	.57
IN.	.12	.49	.35	.71	.98	1.78	1.47	.59	.17	1.91	5.05	.63

CAL YR 1968 TOTAL 5,002.3 MEAN 13.7 MAX 488 MIN .82 CFSM .57 IN 7.75
WAT YR 1969 TOTAL 9,188.3 MEAN 25.2 MAX 2,180 MIN 1.1 CFSM 1.05 IN 14.24

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7-23	0700	9.52	1,710	8-20	1130	13.34	7,950

3-0755. Youghiogheny River near Oakland, Md.

LOCATION.--Lat 39°25'19", long 79°25'32", Garrett County, on left bank 200 ft downstream from Baltimore & Ohio Railroad bridge, 250 ft downstream from Little Youghiogheny River, 1.2 miles northwest of Oakland, and 1.5 miles upstream from Dunkard Lick Run.

DRAINAGE AREA.--134 sq mi.

PERIOD OF RECORD.--August 1941 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,353.11 ft above mean sea level, unadjusted Prior to Aug. 1, 1946, nonrecording gage at bridge 200 ft upstream at same datum.

AVERAGE DISCHARGE.--28 years, 281 cfs (28.48 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,440 cfs Apr. 6 (gage height, 4.75 ft); minimum discharge, 11 cfs July 4, 5 (gage height, 1.88 ft).
Period of record: Maximum discharge, 11,800 cfs Oct. 16, 1954 (gage height, 12.16 ft); minimum daily, 2.5 cfs Oct. 4, 1953.
Flood in March 1936 reached a stage of 15.3 ft, from floodmarks.

REMARKS.--Records good. Town of Oakland diverted an average of 0.4 cfs for water supply. The diversion is returned above station as sewage.

REVISIONS (WATER YEARS).--WSP 1113: 1947(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	27	155	380	773	110	382	177	32	13	66	37
2	12	25	240	300	697	105	495	152	31	16	57	39
3	16	25	230	310	617	103	751	137	32	13	48	62
4	35	46	360	250	500	102	563	120	31	12	62	119
5	27	43	420	210	412	100	518	113	28	22	193	69
6	19	32	300	200	333	104	1,250	98	26	147	84	136
7	48	215	250	200	295	106	812	87	26	93	57	124
8	55	787	220	180	255	100	571	84	26	250	45	349
9	29	553	190	220	230	100	434	324	60	88	81	220
10	24	322	170	260	218	92	357	330	43	56	922	137
11	22	222	150	192	210	85	326	275	30	55	504	99
12	22	195	160	152	192	86	247	285	28	98	270	77
13	20	177	195	128	145	88	203	248	32	183	176	64
14	18	160	450	117	140	84	177	212	29	77	122	55
15	17	406	330	111	125	76	171	184	70	49	114	48
16	16	930	230	98	128	77	186	154	60	35	259	42
17	15	633	220	110	118	109	172	131	37	27	256	37
18	15	816	230	150	111	287	146	115	29	23	490	37
19	66	1,060	250	560	107	460	177	106	31	31	1,110	41
20	108	600	380	280	93	770	160	124	29	85	988	45
21	55	350	290	200	91	1,220	136	105	22	123	411	113
22	38	300	260	180	121	855	169	84	20	147	247	64
23	31	260	620	220	130	582	276	74	21	77	171	45
24	28	240	490	400	130	695	630	72	20	131	127	40
25	26	300	350	420	130	1,070	503	68	20	102	100	62
26	27	250	310	250	120	862	399	61	19	71	83	55
27	28	235	300	210	110	672	314	55	16	52	69	41
28	27	230	790	200	115	530	261	48	14	326	58	36
29	29	205	979	350	------	557	263	46	16	246	52	37
30	33	175	617	720	------	515	210	41	14	125	46	37
31	29	------	470	750	------	422	------	37	------	90	42	------
TOTAL	947	9,819	10,606	8,308	6,646	11,124	11,259	4,147	892	2,863	7,310	2,367
MEAN	30.5	327	342	268	237	359	375	134	29.7	92.4	236	78.9
MAX	108	1,060	979	750	773	1,220	1,250	330	70	326	1,110	349
MIN	12	25	150	98	91	76	136	37	14	12	42	36
CFSM	.23	2.44	2.55	2.00	1.77	2.68	2.80	1.00	.22	.69	1.76	.59
IN.	.26	2.73	2.94	2.31	1.84	3.09	3.12	1.15	.25	.79	2.03	.66

CAL YR 1968 TOTAL 95,076 MEAN 260 MAX 3,990 MIN 12 CFSM 1.94 IN 26.39
WTR YR 1969 TOTAL 76,288 MEAN 209 MAX 1,250 MIN 12 CFSM 1.56 IN 21.17

PEAK DISCHARGE (BASE, 2,000 CFS).--No peak above base.

Reservoirs in Monongahela River Basin

3-0760. DEEP CREEK RESERVOIR.--Lat 39°30'34", long 79°23'28" Garrett County, on Deep Creek at dam, 1.8 miles upstream from mouth and 7 miles north of Oakland, Md. Drainage area, 64.7 sq mi. Period of record, July 1925 to current year. Prior to October 1950, monthend contents published in WSP 1305, and October 1950 to September 1955, monthend contents published in WSP 1385. Gage, water-stage recorder at right end of spillway. Datum of gage is at mean sea level (unadjutsted). Maximum contents during year, 85,200 acre-ft Apr. 3 (elevation, 2,459.90 ft); minimum, 64,300 acre-ft Dec. 22 (elevation, 2,454.00 ft). Maximum contents since storage began, 93,258 acre-ft July 24, 25, 1949 (elevation, 2,462.075 ft); minimum observed, 11,763 acre-ft Sept. 30, 1925 (elevation, 2,433.45 ft).

Reservoir is formed by an earthfill dam completed January 1925. Usable capacity, 92,975 acre-ft between elevations 2,425 ft (top of intake to outlet tunnel) and 2,462 ft (crest of spillway). Dead storage, 13,085 acre-ft. Figures given herein represent usable contents. Reservoir is used for hydroelectric power. Records furnished by Pennsylvania Electric Co.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2,456.50	72,900	-
Oct. 31	2,454.80	67,000	- 5,900
Nov. 30	2,454.30	65,400	- 1,600
Dec. 31	2,454.50	66,000	+ 600
CAL YR 1968	-	-	+ 3,600
Jan. 31	2,454.70	66,700	+ 700
Feb. 28	2,455.30	68,700	+ 2,000
Mar. 31	2,456.70	73,600	+ 4,900
Apr. 30	2,457.80	77,500	+ 3,900
May 31	2,458.40	79,700	+ 2,200
June 30	2,458.20	78,900	- 800
July 31	2,458.20	78,900	0
Aug. 31	2,457.40	76,100	- 2,800
Sept. 30	2,456.30	72,200	- 3,900
WTR YR 1969	-	-	- 700

3-0765. Youghiogheny River at Friendsville, Md.

LOCATION.--Lat 39°39'13", long 79°24'31", Garrett County, on left bank 0.7 mile upstream from bridge on State Highway 42 at Friendsville, and 1.5 miles upstream from Bear Creek.

DRAINAGE AREA.--295 sq mi.

PERIOD OF RECORD.--August 1898 to December 1904 and October 1940 to current year. October, November 1940 monthly discharge only, published in WSP 1305. September 1922 to September 1926 (gage heights only) in reports of Pennsylvania Department of Forests and Waters.

GAGE.--Water-stage recorder. Datum of gage is 1,487.33 ft above mean sea level. Aug. 17, 1898, to Dec. 31, 1904, and Sept. 1, 1922, to Sept. 30, 1926, non-recording gages at bridge 0.7 mile downstream at datum 16.24 and 16.29 ft lower, respectively. Dec. 4, 1940, to current year, water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--35 years (1898-1904, 1940-1969), 623 cfs (28.68 inches per year), adjusted for storage since 1940.

EXTREMES.--Current year: Maximum discharge, 2,980 cfs Mar. 21 (gage height, 4.70 ft); minimum discharge, 15 cfs Oct. 3 (gage height, 1.67 ft); minimum daily, 30 cfs June 29.
Period of record: Maximum discharge, 13,000 cfs Oct. 16, 1954 (gage height, 8.99 ft), from rating curve extended above 5,800 cfs on basis of slope-area measurement of peak flow; minimum daily, 8.2 cfs Sept. 11, 1966.
Maximum stage since 1898, 14.2 ft Mar. 29, 1924, from floodmarks, site and datum then in use, or 10.2 ft, present site and datum (discharge, about 15,600 cfs, from rating curve extended as explained above.

REMARKS.--Records good. Low and medium flow regulated since 1925 by Deep Creek Reservoir (see preceding page). Records of water temperatures for the 1969 water year are published in part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1385: Drainage area at former site, 1898-1905, 1941(M), 1942, 1944-45, 1948-49, 1951(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	175	258	707	1,320	245	759	362	88	100	135	68
2	58	93	541	688	1,280	220	827	320	142	37	103	190
3	71	41	550	760	1,210	265	1,360	290	88	34	89	191
4	96	130	895	456	1,050	296	995	273	82	33	188	226
5	64	191	1,200	320	823	298	862	260	76	39	299	267
6	40	169	893	540	680	317	2,050	232	70	104	276	141
7	84	350	555	450	611	324	1,590	210	68	232	218	196
8	168	1,250	473	400	474	233	1,130	198	61	353	183	434
9	176	869	570	500	463	214	888	517	71	200	118	428
10	157	463	500	650	469	285	776	748	110	123	996	299
11	150	449	520	426	458	255	721	580	84	101	919	238
12	66	445	600	319	457	291	506	566	179	91	538	205
13	34	422	604	400	393	270	416	509	186	171	405	92
14	114	351	890	420	420	241	434	441	87	139	319	78
15	168	505	836	440	349	200	453	391	102	132	339	144
16	168	1,360	790	440	340	148	436	341	140	199	292	150
17	172	945	753	380	345	230	433	300	99	205	370	172
18	168	1,250	629	354	316	451	390	268	75	219	700	157
19	102	1,930	666	1,820	322	692	369	252	68	118	1,140	150
20	144	1,180	883	1,310	289	1,270	323	285	109	69	1,400	74
21	200	824	604	949	280	2,270	328	261	58	188	689	131
22	202	672	527	783	266	1,620	387	208	44	345	450	224
23	186	444	1,770	859	248	1,050	546	185	42	181	250	164
24	179	378	1,500	932	297	1,210	1,140	176	51	227	194	138
25	162	578	854	825	393	1,830	901	164	49	216	301	141
26	88	515	850	540	351	1,590	696	151	47	147	194	180
27	43	495	795	580	328	1,250	569	137	77	104	224	112
28	133	351	1,100	560	328	988	487	125	53	287	226	59
29	178	465	1,910	850	------	952	491	267	30	496	190	109
30	190	304	1,360	1,590	------	880	419	115	91	331	106	147
31	179	------	1,060	1,600	------	818	------	99	------	267	73	------
TOTAL	4,018	17,594	25,936	21,848	14,560	21,203	21,682	9,231	2,527	5,488	11,924	5,305
MEAN	130	586	837	705	520	684	723	298	84.2	177	385	177
MAX	202	1,930	1,910	1,820	1,320	2,270	2,050	748	186	496	1,400	434
MIN	34	41	258	319	248	148	323	99	30	33	73	59
†	-95.8	-26.9	+9.8	+11.4	+36.0	+79.7	+65.5	+35.8	-13.5	0	-45.5	-65.5
MEAN	34.2	559	847	716	556	764	788	334	70.7	177	340	112
CFSM	.12	1.89	2.87	2.43	1.88	2.59	2.67	1.13	.24	.60	1.15	.38
IN.	.13	2.11	3.31	2.80	1.96	2.98	2.98	1.31	.27	.69	1.33	.42

CAL YR 1968 TOTAL 203,141 MEAN 555 MAX 5,750 MIN 31 MEAN‡ 560 CFSM‡ 1.90 IN.‡ 25.84
WTR YR 1969 TOTAL 161,316 MEAN 442 MAX 2,270 MIN 30 MEAN‡ 441 CFSM‡ 1.49 IN.‡ 20.29

† Change in contents, equivalent in cubic feet per second, in Deep Creek Reservoir, furnished by Pennsylvania Electric Co.
‡ Adjusted for change in contents.

