1970

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

CALENDAR FOR WATER YEAR 1970

OCTOBER 1969

S	M	T	W	T	F	S
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NOVEMBER 1969

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FEBRUARY 1970

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MARCH 1970

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JUNE 1970

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AUGUST 1970

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SEPTEMBER 1970

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WATER RESOURCES DATA FOR MARYLAND AND DELAWARE, 1970

PART 1. SURFACE WATER RECORDS

INTRODUCTION

Surface-water records for the 1970 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 stream-flow 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 01646500, which appears just to the left of the station name, includes the 2-digit part number "01" and the 6-digit downstream order number, "646500." 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 descritpion, reference is made to water-quality records collected on a regular basis.

HYDROLOGIC CONDITIONS

Streamflow was in the normal range for most of the 1970 water year. Annual mean discharge at index stations within the district ranged from 97 to 113 percent of median. The monthly flow of the Potomac River ranged from 68 percent of median in October to 191 percent in April. Flow was generally excessive throughout the district during April as a result of heavy rainfall at the beginning of the month and also in July because of a series of intense thunderstorms.

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 shown in figure 1 for the period of record of the two stations.

No wide-spread flooding occurred during the year. Peak flows generally occurred on streams in the western part of the district during the storm of April 2-3 and on streams in the central and eastern part of the district on July 9-10.

The intense rainfall associated with the July 9-10 storm resulted in a record peak stage at one station in central Maryland. The peak stage was the highest of record on Cranberry Branch at Westminster, Md. (21 years of record). The peak discharge was 1,070 cfs, a unit discharge of 307 cfsm. The highest unit discharge ever recorded on a Maryland stream was 1,420 cfsm for the flood of July 22, 1969, on Nelson Run near Leonardtown, Md. (1.73 sq mi).

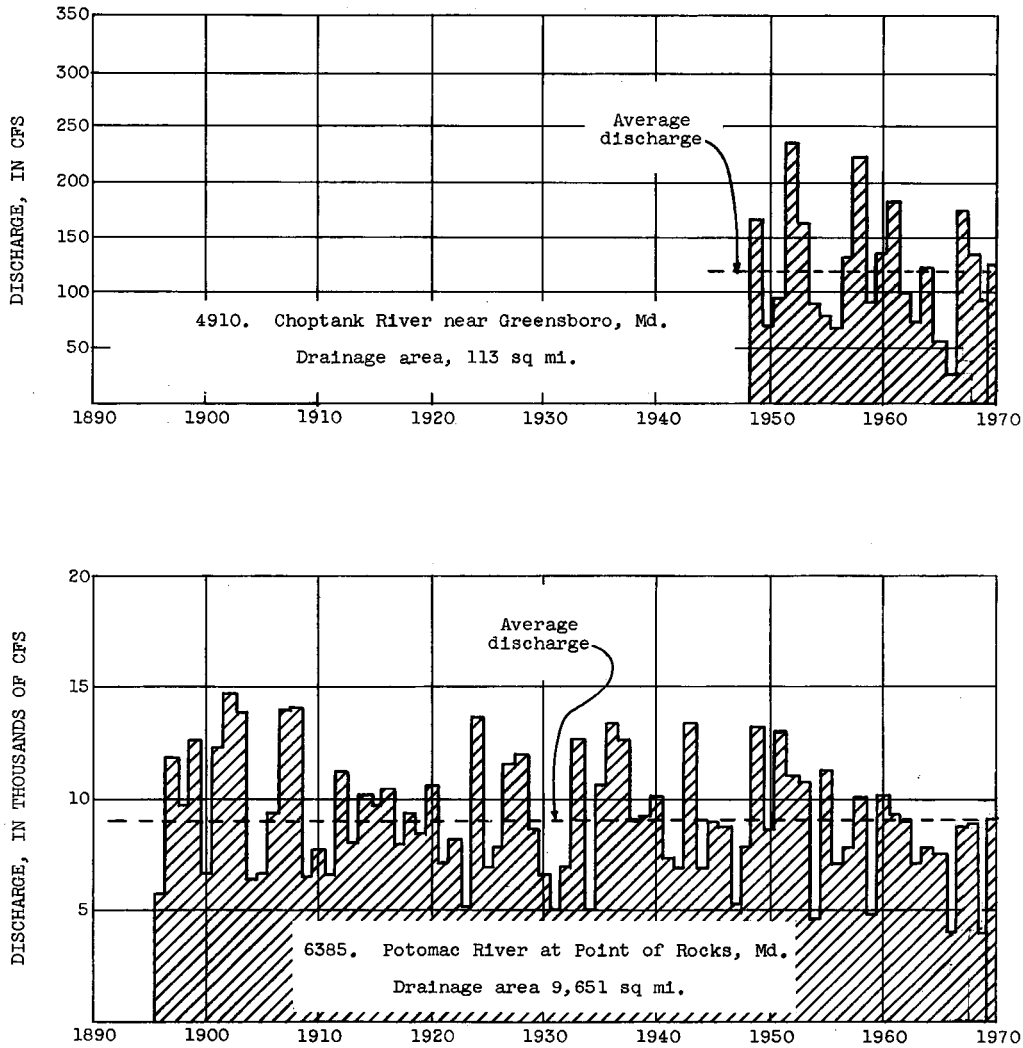

Figure 1.--Annual mean discharge at two gaging stations in Maryland.

DELAWARE RIVER BASIN

01477800 Shellpot Creek at Wilmington, Del.

LOCATION.--Lat 39°45'39", long 75°31'10", New Castle County, 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, 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.--24 years (1946-70), 8.97 cfs (16.33 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,970 cfs Aug. 1 (gage height, 6.20 ft); minimum daily, 0.23 cfs Sept. 20.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.62	.49	.81	16	4.4	2.9	9.0	3.6	1.6	1.9	203	2.4
2	3.3	.80	.73	6.6	24	2.8	240	3.3	1.5	4.6	11	.39
3	8.9	1.4	.74	5.1	60	2.7	22	3.2	3.2	1.5	2.7	.34
4	1.1	.82	.61	3.8	11	8.5	8.8	3.9	2.7	1.4	6.1	.40
5	.69	1.6	.60	3.2	4.7	11	6.3	3.4	10	1.2	1.5	.71
6	.69	5.9	.66	3.2	4.3	4.1	5.3	3.0	14	.90	1.3	.99
7	.69	1.2	12	3.4	4.1	3.5	4.4	2.6	2.5	.75	1.1	1.0
8	3.3	1.1	42	2.5	3.8	3.2	4.0	2.7	1.6	.75	1.8	1.3
9	1.1	13	3.8	2.6	4.7	2.8	4.4	3.7	1.4	1.4	1.2	3.2
10	.64	1.5	95	3.0	88	2.7	3.8	6.1	1.2	28	1.3	3.1
11	.51	.84	39	3.0	18	2.6	3.0	5.5	1.3	5.4	.94	2.1
12	.59	1.3	5.9	2.8	7.8	15	2.8	5.5	15	5.3	.83	1.3
13	.64	2.1	3.6	2.5	5.9	10	2.9	5.4	5.2	1.2	.84	.66
14	.59	1.5	5.9	2.3	4.0	4.4	147	10	1.4	.95	1.2	.61
15	.69	2.4	4.3	2.2	9.6	3.2	140	9.9	1.4	15	1.3	1.1
16	.51	.92	3.6	2.1	8.2	2.8	16	5.3	4.3	39	1.0	1.0
17	.51	.74	2.3	6.2	10	2.4	8.1	23	2.7	2.1	.98	.59
18	.51	.74	2.2	35	12	10	6.1	8.2	17	1.5	.88	.33
19	.47	12	2.3	16	8.9	8.5	5.0	4.1	5.6	1.2	1.1	.34
20	.45	19	2.5	4.0	5.5	26	64	2.7	1.7	1.6	1.8	.23
21	13	1.8	1.9	3.6	3.8	16	12	1.7	89	3.3	1.3	.24
22	.83	1.3	80	3.3	3.6	50	6.7	1.6	21	1.2	.64	.26
23	.45	1.4	11	3.1	3.5	23	7.1	7.1	3.0	1.1	33	.30
24	.40	1.5	4.3	3.0	3.4	7.0	44	3.8	2.3	6.7	2.0	.37
25	.42	.87	2.9	3.2	3.9	4.6	14	1.9	2.8	2.1	.96	.40
26	.44	.88	81	10	3.5	9.7	6.9	2.4	2.2	1.2	.86	3.3
27	.47	.79	19	7.0	3.5	11	6.3	2.3	14	1.1	.82	8.8
28	.44	.73	8.2	6.2	3.3	4.3	4.9	1.7	1.9	1.1	.77	1.9
29	.42	.73	6.2	23	------	85	4.2	1.6	1.7	2.2	.77	.48
30	.42	.74	42	17	------	20	3.8	1.5	1.9	6.6	.83	.31
31	.45	------	106	5.9	------	20	------	1.5	------	4.3	4.2	------
TOTAL	44.24	80.09	591.05	210.8	327.4	379.7	812.8	142.2	235.1	146.55	288.02	38.45
MEAN	1.43	2.67	19.1	6.80	11.7	12.2	27.1	4.59	7.84	4.73	9.29	1.28
MAX	13	19	106	35	88	85	240	23	89	39	203	8.8
MIN	.40	.49	.60	2.1	3.3	2.4	2.8	1.5	1.2	.75	.64	.23
CFSM	.19	.36	2.56	.91	1.57	1.64	3.63	.62	1.05	.63	1.25	.17
IN.	.22	.40	2.95	1.05	1.63	1.89	4.05	.71	1.17	.73	1.44	.19

CAL YR 1969 TOTAL 2,641.29 MEAN 7.24 MAX 273 MIN .40 CFSM .97 IN 13.17
WAT YR 1970 TOTAL 3,296.40 MEAN 9.03 MAX 240 MIN .23 CFSM 1.21 IN 16.44

PEAK DISCHARGE (BASE, 550 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-10	2105	4.44	1,090	6-21	1420	4.12	922
4- 2	1545	4.87	1,310	8- 1	0230	6.20	1,970
4-14	1805	3.70	670				

01478000 Christina River at Coochs Bridge, Del.

LOCATION.--Lat 39°38'16", long 75°43'46", New Castle County, on left bank 82 ft downstream from highway bridge, 0.3 mile south of Coochs Bridge, 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, nonrecording gage on upstream side of bridge at same datum.

AVERAGE DISCHARGE.--27 years, 25.2 cfs (16.69 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,440 cfs Apr. 2 (gage height, 10.29 ft); minimum daily, 1.5 cfs Sept. 18.
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 fair. Low and medium flow regulated by mill above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	5.5	9.4	52	17	15	31	19	7.0	8.6	36	3.9
2	4.9	5.8	4.2	28	70	16	607	18	7.3	29	15	3.1
3	18	12	8.2	23	222	16	87	18	12	11	12	2.2
4	6.8	8.5	4.7	18	46	23	33	20	16	10	31	5.7
5	3.3	7.1	8.8	16	20	34	27	19	13	8.9	9.8	2.9
6	5.1	13	5.9	14	19	20	24	16	36	6.4	7.6	3.6
7	5.6	8.3	11	17	20	16	22	15	15	7.1	7.2	2.1
8	9.6	6.4	89	13	16	15	20	15	10	5.0	7.2	1.8
9	8.8	23	21	10	17	14	19	15	8.1	11	6.9	6.6
10	5.5	15	152	12	89	12	18	14	8.1	17	7.7	4.5
11	5.6	8.9	252	11	48	12	16	13	10	10	11	4.4
12	3.3	8.6	30	12	27	18	16	12	7.3	6.6	7.4	2.0
13	4.6	12	19	12	20	24	16	11	7.7	6.2	7.3	2.0
14	7.4	9.9	21	8.6	15	17	387	11	6.4	6.2	96	4.0
15	7.1	19	20	8.0	21	14	288	12	6.6	6.0	32	2.2
16	4.6	8.9	20	8.8	26	13	42	12	9.4	22	12	2.5
17	7.0	8.1	14	12	26	11	30	23	20	8.7	10	2.2
18	7.1	9.2	13	65	30	17	25	18	183	6.2	9.0	1.5
19	4.0	18	14	46	27	21	23	12	176	5.7	10	3.2
20	5.4	35	14	16	19	35	81	11	16	9.0	8.4	1.7
21	33	10	13	13	14	46	36	10	267	19	9.9	2.7
22	9.8	9.1	340	9.6	15	68	27	10	342	7.3	7.9	2.3
23	6.1	7.4	52	7.8	14	64	26	16	23	6.3	87	2.5
24	5.7	7.9	24	8.6	13	27	102	18	16	12	13	3.2
25	4.9	9.3	17	9.5	13	21	47	14	13	8.5	4.4	2.5
26	5.6	8.2	398	16	11	25	29	14	11	6.9	3.9	1.8
27	9.6	4.9	71	27	11	36	26	13	25	7.2	3.3	5.6
28	5.0	10	34	17	13	21	24	14	13	6.3	3.2	5.5
29	7.8	5.9	26	45	------	150	22	11	9.7	33	3.3	4.0
30	6.1	5.7	104	45	------	51	20	9.5	9.2	36	3.2	4.3
31	7.3	------	382	31	------	45	------	9.0	------	429	4.9	------
TOTAL	231.1	320.6	2,192.2	631.9	899	917	2,171	442.5	1,303.8	772.1	487.5	96.5
MEAN	7.45	10.7	70.7	20.4	32.1	29.6	72.4	14.3	43.5	24.9	15.7	3.22
MAX	33	35	398	65	222	150	607	23	342	429	96	6.6
MIN	3.3	4.9	4.2	7.8	11	11	16	9.0	6.4	5.0	3.2	1.5
CFSM	.36	.52	3.45	1.00	1.57	1.44	3.53	.70	2.12	1.21	.77	.16
IN.	.42	.58	3.98	1.15	1.63	1.66	3.94	.80	2.37	1.40	.88	.18

CAL YR 1969 TOTAL 8,186.5 MEAN 22.4 MAX 573 MIN 2.5 CFSM 1.09 IN 14.86
WAT YR 1970 TOTAL 10,465.2 MEAN 28.7 MAX 607 MIN 1.5 CFSM 1.40 IN 18.99

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-11	0100	9.03	1,050	4-14	2130	9.89	1,280
12-22	1630	9.14	1,080	6-22	0330	9.57	1,170
4- 2	2030	10.29	1,440	7-31	1700	10.15	1,380

01478500 White Clay Creek above Newark, Del.

LOCATION.--Lat 39°42'52", long 75°45'34", New Castle County, 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, 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.--15 years, 71.2 cfs (14.50 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,560 cfs Apr. 2 (gage height, 7.13 ft), minimum daily, 19 cfs Sept. 23, 25.
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 1970 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	29	29	170	89	60	70	110	58	46	185	30
2	29	34	27	110	328	61	887	107	57	94	48	29
3	46	45	28	96	399	62	259	103	55	73	40	28
4	32	34	27	86	168	64	132	98	61	68	39	32
5	28	32	26	84	110	92	120	94	65	62	38	28
6	28	48	29	75	92	77	110	89	100	57	36	26
7	28	38	33	78	88	67	105	87	62	52	35	24
8	37	35	120	70	84	62	103	83	60	47	42	24
9	33	52	53	64	84	58	98	80	57	42	82	38
10	28	45	123	68	215	56	96	76	54	122	39	31
11	28	36	400	72	157	56	96	73	50	70	36	27
12	29	35	95	74	110	56	94	70	48	62	36	24
13	29	38	68	68	92	72	92	67	60	57	35	25
14	30	35	63	58	86	65	337	64	47	53	132	24
15	29	37	60	56	103	59	484	61	46	48	54	23
16	29	33	56	60	103	56	166	58	50	172	82	25
17	29	32	50	80	94	54	142	92	64	60	131	22
18	29	33	54	120	112	57	135	120	115	46	52	21
19	29	37	50	92	137	73	130	73	145	42	42	24
20	29	89	49	70	109	79	243	65	87	40	35	22
21	57	41	48	58	83	124	153	60	213	66	33	21
22	33	34	271	52	79	103	140	54	192	44	33	20
23	29	33	139	50	75	135	137	48	92	40	433	19
24	28	32	78	52	67	76	193	48	76	53	87	20
25	29	30	70	56	68	71	153	47	68	44	55	19
26	29	29	196	80	61	73	132	96	65	40	43	20
27	30	29	155	100	65	122	127	114	104	39	38	30
28	29	29	111	70	62	76	122	67	67	38	35	40
29	28	29	84	150	------	156	120	65	53	38	32	25
30	29	28	96	242	------	100	114	64	47	50	33	22
31	29	------	387	122	------	73	------	61	------	78	35	------
TOTAL	958	1,111	3,075	2,683	3,320	2,395	5,290	2,394	2,318	1,843	2,076	763
MEAN	30.9	37.0	99.2	86.5	119	77.3	176	77.2	77.3	59.5	67.0	25.4
MAX	57	89	400	242	399	156	887	120	213	172	433	40
MIN	28	28	26	50	61	54	70	47	46	38	32	19
CFSM	.46	.55	1.49	1.30	1.78	1.16	2.64	1.16	1.16	.89	1.00	.38
IN.	.53	.62	1.71	1.50	1.85	1.34	2.95	1.34	1.29	1.03	1.16	.43

CAL YR 1969 TOTAL 19,875 MEAN 54.5 MAX 952 MIN 22 CFSM .82 IN 11.08
WAT YR 1970 TOTAL 28,226 MEAN 77.3 MAX 887 MIN 19 CFSM 1.16 IN 15.74

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-2	1745	7.13	2,560	8-23	1100	6.03	1,900

01479000 White Clay Creek near Newark, Del.

LOCATION.--Lat 39°42'01", long 75°41'00", New Castle County, on left bank 300 ft upstream from Baltimore & Ohio Railroad bridge, 0.4 mile downstream from Pike Creek, 3.5 miles east of Newark, 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.--30 years, 103 cfs (15.93 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,000 cfs Apr. 2 (gage height, 12.16 ft); minimum, 19 cfs Sept. 27 (gage height, 4.12 ft); minimum daily, 26 cfs Sept. 23, 25.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	33	36	226	115	80	148	146	80	56	250	41
2	31	39	34	142	360	84	1,330	140	72	120	80	38
3	61	56	35	124	634	85	545	139	73	89	61	37
4	34	39	34	112	210	100	246	145	95	72	65	41
5	29	36	33	108	137	141	207	140	87	65	48	37
6	29	60	32	99	111	106	189	129	167	59	46	35
7	29	47	44	102	105	94	173	124	109	55	44	32
8	46	41	222	90	101	93	158	124	76	52	44	32
9	42	69	92	84	101	87	156	121	69	61	82	51
10	32	57	204	88	294	82	150	116	65	107	47	43
11	31	41	565	92	208	82	139	113	63	84	43	36
12	34	42	127	94	130	93	138	109	60	64	39	32
13	35	44	91	88	112	115	136	107	72	55	38	33
14	36	42	89	76	104	94	545	106	59	51	162	32
15	34	45	82	74	122	84	925	109	58	51	76	31
16	34	39	74	80	118	81	278	105	77	329	47	33
17	34	40	64	100	113	78	207	156	91	71	153	30
18	33	41	61	150	136	90	184	142	146	57	51	29
19	34	56	62	120	146	112	168	109	354	52	46	32
20	36	124	60	90	116	127	369	106	95	55	44	30
21	80	58	55	74	93	194	233	96	241	106	46	29
22	39	46	452	66	94	172	185	93	560	59	38	27
23	34	43	195	64	97	259	178	99	121	52	577	26
24	31	42	104	66	91	130	306	128	86	76	127	27
25	33	38	105	70	91	110	269	130	74	65	70	26
26	34	38	460	100	80	116	182	128	68	54	57	27
27	34	37	201	120	82	155	174	236	94	50	50	38
28	33	38	137	84	82	108	166	115	70	46	46	51
29	32	37	107	150	------	287	158	102	61	63	43	32
30	32	37	166	295	------	222	149	94	58	79	44	29
31	32	------	636	140	------	193	------	87	------	255	48	------
TOTAL	1,115	1,405	4,659	3,368	4,183	3,854	8,391	3,794	3,401	2,510	2,612	1,017
MEAN	36.0	46.8	150	109	149	124	280	122	113	81.0	84.3	33.9
MAX	80	124	636	295	634	287	1,330	236	560	329	577	51
MIN	27	33	32	64	80	78	136	87	58	46	38	26
CFSM	.41	.53	1.71	1.24	1.70	1.41	3.19	1.39	1.29	.92	.96	.39
IN.	.47	.60	1.97	1.43	1.77	1.63	3.56	1.61	1.44	1.06	1.11	.43

CAL YR 1969 TOTAL 25,460 MEAN 69.8 MAX 1,200 MIN 25 CFSM .80 IN 10.79
WAT YR 1970 TOTAL 40,309 MEAN 110 MAX 1,330 MIN 26 CFSM 1.25 IN 17.08

PEAK DISCHARGE (BASE, 2,000 CFS).--Apr. 2 (2145) 3,000 cfs (12.16 ft).

01480000 Red Clay Creek at Wooddale, Del.

LOCATION.--Lat 39°45'52", long 75°38'08", New Castle County, on right bank 12 ft upstream from bridge on State Highway 48, 0.3 mile south of Wooddale, 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.--27 years, 59.6 cfs (17.22 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,100 cfs Apr. 2 (gage height, 6.14 ft); minimum, 5.3 cfs Dec. 6, result of regulation; minimum daily, 17 cfs Sept. 24, 25, 26.
Period of record: Maximum discharge, 4,780 cfs Sept. 12, 1960 (gage height, 9.93 ft); minimum, 2.9 cfs Sept. 4, 1966; minimum daily, 4.5 cfs Sept. 4, 1966.

REMARKS.--Records good. Some diurnal fluctuation at low flow caused by mills above station. Records of water temperatures for the water year 1970 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). WRD Md. and Del. 1969: 1960(M), 1964(M), 1966-67(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	22	24	119	62	46	86	89	49	34	384	24
2	23	27	23	77	235	48	784	87	49	47	68	23
3	40	32	23	67	325	49	217	86	46	41	46	23
4	23	25	22	59	104	51	123	88	48	38	42	24
5	21	24	22	54	69	72	107	86	56	34	36	22
6	20	37	21	54	62	55	101	80	91	32	35	20
7	21	28	24	58	62	51	94	75	62	30	33	19
8	31	27	120	49	58	49	86	75	49	29	32	20
9	25	45	48	46	58	46	84	74	42	30	30	25
10	22	32	109	48	229	44	81	70	43	44	31	27
11	22	27	336	51	116	46	76	68	42	40	29	22
12	22	27	65	51	74	49	73	66	53	36	27	20
13	21	30	47	48	62	62	72	63	93	29	26	19
14	22	27	45	42	55	51	288	60	43	28	28	19
15	21	29	43	40	64	46	475	71	42	31	27	20
16	21	25	40	44	62	42	154	63	53	202	25	20
17	22	24	35	53	64	42	121	105	51	40	30	18
18	21	24	33	83	76	49	109	88	74	33	25	19
19	21	27	35	63	76	62	100	67	89	29	24	20
20	20	75	34	46	58	72	240	66	47	30	25	18
21	49	33	30	39	51	101	135	58	107	42	25	18
22	25	28	249	36	53	98	111	56	122	30	22	18
23	22	27	90	35	53	133	111	57	56	29	320	18
24	22	26	53	36	51	74	179	59	46	45	54	17
25	23	25	42	38	53	60	144	58	42	35	36	17
26	22	25	159	50	46	62	112	65	40	30	30	17
27	22	25	92	51	46	84	106	87	47	28	28	23
28	22	24	62	46	48	60	102	56	38	27	27	25
29	21	24	55	89	------	158	97	52	36	95	25	19
30	21	24	77	143	------	123	92	51	35	72	26	18
31	22	------	322	69	------	110	------	49	------	104	28	------
TOTAL	731	875	2,380	1,784	2,372	2,095	4,660	2,175	1,691	1,394	1,624	612
MEAN	23.6	29.2	76.8	57.5	84.7	67.6	155	70.2	56.4	45.0	52.4	20.4
MAX	49	75	336	143	325	158	784	105	122	202	384	27
MIN	20	22	21	35	46	42	72	49	35	27	22	17
CFSM	.50	.62	1.63	1.22	1.80	1.44	3.30	1.49	1.20	.96	1.11	.43
IN.	.58	.69	1.88	1.41	1.88	1.66	3.69	1.72	1.34	1.10	1.29	.48

CAL YR 1969 TOTAL 15,308 MEAN 41.9 MAX 1,380 MIN 13 CFSM .89 IN 12.11
WTR YR 1970 TOTAL 22,393 MEAN 61.4 MAX 784 MIN 17 CFSM 1.31 IN 17.72

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-11	0045	4.86	1,220	8- 1	0500	5.17	1,420
4- 2	1900	6.14	2,100	8-23	1115	5.11	1,380

01480100 Little Mill Creek at Elsmere, Del.

LOCATION.--Lat 39°44'05", long 75°35'14", New Castle County, on left bank at downstream side of highway bridge on North du Pont Road at Elsmere, 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.--7 years, 8.60 cfs (17.43 inches per year).

EXTREMES.--Current year: Maximum discharge, 652 cfs Apr. 2 (gage height, 5.03 ft); minimum, 0.13 cfs Sept. 20. 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 fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	1.8	3.7	13	4.6	4.0	7.9	6.6	2.0	1.9	40	.43
2	7.5	2.2	3.7	8.0	15	4.6	166	6.0	2.2	9.1	8.4	.43
3	5.6	2.6	3.2	7.2	48	4.8	34	5.4	4.0	2.0	6.3	.43
4	2.0	2.4	2.4	6.8	12	11	20	5.4	6.2	1.6	8.0	.37
5	1.6	3.9	2.4	6.0	8.5	9.6	16	4.3	3.9	1.4	4.7	.37
6	2.4	6.7	2.0	5.6	7.6	5.2	15	3.5	14	2.0	4.3	.26
7	2.4	3.2	8.3	6.0	6.4	4.0	14	2.9	4.3	2.2	3.6	.31
8	6.0	2.2	31	5.0	5.6	4.0	13	2.9	2.2	1.1	1.6	.58
9	2.8	13	4.8	3.2	6.8	4.6	13	2.4	2.2	7.5	1.4	3.7
10	2.4	2.8	53	3.4	66	4.2	13	2.0	2.0	24	1.2	1.7
11	2.0	2.6	34	4.6	13	4.2	11	2.0	2.2	2.4	1.2	.43
12	2.0	4.1	6.4	6.0	7.2	14	9.6	2.0	2.2	1.8	1.0	.31
13	2.4	3.2	4.6	4.8	5.6	8.5	11	1.9	2.2	1.6	1.2	.37
14	2.6	4.6	7.5	4.6	5.2	5.2	114	1.8	1.3	1.3	6.7	1.3
15	2.4	3.3	5.6	4.0	12	4.2	124	1.9	1.3	2.3	3.3	5.1
16	2.4	2.2	4.6	4.2	8.5	4.6	35	1.5	4.3	25	1.0	6.7
17	2.6	2.6	3.7	7.1	8.0	4.2	22	10	4.8	1.4	1.0	6.7
18	2.2	2.6	4.0	20	8.0	10	18	4.3	12	1.1	.88	7.1
19	2.0	12	4.2	10	8.5	5.8	16	3.2	28	.98	2.2	5.8
20	2.4	14	3.4	6.0	6.4	15	75	5.4	9.0	3.5	2.9	.21
21	15	3.7	3.2	5.2	4.8	10	21	3.5	70	3.8	3.2	.31
22	2.6	2.8	62	4.6	4.6	32	15	3.2	31	.91	.77	.50
23	2.2	2.4	9.0	4.8	5.2	17	16	2.9	4.8	.78	29	.58
24	2.4	3.0	3.7	3.4	5.2	7.2	57	2.9	3.2	1.5	13	.58
25	2.0	3.7	2.8	3.7	5.6	5.6	19	2.9	2.4	1.0	4.3	.43
26	1.6	4.0	72	7.2	5.2	11	10	3.9	2.2	2.0	2.2	.72
27	2.2	3.4	12	6.0	4.6	8.7	9.0	4.3	21	.91	1.2	5.9
28	2.4	3.2	7.2	6.0	4.6	4.2	7.8	2.9	2.0	1.1	.77	3.0
29	2.4	3.2	3.7	9.8	------	55	7.2	2.6	1.9	21	.37	.58
30	2.4	3.0	28	8.5	------	12	6.6	2.0	1.9	27	.43	.58
31	2.2	------	80	5.6	------	13	------	1.9	------	18	1.8	------
TOTAL	95.1	124.4	476.1	200.3	302.7	307.4	916.1	108.4	250.7	172.18	157.92	55.78
MEAN	3.07	4.15	15.4	6.46	10.8	9.92	30.5	3.50	8.36	5.55	5.09	1.86
MAX	15	14	80	20	66	55	166	10	70	27	40	7.1
MIN	1.6	1.8	2.0	3.2	4.6	4.0	6.6	1.5	1.3	.78	.37	.21
CFSM	.46	.62	2.30	.96	1.61	1.48	4.55	.52	1.25	.83	.76	.28
IN.	.53	.69	2.64	1.11	1.68	1.71	5.09	.60	1.39	.96	.88	.31

CAL YR 1969 TOTAL 2,515.30 MEAN 6.89 MAX 162 MIN 1.4 CFSM 1.03 IN 13.97
WTR YR 1970 TOTAL 3,167.08 MEAN 8.68 MAX 166 MIN .21 CFSM 1.30 IN 17.58

PEAK DISCHARGE (BASE, 350 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-2	1515	5.03	652	4-14	1745	3.85	350

01481000 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, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--50 years, 373 cfs (17.65 inches per year).

EXTREMES.--Current year: Maximum discharge, 5,310 cfs Apr. 3 (gage height, 9.19 ft); minimum, 96 cfs Sept. 27; minimum gage height, 1.12 ft Dec. 5, 6.
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. Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1970 are published in Part 2 of the Pennsylvania annual report.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Dec. 26-30, Jan. 9-17, 22-24)

1.1	99	5.0	1,960
1.4	201	7.0	3,220
2.0	467	8.0	4,080
3.0	960		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	138	141	622	374	319	641	552	308	234	1,390	176
2	134	158	131	400	1,080	325	3,070	540	289	296	414	155
3	190	179	138	349	3,290	328	2,350	565	304	272	287	165
4	151	155	131	291	1,310	334	1,060	590	453	260	257	169
5	131	148	121	265	650	427	863	533	409	241	235	158
6	125	197	121	286	554	381	763	499	962	226	218	155
7	125	176	138	282	511	347	708	466	443	214	219	138
8	151	165	457	244	487	337	650	455	343	208	210	148
9	151	209	340	200	457	312	620	448	320	220	207	141
10	131	205	367	170	1,310	302	587	429	279	460	204	172
11	128	169	1,760	200	1,220	298	541	414	280	332	198	158
12	128	158	510	220	715	307	519	422	410	259	187	145
13	125	169	313	200	559	395	498	500	389	224	190	138
14	128	162	274	190	461	363	903	434	272	207	183	134
15	121	165	261	180	479	316	2,270	521	266	218	178	131
16	118	162	236	170	469	293	1,090	421	306	634	212	128
17	118	145	205	200	453	279	792	636	359	261	262	131
18	115	141	190	349	501	306	714	614	368	218	195	128
19	115	155	209	349	558	382	662	438	711	207	174	148
20	112	400	194	283	497	430	1,090	415	334	200	184	138
21	209	228	169	228	393	613	911	370	721	498	188	128
22	162	172	715	170	388	527	725	358	1,090	278	169	125
23	138	162	583	170	417	940	694	354	450	230	1,230	115
24	134	155	340	190	409	524	971	368	336	345	582	121
25	131	148	232	212	382	432	1,150	383	296	273	278	115
26	141	145	170	226	349	411	756	421	284	232	221	118
27	138	145	150	242	334	643	669	840	296	206	209	134
28	131	141	170	230	341	445	643	380	266	202	197	155
29	131	141	220	332	------	658	612	338	248	224	183	138
30	134	141	250	645	------	778	576	310	243	221	179	121
31	134	------	840	430	------	749	------	309	------	780	190	------
TOTAL	4,205	5,134	10,076	9,525	18,948	13,501	28,098	14,323	12,035	9,880	9,230	4,226
MEAN	136	171	325	275	677	436	937	462	401	286	298	141
MAX	209	400	1,760	645	3,290	940	3,070	840	1,090	780	1,390	176
MIN	112	138	121	170	334	279	498	309	243	200	169	115
CFSM	.47	.60	1.13	.96	2.36	1.52	3.26	1.61	1.40	1.00	1.04	.49
IN.	.55	.67	1.31	1.10	2.46	1.75	3.64	1.86	1.56	1.15	1.20	.55

CAL YR 1969 TOTAL 87,747 MEAN 240 MAX 3,430 MIN 102 CFSM .84 IN 11.37
WAT YR 1970 TOTAL 137,181 MEAN 376 MAX 3,290 MIN 112 CFSM 1.31 IN 17.78

PEAK DISCHARGE (BASE, 3,500 CFS).--Feb. 3 (0315) 3,890 cfs (7.79 ft); Apr. 3 (0030) 5,310 cfs (9.19 ft).

01481500 Brandywine Creek at Wilmington, Del.

LOCATION.--Lat 39°46'09", long 75°34'25", New Castle County, on right bank in Rockford Park, 0.2 mile downstream from Henry Clay Bridge, in Wilmington, 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.--24 years, 430 cfs (18.60 inches per year).

EXTREMES.--Current year: Maximum discharge, 7,120 cfs Aug. 1 (gage height, 8.61 ft); minimum, 115 cfs Sept. 26; minimum daily, 128 cfs Sept. 25, 26.
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 1970 are published in Part 2 of this report.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	148	145	154	739	434	390	775	642	360	265	2,390	182
2	154	154	148	469	910	390	3,530	634	350	310	506	161
3	229	201	148	396	3,720	396	3,250	634	340	315	325	168
4	182	175	148	315	1,690	402	1,260	674	506	288	283	171
5	154	158	139	270	739	506	950	618	462	270	253	161
6	148	209	134	310	634	469	892	586	1,110	249	229	154
7	148	201	151	283	586	420	838	554	498	233	233	145
8	178	178	469	249	562	408	739	538	390	225	221	151
9	189	233	408	241	530	378	706	530	360	229	225	154
10	161	245	506	253	1,540	366	674	514	310	434	217	182
11	151	193	2,090	292	1,520	360	626	483	310	384	209	165
12	151	175	546	261	802	366	618	483	355	288	193	148
13	151	189	325	253	650	476	594	562	514	245	201	145
14	151	182	274	237	546	448	1,250	498	306	225	193	142
15	148	185	265	221	554	390	3,040	602	297	237	185	142
16	145	178	241	217	554	355	1,430	490	325	829	189	139
17	142	165	205	229	522	340	960	642	396	306	297	139
18	139	158	189	340	570	360	883	722	366	241	209	134
19	130	175	205	345	634	476	811	514	748	225	185	154
20	139	427	193	270	578	498	1,340	476	384	217	193	148
21	249	283	168	245	462	722	1,140	427	706	462	197	142
22	189	201	706	229	462	602	874	402	1,440	315	175	139
23	151	192	674	229	483	1,090	820	414	522	241	1,260	131
24	142	175	360	217	498	650	1,130	420	384	340	784	131
25	142	168	249	213	462	522	1,390	427	325	306	315	128
26	148	161	586	233	420	490	901	434	320	253	237	128
27	148	154	408	257	408	690	793	940	335	229	225	142
28	142	154	330	245	420	530	748	469	301	213	205	189
29	139	151	297	434	------	838	714	408	274	237	189	161
30	142	151	345	739	------	960	674	378	270	274	185	148
31	142	------	1,110	522	------	883	------	372	------	578	197	------
TOTAL	4,881	5,706	12,171	9,753	21,890	16,171	34,350	16,487	13,564	9,463	10,905	4,524
MEAN	157	190	393	315	782	522	1,145	532	452	305	352	151
MAX	249	427	2,090	739	3,720	1,090	3,530	940	1,440	829	2,390	189
MIN	139	145	134	213	408	340	594	372	270	213	175	128
CFSM	.50	.61	1.25	1.00	2.49	1.66	3.65	1.69	1.44	.97	1.12	.48
IN.	.58	.68	1.44	1.16	2.59	1.92	4.07	1.95	1.61	1.12	1.29	.54

CAL YR 1969 TOTAL 105,058 MEAN 288 MAX 4,210 MIN 134 CFSM .92 IN 12.45
WTR YR 1970 TOTAL 159,865 MEAN 438 MAX 3,720 MIN 128 CFSM 1.39 IN 18.94

PEAK DISCHARGE (BASE, 4,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2- 3	0600	7.29	4,340	8- 1	0215	8.61	7,120
4- 2	1530	8.36	6,500				

01483200 Blackbird Creek at Blackbird, Del.

LOCATION.--Lat 39°21'58", long 75°40'10", New Castle County, on right bank 15 ft downstream from highway bridge, 0.5 mile upstream from Barlow Branch, 0.6 mile southwest of Blackbird, 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.--14 years, 4.17 cfs (14.71 inches per year).

EXTREMES.--Current year: Maximum discharge, 129 cfs Apr. 15 (gage height, 2.77 ft); minimum, 0.06 cfs Sept. 21 (gage height, 0.58 ft).
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.7	2.0	16	4.8	4.1	8.7	6.0	2.0	1.5	1.6	.28
2	1.7	1.8	1.8	9.0	7.2	4.2	21	5.7	1.8	3.3	1.2	.21
3	3.4	2.1	1.8	7.5	16	4.4	25	5.6	1.7	2.4	.93	.60
4	1.8	1.8	1.8	6.6	12	5.1	9.7	6.3	1.9	2.1	.99	.60
5	1.4	1.8	1.7	5.8	6.0	7.0	7.5	6.5	2.8	2.3	.80	.28
6	1.4	2.5	1.7	6.1	5.8	5.2	6.6	5.3	18	1.7	.78	.20
7	1.4	2.2	2.2	6.1	5.8	4.5	8.1	4.8	7.2	1.4	.68	.17
8	3.8	1.8	10	5.5	5.6	4.4	7.1	4.7	2.8	1.3	.68	.22
9	5.0	3.9	6.7	4.9	5.6	4.1	6.3	4.5	2.2	1.3	.64	.43
10	2.2	4.0	6.9	4.5	8.4	3.9	6.0	4.1	2.0	6.9	.65	.67
11	1.8	2.5	20	4.5	9.0	3.9	5.4	3.7	1.9	3.6	.65	.41
12	1.8	2.2	7.5	5.0	6.6	4.2	5.3	3.5	1.7	1.8	.55	.27
13	1.8	2.3	4.3	5.2	5.5	5.6	5.1	3.4	1.6	1.5	.47	.22
14	1.9	2.3	4.1	4.8	4.8	4.5	28	3.8	1.5	1.3	.64	.22
15	1.7	2.6	4.4	4.3	5.9	3.9	65	3.4	1.6	1.4	1.2	.20
16	1.7	2.1	3.9	4.1	7.6	3.7	18	3.3	5.4	4.6	.71	.16
17	1.7	1.9	3.2	4.8	6.7	3.6	11	5.2	10	1.9	.53	.13
18	1.6	1.9	2.9	14	6.8	4.1	8.8	5.1	10	1.5	.50	.12
19	1.6	2.3	3.4	12	6.6	4.8	7.8	3.4	24	1.3	.70	.14
20	1.6	4.9	3.5	6.5	5.4	5.0	24	3.0	5.0	1.2	.78	.12
21	3.9	3.6	3.1	4.8	4.6	6.7	19	2.7	4.9	1.5	.61	.12
22	2.9	2.4	11	3.9	4.8	7.3	10	2.7	6.2	1.4	.38	.12
23	1.8	2.2	11	3.6	4.8	10	9.2	2.5	3.0	1.4	.93	.10
24	1.7	2.1	5.6	3.8	4.5	6.1	11	2.5	2.4	1.6	1.7	.13
25	1.7	2.0	4.3	4.2	4.7	4.8	10	3.1	2.1	1.5	.78	.33
26	1.7	2.0	54	5.9	4.1	5.0	7.9	3.1	2.2	1.3	.60	.22
27	1.7	1.9	20	6.3	4.1	6.7	7.8	2.9	2.4	1.3	.60	.66
28	1.8	1.9	9.1	5.4	4.4	4.9	7.3	2.3	1.8	1.1	.44	.83
29	1.7	1.9	7.1	6.3	------	12	6.7	2.2	1.6	1.2	.34	.39
30	1.6	1.9	11	6.9	------	16	6.2	2.1	1.5	2.5	.30	.34
31	1.7	------	37	5.3	------	10	------	2.0	------	3.2	.41	------
TOTAL	62.8	70.5	267.0	193.6	178.1	179.7	379.5	119.4	133.2	62.3	22.77	8.89
MEAN	2.03	2.35	8.61	6.25	6.36	5.80	12.7	3.85	4.44	2.01	.73	.30
MAX	5.0	4.9	54	16	16	16	65	6.5	24	6.9	1.7	.83
MIN	1.3	1.7	1.7	3.6	4.1	3.6	5.1	2.0	1.5	1.1	.30	.10
CFSM	.53	.61	2.24	1.62	1.65	1.51	3.30	1.00	1.15	.52	.19	.078
IN.	.61	.68	2.58	1.87	1.72	1.74	3.67	1.15	1.29	.60	.22	.09

CAL YR 1969 TOTAL 1,291.05 MEAN 3.54 MAX 93 MIN .04 CFSM .92 IN 12.47
WAT YR 1970 TOTAL 1,677.76 MEAN 4.60 MAX 65 MIN .10 CFSM 1.19 IN 16.21

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-26	1415	2.55	98	4-15	0215	2.77	129

01483700 St. Jones River at Dover, Del.

LOCATION.--Lat 39°09'49", long 75°31'10", Kent County, on left bank 150 ft upstream from Division Street Bridge in Dover, 1,950 ft downstream from Silver Lake, and 12.5 miles upstream from mouth.

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.--12 years, 29.8 cfs (12.69 inches per year).

EXTREMES.--Current year: Maximum discharge, 440 cfs Apr. 15 (gage height, 4.95 ft); minimum, 0.96 cfs Sept. 8, 20, 21, 30.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	13	15	214	41	26	101	42	13	12	8.9	2.9
2	11	14	12	151	44	27	139	39	12	15	6.9	2.2
3	14	14	13	98	64	28	170	36	12	17	4.3	2.2
4	13	14	13	67	82	32	148	37	15	16	4.3	2.9
5	10	14	12	54	74	42	100	44	17	14	2.7	2.9
6	8.9	14	11	52	56	45	72	46	41	12	2.9	2.9
7	8.5	14	12	46	48	37	70	33	45	10	2.9	1.3
8	26	15	32	45	44	33	70	29	27	9.3	3.1	1.0
9	35	26	36	35	42	30	64	27	16	8.9	3.1	1.6
10	40	25	49	29	48	28	55	25	14	57	2.9	3.1
11	25	24	78	27	55	27	45	23	14	58	3.9	3.3
12	16	22	91	28	54	28	40	24	13	28	2.9	1.8
13	14	17	70	30	46	34	37	27	12	12	2.5	1.6
14	14	16	44	32	37	35	109	25	10	9.3	2.5	1.4
15	13	15	32	29	44	30	378	22	10	8.9	3.3	1.8
16	12	14	27	27	58	27	309	21	18	8.9	4.9	2.0
17	12	13	24	28	70	25	179	28	28	7.7	3.6	1.6
18	10	14	21	55	64	26	116	34	44	6.9	3.3	1.8
19	10	16	21	78	60	29	82	29	107	6.2	3.3	2.5
20	11	24	20	88	50	33	96	26	105	5.5	5.8	1.1
21	13	24	17	55	40	39	173	19	71	6.9	21	1.1
22	11	21	44	39	35	48	159	18	183	6.5	17	1.2
23	10	17	56	32	35	61	105	16	201	6.5	11	1.3
24	9.7	15	66	26	33	61	83	15	98	8.1	8.9	1.3
25	11	14	41	26	34	44	74	19	40	9.3	7.3	1.4
26	11	14	195	30	27	39	66	21	26	8.9	6.2	1.4
27	12	13	305	44	26	50	62	21	29	8.1	5.5	2.2
28	13	14	179	46	28	50	61	16	22	7.7	4.9	2.5
29	12	14	112	49	------	66	58	14	15	7.3	4.6	2.2
30	12	14	91	56	------	103	49	13	13	13	3.6	.96
31	12	------	162	50	------	120	------	13	------	12	4.3	------
TOTAL	437.6	498	1,901	1,666	1,339	1,303	3,270	802	1,271	416.9	172.3	57.46
MEAN	14.1	16.6	61.3	53.7	47.8	42.0	109	25.9	42.4	13.4	5.56	1.92
MAX	40	26	305	214	82	120	378	46	201	58	21	3.3
MIN	7.5	13	11	26	26	25	37	13	10	5.5	2.5	.96
CFSM	.44	.52	1.92	1.68	1.50	1.32	3.42	.81	1.33	.42	.17	.06
IN.	.51	.58	2.22	1.94	1.56	1.52	3.81	.94	1.48	.49	.20	.07

CAL YR 1969 TOTAL 9,741.30 MEAN 26.7 MAX 305 MIN 1.6 CFSM .84 IN 11.36
WTR YR 1970 TOTAL 13,134.26 MEAN 36.0 MAX 378 MIN .96 CFSM 1.13 IN 15.32

01484000 Murderkill River near Felton, Del.

LOCATION.--Lat 38°58'33", long 75°34'03", Kent County, 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, 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.--12 years (1931-33, 1960-70), 17.4 cfs (17.37 inches per year).

EXTREMES.--Current year: Maximum discharge, 388 cfs July 10 (gage height, 5.76 ft); minimum, 1.8 cfs Sept. 26 (gage height, 2.32 ft).
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	9.5	9.0	121	21	16	67	24	9.3	8.3	11	3.9
2	8.6	10	8.9	68	25	17	79	22	8.6	51	8.2	3.9
3	9.6	13	8.9	49	61	18	85	22	8.2	20	7.4	4.1
4	7.3	11	8.6	40	68	20	42	25	9.6	39	13	4.2
5	6.7	11	7.8	32	32	28	34	29	9.3	35	8.1	3.4
6	7.1	15	6.8	31	30	22	30	26	30	19	7.3	3.0
7	7.2	13	8.3	33	29	19	43	22	15	13	6.7	2.9
8	19	12	30	30	27	18	34	21	10	11	6.0	3.5
9	16	16	18	29	26	17	28	19	8.9	9.7	5.5	3.9
10	10	14	28	23	30	16	25	18	8.6	250	6.1	3.9
11	9.5	12	90	21	34	16	21	16	8.2	219	6.0	4.0
12	9.4	13	38	23	28	17	20	16	7.5	64	5.5	3.2
13	9.8	13	24	23	24	23	19	15	6.4	26	5.3	2.9
14	10	12	21	21	21	19	80	17	5.8	20	5.2	3.4
15	9.2	10	20	19	30	16	232	16	6.4	18	4.8	3.5
16	9.1	8.8	18	18	53	15	129	14	7.8	16	4.4	3.4
17	9.0	9.2	17	20	47	14	68	21	8.2	13	4.9	3.4
18	7.6	9.9	16	70	46	16	45	21	14	11	4.9	3.5
19	7.2	12	16	79	37	20	33	16	77	10	4.9	3.1
20	8.1	23	15	38	29	20	60	14	15	10	5.4	2.8
21	11	15	14	28	23	27	64	12	110	11	12	3.3
22	9.7	12	50	28	23	26	37	12	147	10	4.8	3.4
23	9.6	11	53	21	22	35	31	11	30	10	4.6	3.2
24	10	11	29	19	21	24	32	16	18	11	5.2	3.1
25	9.9	10	22	19	21	20	32	22	14	9.8	4.9	3.1
26	9.6	10	237	27	19	20	27	20	20	16	4.6	2.7
27	10	9.0	183	27	18	30	42	16	18	22	4.5	3.7
28	10	9.3	81	24	18	21	36	12	12	11	4.2	5.1
29	10	8.6	49	27	------	51	29	10	9.9	9.2	3.5	4.2
30	9.8	8.3	62	32	------	83	26	10	9.1	13	3.3	3.7
31	10	------	189	23	------	75	------	9.6	------	20	3.9	------
TOTAL	297.5	351.6	1,378.3	1,063	863	779	1,530	544.6	661.8	1,006.0	186.1	105.4
MEAN	9.60	11.7	44.5	34.3	30.8	25.1	51.0	17.6	22.1	32.5	6.00	3.51
MAX	19	23	237	121	68	83	232	29	147	250	13	5.1
MIN	6.7	8.3	6.8	18	18	14	19	9.6	5.8	8.3	3.3	2.7
CFSM	.71	.86	3.27	2.52	2.26	1.85	3.75	1.29	1.63	2.39	.44	.26
IN.	.81	.96	3.77	2.91	2.36	2.13	4.19	1.49	1.81	2.75	.51	.29

CAL YR 1969 TOTAL 7,679.1 MEAN 21.0 MAX 281 MIN 2.9 CFSM 1.54 IN 21.00
WAT YR 1970 TOTAL 8,766.3 MEAN 24.0 MAX 250 MIN 2.7 CFSM 1.76 IN 23.98

PEAK DISCHARGE (BASE, 130 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-26	1400	5.63	358	6-21	2200	5.42	300
12-31	1215	5.07	219	7-10	1200	5.76	388
4-15	0215	5.35	282				

01484100 Beaverdam Branch at Houston, Del.

LOCATION.--Lat 38°54'20", long 75°30'49", Kent County, on left bank 15 ft upstream from bridge on State Highway 384, 0.8 mile south of Houston, 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.--12 years, 3.49 cfs (16.75 inches per year).

EXTREMES.--Current year: Maximum discharge, 59 cfs July 10 (gage height, 3.86 ft); minimum daily, 1.2 cfs Sept. 25, 26.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	2.5	2.7	12	5.3	4.9	8.1	5.0	2.8	3.2	3.4	1.7
2	3.3	2.6	2.5	9.3	6.0	4.9	11	4.8	2.8	4.9	3.0	1.7
3	3.4	2.6	2.6	8.6	12	4.9	9.0	4.6	2.4	3.8	2.9	1.7
4	3.1	2.5	2.7	7.8	8.1	5.2	7.0	5.3	2.4	6.0	3.0	1.7
5	3.0	2.5	2.9	8.5	6.4	6.1	6.6	5.8	2.4	18	2.8	1.7
6	3.0	2.6	2.7	7.9	6.4	5.2	6.4	5.2	5.7	5.3	2.9	1.6
7	3.0	2.5	2.9	7.5	6.2	5.1	7.3	4.7	3.3	4.0	2.7	1.6
8	4.1	2.5	3.9	6.8	6.1	5.0	6.5	4.5	2.9	3.6	2.6	1.6
9	3.8	2.7	2.8	6.4	5.9	4.9	6.3	4.3	2.8	3.4	2.5	1.6
10	3.2	2.6	5.2	6.1	6.5	4.7	6.0	4.1	2.8	36	2.5	1.6
11	3.1	2.5	11	6.0	6.6	4.6	5.7	3.9	2.7	15	2.5	1.6
12	3.0	2.5	4.4	6.2	5.9	5.0	5.6	3.9	2.1	6.4	2.4	1.5
13	3.0	2.5	3.8	5.9	5.5	5.2	5.4	3.8	1.9	4.9	2.4	1.5
14	3.0	2.5	3.8	5.7	5.3	4.9	17	4.0	1.9	4.4	2.4	1.5
15	2.8	2.4	3.7	5.4	6.8	4.6	25	3.8	2.0	4.2	2.4	1.5
16	2.9	2.4	3.5	5.3	8.0	4.5	12	3.8	2.3	4.0	2.3	1.4
17	2.8	2.4	3.4	5.5	8.7	4.4	8.8	4.0	2.6	3.7	2.2	1.4
18	2.7	2.4	3.4	12	7.9	4.7	7.8	3.8	3.8	3.5	2.2	1.4
19	2.7	2.5	3.5	9.5	7.0	4.8	7.1	3.5	5.5	3.4	2.1	1.4
20	2.7	3.1	3.3	8.0	6.2	4.8	10	3.4	2.9	3.3	2.1	1.4
21	2.9	2.6	3.3	6.5	5.9	5.0	7.9	3.3	14	3.6	2.2	1.4
22	2.8	3.0	7.6	5.9	5.9	5.2	6.4	3.3	17	3.4	2.1	1.4
23	2.7	2.8	5.1	5.6	5.7	5.3	5.9	3.1	5.0	3.3	2.1	1.3
24	2.7	2.9	4.2	5.4	5.6	4.9	6.2	3.3	3.8	3.4	2.1	1.3
25	2.7	2.6	4.1	5.5	5.6	4.6	6.1	3.7	3.5	3.2	2.0	1.2
26	2.7	2.6	36	6.2	5.1	4.9	5.5	3.5	7.1	3.1	1.9	1.2
27	2.7	2.7	14	6.0	5.1	6.1	7.5	3.2	6.0	3.2	1.9	1.3
28	2.5	2.6	8.2	5.6	5.0	5.0	6.4	3.0	4.0	3.0	1.9	1.4
29	2.5	2.6	8.0	5.9	------	12	5.6	2.9	3.5	2.9	1.8	1.3
30	2.5	2.8	11	6.1	------	8.3	5.2	2.8	3.3	3.5	1.8	1.3
31	2.5	------	26	5.4	------	11	------	2.8	------	4.2	1.8	------
TOTAL	91.1	78.0	202.2	214.5	180.7	170.7	241.3	121.1	125.2	177.8	72.9	44.2
MEAN	2.94	2.60	6.52	6.92	6.45	5.51	8.04	3.91	4.17	5.74	2.35	1.47
MAX	4.1	3.1	36	12	12	12	25	5.8	17	36	3.4	1.7
MIN	2.5	2.4	2.5	5.3	5.0	4.4	5.2	2.8	1.9	2.9	1.8	1.2
CFSM	1.04	.92	2.30	2.45	2.28	1.95	2.84	1.38	1.47	2.03	.83	.52
IN.	1.20	1.03	2.66	2.82	2.38	2.24	3.17	1.59	1.65	2.34	.96	.58

CAL YR 1969 TOTAL 1,182.0 MEAN 3.24 MAX 46 MIN .84 CFSM 1.14 IN 15.54
WAT YR 1970 TOTAL 1,719.7 MEAN 4.71 MAX 36 MIN 1.2 CFSM 1.66 IN 22.61

PEAK DISCHARGE (BASE, 30 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-26	1345	3.80	56	6-21	2100	3.46	39
12-31	0845	3.27	32	7-05	0315	3.31	33
4-14	2315	3.54	45	7-10	1215	3.86	59

01484300 Sowbridge Branch near Milton, Del.

LOCATION.--Lat 38°48'51", long 75°19'39", Sussex County, on left bank at downstream side of highway bridge, 1 mile downstream from Reynolds Pond, 2.5 miles north of Milton, 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.--14 years, 9.55 cfs (18.32 inches per year).

EXTREMES.--Current year: Maximum discharge, 46 cfs Dec. 27 (gage height, 5.46 ft); minimum, 3.4 cfs Sept. 29, 30 (gage height, 4.69 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	5.2	5.1	29	14	12	17	14	8.7	11	6.6	4.0
2	6.4	5.2	4.7	12	12	12	24	7.0	8.6	12	5.6	3.9
3	7.3	6.0	4.6	11	10	12	28	7.3	8.5	12	3.8	4.5
4	6.2	6.1	4.6	10	17	13	17	9.9	7.7	12	5.0	4.6
5	6.1	5.7	4.6	9.3	16	13	7.2	12	6.2	11	5.2	4.1
6	6.1	5.2	4.6	8.8	15	13	11	11	9.7	11	5.2	4.2
7	6.0	5.1	5.0	10	14	12	17	11	10	10	5.2	4.1
8	7.0	5.2	8.9	9.3	14	12	17	11	9.7	10	5.2	4.0
9	7.8	6.3	10	8.8	14	12	16	11	9.0	10	5.2	4.2
10	7.2	6.5	17	8.8	14	11	16	11	8.5	11	5.2	4.3
11	7.3	6.3	18	8.3	13	11	16	10	8.2	11	5.5	4.5
12	7.0	6.1	17	8.3	13	11	15	10	7.6	10	6.1	4.3
13	7.4	5.9	12	8.3	13	12	14	10	5.2	9.6	5.4	4.3
14	7.6	5.8	5.0	7.8	12	12	18	9.7	5.2	9.0	5.2	4.4
15	6.3	5.6	4.4	7.8	14	11	24	9.9	5.5	9.4	5.4	4.5
16	6.1	5.3	5.1	7.4	14	11	26	10	6.4	9.2	5.8	4.4
17	6.0	5.2	5.6	7.4	15	11	18	11	7.6	7.0	6.3	4.0
18	5.5	5.2	6.2	18	15	11	15	11	8.2	7.0	6.4	4.2
19	5.5	5.4	6.6	24	15	11	11	10	14	6.9	6.1	4.1
20	5.5	6.5	6.0	10	15	11	14	10	17	7.2	6.1	4.1
21	5.3	6.2	5.7	10	14	12	16	9.7	18	7.2	6.1	4.3
22	5.1	6.0	9.1	9.3	14	12	21	9.5	14	7.7	5.7	4.3
23	4.7	5.8	11	9.3	14	12	19	9.1	16	8.2	5.5	4.3
24	4.6	5.6	16	8.8	13	11	17	10	13	8.5	5.3	4.4
25	4.6	5.4	12	10	13	11	16	12	12	8.6	5.3	4.5
26	4.8	5.2	20	13	13	11	15	12	17	8.8	5.4	4.2
27	5.1	5.2	27	13	13	12	15	11	26	8.3	5.4	4.1
28	5.2	5.5	29	13	13	12	15	9.8	23	6.5	4.9	4.0
29	5.2	5.5	18	14	------	15	15	9.6	12	6.1	4.5	3.7
30	5.2	5.2	8.2	17	------	16	14	9.2	12	5.6	3.9	3.7
31	5.2	------	16	15	------	17	------	8.9	------	6.0	3.9	------
TOTAL	185.7	169.4	327.0	356.7	386	375	504.2	317.6	334.5	277.8	166.4	126.2
MEAN	5.99	5.65	10.5	11.5	13.8	12.1	16.8	10.2	11.2	8.96	5.37	4.21
MAX	7.8	6.5	29	29	17	17	28	14	26	12	6.6	4.6
MIN	4.6	5.1	4.4	7.4	10	11	7.2	7.0	5.2	5.6	3.8	3.7
CFSM	.85	.80	1.48	1.62	1.95	1.71	2.37	1.44	1.58	1.27	.76	.59
IN.	.98	.89	1.72	1.87	2.03	1.97	2.65	1.67	1.76	1.46	.87	.66

CAL YR 1969 TOTAL 2,909.8 MEAN 7.97 MAX 29 MIN 3.1 CFSM 1.13 IN 15.29
WAT YR 1970 TOTAL 3,526.5 MEAN 9.66 MAX 29 MIN 3.7 CFSM 1.36 IN 18.53

01484500 Stockley Branch at Stockley, Del.

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

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.--27 years, 6.89 cfs (17.86 inches per year).

EXTREMES.--Current year: Maximum discharge, 96 cfs Dec. 26 (gage height, 3.55 ft); minimum, 1.6 cfs Sept. 16, 17, 18, 21, 29, 30.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	2.9	3.0	32	11	8.1	18	9.2	5.8	6.0	3.4	2.3
2	4.2	3.4	2.8	25	12	8.2	25	8.9	5.2	7.1	3.3	2.4
3	4.8	4.1	2.9	21	21	8.1	22	8.9	5.0	6.5	3.0	2.1
4	4.1	3.1	2.8	18	19	8.1	16	10	4.8	6.2	3.6	2.1
5	3.9	3.0	2.8	16	14	9.0	12	11	4.8	6.0	2.9	2.0
6	3.8	3.0	2.7	15	13	8.0	10	10	7.9	5.2	2.7	2.0
7	3.9	3.0	2.8	15	13	8.1	11	9.2	5.5	4.8	2.6	2.0
8	4.1	3.0	5.6	13	12	8.2	12	8.8	4.9	4.6	2.6	1.9
9	4.1	3.6	3.5	12	12	7.9	11	8.4	4.5	4.4	2.5	1.9
10	3.8	3.5	7.7	11	12	7.7	10	8.1	4.4	4.7	2.5	1.9
11	3.8	3.2	21	11	12	7.7	9.4	7.8	4.1	4.7	2.5	1.9
12	3.8	3.4	8.3	11	11	8.0	9.0	7.7	3.9	4.3	2.4	1.8
13	3.8	4.0	7.6	11	9.7	8.4	9.0	7.5	3.6	3.7	2.3	1.8
14	3.8	3.4	7.6	10	9.8	8.1	15	7.2	3.5	3.6	2.2	1.8
15	3.6	3.2	7.2	9.7	11	7.2	22	7.0	3.5	3.6	2.2	2.1
16	3.5	3.0	6.7	9.5	12	6.8	18	7.0	3.8	3.5	2.2	1.7
17	3.4	2.9	6.4	9.8	17	6.7	15	7.3	4.9	3.2	2.1	1.7
18	3.3	2.9	6.3	27	17	7.3	13	7.2	5.4	3.1	2.1	1.8
19	3.3	3.2	6.2	25	15	7.9	12	6.8	7.6	2.9	2.1	1.9
20	3.3	4.5	6.0	18	12	7.7	11	6.5	4.9	3.2	2.1	1.8
21	3.2	3.3	5.8	15	11	8.9	11	6.2	7.6	3.2	2.3	1.7
22	3.1	3.0	13	13	11	9.0	12	6.2	7.5	3.2	2.1	1.8
23	3.0	3.0	9.0	12	9.9	9.1	11	5.9	5.6	3.4	7.3	1.8
24	3.0	3.0	8.0	11	9.9	8.6	11	6.1	4.9	3.5	5.5	1.8
25	3.2	3.0	7.6	10	9.8	8.1	11	17	7.5	3.0	2.6	1.8
26	3.3	3.0	68	12	8.7	8.2	10	9.0	16	3.0	2.3	1.7
27	3.2	3.0	33	12	8.2	9.7	10	8.2	12	2.9	2.3	1.9
28	3.1	3.0	23	11	8.0	8.7	10	7.2	8.4	2.8	2.2	1.8
29	2.9	3.0	19	12	------	25	10	6.5	7.3	7.1	2.1	1.7
30	3.0	3.0	29	13	------	19	9.4	6.2	6.4	7.6	2.0	1.7
31	3.0	------	50	11	------	21	------	5.9	------	4.1	2.0	------
TOTAL	110.5	96.6	385.3	452.0	342.0	292.5	385.8	248.9	181.2	135.1	84.0	56.6
MEAN	3.56	3.22	12.4	14.6	12.2	9.44	12.9	8.03	6.04	4.36	2.71	1.89
MAX	4.8	4.5	68	32	21	25	25	17	16	7.6	7.3	2.4
MIN	2.9	2.9	2.7	9.5	8.0	6.7	9.0	5.9	3.5	2.8	2.0	1.7
CFSM	.68	.61	2.37	2.79	2.33	1.80	2.46	1.53	1.15	.83	.52	.36
IN.	.78	.69	2.74	3.21	2.43	2.08	2.74	1.77	1.29	.96	.60	.40

CAL YR 1969 TOTAL 2,237.4 MEAN 6.13 MAX 68 MIN 1.1 CFSM 1.17 IN 15.88
WAT YR 1970 TOTAL 2,770.5 MEAN 7.59 MAX 68 MIN 1.7 CFSM 1.45 IN 19.67

PEAK DISCHARGE (BASE, 45 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-26	1115	3.55	96	3-29	1515	3.00	53
12-31	0900	3.09	58				

01485000 Pocomoke River near Willards, Md.

LOCATION.--Lat 38°23'20", long 75°19'30", Worcester County, on left bank 30 ft downstream from bridge on State Highway 346, 0.6 mile upstream from Burnt Mill Branch, 1.3 miles east of Willards, 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.--20 years, (1950-70), 65.8 cfs (14.77 inches per year).

EXTREMES.--Current year: Maximum discharge, 492 cfs July 11 (gage height, 10.52 ft); minimum, 5.2 cfs Sept. 27. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	14	20	360	102	58	320	76	24	42	42	16
2	16	15	19	283	106	56	304	67	23	44	36	15
3	21	19	19	220	319	55	310	60	22	49	32	14
4	19	17	18	179	437	58	233	64	21	43	32	14
5	18	16	17	144	352	70	184	159	21	50	29	14
6	17	16	16	128	273	70	154	140	20	46	27	12
7	17	17	16	133	228	63	165	102	20	39	25	12
8	16	17	23	124	192	59	161	80	18	34	25	11
9	17	16	27	106	168	55	137	67	17	31	23	11
10	16	17	33	90	160	52	122	58	17	163	22	11
11	16	17	202	80	157	49	102	50	16	481	22	11
12	16	18	154	78	138	49	87	46	15	432	21	10
13	15	20	112	74	119	65	77	43	15	296	19	9.7
14	16	21	96	66	104	65	137	40	14	175	18	9.4
15	15	21	102	60	116	58	339	38	13	108	18	9.1
16	15	19	82	55	147	53	310	37	14	74	17	8.8
17	14	18	67	55	188	49	241	37	15	56	17	8.8
18	14	17	60	243	229	48	190	39	16	45	16	10
19	14	18	57	345	187	58	154	36	53	37	15	11
20	14	27	52	253	153	60	139	35	34	35	14	8.0
21	14	30	48	176	125	77	140	33	26	40	33	7.2
22	14	28	104	136	109	78	117	31	94	51	30	6.6
23	14	26	157	120	97	88	96	30	46	74	25	6.4
24	13	25	120	102	86	77	91	29	34	76	42	6.1
25	14	23	98	91	80	66	105	30	53	66	33	5.9
26	14	22	370	124	72	60	89	31	230	57	27	5.6
27	15	21	441	144	66	71	111	32	169	50	23	5.9
28	14	21	360	124	62	69	132	30	98	44	21	7.2
29	14	20	265	117	------	222	114	27	62	39	19	6.1
30	13	20	247	136	------	420	90	26	49	49	18	5.9
31	14	------	391	121	------	367	------	25	------	48	17	------
TOTAL	475	596	3,793	4,467	4,572	2,745	4,951	1,598	1,269	2,874	758	288.7
MEAN	15.3	19.9	122	144	163	88.5	165	51.5	42.3	92.7	24.5	9.62
MAX	21	30	441	360	437	420	339	159	230	481	42	16
MIN	13	14	16	55	62	48	77	25	13	31	14	5.6
CFSM	.25	.33	2.02	2.38	2.69	1.46	2.73	.85	.70	1.53	.41	.16
IN.	.29	.37	2.33	2.75	2.81	1.69	3.04	.98	.78	1.77	.47	.18

CAL YR 1969 TOTAL 25,846.7 MEAN 70.8 MAX 536 MIN 9.7 CFSM 1.17 IN 15.89
WTR YR 1970 TOTAL 28,386.7 MEAN 77.8 MAX 481 MIN 5.6 CFSM 1.29 IN 17.45

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

01485500 Nassawango Creek near Snow Hill, Md.

LOCATION.--Lat 38°13'44", long 75°28'19", Worcester County, 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, 5.5 miles northwest of Snow Hill, and 7.3 miles upstream from mouth.

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.--20 years (1950-70), 49.6 cfs (15.00 inches per year).

EXTREMES.--Current year: Maximum discharge, 437 cfs Dec. 27 (gage height, 6.43 ft); minimum, 1.9 cfs Sept. 16, 17, 18, 27.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	6.8	12	262	91	39	259	54	14	6.6	29	6.7
2	7.5	7.8	12	251	83	37	232	47	12	8.2	30	5.2
3	18	13	11	193	148	37	232	40	11	10	24	4.2
4	17	12	11	146	327	39	222	43	9.7	8.9	17	3.8
5	14	12	11	107	356	45	173	68	8.8	16	13	3.5
6	12	10	11	94	266	48	121	85	8.8	16	11	3.1
7	11	9.5	11	78	201	48	103	96	18	12	10	2.8
8	9.9	9.5	24	74	161	46	96	79	12	8.8	12	2.5
9	9.9	9.9	23	72	135	44	91	59	9.5	6.9	12	2.4
10	9.0	10	35	59	119	41	86	45	8.0	33	9.7	2.3
11	8.6	11	86	48	112	39	72	36	7.4	195	9.7	2.3
12	8.2	12	103	41	103	41	61	31	6.9	268	7.9	2.3
13	8.2	15	119	40	93	52	53	27	5.9	202	6.7	2.3
14	8.2	15	105	40	82	53	66	24	5.2	112	5.9	2.2
15	8.2	14	88	40	78	53	146	22	4.9	69	5.3	2.1
16	7.8	13	70	39	80	51	234	20	4.9	53	4.9	2.0
17	7.4	12	60	39	99	46	227	21	5.5	42	4.6	2.0
18	7.4	12	53	93	142	46	170	28	11	32	4.3	2.3
19	7.1	12	47	192	162	55	122	25	16	25	4.0	2.7
20	6.8	18	41	267	146	57	97	23	12	19	3.9	3.2
21	6.8	16	34	226	110	68	92	20	12	23	6.2	2.9
22	6.4	16	57	151	87	74	82	18	19	28	9.1	3.0
23	6.4	15	84	100	73	81	71	16	17	32	9.2	3.0
24	6.4	15	105	77	62	76	65	17	18	40	14	2.7
25	6.4	15	115	68	56	67	64	25	14	36	26	2.4
26	6.8	14	216	80	51	59	58	29	13	33	49	2.1
27	7.1	13	387	96	46	62	65	31	15	32	44	2.2
28	7.1	13	397	103	43	58	69	27	13	29	27	2.8
29	7.1	12	282	106	------	74	67	22	10	28	17	2.8
30	6.8	12	210	114	------	180	61	19	7.9	26	11	2.6
31	6.8	------	218	102	------	284	------	16	------	23	8.4	------
TOTAL	267.9	375.5	3,038	3,398	3,512	2,000	3,557	1,113	330.4	1,473.4	445.8	86.4
MEAN	8.64	12.5	98.0	110	125	64.5	119	35.9	11.0	47.5	14.4	2.88
MAX	18	18	397	267	356	284	259	96	19	268	49	6.7
MIN	6.4	6.8	11	39	43	37	53	16	4.9	6.6	3.9	2.0
CFSM	.19	.28	2.18	2.45	2.78	1.44	2.65	.80	.25	1.06	.32	.064
IN.	.22	.31	2.52	2.82	2.91	1.66	2.95	.92	.27	1.22	.37	.07

CAL YR 1969 TOTAL 17,178.4 MEAN 47.1 MAX 455 MIN 2.4 CFSM 1.05 IN 14.23
WAT YR 1970 TOTAL 19,597.4 MEAN 53.7 MAX 397 MIN 2.0 CFSM 1.20 IN 16.24

PEAK DISCHARGE (BASE, 280 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-27	2230	6.43	437	2- 5	0100	6.19	381
1-20	1700	5.65	292	3-31	1300	5.67	295

01486000 Manokin Branch near Princess Anne, Md.

LOCATION.--Lat 38°12'50", long 75°40'18", Somerset County, on right bank 5 ft downstream from farm bridge, 1.4 miles northeast of Princess Anne, 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.--19 years, 4.11 cfs (9.62 inches per year).

EXTREMES.--Current year: Maximum discharge, 311 cfs Apr. 14 (gage height, 3.62 ft), from rating curve extended as explained below; minimum daily, 0.39 cfs Sept. 6-18, 21-26, 29, 30.
Period of record: Maximum discharge, 547 cfs Aug. 20, 1969 (gage height, 5.44 ft), from rating curve extended above 27 cfs based on channel-conveyance study; no flow at times in 1954, 1963, 1964, 1966.

REMARKS.--Records poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	1.2	1.2	17	7.0	2.4	18	6.0	1.8	2.0	1.6	.51
2	1.6	1.6	1.2	15	23	2.4	29	6.0	1.6	8.7	1.6	.51
3	2.1	2.5	1.1	10	69	3.5	20	6.0	1.6	2.5	1.4	.51
4	2.1	2.5	1.1	10	30	4.0	15	7.7	1.6	2.0	1.4	.51
5	2.1	2.3	1.1	8.8	18	6.4	13	13	1.6	2.8	1.4	.51
6	2.1	2.1	1.1	7.6	18	5.2	10	8.7	1.6	2.2	1.2	.39
7	2.1	2.1	1.1	9.4	16	4.0	14	6.6	2.0	2.0	1.2	.39
8	2.1	1.9	2.5	9.4	14	3.5	12	4.6	1.6	2.0	1.2	.39
9	2.5	1.8	2.1	7.6	12	3.0	10	4.6	1.2	2.0	.96	.39
10	2.3	1.6	5.4	7.0	10	2.4	8.8	4.3	1.2	26	.96	.39
11	2.1	1.4	18	5.8	12	1.9	8.2	4.0	1.6	13	.96	.39
12	2.1	1.3	8.1	4.6	10	2.4	8.2	3.8	1.4	4.9	.80	.39
13	1.9	2.1	7.4	3.5	8.8	7.6	7.6	3.5	1.4	2.5	.64	.39
14	1.8	1.9	6.8	3.5	8.2	4.6	105	2.5	1.4	2.0	.51	.39
15	1.8	1.6	8.1	3.5	10	4.6	58	1.8	1.4	2.8	.51	.39
16	1.6	1.4	8.1	3.5	9.4	4.0	28	1.6	1.4	2.0	.51	.39
17	1.6	1.2	5.7	2.4	20	3.5	18	6.0	1.8	2.0	.51	.39
18	1.6	1.2	5.7	27	17	5.2	12	3.5	9.4	2.0	.51	.39
19	1.4	1.2	5.4	21	13	7.6	10	3.0	6.6	1.8	.51	.64
20	1.4	2.0	5.1	19	10	7.0	10	2.5	3.2	1.6	.51	.51
21	1.4	2.1	5.1	17	9.4	9.4	9.4	2.0	3.2	1.6	.51	.39
22	1.4	1.9	18	13	9.4	9.4	7.7	1.6	3.0	1.6	.80	.39
23	1.4	1.6	10	12	7.6	8.8	7.3	1.6	2.2	3.0	2.0	.39
24	1.4	1.6	9.2	8.8	7.0	7.6	7.7	1.4	2.0	2.0	1.2	.39
25	1.3	1.4	8.1	8.8	7.0	5.8	7.7	6.0	2.0	1.6	.80	.39
26	1.3	1.4	90	11	4.6	5.8	7.3	4.6	2.0	1.6	.80	.39
27	1.3	1.3	31	11	3.0	7.0	9.4	4.3	2.0	1.6	.64	.96
28	1.3	1.3	18	9.4	2.4	4.6	8.4	3.2	2.0	1.6	.64	.51
29	1.2	1.3	14	8.2	------	31	6.6	2.5	2.0	1.6	.64	.39
30	1.2	1.2	20	12	------	23	6.0	2.0	2.0	1.6	.64	.39
31	1.2	------	29	8.2	------	23	------	2.0	------	1.6	.51	------
TOTAL	52.3	50.0	348.7	315.0	385.8	220.6	492.3	130.9	67.8	106.2	28.07	13.36
MEAN	1.69	1.67	11.2	10.2	13.8	7.12	16.4	4.22	2.26	3.43	.91	.45
MAX	2.5	2.5	90	27	69	31	105	13	9.4	26	2.0	.96
MIN	1.2	1.2	1.1	2.4	2.4	1.9	6.0	1.4	1.2	1.6	.51	.39
CFSM	.29	.29	1.93	1.76	2.38	1.23	2.83	.73	.39	.59	.16	.08
IN.	.34	.32	2.24	2.02	2.47	1.41	3.16	.84	.43	.68	.18	.09

CAL YR 1969 TOTAL 2,397.48 MEAN 6.57 MAX 251 MIN .48 CFSM 1.13 IN 15.38
WTR YR 1970 TOTAL 2,211.03 MEAN 6.06 MAX 105 MIN .39 CFSM 1.04 IN 14.18

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-26	0445	2.76	199	3-29	1345	1.50	63
1-18	1400	1.46	60	4-14	1430	3.62	311
2- 3	1145	2.19	131	7-10	1730	1.72	70

01486500 Beaverdam Creek near Salisbury, Md.

LOCATION.--Lat 38°21'05", long 75°34'11", Wicomico County, on upstream side of Schumaker Dam between spillway and emergency floodgate, 0.6 mile (revised) upstream from Beaglin Branch, 2 miles southeast of Salisbury, and 0.8 mile upstream from mouth.

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 bench mark). Prior to Sept. 28, 1938, at site on left bank at datum 9.02 ft higher.

AVERAGE DISCHARGE.--35 years (1929-32, 1938-70), 23.2 cfs (16.16 inches per year).

EXTREMES.--Current year: Maximum discharge, 366 cfs Dec. 26 (gage height, 11.41 ft); minimum daily, 0.80 cfs Mar. 21 (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 1970 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	10	10	91	32	27	81	31	14	10	14	9.6
2	14	11	10	66	35	27	74	28	13	15	13	9.2
3	23	13	10	50	70	27	75	27	12	14	13	9.2
4	16	11	10	42	161	30	57	36	12	13	15	9.2
5	14	11	10	36	121	32	48	56	12	19	12	8.8
6	13	11	10	34	80	30	41	46	12	14	10	8.4
7	12	11	11	35	60	29	44	44	12	12	10	8.0
8	12	11	21	32	56	28	42	32	12	11	10	8.0
9	12	11	15	28	52	26	40	26	12	10	9.6	8.0
10	12	12	22	26	52	26	36	29	11	21	9.2	8.0
11	12	11	72	25	51	26	32	26	11	46	9.6	8.8
12	12	12	52	25	46	27	31	20	10	32	9.2	8.0
13	12	14	41	25	41	28	29	19	9.6	20	9.6	7.7
14	12	12	32	24	36	26	60	16	9.6	15	9.2	7.4
15	11	11	28	24	39	26	140	22	9.2	20	8.4	7.0
16	11	10	24	23	40	25	103	27	10	15	7.7	7.4
17	11	10	21	23	57	24	61	25	12	12	7.7	7.7
18	11	10	19	55	74	26	56	25	18	11	7.7	10
19	11	10	17	101	69	26	44	23	24	10	7.0	21
20	11	16	15	79	48	17	42	17	14	10	6.4	12
21	11	12	14	50	42	.80	40	10	12	37	32	10
22	10	12	31	35	38	1.2	36	20	32	35	21	9.2
23	10	10	39	35	35	24	35	14	20	23	28	8.8
24	10	10	40	31	34	28	35	20	14	21	72	8.4
25	10	10	34	29	34	22	35	32	12	15	28	8.0
26	11	10	138	29	32	21	34	26	20	24	20	8.0
27	11	10	216	35	30	28	36	23	20	20	16	8.8
28	11	10	125	31	29	26	36	18	16	14	13	10
29	10	10	40	33	------	57	36	16	14	12	12	8.8
30	10	11	39	76	------	132	34	15	11	13	11	8.4
31	10	------	66	79	------	108	------	14	------	13	10	------
TOTAL	369	333	1,232	1,307	1,494	981.00	1,493	783	420.4	557	461.3	271.8
MEAN	11.9	11.1	39.7	42.2	53.4	31.6	49.8	25.3	14.0	18.0	14.9	9.06
MAX	23	16	216	101	161	132	140	56	32	46	72	21
MIN	10	10	10	23	29	.80	29	10	9.2	10	6.4	7.0
CFSM	.61	.57	2.04	2.16	2.74	1.62	2.55	1.30	.72	.92	.76	.46
IN.	.70	.64	2.35	2.49	2.85	1.87	2.85	1.49	.80	1.06	.88	.52

CAL YR 1969 TOTAL 8,661.90 MEAN 23.7 MAX 216 MIN .80 CFSM 1.22 IN 16.52
WTR YR 1970 TOTAL 9,702.50 MEAN 26.6 MAX 216 MIN .80 CFSM 1.36 IN 18.51

01487000 Nanticoke River near Bridgeville, Del.

LOCATION (revised).--Lat 38°43'45", long 75°33'41", Sussex County, on left bank 300 ft below highway bridge, 1,100 ft downstream from Gum Branch, 2.5 miles southeast of Bridgeville, and 50.5 miles upstream from mouth.

DRAINAGE AREA.--75.4 sq mi.

PERIOD OF RECORD.--April 1943 to current year. Prior to October 1955, published as Gravelly Fork near Bridgeville.

GAGE.--Water-stage recorder. Datum of gage is 13.64 ft above mean sea level (levels by Soil Conservation Service). Prior to Apr. 19, 1947 nonrecording gage, and Apr. 20, 1947 to Dec. 18, 1969 recording gage at site 300 ft upstream at same datum. Timber control Sept. 3, 1947 to Dec. 18, 1969.

AVERAGE DISCHARGE.--27 years, 90.6 cfs (16.32 inches per year).

EXTREMES.--Current year: Maximum discharge, probably occurred Dec. 26 (gage height and discharge not determined; minimum, 28 cfs Sept. 30.
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 except those for period Dec. 18 to Feb 18, which are poor. Records of chemical analyses for the water year 1970 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	58	45	400	130	117	207	146	88	90	64	37
2	65	58	43	300	150	117	212	142	85	105	60	36
3	69	58	43	250	300	116	238	138	82	100	57	37
4	66	54	43	230	210	119	190	141	81	96	61	39
5	62	54	42	210	170	130	171	153	79	165	56	38
6	62	55	41	190	160	125	159	146	238	123	55	38
7	62	54	42	180	150	119	167	138	183	102	53	37
8	69	55	60	160	140	117	160	133	127	92	52	36
9	74	58	54	150	140	114	153	129	110	86	52	36
10	67	55	71	140	150	111	148	124	102	155	51	37
11	65	52	226	130	160	108	141	120	99	144	52	38
12	64	54	149	140	150	109	136	116	92	109	50	37
13	62	54	109	130	140	120	132	112	86	95	47	35
14	64	54	101	125	130	115	212	127	81	87	46	35
15	63	53	97	120	160	109	397	121	79	83	55	35
16	62	52	88	120	200	105	296	113	81	81	49	34
17	62	51	79	120	210	102	232	113	85	77	47	33
18	62	52	77	330	200	103	205	114	84	73	45	32
19	60	53	76	310	177	108	187	106	136	70	43	33
20	60	62	74	250	158	106	198	102	98	69	43	32
21	62	55	72	170	146	112	206	97	89	70	54	32
22	62	52	170	150	142	110	183	95	164	68	45	32
23	60	50	130	140	140	116	171	94	124	67	47	32
24	60	50	110	130	135	111	167	111	100	73	50	32
25	61	48	100	120	134	106	165	144	93	69	44	32
26	60	48	800	150	128	106	155	127	120	69	42	32
27	60	47	700	150	124	128	175	116	143	86	42	32
28	59	47	350	130	122	119	181	103	114	69	42	32
29	58	46	250	140	------	181	164	96	100	64	42	31
30	58	45	300	160	------	226	152	92	93	66	40	29
31	58	------	600	150	------	212	------	90	------	69	40	------
TOTAL	1,942	1,584	5,142	5,575	4,456	3,797	5,660	3,699	3,236	2,772	1,526	1,031
MEAN	62.6	52.8	166	180	159	122	189	119	108	89.4	49.2	34.4
MAX	74	62	800	400	300	226	397	153	238	165	64	39
MIN	58	45	41	120	122	102	132	90	79	64	40	29
CFSM	.83	.70	2.20	2.39	2.11	1.62	2.51	1.58	1.43	1.19	.65	.46
IN.	.96	.78	2.54	2.75	2.20	1.87	2.79	1.82	1.60	1.37	.75	.51

CAL YR 1969 TOTAL 29,109 MEAN 79.8 MAX 800 MIN 33 CFSM 1.06 IN 14.36
WAT YR 1970 TOTAL 40,420 MEAN 111 MAX 800 MIN 29 CFSM 1.47 IN 19.94

PEAK DISCHARGE (BASE, 360 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-26	(time and discharge unknown)			1-18	(time and discharge unknown)		
12-31	(time and discharge unknown)			4-15	0100	6.32	458

NOTE.--No gage-height record Dec. 18 to Feb. 18.

01487500 Trap Pond Outlet near Laurel, Del.

LOCATION.--Lat 38°31'40", long 75°28'58", Sussex County, on left bank at downstream end of concrete spillway channel, 200 ft downstream from Trap Pond Dam and 5 miles southeast of Laurel.

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.--19 years, 15.9 cfs (12.93 inches per year).

EXTREMES.--Current year: Maximum discharge, 161 cfs Dec. 26 (gage height, 2.57 ft); minimum, 0.40 cfs Sept. 28. 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 below 1 cfs, which are fair. Bypass channel with gate valve installed in 1968 by Delaware Division of Parks, Recreation and Forestry.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	3.0	3.1	90	23	16	67	21	7.3	10	5.0	1.2
2	2.8	4.5	3.9	59	25	16	64	19	6.8	16	3.8	1.1
3	4.4	6.8	3.8	43	55	17	70	18	6.1	15	3.1	1.1
4	3.3	4.3	3.3	36	100	19	50	25	6.0	13	3.5	.96
5	3.4	3.0	3.7	30	61	19	38	43	6.1	17	3.0	.86
6	3.7	3.9	3.6	28	44	19	32	41	14	14	2.7	.76
7	4.2	3.5	4.6	30	40	18	36	31	8.8	10	2.7	.67
8	4.6	3.5	11	25	36	16	38	25	6.8	8.3	2.5	.76
9	4.6	3.7	7.3	22	33	15	32	21	5.9	7.1	2.5	.76
10	3.9	4.1	15	20	31	14	27	18	5.4	8.9	2.5	.76
11	4.5	3.8	33	19	32	14	23	16	5.4	11	2.5	.86
12	4.0	5.2	28	19	30	16	21	15	4.8	10	2.5	.86
13	3.9	6.4	20	19	25	19	21	13	4.3	8.6	2.5	.86
14	3.9	5.1	19	18	23	18	45	13	3.6	7.2	2.5	.86
15	3.3	3.8	17	17	25	17	115	12	3.6	6.1	2.4	.86
16	3.2	3.3	16	16	30	15	95	12	5.3	5.5	2.4	.86
17	3.0	3.2	15	16	40	14	64	14	6.3	4.9	2.4	.86
18	3.0	3.2	14	47	57	15	46	14	9.8	4.3	2.2	.86
19	2.9	4.1	12	88	46	17	37	13	24	4.0	2.1	.86
20	3.2	8.1	12	58	36	18	36	11	13	3.9	2.1	.76
21	3.0	5.5	12	40	29	23	37	11	9.4	5.0	5.5	.76
22	2.5	4.6	21	30	25	24	32	9.6	15	6.1	5.9	1.1
23	2.1	4.2	27	26	22	24	27	9.3	18	6.8	4.9	.86
24	2.3	3.9	21	24	22	21	26	9.5	11	6.9	7.4	.83
25	2.5	4.0	19	23	19	19	27	13	8.8	5.6	3.9	.81
26	2.7	4.0	104	28	19	18	26	12	31	5.1	2.8	.74
27	2.9	4.0	121	32	18	22	29	11	38	4.8	2.3	.63
28	2.6	4.0	68	29	16	23	32	9.1	28	4.1	2.1	.49
29	2.5	3.9	45	27	------	47	28	8.3	18	8.7	1.7	.56
30	2.5	4.1	51	29	------	104	24	7.6	13	12	1.7	.60
31	2.8	------	107	28	------	79	------	7.4	------	6.9	1.7	------
TOTAL	101.0	128.7	841.3	1,016	962	736	1,245	502.8	343.5	256.8	94.8	24.81
MEAN	3.26	4.29	27.1	32.8	34.4	23.7	41.5	16.2	11.5	8.28	3.06	.83
MAX	4.6	8.1	121	90	100	104	115	43	38	17	7.4	1.2
MIN	2.1	3.0	3.1	16	16	14	21	7.4	3.6	3.9	1.7	.49
CFSM	.20	.26	1.62	1.96	2.06	1.42	2.49	.97	.69	.50	.18	.050
IN.	.22	.29	1.87	2.26	2.14	1.64	2.77	1.12	.77	.57	.21	.06

CAL YR 1969 TOTAL 5,597.61 MEAN 15.3 MAX 208 MIN 0 CFSM .92 IN 12.47
WAT YR 1970 TOTAL 6,252.71 MEAN 17.1 MAX 121 MIN .49 CFSM 1.02 IN 13.93

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-26	2130	2.57	161	3-30	0445	2.31	112
12-31	1645	2.36	120	4-15	1100	2.40	127
2- 4	0515	2.31	112				

01488600 Marshyhope Creek at Adamsville, Del.

LOCATION (revised).--Lat 38°49'52", long 75°41'12", Kent County, on left bank under upstream side of bridge on State Highway 16, at Adamsville, 0.2 mile downstream from Cattail Branch, 5.0 miles northwest of Greenwood, and 29.7 miles upstream from mouth.

DRAINAGE AREA.--60.4 sq mi.

PERIOD OF RECORD.--April 1969 to current year.