3-0766. Bear Creek at Friendsville, Md.

LOCATION.--Lat 39°39'22", long 79°23'41", Garrett County, on right bank 0.2 mile downstream from bridge on Accident-Friendsville Road, 0.6 mile downstream from South Branch Bear Creek, 0.8 mile southeast of Friendsville, and 1.2 miles upstream from mouth.

DRAINAGE AREA.--48.9 sq mi.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,555 ft (from topographic map).

AVERAGE DISCHARGE.--5 years, 63.7 cfs (17.69 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,710 cfs July 22 (gage height, 5.94 ft); minimum discharge, 3.8 cfs Oct. 1.
Period of record: Maximum discharge, 1,980 cfs Mar. 7, 1967 (gage height, 6.61 ft); minimum discharge, 1.5 cfs Sept. 12, 1966 (gage height, 0.42 ft).

REMARKS.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	5.0	39	80	168	32	112	52	15	8.3	24	7.8
2	4.2	4.9	71	70	165	32	129	47	14	7.3	21	9.1
3	5.3	5.1	70	60	151	31	148	44	15	6.0	20	15
4	6.2	5.4	132	52	124	31	140	41	14	5.5	26	14
5	4.8	5.6	162	45	109	30	165	38	13	19	30	11
6	6.4	6.2	130	42	92	32	345	35	13	30	20	10
7	11	44	104	38	83	34	268	33	14	46	16	10
8	9.1	138	88	35	75	31	197	33	12	42	15	18
9	7.0	74	73	33	70	32	157	80	12	20	16	15
10	6.4	47	52	31	55	29	130	69	12	83	71	12
11	6.4	34	47	30	52	24	116	69	12	89	38	9.8
12	5.8	34	45	28	50	27	95	67	12	51	27	8.9
13	5.5	29	50	28	44	29	84	65	18	37	22	8.0
14	5.6	25	124	26	44	28	75	62	15	25	18	7.8
15	5.6	99	88	25	40	23	71	57	34	18	22	7.4
16	4.4	189	56	24	42	26	68	53	25	15	27	7.2
17	4.4	145	58	25	40	34	61	48	14	14	23	7.6
18	4.8	184	66	100	36	62	57	44	13	12	19	8.7
19	20	196	70	257	34	120	60	44	14	18	20	7.4
20	13	136	90	155	31	215	51	54	11	25	19	8.0
21	7.8	101	64	127	31	319	45	38	9.7	46	15	11
22	6.6	81	62	113	34	225	49	32	9.5	204	13	8.7
23	5.8	66	84	128	35	163	55	31	11	332	12	7.6
24	5.3	60	64	145	36	237	85	29	10	206	11	7.0
25	5.3	65	56	148	36	282	81	26	9.5	114	11	7.6
26	5.3	56	80	119	36	222	77	24	8.0	69	10	7.4
27	5.3	53	116	80	35	174	72	22	7.2	48	9.8	8.3
28	5.3	49	196	60	34	149	69	21	6.6	72	9.1	7.2
29	5.8	49	256	70	------	149	65	18	6.1	49	9.1	6.6
30	6.0	42	189	141	------	137	58	17	6.0	37	8.5	6.2
31	5.3	------	120	159	------	122	------	16	------	31	8.3	------
TOTAL	203.7	2,028.2	2,902	2,474	1,782	3,081	3,185	1,309	385.6	1,779.1	610.8	280.3
MEAN	6.57	67.6	93.6	79.8	63.6	99.4	106	42.2	12.9	57.4	19.7	9.34
MAX	20	196	256	257	168	319	345	80	34	332	71	18
MIN	4.0	4.9	39	24	31	23	45	16	6.0	5.5	8.3	6.2
CFSM	.13	1.38	1.91	1.63	1.30	2.03	2.17	.86	.26	1.17	.40	.19
IN.	.15	1.54	2.21	1.88	1.36	2.34	2.42	1.00	.29	1.35	.46	.21

CAL YR 1968 TOTAL 27,163.1 MEAN 74.2 MAX 1,060 MIN 4.0 CFSM 1.52 IN 20.66
WTR YR 1969 TOTAL 20,020.7 MEAN 54.9 MAX 345 MIN 4.0 CFSM 1.12 IN 15.23

PEAK DISCHARGE (BASE, 600 CFS).--July 22 (2100) 1,710 cfs (5.94 ft).

3-0780. Casselman River at Grantsville, Md.

LOCATION.--Lat 39°42'08", long 79°08'12", Garrett County, on left bank at downstream side of highway bridge, 0.3 mile upstream from Slaubaugh Run, 0.7 mile downstream from U. S. Highway 40, and 1.0 mile northeast of Grantsville.

DRAINAGE AREA.--62.5 sq mi.

PERIOD OF RECORD.--July 1947 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,089.03 ft above mean sea level (levels by Corps of Engineers).

AVERAGE DISCHARGE.--22 years, 112 cfs (24.34 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,630 cfs July 22 (gage height, 4.40 ft); minimum, 2.0 cfs Oct. 1. Period of record: Maximum discharge, 8,400 cfs Oct. 15, 1954 (gage height, 10.70 ft), from rating curve extended above 1,600 cfs on basis of contracted-opening measurement at gage height 8.13 ft; no flow Aug. 31, 1962, result of regulation from unknown source.

REMARKS.--Records good except those for winter months, which are poor. Records of chemical analyses for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1143: 1948.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	7.9	61	106	286	45	137	60	13	9.8	43	9.0
2	2.3	7.6	121	90	241	43	217	56	12	9.2	38	9.6
3	3.1	7.6	110	78	201	44	180	51	13	7.6	35	17
4	3.7	7.6	306	68	163	44	147	49	12	6.6	39	53
5	3.2	7.7	258	58	150	43	322	44	11	30	51	29
6	3.3	9.3	156	54	130	46	281	42	12	56	38	27
7	8.8	108	118	50	107	43	191	39	12	126	28	24
8	8.9	334	96	48	97	41	153	66	13	137	24	44
9	6.2	124	84	45	86	40	132	108	12	63	31	41
10	4.4	67	76	43	79	37	134	78	10	330	180	28
11	4.3	47	70	40	72	32	108	74	10	366	85	20
12	4.4	47	66	39	60	37	90	70	13	143	49	15
13	4.3	47	78	37	52	45	82	62	46	156	37	12
14	4.1	47	225	36	52	42	78	57	134	82	29	11
15	3.4	169	120	34	73	32	82	53	180	59	25	9.6
16	3.5	385	78	32	74	36	77	49	113	45	33	8.6
17	3.4	272	80	32	60	52	69	44	53	37	49	8.3
18	3.9	348	86	194	54	99	80	43	37	32	36	9.2
19	38	318	100	562	52	217	72	50	35	34	51	7.8
20	32	176	120	322	45	380	62	53	26	62	51	13
21	16	124	90	233	40	625	64	41	19	159	34	25
22	10	103	88	183	62	348	78	36	28	348	26	17
23	8.2	96	110	187	54	237	180	35	79	595	22	12
24	7.8	86	90	241	54	370	147	32	35	344	18	10
25	7.3	99	78	237	53	425	103	30	25	180	16	11
26	7.9	80	110	143	50	294	86	27	19	105	15	10
27	7.6	72	147	110	50	229	78	24	14	76	13	9.3
28	7.3	69	310	82	50	213	78	21	12	147	11	9.2
29	8.8	76	375	96	------	213	72	19	9.8	108	11	8.3
30	9.5	67	205	306	------	166	66	17	8.1	68	10	7.3
31	8.3	------	156	348	------	147	------	14	------	54	9.5	------
TOTAL	246.1	3,408.7	4,168	4,134	2,547	4,665	3,646	1,444	1,015.9	3,975.2	1,137.5	515.2
MEAN	7.94	114	134	133	91.0	150	122	46.6	33.9	128	36.7	17.2
MAX	38	385	375	562	286	625	322	108	180	595	180	53
MIN	2.2	7.6	61	32	40	32	62	14	8.1	6.6	9.5	7.3
CFSM	.13	1.82	2.15	2.13	1.46	2.41	1.94	.75	.54	2.05	.59	.27
IN.	.15	2.03	2.48	2.46	1.52	2.78	2.17	.86	.60	2.37	.68	.31

CAL YR 1968 TOTAL 38,955.7 MEAN 106 MAX 1,530 MIN 2.2 CFSM 1.70 IN 23.18
WTR YR 1969 TOTAL 30,902.6 MEAN 84.7 MAX 625 MIN 2.2 CFSM 1.35 IN 18.39

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7-10	2030	3.65	1,040	7-22	2230	4.40	1,630

3-0785. Big Piney Run near Salisbury, Pa.

LOCATION.--Lat 39°43'34", long 79°02'55", Somerset County, on left bank 660 ft upstream from Little Piney Run, 0.2 mile north of Maryland-Pennsylvania State line, and 2.5 miles southeast of Salisbury.

DRAINAGE AREA.--24.5 sq mi.

PERIOD OF RECORD.--June 1932 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 2,240 ft (from topographic map).

AVERAGE DISCHARGE.--37 years, 36.9 cfs (20.45 inches per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 259 cfs Mar. 24 (gage height, 3.06 ft); minimum, 0.17 cfs Oct. 5, 6 (gage height, 1.02 ft).
Period of record: Maximum discharge, 6,850 cfs Oct. 15, 1954 (gage height, 8.56 ft), from rating curve extended above 500 cfs on basis of slope-area measurements at gage heights 7.5 and 8.56 ft; maximum gage height, 8.87 ft Feb. 22, 1944 (backwater from ice); minimum discharge, 0.04 cfs Sept. 10, 11, 1966 (gage height, 0.95 ft).

REMARKS.--Records good except those for winter months, which are fair. Infrequent regulation at low flow by Frostburg Reservoir. Records do not include an average of about 0.5 cfs diverted three miles above station through pumps to city of Frostburg, Maryland, and about 0.2 cfs from spring 700 ft above station by gravity to city of Salisbury, Pennsylvania.