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

EXTREMES.--Current year: Maximum discharge, 1,340 cfs July 10 (gage height, 11.96 ft); minimum, 11 cfs Sept. 27. Period of record: Maximum discharge, 1,340 cfs July 10, 1970 (gage height, 11.96 ft); minimum, 11 cfs July 1, 1969, Sept. 27, 1970.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	20	21	535	75	58	250	80	28	50	40	16
2	26	20	21	344	83	57	270	71	26	57	36	15
3	27	20	20	223	301	57	330	66	25	55	33	16
4	26	20	20	159	329	62	160	68	24	148	35	16
5	24	20	20	117	150	97	140	104	24	348	32	15
6	23	20	21	104	118	88	120	95	63	116	31	15
7	24	20	21	100	113	75	160	77	47	68	30	14
8	28	21	39	89	104	69	120	66	32	56	30	14
9	31	21	40	81	97	65	100	59	26	50	29	15
10	27	20	51	76	106	61	90	55	24	958	28	15
11	26	20	368	71	128	58	84	50	23	790	28	14
12	26	21	155	69	111	58	80	46	21	340	27	13
13	24	21	90	66	96	70	74	44	20	134	26	14
14	24	21	73	63	90	68	300	51	20	81	25	14
15	23	21	65	61	130	62	800	47	20	64	25	13
16	24	20	59	57	220	57	450	45	22	55	24	13
17	24	20	54	59	200	54	250	46	23	48	23	12
18	23	19	52	268	180	55	150	52	23	44	22	13
19	23	20	49	347	162	64	130	46	52	41	21	13
20	21	29	47	167	123	64	230	40	28	39	21	12
21	21	28	46	108	98	79	250	37	402	39	26	13
22	22	26	173	100	87	79	150	35	889	38	20	13
23	21	24	217	80	80	114	120	35	289	36	20	13
24	20	23	112	69	74	87	114	36	115	36	21	12
25	21	24	83	65	70	72	127	45	72	35	19	12
26	20	24	864	86	66	72	105	44	130	84	18	12
27	20	24	775	89	63	110	146	40	157	128	18	15
28	20	23	439	84	60	80	149	35	88	51	17	14
29	20	22	267	101	------	200	113	31	62	41	17	13
30	20	21	340	110	------	320	95	30	55	39	16	13
31	20	------	846	88	------	280	------	29	------	49	16	------
TOTAL	726	653	5,448	4,036	3,514	2,792	5,657	1,605	2,830	4,118	774	412
MEAN	23.4	21.8	176	130	126	90.1	189	51.8	94.3	133	25.0	13.7
MAX	31	29	864	535	329	320	800	104	889	958	40	16
MIN	20	19	20	57	60	54	74	29	20	35	16	12
CFSM	.39	.36	2.91	2.15	2.09	1.49	3.13	.86	1.56	2.20	.41	.23
IN.	.45	.40	3.36	2.49	2.16	1.72	3.48	.99	1.74	2.54	.48	.25

WTR YR 1970 TOTAL 32,565 MEAN 89.2 MAX 958 MIN 12 CFSM 1.48 IN 20.06

PEAK DISCHARGE (BASE, 580 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-26	1615	11.41	1,200	6-21	2100	11.48	1,220
12-31	0945	10.38	951	7-10	1700	11.96	1,340
4-15	(time and discharge unknown)						

01489000 Faulkner Branch at Federalsburg, Md.

LOCATION.--Lat 38°42'44", long 75°47'34", Caroline County, on right bank 25 ft downstream from highway bridge on Nichols Road, 1 mile northwest of Federalsburg, and 0.9 mile upstream from mouth.

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.--20 years, 8.59 cfs (16.43 inches per year).

EXTREMES.--Current year: Maximum discharge, 199 cfs July 9 (gage height, 3.30 ft); no flow part of each day Sept. 1-4, 7, 8, 25, 26, 30 (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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	2.9	2.8	32	11	8.6	24	9.2	4.0	4.5	3.4	1.2
2	4.0	3.0	2.3	23	13	8.6	27	8.8	3.5	6.9	3.0	.28
3	4.2	3.1	2.4	20	24	9.0	28	8.6	3.5	5.1	2.8	.68
4	3.7	2.8	2.5	18	22	10	19	9.7	3.5	4.9	3.7	1.2
5	3.5	2.7	2.3	15	15	15	16	11	3.4	5.0	3.0	1.2
6	3.5	2.8	2.5	15	15	11	15	9.1	29	4.2	3.0	1.2
7	3.5	2.9	2.7	15	14	9.7	20	8.0	9.8	3.8	2.6	.95
8	5.4	2.8	6.0	13	14	9.5	17	7.7	6.9	3.4	2.6	.79
9	5.4	3.1	4.1	12	13	8.8	16	7.3	5.9	60	2.6	1.3
10	4.0	2.6	9.3	12	14	8.2	14	6.8	5.4	39	2.4	1.3
11	3.7	2.4	25	11	16	7.8	12	6.5	5.0	11	2.4	1.5
12	3.7	2.6	12	11	14	7.8	11	6.1	4.4	7.9	2.2	1.3
13	3.5	2.7	9.5	10	12	8.7	9.9	5.8	4.1	6.5	2.0	1.2
14	3.4	2.5	9.4	9.8	10	7.8	31	6.6	3.7	5.8	2.0	1.2
15	3.2	2.5	8.4	9.4	13	7.4	44	5.7	3.7	5.4	2.6	1.2
16	3.2	2.3	7.9	9.4	18	6.9	26	4.8	4.1	4.7	2.4	1.1
17	3.2	2.1	6.9	9.8	23	6.8	19	5.2	4.2	3.4	2.4	.97
18	3.0	2.2	6.4	33	23	7.4	16	5.6	5.8	3.2	2.2	1.0
19	2.9	2.3	6.3	30	19	7.6	15	3.9	5.3	3.5	2.2	1.1
20	2.9	4.2	6.0	19	15	8.0	22	4.0	3.9	4.1	2.8	1.0
21	2.9	3.0	5.7	15	14	8.6	19	3.2	3.7	3.6	2.8	1.0
22	3.3	2.7	14	13	13	8.8	15	3.0	4.8	3.7	2.2	.98
23	3.3	2.7	14	12	12	9.4	14	3.3	3.6	4.0	4.7	.95
24	3.5	2.9	10	13	11	8.6	14	2.9	3.3	5.0	4.1	.92
25	3.0	3.2	9.1	14	11	7.6	13	12	3.1	4.2	2.6	.47
26	2.9	3.2	110	13	9.7	9.6	11	7.5	37	3.4	2.2	.12
27	3.1	2.9	38	13	9.4	23	13	6.6	10	3.2	1.9	.96
28	3.0	2.8	21	11	9.0	14	12	5.3	6.6	3.0	1.9	1.0
29	3.2	2.7	18	13	------	29	11	4.7	5.5	3.0	1.9	1.0
30	3.2	2.8	38	16	------	27	9.8	4.4	4.9	3.2	1.8	.81
31	2.9	------	80	12	------	28	------	4.2	------	4.0	1.6	------
TOTAL	108.1	83.4	492.5	472.4	407.1	348.2	533.7	197.5	201.6	232.6	80.0	29.88
MEAN	3.49	2.78	15.9	15.2	14.5	11.2	17.8	6.37	6.72	7.50	2.58	1.00
MAX	5.4	4.2	110	33	24	29	44	12	37	60	4.7	1.5
MIN	2.9	2.1	2.3	9.4	9.0	6.8	9.8	2.9	3.1	3.0	1.6	.12
CFSM	.49	.39	2.24	2.14	2.04	1.58	2.51	.90	.95	1.06	.36	.14
IN.	.57	.44	2.58	2.48	2.13	1.82	2.80	1.03	1.06	1.22	.42	.16

CAL YR 1969 TOTAL 2,643.42 MEAN 7.24 MAX 110 MIN .15 CFSM 1.02 IN 13.85
WAT YR 1970 TOTAL 3,186.98 MEAN 8.73 MAX 110 MIN .12 CFSM 1.23 IN 16.70

PEAK DISCHARGE (BASE, 60 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-26	1045	3.27	194	6- 6	1100	2.18	61
12-31	0815	2.59	102	6-26	1430	2.44	87
4-14	2300	2.48	91	7- 9	1945	3.30	199

01490000 Chicamacomico River near Salem, Md.

LOCATION.--Lat 38°30'45", long 75°52'50", Dorchester County, on left bank 30 ft downstream from Big Mill Pond dam, 1.6 miles east of Salem, 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.--19 years, 16.9 cfs (15.30 inches per year).

EXTREMES.--Current year: Maximum discharge, 218 cfs Dec. 26 (gage height, 3.54 ft); minimum daily, 5.2 cfs Sept. 8.
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 SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	9.1	9.7	89	26	19	61	21	11	15	10	5.6
2	8.3	11	9.0	62	27	20	60	19	11	26	9.5	5.5
3	11	14	9.4	48	44	22	75	18	10	25	8.8	5.7
4	8.7	13	9.1	41	52	24	50	20	10	18	16	6.5
5	7.9	11	8.8	34	34	31	37	29	9.5	16	12	6.1
6	8.6	11	8.7	32	31	27	32	23	91	15	9.8	5.7
7	9.0	10	9.6	35	30	23	40	19	64	13	9.5	5.3
8	12	10	24	32	28	22	38	17	25	12	9.4	5.2
9	15	11	14	28	28	21	32	16	18	12	9.2	6.0
10	10	11	21	26	31	20	29	15	15	15	9.0	10
11	9.4	11	61	22	34	18	25	14	14	22	9.1	20
12	9.5	12	29	22	31	20	24	13	13	15	9.8	7.9
13	9.4	14	18	23	26	23	23	13	12	12	11	6.4
14	9.8	12	18	22	23	20	46	12	12	11	8.8	6.2
15	9.0	12	18	20	26	18	100	12	12	11	8.0	6.1
16	8.6	10	15	19	35	18	68	12	13	12	7.8	6.0
17	9.1	9.8	14	20	40	17	48	14	13	10	8.0	5.7
18	8.4	9.7	13	56	50	20	38	16	13	9.4	7.6	6.2
19	8.2	10	13	68	43	25	32	13	14	9.4	7.4	10
20	8.2	17	12	46	33	23	35	12	12	9.5	8.4	6.6
21	8.3	12	12	34	28	30	41	11	13	11	60	6.2
22	8.0	10	30	28	26	27	33	11	21	11	20	6.4
23	7.8	9.7	31	24	25	28	29	11	14	14	10	5.9
24	7.9	9.7	21	22	23	24	28	18	12	21	10	5.8
25	8.2	9.3	18	23	23	21	27	22	11	13	8.5	5.8
26	8.6	9.5	143	29	21	22	25	20	52	11	7.8	5.8
27	9.0	9.3	117	31	21	45	29	17	86	11	7.3	6.6
28	8.8	9.3	64	28	21	33	29	13	33	14	6.8	6.1
29	8.3	9.3	47	29	------	57	26	12	20	12	6.5	5.6
30	8.3	9.3	66	37	------	93	23	11	17	11	6.0	5.5
31	8.7	------	138	30	------	68	------	11	------	10	6.1	------
TOTAL	280.0	326.0	1,021.3	1,060	860	879	1,183	485	671.5	427.3	338.1	202.4
MEAN	9.03	10.9	32.9	34.2	30.7	28.4	39.4	15.6	22.4	13.8	10.9	6.75
MAX	15	17	143	89	52	93	100	29	91	26	60	20
MIN	7.8	9.1	8.7	19	21	17	23	11	9.5	9.4	6.0	5.2
CFSM	.60	.73	2.19	2.28	2.05	1.89	2.63	1.04	1.49	.92	.73	.45
IN.	.69	.81	2.53	2.63	2.13	2.18	2.93	1.20	1.67	1.06	.84	.50

CAL YR 1969 TOTAL 5,397.9 MEAN 14.8 MAX 143 MIN 3.8 CFSM .99 IN 13.39
WTR YR 1970 TOTAL 7,733.6 MEAN 21.2 MAX 143 MIN 5.2 CFSM 1.41 IN 19.18

01491000 Choptank River near Greensboro, Md.

LOCATION.--Lat 38°59'50", long 75°47'09", Caroline County, on left bank at highway bridge, 0.1 mile upstream from Gravelly Branch, 2 miles northeast of Greensboro, 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.--22 years, 121 cfs (14.54 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,650 cfs Dec. 27 (gage height, 8.07 ft); minimum, 6.1 cfs Sept. 26, 27 (gage height, 1.78 ft); minimum daily, 7.1 cfs Sept. 26.
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 1970 are published in Part 2 of this report.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	26	32	1,100	152	87	409	163	59	45	49	19
2	23	27	31	591	138	81	418	152	68	65	40	18
3	29	27	31	370	180	84	849	142	49	101	34	18
4	28	27	31	295	319	89	545	139	45	86	32	18
5	26	26	30	243	288	108	337	145	43	124	29	19
6	25	26	30	205	200	135	270	149	95	177	28	18
7	23	29	31	184	165	130	250	139	89	105	26	16
8	31	29	54	180	158	114	255	122	63	69	22	14
9	70	32	57	160	150	105	231	95	51	53	22	11
10	50	33	56	150	150	98	200	78	47	126	21	13
11	45	30	206	140	175	90	180	72	45	375	21	15
12	43	30	312	128	193	86	146	68	42	363	20	12
13	41	32	277	122	172	94	139	65	41	225	18	9.4
14	37	31	194	120	142	105	190	80	36	137	16	11
15	36	31	136	112	130	103	1,190	105	34	93	18	13
16	34	30	112	100	172	91	1,260	125	37	74	19	12
17	31	29	97	95	261	80	627	110	41	58	18	10
18	30	28	75	160	281	75	309	110	48	47	16	8.4
19	30	31	47	315	260	106	311	85	194	41	13	11
20	30	47	46	367	215	116	286	68	181	39	16	12
21	29	43	44	310	170	116	484	58	164	37	31	12
22	28	32	67	240	140	137	407	52	361	36	32	11
23	28	34	219	150	129	165	288	52	261	35	28	8.7
24	26	34	278	120	122	203	250	66	216	32	28	10
25	26	32	187	110	114	203	235	75	170	30	27	7.8
26	27	32	468	120	106	137	188	75	94	29	26	7.1
27	27	32	1,500	140	97	138	183	72	96	32	25	8.9
28	27	32	876	145	92	179	193	63	77	30	24	13
29	26	32	466	152	------	206	216	58	54	27	21	13
30	25	32	351	172	------	348	184	51	48	29	21	12
31	25	------	703	175	------	387	------	48	------	66	22	------
TOTAL	979	936	7,044	6,971	4,871	4,196	11,030	2,882	2,849	2,786	763	381.3
MEAN	31.6	31.2	227	225	174	135	368	93.0	95.0	89.9	24.6	12.7
MAX	70	47	1,500	1,100	319	387	1,260	163	361	375	49	19
MIN	23	26	30	95	92	75	139	48	34	27	13	7.1
CFSM	.28	.28	2.01	1.99	1.54	1.19	3.26	.82	.84	.80	.22	.11
IN.	.32	.31	2.32	2.29	1.60	1.38	3.63	.95	.94	.92	.25	.13

CAL YR 1969 TOTAL 40,877.0 MEAN 112 MAX 1,570 MIN 14 CFSM .99 IN 13.46
WAT YR 1970 TOTAL 45,688.3 MEAN 125 MAX 1,500 MIN 7.1 CFSM 1.11 IN 15.04

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-27	0930	8.07	1,650	4-15	1745	8.05	1,640
1- 1	0345	7.21	1,220				

01492000 Beaverdam Branch at Matthews, Md.

LOCATION.--Lat 38°48'41", long 75°58'15", Talbot County, on left bank 50 ft upstream from bridge on State Highway 328, 1 mile west of Matthews, 6 miles northeast of Easton, and 1.2 miles upstream from mouth.

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.--20 years, 6.44 cfs (14.95 inches per year).

EXTREMES.--Current year: Maximum discharge, 238 cfs June 21 (gage height, 3.79 ft); minimum, 0.10 cfs Sept. 1, 2. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.71	1.4	1.3	19	7.0	4.5	16	5.8	1.8	1.3	1.0	.23
2	.95	1.7	1.3	12	9.4	4.9	52	4.7	1.5	4.5	.74	.16
3	2.4	3.4	1.4	9.6	24	6.2	44	4.8	1.3	2.4	.56	.19
4	1.2	2.0	1.2	8.2	11	8.0	12	7.6	1.5	25	.99	.25
5	.89	2.3	1.0	7.0	6.3	14	9.8	8.2	1.5	11	.58	.32
6	.89	3.5	1.0	7.4	7.0	8.0	8.9	5.8	33	3.2	.50	.33
7	.89	6.4	1.4	7.4	6.9	6.4	17	4.0	6.3	1.9	.48	.36
8	3.6	7.7	14	6.6	6.4	6.1	10	3.6	2.5	1.5	.47	.39
9	4.0	13	4.1	6.6	6.5	5.3	7.8	3.2	1.8	1.3	.44	.48
10	1.6	12	23	5.4	10	4.9	7.7	2.6	1.6	17	.46	.26
11	1.3	10	49	4.6	13	4.6	5.7	2.3	1.5	6.6	.48	.39
12	1.3	10	8.0	5.4	8.3	5.2	5.8	2.1	1.3	2.5	.40	.28
13	1.1	15	5.7	6.2	6.4	8.6	5.7	2.8	1.1	1.8	.35	.24
14	1.2	14	4.1	5.4	5.5	6.2	38	40	.96	1.6	.35	.22
15	1.0	13	3.6	4.3	8.0	4.9	39	6.3	1.0	1.5	.34	.23
16	.91	12	3.0	4.2	19	4.0	15	4.3	1.5	1.4	.33	.23
17	.93	11	2.6	7.6	19	3.5	9.6	12	4.1	1.1	.43	.24
18	.80	12	2.6	67	19	4.7	8.0	8.5	13	.98	.41	.25
19	.79	6.2	2.8	21	12	6.0	7.3	4.3	23	.86	.37	.27
20	.82	4.2	2.4	8.8	8.4	5.2	32	3.0	2.8	.86	.81	.17
21	.90	2.0	2.3	7.0	6.7	7.2	15	2.3	76	1.0	.88	.19
22	.84	1.5	19	4.6	6.8	8.1	9.2	2.2	50	1.0	.42	.19
23	.78	1.4	10	2.6	6.7	9.5	8.0	2.0	7.4	1.2	.42	.18
24	.81	1.4	5.4	2.6	5.9	6.1	9.5	2.4	3.6	1.6	.48	.18
25	.98	1.3	4.0	3.1	6.2	4.9	12	20	2.4	1.3	.38	.19
26	1.2	1.5	125	8.2	5.0	5.1	8.0	7.2	6.6	.99	.32	.21
27	1.7	1.7	25	8.2	4.7	12	9.0	6.5	4.9	.75	.29	.22
28	1.7	1.8	10	7.5	5.3	6.3	8.0	3.0	2.3	.72	.28	.25
29	1.2	1.9	8.2	8.8	------	38	7.2	2.4	1.7	.76	.27	.18
30	1.2	1.5	38	9.4	------	22	6.5	2.1	1.5	.73	.27	.18
31	1.2	------	81	6.4	------	39	------	2.0	------	4.6	.28	------
TOTAL	39.79	176.8	461.4	292.1	260.4	279.4	443.7	188.0	259.46	102.95	14.78	7.46
MEAN	1.28	5.89	14.9	9.42	9.30	9.01	14.8	6.06	8.65	3.32	.48	.25
MAX	4.0	15	125	67	24	39	52	40	76	25	1.0	.48
MIN	.71	1.3	1.0	2.6	4.7	3.5	5.7	2.0	.96	.72	.27	.16
CFSM	.22	1.01	2.55	1.61	1.59	1.54	2.53	1.04	1.48	.57	.082	.043
IN.	.25	1.12	2.93	1.86	1.66	1.78	2.82	1.20	1.65	.65	.09	.05

CAL YR 1969 TOTAL 1,974.57 MEAN 5.41 MAX 125 MIN .11 CFSM .92 IN 12.56
WAT YR 1970 TOTAL 2,526.24 MEAN 6.92 MAX 125 MIN .16 CFSM 1.18 IN 16.06

PEAK DISCHARGE (BASE, 120 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-26	1100	3.55	208	6-21	2100	3.79	238

01493000 Unicorn Branch near Millington, Md.

LOCATION.--Lat 39°14'59", long 75°51'40", Kent County, on right bank 20 ft upstream from bridge on State Highway 313, 1.4 miles southwest of Millington, and 0.9 mile upstream from mouth.

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.--22 years, 22.9 cfs (13.95 inches per year).

EXTREMES.--Current year: Maximum discharge, 296 cfs Dec. 27 (gage height, 4.13 ft); minimum, 3.4 cfs Aug. 30, 31. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	9.4	8.8	146	32	18	63	28	10	13	9.0	13
2	12	9.5	9.0	79	40	17	78	25	9.8	27	8.1	11
3	15	9.6	8.8	61	47	20	156	23	11	26	7.4	8.0
4	11	8.8	8.6	55	54	22	80	25	13	17	7.1	7.6
5	10	8.8	8.4	50	53	31	56	27	16	15	7.4	6.4
6	10	9.7	8.4	46	48	29	43	24	75	13	7.3	6.0
7	10	9.6	10	43	43	25	45	21	28	12	7.2	6.0
8	23	9.5	37	39	31	23	45	20	16	12	7.4	6.0
9	33	13	34	34	20	21	36	19	13	11	9.6	7.2
10	17	13	33	28	29	20	33	17	12	16	8.3	6.8
11	13	11	81	19	43	19	30	16	12	16	7.8	6.8
12	13	11	66	15	46	19	27	14	11	13	6.9	5.6
13	12	11	38	15	41	23	26	14	11	12	5.9	5.6
14	12	11	26	25	21	22	49	17	10	11	5.8	6.0
15	12	10	25	33	12	19	209	16	10	11	5.4	6.4
16	11	9.5	27	33	32	18	142	14	15	11	4.4	7.2
17	11	9.1	24	34	43	17	79	19	15	10	8.7	7.2
18	10	9.1	23	38	43	18	59	19	23	9.5	11	6.8
19	10	11	22	48	42	19	46	15	62	9.2	8.0	5.6
20	10	17	21	52	41	21	69	13	22	10	9.0	4.8
21	11	13	20	46	39	23	111	12	18	11	15	4.4
22	9.8	11	21	30	28	25	65	12	100	9.9	10	5.2
23	8.9	10	26	20	15	36	48	12	60	9.7	8.0	5.2
24	8.9	10	45	20	4.2	30	45	13	27	10	7.6	4.8
25	9.3	9.6	46	20	6.8	24	43	14	20	9.8	6.8	5.2
26	9.6	9.4	108	25	19	24	37	13	18	9.5	6.4	4.4
27	9.5	9.0	240	35	19	46	38	12	18	8.7	5.6	5.2
28	9.7	9.0	102	32	19	37	43	11	16	8.1	4.8	7.2
29	9.1	9.0	66	18	------	49	36	11	14	9.3	4.4	6.4
30	9.1	9.0	63	17	------	98	31	10	13	10	3.7	6.4
31	9.2	------	153	27	------	66	------	10	------	9.6	11	------
TOTAL	369.1	309.6	1,409.0	1,183	911.0	879	1,868	516	698.8	380.3	235.0	194.4
MEAN	11.9	10.3	45.5	38.2	32.5	28.4	62.3	16.6	23.3	12.3	7.58	6.48
MAX	33	17	240	146	54	98	209	28	100	27	15	13
MIN	8.9	8.8	8.4	15	4.2	17	26	10	9.8	8.1	3.7	4.4
CFSM	.53	.46	2.04	1.71	1.46	1.27	2.79	.74	1.04	.55	.34	.29
IN.	.62	.52	2.35	1.97	1.52	1.47	3.12	.86	1.17	.63	.39	.32

CAL YR 1969 TOTAL 7,876.9 MEAN 21.6 MAX 304 MIN 3.7 CFSM .97 IN 13.14
WAT YR 1970 TOTAL 8,953.2 MEAN 24.5 MAX 240 MIN 3.7 CFSM 1.10 IN 14.94

PEAK DISCHARGE (BASE, 180 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-27	0030	4.13	296	4- 3	0600	3.62	195
12-31	1830	3.71	212	4-15	0930	3.88	246

01493500 Morgan Creek near Kennedyville, Md.

LOCATION.--Lat 39°16'48", long 76°00'54", Kent County, on right bank 200 ft upstream from highway bridge, 2 miles southwest of Kennedyville, 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.--19 years, 8.95 cfs (11.58 inches per year).

EXTREMES.--Current year: Maximum discharge, 340 cfs June 19 (gage height, 5.23 ft); minimum, 2.0 cfs Sept. 4. 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.
REVISIONS.--Water year 1969: Maximum discharge, 426 cfs Aug. 10 (gage height, 5.68 ft); minimum, 1.4 cfs July 18, superseding figures published in WRD Md. and Del., 1969.

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 1552: 1952, 1953(P), 1954(M), 1955, 1956-57(M). Revised figures of discharge for the water year 1969, superseding those published in WRD Md. and Del., 1969, are given herewith.

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	2.0	3.5	3.8	4.9	9.0	4.2	3.8	3.5	2.2	1.8	2.9	2.2
2	2.0	3.5	6.7	2.9	7.8	4.9	4.2	2.9	2.2	1.8	3.2	2.4
3	2.0	3.5	5.3	2.6	7.2	6.7	3.8	2.9	3.8	1.8	21	17
4	2.2	3.8	9.0	3.2	5.3	6.2	3.8	2.9	2.6	1.8	20	34
5	2.0	3.8	7.2	2.4	4.5	4.9	4.9	2.6	2.4	1.8	111	6.2
6	2.2	3.8	4.5	2.4	4.2	4.5	6.7	2.4	2.4	1.8	20	3.5
7	15	4.2	4.2	3.2	4.5	9.7	4.2	2.4	2.2	2.4	4.9	2.9
8	10	5.3	4.2	3.5	4.2	9.7	3.8	2.6	2.2	2.6	3.5	6.2
9	3.5	4.5	3.5	4.2	8.4	7.8	3.8	9.0	2.4	2.4	3.2	5.3
10	2.9	13	3.2	4.2	5.7	5.7	4.2	6.7	2.6	2.2	216	2.9
11	2.9	12	2.6	2.9	4.5	4.9	7.2	3.2	2.4	2.4	44	2.4
12	2.9	16	2.9	2.6	4.5	4.2	4.2	2.9	2.4	2.4	9.7	2.4
13	2.9	20	4.5	2.6	4.2	4.5	3.8	2.6	2.2	2.9	4.2	2.4
14	3.2	10	12	2.9	3.5	4.5	3.5	2.9	2.4	2.0	3.8	2.2
15	3.2	4.9	10	3.2	3.5	4.5	3.8	2.6	3.8	1.8	3.8	2.2
16	3.2	4.5	4.2	2.9	3.8	4.5	8.4	2.6	5.3	1.6	3.5	2.2
17	3.2	4.9	3.5	3.5	4.2	4.5	9.0	2.4	2.6	1.6	3.2	2.2
18	3.2	6.7	3.2	5.3	4.5	4.5	5.7	2.4	3.2	1.8	3.5	2.2
19	8.4	7.8	4.2	9.0	4.5	4.9	6.7	2.6	7.2	5.7	3.5	2.2
20	12	5.3	4.9	6.2	5.3	4.5	4.9	22	3.5	36	8.4	2.2
21	4.9	4.2	4.2	9.7	6.2	4.5	4.2	28	2.6	145	5.3	2.4
22	3.5	4.2	4.5	8.4	5.7	4.5	5.3	12	2.6	36	3.2	2.2
23	3.2	4.2	8.4	7.8	10	4.2	5.3	4.2	2.6	6.7	2.9	2.2
24	3.2	4.2	4.9	9.7	17	4.9	4.2	3.8	2.4	3.5	2.9	2.2
25	5.3	5.7	3.2	6.7	7.2	8.4	3.8	3.8	2.2	2.9	2.6	2.4
26	4.5	4.5	2.6	4.5	5.3	5.3	3.5	3.2	2.2	2.9	2.4	2.4
27	3.5	4.2	3.2	3.5	4.5	4.5	3.2	2.9	2.2	2.9	2.2	2.2
28	3.2	4.5	5.3	3.5	4.2	4.2	3.2	2.9	2.2	192	2.4	2.4
29	3.5	4.9	5.7	4.5	------	4.2	3.2	2.6	2.0	89	2.4	2.4
30	3.8	3.8	3.5	6.2	------	5.7	3.5	2.4	1.8	12	2.4	2.2
31	3.2	------	3.8	6.7	------	4.5	------	2.2	------	3.8	2.4	------
TOTAL	130.7	185.4	152.9	145.8	163.8	164.7	139.8	152.1	82.8	575.3	524.4	128.2
MEAN	4.22	6.18	4.93	4.70	5.85	5.31	4.66	4.91	2.76	18.6	16.9	4.27
MAX	15	20	12	9.7	17	9.7	9.0	28	7.2	192	216	34
MIN	2.0	3.5	2.6	2.4	3.5	4.2	3.2	2.2	1.8	1.6	2.2	2.2
CFSM	.40	.59	.47	.45	.56	.51	.44	.47	.26	1.77	1.61	.41
IN.	.46	.66	.54	.52	.58	.58	.50	.54	.29	2.04	1.86	.45

CAL YR 1968 TOTAL 2,336.9 MEAN 6.39 MAX 168 MIN 1.6 CFSM .61 IN 8.28
WTR YR 1969 TOTAL 2,545.9 MEAN 6.98 MAX 216 MIN 1.6 CFSM .66 IN 9.02

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-21	0200	4.86	284	8-10	0630	5.68	426
7-28	1015	4.99	304				

01493500 Morgan Creek near Kennedyville, Md.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	3.2	3.2	53	4.5	4.9	10	6.7	3.8	3.8	4.5	2.6
2	2.6	3.2	2.6	15	6.2	5.7	60	6.2	3.8	9.7	3.5	2.6
3	4.5	3.5	3.2	8.4	21	6.2	66	5.7	3.8	7.2	3.2	2.9
4	2.9	3.5	2.9	6.2	27	7.8	14	7.2	4.9	5.3	2.9	2.9
5	2.2	3.2	2.6	4.9	9.0	12	8.4	7.2	14	5.3	2.9	2.6
6	2.4	3.8	2.6	5.7	6.7	6.7	7.2	5.7	244	4.5	3.2	2.4
7	2.4	3.5	4.2	5.3	6.7	5.7	10	4.9	82	3.8	3.2	2.4
8	4.2	3.8	21	5.0	6.2	5.7	7.2	4.9	16	3.8	3.2	2.4
9	4.9	6.2	10	4.6	6.7	4.9	6.7	5.3	6.7	3.8	3.2	3.8
10	3.2	5.7	11	4.1	14	4.9	6.2	4.9	5.3	6.7	3.2	4.2
11	2.9	3.5	51	3.6	12	4.9	5.3	4.5	4.9	8.4	3.2	3.2
12	2.9	3.5	17	3.8	7.8	5.7	5.3	4.5	5.3	4.9	2.9	2.9
13	2.9	3.8	6.2	4.6	5.7	9.7	5.3	4.2	8.4	4.2	2.9	2.9
14	2.9	3.5	6.2	4.1	4.9	6.2	32	9.0	4.5	3.8	4.2	2.6
15	2.6	3.8	6.7	3.6	6.2	5.3	124	5.7	4.5	3.8	9.7	2.6
16	2.6	2.9	5.3	3.3	9.0	4.9	24	4.9	13	3.8	3.8	2.6
17	2.6	2.9	4.2	4.9	7.8	4.9	9.7	7.8	19	3.5	3.5	2.4
18	2.4	2.9	3.8	21	8.4	5.7	8.4	8.4	33	3.2	3.5	2.6
19	2.4	3.5	4.5	27	8.4	7.2	7.2	5.3	211	3.2	5.7	2.6
20	2.6	7.8	4.2	12	6.2	6.7	23	4.5	39	3.5	16	2.6
21	6.2	4.5	3.5	4.2	4.9	9.0	22	4.2	35	5.7	39	2.6
22	4.9	3.2	15	4.1	5.3	8.4	9.7	4.2	62	4.2	5.7	2.6
23	2.9	3.2	24	3.6	5.7	13	9.0	4.2	9.0	4.2	5.7	2.4
24	2.6	3.2	9.7	3.6	5.3	6.7	15	5.7	5.7	4.5	9.7	2.4
25	2.9	2.9	4.5	4.1	5.3	6.2	14	7.8	4.9	4.5	4.2	2.4
26	2.9	2.9	102	7.2	4.2	6.2	7.8	6.2	4.9	4.2	3.8	2.4
27	3.2	2.9	70	7.8	4.5	7.8	9.7	5.3	5.3	3.8	3.5	2.6
28	3.2	2.9	21	6.2	5.3	5.7	8.4	4.2	4.5	3.8	3.2	3.5
29	2.9	2.9	10	8.4	------	20	7.2	4.2	3.8	3.5	3.2	2.9
30	2.9	2.9	17	10	------	29	6.7	3.8	3.8	4.2	2.9	2.9
31	2.9	------	136	4.9	------	14	------	3.8	------	4.9	2.9	------
TOTAL	95.8	109.2	585.1	264.2	224.9	251.7	549.4	171.1	865.8	143.7	172.2	82.5
MEAN	3.09	3.64	18.9	8.52	8.03	8.12	18.3	5.52	28.9	4.64	5.55	2.75
MAX	6.2	7.8	136	53	27	29	124	9.0	244	9.7	39	4.2
MIN	2.2	2.9	2.6	3.3	4.2	4.9	5.3	3.8	3.8	3.2	2.9	2.4
CFSM	.29	.35	1.80	.81	.76	.77	1.74	.53	2.75	.44	.53	.26
IN.	.34	.39	2.07	.94	.80	.89	1.95	.61	3.07	.51	.61	.29

CAL YR 1969 TOTAL 2,867.0 MEAN 7.85 MAX 216 MIN 1.6 CFSM .75 IN 10.16
WTR YR 1970 TOTAL 3,515.6 MEAN 9.63 MAX 244 MIN 2.2 CFSM .92 IN 12.46

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
6-06	0430	5.22	338	6-19	0530	5.23	340

01495000 Big Elk Creek at Elk Mills, Md.

LOCATION.--Lat 39°39'26", long 75°49'20", Cecil County, on right bank 100 ft downstream from highway bridge at Elk Mills, 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.--38 years, 66.0 cfs (17.04 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,640 cfs Apr. 2 (gage height, 7.12 ft); minimum, 11 cfs Dec. 2 (result of freezeup); minimum daily, 16 cfs Oct. 1.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	21	24	120	78	45	79	70	43	37	123	25
2	18	27	25	75	160	45	790	67	42	136	46	22
3	32	41	24	62	355	47	194	67	44	54	39	22
4	21	27	24	58	114	51	103	70	52	47	37	24
5	17	24	22	66	70	72	87	67	54	43	31	22
6	17	36	20	50	63	55	79	62	119	38	30	21
7	17	33	26	52	61	49	75	59	58	36	30	20
8	26	28	120	50	58	49	69	59	45	34	29	20
9	23	40	57	46	58	45	67	58	41	42	29	26
10	18	42	107	50	180	43	64	56	40	237	29	28
11	17	29	349	54	119	43	59	54	38	74	28	23
12	18	26	68	50	81	47	58	52	37	49	27	20
13	18	25	48	46	64	57	58	52	40	41	26	20
14	18	23	44	43	60	49	309	52	34	39	70	20
15	18	26	41	43	65	44	396	51	35	38	36	20
16	17	22	38	46	61	42	122	51	48	289	49	25
17	18	19	34	50	62	41	95	78	51	50	83	20
18	17	19	31	110	78	46	86	71	138	39	31	20
19	17	23	31	100	84	57	79	53	171	35	29	22
20	18	98	29	60	66	64	170	50	50	34	28	20
21	43	40	34	46	54	104	107	46	264	98	29	19
22	26	30	209	43	52	83	88	46	244	41	24	20
23	19	29	87	41	53	138	85	51	69	36	328	19
24	20	28	54	41	49	71	134	48	54	47	60	19
25	21	26	54	41	50	61	123	48	48	41	36	19
26	22	25	198	60	43	59	87	69	45	36	31	18
27	22	24	108	100	43	80	83	130	58	34	28	23
28	22	24	80	75	46	58	80	53	43	33	26	36
29	21	24	67	126	------	128	76	48	39	100	25	23
30	21	23	87	210	------	111	71	45	38	51	26	21
31	21	------	333	89	------	100	------	44	------	197	28	------
TOTAL	639	902	2,473	2,103	2,327	1,984	3,973	1,827	2,082	2,106	1,471	657
MEAN	20.6	30.1	79.8	67.8	83.1	64.0	132	58.9	69.4	67.9	47.5	21.9
MAX	43	98	349	210	355	138	790	130	264	289	328	36
MIN	16	19	20	41	43	41	58	44	34	33	24	18
CFSM	.39	.57	1.52	1.29	1.58	1.22	2.51	1.12	1.32	1.29	.90	.42
IN.	.45	.64	1.75	1.49	1.65	1.40	2.81	1.29	1.47	1.49	1.04	.46

CAL YR 1969 TOTAL 14,034 MEAN 38.4 MAX 453 MIN 13 CFSM .73 IN 9.93
WAT YR 1970 TOTAL 22,544 MEAN 61.8 MAX 790 MIN 16 CFSM 1.17 IN 15.94

PEAK DISCHARGE (BASE, 1,700 CFS).--Apr. 2 (1630) 2,640 cfs (7.12 ft).

01495900 Elk River near Town Point, Md.

LOCATION.--Lat 39°30'09", long 75°54'58", Cecil County, 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.

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 tide elevations during year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Maximum	Elev									3.43	3.63	3.80	3.64
high tide	Date									30	21	12	9
Minimum	Elev									-1.05	-1.13	- .97	-1.11
low tide	Date									4	17	4	19
Mean high tide										2.31	2.23	2.36	2.23
Mean water level										1.11	1.04	1.18	1.09
Mean low tide										- .06	- .12	- .02	- .03

01496000 Northeast Creek at Leslie, Md.

LOCATION.--Lat 39°37'38", long 75°56'40", Cecil County, on left bank at downstream side of highway bridge, 0.7 mile northeast of Leslie, 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.--22 years, 31.7 cfs (17.72 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,770 cfs Apr. 2 (gage height, 5.34 ft); minimum, 1.7 cfs Oct. 19 (gage height, 1.40 ft); minimum daily, 4.5 cfs Sept. 26.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	7.2	11	110	30	18	41	26	14	12	18	9.0
2	7.0	9.0	9.5	40	80	18	505	25	12	36	13	7.9
3	14	16	9.6	32	243	20	463	24	20	19	17	7.7
4	9.8	10	9.6	28	88	23	50	26	48	16	15	7.2
5	8.0	8.6	8.8	34	33	39	38	26	22	15	9.9	7.2
6	6.7	14	8.8	25	25	27	33	23	45	13	9.3	6.9
7	6.8	12	11	26	26	23	32	21	23	11	9.2	6.4
8	12	11	78	24	25	22	28	21	16	10	8.8	6.0
9	11	16	28	22	26	20	27	21	14	13	8.5	8.3
10	8.2	17	83	23	186	18	25	19	13	282	8.5	9.0
11	7.2	12	373	25	115	19	23	19	13	61	8.6	7.5
12	7.2	11	41	24	54	19	22	18	13	21	7.7	6.6
13	7.2	12	25	22	31	27	22	18	13	16	8.4	6.3
14	7.3	13	22	19	25	23	132	18	12	14	7.9	6.1
15	7.2	13	22	19	27	19	580	19	12	13	7.2	6.0
16	8.2	11	20	20	29	18	75	18	16	50	7.0	6.2
17	6.9	10	17	22	29	17	43	30	20	18	7.7	5.9
18	6.3	10	17	79	44	19	36	32	99	14	7.8	5.8
19	5.3	13	17	75	48	26	31	20	198	14	7.7	6.8
20	6.9	63	17	28	33	34	166	18	25	12	7.9	6.8
21	25	19	16	20	22	81	73	17	97	43	8.9	5.8
22	12	14	155	18	23	56	42	16	241	17	7.6	5.5
23	7.7	13	106	18	24	128	36	34	30	14	163	5.4
24	7.1	12	30	18	21	37	75	34	20	16	44	5.1
25	6.8	11	25	18	22	28	81	21	17	16	15	5.1
26	7.4	11	230	25	18	26	39	21	15	14	12	4.5
27	8.7	11	122	53	17	49	34	33	26	13	11	4.8
28	7.6	11	44	36	19	28	33	18	16	12	9.4	8.2
29	6.8	11	30	130	------	114	30	16	14	12	8.1	6.0
30	7.1	11	60	154	------	103	27	14	13	11	9.1	5.7
31	7.2	------	425	42	------	60	------	14	------	19	11	------
TOTAL	262.8	412.8	2,071.3	1,229	1,363	1,159	2,842	680	1,137	847	494.2	195.7
MEAN	8.48	13.8	66.8	39.6	48.7	37.4	94.7	21.9	37.9	27.3	15.9	6.52
MAX	25	63	425	154	243	128	580	34	241	282	163	9.0
MIN	5.3	7.2	8.8	18	17	17	22	14	12	10	7.0	4.5
CFSM	.35	.57	2.75	1.63	2.00	1.54	3.90	.90	1.56	1.12	.65	.27
IN.	.40	.63	3.17	1.88	2.09	1.77	4.35	1.04	1.74	1.30	.76	.30

CAL YR 1969 TOTAL 8,805.8 MEAN 24.1 MAX 742 MIN 5.0 CFSM .99 IN 13.48
WAT YR 1970 TOTAL 12,693.8 MEAN 34.8 MAX 580 MIN 4.5 CFSM 1.43 IN 19.43

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-2	1500	5.34	1,770	4-15	0645	4.27	1,030

01496200 Principio Creek near Principio Furnace, Md.

LOCATION.--Lat 39°37'34", long 76°02'27", Cecil County, on left bank, 55 ft downstream from highway bridge on Belvedere Road, 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, 896 cfs Apr. 2 (gage height, 6.81 ft), from rating curve extended as explained below; minimum, 1.7 cfs Dec. 2 (result of freezeup).
Period of record: Maximum discharge, 7,060 cfs Aug. 4, 1969 (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, 1968 and July 17, 18, 1969.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	3.7	4.2	23	11	7.9	15	12	6.2	5.9	7.2	3.8
2	3.9	5.5	3.8	15	23	8.5	186	11	5.9	11	5.6	3.7
3	5.7	5.1	4.2	13	51	8.8	31	11	34	6.7	12	3.8
4	3.1	4.0	3.9	11	16	11	19	12	16	7.3	7.7	3.8
5	2.9	3.8	3.7	10	12	15	16	11	9.4	6.7	5.4	3.5
6	2.9	6.7	3.9	9.8	11	9.8	15	10	15	5.7	5.1	3.4
7	3.0	4.6	5.6	10	11	9.1	14	9.8	7.9	5.2	4.8	3.3
8	4.8	4.3	31	10	9.8	8.8	13	9.8	6.7	5.2	4.6	3.3
9	3.5	7.4	8.5	9.4	12	8.2	13	9.4	6.2	5.9	4.5	4.4
10	3.1	5.4	63	9.1	65	7.9	12	9.4	5.9	82	4.4	4.1
11	3.0	4.5	40	8.5	31	7.9	11	8.8	5.7	13	4.3	3.5
12	3.1	4.7	11	7.6	17	9.4	11	8.8	5.4	8.5	4.0	3.3
13	3.1	4.9	7.6	8.2	13	11	11	8.5	5.7	7.1	3.9	3.2
14	3.3	5.0	7.6	8.5	11	8.8	62	8.5	5.0	6.6	3.9	3.2
15	3.1	5.8	7.3	7.9	13	7.9	64	8.2	5.4	8.0	3.9	3.2
16	3.2	4.5	6.4	5.9	12	7.6	22	8.2	7.9	19	3.8	3.2
17	3.2	4.3	5.7	8.5	15	7.3	17	16	8.2	6.8	8.2	3.1
18	3.1	4.4	5.7	26	18	9.4	16	10	81	6.1	4.7	3.1
19	3.1	14	5.9	18	16	9.8	14	8.5	28	5.7	6.5	3.3
20	3.2	19	5.7	11	11	20	42	7.9	9.4	7.7	5.1	3.0
21	14	6.4	5.7	9.8	9.4	19	21	7.3	41	11	5.3	3.1
22	3.9	5.3	54	9.1	10	28	17	7.3	32	6.0	3.9	3.0
23	3.4	5.1	19	8.5	9.4	24	17	8.8	11	5.7	65	3.3
24	3.5	4.8	9.8	5.4	9.1	13	28	8.2	8.5	16	7.9	3.3
25	3.6	4.5	8.5	3.7	9.4	11	20	7.9	7.9	7.1	5.6	3.0
26	3.7	4.5	72	20	8.2	14	16	16	7.3	6.1	5.0	2.9
27	3.8	4.3	23	14	8.2	18	15	12	15	5.6	4.6	3.5
28	3.6	4.3	14	18	8.5	11	14	7.3	7.3	5.3	4.3	3.9
29	3.5	4.3	11	41	------	43	13	6.7	6.7	5.3	4.1	3.3
30	3.5	4.2	29	22	------	23	13	6.7	6.2	5.3	4.2	3.4
31	3.7	------	90	11	------	20	------	6.2	------	19	4.5	------
TOTAL	117.2	169.3	570.7	392.9	451.0	418.1	778	293.2	417.8	322.5	224.0	101.9
MEAN	3.78	5.64	18.4	12.7	16.1	13.5	25.9	9.46	13.9	10.4	7.23	3.40
MAX	14	19	90	41	65	43	186	16	81	82	65	4.4
MIN	2.7	3.7	3.7	3.7	8.2	7.3	11	6.2	5.0	5.2	3.8	2.9
CFSM	.42	.62	2.04	1.41	1.78	1.50	2.87	1.05	1.54	1.15	.80	.38
IN.	.48	.70	2.35	1.62	1.86	1.72	3.21	1.21	1.72	1.33	.92	.42

CAL YR 1969 TOTAL 3,204.3 MEAN 8.78 MAX 549 MIN 1.7 CFSM .97 IN 13.20
WAT YR 1970 TOTAL 4,256.6 MEAN 11.7 MAX 186 MIN 2.7 CFSM 1.30 IN 17.54

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-10	2130	5.01	342	6-18	1915	5.26	392
4- 2	1530	6.81	896	7-10	0300	4.97	336

01578500 Octoraro Creek near Rising Sun, Md.

LOCATION (revised).--Lat 39°41'24", long 76°07'43", Cecil County, on right bank at downstream side of Porter Bridge, 300 ft downstream from Love Run, 3.5 miles west of Rising Sun, 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.--27 years (1932-58, 1969-70), 255 cfs (17.94 inches per year), adjusted for storage and diversion since October 1951.