REVISIONS (WATER YEARS).--WSP 783: 1933(M). WSP 1385: 1942(P), 1943, 1945(P), 1946(M), 1948, 1951(M), 1952. WSP 1505: 1939(M), 1942(P). WSP 1907: 1955, 1956(M), 1958, 1960.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	1.1	12	38	69	10	42	15	2.3	1.1	12	2.7
2	.29	1.0	26	31	65	9.3	46	13	2.9	1.1	10	2.7
3	.34	1.0	26	24	58	9.2	46	12	7.1	.86	13	17
4	.25	.94	64	21	48	10	40	11	3.9	.79	18	10
5	.21	.79	64	18	46	12	46	10	3.0	4.3	12	7.4
6	.21	.79	48	16	44	10	76	9.2	2.4	14	7.8	12
7	.71	12	38	14	33	11	61	8.9	2.4	40	7.4	7.8
8	.79	17	30	13	28	10	54	8.0	2.3	42	5.7	39
9	.51	8.2	25	11	25	9.7	46	28	2.7	22	23	24
10	.45	5.2	19	10	23	9.0	44	22	2.6	38	14	18
11	.40	3.6	18	9.0	22	8.5	43	21	2.3	61	8.2	13
12	.40	3.6	17	8.4	19	9.8	34	19	2.1	57	6.5	10
13	1.1	3.6	20	7.8	16	10	30	17	3.0	36	5.2	7.8
14	1.0	3.6	42	7.5	16	7.7	27	15	13	26	4.8	6.2
15	.94	45	30	7.1	21	6.9	28	14	6.8	19	4.5	5.2
16	.86	110	20	6.6	25	7.0	29	12	5.9	14	49	4.7
17	.64	72	21	6.7	23	14	25	11	3.7	11	53	4.1
18	.58	92	22	18	15	42	24	9.9	2.9	8.6	34	5.4
19	4.3	82	31	51	13	77	26	12	3.0	11	33	3.2
20	2.9	50	31	26	11	116	22	13	2.4	35	38	9.0
21	1.6	35	23	23	10	177	19	10	1.8	27	26	15
22	1.3	29	22	22	13	124	20	7.8	3.3	48	19	8.2
23	1.0	27	28	30	13	88	22	7.4	18	49	15	5.4
24	1.0	24	23	44	12	140	26	6.8	6.2	40	12	5.2
25	1.0	24	20	48	11	201	22	5.9	3.9	29	9.4	5.0
26	.86	19	21	46	11	135	20	5.0	2.9	22	7.1	4.3
27	.71	17	26	36	11	96	19	4.5	2.3	41	5.7	3.7
28	2.3	16	64	26	10	75	18	4.3	1.7	31	4.7	3.2
29	2.1	18	100	30	------	66	19	3.5	1.2	23	4.3	2.7
30	1.8	14	64	63	------	56	17	3.0	1.0	19	3.9	2.6
31	1.4	------	52	70	------	48	------	2.6	------	14	3.2	------
TOTAL	32.35	736.42	1,047	782.1	711	1,605.1	991	341.8	119.0	785.75	469.4	264.5
MEAN	1.04	24.5	33.8	25.2	25.4	51.8	33.0	11.0	3.97	25.3	15.1	8.82
MAX	4.3	110	100	70	69	201	76	28	18	61	53	39
MIN	.21	.79	12	6.6	10	6.9	17	2.6	1.0	.79	3.2	2.6
CFSM	.04	1.00	1.38	1.03	1.04	2.11	1.35	.45	.16	1.03	.62	.36
IN.	.05	1.12	1.59	1.19	1.08	2.44	1.50	.52	.18	1.19	.71	.40

CAL YR 1968 TOTAL 12,169.89 MEAN 33.3 MAX 643 MIN .21 CFSM 1.36 IN 18.47
WTR YR 1969 TOTAL 7,885.42 MEAN 21.6 MAX 201 MIN .21 CFSM .88 IN 11.97

PEAK DISCHARGE (BASE, 450 CFS).--No peak above base.

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 low-flow or floodflow analyses, depending on the type of data collected. 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 two tables. The first is a table of discharge measurements at low-flow partial-record stations and the second is a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a third table.

Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. These measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of the stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same site.

Discharge measurements made at low-flow partial-record stations during water year 1969, in North Atlantic Slope basins

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Delaware River basin				
1-4774	South Branch Naaman Creek near Claymont, Del.	Lat 39°49'00" long 75°29'40", at dam 800 ft above bridge on Marsh Road, 2.2 miles west of Claymont, New Castle County.	3.83	1955-66 1968-69	6- 2-69	.88
1-4795	Mill Creek at Stanton, Del.	Lat 39°42'50", long 75°40'00", at highway bridge 1.2 miles west of Stanton, New Castle County.	12.4	1931-34‡ 1955-66 1968-69	5-29-69	4.56
1-4823	Red Lion Creek at Red Lion, Del.	Lat 39°36'20", long 75°39'55", at bridge on State Highway 7, 0.2 mile south of Red Lion, New Castle County.	3.20	1955-60 1962-69	9-26-69	.17
1-4831.5	Wiggins Millpond Outlet at Townsend, Del.	Lat 39°24'12", long 75°42'16" at bridge on State Highway 446, 0.8 mile northwest of Townsend, New Castle County.	3.82	1957-60 1962-66 1968-69	9-18-69	1.58
		Smyrna River basin				
1-4833	Providence Creek at Clayton, Del.	Lat 39°18'05", long 75°38'28", at highway bridge, 0.8 mile north of Clayton, Kent County.	11.8	1955-60 1962-63 1966 1968-69	5-27-69	6.47
1-4833.5	Mill Creek at Smyrna, Del.	Lat 39°17'09", long 75°36'45", at old dam, 500 ft above highway bridge, 1 mile south of Smyrna, Kent County.	4.77	1955-57 1959-60 1962-63 1966 1968-69	5-28-69	2.20
		St. Jones River Basin				
1-4836.5	Fork Branch at Dupont, Del.	Lat 39°11'56", long 75°34'40", at highway bridge, 0.8 mile northwest of Dupont, Kent County.	7.50	1955-57 1959-60 1962-66 1968-69	5-28-69	2.77
1-4836.8	Maidstone Branch at Dupont, Del.	Lat 39°11'18", long 75°34'04", at highway bridge, 0.4 mile southwest of Dupont, Kent County.	17.3	1955-57 1959-60 1962-66 1968-69	5-28-69	3.00
		Murderkill River basin				
1-4840.2	Browns Branch near Houston, Del.	Lat 38°57'31", long 75°30'33", at highway bridge, 2.9 miles north of Houston, Kent County.	12.4	1955-69	5-29-69	7.71
*1-4840.5	Pratt Branch near Felton, Del.	Lat 39°00'37", long 75°31'46", at highway bridge, 2.6 miles east of Felton, Kent County	3.29	1955-57 1959-60 1962-69	4-16-69 5-29-69	2.65 1.18
1-4840.6	Double Run near Magnolia, Del.	Lat 39°03'16", long 75°29'43", at highway bridge, 1.5 miles southwest of Magnolia, Kent County.	5.68	1955-57 1959-60 1962-64 1966-69	4-16-69 5-29-69	5.06 2.72

Discharge measurements made at low-flow partial-record stations during water year 1969, in North Atlantic Slope basins--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Cedar Creek basin				
1-4842	Cedar Creek near Lincoln, Del.	Lat 38°51'03", long 75°25'05", at highway bridge, 1.2 miles south of Lincoln, Sussex County.	7.21	1955-60 1962-63 1966 1968-69	4-16-69	14.7
		Broadkill River basin				
1-4842.4	Pemberton Branch near Milton, Del.	Lat 38°46'26", long 75°20'29", at highway bridge, 1.5 miles west of Milton Sussex County.	6.68	1955-66 1968-69	4-16-69	8.23
*1-4842.7	Beaverdam Creek near Milton, Del.	Lat 38°45'41", long 75°16'03", at high way bridge, 2.5 miles east of Milton, Sussex County.	6.10	1955-69	3-20-69 4-16-69	7.66 8.61
		Indian River basin				
*1-4845.5	Pepper Creek at Dagsboro, Del.	Lat 38°32'50", long 75°14'40", at bridge on State Highway 26, at Dagsboro, Sussex County.	8.78	1955-69	4-17-69	7.57
		Nanticoke River basin				
1-4875	Butler Mill Branch near Woodland, Del.	Lat 38°37'56", long 75°39'35", at highway bridge, 2.2 miles north of Woodland, Sussex County.	6.96	1955-63 1966 1968-69	4-16-69	7.95
1-4877	Elliott Pond Branch near Laurel, Del. d/	Lat 38°34'39", long 75°31'42", at highway bridge, 2.9 miles northeast of Laurel, Sussex County.	8.55	1955-66 1968-69	4-17-69	12.2
		Choptank River basin				
1-4911.8	Watts Creek near Denton, Md.	Lat 38°52'29", long 75°47'38", at bridge on State Highway 474, 1.6 miles southeast of Denton, Caroline County.	a11	1964-69	4-15-69	6.06
		Chester River basin				
1-4929.8	Cypress Branch at Millington, Md.	Lat 39°15'28", long 75°50'01", at bridge on State Highway 291, 0.04 mile east of Millington, Kent County.	a38	1964-66 1968-69	4-15-69 9-25-69	18.3 2.53
1-4941	Old Mill Stream Branch at Centreville, Md.	Lat 39°02'23", long 76°04'22", at bridge on U. S. Highway 213, at Centreville, Queen Annes County.	11.2	b1953-54 1964-69	4-15-69 6-30-69 8-28-69	7.22 3.25 4.16
		Elk River basin				
1-4955.5	Perch Creek near Elkton, Md.	Lat 39°34'16", long 75°48'53", at bridge on U. S. Highway 213, 2.5 miles south of Elkton, Cecil County.	a6.0	1964-69	5-28-69 9-26-69	1.21 .94
		Northeast River basin				
1-4960.5	Little Northeast Creek at Mechanic Valley, Md.	Lat 39°38'26", long 75°55'49", at highway bridge, 0.8 mile northwest of Mechanic Valley, Cecil County.	a14	1964-69	5-29-69 9-26-69	5.56 3.07
		Potomac River basin				
1-6013	North Branch Jennings Run at Barrelville, Md.	Lat 39°42'13", long 78°50'38", at bridge on State Highway 47, at Barrelville, Allegany County.	a12	1964-69	6-27-69 9-30-69	.98 1.99
1-6041.5	Collier Run at Spring Gap, Md.	Lat 39°34'03", long 78°43'23", at culvert on State Highway 51, 0.6 mile west of Spring Gap, Allegany County.	a11	1964-69	6-27-69 9-29-69	.07 .10
1-6191.5	Marsh Run at Fiddlesburg, Md.	Lat 39°39'29", long 77°41'16", at bridge on Old Forge Road, at Fiddlesburg, 0.6 miles above mouth, and 0.5 mile east of Hagerstown city limits, Washington County.	a31	1965-69	6-27-69 9-30-69	2.06 1.74

Discharge measurements made at low-flow partial-record stations during water year 1969, in North Atlantic Slope basins--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Potomac River basin--Continued				
1-6194.8	Little Antietam Creek at Keedysville, Md.	Lat 39°29'10", long 77°42'05", at bridge on Koffman Lane, at Keedysville, Washington County.	a24	c1956 1964-69	6-27-69 9-30-69	6.16 7.29
1-6454	Little Bennett Creek at Hyattstown, Md.	Lat 39°16'46", long 77°18'54", at bridge on State Highway 355 at Hyattstown, Montgomery County.	12.8	1968-69	6-26-69	1.83

Discharge measurements made at low-flow partial-record stations during water year 1969 in Ohio River basin

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Monongahela River basin				
3-0754	Laurel Run at Crellin, Md.	Lat 39°23'04", long 79°28'25", 800 ft above mouth, 0.5 mile southwest of Crellin, Garrett County.	10.9	1964-69	6-27-69 9-30-69	2.28 4.28
3-0765.8	South Branch Bear Creek near Accident, Md.	Lat 39°36'39", long 79°20'02", at culvert on U. S. Highway 219, 1.5 miles southwest of Accident, Garrett County.	6.01	1964-69	6-27-69 9-30-69	.44 .31

* Also a crest-stage partial-record station.
‡ Operated as a continuous-record gaging station.
a Approximately.
b Miscellaneous measurements during this period.
c Miscellaneous flood measurement during this period.
d From 1958 to 1965 published as "Chipman Pond Branch."

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 during water year 1969 in North Atlantic Slope basins

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
Delaware River basin							
1-4789.5	Pike Creek near Newark, Del.	Lat 39°42'11", long 75°41'41", above bridge on State Highway 2, and 2.6 miles northeast of Newark, New Castle County.	6.04	1969-	7-28-69	9.15	2,550
1-4792	Mill Creek at Hockessin, Del.	Lat 39°46'31", long 75°41'26", 20 ft above bridge on Brackenville Road, 0.9 mile southeast of Hockessin, New Castle County.	b4.19	1966-69	7-28-69	11.29	2,100
1-4799.5	Red Clay Creek tributary near Yorklyn, Del.	Lat 39°47'50", long 75°39'33", 8 ft above culvert, 1.1 miles southeast of Yorklyn, New Castle County.	0.38	1966-69	7-28-69	6.53	200
1-4812	Brandywine Creek tributary near Centerville, Del.	Lat 39°50'08", long 75°35'57", 30 ft above bridge on State Highway 100, 1.4 miles northeast of Centerville, New Castle County.	0.97	1966-69	7-28-69	8.38	333
1-4814.5	Willow Run at Rockland, Del.	Lat 39°47'32", long 75°33'16", 15 ft above culvert on Country Club Drive, 1.0 mile east of Rockland, New Castle County.	0.37	1966-69	9- 3-69	6.74	177
1-4823.1	Doll Run at Red Lion, Del.	Lat 39°35'53", long 75°39'43", 10 ft above culvert on secondary road, 0.7 mile south of Red Lion, New Castle County.	a1.2	1966-69	7-28-69	4.64	134
Smyrna River basin							
1-4832.9	Paw Paw Branch tributary near Clayton, Del.	Lat 39°18'41", long 75°40'08", New Castle County, 6 ft above culverts on secondary road, 2.4 miles northwest of Clayton.	a1.3	1966-69	7-28-69	8.13	350
1-4834	Sawmill Branch tributary near Blackbird, Del.	Lat 39°20'57", long 75°38'31", 10 ft above culvert on U. S. Highway 13, 1.8 miles southeast of Blackbird, New Castle County.	a0.6	1966-69	9-21-66 3- 7-67 5-30-68 7-28-69	4.08 3.78 4.02 4.88	25 17 23 39
Leipsic River basin							
1-4835	Leipsic River near Cheswold, Del.	Lat 39°13'58", long 75°37'57", 75 ft below highway bridge, 1.9 miles east of Kenton, and 2.6 miles northwest of Cheswold, Kent County.	9.35	1931-33‡ 1943-57‡ 1958-69	7-28-69	4.28	301
St. Jones River basin							
1-4837.2	Puncheon Branch at Dover, Del.	Lat 39°08'25" (revised), long 75°32'20", 10 ft above bridge on New Burton Road, at Dover, Kent County.	a2.3	1966-69	9- 2-69	4.01	136
Murderkill River basin							
1-4840.02	Murderkill River tributary near Felton, Del.	Lat 38°58'19", long 75°33'31", 6 ft above culvert on secondary road, 2.9 miles south of Felton, Kent County.	a1.0	1966-69	6-14-69	4.62	27
*1-4840.5	Pratt Branch near Felton, Del.	Lat 39°00'37", long 75°31'46", at highway bridge, 2.6 miles east of Felton, Kent County.	3.29	1966-69	6-14-69	9.08	157

Annual maximum discharge at crest-stage partial-record stations during water year 1969, in North Atlantic Slope basins--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Broadkill River basin					
*1-4842.7	Beaverdam Creek near Milton, Del.	Lat 38°45'41", long 75°16'03", at highway bridge on secondary road, 2.5 miles east of Milton, Sussex County.	6.10	1966-69	8-20-69	4.88	25
		Indian River basin					
*1-4845.5	Pepper Creek at Dagsboro, Del.	Lat 38°32'50", long 75°14'39", at bridge on State Highway 26, at Dagsboro, Sussex County.	8.78	1960-69	8- 3-69	5.27	330
		Wicomico River basin					
1-4861	Andrews Branch near Delmar, Md.	Lat 38°26'15", long 75°31'46", at culvert on Rum Ridge Road, 1.2 miles above Williams Pond, and 2.8 miles southeast of Delmar, Wicomico County.	a4.1	1967-69	8- 5-69	7.34	147
		Nanticoke River basin					
1-4869.8	Toms Dam Branch near Greenwood, Del.	Lat 38°48'04", long 75°33'28", 16 ft above bridge on State Highway 16, 1.5 miles east of Greenwood, Sussex County.	a6.4	1966-69	8- 4-69	4.84	34
1-4879	Meadow Branch near Delmar, Del.	Lat 38°29'05", long 75°35'16", 14 ft above culvert on road No. 503B, 2.1 miles northwest of Delmar, Sussex County.	a3.9	1967-69	8- 5-69	5.38	76
1-4880	Holly Ditch near Laurel, Del.	Lat 38°32'20", long 75°35'55", 10 ft above culvert on secondary road, 1.5 miles southwest of Laurel, Sussex County.	2.19	1951-56‡	8- 5-69	2.47	8.5
		Choptank River basin					
1-4904.7	Tappahanna Ditch near Hartly, Del.	Lat 39°08'07", long 75°41'30", 100 ft below bridge on State Highway 103, 2.7 miles southeast of Hartly, Kent County.	5.93	1952-69	8-10-69	7.58	86
1-4904.9	Beachy Neidig Ditch near Willow Grove, Del.	Lat 39°04'57", long 75°39'27", 10 ft above culvert on secondary road, 1.8 miles northwest of Willow Grove, Kent County.	a2.3	1966-69	8- 4-69	4.38	67
1-4906	Meredith Branch near Sandtown, Del.	Lat 39°02'23", long 75°41'52", at bridge on State Highway 10, 1.2 miles east of Sandtown, Kent County.	a8.4	1966-69	8- 4-69	3.59	226
1-4910.1	Sangston Prong near Whiteleysburg, Del.	Lat 38°58'25", long 75°43'32", 10 ft above culvert on secondary road, 1.2 miles north of Whiteleysburg, Kent County.	a1.9	1966-69	8- 4-69	5.05	51
1-4910.5	Spring Branch near Greensboro, Md.	Lat 38°56'34", long 75°47'25", at culvert on Knife Box Road, 2.0 miles above mouth, and 2.2 miles southeast of Greensboro, Caroline County	a3.8	1967-69	6-15-69	4.42	33
		Wye River basin					
1-4925	Sallie Harris Creek near Carmichael, Md.	Lat 38°57'55", long 76°06'30", on upstream wingwall of bridge on U. S. Highway 50, 2.0 miles northeast of Carmichael, Queen Annes County, and 2.2 miles northwest of Wye Mills.	8.09	1952-56‡ 1957-69	8-20-69	3.74	136
		Northeast River basin					
1-4960.8	Northeast River tributary near Charlestown, Md.	Lat 39°35'53", long 75°58'37", at culvert on U. S. Highway 40, 1.3 miles above mouth, and 1.6 miles north of Charlestown, Cecil County.	a1.7	1967-69	unknown	c	<70

Annual maximum discharge at crest-stage partial-record stations during water year 1969 in North Atlantic Slope basins--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Susquehanna River basin					
1-5790	Basin Run at Liberty Grove, Md.	Lat 39°39'30", long 76°06'10", on left bank 100 ft upstream from highway bridge, 0.9 mile east of Liberty Grove, Cecil County, 1.0 mile southwest of Colora, and 3 miles upstream from mouth.	5.31	1948-58‡ 1965-69	8- 9-67 9-10-68 8- 4-69	7.66 d3.73 7.47	e3,000 e500 2,800
		Gunpowder River basin					
1-5825.1	Piney Creek near Hereford, Md.	Lat 39°34'38", long 76°40'39", at culvert on Interstate Route 83, 1.1 miles southwest of Hereford, Baltimore County, and 5.3 miles above mouth.	a1.5	1966-69	7-28-69	8.27	170
1-5834.95	Western Run tributary at Western Run, Md.	Lat 39°31'01", long 76°41'04", at culvert on Western Run Road, 0.05 mile above mouth, and 0.3 mile northwest of Western Run, Baltimore County.	0.26	1966-69	7-28-69	5.61	108
		Patapsco River basin					
1-5870.5	Hay Meadow Branch tributary at Poplar Springs, Md.	Lat 39°20'55", long 77°06'02", at culvert on U. S. Route 40, 0.4 mile northwest of Poplar Springs, Howard County, and 0.5 mile above mouth.	0.54	1966-69	7-26-69	5.54	160
1-5880	Piney Run near Sykesville, Md.	Lat 39°22'55", long 76°58'00", 75 ft below bridge on State Highway 32, 1¼ miles north of Sykesville, Carroll County, and 5¼ miles above mouth.	11.4	1932-58‡ 1959-69	9- 4-69	3.21	120
1-5895	Sawmill Creek at Glen Burnie, Md.	Lat 39°10'12", long 76°37'51", on left bank 300 ft upstream from bridge on State Highway 648, 1/4 mile southeast of Maryland Highway 3, and 1/2 mile northwest of Glen Burnie, Anne Arundel County.	4.97	1944-52‡ 1965-69	9- 2-69	2.87	59
		South River basin					
1-5905	Bacon Ridge Branch at Chesterfield, Md.	Lat 39°00'07", long 76°36'53", on left bank 50 ft downstream from timber highway bridge, 0.5 mile east of Chesterfield, Anne Arundel County, 1.4 miles upstream from confluence with North River, and 6.8 miles northwest of Annapolis.	6.92	1942-52‡ 1965-69	8-10-69	4.43	460
		Patuxent River basin					
1-5933.5	Little Patuxent River tributary at Guilford Downs, Md.	Lat 39°13'39", long 76°50'41", at culvert on U. S. Route 29 at Guilford Downs, Howard County, and 0.3 mile above mouth.	0.95	1966-69	9- 4-69	5.51	200
		Potomac River basin					
1-6010	Wills Creek below Hyndman, Pa.	Lat 39°48'43", long 78°43'00", above county highway bridge, 150 ft downstream from Pennsylvania Railroad bridge, and 0.5 mile south of Hyndman, Bedford County.	146	1951-67‡ 1968-69	8-19-69	6.56	3,810
1-6095	Sawpit Run near Oldtown, Md.	Lat 39°32'50", long 78°33'20", 900 ft above bridge on State Highway 51, 1.0 mile above mouth, and 3.0 miles east of Oldtown, Allegany County.	5.08	1948-58‡ 1963-69	3-25-69	2.05	45

Annual Maximum discharge at crest-stage partial-record stations during water year 1969, in North Atlantic Slope basins--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Potomac River basin--Continued					
1-6131.5	Ditch Run near Hancock, Md.	Lat 39°41'32", long 78°07'56", at culvert on U. S. Route 40, 0.3 mile above mouth, 2.1 miles south of the Mason and Dixon Line, and 2.7 miles east of Hancock, Washington County.	a4.8	1965-69	7-25-69	4.76	135
1-6131.6	Potomac River tributary near Hancock, Md.	Lat 39°41'29", long 78°07'37", at culvert on Md. Route 615, 0.3 mile above mouth, 2.1 miles south of the Mason and Dixon Line, and 3.0 mile east of Hancock, Washington County.	a1.2	1965-69	unknown	c	<40
1-6194.75	Dog Creek tributary near Locust Grove, Md.	Lat 39°27'57", long 77°39'38", at culvert on Md. Route 67, 0.4 mile above mouth, and 1.3 miles north of Locust Grove, Washington County	0.13	1966-69	7-28-69	4.07	7
1-6376	Hollow Road Creek near Middletown, Md.	Lat 39°26'07", long 77°31'15", at culvert on Alternate U. S. Route 40, 1.4 miles southeast of Middletown, Frederick County, and 2.0 miles above mouth.	a2.3	1965-69	8-18-69	4.94	250
1-6390.95	Piney Creek tributary at Taneytown, Md.	Lat 39°39'53", long 77°09'59", at culvert under Pennsylvania Railroad, 0.1 mile above mouth, and 0.6 mile northeast of Taneytown, Carroll County.	0.62	1967-69	9- 3-69	10.22	210
1-6400	Little Pipe Creek at Avondale, Md.	Lat 39°33'40", long 77°02'38", at private bridge, 0.1 mile below Copps Branch, 1/2 mile northwest of Avondale, and 3 miles southwest of Westminster, Carroll County.	8.10	1948-56# 1959-64 1967-69	9- 4-69	3.08	167
1-6407	Owens Creek tributary near Rocky Ridge, Md.	Lat 39°37'16", long 77°20'26", at culvert on Appolds Crossing Road, 0.8 mile above mouth, and 1.6 miles north west of Rocky Ridge, Frederick County.	a1.2	1967-69	9- 7-69	4.45	80
1-6424	Dollyhyde Creek at Libertytown, Md.	Lat 39°28'55", long 77°13'38", above culvert on State Highway 26, 0.9 mile east of Libertytown, Frederick County.	a2.7	1969	7-20-69	8.88	760
1-6444.2	Bucklodge Branch tributary near Barnesville, Md.	Lat 39°12'42", long 77°21'02", at culvert on Barnesville Road, 0.6 mile above mouth, and 1.6 miles southeast of Barnesville, Montgomery County.	0.27	1967-69	9- 3-69	11.60	155
1-6609	Wolf Den Branch near Cedarville, Md.	Lat 38°38'29", long 76°49'02", at culvert on Forest Road, 1.5 miles above mouth, 1.6 miles southwest of Cedarville, Prince Georges County, and within Cedarville, State Forest.	a2.3	1966-69	8- 3-69	5.42	140
1-6609.3	Clark Run near Bel Alton, Md.	Lat 38°28'21", long 76°57'22", at bridge on Newtown Road, 1.5 miles northeast of Bel Alton, Charles County, and 1.8 miles above mouth.	10.4	1966-69	8- 3-69	5.43	145
1-6614.3	Glebe Branch at Valley Lee, Md.	Lat 38°11'40", long 76°31'13", at culvert on private road, 200 ft downstream from culvert on Md. State Highway 244, 0.2 mile above mouth, and 0.3 mile west of Valley Lee, St. Marys County.	a0.3	1968-69	8-20-69	8.66	100