EXTREMES.--Current year: Maximum discharge, 2,830 cfs Feb. 3 (gage height, 7.44 ft); minimum, 27 cfs Dec. 6 (result of freezeup); minimum daily, 33 cfs Dec. 4-6.
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 except those for January, which are poor. 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, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	53	35	151	185	144	305	247	136	121	354	75
2	35	45	41	150	390	145	1,010	241	132	207	272	68
3	71	57	37	165	1,960	144	1,120	244	148	226	123	71
4	58	41	33	148	925	152	535	261	190	163	109	66
5	44	40	33	140	399	192	420	243	180	144	98	62
6	50	52	33	130	295	183	372	231	1,050	134	90	63
7	36	46	45	126	248	166	350	212	418	119	86	65
8	49	56	102	120	229	159	312	202	222	108	86	63
9	41	68	62	110	214	149	289	202	170	281	78	72
10	34	62	143	120	534	142	277	197	150	1,210	78	70
11	46	49	289	130	641	137	257	190	142	495	79	60
12	54	45	96	140	414	135	240	186	136	272	77	67
13	53	59	72	130	297	159	237	213	209	193	74	65
14	49	58	66	110	243	159	344	212	160	159	70	62
15	37	60	72	100	237	144	1,130	180	138	152	85	63
16	43	48	68	100	225	136	644	165	149	1,020	85	62
17	38	44	64	110	208	125	404	198	168	422	114	58
18	59	66	66	180	221	129	354	244	318	230	101	61
19	58	54	60	190	257	149	313	193	877	181	83	60
20	41	104	54	130	277	169	384	167	310	174	95	57
21	69	47	60	110	208	255	401	153	589	348	90	50
22	48	48	207	100	186	240	342	142	1,120	270	70	45
23	62	47	147	94	183	374	303	155	409	197	775	46
24	62	34	112	90	177	273	348	148	229	190	673	46
25	79	40	90	94	171	211	408	142	182	175	220	44
26	63	50	240	100	159	189	335	171	163	161	116	45
27	51	47	150	120	146	258	296	360	167	146	98	58
28	67	40	110	110	149	223	285	205	151	132	75	68
29	55	40	94	180	------	296	274	159	136	137	75	58
30	68	40	127	345	------	409	259	144	123	153	78	61
31	55	------	378	345	------	343	------	139	------	167	77	------
TOTAL	1,609	1,540	3,186	4,368	9,778	6,089	12,548	6,146	8,672	8,087	4,584	1,811
MEAN	51.9	51.3	103	141	349	196	418	198	289	261	148	60.4
MAX	79	104	378	345	1,960	409	1,130	360	1,120	1,210	775	75
MIN	34	34	33	90	146	125	237	139	123	108	70	44
(†)	+15.7	+35.5	+95.4	+60.6	+44.2	+48.1	+43.2	+43.0	+45.1	+45.4	+48.6	+39.3
MEAN‡	67.6	86.8	198	202	393	244	461	241	334	306	197	99.7
CFSM‡	.35	.45	1.03	1.05	2.04	1.26	2.39	1.25	1.73	1.59	1.02	.52
IN‡	.40	.50	1.18	1.20	2.12	1.46	2.67	1.44	1.93	1.83	1.17	.58

CAL YR 1969 TOTAL 29,742 MEAN 81.5 MAX 972 MIN 33 MEAN‡ 129 CFSM‡ .67 IN‡ 9.08
WAT YR 1970 TOTAL 68,418 MEAN 187 MAX 1,960 MIN 33 MEAN‡ 234 CFSM‡ 1.21 IN‡ 16.50

† 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.

01580000 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.--44 years, 116 cfs (16.69 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,240 cfs Aug. 23 (gage height, 8.61 ft); minimum, 25 cfs Dec. 2, result of freezeup.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	34	41	129	110	90	150	140	90	85	95	73
2	37	37	38	100	460	90	585	140	88	515	83	69
3	61	40	40	90	472	95	357	150	88	165	77	69
4	40	38	36	75	259	100	230	145	95	144	77	71
5	35	35	30	90	210	130	200	135	297	115	73	65
6	34	39	30	85	162	110	180	130	357	103	73	63
7	34	42	40	75	150	100	170	125	135	93	73	61
8	39	43	85	70	138	100	160	125	108	88	71	60
9	38	56	64	75	141	95	150	125	98	276	79	63
10	35	51	128	80	650	90	140	120	90	1,220	75	67
11	34	44	320	80	290	90	135	120	85	283	73	61
12	34	45	100	80	210	90	130	120	110	192	69	60
13	34	51	76	80	160	110	125	120	159	153	67	58
14	34	44	72	77	140	100	353	120	90	133	65	58
15	34	54	66	72	140	90	770	118	85	130	65	58
16	33	43	59	73	130	85	320	115	105	195	63	58
17	32	40	55	78	130	85	240	147	110	123	63	54
18	32	40	50	111	140	90	210	135	452	113	60	56
19	33	48	50	97	150	105	190	115	343	105	67	60
20	33	104	50	77	140	120	210	108	138	231	290	56
21	61	60	52	69	110	160	200	103	287	204	308	54
22	41	48	141	72	110	145	180	100	432	120	85	52
23	35	45	130	80	115	200	170	100	156	110	908	49
24	34	45	80	89	110	170	200	103	125	110	174	49
25	35	42	70	91	110	130	190	150	113	105	113	51
26	35	41	160	93	95	125	165	123	105	98	95	61
27	35	40	120	100	95	170	160	120	153	93	88	58
28	35	40	95	89	95	125	155	103	108	88	81	69
29	34	40	85	216	------	180	150	98	95	88	77	54
30	34	39	86	280	------	200	145	93	90	90	75	54
31	34	------	205	120	------	160	------	93	------	88	79	------
TOTAL	1,131	1,368	2,654	2,993	5,222	3,730	6,720	3,739	4,787	5,656	3,741	1,791
MEAN	36.5	45.6	85.6	96.5	187	120	224	121	160	182	121	59.7
MAX	61	104	320	280	650	200	770	150	452	1,220	908	73
MIN	32	34	30	69	95	85	125	93	85	85	60	49
CFSM	.39	.48	.91	1.02	1.98	1.27	2.37	1.28	1.69	1.93	1.28	.63
IN.	.45	.54	1.05	1.18	2.06	1.47	2.65	1.47	1.89	2.23	1.47	.71

CAL YR 1969 TOTAL 22,635 MEAN 62.0 MAX 729 MIN 27 CFSM .66 IN 8.92
WTR YR 1970 TOTAL 43,532 MEAN 119 MAX 1,220 MIN 30 CFSM 1.26 IN 17.15

PEAK DISCHARGE (BASE, 1,900 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
6- 5	2300	6.47	2,220	8-23	0900	8.16	3,240
7-10	0200	7.10	2,600				

01580200 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, 5, 260 cfs July 10 (gage height, 9.69 ft, but may have been more during period of backwater effect on Aug. 20); maximum gage height, 10.02 ft Aug. 20 (backwater from debris); minimum, 29 cfs Dec. 7, result of freezeup.
Period of record: Maximum discharge, 6, 130 cfs Aug. 27, 1967 (gage height, 10.45 ft); minimum, 29 cfs Dec. 7, 1969 result of freezeup.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	47	52	202	160	125	201	188	122	132	130	100
2	47	51	49	140	510	122	622	182	120	614	115	95
3	85	56	52	124	653	128	482	204	148	258	110	95
4	61	53	48	100	330	138	302	195	138	216	110	95
5	51	48	40	120	220	175	258	185	140	178	105	90
6	48	51	40	110	185	148	231	178	578	155	105	90
7	48	54	55	100	172	132	228	170	182	140	105	85
8	53	57	126	90	160	132	204	168	145	130	100	85
9	54	73	94	100	154	125	192	168	132	122	110	90
10	50	68	161	110	840	120	182	162	125	2,060	105	95
11	48	57	508	110	380	120	175	158	120	397	100	90
12	48	56	147	110	276	118	170	155	118	240	95	85
13	48	62	107	110	219	150	165	155	210	186	95	80
14	47	59	98	100	188	132	355	158	125	164	90	80
15	46	71	91	95	188	120	970	152	118	164	90	80
16	46	61	83	100	175	116	426	148	138	281	90	80
17	46	54	75	100	170	112	320	190	270	158	90	75
18	44	54	70	150	182	122	282	182	650	138	85	80
19	44	62	70	130	204	140	255	152	650	130	95	85
20	44	142	68	100	190	158	288	142	210	141	340	80
21	84	85	80	95	150	216	273	135	383	378	360	75
22	61	67	208	95	148	188	240	132	606	155	120	70
23	50	62	190	110	152	282	228	132	225	145	1,140	70
24	47	60	110	120	142	190	273	130	182	145	250	70
25	47	57	100	120	142	170	270	182	175	140	160	70
26	47	55	220	120	125	165	225	182	172	135	135	85
27	48	53	160	130	120	225	216	172	228	130	120	80
28	48	53	130	120	120	168	210	140	182	120	110	95
29	47	52	120	200	------	243	204	132	162	120	105	75
30	46	52	122	400	------	261	192	128	150	125	105	75
31	46	------	386	170	------	216	------	125	------	120	110	------
TOTAL	1,572	1,832	3,860	3,981	6,655	4,957	8,639	4,982	6,904	7,717	4,980	2,500
MEAN	50.7	61.1	125	128	238	160	288	161	230	249	161	83.3
MAX	85	142	508	400	840	282	970	204	650	2,060	1,140	100
MIN	43	47	40	90	120	112	165	125	118	120	85	70
CFSM	.41	.49	1.00	1.02	1.90	1.28	2.30	1.29	1.84	1.99	1.29	.67
IN.	.47	.55	1.15	1.18	1.98	1.48	2.57	1.48	2.05	2.30	1.48	.74

CAL YR 1969 TOTAL 30,902 MEAN 84.7 MAX 604 MIN 36 CFSM .68 IN 9.20
WTR YR 1970 TOTAL 58,579 MEAN 160 MAX 2,060 MIN 40 CFSM 1.28 IN 17.43

PEAK DISCHARGE (BASE, 2,500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
6-18	2100	7.01	2,590	8-20	Unknown	10.02	Unknown
7-10	0930	9.69	5,260	8-23	1200	8.49	3,940

01581500 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 September 1970 (discontinued). October 1950 to September 1955 at site 0.5 mile upstream, published as "near Bel Air," station number 01581000; records not equivalent.

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

AVERAGE DISCHARGE.--21 years (1944-50, 1955-70), 10.2 cfs (16.26 inches per year).

EXTREMES.--Current year: Maximum discharge, 876 cfs Aug. 20 (gage height, 4.58 ft); minimum, 0.42 cfs Jan. 13 (gage height, 0.81 ft), result of freezeup.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.6	2.1	19	9.0	5.5	12	7.7	3.6	4.3	4.9	3.2
2	4.4	2.4	2.1	11	35	6.1	98	7.4	3.5	30	3.6	3.0
3	3.8	1.9	2.1	8.8	66	6.9	21	8.7	3.4	8.5	14	3.0
4	1.7	1.6	2.0	6.8	16	12	12	7.9	3.3	8.4	7.9	3.2
5	1.5	1.6	1.8	6.2	8.3	14	10	7.4	22	6.5	3.5	2.8
6	1.5	2.6	1.8	6.4	8.4	8.3	9.6	6.6	22	4.7	3.2	2.6
7	1.5	2.2	5.1	6.7	8.1	7.3	11	6.1	7.3	4.0	3.0	2.5
8	2.6	3.1	25	5.9	7.6	6.8	8.6	5.9	4.4	3.7	3.0	2.5
9	1.7	5.6	5.3	5.5	17	6.3	8.2	5.7	3.7	5.6	3.0	8.0
10	1.5	2.6	63	5.0	116	5.9	7.4	5.4	3.5	68	3.1	3.4
11	1.5	1.9	37	5.0	29	5.7	6.9	5.1	3.3	9.2	2.9	3.0
12	1.5	2.8	8.1	5.0	14	6.8	6.9	5.0	17	6.1	2.6	2.6
13	1.5	2.6	5.4	5.0	10	7.4	6.8	5.0	7.3	4.7	2.5	2.5
14	1.5	6.6	5.9	4.7	7.8	6.1	80	4.9	3.6	4.2	3.1	2.5
15	1.3	4.8	6.2	4.3	9.2	5.5	79	4.6	3.7	4.8	2.7	2.5
16	1.3	2.4	5.0	4.4	8.8	5.1	19	4.9	8.6	5.6	2.4	2.5
17	1.4	2.2	3.8	6.1	11	5.0	13	11	27	3.7	2.4	2.4
18	1.3	2.2	3.6	22	15	9.5	11	6.2	122	3.5	2.2	2.4
19	1.5	15	3.9	11	14	10	9.6	4.6	39	3.3	2.9	2.4
20	1.4	13	3.7	6.0	9.3	24	26	3.9	8.3	9.2	164	2.2
21	7.6	4.4	3.2	5.5	7.2	18	14	3.8	46	11	27	2.4
22	1.8	2.8	57	5.0	7.6	33	10	3.7	42	3.8	5.3	2.4
23	1.5	2.7	14	4.6	7.4	22	11	3.7	9.1	3.8	59	2.4
24	1.7	2.7	7.2	4.6	7.0	11	28	4.1	6.6	6.3	9.9	2.5
25	1.6	2.4	4.9	4.6	7.0	8.5	15	5.1	5.6	4.3	6.0	2.2
26	1.6	2.3	70	10	6.2	13	10	35	5.3	3.7	4.6	2.0
27	1.6	2.2	19	9.1	5.7	14	9.8	11	47	3.2	4.2	3.4
28	1.6	2.2	13	14	5.8	8.4	9.2	5.2	7.6	3.1	3.6	2.6
29	1.5	2.2	7.9	33	------	43	8.4	4.3	5.5	8.0	3.4	2.2
30	1.5	2.2	34	24	------	18	7.9	3.8	4.9	20	3.4	2.2
31	1.6	------	85	9.8	------	15	------	3.7	------	11	4.2	------
TOTAL	59.3	104.8	508.1	279.0	473.4	368.1	579.3	207.4	496.1	276.2	367.5	83.5
MEAN	1.91	3.49	16.4	9.00	16.9	11.9	19.3	6.69	16.5	8.91	11.9	2.78
MAX	7.6	15	85	33	116	43	98	35	122	68	164	8.0
MIN	1.3	1.6	1.8	4.3	5.7	5.0	6.8	3.7	3.3	3.1	2.2	2.0
CFSM	.22	.41	1.92	1.06	1.98	1.40	2.27	.79	1.94	1.05	1.40	.33
IN.	.26	.46	2.22	1.22	2.07	1.61	2.53	.91	2.17	1.21	1.60	.36

CAL YR 1969 TOTAL 2,026.50 MEAN 5.55 MAX 85 MIN .80 CFSM .65 IN 8.85
WTR YR 1970 TOTAL 3,802.70 MEAN 10.4 MAX 164 MIN 1.3 CFSM 1.22 IN 16.60

PEAK DISCHARGE (BASE, 440 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
6-18	2130	3.56	471	8-20	2100	4.58	876

01581700 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, 1,880 cfs July 10 (gage height, 6.25 ft); minimum, 10 cfs Oct. 1, 2.
Period of record: Maximum discharge, about 4,300 cfs Sept. 10, 1968 (gage height, about 8.9 ft from high-water 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	14	15	59	32	30	46	44	29	30	36	22
2	14	14	17	40	120	31	201	45	29	83	30	20
3	21	15	14	34	150	32	85	50	28	38	30	20
4	14	14	14	32	50	39	58	46	27	45	38	20
5	12	14	15	30	37	49	51	45	66	33	29	18
6	12	16	17	28	30	38	47	42	69	28	28	17
7	12	16	18	28	28	35	48	40	39	26	27	17
8	14	17	50	26	26	34	44	41	32	25	27	17
9	13	21	24	24	36	31	41	41	30	33	27	25
10	12	18	100	24	308	32	41	38	29	444	26	21
11	12	16	140	24	84	32	40	38	29	62	26	20
12	12	16	36	24	59	32	38	37	51	43	25	17
13	12	16	27	22	46	35	38	36	44	37	24	17
14	12	18	26	22	41	32	166	36	30	35	26	17
15	11	20	25	20	43	31	252	35	29	36	25	17
16	12	16	22	20	39	30	88	34	38	37	24	17
17	12	16	22	22	41	30	67	53	59	31	23	16
18	11	15	22	46	59	37	60	43	299	30	22	17
19	11	23	20	34	54	40	54	37	160	29	22	17
20	12	40	20	24	42	52	72	35	45	36	70	16
21	29	20	20	22	37	55	60	33	129	62	60	16
22	15	17	124	20	36	68	53	33	141	32	29	16
23	13	16	52	20	35	72	53	33	50	30	210	16
24	13	17	30	20	34	46	73	35	41	34	45	15
25	13	16	26	22	34	40	60	42	37	31	30	15
26	14	16	80	36	32	44	51	60	35	30	30	15
27	14	15	50	44	36	52	50	43	167	28	28	17
28	13	15	40	46	30	40	49	33	43	27	25	18
29	13	15	33	140	------	83	46	31	36	30	24	16
30	13	15	55	80	------	60	44	29	33	64	24	16
31	13	------	199	34	------	52	------	30	------	64	24	------
TOTAL	414	517	1,353	1,067	1,599	1,314	2,076	1,218	1,874	1,593	1,114	528
MEAN	13.4	17.2	43.6	34.4	57.1	42.4	69.2	39.3	62.5	51.4	35.9	17.6
MAX	29	40	199	140	308	83	252	60	299	444	210	25
MIN	10	14	14	20	26	30	38	29	27	25	22	15
CFSM	.39	.49	1.25	.99	1.64	1.22	1.99	1.13	1.80	1.48	1.03	.51
IN.	.44	.55	1.45	1.14	1.71	1.40	2.22	1.30	2.00	1.70	1.19	.56

CAL YR 1969 TOTAL 8,304.0 MEAN 22.8 MAX 199 MIN 7.6 CFSM .66 IN 8.88
WTR YR 1970 TOTAL 14,667.0 MEAN 40.2 MAX 444 MIN 10 CFSM 1.16 IN 15.68

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
6-18	2045	5.53	1,410	8-23	0915	4.87	1,040
7-10	0400	6.25	1,880				

01582000 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.--26 years, 62.1 cfs (15.94 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,900 cfs Aug. 23 (gage height, 5.91 ft); minimum, 7.5 cfs Dec. 6, result of freezeup.
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. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	20	21	69	71	46	80	75	48	44	49	32
2	23	20	19	56	295	47	320	73	47	370	42	31
3	32	22	21	46	208	49	150	91	46	85	39	32
4	19	19	20	39	111	54	122	77	47	73	38	32
5	17	19	18	44	90	65	106	74	144	58	37	30
6	18	24	17	39	69	54	98	70	98	52	37	29
7	18	24	21	37	63	51	95	69	61	48	36	28
8	20	30	57	38	58	50	86	69	52	46	36	28
9	19	33	35	40	65	48	82	67	48	336	39	30
10	18	27	73	40	345	46	77	65	46	430	36	31
11	18	23	161	40	138	46	73	64	45	118	35	29
12	18	26	55	38	105	52	71	62	141	86	34	27
13	18	28	42	36	86	60	68	62	77	72	33	27
14	19	27	41	34	73	51	161	63	49	65	33	27
15	18	34	36	32	74	48	298	61	48	68	33	27
16	18	25	33	31	66	45	154	60	58	110	31	26
17	19	24	30	33	66	44	126	80	60	60	31	25
18	18	23	29	51	76	51	111	66	256	54	29	27
19	19	32	29	40	82	54	104	59	123	51	30	29
20	19	61	28	33	67	70	122	56	64	76	73	26
21	41	31	26	30	57	73	106	54	142	68	61	26
22	21	26	80	32	56	84	97	53	181	51	34	26
23	19	25	52	32	57	94	91	52	73	50	329	25
24	19	24	39	32	54	74	112	66	61	52	59	25
25	19	23	36	34	54	66	98	84	55	49	44	25
26	20	22	44	35	49	70	89	69	52	47	39	30
27	20	22	46	36	56	82	86	63	91	44	37	35
28	20	21	38	34	48	65	84	54	54	43	35	33
29	19	21	36	98	------	98	81	52	49	42	34	28
30	19	21	45	103	------	89	78	50	47	53	33	28
31	19	------	131	66	------	88	------	49	------	46	37	------
TOTAL	620	777	1,359	1,348	2,639	1,914	3,426	2,009	2,363	2,847	1,493	854
MEAN	20.0	25.9	43.8	43.5	94.3	61.7	114	64.8	78.8	91.8	48.2	28.5
MAX	41	61	161	103	345	98	320	91	256	430	329	35
MIN	16	19	17	30	48	44	68	49	45	42	29	25
CFSM	.38	.49	.83	.82	1.78	1.17	2.16	1.23	1.49	1.74	.91	.54
IN.	.44	.55	.96	.95	1.86	1.35	2.41	1.41	1.66	2.00	1.05	.60

CAL YR 1969 TOTAL 12,464 MEAN 34.1 MAX 636 MIN 14 CFSM .64 IN 8.76
WTR YR 1970 TOTAL 21,649 MEAN 59.3 MAX 430 MIN 16 CFSM 1.12 IN 15.22

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
6- 5	2230	4.25	1,090	7-10	0300	5.58	1,740
6-18	2030	5.36	1,630	8-23	0830	5.91	1,900
7- 2	1030	4.64	1,270				

01583000 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.--23 years, 2.05 cfs (13.32 inches per year).

EXTREMES.--Current year: Maximum discharge, 80 cfs June 27 (gage height, 3.20 ft); minimum, 0.31 cfs part of each day Sept. 23-27.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.36	.41	.47	3.2	1.6	1.4	2.4	2.1	1.4	.97	.79	.60
2	1.4	.62	.41	2.5	3.8	1.4	9.2	2.0	1.4	3.1	.73	.56
3	1.5	.47	.41	2.1	4.3	1.5	4.0	2.6	1.4	2.1	.69	.60
4	.71	.47	.41	2.1	3.3	2.0	2.9	2.2	1.4	2.5	.74	.58
5	.54	.41	.41	2.0	1.9	2.2	2.5	2.0	2.0	1.5	.67	.47
6	.54	.47	.41	1.7	1.7	1.7	2.4	1.9	1.7	1.0	.67	.41
7	.54	.41	.71	1.7	1.5	1.7	2.5	1.8	1.4	1.0	.66	.41
8	.71	1.0	2.4	1.5	1.4	1.7	2.2	1.8	1.4	1.0	.64	.41
9	.54	.90	1.4	1.3	2.3	1.5	2.1	1.7	1.2	1.8	.63	.47
10	.47	.54	4.4	1.2	15	1.5	2.0	1.6	1.2	2.8	.65	.54
11	.62	.47	4.8	1.2	4.7	1.5	1.9	1.5	1.2	1.4	.63	.47
12	.71	.80	2.2	1.2	3.2	1.7	1.8	1.6	1.1	1.1	.59	.47
13	.71	.62	1.7	1.1	2.5	1.7	1.8	1.5	1.1	1.0	.56	.41
14	.62	.80	1.7	1.1	2.1	1.5	7.4	1.6	1.1	1.0	1.0	.41
15	.41	.80	1.5	1.0	2.2	1.4	7.7	1.5	1.1	1.0	.78	.41
16	.41	.47	1.3	1.0	1.9	1.4	3.8	1.4	1.8	1.0	.64	.42
17	.41	.47	1.0	1.4	2.0	1.4	3.1	2.2	1.5	.87	.59	.41
18	.36	.47	1.0	3.0	2.6	1.7	2.7	1.7	1.7	.85	.55	.46
19	.41	1.1	1.0	1.4	2.8	1.8	2.5	1.6	1.4	.84	.69	.50
20	.47	2.0	.90	1.2	2.1	3.4	3.2	1.5	1.2	2.5	.68	.44
21	2.5	.90	.90	1.1	2.2	3.0	2.7	1.4	1.9	1.4	.59	.44
22	.54	1.1	4.2	1.1	1.7	3.5	2.4	1.2	1.4	.97	.54	.42
23	.36	.90	2.6	1.1	1.7	3.1	2.5	1.2	1.2	.97	7.2	.38
24	.36	.54	1.8	1.1	1.6	2.3	3.3	1.6	1.1	1.0	.99	.37
25	.36	.54	1.7	1.2	1.6	2.0	2.7	1.8	1.1	.97	.77	.36
26	.41	.54	4.7	1.4	1.8	2.4	2.5	1.7	1.1	.89	.71	.35
27	.41	.47	2.5	1.4	1.5	2.4	2.4	1.5	7.7	.86	.67	.60
28	.41	.47	1.8	1.5	1.4	2.0	2.3	1.5	1.2	.85	.64	.58
29	.36	.47	1.4	6.0	------	3.8	2.2	1.5	1.1	.84	.59	.47
30	.36	.47	2.3	3.0	------	2.9	2.2	1.4	1.1	.86	.58	.49
31	.36	------	6.8	1.8	------	2.7	------	1.4	------	.85	.76	------
TOTAL	18.87	20.10	59.23	53.6	76.4	64.2	93.3	52.0	46.6	39.79	27.62	13.91
MEAN	.61	.67	1.91	1.73	2.73	2.07	3.11	1.68	1.55	1.28	.89	.46
MAX	2.5	2.0	6.8	6.0	15	3.8	9.2	2.6	7.7	3.1	7.2	.60
MIN	.36	.41	.41	1.0	1.4	1.4	1.8	1.2	1.1	.84	.54	.35
CFSM	.29	.32	.91	.83	1.31	.99	1.49	.80	.74	.61	.43	.22
IN.	.34	.36	1.05	.95	1.36	1.14	1.66	.93	.83	.71	.49	.25

CAL YR 1969 TOTAL 404.24 MEAN 1.11 MAX 6.8 MIN .27 CFSM .53 IN 7.20
WTR YR 1970 TOTAL 565.62 MEAN 1.55 MAX 15 MIN .35 CFSM .74 IN 10.07

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

01583500 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. Datum of gage is 262.78 ft (Baltimore County bench mark).

AVERAGE DISCHARGE.--26 years, 60.8 cfs (13.81 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,130 cfs Feb. 10 (gage height, 4.76 ft); minimum, 15 cfs Oct. 1, Sept. 23-27.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	18	20	88	64	51	77	66	42	36	29	22
2	19	19	19	65	182	52	292	66	42	63	27	20
3	31	21	19	56	175	55	138	78	41	44	25	20
4	19	19	19	49	96	59	104	70	40	50	27	21
5	17	18	18	46	77	75	91	66	48	41	25	19
6	17	20	20	44	63	60	83	63	71	35	25	18
7	17	19	23	43	59	56	85	61	48	33	24	17
8	18	24	53	39	56	55	76	61	42	32	25	17
9	17	30	35	46	67	52	71	60	40	66	24	21
10	16	24	63	46	562	51	68	58	39	154	24	22
11	16	21	182	46	154	50	65	57	36	61	24	21
12	16	22	59	41	110	52	63	56	36	43	22	19
13	16	24	45	41	88	60	62	56	39	38	21	18
14	17	23	43	40	76	54	138	59	35	36	22	18
15	16	28	39	38	76	50	249	56	35	35	26	18
16	16	22	36	36	70	48	125	56	47	36	21	17
17	17	21	32	40	70	47	102	74	47	32	20	16
18	16	21	30	82	90	54	92	63	62	30	19	17
19	17	25	30	59	95	57	85	56	45	30	20	19
20	17	49	29	38	75	74	101	54	37	48	33	18
21	40	28	27	36	64	85	88	50	64	62	33	17
22	19	24	88	38	62	85	80	48	74	34	20	17
23	17	23	57	38	61	101	78	48	43	33	205	16
24	17	22	42	38	58	75	96	52	38	34	40	15
25	17	21	35	40	58	67	86	56	36	33	30	15
26	18	21	57	44	54	69	77	57	62	31	27	15
27	18	20	54	50	53	81	75	56	165	29	26	19
28	18	20	52	46	53	66	74	46	50	28	23	24
29	17	20	38	220	------	100	71	46	41	28	22	18
30	17	20	53	147	------	92	68	45	38	33	21	18
31	17	------	213	69	------	85	------	43	------	30	24	------
TOTAL	565	687	1,530	1,749	2,768	2,018	2,960	1,783	1,483	1,318	954	552
MEAN	18.2	22.9	49.4	56.4	98.9	65.1	98.7	57.5	49.4	42.5	30.8	18.4
MAX	40	49	213	220	562	101	292	78	165	154	205	24
MIN	15	18	18	36	53	47	62	43	35	28	19	15
CFSM	.30	.38	.83	.94	1.65	1.09	1.65	.96	.83	.71	.52	.31
IN.	.35	.43	.95	1.09	1.72	1.26	1.84	1.11	.92	.82	.59	.34

CAL YR 1969 TOTAL 13,139 MEAN 36.0 MAX 337 MIN 13 CFSM .60 IN 8.17
WTR YR 1970 TOTAL 18,367 MEAN 50.3 MAX 562 MIN 15 CFSM .84 IN 11.43

PEAK DISCHARGE (BASE, 1,000 CFS).--February 10 (0530) 1,130 cfs (4.76 ft).

01584500 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 September 1970 (discontinued). 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.--44 years, 44.4 cfs (16.70 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,130 cfs July 10 (gage height, 6.40 ft, from high-water mark in well); minimum, 9.2 cfs Dec. 7, result of freezeup; minimum daily, 12 cfs Oct. 1.
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 of no gage-height record).

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

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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	14	15	55	40	30	43	40	26	24	30	20
2	15	14	15	41	100	30	168	42	26	90	26	18
3	27	15	15	36	120	32	74	46	24	36	26	18
4	16	14	15	35	50	37	53	42	24	42	30	18
5	14	14	16	36	32	46	47	40	60	31	24	16
6	14	16	20	29	28	36	44	38	65	26	22	15
7	15	15	17	29	26	32	46	36	36	24	22	15
8	15	18	44	28	26	30	41	36	30	24	22	15
9	15	22	25	25	32	30	40	36	28	34	22	17
10	14	19	81	25	200	30	38	34	26	600	22	18
11	13	17	110	25	70	30	36	34	26	50	20	17
12	13	17	38	26	52	32	36	32	44	36	20	15
13	13	18	30	24	44	34	36	32	40	34	20	15
14	14	18	26	23	38	31	104	32	28	32	22	15
15	13	21	26	22	40	29	188	32	26	34	22	15
16	13	18	24	22	38	28	71	32	34	34	20	15
17	13	16	24	24	39	28	57	50	50	28	20	14
18	13	16	24	49	58	33	51	40	200	28	18	15
19	13	20	22	36	52	38	48	34	100	28	18	14
20	13	44	21	26	41	45	58	32	40	32	70	14
21	28	23	21	23	35	52	52	30	90	56	60	14
22	16	19	121	22	34	54	50	30	100	28	24	14
23	14	19	51	22	34	64	50	30	40	26	150	14
24	13	18	32	22	33	43	70	32	32	30	40	13
25	14	17	24	24	33	38	55	40	28	26	24	13
26	14	17	79	37	30	39	50	60	26	24	22	13
27	14	16	44	46	32	53	46	40	120	22	20	15
28	14	16	36	37	30	38	44	30	36	22	20	16
29	13	16	32	145	------	63	42	28	30	24	19	14
30	13	16	60	94	------	54	40	26	26	80	19	14
31	13	------	148	44	------	48	------	26	------	70	22	------
TOTAL	454	543	1,256	1,132	1,387	1,207	1,778	1,112	1,461	1,675	916	459
MEAN	14.6	18.1	40.5	36.5	49.5	38.9	59.3	35.9	48.7	54.0	29.5	15.3
MAX	28	44	148	145	200	64	188	60	200	600	150	20
MIN	12	14	15	22	26	28	36	26	24	22	18	13
CFSM	.40	.50	1.12	1.01	1.37	1.08	1.64	.99	1.35	1.50	.82	.42
IN.	.47	.56	1.29	1.17	1.43	1.24	1.83	1.15	1.51	1.73	.94	.47

CAL YR 1969 TOTAL 8,287.5 MEAN 22.7 MAX 148 MIN 8.6 CFSM .63 IN 8.54
WTR YR 1970 TOTAL 13,380.0 MEAN 36.7 MAX 600 MIN 12 CFSM 1.02 IN 13.79

PEAK DISCHARGE (BASE, 1,000 CFS).--July 10 (unknown) 3,130 cfs (6.40 ft).

NOTE.--No gage-height record Apr. 21 to June 8, June 12 to Sept. 30.

01585100 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. Datum of gage is 38.96 ft above mean sea level.

AVERAGE DISCHARGE.--11 years, 8.40 cfs (14.99 inches per year).

EXTREMES.--Current year: Maximum discharge, 846 cfs Dec. 10 (gage height, 4.34 ft); minimum, 0.41 cfs Sept. 6-8, 16-27 (gage height, 1.23 ft), minimum daily, 0.54 Sept. 6-7, 20, 26.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	1.2	1.4	15	3.4	3.1	9.1	4.6	3.1	4.0	4.0	1.8
2	7.2	2.8	1.3	8.2	8.5	3.7	117	4.6	2.9	21	2.4	1.8
3	4.2	2.1	1.3	6.5	48	4.9	17	5.3	3.4	2.9	13	1.8
4	1.1	1.4	1.1	4.6	16	10	9.5	5.3	3.7	2.4	21	1.8
5	.87	1.3	1.0	3.9	5.3	10	7.5	4.6	13	2.0	2.6	.62
6	.90	3.2	1.0	3.4	5.0	5.3	7.5	3.7	14	1.6	1.4	.54
7	.93	3.4	5.4	3.8	4.5	4.3	9.1	3.7	2.9	2.2	1.6	.54
8	5.5	5.9	18	2.0	4.1	4.0	6.3	3.7	3.1	2.0	1.4	1.6
9	1.6	6.0	3.3	1.8	23	3.7	5.8	3.7	1.8	4.3	1.4	2.6
10	1.1	3.8	109	1.6	148	3.4	4.9	3.4	2.6	50	1.4	2.6
11	1.0	4.3	32	1.6	17	3.4	4.6	3.1	2.6	4.0	2.9	2.9
12	1.0	6.0	6.2	1.6	8.7	4.9	4.3	3.1	3.7	2.4	2.6	.79
13	1.3	5.1	3.8	1.6	4.5	6.3	4.3	4.0	2.6	2.2	2.6	.79
14	2.3	7.1	6.9	1.6	4.3	3.7	88	8.3	2.6	2.6	2.2	1.4
15	2.1	6.1	6.8	1.6	7.5	3.4	64	4.3	2.9	2.9	1.2	1.8
16	2.0	4.4	4.1	3.0	8.3	3.4	13	3.1	14	1.6	.99	1.4
17	1.8	4.3	2.9	4.5	9.9	3.1	9.5	11	14	1.1	3.7	1.1
18	.89	3.1	2.6	35	10	8.7	7.9	4.3	21	.99	2.0	1.4
19	.99	14	2.5	6.0	9.9	7.5	6.7	4.3	7.9	.99	2.0	.70
20	1.7	11	2.2	3.0	5.8	14	31	3.7	2.6	24	4.6	.54
21	5.9	2.6	2.0	2.4	4.5	9.9	10	3.4	30	36	3.1	1.2
22	1.4	2.0	117	2.0	4.5	31	7.5	3.7	7.9	3.4	.89	1.2
23	2.0	1.9	12	2.0	4.3	16	7.1	2.2	3.7	2.2	36	1.8
24	.97	1.7	5.5	2.0	4.0	7.9	18	4.0	2.2	4.3	3.7	1.4
25	1.0	1.6	3.2	2.2	4.0	5.8	9.1	6.7	2.0	3.1	2.0	1.6
26	1.1	1.5	109	3.5	3.4	16	7.1	4.0	2.2	2.4	1.6	.54
27	1.9	1.4	20	4.0	3.7	12	6.3	3.4	4.9	2.0	1.2	1.8
28	1.9	1.5	9.0	3.9	3.4	6.3	5.8	3.1	1.8	2.2	1.1	2.2
29	.98	1.4	8.5	5.0	------	47	5.3	2.9	1.6	2.4	.89	1.8
30	.99	1.4	66	4.0	------	14	4.9	1.8	2.9	38	.89	.70
31	1.1	------	125	3.5	------	12	------	1.8	------	21	1.6	------
TOTAL	59.42	113.5	690.0	144.8	383.5	288.7	508.1	128.8	183.6	252.18	127.96	42.76
MEAN	1.92	3.78	22.3	4.67	13.7	9.31	16.9	4.15	6.12	8.13	4.13	1.43
MAX	7.2	14	125	35	148	47	117	11	30	50	36	2.9
MIN	.87	1.2	1.0	1.6	3.4	3.1	4.3	1.8	1.6	.99	.89	.54
CFSM	.25	.50	2.93	.61	1.80	1.22	2.22	.55	.80	1.07	.54	.19
IN.	.29	.55	3.37	.71	1.87	1.41	2.48	.63	.90	1.23	.63	.21

CAL YR 1969 TOTAL 1,906.79 MEAN 5.22 MAX 125 MIN .30 CFSM .69 IN 9.32
WTR YR 1970 TOTAL 2,923.32 MEAN 8.01 MAX 148 MIN .54 CFSM 1.05 IN 14.29

PEAK DISCHARGE (BASE, 390 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-10	2130	4.34	846	4- 2	1515	3.34	446
12-22	1330	3.94	686	7-10	0230	3.28	422
12-30	2400	3.23	402	7-30	2100	3.27	418
2-10	0130	3.92	678				

01585200 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.--11 years (1957-64, 1966 to current year), 2.14 cfs (13.64 inches per year).

EXTREMES.--Current year: Maximum discharge, 652 cfs July 10 (gage height, 4.63 ft); minimum daily, 0.12 cfs Sept. 26.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.38	.35	.40	2.9	.83	1.1	5.3	1.1	.76	.70	.91	.32
2	12	1.7	.53	1.9	3.4	.92	16	1.1	.71	10	.84	.30
3	1.0	.43	.41	1.4	12	2.8	2.5	2.4	.77	1.8	.78	.32
4	.60	.30	.40	.97	1.2	6.0	1.8	1.4	.81	1.0	.78	.28
5	.40	.60	.37	.93	1.1	1.3	1.5	1.1	5.3	.70	.70	.42
6	.40	1.5	.40	.94	1.0	1.2	1.8	1.1	3.8	.74	.80	.26
7	.40	.62	10	.95	.97	.92	3.2	1.0	.84	.61	.60	.32
8	2.4	2.9	3.7	.84	.91	.88	1.4	1.0	.82	.63	.60	.62
9	.42	2.7	.63	.84	13	.88	1.3	.99	.79	11	.60	1.7
10	.40	.38	20	.88	15	.87	1.2	.95	.76	16	.60	1.8
11	.40	.36	3.9	.70	2.9	.84	1.1	.89	.73	.93	.50	.41
12	.37	2.2	.96	.70	1.6	2.6	1.1	.94	2.0	.80	.51	.29
13	.36	.38	.81	.80	1.3	1.4	1.5	3.7	.71	.70	.72	.30
14	.37	3.0	3.5	.80	1.2	.88	22	4.0	.69	.60	1.8	.22
15	.30	.50	1.4	.76	2.3	.84	7.9	1.1	.61	.60	.42	.24
16	.30	.50	.80	.89	2.3	.80	2.2	.93	13	.60	.57	.24
17	.40	.40	.76	6.6	2.5	.77	1.8	6.0	2.3	.50	.93	.20
18	.31	.40	.72	7.4	2.5	4.8	1.6	.98	4.2	.50	.48	.32
19	.32	7.0	.64	1.3	1.9	1.2	1.6	.83	.99	.50	1.2	.28
20	.28	.90	.59	.92	1.2	5.5	5.0	.85	.82	16	1.2	.31
21	3.4	.48	.54	.70	1.0	1.4	1.5	.81	12	2.5	.67	.20
22	.28	.42	23	.70	1.1	8.7	1.4	1.0	1.2	.87	.58	.22
23	.37	.40	1.4	.70	1.0	2.0	1.7	.80	.90	.70	7.1	.20
24	.31	.40	.97	.70	1.0	1.2	5.4	1.7	.90	3.5	.51	.20
25	.33	.40	.73	.80	1.0	1.1	1.5	1.7	.90	1.0	.45	.25
26	.35	.35	21	3.8	.96	5.8	1.4	.88	.94	.80	.45	.12
27	.34	.38	2.2	1.4	.88	1.6	1.3	.83	2.1	.60	.48	1.4
28	.33	.39	1.6	1.3	.84	1.2	1.3	.97	.70	.70	.36	.22
29	.32	.41	2.2	2.2	------	11	1.2	.75	.60	.50	.60	.14
30	.30	.40	19	1.1	------	1.9	1.2	.77	.60	1.4	.39	.18
31	.35	------	13	.84	------	3.0	------	.78	------	1.1	1.5	------
TOTAL	28.49	31.15	136.56	47.66	76.89	75.40	99.7	43.35	62.25	78.58	28.63	12.28
MEAN	.92	1.04	4.41	1.54	2.75	2.43	3.32	1.40	2.08	2.53	.92	.41
MAX	12	7.0	23	7.4	15	11	22	6.0	13	16	7.1	1.8
MIN	.28	.30	.37	.70	.83	.77	1.1	.75	.60	.50	.36	.12
CFSM	.43	.49	2.07	.72	1.29	1.14	1.56	.66	.98	1.19	.43	.19
IN.	.50	.54	2.38	.83	1.34	1.32	1.74	.76	1.09	1.37	.50	.21

CAL YR 1969 TOTAL 609.21 MEAN 1.67 MAX 23 MIN .26 CFSM .78 IN 10.64
WTR YR 1970 TOTAL 720.94 MEAN 1.98 MAX 23 MIN .12 CFSM .93 IN 12.59

PEAK DISCHARGE (BASE, 230 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
6-21	1335	4.44	579	7-20	2145	3.94	422
7-10	0015	4.63	652				

01585300 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. Datum of gage is 19.24 ft above mean sea level (Baltimore County bench mark).

AVERAGE DISCHARGE.--11 years (1959-70), 5.57 cfs 15.31 inches per year).

EXTREMES.--Current year: Maximum discharge, 617 cfs Dec. 22 (gage height, 4.91 ft); minimum, 0.12 cfs. Sept. 19, 25 (gage height, 1.20 ft).
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.43	.51	.54	7.1	1.5	1.5	6.1	2.3	.90	.76	1.7	.41
2	6.4	1.6	.44	3.8	4.5	1.5	95	2.1	.90	24	1.2	.28
3	1.8	.78	.54	3.0	32	2.3	8.8	2.5	2.9	1.4	28	.32
4	.58	.51	.44	2.0	6.5	7.1	5.1	2.7	1.5	1.5	4.2	.34
5	.50	.51	.53	1.9	2.3	5.7	3.9	2.1	10	1.2	.76	.25
6	.52	1.9	.53	2.0	2.1	2.3	4.2	1.9	7.7	.76	1.0	.20
7	.53	.83	8.5	2.3	1.9	2.1	5.5	1.7	1.4	.64	.64	.21
8	4.7	3.2	9.8	1.4	1.9	1.7	3.0	1.7	1.0	.64	.64	.21
9	.75	4.2	1.2	1.2	21	1.5	3.0	1.7	1.0	4.2	.64	1.0
10	.54	.81	81	1.0	96	1.5	2.5	1.5	.90	40	.64	1.2
11	.54	.59	9.8	1.0	8.1	1.5	2.3	1.5	.90	1.9	.64	.88
12	.57	1.9	2.5	1.1	3.9	3.4	2.1	1.4	24	1.2	.54	.32
13	.56	.91	1.7	1.5	2.7	2.7	2.3	7.3	2.1	.94	.64	.30
14	.70	3.5	5.5	1.4	2.3	1.5	76	7.9	1.0	.85	.76	.33
15	.58	1.4	3.3	1.4	4.8	1.4	35	1.7	1.0	.90	1.2	.27
16	.58	.61	1.7	1.4	4.8	1.2	6.5	1.5	15	.88	.54	.23
17	.59	.56	1.2	5.9	6.3	1.2	4.5	7.9	6.1	.67	.90	.21
18	.50	.54	1.0	19	6.5	6.8	3.9	2.1	9.7	.61	.54	.20
19	.53	12	1.0	4.0	5.1	3.6	3.3	1.4	3.0	.56	1.0	.22
20	.55	3.6	.90	2.0	2.7	12	20	1.4	1.0	26	.54	.22
21	4.1	.90	.86	1.0	2.1	5.1	5.4	1.0	20	10	.54	.19
22	.50	.76	94	1.0	1.9	24	3.9	1.2	2.3	.90	.30	.17
23	.47	.64	5.0	1.0	1.9	7.5	3.9	1.2	1.2	.76	31	.17
24	.48	.54	2.3	1.0	1.7	3.3	13	1.4	1.0	4.2	1.1	.16
25	.46	.54	1.5	1.2	1.9	2.3	5.1	2.7	1.2	1.7	.65	.15
26	.51	.54	77	2.5	1.5	14	3.3	1.4	1.7	.98	.54	.16
27	.54	.54	7.9	2.0	1.5	5.8	3.0	1.0	2.3	.68	.51	.86
28	.62	.54	4.3	2.0	1.5	2.7	2.7	1.0	.76	.79	.43	.62
29	.50	.44	4.1	2.6	------	35	2.5	1.0	.76	.64	.37	.23
30	.52	.44	56	2.5	------	6.4	2.3	.90	.64	22	.31	.19
31	.54	------	66	1.7	------	6.0	------	1.0	------	4.2	1.2	------
TOTAL	31.69	46.34	451.08	82.9	230.9	174.6	338.1	68.10	123.86	156.46	83.67	10.50
MEAN	1.02	1.54	14.6	2.67	8.25	5.63	11.3	2.20	4.13	5.05	2.70	.35
MAX	6.4	12	94	19	96	35	95	7.9	24	40	31	1.2
MIN	.43	.44	.44	1.0	1.5	1.2	2.1	.90	.64	.56	.30	.15
CFSM	.21	.31	2.96	.54	1.67	1.14	2.29	.45	.84	1.02	.55	.07
IN.	.24	.35	3.40	.62	1.74	1.31	2.55	.51	.93	1.18	.63	.08

CAL YR 1969 TOTAL 1,264.02 MEAN 3.46 MAX 94 MIN .21 CFSM .70 IN 9.52
WTR YR 1970 TOTAL 1,798.20 MEAN 4.93 MAX 96 MIN .15 CFSM 1.00 IN 13.54

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-10	1900	4.74	572	4- 2	1430	4.50	510
12-22	1300	4.91	617	7-10	0145	4.50	510
2-10	0130	4.84	598	8- 3	2200	4.26	450

01585400 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.--12 years, 2.00 cfs (13.79 inches per year).