Annual maximum discharge at crest-stage partial-record stations during water year 1969, in Ohio River basin

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Monongahela River basin					
3-0754.5	Little Youghiogheny River tributary near Deer Park, Md.	Lat 39°24'37", long 79°21'00", at culvert on Md. Route 135, 0.7 mile above mouth, and 1.6 miles southwest of Deer Park, Garrett County.	0.57	1965-69	8-10-69	4.05	10
3-0756	Toliver Run tributary near Hoyes Run, Md.	Lat 39°29'39", long 79°25'14", at culvert on Swallow Falls Road, 100 feet above mouth, and 2.4 miles south of Hoyes Run, Garrett County.	0.53	1965-69	7-23-69	4.01	13
3-0765.05	Youghiogheny River tributary near Friendsville, Md.	Lat 39°39'48", long 79°25'42", at culvert on Md. Route 42, and 1.3 miles west of Friendsville, Garrett County.	0.22	1965-69	unknown	c	<10
3-0777	North Branch Casselman River tributary at Foxtown, Md.	Lat 39°37'58", long 79°14'36", at culvert on Dunghill Road, at Foxtown, Garrett County, and 2.0 miles above mouth.	a1.0	1965-69	7-10-69	3.91	11

* Also a low-flow partial-record station.
‡ Operated as a continuous-record gaging station.
a Approximately.
b 0.15 sq mi is probably noncontributing.
c Peak stage did not reach bottom of gage.
d Corrected.
e Revised.

Measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table. All measurements in this table were made during periods of base flow, except as otherwise noted.

Discharge measurements made at miscellaneous sites during water year 1969, in North Atlantic Slope basins

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Delaware River basin						
West Branch	Christina River	Lat 39°39'20", long 75°47'00", at bridge on County Road 397, 1.1 miles above mouth, and 2.5 miles southwest of Newark, New Castle County, Del.	a4.1	1968	5-29-69 7- 3-69 9-24-69	1.22 .50 .86
Muddy Run	Belltown Run	Lat 39°36'36", long 75°44'48", New Castle County, at bridge on State Highway 896, 0.3 mile north of Glasgow, Del., 3.4 miles above mouth, and 5 miles south of Newark.	a5.3	1968	4-15-69 7- 3-69 9-24-69	1.62 .28 .44
Pike Creek	White Clay Creek	Lat 39°42'24", long 75°41'43", New Castle County, at bridge on County Road 322, 0.8 mile above mouth, 1.2 miles northeast of Roseville Park, Del., and 3.2 miles northeast of Newark.	5.90	1968	5-29-69 7- 3-69 9-30-69	2.98 2.90 3.36
Drawyer Creek tributary	Drawyer Creek	Lat 39°27'45", long 75°41'17", New Castle County, at bridge on County Road 430, 1.5 miles west of Odessa, Del., and 2.3 miles above mouth.	a4.7	1968	6- 2-69 7- 2-69	2.29 .44
Sawmill Branch	Smyrna River	Lat 39°21'38", long 75°37'19", at culvert on County Road 465, 0.3 mile below unnamed tributary, and 2.2 miles southeast of Blackbird, New Castle County, Del.	a3.4	1968	6- 2-69 7- 2-69 9-18-69	.58 .23 .98
Leipsic River basin						
*Leipsic River	Delaware Bay	Lat 39°13'58", long 75°37'57", 75 ft below highway bridge, 1.9 miles east of Kenton and 2.6 miles northwest of Cheswold, Kent County, Del.	9.35	1931-33‡ 1943-57‡ 1968	5-28-69 7- 3-69 9-23-69	4.89 2.31 4.29
St. Jones River basin						
Tidbury Creek	St. Jones River	Lat 39°05'53", long 75°31'43", Kent County, at bridge on County Road 360, 0.7 mile west of Rising Sun, Del., 1.5 miles southeast of Camden, and 2.6 miles above mouth.	a8.6	1968	4-15-69 7- 2-69 9-25-69	8.62 .40 8.05
Mispillion River basin						
Tantrough Branch	Mispillion River	Lat 38°53'22", long 74°29'27", at culvert on County Road 620, 1.0 mile above Beaverdam Branch, and 3.8 miles southwest of Milford, Kent County, Del.	a4.2	1968	4-16-69 5-29-69 7- 2-69 9-24-69	3.90 2.77 1.65 4.34
Love Creek basin						
Bundicks Branch	Love Creek	Lat 38°43'17", long 75°12'23", Sussex County, at bridge on County Road 285, 1.2 miles above confluence with Gosling Creek, 1.3 miles southwest of Jimtown, Del., and 6.5 miles west of Rehoboth Beach.	a5.5	1968	4-16-69 7- 1-69 8-27-69	2.27 1.11 1.82
Herring Creek basin						
Unity Branch	Herring Creek	Lat 38°39'45", long 75°13'21", Sussex County, at culvert on State Highway 5 at Fairmount, Del., 1.6 miles above Phillips Branch, and 8 miles north of Dagsboro.	a3.3	1968	4-16-69 7- 1-69 8-27-69	2.10 .24 1.78

Discharge measurements made at miscellaneous sites during water year 1969, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Indian River basin						
Deep Branch	Cow Bridge Branch	Lat 38°39'45", long 75°17'58", Sussex County, at bridge on State Highway 30, 0.1 mile above White Oak Swamp Ditch, 2.0 miles north of Mt. Joy, Del., and 5.1 miles north of Millsboro.	a6.4	1968	4-16-69 7- 1-69 8-27-69	4.21 .50 4.63
Shoals Branch	Long Drain Ditch	Lat 38°34'37", long 75"20'38", at bridge on County Road 412, 0.8 mile above mouth, and 3.0 miles west of Millsboro, Sussex County, Del.	a7.2	1968	4-16-69 7- 1-69 8-27-69	9.02 2.08 10.5
Phillips Ditch	Shoals Branch	Lat 38°34'03", long 75°20'24", at bridge on County Road 472, 1.2 miles above mouth, and 3.1 miles southwest of Millsboro, Sussex County, Del.	a3.8	1968	7- 1-69	.44
Blackwater Creek	Indian River	Lat 38°32'43", long 75°09'49", Sussex County, at bridge on State Highway 54, 1.0 mile west of Clarksville, Del., and 3.1 miles above mouth.	a4.5	1968	4-17-69 7- 1-69	2.38 0
Whartons Branch	Indian River	Lat 38°33'42", long 75°16'30", at bridge on U. S. 113, 1.7 miles above mouth, and 2.3 miles southeast of Millsboro, Sussex County, Del.	a5.9	1968	4-17-69 7- 1-69	5.05 .13
Dirickson Creek basin						
Bearhole Ditch	Dirickson Creek	Lat 38°28'17", long 75°09'22", Sussex County, at bridge on County Road 390A, 0.6 mile north of Bunting, Del., 1.6 miles above mouth, and 3.7 miles east of Selbyville.	a6.2	1968	4-17-69 7- 1-69 8-27-69	6.49 1.00 7.71
St. Martin River basin						
Middle Branch	South Branch	Lat 38°24'02", long 75°12'45", Worcester County, at culvert on U.S. Highway 113 at Showell, Md., and 0.9 mile above mouth.	a3.7	1968	4-17-69 7- 1-69 8-27-69	1.42 .04 .77
Birch Branch	Shingle Landing Prong	Lat 38°24'33", long 75°12'48", Worcester County, at culvert on U.S. Highway 113, 0.7 mile north of Showell, Md., and 1.0 mile above mouth.	a6.5	1968	4-17-69 7- 1-69 8-27-69	a3.90 a.32 a3.25
Pocomoke River basin						
North Fork Green Run	Green Run	Lat 38°27'07", long 75°22'41", at culvert on State Highway 54 at Maryland state line, 1.8 miles above confluence with South Fork, and 2.8 miles east of Whitesville, Sussex County, Del.	a2.6	1968	4-16-69 6-30-69 8-27-69	3.87 .33 3.31
South Fork Green Run	Green Run	Lat 38°25'50", long 75°22'36", at culvert on Burnt Mill Road, 2.1 miles above confluence with North Fork, and 3.0 miles northwest of Willards, Wicomico County, Md.	a5.7	1968	4-16-69 6-30-69 8-27-69	3.97 .36 4.10
Burnt Mill Branch	Pocomoke River	Lat 38°24'55", long 75°24'25", Wicomico County, at bridge on State Highway 353, 1.4 miles north of Pittsville, Md., and 1.7 miles above Aydylotte Branch.	a4.2	1968	4-16-69 6-30-69 8-27-69	3.45 .17 3.20
Aydylotte Branch	Burnt Mill Branch	Lat 38°24'02", long 75°24'52", Wicomico County, at bridge on State Highway 353, 0.3 mile north of Pittsville, Md., and 1.9 miles above mouth.	a4.1	1968	4-16-69 6-30-69	3.92 .09
Burnt Mill Branch	Pocomoke River	Lat 38°23'20", long 75°20'15", 0.5 mile upstream from Gordys Branch, .75 mile east of Willards, and 0.8 mile upstream from mouth, Wicomico County, Md.	18.1	1950-53	6-30-69 8-27-69	5.02 23.2

Discharge measurements made at miscellaneous sites during water year 1969, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Pocomoke River basin--Continued						
Givens Branch	Adkins Pond	Lat 38°19'40", long 75°23'27", Wicomico County, at bridge on State Highway 350, 0.8 mile west of Powellville, Md., and 1.1 miles above mouth.	a2.8	1968	4-16-69	1.60
Adkins Race	Pocomoke River	Lat 38°19'53", long 75°22'25", at outlet of Adkins Pond on State Highway 354, at Powellville, Wicomico County, Md.	18.7	1950-53	6-30-69	.70
Ninepin Branch	Pocomoke River	Lat 38°17'57", long 75°19'43", at bridge on Ninepin Branch Road, 1.9 miles above mouth, and 2.2 miles southwest of Libertytown, Worcester County, Md.	a6.4	1968	4-17-69 7- 1-69	2.78 .001
Tilghman Race	Pocomoke River	Lat 38°16'55", long 75°22'45", Worcester County, at bridge on State Highway 354, 0.7 mile above mouth, and 3.2 miles south of Powellville, Md.	a5.8	1968	4-16-69 7- 1-69 8-27-69	3.08 .12 2.87
Pelletts Branch	Dividing Creek	Lat 38°12'53", long 75°35'27", Somerset County, at culvert on county road, 0.4 mile south of West, Md., and 0.9 mile above mouth.	a2.3	1968	4-16-69 7- 1-69 8-27-69	1.15 .11 3.15
Wagram Swamp Branch	Wagram Creek	Lat 38°01'52", long 75°31'55", at bridge on Brantly Road, 0.1 mile above mouth, and 3.5 miles southeast of Pocomoke City, Worcester County, Md.	a3.3	1968	4-16-69 7- 1-69 8-27-69	1.33 .06 1.54
Manokin River basin						
Loretto Branch	Manokin River	Lat 38°12'57", long 75°41'28", at culvert under Pennsylvania Railroad, 0.7 mile above confluence with Manokin Branch, and 1.0 mile north of Princess Anne, Somerset County, Md.	a4.0	1968	4-16-69 7- 1-69 8-27-69	1.88 .43 3.44
Kings Creek	Manokin River	Lat 38°09'25", long 75°40'00", at bridge on Arden Station Road, 0.6 mile below Moore Branch, and 1.2 miles east of Kings Creek, Somerset County, Md.	a12	1968	4-16-69 7- 1-69	5.51 .70
Wicomico River basin						
Connelly Mill Branch	Leonard Pond Run	Lat 38°25'59", long 75°35'41", at culvert on Jersey Road, 1.4 miles above mouth, and 1.5 miles southwest of Delmar, Wicomico County, Md.	3.66	1964, 1968	4-17-69 7- 1-69 8-26-69	2.53 1.01 5.70
Leonard Pond Run	North Prong Wicomico River	Lat 38°25'24", long 75°33'56", at Leonard Pond, 0.6 mile above Wood Creek, 2.4 miles southeast of Delmar, Wicomico County, Md.	13.4	1950-51 1963-65 1967	7- 1-69 8-26-69	2.30 17.1
Little Burnt Branch	North Prong Wicomico River	Lat 38°24'49", long 75°36'04", at culvert on Jersey Road, 0.5 mile upstream from Naylors Pond, 2.1 miles northwest of Salisbury, Wicomico County, Md.	3.39	1964, 1967-68	4-17-69 7- 1-69 8-26-69	1.50 1.17 3.49
Little Burnt Branch	North Prong Wicomico River	Lat 38°24'41", long 75°35'46", 450 ft upstream from Naylors Pond, and 2.0 miles northwest of Salisbury, Wicomico County, Md.	3.58	1967-68	2- 7-69	1.92
North Prong Wicomico River	Wicomico River	Lat 38°24'32", long 75°35'42", at bridge on Naylor Mill Road, 0.1 mile below confluence of Leonard Pond Run and Little Burnt Branch, and 1.9 miles north of Salisbury, Wicomico County, Md.	24.8	1963-65 1967-68	4-17-69 7- 2-69 8-27-69	34.0 18.3 43.7

Discharge measurements made at miscellaneous sites during water year 1969, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Wicomico River basin--Continued						
Middle Neck Branch	North Prong Wicomico River	Lat 38°23'18", long 75°33'01", at culvert on Parker Road, 1.4 miles above Peggy Branch, and 1.7 miles northeast of Salisbury, Wicomico County, Md.	a2.1	1964, 1968	4-16-69 6-30-69 8-26-69	2.38 .57 2.60
Peggy Branch	Middle Neck Branch	Lat 38°22'54", long 75°33'16", at culvert on Parker Road, 1.2 miles above mouth, and 1.4 miles east of Salisbury, Wicomico County, Md.	a1.4	1964, 1968	4-16-69	2.06
Tonytank Creek	Wicomico River	Lat 38°19'52", long 75°35'54", at dam, at Fooks Pond Outlet, 1.0 mile northeast of Fruitland, Wicomico County, Md.	4.98	1950-51 1953 1962-64 1968	4-16-69 7- 1-69 8-27-69	5.39 2.34 10.0
Passerdyke Creek	Wicomico Creek	Lat 38°17'47", long 75°40'07", Wicomico County, at bridge on private road, 1.3 miles northeast of Allen, Md., and 1.5 miles above mouth.	a7.2	1968	4-16-69 7- 1-69 8-27-69	3.11 .45 10.4
Barkley Branch	Passerdyke Creek	Lat 38°16'54", long 75°40'50", at culvert on county road in Somerset County, 0.6 mile above mouth, and 0.6 mile southeast of Allen, Wicomico County, Md.	a2.7	1968	4-16-69 7- 1-69 8-27-69	1.18 .05 1.05
Nanticoke River basin						
Nanticoke River	Chesapeake Bay	Lat 38°48'20", long 75°34'53", Sussex County, at bridge on State Highway 16, 0.6 mile east of Greenwood, Del., 1.2 miles above Cart Branch, and 11 miles southwest of Milford.	a16	1968	4-16-69 7- 2-69 8-26-69	16.6 5.14 19.9
Gum Branch	Nanticoke River	Lat 38°46'07", long 75°30'59", at bridge on County Road 594, 0.6 mile below Parker Branch, and 5 miles northeast of Bridgeville, Sussex County, Del.	a7.5	1968	4-16-69 7- 1-69 8-26-69	16.6 5.42 21.6
Gum Branch	Nanticoke River	Lat 38°35'53", long 75°37'49", at bridge on County Road 487, 1.6 miles above mouth, and 3.2 miles south of Seaford, Sussex County, Del.	a5.8	1968	4-17-69 7- 1-69 8-26-69	3.26 .21 4.98
Little Creek	Broad Creek	Lat 38°31'19", long 75°34'45", Sussex County, at culvert on County Road 501, 0.1 mile below confluence of Holly Branch and Meadow Branch, 2.4 miles south of Laurel, Del., and 3.4 miles above mouth.	a15	1968	4-16-69 7- 1-69 8-26-69	15.6 3.04 26.7
*Holly Ditch	Nanticoke River	Lat 38°32'20", long 75°35'55", 10 ft above culvert, 1.5 miles southwest of Laurel, Sussex County, Del.	2.19	1951-56‡ 1966,68	4-16-69 7- 1-69	0 0
Tussocky Branch	Broad Creek	Lat 38°32'30", long 75°38'16", Sussex County, at culvert on County Road 494, 1.4 miles south of Portsville, Del. and 1.8 miles above mouth.	a8.7	1968	4-16-69 7- 1-69 8-26-69	2.73 .02 6.48
Wright Creek	Nanticoke River	Lat 38°35'06", long 75°41'50", at culvert on County Road 538, 2.0 miles above mouth, and 3.8 miles northwest of Portsville, Sussex County, Del.	a3.6	1968	4-16-69 7- 1-69 8-26-69	2.56 .56 2.24
Chicone Creek	Nanticoke River	Lat 38°31'55", long 75°49'06", on upstream side of bridge on country road 0.5 mile east of Reids Grove, and 4.25 miles upstream from mouth, Dorchester County, Md.	4.69	1951-53	7- 2-69	.35
Plum Creek	Nanticoke River	Lat 38°31'00", long 75°42'36", Wicomico County, at culvert on San Domingo Road, 1.7 miles south of Sharptown, Md., and 2.6 miles above mouth.	a2.8	1968	4-16-69 7- 1-69 8-26-69	3.23 .84 5.13

Discharge measurements made at miscellaneous sites during water year 1969, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Nanticoke River basin--Continued						
Nanticoke River tributary	Nanticoke River	Lat 38°30'43", long 75°43'59", at culvert on Cooper Mill Road, 1.5 miles above mouth, and 2.0 miles southwest of Sharptown, Wicomico County, Md.	a1.4	1968	4-16-69 7- 1-69 8-26-69	1.46 .006 1.98
Green Branch	Marshyhope Creek	Lat 38°53'24", long 75°40'00", Kent County, at bridge on State Highway 14, 0.7 mile west of Vernon, Del., 3.0 miles above mouth, and 5 miles southwest of Harrington.	a3.9	1968	4-15-69 7- 3-69 9-24-69	3.37 .56 2.77
Smithville Ditch	Marshyhope Creek	Lat 38°45'45", long 75°44'14", Caroline County, at bridge on county road 0.3 mile above mouth, 0.8 mile south of Smithville, Md., and 5.5 miles northeast of Federalsburg.	a12	1968	4-17-69 6-30-69 8-28-69	17.3 .67 9.11
Brights Branch	Houston Branch	Lat 38°43'34", long 75°42'05", Sussex County, at bridge on County Road 567A, 1.0 mile above mouth, 1.7 miles northwest of Atlanta, Del., and 7 miles northwest of Seaford.	a4.6	1968	4-16-69 7- 1-69 8-26-69	5.19 .34 2.24
Sullivan Branch	Marshyhope Creek	Lat 38°44'38", long 75°46'45", at bridge on Long Swamp Road, 1.5 miles above mouth, and 3.5 miles north of Federalsburg, Caroline County, Md.	a7.6	1968	4-17-69 6-30-69 8-27-69	10.8 .73 5.72
Tanyard Branch	Marshyhope Creek	Lat 38°41'44", long 75°44'27", Caroline County, at culvert on State Highway 318, 2.0 miles east of Federalsburg, Md., and 2.2 miles above mouth.	a2.8	1968	4-16-69 6-30-69 8-27-69	3.52 .21 1.45
North Branch Davis Millpond Branch	Davis Millpond Branch	Lat 38°39'53", long 75°45'17", at bridge on State Highway 313, 0.2 mile above confluence with South Branch, and 2.3 miles southeast of Federalsburg, Dorchester County, Md.	a2.8	1968	4-15-69 7- 2-69 8-26-69	2.47 .88 2.10
Skinners Run	Marshyhope Creek	Lat 38°40'30", long 75°49'20", at bridge on State Highway 307, 1.7 miles above mouth, and 3.0 miles southwest of Federalsburg, Dorchester County, Md.	a3.2	1968	7- 3-69 8-26-69	.38 2.50
Wrights Branch	Marshyhope Creek	Lat 38°36'46", long 75°49'55", at culvert on Rosedale-Harrison Ferry Road, 0.6 mile above mouth, and 2 miles southeast of Hurlock, Dorchester County, Md.	a3.4	1968	4-15-69 7 -2-69 8-26-69	b3.35 b2.31 b3.34
Marshyhope Creek tributary	Marshyhope Creek	Lat 38°36'18", long 75°50'05", at culvert on Rosedale-Harrison Ferry Road, 0.6 mile above mouth, 0.9 mile east of Petersburg, Dorchester County, Md.	a3.0	1968	4-15-69 7- 2-69 8-26-69	.85 .70 1.95
Puckum Branch	Marshyhope Creek	Lat 38°36'44", long 75°47'50", at culvert on Puckum Road, 1.8 miles above mouth, and 2.0 miles north of Eldorado, Dorchester County, Md.	a2.5	1968	7- 2-69 8-26-69	.27 .56
Baron Creek	Nanticoke River	Lat 38°27'30", long 75°42'00", at county road 0.3 mile west of Delaware-Maryland corner, 1 mile upstream from Mockingbird Pond, and 3 miles east of Mardela Springs, Wicomico County, Md.	8.93	1950-53	7- 1-69 8-26-69	2.33 19.0
Rewastico Creek	Nanticoke River	Lat 38°25'05", long 75°44'06", at county road, 1.3 miles upstream from gaging station and 2.1 miles west of Hebron, Wicomico County, Md.	8.40	1950-53	7- 1-69 8-26-69	2.26 10.7