EXTREMES.--Current year: Maximum discharge, 229 cfs Apr. 2 (gage height, 3.30 ft); minimum 0.21 cfs part of each day Sept. 12-26.
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 except those for period of no gage-height record, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.31	.43	.47	3.8	.70	.60	2.5	.67	.37	.37	1.0	.31
2	1.1	.54	.45	1.8	2.0	.70	53	.67	.37	3.9	.60	.31
3	.46	.45	.50	1.4	14	1.5	5.6	.67	1.4	.50	8.5	.31
4	.31	.40	.46	1.1	3.0	3.0	1.6	.84	.85	.43	5.0	.31
5	.31	.44	.44	.93	1.1	2.4	1.1	.72	7.3	.43	.50	.31
6	.31	.71	.46	.97	1.0	1.0	1.0	.63	2.7	.37	.60	.31
7	.31	.57	2.9	1.1	.90	.90	1.7	.58	.58	.37	.47	.31
8	1.5	1.1	4.3	.90	.90	.70	.93	.58	.43	.31	.41	.31
9	.41	1.8	.79	.70	10	.70	.99	.58	.40	.50	.37	.31
10	.32	.62	34	.60	40	.70	.82	.56	.43	20	.39	.37
11	.31	.52	8.9	.60	5.0	.64	.71	.55	.37	1.0	.41	.31
12	.31	.73	1.2	.60	2.0	1.3	.67	.65	17	.60	.40	.26
13	.32	.59	.72	.60	1.4	1.2	.69	6.4	2.0	.50	.37	.26
14	.37	1.8	2.3	.50	1.2	.79	30	5.2	.58	.50	.37	.26
15	.37	.82	1.3	.50	2.2	.67	20	.85	.43	.50	.37	.26
16	.37	.52	.75	.60	2.4	.64	2.7	.58	11	.40	.37	.31
17	.36	.50	.60	2.0	3.0	.58	1.5	3.7	4.0	.40	.44	.26
18	.37	.50	.55	7.2	3.2	2.6	1.2	1.2	7.5	.40	.45	.26
19	.39	5.3	.58	1.6	2.4	1.7	1.1	.95	1.7	.40	.71	.26
20	.43	2.4	.54	.99	1.3	5.4	8.8	.50	.58	18	.44	.26
21	1.7	.72	.49	.70	1.0	2.7	2.2	.37	6.9	5.0	.44	.26
22	.39	.58	32	.50	.90	12	1.3	.37	1.4	.60	.37	.26
23	.37	.50	3.1	.50	.90	4.6	1.3	.37	.58	.50	7.0	.26
24	.37	.50	1.1	.50	.90	1.5	5.4	.43	.50	2.0	.69	.26
25	.37	.50	.68	.60	.90	1.0	2.3	.85	.43	.90	.50	.26
26	.37	.49	42	2.0	.70	2.4	1.2	.43	.76	.60	.41	.26
27	.38	.46	4.9	1.0	.70	1.9	1.0	.43	.50	.40	.38	.31
28	.40	.43	2.0	.90	.60	.94	.88	.43	.37	.40	.38	.31
29	.37	.46	1.9	1.5	------	14	.79	.37	.37	.43	.36	.26
30	.37	.46	24	1.0	------	3.2	.72	.37	.37	16	.35	.26
31	.43	------	33	.80	------	2.5	------	.37	------	5.5	.42	------
TOTAL	14.46	25.84	207.38	38.49	104.30	74.46	153.70	31.87	72.17	82.21	33.47	8.56
MEAN	.47	.86	6.69	1.24	3.73	2.40	5.12	1.03	2.41	2.65	1.08	.29
MAX	1.7	5.3	42	7.2	40	14	53	6.4	17	20	8.5	.37
MIN	.31	.40	.44	.50	.60	.58	.67	.37	.37	.31	.35	.26
CFSM	.24	.44	3.40	.63	1.89	1.22	2.60	.52	1.22	1.35	.55	.15
IN.	.27	.49	3.92	.73	1.97	1.41	2.90	.60	1.36	1.55	.63	.16

CAL YR 1969 TOTAL 536.25 MEAN 1.47 MAX 42 MIN .26 CFSM .75 IN 10.13
WTR YR 1970 TOTAL 846.91 MEAN 2.32 MAX 53 MIN .26 CFSM 1.18 IN 15.99

PEAK DISCHARGE (BASE, 120 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-10	2030	3.01	191	6-12	1615	2.77	162
12-22	1230	2.49	129	7-10	Unknown	2.82	168
4- 2	1500	3.30	229	7-30	2145	2.73	158

Note.--No gage-height record Jan.30 to Mar. 10.

01585500 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.--21 years, 3.24 cfs (13.37 inches per year, unadjusted for storage).

EXTREMES.--Current year: Maximum discharge, 1,070 cfs July 9 (gage height, 5.54 ft) from rating curve extended as explained below; minimum daily, 0.27 cfs Dec. 3.
Period of record: Maximum discharge, 1,070 cfs July 9, 1970 (gage height, 5.54 ft), from rating curve extended above 200 cfs on the basis of computation of peak flow through culvert; minimum daily, 0.27 cfs Dec. 3, 1969.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	.50	.32	4.2	4.8	3.0	4.7	4.0	1.8	2.3	2.4	1.8
2	1.5	.50	.34	3.3	11	3.3	13	4.1	.90	5.8	2.3	1.8
3	1.2	1.0	.27	3.0	7.6	3.7	6.3	6.6	.89	3.3	2.2	1.8
4	.98	1.9	.52	2.6	2.4	4.6	5.2	4.5	.90	3.0	2.2	1.8
5	.89	1.8	1.5	2.4	1.6	4.2	4.5	4.3	3.8	2.5	2.2	1.6
6	1.1	1.1	1.5	2.4	1.9	3.6	3.9	2.6	4.1	2.3	2.2	1.4
7	1.2	1.0	2.3	2.5	1.5	3.4	3.9	1.8	3.2	2.2	2.1	1.4
8	1.2	1.9	4.2	2.5	1.2	3.4	3.2	2.5	2.8	2.2	2.2	1.4
9	1.2	.62	.55	3.5	3.1	3.2	2.8	3.7	2.7	103	2.2	1.8
10	1.2	.89	7.7	4.2	18	3.0	2.6	3.6	2.6	61	2.1	2.0
11	1.2	2.0	5.3	2.8	7.6	2.9	2.5	3.6	2.5	5.9	2.1	1.8
12	1.2	1.5	1.1	1.8	5.4	3.8	3.1	3.6	2.5	4.6	2.0	1.6
13	1.2	.89	.64	1.4	4.5	3.9	3.9	3.6	2.4	3.9	1.9	1.5
14	1.2	2.1	.63	1.4	3.9	3.3	14	4.0	2.4	3.6	2.0	1.5
15	1.2	2.0	.58	1.8	4.1	3.1	14	3.7	2.5	3.5	2.0	1.4
16	1.2	1.9	.50	2.1	3.9	2.9	7.2	3.7	2.1	3.6	1.9	1.3
17	1.2	1.9	.49	2.4	4.0	2.9	6.1	4.9	.95	3.1	1.9	1.2
18	1.2	1.9	.98	3.7	5.0	3.4	5.4	3.8	2.4	3.0	1.8	1.4
19	1.2	4.2	2.2	2.8	5.3	4.1	5.2	3.5	2.7	2.8	2.0	1.5
20	1.4	3.4	2.0	2.2	3.9	5.9	7.5	3.3	2.4	2.8	2.5	1.3
21	2.0	2.1	1.9	2.2	3.4	4.6	5.6	3.2	7.6	2.8	2.0	1.3
22	1.4	1.8	2.4	2.2	3.7	6.2	5.0	3.1	4.6	2.7	2.0	1.2
23	1.4	1.9	1.1	1.9	3.6	5.1	5.0	3.1	2.8	2.8	5.5	1.1
24	1.4	.98	2.2	1.8	3.5	4.1	7.2	3.5	2.6	2.9	2.5	1.0
25	1.4	.69	1.9	1.9	3.5	3.8	5.4	4.0	2.4	2.7	1.9	1.0
26	1.4	1.2	2.2	2.5	3.0	4.2	4.8	2.2	2.9	2.5	1.9	1.0
27	1.6	.29	2.4	2.5	3.1	4.0	4.8	1.1	5.3	2.4	1.8	1.5
28	1.2	.28	2.3	2.5	3.1	3.6	4.6	2.2	2.7	2.4	1.8	3.5
29	.53	.28	2.2	11	------	7.4	4.5	2.9	2.5	2.4	1.7	2.0
30	.50	.29	3.3	7.1	------	5.3	4.2	2.9	2.4	2.5	1.7	1.5
31	.50	------	8.6	4.2	------	5.3	------	2.9	------	2.5	2.8	------
TOTAL	37.60	42.81	64.12	92.8	127.6	125.2	175.1	106.5	82.34	253.0	67.8	46.4
MEAN	1.21	1.43	2.07	2.99	4.56	4.04	5.84	3.44	2.74	8.16	2.19	1.55
MAX	2.0	4.2	8.6	11	18	7.4	18	6.6	7.6	103	5.5	3.5
MIN	.50	.28	.27	1.4	1.2	2.9	2.5	1.1	.89	2.2	1.7	1.0
CFSM	.37	.43	.63	.91	1.39	1.23	1.78	1.05	.83	2.48	.67	.47
IN.	.43	.48	.73	1.05	1.44	1.42	1.98	1.20	.93	2.86	.77	.52

CAL YR 1969 TOTAL 810.82 MEAN 2.22 MAX 29 MIN .27 CFSM .67 IN 9.17
WTR YR 1970 TOTAL 1,221.27 MEAN 3.35 MAX 103 MIN .27 CFSM 1.02 IN 13.81

PEAK DISCHARGE (BASE, 80 CFS).--July 9 (1645) 1,200 cfs (5.54 ft).

01586000 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. Altitude of gage is 425 ft (from topographic map).

AVERAGE DISCHARGE.--25 years, 57.7 cfs (13.84 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,710 cfs July 9 (gage height, 8.41 ft); minimum, 2.5 cfs July 25 (gage height, 1.15 ft), result of filling pond above station; minimum daily, 13 cfs Sept. 24.
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 1.69 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	21	23	85	83	52	81	70	38	32	30	21
2	30	26	21	62	202	53	359	75	36	65	27	19
3	38	23	23	54	204	59	161	110	34	38	25	19
4	25	23	21	43	102	65	122	80	35	46	26	20
5	22	22	21	39	85	81	107	75	130	34	24	18
6	23	23	20	43	78	65	99	70	106	31	24	17
7	23	22	24	42	73	58	98	65	55	28	24	17
8	26	38	79	30	69	55	86	65	43	27	24	16
9	23	33	42	31	78	52	82	60	39	617	25	18
10	22	26	93	34	367	50	77	60	38	788	24	19
11	22	24	194	35	151	50	73	55	36	100	23	18
12	23	26	63	35	110	61	71	55	35	70	22	19
13	22	27	47	35	93	68	71	60	34	56	21	20
14	21	25	47	33	83	56	177	70	32	49	29	16
15	21	27	44	31	84	52	283	70	33	46	26	16
16	21	26	39	31	78	49	134	65	51	67	22	15
17	21	23	35	34	76	47	113	75	42	42	21	14
18	22	23	31	62	87	55	102	70	41	38	20	15
19	21	33	35	52	95	62	96	65	38	36	20	17
20	21	71	34	38	77	85	124	60	33	56	28	16
21	38	33	30	32	64	82	102	55	70	53	22	15
22	23	27	69	34	65	92	90	50	102	37	20	14
23	21	27	43	32	66	95	87	50	41	37	110	14
24	21	26	38	32	63	76	111	50	36	38	32	13
25	21	24	30	33	63	70	94	55	33	35	25	15
26	22	24	23	39	53	70	86	53	53	33	23	49
27	22	23	42	53	55	78	83	44	139	30	22	32
28	21	23	38	43	55	64	82	40	42	35	21	25
29	20	22	36	150	------	115	81	41	35	35	20	19
30	21	23	46	140	------	90	75	39	33	32	19	17
31	20	------	150	79	------	91	------	39	------	31	29	------
TOTAL	720	814	1,481	1,516	2,759	2,098	3,407	1,891	1,513	2,662	828	563
MEAN	23.2	27.1	47.8	48.9	98.5	67.7	114	61.0	50.4	85.9	26.7	18.8
MAX	38	71	194	150	367	115	359	110	139	788	110	49
MIN	20	21	20	30	53	47	71	39	32	27	19	13
CFSM	.41	.48	.84	.86	1.74	1.20	2.01	1.08	.89	1.52	.47	.33
IN.	.47	.53	.97	1.00	1.81	1.38	2.24	1.24	.99	1.75	.54	.37

CAL YR 1969 TOTAL 13,869 MEAN 38.0 MAX 740 MIN 10 CFSM .67 IN 9.12
WTR YR 1970 TOTAL 20,252 MEAN 55.5 MAX 788 MIN 13 CFSM .98 IN 13.31

PEAK DISCHARGE (BASE, 1,000 CFS).--July 9 (2300) 2,710 cfs (8.41 ft).

01587500 South Branch Patpasco 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 Roat 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.

PERIÓD OF RECORD.--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.--22 years, 63.0 cfs (13.28 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,360 cfs July 10 (gage height, 4.83 ft); minimum, 12 cfs Sept. 26, 27 (gage height, 1.64 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 1970 are published in part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	20	21	111	90	51	85	77	48	32	32	19
2	22	22	19	70	118	51	352	72	46	70	28	16
3	33	23	21	58	157	60	172	124	46	53	25	16
4	20	22	20	50	100	70	130	90	46	43	25	18
5	18	20	18	46	80	97	112	82	50	38	23	16
6	18	22	19	42	70	68	103	72	77	33	24	15
7	18	21	23	43	65	60	106	70	48	30	23	15
8	19	33	55	32	62	58	92	70	41	29	40	14
9	18	36	37	30	70	54	87	68	40	87	24	15
10	17	25	98	30	422	53	80	64	40	387	23	17
11	17	21	242	30	168	51	74	60	40	60	23	16
12	17	23	60	30	115	54	70	60	45	46	21	15
13	18	24	43	30	92	64	70	70	46	40	20	14
14	19	24	40	28	80	54	422	215	36	37	21	14
15	18	25	41	28	85	51	408	85	37	36	23	13
16	18	21	38	30	74	50	188	72	95	40	20	14
17	18	20	36	35	70	48	151	118	60	33	19	13
18	17	20	30	50	82	56	142	90	68	30	16	13
19	17	29	30	45	112	66	130	70	50	29	41	14
20	18	67	29	35	82	100	148	64	40	80	56	13
21	28	32	27	30	64	109	145	58	66	127	23	13
22	22	26	81	28	62	100	124	56	92	40	19	14
23	18	24	52	28	62	118	118	54	46	37	74	13
24	18	24	38	30	58	85	130	54	40	40	34	12
25	18	22	37	32	60	74	112	87	37	36	26	12
26	20	22	32	35	53	74	97	68	38	33	23	12
27	20	21	38	45	50	82	95	58	50	29	21	13
28	20	21	36	40	53	66	92	53	37	29	20	17
29	18	20	34	270	------	121	87	51	34	28	18	14
30	19	21	50	184	------	106	80	50	33	32	17	13
31	19	------	288	97	------	92	------	50	------	37	23	------
TOTAL	596	751	1,633	1,672	2,656	2,243	4,202	2,332	1,472	1,701	825	433
MEAN	19.2	25.0	52.7	53.9	94.9	72.4	140	75.2	49.1	54.9	26.6	14.4
MAX	33	67	288	270	422	121	422	215	95	387	74	19
MIN	16	20	18	28	50	48	70	50	33	28	16	12
CFSM	.30	.39	.82	.84	1.47	1.12	2.17	1.17	.76	.85	.41	.22
IN.	.34	.43	.94	.97	1.53	1.30	2.43	1.35	.85	.98	.48	.25

CAL YR 1969 TOTAL 13,746 MEAN 37.7 MAX 591 MIN 10 CFSM .59 IN 7.94
WTR YR 1970 TOTAL 20,516 MEAN 56.2 MAX 422 MIN 12 CFSM .87 IN 11.85

PEAK DISCHARGE (BASE, 950 CFS).--July 10 (0130) 1,360 cfs (4.83 ft).

01589000 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, 1,670 cfs July 10 (gage height, 3.83 ft); minimum, 21 cfs Sept. 27 (gage height, 1.03 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). Diversions 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, and beginning February 1970 for a small municipal supply of part of Carroll County.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	39	46	214	130	86	147	131	79	59	59	39
2	50	43	45	140	185	89	573	126	77	111	50	32
3	78	45	46	120	280	102	320	173	77	103	45	32
4	47	45	45	100	168	122	205	148	75	113	45	35
5	39	43	42	90	134	162	181	136	83	75	43	32
6	38	43	40	90	120	121	168	124	131	64	43	29
7	39	41	51	90	109	105	179	117	92	59	43	27
8	41	50	128	85	105	102	154	117	81	55	56	27
9	41	75	89	85	134	97	147	114	75	79	44	29
10	38	49	169	75	732	94	138	108	75	605	42	32
11	38	41	488	75	277	91	128	104	72	118	40	33
12	38	41	132	75	187	93	125	103	90	88	39	29
13	38	45	92	75	153	112	122	116	94	73	38	27
14	40	45	86	70	132	97	593	439	70	66	43	27
15	39	50	85	65	135	89	749	170	70	64	44	27
16	38	44	77	65	131	86	307	128	161	70	38	28
17	39	44	68	72	123	83	235	206	139	59	35	25
18	38	44	65	140	139	99	209	170	128	55	34	25
19	38	64	64	130	177	118	189	128	103	52	35	28
20	39	149	60	85	170	142	227	113	79	62	90	27
21	52	75	57	70	112	199	200	103	136	257	42	26
22	54	59	236	65	110	160	172	99	164	73	35	26
23	41	54	132	60	111	207	161	94	92	64	111	26
24	39	52	94	60	102	147	196	92	77	75	70	24
25	39	50	70	71	104	130	180	136	72	64	46	23
26	40	50	65	133	89	135	157	111	70	58	39	22
27	40	48	90	199	89	156	153	103	96	53	37	25
28	41	47	85	137	94	124	149	88	73	52	36	34
29	38	47	80	329	------	195	144	85	64	50	34	29
30	38	46	139	348	------	195	136	83	62	77	33	28
31	38	------	557	160	------	160	------	81	------	81	38	------
TOTAL	1,291	1,568	3,523	3,573	4,532	3,898	6,744	4,046	2,757	2,934	1,427	853
MEAN	41.6	52.3	114	115	162	126	225	131	91.9	94.6	46.0	28.4
MAX	78	149	557	348	732	207	749	439	164	605	111	39
MIN	35	39	40	60	89	83	122	81	62	50	33	22
(†)	34,960	33,930	34,530	34,370	37,050	38,410	42,390	42,180	41,760	42,060	39,250	35,650
(‡)	131	125	122	151	129	129	121	171	162	180	221	216

CAL YR 1969 TOTAL 26,841 MEAN 73.5 MAX 775 MIN 20
WTR YR 1970 TOTAL 37,146 MEAN 102 MAX 749 MIN 22

† Month-end contents, in millions of gallons, in Liberty Reservoir (contents on Sept. 30, 1969, 36,640 million gallons); records furnished by Baltimore Department of Public Works.
‡ Diversions, in cubic feet per second, above station for municipal supply of city of Westminster; and from Liberty Reservoir for municipal supply of city of Baltimore, and for part of Carroll County. Records furnished by cities of Westminster and Baltimore respectively.

01589100 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.--13 years, 2.79 cfs (15.34 inches per year).

EXTREMES.--Current year: Maximum discharge, 518 cfs Aug. 14 (gage height, 3.81 ft); minimum, 0.04 cfs July 20, result of regulation; minimum daily, 0.60 cfs Dec. 5, Sept. 20.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	.88	.70	3.2	.99	1.2	6.7	2.0	1.2	1.1	1.0	1.1
2	7.6	1.6	.70	2.4	2.5	1.5	19	1.8	1.4	5.5	.90	1.1
3	1.3	1.0	.70	2.1	13	3.7	3.9	2.1	1.9	1.1	1.4	1.1
4	.88	1.1	.70	1.4	1.7	5.0	2.7	1.8	2.0	3.9	1.2	1.1
5	.72	1.2	.60	1.2	1.7	3.5	2.2	1.6	2.9	.92	1.2	.86
6	1.0	1.9	.70	1.1	1.7	2.0	2.7	1.4	2.7	.96	1.2	.72
7	1.1	1.2	7.7	1.1	1.5	1.8	3.7	1.4	.93	.97	1.1	.71
8	2.7	2.7	3.5	1.1	1.2	1.8	2.2	1.4	1.2	1.0	.91	.95
9	1.1	2.2	1.2	1.1	16	1.7	2.0	1.2	1.2	9.5	.80	1.4
10	1.1	.98	25	1.1	30	1.5	1.9	1.2	1.2	6.7	1.0	3.2
11	.88	1.2	3.7	1.1	4.9	1.6	1.9	1.2	1.2	1.0	1.2	1.1
12	.80	2.2	1.7	1.0	2.9	2.4	1.5	1.5	2.2	.83	1.1	.76
13	1.1	1.2	1.2	1.0	2.3	2.0	2.5	5.0	1.1	1.4	1.0	.65
14	1.1	3.5	3.3	1.0	2.3	1.6	33	11	.89	1.5	22	.80
15	1.1	1.1	1.5	1.2	4.4	1.5	12	2.2	1.2	1.2	1.2	.90
16	1.1	.72	1.5	1.2	4.4	1.5	3.9	1.5	5.5	1.4	1.0	.85
17	1.1	.88	1.4	6.1	4.1	1.5	3.3	3.9	1.6	1.2	1.2	.85
18	.88	1.1	1.4	6.2	3.9	5.0	2.9	1.7	7.8	.86	1.2	.95
19	.72	8.5	1.4	1.5	2.7	1.9	2.5	1.7	1.5	.78	1.7	.75
20	1.0	2.0	1.1	1.2	2.0	6.2	6.1	1.6	1.1	17	1.3	.60
21	2.3	1.2	.87	1.1	1.6	2.4	2.7	1.5	6.1	2.9	1.2	.87
22	1.1	1.1	20	1.1	1.5	7.8	2.3	1.5	1.7	1.2	1.0	1.0
23	1.1	.80	2.4	1.1	1.5	2.8	2.7	5.5	1.2	1.7	15	.80
24	1.2	.88	1.5	1.1	1.4	2.3	9.0	2.3	1.2	2.2	1.2	.80
25	1.0	1.1	.92	1.1	1.4	2.0	3.0	2.5	1.2	1.2	1.2	.80
26	1.0	1.1	17	1.9	1.3	8.0	2.3	1.6	1.2	.99	1.2	.80
27	1.2	.80	3.6	1.5	1.5	2.8	2.1	1.5	1.1	1.5	1.2	1.5
28	1.1	.86	2.2	1.5	1.2	1.7	2.1	1.5	.80	1.2	1.2	.90
29	1.1	.86	3.4	2.0	------	13	2.1	1.2	1.1	1.2	.92	.85
30	1.1	.68	22	1.4	------	2.9	2.1	1.0	1.1	1.2	.84	.80
31	1.1	------	18	1.1	------	3.5	------	1.0	------	1.2	2.6	------
TOTAL	41.58	46.54	151.59	52.2	115.59	98.1	147.0	68.3	57.42	75.31	71.17	29.57
MEAN	1.34	1.55	4.89	1.68	4.13	3.16	4.90	2.20	1.91	2.43	2.30	.99
MAX	7.6	8.5	25	6.2	30	13	33	11	7.8	17	22	3.2
MIN	.72	.68	.60	1.0	.99	1.2	1.5	1.0	.80	.78	.80	.60
CFSM	.54	.63	1.98	.68	1.67	1.28	1.98	.89	.77	.98	.93	.40
IN.	.63	.70	2.28	.79	1.74	1.48	2.21	1.03	.86	1.13	1.07	.45

CAL YR 1969 TOTAL 781.68 MEAN 2.14 MAX 25 MIN .55 CFSM .87 IN 11.77
WTR YR 1970 TOTAL 954.37 MEAN 2.61 MAX 33 MIN .60 CFSM 1.06 IN 14.37

PEAK DISCHARGE (BASE, 260 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-20	2215	3.22	337	8-23	0500	3.35	380
8-14	1400	3.81	518				

01589200 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.--12 years, 4.04 cfs (11.20 inches per year).

EXTREMES.--Current year: Maximum discharge, 122 cfs Dec. 10 (gage height, 2.16 ft); minimum daily, 1.3 cfs many days in October.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.6	2.3	6.6	3.6	3.3	5.9	4.0	2.7	3.1	2.3	2.0
2	4.2	1.7	2.3	4.8	9.0	3.3	24	4.0	2.7	11	2.3	1.8
3	2.2	2.6	2.3	4.4	15	4.3	7.0	6.2	2.7	6.2	2.3	1.7
4	1.3	1.7	2.3	3.8	5.5	7.0	5.4	4.3	2.7	5.8	2.2	1.7
5	1.3	1.8	2.2	3.4	4.0	5.8	4.6	3.8	3.1	3.8	2.0	1.7
6	1.3	2.5	2.2	2.8	3.6	4.0	4.6	3.3	3.8	2.9	2.0	1.6
7	1.3	2.2	4.1	2.8	3.6	3.6	5.4	3.1	2.9	2.9	2.0	1.6
8	1.6	3.5	10	2.8	3.6	3.1	4.3	3.1	2.5	2.7	2.0	1.6
9	1.3	2.0	2.9	2.8	8.0	3.1	4.3	3.1	2.5	10	1.8	1.8
10	1.3	1.7	25	2.8	50	3.1	4.0	2.9	2.5	17	1.8	3.1
11	1.3	1.6	12	2.8	10	2.9	3.8	2.9	2.5	3.3	1.8	2.2
12	1.3	2.6	4.0	2.8	5.5	3.8	3.8	2.9	2.5	2.3	1.8	2.0
13	1.3	1.8	3.3	2.8	4.4	3.8	4.3	3.8	2.5	2.2	1.8	1.8
14	1.3	2.6	3.8	2.4	4.0	2.9	31	3.8	2.5	2.2	1.8	1.8
15	1.3	2.5	3.6	2.4	4.0	2.9	21	3.1	2.5	2.2	2.0	1.7
16	1.3	2.2	3.1	2.4	4.0	2.9	7.0	3.1	6.2	2.2	1.8	2.1
17	1.3	2.0	2.9	4.0	4.7	2.9	5.7	8.2	3.3	2.2	1.8	1.7
18	1.3	2.0	2.7	11	7.6	4.7	5.1	3.8	5.8	2.2	1.7	1.7
19	1.3	7.6	2.9	6.0	6.6	4.8	5.1	3.1	3.3	2.2	2.7	1.7
20	1.3	4.8	2.7	4.0	4.0	11	7.7	2.9	2.7	5.3	2.2	2.0
21	5.0	2.3	2.5	3.4	3.8	6.2	5.4	2.7	7.2	4.6	1.8	1.7
22	1.8	2.2	19	3.0	3.6	11	4.8	2.7	4.0	2.5	1.8	1.7
23	1.7	2.0	4.8	3.0	3.6	6.5	4.6	2.7	2.7	2.5	13	1.6
24	1.6	2.0	3.8	3.4	3.6	4.6	8.0	3.8	2.5	2.7	2.9	1.6
25	1.6	2.0	2.9	4.0	3.6	4.0	5.1	4.0	2.7	2.5	2.3	1.6
26	1.6	2.0	11	11	3.3	7.8	4.6	3.3	3.1	2.5	2.3	1.7
27	1.6	2.0	7.5	4.8	3.3	5.6	4.6	3.1	15	2.5	2.2	2.7
28	1.6	2.0	4.4	6.0	3.3	4.3	4.6	2.9	3.3	2.3	2.2	2.0
29	1.6	2.0	3.4	17	------	12	4.6	2.9	3.1	2.3	2.2	1.8
30	1.6	2.0	11	7.0	------	5.7	4.3	2.9	3.1	10	2.0	1.8
31	1.6	------	25	4.0	------	5.7	------	2.7	------	2.7	3.3	------
TOTAL	51.4	71.5	191.9	144.2	188.8	156.6	214.6	109.1	108.6	128.8	76.1	55.5
MEAN	1.66	2.38	6.19	4.65	6.74	5.05	7.15	3.52	3.62	4.15	2.45	1.85
MAX	5.0	7.6	25	17	50	12	31	8.2	15	17	13	3.1
MIN	1.3	1.6	2.2	2.4	3.3	2.9	3.8	2.7	2.5	2.2	1.7	1.6
CFSM	.34	.49	1.26	.95	1.38	1.03	1.46	.72	.74	.85	.50	.38
IN.	.39	.54	1.46	1.09	1.43	1.19	1.63	.83	.82	.98	.58	.42

CAL YR 1969 TOTAL 1,088.5 MEAN 2.98 MAX 50 MIN 1.3 CFSM .61 IN 8.26
WTR YR 1970 TOTAL 1,497.1 MEAN 4.10 MAX 50 MIN 1.3 CFSM .84 IN 11.37

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-10	2000	2.16	122	4- 2	1300	2.14	117

01589300 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.--13 years, 28.9 cfs (12.08 inches per year).

EXTREMES.--Current year: Maximum discharge, 685 cfs Feb. 10 (gage height, 4.90 ft); minimum, 5.0 cfs Sept. 24, 25 (gage height 0.54 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	11	12	57	24	22	42	28	16	13	14	9.0
2	34	17	12	34	74	22	286	26	16	47	12	7.9
3	28	14	12	28	118	26	66	40	16	23	11	7.6
4	12	14	12	24	40	40	41	30	15	46	11	7.9
5	11	11	11	22	32	45	35	26	21	18	11	7.2
6	11	15	11	20	26	28	33	22	27	14	11	6.5
7	10	11	30	20	26	25	41	20	17	13	10	6.5
8	13	19	69	18	26	24	31	20	15	12	11	6.2
9	11	18	22	18	60	22	30	20	15	69	10	9.5
10	10	12	152	18	397	22	27	18	14	131	10	11
11	9.6	10	189	18	83	21	26	18	14	22	10	13
12	9.6	15	33	18	44	25	26	18	38	17	10	7.6
13	10	11	22	18	34	28	26	20	19	15	9.0	7.2
14	10	17	26	16	30	23	247	26	14	14	11	7.6
15	9.6	18	24	16	30	21	246	22	14	14	11	7.9
16	9.6	13	20	16	32	20	61	22	72	14	9.6	7.6
17	10	12	18	30	33	20	45	70	28	13	9.3	8.0
18	9.3	12	17	100	44	33	41	30	37	12	8.2	6.8
19	9.6	41	17	50	48	32	36	26	22	12	14	7.6
20	10	58	17	30	38	67	55	22	15	38	15	6.8
21	26	18	16	24	28	50	38	20	69	43	9.6	7.2
22	12	15	196	20	25	76	33	19	27	14	7.9	7.6
23	10	14	42	20	26	55	32	18	17	14	67	6.5
24	10	14	25	24	24	34	60	19	15	19	14	6.0
25	10	13	18	30	24	29	34	25	14	14	10	6.2
26	11	13	76	90	21	50	32	22	15	13	9.6	6.2
27	11	12	44	86	22	49	30	20	51	12	9.0	9.4
28	11	12	28	64	22	31	30	18	17	11	8.2	11
29	10	12	22	93	------	94	30	17	15	11	7.9	7.2
30	10	12	90	52	------	47	30	16	14	66	7.6	7.2
31	10	------	266	28	------	41	------	16	------	20	16	------
TOTAL	377.9	484	1,549	1,102	1,431	1,122	1,790	734	699	794	384.9	233.9
MEAN	12.2	16.1	50.0	35.5	51.1	36.2	59.7	23.7	23.3	25.6	12.4	7.80
MAX	34	58	266	100	397	94	286	70	72	131	67	13
MIN	9.3	10	11	16	21	20	26	16	14	11	7.6	6.0
CFSM	.38	.50	1.54	1.09	1.57	1.11	1.84	.73	.72	.79	.38	.24
IN.	.43	.55	1.77	1.26	1.64	1.28	2.05	.84	.80	.91	.44	.27

CAL YR 1969 TOTAL 8,329.70 MEAN 22.8 MAX 411 MIN 6.0 CFSM .70 IN 9.53
WTR YR 1970 TOTAL 10,701.70 MEAN 29.3 MAX 397 MIN 6.0 CFSM .90 IN 12.25

PEAK DISCHARGE (BASE, 540 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-10	2300	4.70	635	4-2	1300	4.44	570
2-10	0600	4.90	685				

01589330 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.--11 years, 5.80 cfs (14.27 inches per year).

EXTREMES.--Current year: Maximum discharge, 752 cfs May 14 (gage height, 4.63 ft); minimum, 0.37 cfs Dec. 7 (gage height, 0.67 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.65	.98	.74	6.3	2.9	1.6	9.5	2.6	1.6	1.2	1.2	.84
2	33	3.2	.65	3.2	12	1.6	81	2.2	2.0	7.1	.98	.74
3	2.0	.84	.65	2.6	30	4.4	7.1	4.9	2.0	7.1	.84	.84
4	.74	.74	.65	2.0	3.6	9.5	4.4	2.6	2.9	4.0	.98	.84
5	.74	.74	.53	1.6	2.2	6.3	3.6	2.2	2.6	1.4	.84	.74
6	.65	1.6	.54	1.4	2.2	2.9	4.0	2.0	4.4	1.2	.84	.65
7	.74	.70	22	1.4	2.0	2.6	7.1	2.0	1.2	1.2	.98	.57
8	2.2	2.9	11	1.4	2.0	2.6	3.2	2.0	1.2	1.2	.84	.65
9	.74	4.5	1.4	1.4	50	2.0	3.2	1.6	1.4	45	.84	1.4
10	.74	.73	87	1.4	103	2.2	2.9	1.6	1.2	12	.84	2.0
11	.74	.71	13	1.4	9.3	2.0	2.6	1.6	1.2	2.2	.84	1.2
12	.74	2.4	2.6	1.2	4.0	4.9	2.6	2.0	12	1.4	.84	.65
13	.84	.87	1.6	1.2	2.9	3.6	3.6	18	2.0	1.4	.84	.65
14	.84	7.9	6.3	1.2	2.2	2.2	120	55	1.2	1.2	27	.60
15	.74	1.4	2.6	1.5	4.0	2.0	45	6.3	1.2	1.2	2.2	.74
16	.74	.84	2.0	1.6	4.0	2.0	6.3	2.9	18	1.2	1.2	.65
17	.74	.82	1.4	13	5.5	2.0	4.4	23	2.2	.98	1.2	.65
18	.74	.78	1.3	54	9.5	9.5	3.6	3.6	14	.98	.98	.84
19	.74	30	.90	6.0	6.3	4.0	3.6	2.6	1.6	.98	2.9	.65
20	.65	5.0	.85	2.0	2.9	18	11	2.2	1.4	12	1.4	.74
21	3.6	1.1	.80	1.8	2.2	6.3	4.0	2.0	20	4.9	.98	.74
22	.74	.98	66	1.6	2.0	23	3.2	2.0	3.2	1.2	.84	.98
23	.84	.99	3.5	1.6	2.0	7.1	3.6	2.0	1.6	1.6	16	.65
24	.84	.94	1.8	1.8	1.8	3.6	14	8.1	1.4	4.4	1.4	.65
25	.84	.88	.80	1.8	1.8	2.9	4.9	7.1	1.4	1.2	1.2	.65
26	.84	.84	32	4.5	1.6	16	3.2	2.2	1.4	.98	.98	.65
27	.98	.74	11	4.0	2.0	6.3	2.9	1.6	4.0	6.3	.98	1.5
28	.84	.79	4.9	4.4	1.6	2.9	2.9	1.4	1.2	1.4	.98	.74
29	.84	.79	4.4	7.1	------	41	2.9	1.4	1.2	1.2	.84	.61
30	.84	.74	57	4.0	------	6.3	2.6	1.6	1.2	4.4	.84	.60
31	.98	------	63	3.2	------	7.1	------	1.6	------	1.6	3.2	------
TOTAL	61.89	76.44	402.91	141.6	275.5	208.4	372.9	171.9	111.9	134.12	76.82	24.41
MEAN	2.00	2.55	13.0	4.57	9.84	6.72	12.4	5.55	3.73	4.33	2.48	.81
MAX	33	30	87	54	103	41	120	55	20	45	27	2.0
MIN	.65	.70	.53	1.2	1.6	1.6	2.6	1.4	1.2	.98	.84	.57
CFSM	.36	.46	2.36	.83	1.78	1.22	2.25	1.01	.68	.78	.45	.15
IN.	.42	.52	2.72	.95	1.86	1.40	2.51	1.16	.75	.90	.52	.16

CAL YR 1969 TOTAL 1,558.91 MEAN 4.27 MAX 87 MIN .53 CFSM .77 IN 10.51
WTR YR 1970 TOTAL 2,058.79 MEAN 5.64 MAX 120 MIN .53 CFSM 1.02 IN 13.87

PEAK DISCHARGE (BASE, 550 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
5-14	1900	4.63	752	7- 9	1915	4.21	648

01589440 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, 464 cfs Feb. 10 (gage height, 5.01 ft); minimum, 6.3 cfs Sept. 6, 24, 25, 26 (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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.1	10	12	42	21	24	30	27	16	12	11	7.9
2	20	12	11	29	42	35	133	26	16	33	10	7.6
3	15	11	11	26	60	26	55	31	16	17	8.8	7.6
4	9.6	9.6	11	24	35	23	41	28	15	25	8.8	7.9
5	9.2	9.2	11	21	24	22	35	27	15	17	9.4	7.2
6	8.7	11	11	18	23	21	34	24	21	14	8.8	7.2
7	8.7	9.6	18	17	22	20	36	24	20	12	8.8	7.6
8	9.6	12	34	16	21	20	31	24	18	12	10	7.6
9	8.7	14	16	16	41	23	29	24	16	48	9.4	8.2
10	8.7	11	92	16	230	21	28	23	15	59	8.8	11
11	8.7	10	75	16	61	20	27	22	13	22	8.2	9.4
12	9.2	12	26	16	38	20	26	23	18	18	7.9	8.2
13	9.2	11	22	16	29	18	26	24	14	14	7.6	8.2
14	9.2	11	23	15	29	18	107	33	13	13	8.2	7.9
15	8.7	12	21	15	28	27	115	23	14	14	8.8	7.9
16	9.2	11	20	15	28	24	50	22	34	12	8.8	7.6
17	9.2	10	17	18	33	17	41	45	20	11	7.9	7.2
18	9.6	10	16	38	35	23	37	27	21	11	7.2	7.2
19	9.6	20	15	24	28	24	35	23	18	11	7.9	7.6
20	9.6	24	15	20	24	34	44	22	14	17	8.8	7.6
21	14	14	14	17	24	32	35	20	35	22	7.9	7.6
22	9.6	12	73	16	23	41	32	20	21	12	7.6	6.9
23	9.2	12	28	16	22	38	32	20	16	12	20	6.9
24	9.2	12	21	17	21	28	46	20	14	14	11	6.6
25	10	12	18	17	21	25	35	22	17	13	8.8	6.6
26	11	12	59	30	20	32	32	20	24	12	8.2	6.9
27	10	12	31	25	20	36	31	18	36	11	8.2	8.2
28	10	12	24	23	20	26	30	17	17	10	7.9	8.8
29	9.6	12	23	38	------	53	28	17	15	10	7.9	8.2
30	9.2	12	50	33	------	36	28	16	14	13	7.9	8.2
31	9.6	------	115	23	------	32	------	16	------	12	9.4	------
TOTAL	310.9	362.4	933	673	1,023	839	1,289	728	556	533	279.9	233.5
MEAN	10.0	12.1	30.1	21.7	36.5	27.1	43.0	23.5	18.5	17.2	9.03	7.78
MAX	20	24	115	42	230	53	133	45	36	59	20	11
MIN	8.7	9.2	11	15	20	17	26	16	13	10	7.2	6.6
CFSM	.40	.48	1.19	.86	1.45	1.08	1.71	.93	.73	.68	.36	.31
IN.	.46	.53	1.38	.99	1.51	1.24	1.90	1.07	.82	.79	.41	.34

CAL YR 1969 TOTAL 5,871.8 MEAN 16.1 MAX 115 MIN 6.2 CFSM .64 IN 8.67
WTR YR 1970 TOTAL 7,760.7 MEAN 21.3 MAX 230 MIN 6.6 CFSM .85 IN 11.46

PEAK DISCHARGE (BASE, 470 CFS).--NO PEAK ABOVE BASE.

01590000 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.--38 years (1932-70), 9.98 cfs (15.94 inches per year).

EXTREMES.--Current year: Maximum discharge, 99 cfs Apr. 2 (gage height, 2.22 ft); minimum, 2.4 cfs Sept. 25, 26, 27 (gage height, 0.93 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 except those for periods of no gage-height record which are fair.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	4.4	4.6	24	7.0	7.5	12	10	6.9	4.2	8.5	3.2
2	3.7	5.0	5.5	15	9.0	9.0	41	10	6.5	9.7	6.2	3.2
3	6.9	5.0	4.6	11	17	10	52	11	6.3	7.8	5.1	3.6
4	4.0	4.6	4.2	9.0	11	12	22	13	7.8	6.4	4.7	4.0
5	3.4	4.4	4.2	8.0	9.0	13	16	13	7.2	8.4	4.3	3.5
6	3.2	4.4	4.0	7.5	8.0	9.8	13	11	7.3	5.7	4.4	3.3
7	3.4	4.4	7.0	7.5	7.5	8.6	15	10	7.2	4.8	4.3	3.1
8	4.6	5.5	20	7.0	7.5	8.3	12	11	6.1	4.4	4.4	3.1
9	5.8	8.0	9.0	6.5	9.0	8.0	11	10	5.7	4.7	4.3	4.2
10	4.0	6.5	13	6.0	36	7.7	9.5	9.0	5.5	10	4.3	4.8
11	3.7	5.0	34	6.0	20	7.6	8.5	8.5	5.3	7.2	4.4	5.1
12	3.7	4.4	14	6.5	13	7.9	8.0	10	5.2	5.4	4.0	4.1
13	3.6	4.6	8.0	6.5	10	11	8.0	12	5.0	4.9	3.7	3.6
14	3.8	5.0	7.5	6.5	8.0	8.7	34	16	4.7	4.4	4.1	3.5
15	3.5	6.5	7.0	6.5	9.0	7.7	44	11	4.9	4.4	5.9	3.3
16	3.4	4.0	6.5	6.5	11	7.4	22	10	6.1	4.4	4.3	2.9
17	3.5	4.0	6.0	7.1	9.0	7.0	15	12	8.0	4.0	4.0	2.7
18	3.4	4.0	5.5	24	10	11	13	12	8.1	3.8	3.7	2.8
19	3.4	5.5	7.0	12	12	11	11	9.0	8.1	3.6	4.6	3.8
20	3.6	13	6.0	8.0	9.0	9.7	22	7.5	5.7	5.2	5.4	3.2
21	4.0	7.0	5.5	7.0	7.5	10	16	6.5	9.3	17	5.0	3.1
22	3.7	5.0	28	6.5	8.0	11	13	6.5	16	6.8	4.0	3.0
23	3.4	4.4	30	6.5	8.0	13	13	6.0	7.4	5.7	5.1	2.8
24	3.4	4.4	11	6.5	7.5	9.7	19	7.0	5.8	14	5.0	2.7
25	3.4	4.0	8.0	6.5	7.5	8.8	15	28	5.3	9.2	4.2	2.7
26	4.0	4.4	24	11	7.0	8.9	12	15	5.3	17	3.8	2.5
27	3.4	4.0	26	9.5	7.0	10	12	22	5.8	6.8	3.6	3.1
28	4.4	4.0	12	8.5	7.0	8.7	12	11	4.9	5.5	3.4	4.5
29	3.4	3.8	10	10	------	14	12	8.6	4.5	17	3.3	3.5
30	3.4	3.8	14	11	------	14	11	7.7	4.4	28	3.2	3.1
31	4.0	------	46	7.0	------	14	------	7.3	------	13	3.5	------
TOTAL	117.9	153.0	392.1	281.1	291.5	305.0	524.0	341.6	196.3	253.4	138.7	102.0
MEAN	3.80	5.10	12.6	9.07	10.4	9.84	17.5	11.0	6.54	8.17	4.47	3.40
MAX	6.9	13	46	24	36	14	52	28	16	28	8.5	5.1
MIN	2.8	3.8	4.0	6.0	7.0	7.0	8.0	6.0	4.4	3.6	3.2	2.5
CFSM	.45	.60	1.48	1.07	1.22	1.16	2.06	1.29	.77	.96	.53	.40
IN.	.52	.67	1.72	1.23	1.28	1.33	2.29	1.50	.86	1.11	.61	.45

CAL YR 1969 TOTAL 2,674.8 MEAN 7.33 MAX 93 MIN 1.7 CFSM .86 IN 11.71
WTR YR 1970 TOTAL 3,096.6 MEAN 8.48 MAX 52 MIN 2.5 CFSM 1.00 IN 13.55

PEAK DISCHARGE (BASE, 75 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-2	2130	2.22	99	7-29	2300	2.06	81

NOTE.--One or more peaks above the base of unknown magnitude probably occurred during periods of no gage-height record.