Discharge measurements made at miscellaneous sites during water year 1969, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Transquaking River basin						
Transquaking River	Fishing Bay	Lat 38°33'33", long 75°55'29", at culvert on Red Hill Road, 3.1 miles upstream from Higgins Millpond and 0.3 mile west of Hawkeye, Dorchester County, Md.	a2.2	1966-68	4-15-69 7- 2-69 8-26-69	.85 .26 1.40
Choptank River basin						
Harrington Beaverdam Ditch	Tidy Island Creek	Lat 39°06'38", long 75°44'25", at bridge on State Highway 8, 0.2 mile above confluence with Tappahanna Ditch, and at Marydel, Kent County, Del.	a9.8	1968	5-29-69 7- 3-69 9-24-69	5.20 1.40 2.78
Tappahanna Ditch	Tidy Island Creek	Lat 39°06'36", long 75°43'40", at bridge on County Road 222, 0.9 mile above confluence with Harrington-Beaverdam Ditch, and 1.0 mile east of Marydel, Kent County, Del.	a16	1968	5-28-69 7- 3-69 9-24-69	5.45 .90 1.87
*Culbreth Marsh Ditch	Choptank River	Lat 39°04'45", long 75°41'05", 40 ft below bridge on State Highway 223, 1.6 miles south of Chapeltown, Kent County, Del.	11.6	1951-56‡ 1966	7- 3-69	2.17
Cow Marsh Creek	Choptank River	Lat 39°02'55", long 75°41'06", Kent County, at bridge on County Road 212, 1.9 miles west of Petersburg, Del., 3.6 miles above mouth, and 5.5. miles southeast of Marydel.	a20	1968	5-29-69 7- 3-69 9-24-69	5.47 2.22 2.67
Gravelly Branch	Choptank River	Lat 38°59'27", long 75°45'50", at bridge on Boyce Mill Road, 1.6 miles above mouth, and 2.5 miles northeast of Greensboro, Caroline County, Md.	a16	1968	4-15-69 6-30-69 8-28-69	12.7 3.42 8.29
Forge Branch	Choptank River	Lat 38°58'43", long 75°49'10", Caroline County, at bridge on Marble Head Road, 0.8 mile west of Greensboro, Md., and 2.8 miles above mouth.	a10	1968	4-15-69 6-30-69 8-28-69	7.98 3.02 4.38
Forge Branch tributary	Forge Branch	Lat 38°57'23", long 75°50'27", at culvert on Holly Road, 1.3 miles above mouth, and 2.5 miles east of Ridgely, Caroline County, Md.	a2.6	1968	4-15-69 7- 3-69 8-28-69	1.49 .15 .24
Spring Branch	Choptank River	Lat 38°56'37", long 75°48'45", at bridge on State Highway 313, 0.8 mile above mouth, and 2.1 miles south of Greensboro, Caroline County, Md.	a5.3	1968	4-15-69 8-28-69	4.07 2.93
Choptank River tributary	Choptank River	Lat 38°56'05", long 75°51'05", at bridge on Holly Road, 1.2 miles above mouth and 1.9 miles southeast of Ridgely, Caroline County, Md.	a4.0	1968	4-15-69 6-30-69 8-28-69	4.32 2.00 2.19
Herring Run	Watts Creek	Lat 38°51'00", long 75°47'46", Caroline County, at culvert on county road 0.9 mile southwest of Hobbs, Md., 1.4 miles above mouth, and 3.0 miles southeast of Denton.	a4.9	1968	4-15-69 6-30-69 8-27-69	3.40 .22 1.54
Mill Creek	Choptank River	Lat 38°49'12", long 75°49'36", Caroline County, at culvert on county road 1.6 miles southeast of Williston, Md., 2.2 miles above mouth, and 3.5 miles south of Denton.	a4.5	1968	4-15-69 6-30-69 8-27-69	3.96 1.03 3.06
Robins Creek	Choptank River	Lat 38°48'42", long 75°51'51", Caroline County, at culvert on State Highway 16, 0.5 mile southwest of Bureau, Md., 1.4 miles above mouth, and 5.3 miles southwest of Denton.	a4.5	1968	4-15-69 6-30-69 8-27-69	2.61 .24 1.47

Discharge measurements made at miscellaneous sites during water year 1969, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
		Choptank River basin--Continued				
Fowling Creek	Choptank River	Lat 38°47'02", long 75°52'28", Caroline County, at culvert on State Highway 16, 0.5 mile northeast of Harmony, Md., and 2.8 miles above mouth.	a6.1	1968	4-15-69 6-30-69 8-28-69	4.86 1.62 5.46
Beaverdam Ditch	Mason Branch	Lat 39°05'32", long 75°52'37", Queen Annes County, at bridge on State Highway 18 at Ingleside, Md., 3.0 miles above mouth, and 9 miles northwest of Greensboro.	a4.5	1968	4-16-69 6-30-69 8-28-69	3.76 2.68 3.69
Mason Branch	Tuckahoe Creek	Lat 39°01'59", long 75°53'00", Caroline County, at bridge on State Highway 405, 0.5 mile west of Bridgetown, Md., and 4.9 miles above confluence with German Branch.	32.5	1968	4-15-69 6-30-69 8-28-69	23.3 14.7 29.1
German Branch	Tuckahoe Creek	Lat 39°03'02", long 75°57'04", Queen Annes County, at bridge on Hope-Roe Road, 0.1 mile below Wildcat Branch, 5.0 miles southwest of Ingleside, Md., and 6.2 miles east of Centreville.	a11	1968	4-16-69 6-30-69 8-28-69	6.58 2.00 4.12
Blockston Branch	Tuckahoe Creek	Lat 38°58'06", long 75°56'45", at bridge on county road, 0.2 mile above mouth, and 2.5 miles south of Ruthsburg, Queen Annes County, Md.	a8.4	1968	4-16-69 6-30-69 8-28-69	5.19 1.77 2.90
Tuckahoe Creek	Choptank River	Lat 38°58'00", long 75°56'35", at highway bridge, 2.6 miles downstream from confluence of German Branch and Mason Branch and 2.6 miles south of Ruthsburg, Queen Annes County, Md.	85.2	1951-56#, 1966, 1968	4-15-69	57.2
Piney Branch	Tuckahoe Creek	Lat 38°57'39", long 75°55'09", at culvert on Crouse Mill Road, 1.1 miles above mouth, and 2.2 miles northwest of Ridgely, Caroline County, Md.	a4.8	1968	4-15-69 7- 3-69 8-28-69	4.05 2.05 1.39
Norwich Creek	Tuckahoe Creek	Lat 38°55'22", long 75°58'25", Queen Annes County, at bridge on State highway 404, 1.0 mile west of Queen Anne, Md., and 2.0 miles above mouth.	a9.7	1968	4-16-69 7- 3-69 8-28-69	6.50 .25 1.26
Knott Millpond	Tuckahoe Creek	Lat 38°52'54", long 75°55'33", at bridge on Tuckahoe Road 0.9 mile above mouth, and 2.5 miles south of Hillsboro, Caroline County, Md.	8.45	1952-53, 1968	4-15-69 6-30-69 8-29-69	6.95 4.28 4.06
Deep Branch	Tuckahoe Creek	Lat 38°51'25", long 75°54'41", at bridge on Tuckahoe Road, 0.7 mile above mouth, and 4.8 miles southwest of Denton, Caroline County, Md.	a3.3	1968	4-15-69 6-30-69 8-28-69	2.34 1.45 1.87
Hog Creek	Choptank River	Lat 38°45'52", long 75°54'58", Caroline County, at culvert on State Highway 578, 2.0 miles northeast of Bethlehem, Md., 2.6 miles above mouth, and 9 miles northwest of Federalsburg.	3.64	1952-53, 1968	4-16-69 6-30-69 8-28-69	6.46 .28 2.49
Wootenaux Creek	Kings Creek	Lat 38°47'48", long 76°01'32", at bridge on State Highway 328, 0.3 mile above Galloway Run, and 3.0 miles northeast of Easton, Talbot County.	a4.8	1968	4-15-69 7- 3-69 8-26-69	1.18 .39 .42
Gravel Run	Hunting Creek	Lat 38°40'31", long 75°52'38", Dorchester County, at culvert on Gravel Branch Road, 1.0 mile southeast of Ellwood, Md., and 2.0 miles above mouth.	a4.3	1968	4-15-69 7- 3-69 8-26-69	3.47 .98 3.32

Discharge measurements made at miscellaneous sites during water year 1969, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Wye River basin						
Wye River	Eastern Bay	Lat 38°59'21", long 76°08'28", at bridge on county road, 0.5 mile above State Highway 404, and 0.9 mile east of Queenstown, Queen Annes County, Md.	a3.8	1968	4-15-69 7- 3-69 8-29-69	1.45 .69 .94
Wye East River	Wye River	Lat 38°56'33", long 76°04'53", Talbot County, at bridge on State Highways 404 and 662 at Wye Mills, Md., 1.8 miles above Sallie Harris Creek.	a10	1968	4-15-69 7- 3-69 8-29-69	5.76 2.87 3.10
*Sallie Harris Creek	Wye River	Lat 38°57'55", long 76°06'30", at bridge on U.S. Highway 50, 2.0 miles northeast of Carmichael, 2.2 miles northwest of Wye Mills, Queen Annes County, Md.	8.09	1952-56‡ 1966, 1968	4-15-69 7- 3-69 8-29-69	3.77 1.55 1.94
Skipton Creek	Wye East River	Lat 38°52'46", long 76°03'14", Talbot County, at bridge on State Highway 662, 1.1 miles south of Skipton, Md., 1.9 miles above Mill Creek, and 4.5 miles south of Wye Mills.	a4.6	1968	4-15-69 7- 3-69 8-26-69	1.67 .39 .81
Mill Creek	Skipton Creek	Lat 38°54'36", long 76°04'26", at bridge on State Highway 662, 1.4 miles northwest of Skipton, Talbot County, Md.	a6.4	1964-68	4-15-69 7- 3-69 8-26-69	3.64 3.17 4.12
Chester River basin						
Gravelly Run	Andover Branch	Lat 39°13'07", long 75°45'41", at bridge on Stulltown-Blanco Road, 0.5 mile downstream from Delaware state line, 0.5 mile above mouth, and 5 miles southeast of Millington, Kent County, Md.	a12	1968	4-16-69 6-30-69 8-28-69	7.60 .74 3.37
Sewell Branch	Andover Branch	Lat 39°15'20", long 75°44'02", Kent County, at bridge on County Road 131, 0.6 mile above Jordon Branch, 2.0 miles southwest of Blackiston, Del., and 6 miles southwest of Clayton.	a6.5	1968	5-28-69 7- 3-69 9-26-69	1.47 .15 .75
Jordon Branch	Sewell Branch	Lat 39°14'04", long 75°43'13", at bridge on County Road 94, 1.3 miles above mouth, and 3 miles west of Kenton, Kent County, Del.	a4.5	1968	5-28-69 7- 3-69 9-23-69	1.22 .17 .61
Mills Branch	Chester River	Lat 39°16'34", long 75°52'10", at bridge on Millington Road, 1.5 miles above mouth, and 2.1 miles northwest of Millington, Kent County, Md.	9.98	1953-54 1968	4-15-69 7- 2-69 9-25-69	2.53 .86 1.46
Unicorn Branch	Chester River	Lat 39°11'28", long 75°50'03", at bridge on State Highway 300, 1.2 miles above Chapel Branch Ditch, and 1.4 miles east of Sudlersville, Queen Annes County, Md.	a8.1	1968	4-16-69 6-30-69 8-28-69	7.42 1.55 4.21
Red Lion Branch	Chester River	Lat 39°13'11", long 75°54'01", Queen Annes County, at bridge on Pondtown-Millington Road, 0.8 mile northeast of Pondtown, Md., 2.5 miles above mouth, and 9 miles east of Chestertown.	a22	1968	4-16-69 6-30-69 8-28-69	15.5 6.40 12.4
Chester River tributary	Chester River	Lat 39°16'28", long 75°56'22", Kent County, at bridge on State Highway 447, 1.3 miles west of Chesterville, Md., and 2.8 miles above mouth.	a3.6	1968	4-15-69 7- 2-69 9-25-69	1.53 1.05 1.52
Southeast Creek	Chester River	Lat 39°07'57", long 75°58'51", at bridge on private road, 0.7 mile south of Church Hill, Queen Annes County, Md.	12.5	1952-56‡	4-15-69 6-30-69 8-28-69	6.27 1.96 3.89
Granny Finley Branch	Island Creek	Lat 39°06'55", long 76°02'28", at bridge on Friel Farm Road, 1.8 miles above mouth, and 2.0 miles northeast of Burrisville, Queen Annes County, Md.	a8.5	1968	4-15-69 6-30-69 8-28-69	4.24 .61 2.33

Discharge measurements made at miscellaneous sites during water year 1969, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Chester River basin--Continued						
Three Bridges Branch	Yellow Bank Stream	Lat 39°03'14", long 76°03'17", at bridge on State Highway 213, 0.7 mile above confluence with Gravel Run, and 0.9 mile northeast of Centreville, Queen Annes County, Md.	a8.5	1968	4-15-69 6-30-69 8-28-69	3.70 .70 1.37
East Fork Langford Creek	Langford Creek	Lat 39°11'12", long 76°06'50", at bridge on Langford-Brices Mill Road, 0.1 mile above unnamed tributary, and 3 miles southwest of Chestertown, Kent County, Md.	a5.1	1968	4-15-69	2.32
East Fork Langford Creek tributary	East Fork Langford Creek	Lat 39°11'13", long 76°06'56", at bridge on Langford-Brices Mill Road, 400 ft below Mill Pond, 0.1 mile above mouth, and 3 miles southwest of Chestertown, Kent County, Md.	a5.4	1968	4-15-69 7- 3-69 9-23-69	2.66 1.48 1.92
Fairlee Creek basin						
Fairlee Creek tributary	Fairlee Creek	Lat 39°14'46", long 76°10'12", at bridge on Fish Hatchery Road, 100 ft below Fairlee Lake, and 1.6 miles north of Fairlee, Kent County, Md.	a4.1	1968	4-15-69 7- 3-69 9-23-69	.34 .50 .64
Worton Creek basin						
Mill Creek	Worton Creek	Lat 39°17'00", long 76°08'06", Kent County, at bridge on St. James-Smithville Road, 0.5 mile north of Hanesville, Md., and 2.6 miles above mouth.	a4.5	1953-54, 1968	4-15-69 7- 3-69 9-23-69	1.99 .46 .67
Churn Creek basin						
Churn Creek	Chesapeake Bay	Lat 39°18'22", long 76°06'15", Kent County, at culvert on gravel road, 0.6 mile north of Smithville, Md., and 3.5 miles above mouth.	a1.7	1968	4-15-69 7- 2-69 9-23-69	1.04 .64 .71
Sassafras River basin						
Duffy Creek	Sassafras River	Lat 39°23'45", long 75°49'31", at bridge on Wards Hill Road, 1.4 miles above mouth, and 2.4 miles east of Cecilton, Cecil County, Md.	a1.6	1968	4-15-69 7- 2-69 9-25-69	.62 .40 .41
Jacobs Creek	Sassafras River	Lat 39°21'50", long 75°49'13", at bridge on State Highway 290, 1.2 miles southwest of Sassafras, Kent County, Md.	5.39	1951-56‡ 1963, 1966, 1968	4-15-69 7- 2-69	2.28 1.83
Swantown Creek	Sassafras River	Lat 39°20'50", long 75°50'31", at culvert on State Highway 290, 1.6 miles above mouth, and 2.0 miles east of Galena, Kent County, Md.	a3.6	1968	4-15-69 7- 2-69 9-23-69	1.73 1.10 1.33
Elk River basin						
Little Elk Creek	Big Elk Creek	Lat 39°38'30", long 75°52'00", at bridge on State Highway 545, 0.2 mile southeast of Childs, Cecil County, Md.	26.8	1949-58‡ 1963, 1966, 1968	7- 2-69	7.43
Mill Creek	Little Elk Creek	Lat 39°36'03", long 75°51'47", at bridge on Elk Neck Road, 0.8 mile above mouth, and 1.7 miles west of Elkton, Cecil County, Md.	a4.2	1968	5-29-69 7- 2-69 9-26-69	1.33 .54 .78
Long Branch	Back Creek	Lat 39°33'05", long 75°47'33", Cecil County, at culvert on Woods Road, 1.7 miles northeast of Chesapeake City, Md., and 2.7 miles above mouth.	a5.2	1968	4-15-69 7- 2-69 9-26-69	1.79 .51 .69

Discharge measurements made at miscellaneous sites during water year 1969, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Elk River basin--Continued						
Back Creek	Elk River	Lat 39°30'36", long 75°45'10", New Castle County, at bridge on County Road 435, 1.7 miles upstream from Maryland state line, 2.3 miles west of Mt. Pleasant, Del., and 3.5 miles southeast of Chesapeake City, Md.	a4.8	1968	4-15-69 7- 2-69 9-24-69	2.00 .92 1.16
Sandy Branch	Great Bohemia Creek	Lat 39°27'36", long 75°46'27", at bridge on Sandy Branch Road, 300 ft downstream from Delaware state line, 0.5 mile above mouth, and 0.4 mile south of Bohemia Mills, Cecil County, Md.	a2.8	1968	4-15-69 7- 2-69 9-25-69	1.89 1.16 1.19
Susquehanna River basin						
*Basin Run	Susquehanna River	Lat 39°39'30", long 76°06'10", on left bank, 100 ft upstream from highway bridge, 0.9 mile east of Liberty Grove, Cecil County, Md., 1.0 mile southwest of Colora, and 3 miles upstream from mouth.	5.31	1949-59‡ 1963,66 1968	5-28-69 7- 2-69	2.68 1.50
Potomac River basin						
Potomac Blue Spring	North Branch Potomac	Lat 39°34'26", long 78°43'50", 200 ft below abandoned C & O Canal Lock, 1.1 miles northwest of Spring Gap, Allegany County, Md.	-	1958-68	6-27-69 9-29-69	7.44 7.77
Murley Branch Spring	Murley Branch	Lat 39°39'38", long 78°37'08", below dam at spring house of farm on Williams Road, 4.0 miles southwest of Flintstone, Allegany County, Md.	-	1958-68	6-27-69 9-29-69	.60 .60

* Also a crest-stage partial-record station.
‡ Operated as a continuous-record gaging station.
a Includes 0.05 cfs flow from pipe under bridge.
b Includes sewage from Hurlock, Md.

Measurements of peak discharge at miscellaneous sites during water year 1967 and 1969 in North Atlantic Slope basins

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Choptank River basin						
Gravelly Branch tributary	Gravelly Branch	Lat 38°58'52", long 75°45'20", at culvert on Plummers Lane, 2.8 miles east northeast of Greensboro, Caroline County, Md.	a1.1	-	8- 4-67	664
Potomac River basin						
Nelson Run	McIntosh Run	Lat 38°18'58", long 76°40'29", at culvert on State Highway 234, 2.0 miles upstream from mouth and 2.7 miles northwest of Leonardtown, St. Marys County, Md.	1.73	-	7-22-69	2,400

a Approximately.

The following table contains annual maximum stages for tidal crest-stage stations. The information is obtained from a crest-stage gage or a water-stage recorder located at each site. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. All stages are elevations above mean sea level, datum of 1929 unless otherwise noted. Only the maximum stage is given. Information on some other high stages 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 stages at tidal crest-stage partial-record stations

Station No.	Station name	Location	Period of Record	Annual maximum: Date	Annual maximum: Elevation above mean sea level (feet)
1-4835.38	Duck Creek at Smyrna, Del.	Lat 39°18'31", long 75°36'34", at bridge on U.S.Highway 13, on north edge of Smyrna, Kent County, about 1,000 ft north of traffic light at junction of Route 300 and U.S.Highway 13; on downstream right wingwall of bridge.	1966-69	11-12-68	4.88
1-4840.85	Murderkill River at Bowers, Del.	Lat 39°03'30", long 75°23'51", at Faulkner's Landing in Bowers, Kent County, on left bank, 10 ft southeast of southeast corner of restaurant on Faulkner's Pier.	1966-69	11-12-68	8.10
1-4842.35	Cedar Creek near Slaughter Beach, Del.	Lat 38°58'06", long 75°19'26", at bridge No. S-164 on State Highway 36, 1.79 miles northwest of Slaughter Beach, Sussex County and 6 miles from traffic light at junction of state routes 14 and 36 in Milford, Del.	1966-69	11-12-68	4.45
1-4845.95	Indian River at Oak Orchard, Del.	Lat 38°35'45", long 75°10'24", at Hanes Landing, 2.05 miles southeast of junction of state routes 24 and 5, at Oak Orchard, Sussex County.	1966-69	11-12-68	*4.55

* Gage datum; not to mean sea level datum.

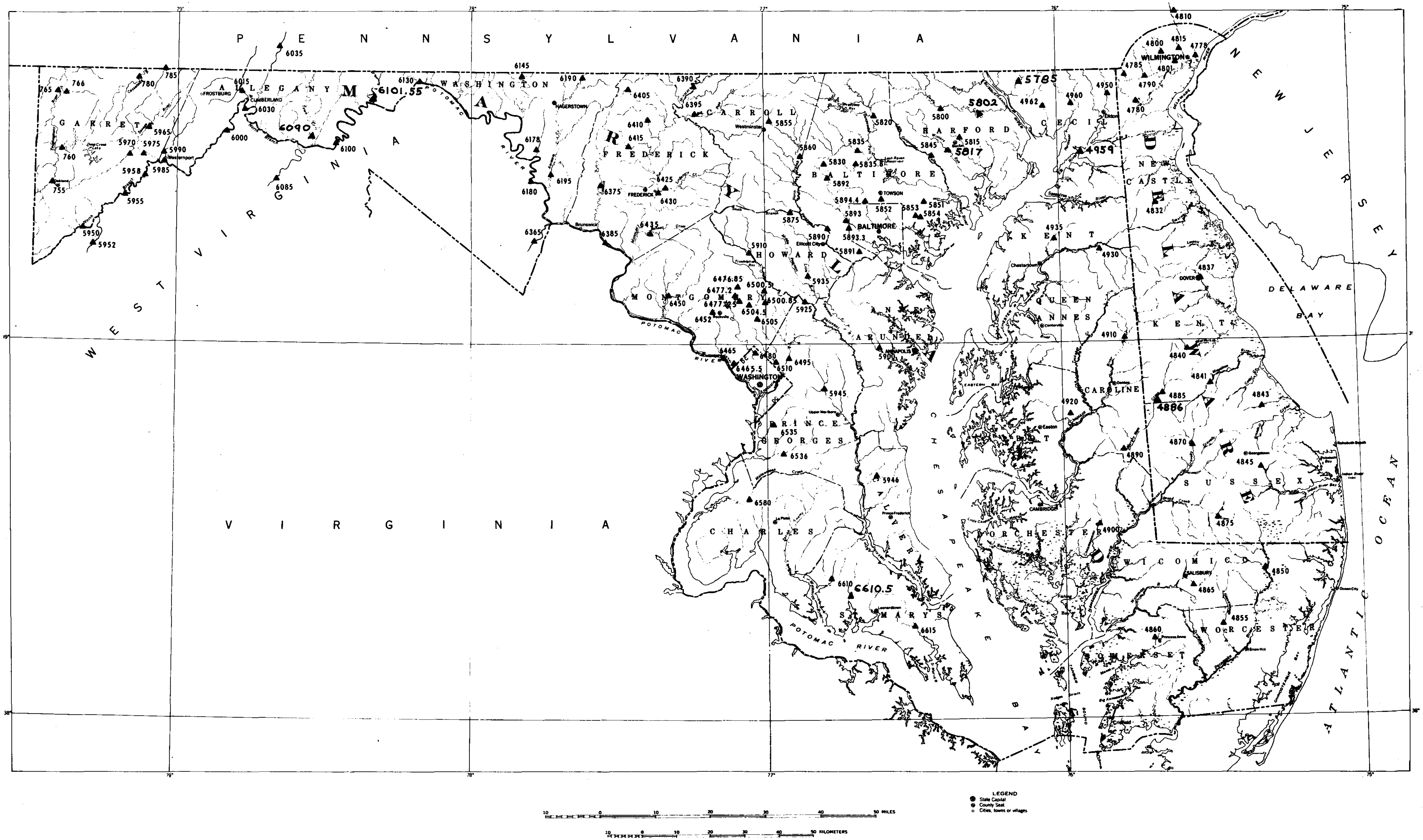

Figure 2.--Map showing location of gaging stations.

GPO 913.589