NOTE.--No gage-height record Oct. 22 to Jan. 15, Jan. 19 to Mar. 4, and Apr. 10 to May 25.

01591000 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, 0.6 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.--26 years, 34.4 cfs (13.42 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,090 cfs May 24 (gage height, 6.28 ft); minimum, 6.5 cfs Sept. 26, 27.
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.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	11	12	65	48	33	51	49	29	19	21	11
2	18	12	11	47	61	34	169	47	28	42	18	9.5
3	22	12	12	37	84	38	92	68	26	31	15	9.5
4	13	12	11	33	55	43	72	53	26	31	15	10
5	12	11	11	32	46	52	63	49	32	25	14	9.0
6	12	11	11	29	44	41	61	45	108	20	14	8.0
7	12	11	12	29	42	37	59	43	36	18	36	8.0
8	13	18	37	24	40	36	53	43	29	16	26	7.5
9	12	21	23	22	47	34	52	42	26	108	16	11
10	11	15	50	20	207	33	48	40	25	156	15	15
11	11	13	127	20	90	32	45	38	23	37	14	13
12	11	13	40	22	66	34	44	37	24	29	13	10
13	11	15	29	22	56	37	43	38	32	24	12	9.5
14	11	13	27	22	50	34	340	111	22	21	13	9.5
15	11	14	26	22	51	31	238	46	22	21	15	9.5
16	11	12	23	20	47	29	111	43	63	21	13	9.0
17	11	12	20	26	45	28	88	63	38	18	12	8.5
18	10	12	19	52	49	35	76	49	52	17	11	8.5
19	11	19	20	41	61	41	70	41	30	17	12	9.5
20	11	43	18	30	49	56	82	37	24	105	13	8.5
21	18	20	18	22	41	61	69	34	58	156	11	8.5
22	12	16	46	20	41	60	61	34	81	28	10	9.0
23	10	15	34	20	40	64	70	32	30	25	24	8.5
24	10	14	26	20	38	51	82	225	26	29	16	7.5
25	10	13	20	22	38	46	72	218	24	24	13	7.2
26	11	13	20	50	34	46	62	62	24	21	12	7.0
27	11	12	27	55	34	50	59	47	54	20	11	9.5
28	11	12	25	49	34	43	56	38	25	19	11	11
29	11	12	21	131	------	67	54	34	22	19	10	8.8
30	10	12	39	89	------	59	51	31	21	21	9.5	8.8
31	11	------	162	54	------	54	------	30	------	27	12	------
TOTAL	370	439	977	1,147	1,538	1,339	2,493	1,767	1,060	1,165	457.5	279.8
MEAN	11.9	14.6	31.5	37.0	54.9	43.2	83.1	57.0	35.3	37.6	14.8	9.33
MAX	22	43	162	131	207	67	340	225	108	156	36	15
MIN	10	11	11	20	34	28	43	30	21	16	9.5	7.0
CFSM	.34	.42	.91	1.06	1.58	1.24	2.39	1.64	1.01	1.08	.43	.27
IN.	.40	.47	1.04	1.23	1.64	1.43	2.66	1.89	1.13	1.25	.49	.30

CAL YR 1969 TOTAL 8,511.2 MEAN 23.3 MAX 474 MIN 3.3 CFSM .67 IN 9.10
WTR YR 1970 TOTAL 13,032.3 MEAN 35.7 MAX 340 MIN 7.0 CFSM 1.03 IN 13.93

PEAK DISCHARGE (BASE, 770 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-14	1730	5.53	772	7-10	0030	5.82	888
5-24	2230	6.28	1,090				

01592500 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, 4,740 cfs Apr. 14 (gage height, 12.69 ft); minimum daily discharge, 11 cfs many days.
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; affected by construction of highway bridge just downstream from gage. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	13	14	13	11	14	165	40	24	50	36	20
2	11	13	14	13	11	14	165	18	24	70	35	20
3	11	13	14	13	11	14	165	89	29	71	34	20
4	11	13	14	12	11	14	165	91	64	70	34	20
5	11	13	14	12	11	14	130	45	59	70	31	20
6	11	14	14	12	11	14	144	18	24	71	25	20
7	11	16	14	12	11	14	165	18	24	69	27	20
8	11	16	14	12	11	14	165	18	24	69	24	20
9	11	16	14	12	11	14	117	40	24	76	24	20
10	11	14	14	12	11	14	45	36	24	917	23	20
11	11	13	15	12	11	14	45	18	24	157	22	20
12	12	13	14	12	11	14	65	18	25	46	21	20
13	12	13	14	12	11	14	51	18	26	46	20	20
14	12	13	14	12	43	14	931	359	26	45	20	20
15	12	13	14	12	66	14	1,220	98	25	55	20	20
16	12	13	14	11	80	14	374	49	32	62	20	20
17	13	14	14	11	102	14	687	145	89	46	20	21
18	13	14	14	11	102	14	280	130	171	46	20	21
19	13	14	14	11	102	14	181	64	138	46	21	21
20	13	14	14	11	102	48	120	22	31	50	20	21
21	13	14	14	11	102	65	65	22	32	841	19	21
22	13	14	14	11	102	92	65	22	102	98	19	21
23	13	14	13	11	78	150	113	22	95	89	19	21
24	13	14	13	11	66	180	165	261	48	137	19	21
25	13	14	13	11	66	172	165	1,440	35	74	19	21
26	13	14	13	11	66	165	165	296	36	35	18	21
27	13	14	13	11	34	134	118	274	39	35	19	21
28	13	14	13	11	14	65	65	142	56	35	20	21
29	13	14	13	11	------	65	65	66	69	34	20	21
30	13	14	13	11	------	65	65	36	59	34	20	21
31	13	------	13	11	------	109	------	24	------	33	20	------
TOTAL	376	415	426	359	1,268	1,576	6,431	3,939	1,478	3,577	709	614
MEAN	12.1	13.8	13.7	11.6	45.3	50.8	214	127	49.3	115	22.9	20.5
MAX	13	16	15	13	102	180	1,220	1,440	171	917	36	21
MIN	11	13	13	11	11	14	45	18	24	33	18	20
(†)	9,190	8,980	10,050	11,390	12,580	13,000	13,130	13,070	12,940	12,920	12,020	10,610
(‡)	62.5	57.8	62.4	61.0	69.9	79.3	98.5	96.1	93.7	87.7	93.8	92.4

CAL YR 1969 TOTAL 4,991.5 MEAN 13.7 MAX 20 MIN 6.4 ‡ 70.1
WTR YR 1970 TOTAL 21,168 MEAN 58.0 MAX 1,440 MIN 11 ‡ 79.6

† Combined month-end total contents, in millions of gallons, in Triadelphia and Rocky Gorge Reservoirs (contents on Sept. 30, 1969: 9,770 million gallons); furnished by Washington Surburban 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.

01593500 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.

PERIOD OF RECORD.--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.--38 years, 38.7 cfs (13.83 inches per year).

EXTREMES.--Current year: Maximum discharge, 686 cfs Dec. 11 (gage height, 6.64 ft); minimum, 5.5 cfs Sept. 27. Period of record: Maximum dishcarge, 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	11	14	66	31	27	56	33	21	16	18	10
2	28	13	12	42	62	30	277	32	21	43	15	9.0
3	36	14	13	36	129	40	101	38	21	26	14	9.0
4	14	14	12	34	50	49	73	37	27	41	26	10
5	12	12	14	32	38	65	52	37	24	30	14	9.6
6	12	12	15	30	33	42	47	33	40	18	12	8.5
7	11	12	17	31	32	36	57	31	26	16	12	8.0
8	15	16	79	24	30	35	46	29	22	15	14	7.5
9	31	21	28	22	41	34	43	28	19	51	14	10
10	14	16	120	20	422	32	40	26	18	190	12	20
11	11	14	308	20	84	30	38	25	18	36	12	19
12	11	15	42	22	55	31	38	25	17	24	11	11
13	11	17	32	22	44	38	38	29	19	20	10	9.0
14	11	16	32	22	37	32	300	70	16	18	27	9.0
15	11	22	32	21	42	29	348	36	16	17	22	9.0
16	11	15	25	20	41	28	93	30	29	16	12	8.5
17	11	14	21	24	42	27	62	70	29	16	11	7.5
18	10	14	21	181	64	42	55	44	36	14	10	8.0
19	11	35	21	65	69	47	47	30	26	14	34	8.0
20	11	75	19	48	47	64	71	27	18	27	16	7.0
21	17	23	28	36	37	66	54	24	40	186	12	7.5
22	11	17	294	26	35	65	44	24	78	25	9.6	7.5
23	10	16	63	20	36	73	51	34	26	21	66	7.0
24	10	16	34	20	33	46	81	60	21	47	24	6.5
25	11	14	24	20	34	40	66	78	18	24	17	6.5
26	11	14	102	85	30	56	51	41	21	18	15	6.5
27	11	14	67	68	28	86	47	30	24	16	12	7.0
28	12	14	51	47	29	62	45	25	17	15	12	9.6
29	11	14	33	71	------	107	40	24	16	16	10	7.5
30	11	14	88	55	------	67	36	22	16	25	9.6	7.0
31	11	------	427	35	------	62	------	21	------	37	13	------
TOTAL	418	534	2,088	1,265	1,655	1,488	2,397	1,093	740	1,078	516.2	270.2
MEAN	13.5	17.8	67.4	40.8	59.1	48.0	79.9	35.3	24.7	34.8	16.7	9.01
MAX	36	75	427	181	422	107	348	78	78	190	66	20
MIN	10	11	12	20	28	27	36	21	16	14	9.6	6.5
CFSM	.36	.47	1.77	1.07	1.56	1.26	2.10	.93	.65	.92	.44	.24
IN.	.41	.52	2.04	1.24	1.62	1.46	2.35	1.07	.72	1.06	.51	.26

CAL YR 1969 TOTAL 10,132.3 MEAN 27.8 MAX 427 MIN 4.5 CFSM .73 IN 9.92
WTR YR 1970 TOTAL 13,542.4 MEAN 37.1 MAX 427 MIN 6.5 CFSM .98 IN 13.26

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-11	0200	6.64	686	2-10	0900	6.47	656
12-31	0730	6.47	656				

01594500 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.--21 years, 28.6 cfs (12.86 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,200 cfs Apr. 2 (gage height, 7.74 ft), from rating curve extended above 520 cfs; minimum daily, 1.4 cfs Sept. 25.
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 fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	4.3	5.4	181	14	16	49	24	8.7	15	7.6	2.8
2	8.4	6.8	5.2	68	18	17	433	22	7.9	50	6.8	2.5
3	11	6.8	5.4	46	81	21	415	23	13	35	5.4	2.5
4	6.3	5.8	5.4	30	68	28	96	37	24	15	5.0	2.4
5	4.7	5.6	4.7	26	50	47	64	33	13	9.0	4.5	2.1
6	4.3	5.6	4.5	23	30	36	53	23	12	7.0	4.3	1.9
7	4.1	5.0	11	24	26	28	51	18	11	6.0	13	1.8
8	6.3	6.3	64	18	24	24	44	18	7.6	5.0	6.8	1.5
9	6.5	8.4	23	12	27	22	38	17	7.0	10	4.1	6.5
10	5.4	7.9	105	11	185	20	31	14	6.3	200	3.8	6.5
11	4.7	6.8	259	12	105	19	27	13	5.6	120	3.8	8.1
12	4.5	6.8	65	13	61	20	25	13	5.4	50	5.6	4.7
13	4.5	6.8	28	13	40	27	24	36	5.2	24	3.3	3.5
14	4.5	6.5	20	12	28	21	334	100	4.5	17	14	3.3
15	4.0	7.0	17	11	29	18	394	50	4.5	15	5.7	2.4
16	3.8	6.1	13	10	41	17	157	20	4.7	30	3.8	2.1
17	4.0	5.6	10	13	38	17	79	40	10	14	3.4	2.0
18	3.8	5.4	8.4	186	32	24	60	30	15	12	3.1	2.1
19	3.8	15	8.7	69	50	36	48	20	7.0	12	81	3.1
20	3.8	49	7.6	57	40	32	111	16	5.0	30	172	2.1
21	4.0	17	6.8	44	26	38	77	12	8.0	100	36	2.1
22	3.6	9.5	207	22	26	39	56	9.2	40	10	12	2.0
23	3.4	7.9	152	18	26	60	54	8.4	10	12	12	1.8
24	3.4	7.0	56	17	22	42	64	19	7.0	30	11	1.6
25	4.3	6.3	29	15	22	32	56	57	9.0	15	7.8	1.4
26	4.1	6.1	124	26	17	27	43	54	20	10	6.1	1.5
27	4.0	5.6	105	24	16	32	39	50	10	7.0	5.2	4.0
28	4.5	5.4	68	18	17	26	36	20	7.0	6.0	4.1	2.9
29	4.1	5.2	38	22	------	48	32	14	6.0	15	3.6	2.8
30	4.1	5.2	140	28	------	58	27	11	5.0	24	3.3	2.2
31	4.1	------	390	16	------	64	------	9.9	------	7.9	3.1	------
TOTAL	145.6	252.7	1,986.1	1,085	1,159	956	3,017	831.5	299.4	912.9	461.2	86.2
MEAN	4.70	8.42	64.1	35.0	41.4	30.8	101	26.8	9.98	29.4	14.9	2.87
MAX	11	49	390	186	185	64	433	100	40	200	172	8.1
MIN	3.4	4.3	4.5	10	14	16	24	8.4	4.5	5.0	3.1	1.4
CFSM	.16	.28	2.12	1.16	1.37	1.02	3.34	.89	.33	.97	.49	.10
IN.	.18	.31	2.45	1.34	1.43	1.18	3.72	1.02	.37	1.12	.57	.11

CAL YR 1969 TOTAL 10,730.20 MEAN 29.4 MAX 565 MIN .70 CFSM .97 IN 13.22
WTR YR 1970 TOTAL 11,192.60 MEAN 30.7 MAX 433 MIN 1.4 CFSM 1.02 IN 13.79

PEAK DISCHARGE (BASE, 340 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-11	0100	5.51	498	4- 2	1900	7.74	1,200
12-22	1500	5.06	402	4-14	1600	6.06	635
12-31	0500	5.43	478	8-19	2330	5.20	430

01594600 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.--13 years (1957-70), 3.92 cfs (13.83 inches per year).

EXTREMES.--Current year: Maximum discharge, 94 cfs Aug. 3 (gage height, 4.75 ft); minimum daily, 0.03 cfs Sept. 7-8.
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 fair except those for period of fragmentary or no gage-height record, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	1.8	2.0	9.6	4.8	5.2	6.1	6.9	2.8	1.6	1.5	.14
2	2.7	2.0	1.9	8.2	5.6	5.1	9.5	6.8	2.6	3.2	1.3	.11
3	2.7	2.0	2.0	7.8	8.6	5.8	6.8	6.8	2.4	2.4	7.6	.11
4	2.0	1.9	1.8	7.0	5.8	7.5	6.2	7.8	2.4	2.0	11	.11
5	1.8	1.8	1.8	6.8	5.5	6.9	6.0	7.2	2.4	2.4	2.0	.11
6	1.8	1.9	1.8	6.9	5.2	5.8	6.1	6.6	3.8	1.8	1.1	.06
7	1.8	1.9	3.2	6.0	5.1	5.7	6.2	6.4	3.0	1.4	1.2	.03
8	3.3	2.3	6.8	4.0	5.0	5.5	5.8	6.2	2.4	1.2	1.0	.03
9	2.5	2.5	3.0	3.4	7.4	5.3	5.8	5.8	2.8	1.2	.99	.06
10	2.0	2.1	12	3.0	13	5.2	5.7	5.6	2.2	3.0	.93	.61
11	2.0	1.9	7.3	3.0	6.2	5.0	5.6	5.3	2.0	1.7	.87	1.0
12	1.9	2.2	4.1	3.0	5.6	5.6	5.6	5.2	7.5	1.3	.75	.42
13	1.9	2.4	3.6	3.4	5.5	5.5	5.7	5.0	5.5	1.0	.66	.33
14	2.0	2.1	3.5	3.0	5.3	5.0	18	4.8	2.6	.91	.61	.33
15	1.8	1.9	3.2	3.0	6.6	4.7	11	4.7	2.0	.91	.56	.28
16	1.8	1.8	2.9	4.0	6.8	4.5	8.8	4.6	2.6	.84	.52	.25
17	1.8	1.8	2.7	5.0	7.4	4.5	8.1	5.7	3.4	.70	.47	.25
18	1.7	1.8	2.6	14	6.6	5.7	7.7	4.7	2.6	.70	.42	.52
19	1.8	3.1	2.4	10	6.1	5.1	7.3	4.5	2.2	.63	.93	.70
20	1.8	4.3	2.4	8.0	5.6	5.5	14	4.2	2.0	2.0	1.5	.37
21	1.8	2.5	2.3	6.0	5.3	5.2	8.6	4.0	6.0	2.4	.70	.33
22	1.7	2.3	7.8	5.0	5.3	6.0	7.7	4.0	5.5	1.4	.47	.28
23	1.6	2.3	4.0	4.5	5.3	5.5	7.9	3.9	3.0	9.0	.56	.25
24	1.6	2.2	3.4	4.0	5.3	5.0	8.2	5.8	2.6	5.0	.56	.22
25	1.8	2.0	3.0	5.0	5.3	4.7	7.7	13	2.4	2.3	.42	.20
26	1.8	2.0	14	6.5	5.2	5.2	7.5	7.0	2.4	2.0	.37	.17
27	1.8	2.0	7.3	5.2	5.2	5.1	7.7	5.7	2.0	1.7	.33	.14
28	1.8	2.0	6.0	5.1	5.2	4.6	7.3	4.8	1.7	1.5	.28	.14
29	1.8	2.0	5.8	5.6	------	8.8	7.2	4.0	1.6	1.7	.25	.14
30	1.8	2.0	14	5.3	------	5.8	7.0	3.4	1.5	1.9	.22	.14
31	1.8	------	16	4.8	------	8.5	------	3.0	------	1.7	.17	------
TOTAL	60.0	64.8	154.6	176.1	169.8	173.5	232.8	173.4	87.9	61.49	40.24	7.83
MEAN	1.94	2.16	4.99	5.68	6.06	5.60	7.76	5.59	2.93	1.98	1.30	.26
MAX	3.3	4.3	16	14	13	8.8	18	13	7.5	9.0	11	1.0
MIN	1.6	1.8	1.8	3.0	4.8	4.5	5.6	3.0	1.5	.63	.17	.03
CFSM	.50	.56	1.30	1.48	1.57	1.45	2.02	1.45	.76	.51	.34	.07
IN.	.58	.63	1.49	1.70	1.64	1.68	2.25	1.68	.85	.59	.39	.08

CAL YR 1969 TOTAL 1,228.95 MEAN 3.37 MAX 118 MIN .60 CFSM .88 IN 11.87
WTR YR 1970 TOTAL 1,402.46 MEAN 3.84 MAX 18 MIN .03 CFSM 1.00 IN 13.55

PEAK DISCHARGE (BASE, 80 CFS).--Aug. 3 (2345) 94 cfs (4.75 ft).

NOTE.--Fragmentary or no gage-height record May 29 to July 8.

01595000 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, 0.4 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.--14 years, 160 cfs (29.76 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,740 cfs Jan. 29 (gage height, 7.33 ft); minimum daily, 8.8 cfs July 8.
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 indefinite stage-discharge relation, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	38	91	618	402	139	510	173	29	12	92	55
2	44	58	108	392	431	160	1,940	148	27	12	100	38
3	105	104	101	306	678	646	998	135	25	27	68	31
4	75	102	92	253	405	688	616	125	36	15	315	27
5	55	84	98	215	333	1,080	445	109	38	13	110	42
6	46	79	106	189	261	634	363	102	58	11	74	37
7	40	74	97	173	217	445	391	93	45	9.4	62	28
8	70	105	127	120	200	363	327	84	33	8.8	69	23
9	59	326	135	94	195	322	345	78	29	275	52	20
10	48	198	209	90	181	260	310	69	27	185	43	69
11	44	158	575	110	157	226	252	71	25	57	36	98
12	40	144	316	130	137	218	215	65	24	39	30	46
13	34	143	226	120	134	222	208	70	21	27	27	34
14	39	129	220	120	131	180	272	92	23	21	29	27
15	38	122	210	110	140	164	322	72	31	17	41	24
16	33	110	207	104	210	145	264	66	50	106	28	21
17	33	102	175	100	200	134	224	110	37	54	25	19
18	32	116	152	140	190	142	198	100	60	31	23	43
19	30	117	140	170	343	148	186	76	72	23	22	103
20	28	146	132	140	264	470	241	64	35	19	20	48
21	171	134	120	130	211	530	199	56	31	23	22	27
22	89	105	133	120	241	340	167	50	29	19	22	23
23	63	126	120	110	252	276	1,080	46	24	20	754	23
24	54	218	118	120	233	230	1,840	44	22	25	275	19
25	50	166	100	120	237	211	1,020	50	20	20	132	18
26	49	144	92	851	194	460	544	88	19	17	82	17
27	48	130	94	423	204	542	382	54	20	24	66	100
28	47	120	92	300	154	396	298	44	20	31	55	83
29	41	106	110	1,990	------	425	243	38	17	50	45	48
30	38	96	230	1,310	------	340	201	34	14	95	40	37
31	38	------	1,350	584	------	372	------	31	------	199	74	------
TOTAL	1,611	3,800	6,076	9,752	6,935	10,908	14,601	2,437	941	1,485.2	2,833	1,228
MEAN	52.0	127	196	315	248	352	487	78.6	31.4	47.9	91.4	40.9
MAX	171	326	1,350	1,990	678	1,080	1,940	173	72	275	754	103
MIN	28	38	91	90	131	134	167	31	14	8.8	20	17
CFSM	.71	1.74	2.68	4.32	3.40	4.82	6.67	1.08	.43	.66	1.25	.56
IN.	.82	1.94	3.10	4.97	3.53	5.56	7.44	1.24	.48	.76	1.44	.63

CAL YR 1969 TOTAL 48,838.0 MEAN 134 MAX 1,350 MIN 8.3 CFSM 1.84 IN 24.89
WTR YR 1970 TOTAL 62,607.2 MEAN 172 MAX 1,990 MIN 8.8 CFSM 2.36 IN 31.90

PEAK DISCHARGE (BASE, 2,200 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
1-29	1600	7.33	3,740	4-24	1415	6.42	2,650
4- 2	1415	6.26	2,490				

01595200 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.--9 years, 84.3 cfs (23.46 inches per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 1,070 cfs Jan. 29, Apr. 2 (gage height, 5.58 ft); minimum daily, 2.2 cfs July 7.
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, except those for ice-affected days in January, which are poor. Flow regulated by Stony River Reservoir, 14.0 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 4.0 miles upstream from station. Records of water temperatures for the water year 1970 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	31	50	539	316	115	230	115	8.6	18	29	28
2	29	58	47	449	332	125	738	96	7.8	21	17	14
3	35	74	44	384	356	270	625	85	7.3	4.9	12	11
4	33	66	42	328	280	312	521	74	8.3	5.9	125	9.4
5	32	59	40	284	242	388	428	62	8.0	3.3	28	30
6	32	56	38	170	215	324	376	56	8.6	2.6	15	21
7	34	55	68	62	197	292	352	48	10	2.2	14	17
8	40	64	62	46	182	263	308	34	11	4.7	38	19
9	36	106	40	35	173	242	296	16	12	206	28	22
10	35	77	51	29	158	224	280	15	12	110	20	23
11	34	72	116	26	143	206	227	14	12	21	14	21
12	33	70	84	24	128	206	44	13	11	15	9.1	14
13	36	70	73	23	100	197	60	14	11	9.1	7.8	13
14	35	69	87	26	25	179	158	20	11	6.8	14	14
15	32	67	83	31	28	167	336	16	15	6.1	56	14
16	34	66	75	42	47	155	288	15	22	22	12	16
17	33	64	70	70	68	146	252	26	20	10	7.8	17
18	32	64	67	110	98	146	227	20	33	6.3	6.1	28
19	31	70	66	90	137	149	218	16	31	5.1	4.3	45
20	31	73	63	70	108	215	236	14	22	6.6	2.4	28
21	44	66	62	60	96	224	206	14	22	7.3	3.0	24
22	35	63	65	55	91	191	185	13	22	6.1	2.3	23
23	35	61	62	54	105	173	490	12	22	8.8	206	23
24	31	69	59	56	128	155	544	12	21	9.1	80	22
25	33	64	58	164	215	143	380	14	21	6.6	26	20
26	33	61	61	263	176	212	304	18	23	5.3	15	18
27	35	58	59	134	152	212	259	13	21	10	11	37
28	37	55	60	113	128	191	233	12	20	11	10	27
29	37	54	56	616	------	200	212	12	20	28	7.8	19
30	35	52	108	655	------	185	167	11	20	100	6.6	15
31	32	------	234	380	------	179	------	11	------	125	68	------
TOTAL	1,040	1,934	2,150	5,388	4,424	6,386	9,180	911	493.6	803.8	895.2	632.4
MEAN	33.5	64.5	69.4	174	158	206	306	29.4	16.5	25.9	28.9	21.1
MAX	44	106	234	655	356	388	738	115	33	206	206	45
MIN	16	31	38	23	25	115	44	11	7.3	2.2	2.3	9.4
(†)	1,222	1,230	1,297	1,350	1,230	1,230	1,126	1,338	1,576	1,822	1,594	1,197

CAL YR 1969 TOTAL 23,543.3 MEAN 64.5 MAX 924 MIN 3.7 CFSM 1.32 IN 17.94
WAT YR 1970 TOTAL 34,238.0 MEAN 93.8 MAX 738 MIN 2.2 CFSM 1.92 IN 26.09

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

01595500 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.--21 years, 420 cfs (25.35 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 9,920 cfs Jan. 29 (gage height, 8.32 ft); minimum, 23 cfs July 8 (gage height, 2.32 ft).
Period of record: Maximum discharge, 33,400 cfs Oct. 15, 1954 (gage height, 13.73 ft, from floodmarks, present site and datum); minimum, 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 station 01595200). Records of water temperatures for the water year 1970 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	81	201	1,630	1,290	456	1,150	603	77	48	161	115
2	77	149	178	1,190	1,350	502	5,620	521	71	48	162	65
3	178	278	187	956	1,890	1,200	3,150	467	66	59	103	54
4	144	257	163	790	1,250	1,690	2,140	418	96	51	390	48
5	108	199	157	675	1,040	2,460	1,660	372	104	39	185	60
6	92	181	155	553	836	1,710	1,410	343	143	31	119	78
7	89	171	158	390	727	1,330	1,460	306	120	26	94	51
8	126	188	183	257	673	1,140	1,240	274	87	27	112	43
9	116	639	211	210	650	1,030	1,230	224	77	436	102	40
10	100	415	278	200	590	869	1,130	201	72	516	82	63
11	89	332	1,310	250	521	767	957	199	65	170	71	198
12	85	301	796	290	473	742	653	178	61	112	59	87
13	83	305	562	274	422	744	594	175	57	82	51	64
14	80	277	540	260	293	641	757	229	57	64	61	55
15	76	263	520	240	311	572	1,160	192	59	54	119	50
16	75	235	521	230	450	517	984	175	100	129	70	47
17	75	226	440	220	430	472	846	299	108	122	49	45
18	70	253	373	310	410	504	755	270	148	71	46	51
19	67	286	387	380	680	486	708	205	237	54	44	196
20	67	365	334	310	709	1,020	903	170	118	48	45	99
21	259	290	288	283	542	1,360	783	152	100	54	40	72
22	182	256	329	260	545	970	657	138	100	49	43	64
23	125	266	295	250	640	820	2,440	123	84	50	1,060	61
24	106	375	284	270	646	711	4,160	118	72	62	539	55
25	102	323	236	270	790	650	2,670	134	64	53	233	49
26	96	288	220	2,220	617	1,070	1,680	211	62	45	155	46
27	96	258	230	1,230	593	1,530	1,290	148	68	49	116	121
28	100	241	220	817	509	1,190	1,050	114	62	80	94	163
29	93	223	272	4,910	------	1,310	876	100	58	92	79	89
30	88	207	544	3,630	------	1,050	746	91	52	121	69	67
31	83	------	2,640	1,750	------	1,040	------	82	------	378	99	------
TOTAL	3,190	8,128	13,212	25,505	19,877	30,553	44,859	7,232	2,645	3,220	4,652	2,296
MEAN	103	271	426	823	710	986	1,495	233	88.2	104	150	76.5
MAX	259	639	2,640	4,910	1,890	2,460	5,620	603	237	516	1,060	198
MIN	63	81	155	200	293	456	594	82	52	26	40	40

CAL YR 1969 TOTAL 113,270 MEAN 310 MAX 3,190 MIN 22 CFSM 1.38 IN 18.72
WAT YR 1970 TOTAL 165,369 MEAN 453 MAX 5,620 MIN 26 CFSM 2.01 IN 27.33

PEAK DISCHARGE (BASE, 3,400 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
1-29	1600	8.32	9,920	4-24	1430	7.46	5,960
4- 2	1515	7.97	8,060				

01595800 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., 0.4 mile upstream from Folly Run, and 4 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, 8,900 cfs Jan. 29 (gage height, 8.80 ft); minimum, 25 cfs July 8 (gage height, 1.96 ft).
Period of record: Maximum discharge, 12,200 cfs Mar. 7, 1967 (gage height, 9.70 ft); minimum, 10 cfs Oct. 2, 3, 1968 (gage height, 1.69 ft).

REMARKS.--Records good. Regulation at low flow by Stony River Reservoir, 39 miles above station (see station 01595200).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	87	201	1,400	1,470	496	1,410	637	88	58	182	136
2	80	121	179	1,000	1,450	520	6,170	546	79	56	155	72
3	175	271	188	988	2,130	1,670	3,510	487	74	58	117	58
4	167	280	167	812	1,400	1,850	2,420	441	121	60	373	51
5	119	216	155	691	1,140	2,710	1,860	396	136	44	212	54
6	105	194	151	589	944	1,940	1,570	364	152	34	129	86
7	100	179	165	424	805	1,490	1,620	329	137	29	101	56
8	123	179	181	288	745	1,270	1,360	295	102	27	107	44
9	136	571	212	230	722	1,140	1,330	246	85	336	107	40
10	114	441	256	220	650	960	1,250	213	80	632	88	52
11	103	351	1,310	270	570	841	1,060	210	70	202	75	200
12	96	313	864	310	520	811	758	187	64	126	66	101
13	91	316	593	310	458	815	656	176	63	94	54	70
14	86	269	580	285	346	701	813	232	61	73	56	58
15	84	270	560	260	329	620	1,230	205	67	61	119	51
16	84	245	544	250	500	560	1,090	181	110	93	88	48
17	82	235	453	240	470	509	930	301	108	148	56	47
18	78	252	381	340	450	548	833	287	156	84	47	48
19	72	273	410	440	740	519	766	221	247	63	44	179
20	72	347	353	380	776	1,120	999	178	139	50	47	124
21	211	298	296	310	580	1,530	890	155	117	51	42	82
22	223	248	320	270	580	1,100	739	140	117	53	42	69
23	145	274	313	270	660	931	2,520	127	97	51	956	64
24	118	346	304	270	696	807	4,420	122	83	66	614	62
25	107	330	253	260	848	736	3,030	140	75	61	255	52
26	105	291	240	1,960	666	1,230	1,860	232	72	50	161	47
27	103	263	250	1,340	649	1,720	1,390	170	80	53	124	85
28	105	245	240	918	558	1,350	1,130	130	75	78	98	193
29	103	227	289	4,670	------	1,500	949	112	67	84	83	104
30	95	211	469	4,070	------	1,190	801	102	61	92	72	75
31	90	------	1,500	2,020	------	1,180	------	95	------	376	66	------
TOTAL	3,447	8,143	12,377	26,085	21,852	34,364	49,364	7,657	2,983	3,343	4,736	2,408
MEAN	111	271	399	841	780	1,109	1,645	247	99.4	108	153	80.3
MAX	223	571	1,500	4,670	2,130	2,710	6,170	637	247	632	956	200
MIN	72	87	151	220	329	496	656	95	61	27	42	40

CAL YR 1969 TOTAL 118,037 MEAN 323 MAX 3,360 MIN 23 CFSM 1.21 IN 16.50
WTR YR 1970 TOTAL 176,759 MEAN 484 MAX 6,170 MIN 27 CFSM 1.82 IN 24.71

PEAK DISCHARGE (BASE, 4,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
1-29	1700	8.80	8,900	4-23	1745	7.82	6,240
4- 2	1430	8.60	8,280				

01596500 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.--22 years, 70.1 cfs (19.39 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,220 cfs Apr. 2 (gage height, 4.74 ft); minimum, 2.4 cfs Aug. 22 (gage height, 1.11 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, 0.40 cfs Sept. 3, 4, 1966 (gage height, 0.96 ft).

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	4.4	26	169	195	64	189	77	14	12	9.4	16
2	9.9	25	23	130	218	69	1,550	65	13	13	7.1	8.9
3	16	37	25	104	358	206	797	57	12	15	5.1	6.5
4	11	28	20	86	256	286	442	49	44	14	4.9	5.3
5	8.3	24	19	80	180	457	335	44	138	11	3.5	4.2
6	7.0	21	17	72	133	354	281	41	616	8.8	3.2	3.3
7	7.0	18	17	50	104	256	235	35	245	8.2	8.1	2.9
8	9.6	19	20	39	87	208	211	32	140	7.0	10	2.7
9	8.5	46	22	44	77	178	326	29	125	29	7.6	2.6
10	6.9	43	54	50	67	142	387	26	83	37	7.2	3.4
11	6.5	38	306	56	57	114	287	24	60	20	5.1	6.5
12	6.1	34	196	62	53	108	219	23	46	14	4.0	4.6
13	5.8	31	140	56	49	96	188	27	39	11	3.3	3.1
14	5.4	29	124	46	48	80	221	30	31	8.8	4.0	2.7
15	5.0	28	102	36	48	71	316	24	33	7.8	6.0	2.6
16	5.0	24	79	32	44	58	302	29	36	12	3.8	2.3
17	5.5	23	63	34	40	50	244	82	28	9.6	3.3	3.2
18	5.1	23	78	52	46	52	187	69	34	7.3	2.9	8.4
19	4.7	33	56	48	102	53	161	61	29	6.0	2.8	19
20	4.5	59	47	46	90	92	252	55	22	6.8	2.7	9.5
21	7.0	55	44	42	80	146	258	47	21	9.0	2.4	6.8
22	7.3	68	46	36	87	136	199	39	21	6.1	2.1	5.8
23	5.9	49	42	44	110	117	317	34	20	6.5	17	4.7
24	5.2	48	40	46	121	99	632	34	16	7.4	12	3.7
25	4.6	46	38	79	132	92	499	34	15	6.2	6.7	3.6
26	4.5	39	36	280	92	184	306	32	14	4.8	4.7	3.7
27	4.5	35	34	213	92	300	211	26	16	4.7	3.7	22
28	4.5	32	34	149	70	262	158	22	15	5.4	3.1	16
29	4.5	29	36	464	------	290	122	19	13	7.4	2.8	11
30	4.1	27	60	540	------	214	96	16	16	8.1	2.6	8.7
31	4.1	------	180	280	------	179	------	15	------	11	32	------
TOTAL	199.1	1,015.4	2,024	3,465	3,036	5,013	9,928	1,197	1,955	334.9	193.1	203.7
MEAN	6.42	33.8	65.3	112	108	162	331	38.6	65.2	10.8	6.23	6.79
MAX	16	68	306	540	358	457	1,550	82	616	37	32	22
MIN	4.1	4.4	17	32	40	50	96	15	12	4.7	2.1	2.3
CFSM	.13	.69	1.33	2.28	2.20	3.30	6.74	.79	1.33	.22	.13	.14
IN.	.15	.77	1.53	2.63	2.30	3.80	7.52	.91	1.48	.25	.15	.15

CAL YR 1969 TOTAL 16,226.0 MEAN 44.5 MAX 387 MIN 2.2 CFSM .91 IN 12.29
WTR YR 1970 TOTAL 28,564.2 MEAN 78.3 MAX 1,550 MIN 2.1 CFSM 1.59 IN 21.64

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
1-29	2130	3.55	975	6-6	0200	3.95	1,350
4- 2	1445	4.74	2,220				

01597000 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 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.--22 years, 27.4 cfs (22.28 inches per year).

EXTREMES.--Current year: Maximum discharge, 676 cfs Apr. 2 (gage height, 3.06 ft); minimum, 1.5 cfs Sept. 25, 26 (gage height, 0.72 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, 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	2.8	8.6	20	79	26	66	40	9.4	6.8	3.8	2.2
2	6.0	7.8	8.4	14	80	28	405	35	8.8	7.8	3.3	2.1
3	6.0	9.0	7.8	11	134	74	272	32	8.8	6.8	3.1	2.1
4	3.9	8.8	7.2	9.3	91	101	166	28	16	6.6	14	2.1
5	3.4	8.4	6.8	8.0	63	152	127	25	16	5.7	6.3	2.0
6	3.3	8.1	6.2	7.1	47	116	102	24	23	5.1	5.0	2.0
7	3.6	7.5	6.2	6.9	38	80	95	21	24	4.6	4.3	1.8
8	4.3	7.5	7.2	6.6	33	63	89	18	21	4.3	4.2	1.8
9	3.4	19	7.5	6.2	30	53	109	17	17	17	4.1	1.9
10	3.3	15	19	6.0	27	42	109	15	14	12	4.0	2.7
11	3.1	13	66	7.6	25	35	85	14	11	7.9	3.5	3.1
12	3.1	12	51	8.8	22	33	66	13	11	6.8	3.1	2.1
13	3.0	10	35	7.8	19	30	54	16	11	5.8	3.1	1.9
14	3.0	9.8	15	7.0	19	28	53	15	9.0	5.0	3.1	1.8
15	3.0	9.0	11	6.0	18	26	57	13	11	4.7	3.3	1.7
16	3.0	8.2	8.6	5.6	17	23	56	14	11	7.7	2.8	1.7
17	3.0	7.8	7.5	7.0	15	22	54	16	9.0	5.0	2.8	1.6
18	2.8	7.8	8.3	11	20	23	48	16	18	4.2	2.7	2.2
19	2.7	11	6.9	8.8	35	21	44	15	32	3.9	2.7	2.7
20	2.7	20	6.7	7.9	37	39	53	16	28	4.0	2.7	1.9
21	5.1	18	8.7	7.4	30	62	58	15	23	3.9	2.5	1.7
22	3.6	23	7.2	6.6	32	56	61	14	16	3.5	2.4	1.7
23	3.1	17	7.0	7.8	40	45	118	13	14	4.2	12	1.6
24	2.8	16	7.1	11	46	36	244	14	11	4.0	4.8	1.6
25	2.8	15	6.4	25	51	36	214	16	11	3.6	3.5	1.5
26	2.8	13	6.0	118	40	72	135	18	9.8	3.5	3.1	1.8
27	2.8	12	5.6	74	34	134	95	14	11	4.5	2.9	5.1
28	3.0	11	5.6	52	29	114	74	12	9.0	3.6	2.6	2.6
29	2.7	9.8	6.0	258	------	124	59	11	7.8	3.3	2.5	2.0
30	2.7	9.0	8.8	209	------	83	48	11	7.2	3.3	2.4	1.8
31	2.7	------	28	122	------	64	------	9.8	------	5.6	2.5	------
TOTAL	103.4	346.3	397.3	1,063.4	1,151	1,841	3,216	550.8	428.8	174.7	123.1	62.8
MEAN	3.34	11.5	12.8	34.3	41.1	59.4	107	17.8	14.3	5.64	3.97	2.09
MAX	6.0	23	66	258	134	152	405	40	32	17	14	5.1
MIN	2.7	2.8	5.6	5.6	15	21	44	9.8	7.2	3.3	2.4	1.5
CFSM	.20	.69	.77	2.05	2.46	3.56	6.41	1.07	.86	.34	.24	.13
IN.	.23	.77	.89	2.37	2.56	4.10	7.16	1.23	.96	.39	.27	.14

CAL YR 1969 TOTAL 5,020.9 MEAN 13.8 MAX 125 MIN 2.3 CFSM .83 IN 11.18
WAT YR 1970 TOTAL 9,458.6 MEAN 25.9 MAX 405 MIN 1.5 CFSM 1.55 IN 21.07

PEAK DISCHARGE (BASE, 330 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
1-29	1215	2.50	370	4-2	1530	3.06	676

01597500 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.--22 years, 156 cfs (19.99 inches per year), adjusted for storage since December 1950.

EXTREMES.--Current year: Maximum discharge, 3,990 cfs Apr. 3 (gage height, 6.19 ft); minimum, 1.2 cfs Sept. 11 (gage height, 0.64 ft).
Period of record: Maximum discharge, 6,530 cfs Oct. 16, 1954 (gage height, 7.70 ft); minimum, 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	102	103	97	1,080	97	294	57	15	43	74	41
2	113	102	103	98	1,310	97	148	18	14	42	74	40
3	113	102	103	98	1,410	101	2,540	18	14	41	74	48
4	113	102	102	99	808	393	3,320	17	18	41	74	94
5	113	102	102	382	514	616	1,640	25	187	41	74	383
6	113	101	102	395	251	845	397	63	808	55	74	430
7	112	67	102	361	97	747	118	34	457	61	57	56
8	111	46	102	339	98	557	118	16	257	62	47	65
9	111	46	102	13	98	280	120	16	206	32	47	79
10	111	46	102	38	360	108	122	16	171	15	47	79
11	111	46	375	92	299	108	122	19	127	14	46	64
12	111	46	556	92	95	393	122	44	98	15	46	64
13	111	46	548	92	95	560	538	70	80	17	76	64
14	110	46	286	92	95	378	497	83	65	20	84	64
15	110	46	101	92	95	103	122	68	67	34	84	64
16	110	46	102	59	94	103	122	70	74	41	84	69
17	109	46	374	41	94	103	125	129	65	20	69	78
18	108	43	527	73	94	104	666	135	89	15	67	78
19	108	47	246	92	95	104	669	125	120	40	70	78
20	108	47	97	92	96	107	125	117	100	47	70	77
21	108	47	95	91	97	108	692	105	86	46	69	77
22	108	47	95	91	97	110	461	93	76	46	76	77
23	107	48	95	92	99	110	129	430	60	65	48	77
24	106	74	95	92	377	109	1,580	265	49	76	18	77
25	259	100	95	91	520	108	1,310	16	43	76	22	77
26	258	104	95	94	511	110	1,300	16	38	75	28	77
27	104	104	95	378	226	114	511	15	42	75	34	77
28	103	103	95	530	95	116	127	15	34	75	34	77
29	103	103	95	397	------	119	126	15	30	74	36	77
30	103	103	95	451	------	426	125	15	42	75	41	77
31	103	------	95	1,110	------	624	------	15	------	74	45	------
TOTAL	3,679	2,108	5,280	6,154	9,200	7,958	18,286	2,140	3,532	1,453	1,789	2,785
MEAN	119	70.3	170	199	329	257	610	69.0	118	46.9	57.7	92.8
MAX	259	104	556	1,110	1,410	845	3,320	430	808	76	84	430
MIN	103	43	95	13	94	97	118	15	14	14	18	40
(†)	7,660	7,000	4,830	8,100	4,420	12,730	18,540	19,770	20,030	18,830	16,230	11,560

CAL YR 1969 TOTAL 32,434 MEAN 88.9 MAX 727 MIN 11 CFSM 0.84 IN 11.38
WAT YR 1970 TOTAL 64,364 MEAN 176 MAX 3,320 MIN 13 CFSM 1.66 IN 22.58

† Month-end contents, in acre-ft, in Savage River Reservoir (contents on Sept. 30, 1969, 13,800 acre-ft). Records furnished by Corps of Engineers.

01598500 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.--27 years (1899-1905, 1949-1970), 672 cfs (22.59 inches per year), adjusted for storage since 1949.

EXTREMES.--Current year: Maximum discharge, 9,370 cfs Jan. 29 (gage height, 9.28 ft); maximum gage height, 12.02 ft Jan. 26 (backwater from ice); minimum discharge 53 cfs July 8 (gage height, 0.83 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 station 01595200), and since December 1950, by Savage River Reservoir, 5 miles above station (see station 01597500). 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 1970 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	176	184	314	1,900	2,840	716	1,710	917	147	106	294	179
2	186	220	292	1,500	2,910	711	6,480	753	107	108	240	124
3	265	371	298	1,200	3,800	1,650	6,530	674	101	108	204	109
4	280	388	278	1,000	2,560	2,220	6,170	614	135	112	432	138
5	236	321	263	1,000	1,870	3,510	4,010	560	365	97	327	420
6	211	296	252	1,150	1,460	3,050	2,220	548	993	95	220	495
7	205	254	262	780	1,110	2,520	1,890	499	629	97	171	121
8	222	228	279	800	1,030	2,040	1,610	431	383	95	156	112
9	244	586	321	320	986	1,670	1,550	386	308	310	164	121
10	218	507	376	300	1,100	1,260	1,470	340	263	779	143	128
11	204	402	1,590	380	1,080	1,130	1,260	328	208	260	129	248
12	198	362	1,490	440	774	1,270	971	322	170	161	117	182
13	193	363	1,200	440	698	1,480	1,220	327	152	127	130	139
14	190	339	1,050	390	592	1,270	1,420	379	134	106	140	127
15	187	326	921	360	527	889	1,410	367	142	99	197	119
16	184	295	721	360	791	815	1,280	336	188	120	186	118
17	183	287	839	350	689	740	1,130	477	186	200	136	126
18	178	297	937	470	716	787	1,470	519	246	112	117	129
19	174	328	730	620	1,090	743	1,540	445	399	103	120	235
20	172	420	482	560	1,020	1,130	1,210	385	268	106	121	210
21	286	361	400	460	803	1,810	1,610	347	223	103	117	162
22	336	305	440	400	789	1,410	1,330	318	210	108	120	148
23	248	336	440	380	966	1,250	2,470	577	169	120	868	142
24	220	419	410	380	1,110	1,130	6,020	417	141	146	745	140
25	356	448	360	370	1,430	1,030	4,840	236	126	150	310	132
26	309	409	320	1,600	1,280	1,220	3,560	315	115	132	206	129
27	200	378	400	1,840	1,080	2,060	2,330	270	129	138	165	145
28	203	358	370	1,540	804	1,590	1,500	210	114	152	139	280
29	200	340	390	4,620	------	1,750	1,280	180	103	161	123	191
30	192	324	520	5,180	------	1,710	1,120	160	106	173	116	156
31	187	------	2,000	3,520	------	1,910	------	140	------	446	116	------
TOTAL	6,843	10,452	18,945	34,610	35,905	46,471	72,611	12,777	6,960	5,130	6,769	5,205
MEAN	221	348	611	1,116	1,282	1,499	2,420	412	232	165	218	174
MAX	356	586	2,000	5,180	3,800	3,510	6,530	917	993	779	868	495
MIN	172	184	252	300	527	711	971	140	101	95	116	109

CAL YR 1969 TOTAL 155,838 MEAN 427 MAX 4,260 MIN 94 CFSM 1.06 IN 14.35
WAT YR 1970 TOTAL 262,678 MEAN 720 MAX 6,530 MIN 95 CFSM 1.78 IN 24.18

01599000 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.--41 years (1929-70), 76.1 cfs (14.27 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,480 cfs April 2 (gage height, 8.29 ft); minimum, 5.5 cfs Aug. 21, 22 (gage height, 3.09 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, 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, 1965-70 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	8.1	18	97	227	77	344	151	30	15	11	12
2	14	34	18	77	251	86	1,770	125	28	16	9.8	8.6
3	20	36	18	67	376	252	960	109	27	18	9.2	7.5
4	13	27	17	54	249	353	638	97	37	17	9.1	7.1
5	10	21	16	45	182	531	496	88	51	15	8.0	6.9
6	9.6	18	14	40	146	418	431	83	50	14	7.9	6.5
7	11	17	12	35	123	349	394	71	40	13	8.0	6.2
8	15	18	20	28	111	295	336	65	29	13	9.1	6.3
9	11	32	21	23	104	250	324	61	25	74	10	6.4
10	9.6	25	41	21	97	199	327	56	23	52	10	9.6
11	9.1	22	250	28	90	163	278	51	21	26	8.2	11
12	9.1	21	128	34	79	176	228	49	19	19	7.1	7.6
13	9.1	21	88	29	68	162	193	53	19	15	8.9	6.9
14	9.1	21	80	21	50	134	231	53	18	14	8.5	6.4
15	8.6	22	70	18	59	116	346	46	22	13	9.5	6.4
16	9.1	19	57	16	59	102	272	53	27	18	7.4	5.9
17	9.1	18	50	30	50	91	234	99	21	14	6.6	5.7
18	8.1	17	43	50	56	97	197	70	32	13	6.6	7.8
19	8.1	21	46	40	93	92	185	56	27	12	7.0	9.8
20	8.6	36	40	35	84	220	333	51	19	13	7.3	7.2
21	9.6	26	31	32	63	261	251	47	26	13	6.3	6.6
22	8.6	23	39	30	72	211	211	42	22	12	5.6	6.2
23	8.1	24	35	30	90	184	435	38	18	14	23	6.0
24	8.1	26	33	30	100	160	714	47	19	14	12	5.8
25	7.6	23	27	29	114	156	596	79	16	14	9.6	5.4
26	7.6	22	26	140	88	247	447	99	21	12	8.6	5.7
27	7.6	20	26	124	91	307	358	57	20	12	7.6	22
28	7.6	20	26	105	85	284	289	48	17	11	7.2	13
29	7.6	19	28	373	------	339	233	42	16	11	6.7	8.4
30	7.6	18	44	460	------	276	183	37	16	13	6.7	7.0
31	7.6	------	145	309	------	287	------	33	------	15	25	------
TOTAL	296.0	675.1	1,507	2,450	3,257	6,875	12,234	2,056	756	545	287.5	237.9
MEAN	9.55	22.5	48.6	79.0	116	222	408	66.3	25.2	17.6	9.27	7.93
MAX	20	36	250	460	376	531	1,770	151	51	74	25	22
MIN	7.2	8.1	12	16	50	77	183	33	16	11	5.6	5.4
CFSM	.13	.31	.67	1.09	1.60	3.07	5.64	.92	.35	.24	.13	.11
IN.	.15	.35	.77	1.26	1.67	3.53	6.29	1.06	.39	.28	.15	.12

CAL YR 1969 TOTAL 11,836.7 MEAN 32.4 MAX 394 MIN 4.7 CFSM .45 IN 6.08
WAT YR 1970 TOTAL 31,176.5 MEAN 85.4 MAX 1,770 MIN 5.4 CFSM 1.18 IN 16.02

PEAK DISCHARGE (BASE, 1,200 CFS).--Apr. 2 (1345) 2,480 cfs (8.29 ft).

01600000 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.--32 years, 845 cfs (19.25 inches per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 13,400 cfs Apr. 2 (gage height, 13.61 ft); minimum 103 cfs July 7 (gage height, 1.79 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 station 01595200), and since December 1950, by Savage River Reservoir (see station 01597500).

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	198	210	319	2,340	2,920	838	2,370	1,160	185	136	421	174
2	212	244	315	1,680	2,800	815	9,180	943	171	128	265	170
3	244	380	295	1,360	3,910	1,630	8,780	848	158	158	257	122
4	327	447	295	1,140	3,200	2,490	7,130	757	165	176	306	118
5	276	384	272	1,120	2,500	4,120	4,940	682	403	152	466	324
6	244	339	254	1,320	1,720	3,530	2,900	649	862	125	277	490
7	231	315	276	875	1,220	2,890	2,430	600	849	110	219	301
8	240	261	265	922	1,120	2,310	2,090	506	524	108	187	129
9	265	475	327	379	1,090	1,980	1,950	457	384	232	207	125
10	249	638	402	340	1,150	1,500	1,890	394	333	982	183	135
11	234	465	1,630	440	1,280	1,320	1,650	375	280	439	156	209
12	221	402	1,830	500	879	1,370	1,390	361	228	253	138	246
13	215	384	1,420	500	782	1,680	1,350	370	201	185	128	170
14	212	375	1,180	450	665	1,530	1,820	422	180	150	168	145
15	210	355	1,080	420	568	1,040	1,780	426	176	125	247	131
16	207	323	838	402	803	966	1,740	375	223	138	241	126
17	207	295	790	385	792	875	1,530	557	252	201	184	128
18	204	291	994	522	767	927	1,640	635	258	170	139	138
19	201	323	898	706	1,150	905	1,950	527	435	120	134	159
20	198	406	540	631	1,260	1,360	1,630	442	379	122	134	286
21	204	406	442	505	968	2,470	1,850	391	287	125	132	195
22	402	335	470	423	909	1,910	1,870	349	280	120	122	167
23	295	331	470	419	1,110	1,670	2,510	553	232	141	400	153
24	250	355	442	418	1,200	1,470	7,270	530	189	170	1,190	148
25	351	480	380	406	1,580	1,300	6,490	390	208	201	441	149
26	343	424	343	1,730	1,440	1,440	4,120	475	212	167	271	138
27	275	393	429	2,240	1,290	2,510	2,880	400	181	158	204	174
28	224	367	398	1,810	951	1,990	1,870	292	166	161	169	264
29	224	351	411	3,880	------	2,190	1,600	246	143	188	145	253
30	218	335	470	6,710	------	2,030	1,380	209	128	195	129	189
31	212	------	2,360	3,760	------	2,260	------	198	------	355	143	------
TOTAL	7,593	11,089	20,835	38,733	40,024	55,316	91,980	15,519	8,672	6,191	7,803	5,656
MEAN	245	370	672	1,249	1,429	1,784	3,066	501	289	200	252	189
MAX	402	638	2,360	6,710	3,910	4,120	9,180	1,160	862	982	1,190	490
MIN	198	210	254	340	568	815	1,350	198	128	108	122	118

CAL YR 1969 TOTAL 175,768 MEAN 482 MAX 4,640 MIN 106 CFSM 0.81 IN 10.97
WAT YR 1970 TOTAL 309,411 MEAN 848 MAX 9,180 MIN 108 CFSM 1.42 IN 19.31

01601500 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 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.--41 years (1929-70), 307 cfs (16.88 inches per year).

EXTREMES.--Current year: Maximum discharge, 8,710 cfs Apr. 2 (gage height, 9.23 ft); minimum, 17 cfs Sept. 17 (gage height, 1.42 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 station 01599000). 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	29	127	649	890	368	1,080	465	141	185	75	33
2	63	180	111	540	1,080	374	6,940	414	126	203	69	33
3	94	260	118	463	1,850	735	4,320	372	121	430	60	28
4	67	200	104	378	1,290	1,230	2,270	329	125	456	63	25
5	53	170	97	334	884	1,790	1,660	298	206	239	61	24
6	46	150	84	307	693	1,560	1,360	272	587	184	53	23
7	48	130	90	290	567	1,220	1,110	249	415	147	48	22
8	58	130	94	198	492	992	866	233	289	125	48	21
9	49	220	105	140	453	842	939	218	265	299	48	22
10	43	200	215	130	432	715	1,300	203	216	477	45	28
11	40	190	1,330	150	384	601	992	190	179	320	42	32
12	39	170	1,020	190	330	596	788	182	153	251	38	27
13	37	160	742	190	283	584	686	181	135	198	36	26
14	35	150	626	170	188	521	905	189	120	165	37	22
15	32	140	503	160	236	447	1,690	174	122	147	39	22
16	32	130	402	150	240	387	1,490	199	310	190	37	20
17	32	120	326	150	210	337	1,100	1,280	333	155	35	18
18	32	100	264	230	218	384	854	842	273	119	32	30
19	30	160	279	240	356	365	733	581	376	102	30	54
20	33	350	243	220	396	669	1,060	445	267	98	30	46
21	38	330	183	170	313	884	932	353	263	106	29	33
22	45	290	239	170	369	819	842	291	341	87	29	28
23	40	250	193	160	572	754	917	251	278	100	102	25
24	35	230	189	155	576	696	1,460	232	223	114	100	23
25	33	190	116	150	673	671	1,500	296	189	100	57	29
26	33	180	167	333	530	925	1,250	384	169	82	44	27
27	33	160	212	290	495	1,530	946	300	662	73	38	61
28	31	150	181	475	430	1,290	764	239	464	69	34	64
29	31	138	178	953	------	1,390	649	201	314	72	31	44
30	29	129	228	2,120	------	1,080	543	174	231	72	29	35
31	29	------	759	1,250	------	984	------	156	------	83	33	------
TOTAL	1,275	5,386	9,525	11,505	15,430	25,740	41,946	10,193	7,893	5,448	1,452	925
MEAN	41.1	180	307	371	551	830	1,398	329	263	176	46.8	30.8
MAX	94	350	1,330	2,120	1,850	1,790	6,940	1,280	662	477	102	64
MIN	29	29	84	130	188	337	543	156	120	69	29	18
CFSM	.17	.73	1.24	1.50	2.23	3.36	5.66	1.33	1.06	.71	.19	.12
IN.	.19	.81	1.43	1.73	2.32	3.88	6.32	1.54	1.19	.82	.22	.14

CAL YR 1969 TOTAL 59,643 MEAN 163 MAX 1,990 MIN 23 CFSM .66 IN 8.98
WAT YR 1970 TOTAL 136,718 MEAN 375 MAX 6,940 MIN 18 CFSM 1.52 IN 20.59

PEAK DISCHARGE (BASE, 3,500 CFS).--April 2 (1930) 8,710 cfs (9.23 ft).

NOTE.--No gage-height record Oct. 15 to Nov. 29.

01603000 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 miles south of Cumberland, and at mile 19.6.

DRAINAGE AREA.--875 sq mi.

PERIOD OF 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, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--41 years, 1,191 cfs (18.48 inches per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 22,200 cfs Apr. 2 (gage height, 17.25 ft); minimum, 129 cfs Sept. 4 (gage height, 2.29 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 sta 01595200), and since December 1950, by Savage River Reservoir (see sta 01597500). 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 1970 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	238	262	485	3,530	4,400	1,130	4,030	1,670	350	328	552	181
2	297	499	471	2,370	4,230	1,100	15,800	1,340	324	346	370	229
3	352	693	450	1,810	6,300	2,060	15,400	1,200	317	537	334	171
4	404	700	445	1,460	4,890	3,990	10,400	1,070	330	666	307	144
5	361	617	411	1,300	3,390	6,350	7,700	979	550	416	565	178
6	317	534	384	1,570	2,720	5,780	4,900	912	1,310	334	369	456
7	308	494	396	1,130	1,780	4,650	3,930	862	1,330	272	299	520
8	317	436	402	1,070	1,570	3,650	3,310	760	869	253	256	173
9	329	554	456	686	1,480	3,090	3,140	697	680	478	295	153
10	325	886	620	556	1,470	2,270	3,470	620	584	1,310	262	177
11	299	692	2,840	613	1,700	1,900	2,870	580	492	842	232	198
12	283	610	3,240	714	1,190	1,870	2,300	554	416	544	211	303
13	276	574	2,300	704	1,030	2,340	1,970	554	358	416	200	226
14	270	564	1,890	625	862	2,100	2,990	605	328	340	226	183
15	265	543	1,560	571	792	1,480	3,820	615	322	300	282	167
16	265	499	1,240	570	916	1,290	3,580	610	520	322	294	160
17	260	459	1,050	561	997	1,150	2,830	1,750	600	340	255	152
18	255	441	1,250	680	919	1,230	2,510	1,480	544	346	207	184
19	253	492	1,220	881	1,310	1,210	2,940	1,100	761	262	185	218
20	248	724	830	828	1,640	1,900	2,950	886	689	243	186	316
21	262	767	685	699	1,250	3,770	2,960	753	560	257	175	256
22	422	655	721	603	1,180	3,050	3,130	653	640	229	168	206
23	380	603	698	600	1,530	2,610	2,930	609	536	284	290	186
24	322	603	662	600	1,640	2,250	8,750	821	436	311	1,340	175
25	299	695	552	580	2,200	1,990	9,810	818	396	322	562	267
26	435	639	487	1,700	2,010	2,370	6,250	826	450	294	347	191
27	407	595	633	3,270	1,820	4,290	4,600	736	833	257	262	276
28	278	557	597	2,520	1,310	3,570	2,950	565	648	262	219	297
29	277	530	621	3,630	------	3,840	2,420	473	478	284	191	339
30	270	504	724	10,000	------	3,370	1,990	406	376	294	165	247
31	262	------	3,020	5,860	------	3,550	------	376	------	364	181	------
TOTAL	9,536	17,421	31,340	52,291	56,526	85,200	146,630	25,880	17,027	12,053	9,787	6,929
MEAN	308	581	1,011	1,687	2,019	2,748	4,888	835	568	389	316	231
MAX	435	886	3,240	10,000	6,300	6,350	15,800	1,750	1,330	1,310	1,340	520
MIN	238	262	384	556	792	1,100	1,970	376	317	229	165	144

CAL YR 1969 TOTAL 244,298 MEAN 669 MAX 6,060 MIN 147 CFSM 0.76 IN 10.38
WAT YR 1970 TOTAL 470,620 MEAN 1,289 MAX 15,800 MIN 144 CFSM 1.47 IN 20.00

PEAK DISCHARGE (BASE, 10,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
1-30	0500	11.42	12,200	4-25	0115	12.27	13,600
4- 2	2230	17.25	22,200				

01603500 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.--38 years, 29.8 cfs (13.40 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,420 cfs Apr. 2 (gage height, 3.94 ft); minimum, 3.7 cfs Sept. 16, 17, 18 (gage height, 1.10 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, 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	6.5	17	77	117	54	163	53	18	28	14	6.3
2	22	53	15	54	217	54	1,180	48	17	25	11	5.2
3	22	48	16	46	250	77	526	46	17	69	10	5.0
4	12	34	15	45	166	104	259	42	18	48	11	5.0
5	9.7	27	14	40	147	137	173	38	79	27	9.0	4.6
6	9.4	25	14	34	110	112	143	34	163	23	8.8	4.2
7	11	22	13	34	90	102	129	32	63	20	8.1	4.2
8	18	27	16	28	80	95	102	31	46	18	9.0	4.2
9	11	45	15	19	70	83	87	28	37	51	8.1	4.4
10	9.7	29	49	18	66	73	79	26	32	54	8.4	5.4
11	9.4	26	183	22	58	65	73	24	27	27	7.3	5.6
12	9.0	26	95	26	52	67	67	23	23	23	6.8	4.6
13	8.8	24	63	26	41	75	59	24	21	20	6.5	4.2
14	8.4	24	56	23	30	65	123	24	19	18	6.3	4.1
15	8.1	24	49	21	38	56	259	22	20	18	6.5	4.2
16	8.1	20	42	20	38	51	143	37	131	23	6.0	3.9
17	7.8	19	38	20	33	46	115	87	75	17	5.8	3.7
18	7.6	18	37	32	35	51	97	41	56	15	5.6	11
19	7.3	25	33	37	54	49	87	33	77	13	5.6	11
20	7.3	33	31	30	66	131	147	31	38	14	6.8	5.8
21	9.0	22	25	23	45	134	97	28	43	15	6.0	5.0
22	8.4	20	31	22	50	107	83	26	48	12	5.2	4.8
23	7.6	21	26	22	60	102	85	24	31	20	33	4.4
24	7.0	21	25	21	60	97	153	25	27	21	11	4.4
25	7.0	20	16	20	68	90	117	37	24	16	7.6	6.3
26	7.0	19	22	40	66	112	95	43	41	13	6.5	7.3
27	7.0	18	28	35	62	140	85	28	120	16	6.0	25
28	6.8	18	26	32	58	120	77	23	43	20	5.6	11
29	6.5	17	24	129	------	117	69	21	35	15	5.4	6.8
30	6.3	16	43	217	------	112	59	20	31	15	5.2	5.8
31	6.3	------	123	126	------	131	------	19	------	16	7.3	------
TOTAL	292.5	747.5	1,200	1,339	2,227	2,809	4,931	1,018	1,420	730	259.4	187.4
MEAN	9.44	24.9	38.7	43.2	79.5	90.6	164	32.8	47.3	23.5	8.37	6.25
MAX	22	53	183	217	250	140	1,180	87	163	69	33	25
MIN	6.3	6.5	13	18	30	46	59	19	17	12	5.2	3.7
CFSM	.31	.83	1.28	1.43	2.63	3.00	5.44	1.09	1.57	.78	.28	.21
IN.	.36	.92	1.48	1.65	2.74	3.46	6.07	1.25	1.75	.90	.32	.23

CAL YR 1969 TOTAL 9,004.2 MEAN 24.7 MAX 575 MIN 3.1 CFSM .82 IN 11.09
WTR YR 1970 TOTAL 17,160.8 MEAN 47.0 MAX 1,180 MIN 3.7 CFSM 1.56 IN 21.13

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4- 2	0845	3.94	1,420	6- 5	2300	2.81	407
4-15	0430	2.80	400	6-16	2015	2.82	414

01608500 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, 2.0 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 10.0 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.--46 years (1899-1901, 1903-5, 1928-70), 1,223 cfs (11.29 inches per year).

EXTREMES.--Current year: Maximum discharge, 16,500 cfs Apr. 24 (gage height, 12.67 ft); minimum, 133 cfs Sept. 18 (gage height, 1.29 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.

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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	275	181	325	11,300	2,810	957	5,460	1,860	281	201	357	197
2	263	189	307	5,500	2,160	849	8,160	1,600	265	190	313	200
3	279	192	295	3,340	2,590	840	8,990	1,430	257	190	277	221
4	311	205	283	2,400	3,230	1,600	6,130	1,280	313	190	259	196
5	411	242	271	1,990	2,500	2,790	4,280	1,150	456	182	231	184
6	366	342	271	1,480	2,110	3,540	3,310	1,030	930	172	205	181
7	329	329	263	1,330	1,720	2,990	3,010	921	480	162	191	172
8	311	311	271	1,090	1,470	2,390	2,690	832	515	157	180	157
9	291	311	275	660	1,350	1,990	2,310	768	1,210	172	199	149
10	271	316	307	700	1,410	1,720	2,190	718	599	1,100	226	147
11	260	385	918	720	1,500	1,510	2,010	669	420	2,500	219	153
12	249	376	3,930	760	1,380	1,400	1,790	627	339	1,100	215	153
13	238	351	3,000	780	1,190	1,400	1,600	599	289	655	253	163
14	231	333	2,050	720	1,020	1,400	1,670	578	265	462	231	168
15	221	325	1,640	660	930	1,260	2,790	550	242	370	207	156
16	215	311	1,440	700	939	1,130	3,350	508	253	317	267	147
17	211	299	1,150	760	1,860	1,020	3,060	501	305	285	241	140
18	208	283	926	918	1,790	957	2,610	487	357	277	212	135
19	201	275	788	1,230	2,190	1,030	2,220	487	348	305	230	136
20	195	279	728	1,640	3,190	1,440	2,060	438	366	261	217	137
21	198	351	668	1,370	2,600	2,990	2,090	400	317	238	467	139
22	192	571	571	942	2,060	3,060	1,780	375	289	225	389	166
23	192	526	513	840	1,800	2,860	2,230	357	273	225	428	161
24	192	489	460	800	1,630	2,500	11,800	357	245	238	366	152
25	198	466	420	1,000	1,420	2,160	10,400	352	222	232	481	147
26	195	443	380	1,470	1,300	1,890	5,950	438	238	257	495	144
27	189	411	360	5,600	1,130	1,920	4,200	620	289	289	377	175
28	186	380	450	3,330	1,070	2,050	3,280	432	253	273	313	197
29	184	361	900	2,800	-----	2,030	2,700	357	242	297	270	178
30	181	342	2,390	4,720	------	3,090	2,250	317	215	339	236	175
31	181	------	5,820	3,980	------	4,010	------	293	------	348	214	------
TOTAL	7,424	10,175	32,370	65,530	50,349	60,773	116,370	21,331	11,073	12,209	8,766	4,926
MEAN	239	339	1,044	2,114	1,798	1,960	3,879	688	369	394	283	164
MAX	411	571	5,820	11,300	3,230	4,010	11,800	1,860	1,210	2,500	495	221
MIN	181	181	263	660	930	840	1,600	293	215	157	180	135
CFSM	.16	.23	.71	1.44	1.22	1.33	2.64	.47	.25	.27	.19	.11
IN.	.19	.26	.82	1.66	1.27	1.54	2.94	.54	.28	.31	.22	.12

CAL YR 1969 TOTAL 229,214 MEAN 628 MAX 6,740 MIN 138 CFSM .43 IN 5.80
WAT YR 1970 TOTAL 401,296 MEAN 1,099 MAX 11,800 MIN 135 CFSM .75 IN 10.15

PEAK DISCHARGE (BASE, 10,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
1- 1	0300	11.75	14,500	4- 2	1445	9.66	10,600
1-27	0900	9.39	10,100	4-24	1600	12.67	16,500

01609000 Town Creek near Oldtown, Md.

LOCATION.--Lat 39°33'12", long 78°33'19", Allegany County, at highway bridge 2.0 miles upstream from Sawpit Run, 3.0 miles northeast of Oldtown, and 4.0 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.--10 years (1928-35, 1967-70), 126 cfs (11.56 inches per year).

EXTREMES.--Current year: Maximum discharge, 6,340 cfs Apr. 2 (gage height, 12.15 ft recorded, 12.44 ft from high-water mark in gage house); minimum, not determined (occurred during period of no gage-height record); minimum daily, 9.5 cfs Sept. 17.

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, 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 as explained above).

REMARKS.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	14	46	601	400	240	619	194	47	92	50	16
2	13	32	47	370	750	240	3,880	172	44	76	39	14
3	61	310	46	277	900	340	3,080	159	41	67	33	13
4	50	235	42	230	600	450	1,020	144	47	116	30	13
5	29	161	36	200	480	600	639	131	117	82	27	12
6	24	124	34	170	400	500	505	119	317	58	24	10
7	21	100	36	170	320	450	463	108	258	48	22	10
8	19	86	39	140	290	410	397	102	143	43	23	10
9	22	116	51	94	260	360	338	98	262	58	20	11
10	22	114	49	84	240	320	299	87	137	525	21	13
11	18	96	682	100	210	280	260	82	95	279	18	14
12	18	89	593	120	190	300	228	79	73	156	17	12
13	17	84	395	120	180	320	204	79	60	107	16	11
14	16	76	300	110	130	290	481	77	50	80	15	10
15	16	81	232	100	170	250	1,530	68	46	64	17	11
16	15	71	180	96	170	220	938	66	61	68	16	10
17	15	55	147	96	150	200	577	180	267	56	15	9.5
18	15	53	127	147	160	220	422	142	240	44	14	28
19	15	52	110	172	240	220	330	104	336	43	14	25
20	14	97	100	140	290	560	550	89	232	68	17	15
21	15	94	90	110	200	580	535	77	154	55	15	13
22	16	83	96	105	220	470	394	68	251	44	13	12
23	16	81	94	105	260	450	394	62	190	40	80	11
24	17	77	90	100	260	430	722	59	137	79	28	11
25	16	69	60	94	300	412	790	75	107	61	19	16
26	16	63	49	190	290	422	538	150	95	44	17	18
27	15	57	100	170	280	535	409	114	617	36	16	65
28	15	52	94	160	260	435	325	83	234	32	15	28
29	15	52	90	440	------	394	272	68	146	56	14	17
30	15	48	133	800	------	338	230	54	113	132	13	15
31	14	------	670	450	------	362	------	51	------	64	18	------
TOTAL	602	2,722	4,858	6,261	8,600	11,598	21,369	3,141	4,917	2,773	696	473.5
MEAN	19.4	90.7	157	202	307	374	712	101	164	89.5	22.5	15.8
MAX	61	310	682	800	900	600	3,880	194	617	525	80	65
MIN	12	14	34	84	130	200	204	51	41	32	13	9.5
CFSM	.13	.61	1.06	1.36	2.07	2.53	4.81	.68	1.11	.60	.15	.11
IN.	.15	.68	1.22	1.57	2.16	2.92	5.37	.79	1.24	.70	.17	.12

CAL YR 1969 TOTAL 28,762.6 MEAN 78.8 MAX 1,390 MIN 7.2 CFSM .53 IN 7.23
WTR YR 1970 TOTAL 68,010.5 MEAN 186 MAX 3,880 MIN 9.5 CFSM 1.26 IN 17.09

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-2	1945	12.15	6,340	4-15	1145	7.87	1,820

NOTE:--No gage height record Jan. 23 to Mar. 24 and Aug. 10 to Sept. 30.

01610000 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.--32 years, 3,012 cfs (13.16 inches per year).

EXTREMES.--Current year: Maximum discharge, 45,300 cfs Apr. 3 (gage height, 23.66 ft); minimum, 330 cfs Sept. 18 (gage height, 3.27 ft).
Period of record: Maximum discharge, 111,000 cfs Oct. 16, 1942 (gage height, 38.36 ft); minimum, 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 station 01595200) and, since December 1950, by Savage River Reservoir (see station 01597500).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	608	472	1,040	17,400	9,260	3,000	12,100	4,980	868	860	1,140	494
2	602	512	965	10,300	7,790	2,760	30,600	4,290	822	755	1,100	472
3	720	1,230	942	6,970	9,900	2,870	39,400	3,850	755	762	852	512
4	808	1,320	890	5,260	10,700	5,450	22,100	3,470	770	1,340	778	484
5	868	1,200	852	4,250	7,470	9,260	15,900	3,110	2,160	1,100	800	420
6	890	1,120	800	3,300	6,160	11,200	11,000	2,810	3,530	800	905	548
7	785	1,080	785	3,100	4,950	9,330	9,040	2,590	3,590	678	685	755
8	762	1,000	830	2,940	4,260	7,580	7,920	2,340	2,270	572	602	584
9	755	958	852	2,040	3,950	6,390	6,960	2,170	2,830	685	560	385
10	734	1,290	972	1,390	4,060	5,340	6,850	2,060	2,090	2,360	614	365
11	685	1,380	3,640	1,450	4,500	4,640	6,220	1,810	1,520	4,620	614	390
12	646	1,300	7,870	1,500	4,080	4,200	5,450	1,680	1,220	2,720	560	415
13	614	1,200	6,880	1,700	3,450	4,650	4,720	1,610	1,040	1,750	518	494
14	590	1,140	5,240	1,600	2,890	4,670	5,780	1,610	875	1,300	542	445
15	554	1,120	4,320	1,500	2,540	4,070	10,100	1,590	815	1,050	572	420
16	536	1,060	3,790	1,450	2,480	3,470	9,840	1,500	950	990	620	385
17	524	980	3,110	1,400	2,800	3,120	8,070	2,370	1,480	1,050	692	350
18	500	905	2,810	1,450	3,470	3,010	6,780	2,900	1,660	1,100	614	335
19	489	890	2,670	1,650	3,780	3,130	6,360	2,310	1,840	840	524	370
20	472	1,060	2,310	2,150	5,660	3,930	6,630	1,920	1,830	780	560	385
21	484	1,300	1,890	2,050	5,140	9,120	6,880	1,640	1,460	820	626	506
22	484	1,450	1,740	1,890	4,310	8,860	6,460	1,420	1,470	740	770	435
23	659	1,430	1,600	1,700	4,380	7,940	5,840	1,330	1,370	700	800	425
24	596	1,360	1,450	1,400	4,430	7,040	20,700	1,550	1,150	822	1,720	395
25	548	1,370	1,200	1,700	4,480	6,160	27,300	1,590	950	792	1,570	385
26	620	1,380	1,100	1,940	4,410	5,670	15,800	1,840	988	734	1,300	671
27	620	1,300	1,000	7,300	3,970	6,830	11,400	1,940	1,900	706	980	608
28	584	1,200	1,200	6,520	3,480	7,070	8,300	1,600	1,740	685	778	830
29	494	1,140	1,400	6,810	------	6,740	6,770	1,250	1,300	699	652	727
30	494	1,080	1,610	17,600	------	7,230	5,820	1,080	1,040	1,010	560	640
31	484	------	3,400	13,100	------	8,310	------	950	------	972	500	------
TOTAL	19,209	34,227	69,158	134,810	138,750	183,040	347,090	67,160	46,283	34,792	24,108	14,630
MEAN	620	1,141	2,231	4,349	4,955	5,905	11,570	2,166	1,543	1,122	778	488
MAX	890	1,450	7,870	17,600	10,700	11,200	39,400	4,980	3,590	4,620	1,720	830
MIN	472	472	785	1,390	2,480	2,760	4,720	950	755	572	500	335

CAL YR 1969 TOTAL 576,312 MEAN 1,575 MAX 14,200 MIN 286 CFSM 0.51 IN 6.89
WAT YR 1970 TOTAL 1,113,257 MEAN 3,050 MAX 39,400 MIN 335 CFSM 0.98 IN 13.32

PEAK DISCHARGE (BASE, 20,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
1- 1	0900	15.57	20,200	4- 3	0300	23.66	45,300
1-30	1530	15.90	21,000	4-25	0330	19.85	32,600

01610155 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 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, 5,750 cfs Apr. 2 (gage height, 8.18 ft recorded, 8.39 ft from crest-stage indicator); minimum, 0.18 cfs Sept. 14 (gage height, 0.95 ft).
Period of record: Maximum discharge, 5,750 cfs Apr. 2, 1970 (gage height, 8.18 ft); minimum, no flow for many days in August and September 1968.
REVISIONS.--Figures of maximum discharge for the period July to September 1967 and for the water years 1968 and 1969 have been revised to 2,060 cfs Sept. 29, 1967 (gage height, 4.95 ft), 2,160 cfs Mar. 17, 1968 (gage height, 5.06 ft), and 1,780 cfs Aug. 20, 1969 (gage height, 4.63 ft), superseding figures published in WRD MD. and DEL., 1968 and 1969.

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

REVISIONS.--The figures of peak discharge for the period July to September 1967 and for the water years 1968 and 1969 have been revised as shown below. They supersede figures published in WRD MD. and DEL., 1968 and 1969.
REVISED PEAK DISCHARGE.--July to September 1967: Sept. 29, (0300) 2,060 cfs (4.95 ft).
1968: Oct. 26 (0100) 1,230 cfs (3.96 ft); Dec. 11 (0800) 1,320 cfs (4.08 ft); Mar. 17 (0700) 2,160 cfs (5.06 ft); May 28 (0800) 1,640 cfs (4.47 ft).
1969: Mar. 25 (0645) 1,640 cfs (4.48 ft); July 30 (0645) 1,580 cfs (4.40 ft); Aug. 20 (0045) 1,780 cfs (4.63 ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.7	21	539	398	138	323	110	15	49	14	.84
2	1.5	10	19	343	538	131	3,990	96	13	38	11	.62
3	2.5	182	16	236	985	204	2,020	115	12	30	8.3	.53
4	21	113	13	169	684	342	645	94	15	34	16	2.2
5	11	79	11	134	445	594	374	81	70	28	12	1.7
6	6.8	58	9.0	130	265	517	278	69	200	20	8.4	1.1
7	5.2	46	11	119	207	389	252	59	150	15	5.7	.77
8	4.6	39	17	80	177	314	226	53	85	11	4.5	.57
9	4.0	57	19	65	165	255	211	49	150	24	4.2	.46
10	3.5	65	37	60	160	214	189	44	80	814	3.3	.43
11	3.7	57	815	70	140	180	156	38	55	274	2.6	.47
12	4.0	50	550	80	130	161	131	37	40	141	2.1	.32
13	3.2	44	344	80	120	188	112	36	22	82	1.8	.26
14	2.5	40	352	63	88	191	427	34	22	55	1.5	.27
15	1.7	48	188	49	110	170	1,690	30	16	42	1.6	.41
16	1.4	46	137	45	110	147	775	27	19	36	1.4	.28
17	1.2	37	104	57	102	131	415	83	286	31	1.3	.25
18	.81	31	82	86	102	131	272	83	226	23	1.2	.31
19	.81	28	70	123	113	131	197	55	328	18	1.2	.46
20	.72	51	62	106	136	218	271	43	192	28	1.6	.39
21	.81	60	56	88	122	514	270	35	114	52	1.1	.30
22	.81	54	62	83	141	502	225	28	176	35	3.4	.24
23	1.7	50	58	46	180	300	203	24	136	26	4.9	.26
24	1.6	47	56	47	180	290	313	22	95	31	7.1	.27
25	1.4	41	42	49	200	280	475	50	68	34	6.2	.24
26	1.4	35	35	51	190	288	364	67	58	26	6.5	.42
27	1.7	31	70	73	180	308	257	55	390	19	4.4	26
28	1.9	28	64	78	160	242	196	39	159	15	3.0	60
29	1.7	26	60	230	------	218	157	29	92	13	2.0	29
30	1.7	24	92	850	------	194	141	22	65	19	1.4	15
31	1.7	------	704	571	------	198	------	18	------	17	1.2	------
TOTAL	97.66	1,478.7	4,176.0	4,800	6,528	8,080	15,555	1,625	3,349	2,080	144.9	144.37
MEAN	3.15	49.3	135	155	233	261	519	52.4	112	67.1	4.67	4.81
MAX	21	182	815	850	985	594	3,990	115	390	814	16	60
MIN	.72	1.7	9.0	45	88	131	112	18	12	11	1.1	.24
CFSM	.03	.48	1.32	1.52	2.28	2.56	5.09	.51	1.10	.66	.05	.05
IN.	.04	.54	1.52	1.75	2.38	2.95	5.67	.59	1.22	.76	.05	.05

CAL YR 1969 TOTAL 18,117.60 MEAN 49.6 MAX 1,090 MIN .25 CFSM .49 IN 6.61
WTR YR 1970 TOTAL 48,058.63 MEAN 132 MAX 3,990 MIN .24 CFSM 1.29 IN 17.53

PEAK DISCHARGE (BASE, 1,100 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-11	*	†4.0	1,260	4-15	0745	5.02	2,130
4- 2	1815	8.18	5,750	7-10	0615	4.36	1,550

* Unknown.
† About.

01613000 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, nonrecording gage, on former highway bridge just upstream at same datum.

AVERAGE DISCHARGE.--38 years, 3,870 cfs (12.90 inches per year).

EXTREMES.--Current year: Maximum discharge, 57,200 cfs Apr. 3 (gage height, 21.61 ft); minimum, 378 cfs Sept. 19, 20 (gage height, 2.47 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 station 01595200) and since December 1950 by Savage River Reservoir (see station 01597500). Records of water temperatures for the water year 1970 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	777	497	1,140	15,900	12,800	3,910	13,800	6,610	1,120	1,300	1,790	541
2	665	567	1,080	15,500	10,300	3,470	33,900	5,650	1,030	1,070	1,690	519
3	667	809	1,020	9,950	11,900	3,480	52,700	5,020	972	934	1,430	485
4	804	1,660	981	7,180	14,200	5,040	30,300	4,590	971	1,020	1,130	518
5	874	1,530	945	5,530	10,600	9,240	20,100	4,100	2,470	1,600	992	501
6	966	1,350	882	4,300	8,220	12,900	14,600	3,680	3,780	1,200	1,010	441
7	960	1,270	861	4,000	6,790	11,500	11,600	3,330	5,520	933	1,050	522
8	876	1,210	892	3,700	5,540	9,570	10,300	3,050	3,850	787	814	797
9	831	1,160	909	2,700	5,030	8,060	8,980	2,790	2,740	980	703	638
10	802	1,150	1,010	1,800	5,170	6,910	8,380	2,670	3,140	4,660	652	434
11	784	1,610	2,950	1,850	5,800	5,800	8,010	2,420	2,160	7,840	687	409
12	734	1,590	9,060	1,900	5,000	5,170	7,010	2,210	1,710	5,680	676	410
13	687	1,480	10,200	2,300	4,400	5,130	6,110	2,080	1,420	3,400	620	425
14	644	1,360	7,570	2,700	3,700	5,540	6,250	2,040	1,200	2,380	594	508
15	606	1,310	5,870	2,400	3,200	5,260	14,700	2,020	1,050	1,810	621	497
16	570	1,260	4,900	2,200	3,100	4,330	14,900	1,940	1,070	1,460	641	452
17	545	1,180	4,110	2,100	3,420	3,880	11,800	1,970	1,510	1,240	693	414
18	529	1,070	3,400	1,800	4,240	3,640	9,540	3,230	2,060	1,170	879	400
19	518	1,030	3,220	2,100	4,120	3,690	8,300	3,070	2,390	1,090	726	402
20	510	1,060	3,000	2,200	5,800	4,090	8,190	2,540	2,370	1,130	632	387
21	517	1,310	2,440	2,600	6,400	9,210	9,040	2,160	2,130	1,110	633	415
22	505	1,560	2,280	2,400	5,400	12,100	8,390	1,860	1,920	994	690	514
23	501	1,790	2,100	2,200	5,500	10,800	7,610	1,650	1,910	881	917	478
24	675	1,640	1,900	2,100	5,600	9,720	14,700	1,520	1,630	844	958	449
25	613	1,570	1,600	1,900	5,780	8,660	35,500	1,820	1,350	1,070	2,060	429
26	556	1,560	1,460	1,900	5,600	7,660	22,400	1,950	1,200	1,020	1,590	455
27	628	1,510	1,270	2,100	5,080	7,600	15,400	2,300	2,830	938	1,360	832
28	659	1,390	1,560	3,500	4,580	8,980	11,600	2,540	3,020	952	1,040	798
29	614	1,280	1,940	6,000	------	8,220	9,160	1,920	2,140	890	833	931
30	508	1,200	2,060	21,000	------	8,510	7,810	1,520	1,640	954	698	798
31	502	------	3,890	19,100	------	9,580	------	1,280	------	1,980	614	------
TOTAL	20,627	38,963	86,500	156,910	177,270	221,650	441,080	85,530	62,303	53,317	29,423	15,799
MEAN	665	1,299	2,790	5,062	6,331	7,150	14,700	2,759	2,077	1,720	949	527
MAX	966	1,790	10,200	21,000	14,200	12,900	52,700	6,610	5,520	7,840	2,060	931
MIN	501	497	861	1,800	3,100	3,470	6,110	1,280	971	787	594	387
CFSM	.16	.32	.69	1.24	1.55	1.76	3.61	.68	.51	.42	.23	.13
IN.	.19	.36	.79	1.43	1.62	2.02	4.03	.78	.57	.49	.27	.14

CAL YR 1969 TOTAL 678,299 MEAN 1,858 MAX 16,500 MIN 328 CFSM .46 IN 6.20
WAT YR 1970 TOTAL 1,389,372 MEAN 3,806 MAX 52,700 MIN 387 CFSM .93 IN 12.69

PEAK DISCHARGE (BASE, 23,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
1-30	0100	15.09	29,600	4-25	0915	17.36	38,300
4- 3	0345	21.61	57,200				

01614500 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, 6.5 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, nonrecording gage at highway bridge 0.7 mile downstream at datum 2.85 ft lower. Dec. 6, 1932, to Oct. 7, 1933, nonrecording gage 150 ft downstream from former site at datum 4.84 ft lower than present datum.

AVERAGE DISCHARGE.--42 years, 544 cfs (14.95 inches per year).

EXTREMES.--Current year: Maximum discharge, 10,800 cfs Apr. 3 (gage height, 12.07 ft); minimum, 76 cfs Oct. 20 (gage height, 1.22 ft).
Period of record: Maximum discharge, 17,100 cfs Nov. 22, 1952 (gage height, 15.16 ft, from high-water mark in well); minimum, 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 good. Low flow partly regulated by small powerplants near Mercersburg, Pa. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1970 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	86	169	720	1,090	772	1,850	905	284	380	606	433
2	101	115	156	600	1,660	743	5,750	833	275	368	443	263
3	287	442	165	560	3,440	902	9,420	1,200	265	426	368	207
4	226	472	152	520	2,520	1,040	4,330	1,050	350	580	350	191
5	155	413	143	480	1,680	1,680	2,890	907	429	400	327	178
6	127	278	139	490	1,340	1,510	2,320	818	840	332	288	165
7	120	219	147	490	1,150	1,320	2,110	754	693	293	267	155
8	117	201	150	402	1,030	1,190	1,740	709	471	273	254	153
9	113	280	215	400	956	1,070	1,530	670	381	2,000	416	153
10	107	319	250	450	1,820	964	1,370	624	336	6,080	318	153
11	101	252	2,260	480	2,650	876	1,220	585	305	2,230	270	153
12	99	221	1,640	450	1,820	829	1,110	554	289	1,240	247	144
13	98	202	1,010	440	1,380	938	1,020	522	348	907	228	140
14	99	189	824	430	1,070	881	2,100	507	298	730	222	135
15	93	215	724	420	947	781	6,770	488	264	638	260	142
16	93	210	616	400	867	708	4,300	465	703	1,040	237	140
17	94	177	515	400	773	651	2,830	617	700	1,240	213	135
18	90	165	451	450	716	672	2,200	753	737	757	202	137
19	88	165	427	470	749	707	1,790	544	956	617	194	180
20	88	436	412	430	865	1,060	1,960	480	622	552	237	165
21	93	517	364	359	692	1,910	1,850	440	723	586	314	155
22	93	364	385	360	727	1,790	1,490	410	1,340	504	254	146
23	89	305	409	450	1,710	1,750	1,330	386	798	442	267	144
24	87	275	398	410	1,470	1,640	1,500	375	561	429	357	155
25	88	248	307	390	1,480	1,400	1,680	511	471	401	274	158
26	88	221	280	390	1,140	1,260	1,430	436	492	365	225	162
27	89	205	400	420	968	1,380	1,290	398	1,080	336	202	274
28	89	191	450	440	853	1,260	1,180	352	666	315	188	469
29	88	183	370	870	------	1,260	1,120	321	491	311	178	318
30	88	175	400	1,400	------	1,330	1,030	301	429	831	172	222
31	85	------	640	1,230	------	1,400	------	291	------	485	274	------
TOTAL	3,360	7,741	14,968	16,201	37,563	35,674	72,510	18,206	16,597	26,088	8,652	5,725
MEAN	108	258	483	523	1,342	1,151	2,417	587	553	842	279	191
MAX	287	517	2,260	1,400	3,440	1,910	9,420	1,200	1,340	6,080	606	469
MIN	85	86	139	359	692	651	1,020	291	264	273	172	135
CFSM	.22	.52	.98	1.06	2.72	2.33	4.89	1.19	1.12	1.70	.56	.39
IN.	.25	.58	1.13	1.22	2.83	2.69	5.46	1.37	1.25	1.96	.65	.43

CAL YR 1969 TOTAL 106,528 MEAN 292 MAX 3,450 MIN 60 CFSM .59 IN 8.02
WAT YR 1970 TOTAL 263,285 MEAN 721 MAX 9,420 MIN 85 CFSM 1.46 IN 19.83

PEAK DISCHARGE (BASE, 4,300 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4- 3	0445	12.07	10,800	7-10	0630	9.94	7,430
4-15	1230	10.09	7,640				

01617800 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 Specher 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.--7 years, 8.87 cfs (6.37 inches per year).

EXTREMES.--Current year: Maximum discharge, 96 cfs July 9 (gage height, 2.22 ft); minimum, not determined (occurred during period of ice effect); minimum daily, 1.9 cfs Oct. 23, 24.
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 good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	2.6	3.0	23	8.6	9.6	19	21	13	12	18	10
2	4.5	3.1	3.8	21	11	10	41	21	12	12	17	9.4
3	4.5	3.2	3.0	6.2	12	11	29	24	12	13	15	8.9
4	3.9	4.7	2.9	5.8	13	12	25	21	13	16	15	7.7
5	3.7	3.2	3.7	5.4	9.4	13	23	21	21	12	14	7.1
6	3.9	3.1	4.4	5.6	7.8	12	23	19	17	12	14	7.1
7	4.0	3.1	2.8	5.6	7.4	11	23	19	15	11	13	7.6
8	4.6	3.9	3.9	5.2	7.0	10	19	19	13	11	13	7.5
9	5.0	4.3	3.5	4.0	9.4	9.6	18	19	13	31	13	7.4
10	5.1	3.5	4.7	5.0	23	9.0	17	18	12	65	13	7.5
11	5.7	3.5	9.0	5.4	20	10	17	18	12	29	13	7.5
12	5.9	3.4	5.4	5.6	17	11	17	18	11	23	12	7.3
13	6.4	3.1	4.7	5.4	15	12	16	18	11	20	12	7.2
14	6.9	3.1	4.7	5.0	14	9.8	44	17	11	18	12	7.1
15	8.6	3.1	4.5	4.8	14	9.4	47	16	11	25	12	7.2
16	9.0	2.9	4.4	4.4	12	9.0	34	16	16	41	12	7.0
17	9.1	2.9	4.0	4.6	11	8.6	29	22	14	22	12	6.9
18	9.5	2.9	3.8	4.4	14	10	26	18	15	19	11	7.3
19	9.9	3.5	3.7	4.4	16	11	25	16	14	18	12	7.5
20	9.6	4.4	3.7	4.4	14	18	30	15	12	17	13	7.0
21	5.8	3.7	3.6	4.2	12	19	25	15	14	17	14	6.9
22	2.0	5.0	4.4	4.2	11	18	22	15	19	17	12	6.8
23	1.9	3.4	4.4	4.6	11	18	23	14	13	17	14	6.5
24	1.9	3.3	3.8	5.0	12	16	40	16	12	17	13	6.4
25	2.1	2.6	3.6	4.6	12	16	35	18	11	16	12	6.4
26	2.4	2.6	2.2	4.2	12	15	30	16	19	14	11	6.9
27	2.8	2.5	3.6	3.7	11	14	28	15	25	14	11	8.2
28	2.7	2.4	4.0	4.0	10	13	27	14	15	13	9.8	7.8
29	2.4	2.4	3.6	7.2	------	18	25	13	14	16	9.4	7.0
30	2.6	2.7	6.0	8.1	------	18	22	13	13	47	9.2	7.0
31	2.6	------	28	7.5	------	21	------	13	------	22	12	------
TOTAL	152.0	98.1	150.8	192.5	346.6	402.0	799	538	423	637	393.4	222.1
MEAN	4.90	3.27	4.86	6.21	12.4	13.0	26.6	17.4	14.1	20.5	12.7	7.40
MAX	9.9	5.0	28	23	23	21	47	24	25	65	18	10
MIN	1.9	2.4	2.2	3.7	7.0	8.6	16	13	11	11	9.2	6.4
CFSM	.26	.17	.26	.33	.66	.69	1.41	.92	.75	1.08	.67	.39
IN.	.30	.19	.30	.38	.68	.79	1.57	1.06	.83	1.25	.77	.44

CAL YR 1969 TOTAL 1,491.0 MEAN 4.08 MAX 28 MIN 1.7 CFSM .22 IN 2.93
WTR YR 1970 TOTAL 4,354.5 MEAN 11.9 MAX 65 MIN 1.9 CFSM .63 IN 8.57

PEAK DISCHARGE (BASE, 40 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4- 2	0800	1.68	47	7- 9	2300	2.22	96
4-14	2145	1.89	66	7-15	2400	2.09	84
4-24	1100	1.74	53	7-30	0115	1.96	72
6-27	0145	1.63	43				

01618000 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 current year (annual maximum only, October 1954 to June 1964). 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.--31 years (1928-53, 1964-70), 5,590 cfs (12.79 inches per year).

EXTREMES.--Current year: Maximum discharge, 80,000 cfs Apr. 3 (gage height, 19.45 ft); minimum, 640 cfs Oct. 24.
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 station 01595200), and since December 1950 by Savage River Reservoir (see station 01597500).

REVISIONS (WATER YEARS).--WSP 756: Drainage area. WSP 781: 1929(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,610	794	1,760	11,400	22,900	6,490	17,000	10,300	2,130	2,960	3,590	1,150
2	1,610	836	1,660	24,300	16,100	5,660	34,100	8,860	1,950	2,540	3,240	1,050
3	1,320	1,040	1,610	16,800	17,400	5,320	74,700	8,310	1,840	2,320	2,810	1,150
4	1,350	1,900	1,550	11,800	22,100	6,110	56,200	8,410	1,840	2,550	2,510	1,100
5	1,540	2,590	1,480	8,630	18,000	10,100	33,700	7,330	2,820	2,470	2,170	950
6	1,520	2,340	1,410	6,640	12,900	16,300	24,800	6,480	6,160	2,600	1,960	1,050
7	1,490	2,020	1,390	6,170	10,500	16,800	18,800	5,780	7,610	2,220	1,860	1,400
8	1,550	1,850	1,400	5,400	8,690	14,200	16,000	5,320	7,210	1,860	1,900	1,700
9	1,410	1,770	1,490	4,000	7,610	11,800	13,900	4,960	4,890	1,950	1,730	1,200
10	1,260	1,790	1,620	2,600	8,820	10,100	12,200	4,690	4,150	17,900	1,820	1,000
11	1,310	1,810	3,200	2,800	13,700	8,650	11,400	4,430	4,480	22,200	1,580	900
12	1,210	2,090	10,600	2,880	12,500	7,560	10,400	4,120	3,070	13,000	1,490	881
13	1,150	2,150	13,600	3,550	10,100	7,140	9,210	3,760	2,630	8,140	1,460	811
14	1,060	2,010	11,300	4,160	8,070	7,520	9,360	3,570	2,450	5,580	1,430	790
15	1,070	1,880	8,700	4,000	6,670	7,470	28,200	3,400	2,160	4,350	1,320	793
16	956	1,850	7,010	3,670	5,900	6,730	34,000	3,280	2,120	3,800	1,460	946
17	808	1,840	5,980	3,030	5,490	5,810	23,400	3,370	3,310	3,670	1,460	940
18	668	1,730	5,040	2,830	5,590	5,460	17,500	3,950	3,850	3,230	1,400	880
19	838	1,610	4,320	3,160	6,090	5,370	14,100	4,990	4,530	2,750	1,490	836
20	833	1,620	4,110	3,390	6,900	5,830	12,900	4,300	4,600	2,580	1,460	841
21	860	2,020	3,810	4,070	9,250	11,400	14,200	3,700	4,050	2,560	1,460	878
22	836	2,350	3,360	5,030	8,600	18,500	13,400	3,260	4,500	2,520	1,490	861
23	763	2,420	2,840	3,910	8,660	17,700	11,900	2,920	4,460	2,320	1,550	857
24	760	2,530	2,600	3,370	10,100	15,800	12,700	2,690	3,670	2,170	2,100	962
25	845	2,490	2,200	2,830	9,670	13,900	38,800	2,780	3,080	2,070	4,400	889
26	956	2,280	1,640	2,860	9,200	11,900	37,400	3,330	3,170	2,200	3,100	906
27	850	2,150	2,000	3,180	8,240	11,000	24,200	3,180	4,890	2,130	2,600	924
28	832	2,080	2,250	5,740	7,320	11,900	18,300	3,390	6,360	1,990	2,000	1,490
29	1,000	1,960	2,640	9,830	------	11,900	14,100	3,320	4,810	2,070	1,700	1,940
30	893	1,840	2,860	15,100	------	12,600	12,200	2,730	3,610	2,740	1,400	1,440
31	845	------	3,510	30,100	------	13,400	------	2,360	------	3,320	1,250	------
TOTAL	34,203	57,550	118,940	217,230	297,070	320,420	669,070	143,270	116,400	134,760	61,190	31,515
MEAN	1,103	1,918	3,837	7,007	10,610	10,340	22,300	4,622	3,880	4,347	1,974	1,051
MAX	1,610	2,590	13,600	30,100	22,900	18,500	74,700	10,300	7,610	22,200	4,400	1,940
MIN	760	794	1,390	2,600	5,490	5,320	9,210	2,360	1,840	1,860	1,250	790
CFSM	.19	.32	.65	1.18	1.79	1.74	3.76	.78	.65	.73	.33	.18
IN.	.21	.36	.75	1.36	1.86	2.01	4.19	.90	.73	.84	.38	.20

CAL YR 1969 TOTAL 982,842 MEAN 2,693 MAX 21,100 MIN 461 CFSM .45 IN 6.16
WAT YR 1970 TOTAL 2,201,618 MEAN 6,032 MAX 74,700 MIN 760 CFSM 1.02 IN 13.80

PEAK DISCHARGE (BASE, 23,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
1- 2	1045	9.75	27,000	4-16	0100	12.33	39,200
1-31	1315	10.83	32,000	4-25	1845	13.93	47,400
4- 3	1315	19.45	80,000	7-10	2130	10.15	28,800

01619000 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 miles 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 and crest-stage gage 100 ft downstream at present datum.

AVERAGE DISCHARGE.--8 years (1948-51, 1965-70), 101 cfs (14.67 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,040 cfs July 29 (gage height, 7.87 ft); minimum not determined, occurred during period of ice effect; minimum daily, 26 cfs Oct. 18, 29-31, Nov. 1.
Period of record: Maximum discharge, 2,040 cfs July 29, 1970 (gage height, 7.87 ft); maximum gage height, 8.55 ft Nov. 25, 1950; 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	26	33	72	103	105	278	169	82	96	173	64
2	55	45	32	64	176	105	751	169	78	94	143	59
3	57	51	32	62	278	123	553	214	88	100	123	57
4	35	69	32	57	218	125	424	166	108	115	118	57
5	32	41	31	58	169	152	344	155	169	92	108	54
6	31	35	30	56	149	140	305	146	194	84	103	53
7	32	33	33	57	137	134	278	140	146	82	108	51
8	34	48	47	54	128	134	239	137	110	80	115	51
9	33	54	45	46	134	131	222	134	105	222	108	51
10	30	36	66	48	410	123	202	128	96	764	98	53
11	30	35	210	52	270	118	183	125	90	214	94	51
12	30	34	88	52	202	125	173	120	88	173	92	50
13	30	33	70	50	173	137	166	128	86	149	90	48
14	30	34	68	47	146	120	384	137	78	134	140	48
15	28	36	64	48	140	110	960	123	80	134	128	48
16	30	33	56	47	131	105	531	110	149	183	94	47
17	28	32	53	46	123	100	406	166	105	125	90	47
18	26	31	50	46	123	108	336	123	134	115	78	53
19	28	45	50	45	140	105	292	108	134	110	72	53
20	28	74	48	45	131	159	322	100	98	110	82	47
21	28	44	47	45	113	183	265	96	169	110	78	47
22	28	38	52	46	113	169	226	94	248	103	68	45
23	26	38	51	48	134	169	214	92	149	98	86	45
24	26	36	47	50	125	162	314	123	128	98	74	45
25	26	35	42	45	134	152	256	166	118	94	66	44
26	26	34	30	48	123	162	222	110	134	90	62	44
27	28	33	50	50	115	190	214	98	173	86	60	72
28	28	33	64	50	110	166	202	92	115	84	60	59
29	26	33	50	113	------	256	194	88	105	222	59	48
30	26	32	54	146	------	230	180	84	100	309	57	47
31	26	------	94	110	------	278	------	82	------	137	88	------
TOTAL	950	1,181	1,719	1,803	4,448	4,576	9,636	3,923	3,657	4,607	2,915	1,538
MEAN	30.6	39.4	55.5	58.2	159	148	321	127	122	149	94.0	51.3
MAX	57	74	210	146	410	278	960	214	248	764	173	72
MIN	26	26	30	45	103	100	166	82	78	80	57	44
CFSM	.33	.42	.59	.62	1.70	1.58	3.43	1.36	1.30	1.59	1.01	.55
IN.	.38	.47	.68	.72	1.77	1.82	3.83	1.56	1.45	1.83	1.16	.61

CAL YR 1969 TOTAL 18,818 MEAN 51.6 MAX 247 MIN 26 CFSM .55 IN 7.49
WAT YR 1970 TOTAL 40,953 MEAN 112 MAX 960 MIN 26 CFSM 1.20 IN 16.29

PEAK DISCHARGE (BASE, 850 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4- 2	0800	5.41	859	7-10	0400	7.12	1,660
4-15	0800	6.17	1,210	7-29	2230	7.87	2,040

01619500 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.

AVERAGE DISCHARGE.--47 years (1897-1903, 1904-5, 1930-1970), 256 cfs (12.37 inches per year), adjusted for inflow since 1930.

EXTREMES.--Current year: Maximum discharge, 2,510 cfs July 10 (gage height, 6.95 ft); minimum, 42 cfs Dec. 26 (gage height, 2.06 ft) result of freezeup; minimum daily, 74 cfs Dec. 26.
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 Antietam Creek above station as sewage. Records of chemical anlyses and water temperatures for the water year 1970, 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	80	85	226	284	317	670	535	258	309	383	233
2	117	82	85	185	305	308	923	510	254	300	373	190
3	157	102	85	172	515	313	1,390	605	250	346	331	184
4	132	164	83	161	533	343	1,090	555	304	368	313	181
5	106	135	88	147	438	376	909	495	467	315	299	176
6	99	105	84	151	383	386	813	470	446	284	285	170
7	97	95	85	153	356	361	777	450	456	268	276	165
8	99	95	106	140	330	352	695	435	341	262	280	165
9	98	119	115	110	327	344	635	420	302	310	282	165
10	98	119	133	135	716	335	596	405	291	1,810	268	168
11	95	99	353	140	838	323	551	390	275	942	257	170
12	91	92	286	141	621	318	516	395	260	599	247	162
13	91	89	183	138	524	366	492	376	263	516	239	157
14	90	89	161	135	460	352	685	400	246	464	237	157
15	88	94	160	132	425	316	1,620	385	238	470	321	160
16	88	90	150	125	402	297	1,570	357	348	711	265	157
17	88	86	137	125	378	283	1,090	433	417	480	236	152
18	86	85	130	125	365	281	923	423	376	414	227	155
19	87	90	127	125	391	306	815	350	442	385	225	176
20	85	154	124	120	405	323	810	328	340	370	231	157
21	103	150	121	119	366	483	796	310	339	380	288	152
22	92	113	132	120	341	489	675	300	581	351	224	160
23	86	101	142	130	349	494	638	291	446	338	244	147
24	85	97	128	134	369	471	750	291	368	336	241	146
25	83	96	117	128	371	445	855	410	338	324	220	144
26	81	94	74	127	366	429	695	344	388	309	208	157
27	81	91	122	135	344	449	660	307	578	295	203	172
28	82	90	135	140	334	458	630	283	407	289	197	195
29	82	89	116	209	------	465	605	278	345	316	191	161
30	81	86	123	379	------	607	575	270	325	1,000	186	149
31	80	------	204	331	------	600	------	261	------	459	240	------
TOTAL	2,924	3,071	4,174	4,838	11,836	11,990	24,449	12,062	10,689	14,320	8,017	4,983
MEAN	94.3	102	135	156	423	387	815	389	356	462	259	166
MAX	157	164	353	379	838	607	1,620	605	581	1,810	383	233
MIN	80	80	74	110	284	281	492	261	238	262	186	144
†	-13.6	-11.6	-8.2	-7.4	-6.0	-5.4	-5.6	-5.8	-5.8	-7.2	-12.1	-13.4
MEAN‡	80.7	90.4	127	149	417	382	809	383	350	455	247	153
CFSM‡	.29	.32	.45	.53	1.48	1.36	2.88	1.36	1.25	1.62	.88	.54
IN ‡	.33	.36	.52	.61	1.54	1.57	3.21	1.57	1.39	1.87	1.01	.60

CAL YR 1969 TOTAL 48,205 MEAN 132 MAX 530 MIN 74 MEAN‡ 121 CFSM‡ .43 IN‡ 5.84
WAT YR 1970 TOTAL 113,353 MEAN 311 MAX 1,810 MIN 74 MEAN‡ 303 CFSM‡ 1.08 IN‡ 14.63

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-15	2300	6.26	2,030	7-10	2045	6.95	2,510

† Pumpage, in cubic feet per second, from Potomac River for municipal supply of Hagerstown.
‡ Adjusted for pumpage.

01636500 Shenandoah River at Millville, W. Va.

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

DRAINAGE AREA.--3,040 sq mi.

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

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

AVERAGE DISCHARGE.--55 years (1895-1908, 1928-70), 2,581 cfs (11.53 inches per year).

EXTREMES.--Current year: Maximum discharge, 17,400 cfs Jan. 2 (gage height, 9.08 ft); minimum, 413 cfs Sept. 17 (gage height, 1.26 ft); minimum daily, 496 cfs Sept. 26.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,410	788	1,130	9,780	4,000	2,710	5,610	3,800	1,140	1,020	2,300	702
2	1,390	822	1,100	15,200	3,620	2,510	5,540	3,380	1,090	935	1,960	671
3	1,390	952	1,040	9,330	3,710	2,390	6,010	3,230	1,070	911	1,480	658
4	1,400	1,170	942	6,730	5,440	2,300	6,740	3,180	1,080	775	1,470	615
5	1,890	1,500	1,040	5,300	6,460	2,300	6,380	3,180	1,150	847	1,210	627
6	1,720	1,520	952	4,330	5,270	2,380	5,530	3,080	1,650	1,320	1,090	593
7	1,630	1,910	990	3,750	4,400	2,440	4,880	2,970	1,490	1,150	904	598
8	1,530	1,700	1,060	3,290	3,840	2,500	4,390	2,750	1,300	939	905	586
9	1,410	1,630	1,080	2,690	3,520	2,430	4,020	2,510	1,120	921	837	578
10	1,430	1,600	1,210	1,880	4,290	2,390	3,550	2,350	1,260	4,930	840	579
11	1,370	1,550	3,220	1,800	5,670	2,300	3,190	2,140	1,040	8,590	859	591
12	1,200	1,450	6,600	1,850	5,430	2,210	2,950	2,060	1,010	3,930	900	607
13	1,170	1,450	8,420	2,840	4,660	2,190	2,750	2,060	1,070	2,670	907	803
14	1,100	1,320	6,130	2,670	4,000	2,130	3,380	1,890	1,070	1,940	925	746
15	1,060	1,320	4,680	2,430	3,590	2,070	4,520	1,790	982	1,560	905	663
16	1,020	1,260	3,810	2,260	3,310	1,990	5,330	1,780	1,050	1,310	834	574
17	1,010	1,180	3,130	2,090	3,220	1,700	4,960	1,780	923	1,260	924	521
18	979	1,160	2,640	2,270	3,670	1,880	4,540	1,790	912	1,120	940	501
19	897	1,180	2,270	2,730	4,150	1,890	4,160	1,690	952	1,050	848	536
20	912	1,190	2,070	3,930	4,710	2,030	3,880	1,770	978	966	887	524
21	919	1,300	1,850	3,390	5,050	2,510	3,710	1,610	995	859	1,860	566
22	882	1,310	1,850	2,680	4,890	2,900	3,390	1,460	1,010	901	1,670	565
23	862	1,510	1,800	2,170	4,420	3,040	3,210	1,330	1,020	772	1,510	552
24	862	1,600	1,730	2,110	3,980	3,140	5,320	1,390	1,030	1,170	1,230	528
25	841	1,550	1,730	2,520	3,620	3,220	9,330	1,320	1,030	1,420	1,250	509
26	747	1,460	1,470	2,760	3,320	3,090	7,980	1,390	1,040	1,170	1,020	496
27	806	1,380	1,250	2,830	3,070	3,010	6,430	2,270	1,060	1,110	922	526
28	838	1,280	1,520	3,720	2,870	2,900	5,550	1,660	1,100	1,030	875	523
29	823	1,260	1,600	4,300	------	2,940	4,840	1,340	1,100	1,020	802	522
30	814	1,130	1,790	4,760	------	3,960	4,230	1,250	1,100	1,850	748	507
31	800	------	2,240	4,680	------	5,190	------	1,170	------	2,420	711	------
TOTAL	35,112	40,432	72,344	123,070	118,180	80,640	146,300	65,370	32,822	51,866	34,523	17,567
MEAN	1,133	1,348	2,334	3,970	4,221	2,601	4,877	2,109	1,094	1,673	1,114	586
MAX	1,890	1,910	8,420	15,200	6,460	5,190	9,330	3,800	1,650	8,590	2,300	803
MIN	747	788	942	1,800	2,870	1,700	2,750	1,170	912	772	711	496
CFSM	.37	.44	.77	1.31	1.39	.86	1.60	.69	.36	.55	.37	.19
IN.	.43	.49	.89	1.51	1.45	.99	1.79	.80	.40	.63	.42	.21

CAL YR 1969 TOTAL 600,944 MEAN 1,646 MAX 11,000 MIN 439 CFSM .54 IN 7.35
WTR YR 1970 TOTAL 818,226 MEAN 2,242 MAX 15,200 MIN 496 CFSM .74 IN 10.01

PEAK DISCHARGE (BASE, 15,000 CFS).--Jan. 2 (0245) 17,400 cfs (9.09 ft).

01637500 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.--23 years, 67.0 cfs (13.60 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,360 cfs July 9 (gage height, 7.87 ft); minimum, 4.4 cfs Sept. 18, 25, 26 (gage height, 0.96 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	9.1	25	154	114	80	224	119	26	44	29	18
2	24	15	24	115	384	80	671	114	24	50	25	11
3	50	39	24	96	486	94	413	190	22	51	23	10
4	22	49	23	70	300	98	309	132	22	56	22	9.8
5	16	28	22	50	242	124	243	116	22	37	20	8.7
6	14	19	25	52	179	108	221	106	111	31	19	7.2
7	14	16	23	52	153	101	193	96	55	26	18	6.4
8	15	34	46	38	135	98	164	91	35	24	20	5.8
9	14	60	45	39	199	94	151	84	28	492	27	5.6
10	12	31	94	45	818	89	136	77	25	666	20	5.9
11	11	25	280	47	400	84	120	73	23	203	17	5.7
12	11	23	128	50	260	86	110	77	21	137	16	5.4
13	11	21	101	42	200	108	102	69	20	103	14	5.3
14	10	20	95	40	160	91	272	73	18	83	15	5.1
15	9.5	22	85	36	150	82	514	60	18	94	19	5.3
16	9.5	18	75	34	140	75	360	58	56	317	15	5.1
17	9.4	16	65	40	127	71	290	101	59	107	13	4.9
18	9.0	16	62	78	132	80	237	80	143	86	12	5.2
19	8.9	39	57	62	159	80	199	60	75	71	11	6.9
20	8.7	128	50	40	135	176	227	52	42	62	14	6.9
21	17	58	50	34	108	229	178	46	148	58	22	5.7
22	18	44	58	36	108	219	145	42	147	48	13	7.1
23	12	40	62	34	127	224	144	40	68	46	26	7.8
24	9.8	38	56	34	113	196	269	44	52	48	22	5.4
25	9.5	34	52	38	119	172	260	66	44	42	15	4.8
26	9.6	31	33	45	101	164	213	50	46	35	13	8.1
27	9.9	28	60	51	101	169	191	42	266	31	11	14
28	9.8	26	64	53	86	138	170	36	83	29	10	21
29	9.5	26	56	151	------	221	152	33	62	30	9.5	11
30	9.1	25	90	329	------	234	133	30	53	48	8.9	7.7
31	9.0	------	115	120	------	240	------	28	------	35	26	------
TOTAL	411.7	978.1	2,045	2,105	5,736	4,105	7,011	2,285	1,814	3,190	545.4	236.8
MEAN	13.3	32.6	66.0	67.9	205	132	234	73.7	60.5	103	17.6	7.89
MAX	50	128	280	329	818	240	671	190	266	666	29	21
MIN	8.7	9.1	22	34	86	71	102	28	18	24	8.9	4.8
CFSM	.20	.49	.99	1.01	3.06	1.97	3.50	1.10	.90	1.54	.26	.12
IN.	.23	.54	1.14	1.17	3.19	2.28	3.90	1.27	1.01	1.77	.30	.13

CAL YR 1969 TOTAL 12,388.5 MEAN 33.9 MAX 307 MIN 2.4 CFSM .51 IN 6.89
WTR YR 1970 TOTAL 30,463.0 MEAN 83.5 MAX 818 MIN 4.8 CFSM 1.25 IN 16.94

PEAK DISCHARGE (BASE, 1,200 CFS).--July 9 (2130) 3,360 cfs (7.87 ft).

01638500 Potomac River at Point of Rocks, Md.

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

DRAINAGE AREA.--9,651 sq mi.

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

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

AVERAGE DISCHARGE.--75 years, 9,042 cfs (12.72 inches per year).

EXTREMES.--Current year: Maximum discharge, 92,100 cfs Apr. 3 (gage height, 16.64 ft); minimum, 1,420 cfs Sept. 20 (gage height, 0.81 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 station 01595200) and since December 1950 by Savage River Reservoir (see station 01597500). 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 1970 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1925: 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,750	1,690	2,950	15,200	31,000	10,900	23,000	16,400	3,830	4,960	7,200	2,300
2	2,820	1,670	2,840	33,100	23,600	9,720	34,900	14,400	3,570	4,260	6,660	2,220
3	2,940	1,780	2,760	30,000	22,800	9,100	80,700	13,500	3,370	3,890	5,360	2,190
4	2,730	2,240	2,570	21,300	27,900	9,320	73,400	13,600	3,300	4,000	4,640	2,050
5	2,920	3,640	2,510	16,000	28,800	11,900	45,600	12,400	4,020	3,600	4,160	1,870
6	3,260	4,230	2,450	12,700	21,300	18,400	35,300	11,300	7,920	3,800	3,510	1,750
7	2,990	4,300	2,410	11,300	17,200	21,100	27,900	10,400	10,100	4,160	3,300	1,700
8	2,990	4,030	2,590	10,000	14,700	18,900	23,400	9,630	10,700	3,390	3,020	1,670
9	2,840	3,810	2,620	6,500	13,200	16,300	20,500	8,940	7,970	4,430	2,950	1,640
10	2,660	3,640	2,950	4,400	17,300	14,400	18,000	8,320	6,340	19,100	2,840	1,740
11	2,620	3,590	6,040	4,400	21,300	12,900	16,500	7,710	6,130	37,300	2,800	1,850
12	2,460	3,560	15,000	4,400	21,200	11,500	15,400	7,460	5,140	22,600	2,640	1,750
13	2,270	3,790	22,800	5,500	17,700	10,800	13,900	6,950	4,400	15,000	2,590	1,720
14	2,210	3,680	20,200	5,500	14,600	10,800	16,200	6,670	4,160	10,800	2,590	1,810
15	2,060	3,390	15,600	6,000	12,600	10,900	30,600	6,280	3,660	8,320	2,670	1,610
16	2,030	3,290	12,700	5,500	11,100	10,300	45,500	5,940	3,540	7,790	2,540	1,540
17	1,960	3,150	10,700	5,500	10,400	8,960	34,600	6,280	4,230	6,700	2,500	1,520
18	1,840	3,040	9,080	5,760	10,300	8,460	26,800	6,440	6,240	6,360	2,640	1,540
19	1,770	2,990	7,800	6,080	11,900	8,340	21,700	7,570	6,360	5,360	2,480	1,510
20	1,730	3,270	7,090	6,000	12,600	8,820	19,300	7,320	6,770	4,890	2,500	1,480
21	1,760	3,190	6,510	4,600	15,000	12,800	19,800	6,420	6,290	4,720	3,170	1,500
22	1,720	3,720	6,200	4,600	15,500	21,900	19,300	5,730	6,550	4,540	3,660	1,530
23	1,720	4,030	5,670	4,600	14,200	23,100	17,500	5,140	6,770	4,400	3,380	1,560
24	1,640	4,310	4,970	5,000	15,500	21,300	18,600	4,830	5,720	4,300	3,200	1,490
25	1,640	4,300	4,840	5,500	15,000	19,500	39,900	5,040	4,890	4,720	3,290	1,510
26	1,610	3,990	3,610	6,000	14,200	17,300	51,200	5,440	4,820	4,470	3,460	1,480
27	1,630	3,730	3,330	7,250	13,100	15,800	35,900	6,160	6,390	4,330	3,780	1,510
28	1,650	3,590	3,390	8,200	11,900	16,000	27,800	5,890	8,820	4,060	3,160	1,560
29	1,710	3,360	4,200	15,300	------	17,100	22,200	5,800	7,860	3,990	2,860	2,180
30	1,750	3,200	4,930	18,100	------	18,100	18,800	4,880	6,220	6,500	2,490	2,320
31	1,770	------	6,590	31,300	------	20,100	------	4,230	------	8,000	2,340	------
TOTAL	68,450	102,200	207,900	325,590	475,900	444,820	894,200	247,070	176,080	234,740	104,380	52,100
MEAN	2,208	3,407	6,706	10,500	17,000	14,350	29,810	7,970	5,869	7,572	3,367	1,737
MAX	3,260	4,310	22,800	33,100	31,000	23,100	80,700	16,400	10,700	37,300	7,200	2,320
MIN	1,610	1,670	2,410	4,400	10,300	8,340	13,900	4,230	3,300	3,390	2,340	1,480
CFSM	.23	.35	.69	1.09	1.76	1.49	3.09	.83	.61	.78	.35	.18
IN.	.26	.39	.80	1.25	1.83	1.71	3.45	.95	.68	.90	.40	.20

CAL YR 1969 TOTAL 1,671,258 MEAN 4,579 MAX 27,100 MIN 885 CFSM .47 IN 6.44
WTR YR 1970 TOTAL 3,333,430 MEAN 9,133 MAX 80,700 MIN 1,480 CFSM .95 IN 12.85

PEAK DISCHARGE (BASE, 35,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1- 2	1600	9.43	41,000	4-16	0600	10.67	48,500
1-31	1930	8.73	36,900	4-26	0300	11.97	56,800
4- 3	1900	16.64	92,100	7-11	1200	*9.3	40,300

*About.

01639000 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 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.--28 years, 187 cfs (14.68 inches per year).

EXTREMES.--Current year: Maximum discharge, 13,200 cfs July 10 (gage height, 17.43 ft); minimum, 4.6 cfs Sept. 17 (gage height, 1.88 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	11	40	1,270	582	110	907	145	27	35	46	49
2	44	12	36	623	3,130	113	5,660	130	26	73	36	20
3	530	64	32	356	3,910	149	1,370	683	25	86	32	14
4	118	229	30	245	908	192	548	261	25	53	26	12
5	58	95	26	187	437	549	377	183	79	47	32	11
6	40	46	24	160	256	324	305	144	108	31	25	11
7	32	36	28	150	243	230	369	115	135	24	23	9.6
8	29	89	140	120	243	209	270	102	61	20	22	10
9	28	369	396	110	268	180	220	92	39	217	23	10
10	25	132	473	100	4,210	154	189	81	31	6,790	23	8.0
11	21	88	3,990	100	1,710	146	161	71	26	597	21	8.7
12	19	64	526	100	746	147	142	66	22	222	19	8.6
13	18	56	274	98	340	447	130	61	19	141	17	7.5
14	15	49	220	89	194	380	3,000	71	20	95	16	7.5
15	13	51	200	79	161	198	4,000	72	18	100	46	7.2
16	15	49	160	72	204	158	800	61	24	3,170	30	6.9
17	15	38	140	66	175	137	460	193	54	369	20	4.9
18	13	34	120	90	177	148	340	193	40	201	17	6.5
19	12	47	110	131	481	214	260	89	288	146	15	7.3
20	12	951	90	110	449	1,170	550	63	88	113	15	10
21	13	227	75	75	179	1,150	400	51	185	107	17	13
22	12	147	171	62	159	578	269	43	1,620	81	17	9.5
23	13	124	267	55	150	944	221	40	198	70	16	7.8
24	13	94	195	50	150	427	1,450	37	96	68	29	7.2
25	11	76	104	50	140	276	854	90	64	66	23	6.9
26	10	64	71	56	130	242	346	72	54	57	17	6.5
27	11	58	117	82	130	391	262	52	310	47	15	8.6
28	12	52	126	93	127	230	225	41	111	41	13	23
29	11	48	123	357	------	655	200	35	58	40	11	21
30	12	44	135	1,880	------	730	172	31	44	57	9.3	12
31	11	------	926	816	------	1,270	------	29	------	57	11	------
TOTAL	1,195.2	3,444	9,365	7,832	19,989	12,248	24,457	3,397	3,895	13,221	682.3	345.2
MEAN	38.6	115	302	253	714	395	815	110	130	426	22.0	11.5
MAX	530	951	3,990	1,880	4,210	1,270	5,660	683	1,620	6,790	46	49
MIN	9.2	11	24	50	127	110	130	29	18	20	9.3	4.9
CFSM	.22	.66	1.75	1.46	4.13	2.28	4.71	.64	.75	2.46	.13	.07
IN.	.26	.74	2.01	1.68	4.30	2.63	5.26	.73	.84	2.84	.15	.07

CAL YR 1969 TOTAL 37,979.4 MEAN 104 MAX 3,990 MIN 3.6 CFSM .60 IN 8.17
WTR YR 1970 TOTAL 100,070.7 MEAN 274 MAX 6,790 MIN 4.9 CFSM 1.58 IN 21.52

PEAK DISCHARGE (BASE, 38,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-11	0545	12.70	7,320	4-14	2345	12.36	6,950
2- 2	2245	13.41	8,100	7-10	0615	17.43	13,200
2-10	0730	10.38	4,940	7-16	0800	12.05	6,600
4- 2	1445	12.98	7,630				

01639500 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.--23 years, 97.2 cfs (12.94 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,040 cfs July 10 (gage height, 7.45 ft); minimum, 11 cfs Sept. 24, 26 (gage height, 0.80); minimum daily, 17 cfs Sept. 23, 25.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	29	37	246	232	80	201	127	57	49	58	37
2	39	31	34	180	525	85	1,230	122	55	101	47	24
3	57	37	34	130	548	100	427	220	53	77	41	25
4	39	53	34	110	242	117	279	144	55	95	39	27
5	34	36	30	100	195	165	230	130	60	58	36	24
6	33	33	28	95	164	117	208	118	147	50	37	22
7	33	33	30	90	154	102	214	109	83	46	35	20
8	36	65	124	75	141	99	175	107	62	42	35	21
9	36	84	97	70	183	90	160	104	57	337	37	22
10	32	53	256	70	978	85	145	98	54	1,900	41	22
11	31	43	703	70	384	84	131	93	51	287	36	22
12	32	41	173	70	244	95	124	91	47	141	34	21
13	31	42	122	65	195	148	119	90	47	105	32	19
14	31	39	111	60	157	110	711	92	45	87	31	19
15	30	39	108	55	152	92	1,090	92	43	133	36	20
16	30	35	94	55	148	85	364	86	75	348	33	19
17	29	33	77	64	135	80	272	132	71	102	30	20
18	28	33	65	121	156	97	231	105	76	83	29	20
19	28	49	65	150	231	129	202	85	116	73	25	23
20	28	159	65	95	157	296	244	79	57	66	42	20
21	81	70	50	75	118	256	202	73	196	81	33	20
22	43	54	135	65	118	263	173	71	308	62	27	20
23	32	50	123	65	122	275	165	69	85	61	62	17
24	30	48	95	65	108	185	287	66	65	63	50	18
25	31	43	71	70	110	158	237	86	60	58	33	17
26	31	42	49	79	75	154	180	78	75	54	29	26
27	32	39	90	103	80	167	168	70	238	49	28	25
28	31	38	85	96	85	129	161	63	78	47	25	45
29	29	37	75	413	------	275	151	60	62	46	25	28
30	29	37	82	406	------	238	137	59	56	58	25	20
31	30	------	365	229	------	248	------	57	------	53	38	------
TOTAL	1,068	1,425	3,507	3,637	6,137	4,604	8,618	2,976	2,534	4,812	1,109	683
MEAN	34.5	47.5	113	117	219	149	287	96.0	84.5	155	35.8	22.8
MAX	81	159	703	413	978	296	1,230	220	308	1,900	62	45
MIN	28	29	28	55	75	80	119	57	43	42	25	17
CFSM	.34	.47	1.11	1.15	2.15	1.46	2.81	.94	.83	1.52	.35	.22
IN.	.39	.52	1.28	1.33	2.24	1.68	3.14	1.09	.92	1.75	.40	.25

CAL YR 1969 TOTAL 24,928 MEAN 68.3 MAX 1,550 MIN 15 CFSM .67 IN 9.09
WTR YR 1970 TOTAL 41,110 MEAN 113 MAX 1,900 MIN 17 CFSM 1.11 IN 14.99

PEAK DISCHARGE (BASE, 1,600 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-10	2330	5.19	1,610	7-10	0500	7.45	3,040
4- 2	1430	6.26	2,260				

01640500 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.--39 years, 8.56 cfs (19.60 inches per year), adjusted for diversions.

EXTREMES.--Current year: Maximum discharge, 261 cfs July 9 (gage height, 3.48 ft); minimum daily, 0.43 cfs Oct. 1.
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 fair. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.43	.60	1.6	6.4	15	11	31	16	4.4	5.5	3.3	.96
2	5.3	20	1.4	5.7	59	13	73	16	4.1	5.1	2.9	.87
3	3.8	6.4	1.4	5.3	61	14	45	23	3.9	5.3	2.5	.91
4	.90	13	1.2	4.9	50	18	36	16	6.8	5.5	2.5	.87
5	.56	3.0	1.1	4.6	27	27	30	15	23	4.4	2.3	.63
6	.52	1.8	1.1	4.5	23	23	27	14	28	3.9	2.2	.60
7	.48	1.5	1.3	4.5	20	21	26	13	13	3.6	2.3	.60
8	.54	6.6	5.7	3.5	18	20	21	12	7.7	3.5	2.6	.60
9	.56	4.9	4.3	3.7	18	18	19	12	6.4	42	2.5	.65
10	.46	2.7	35	4.1	42	16	16	11	5.5	51	2.2	.70
11	.46	1.9	49	4.4	27	15	15	9.8	4.9	24	1.9	.65
12	.48	1.8	18	4.3	20	18	14	9.5	4.6	18	1.7	.60
13	.48	1.5	11	3.9	17	18	13	9.5	4.3	15	1.5	.56
14	.48	1.7	9.8	3.8	15	14	71	9.5	3.9	12	2.0	.56
15	.48	1.8	7.7	3.6	14	12	100	8.8	4.7	13	2.0	.60
16	.48	1.4	6.6	3.6	12	11	53	8.8	26	15	1.6	.51
17	.51	1.2	6.0	4.3	11	10	40	19	8.8	9.5	1.4	.46
18	.51	1.2	5.6	7.4	11	11	33	9.8	27	7.7	1.2	.83
19	.53	8.4	5.3	6.0	16	9.8	29	7.7	16	7.0	1.1	1.0
20	.53	9.5	4.9	5.2	14	24	34	6.8	9.1	6.8	1.6	.63
21	1.8	3.8	4.5	4.8	12	26	26	6.2	18	6.2	2.0	.63
22	.83	2.7	6.4	5.2	12	22	21	6.0	18	5.1	1.1	.60
23	.63	2.6	6.0	4.5	15	22	20	5.5	11	4.7	2.6	.53
24	.58	2.7	4.6	4.3	15	19	40	11	8.1	5.3	1.6	.51
25	.58	2.0	3.0	4.3	16	18	30	12	7.0	4.6	1.2	.51
26	.60	1.9	3.5	5.3	14	23	27	7.4	15	3.6	1.1	.91
27	.60	1.8	4.3	5.3	13	27	24	6.2	20	3.5	.96	2.6
28	.58	1.7	4.4	5.1	11	21	22	5.5	8.8	3.3	.87	.96
29	.58	1.6	3.8	21	------	31	20	5.3	7.0	3.3	.74	.53
30	.58	1.6	4.7	24	------	26	17	4.9	6.4	6.8	.74	.51
31	.58	------	11	16	------	31	------	4.7	------	3.9	2.3	------
TOTAL	26.43	113.30	234.2	193.5	598	589.8	973	321.9	331.4	308.1	56.51	22.08
MEAN	.85	3.78	7.55	6.24	21.4	19.0	32.4	10.4	11.0	9.94	1.82	.74
MAX	5.3	20	49	24	61	31	100	23	28	51	3.3	2.6
MIN	.43	.60	1.1	3.5	11	9.8	13	4.7	3.9	3.3	.74	.46
CFSM	.14	.64	1.27	1.05	3.61	3.20	5.46	1.75	1.86	1.68	.31	.12
IN.	.17	.71	1.47	1.21	3.75	3.70	6.10	2.02	2.08	1.93	.35	.14

CAL YR 1969 TOTAL 1,479.08 MEAN 4.05 MAX 60 MIN .22 CFSM .68 IN 9.28
WTR YR 1970 TOTAL 3,768.22 MEAN 10.3 MAX 100 MIN .43 CFSM 1.74 IN 23.64

PEAK DISCHARGE (BASE, 120 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-10	2130	3.19	187	4-15	0430	3.12	150
2- 2	1600	2.95	141	7- 9	2145	3.48	261

01641000 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.--21 years, 22.6 cfs (16.68 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,140 cfs July 9 (gage height, 4.88 ft); minimum, 2.4 cfs Sept. 17 (gage height, 1.55 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, 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	5.3	9.5	37	40	31	79	49	13	17	15	5.0
2	28	28	8.7	29	130	31	299	45	12	17	14	4.5
3	15	32	8.9	27	159	35	159	70	11	17	13	4.5
4	5.9	29	8.4	21	80	44	109	52	13	17	13	4.5
5	3.6	12	7.9	19	56	54	86	49	17	15	14	4.0
6	3.3	8.5	7.6	19	48	54	77	44	25	14	14	4.0
7	3.0	7.1	9.3	19	45	49	74	42	21	13	16	4.0
8	3.5	26	29	14	42	45	64	40	13	13	19	4.0
9	3.6	23	22	15	46	44	58	38	11	139	19	3.6
10	3.4	14	104	17	177	42	52	35	10	94	15	3.6
11	3.8	11	168	18	119	40	49	32	10	34	14	3.6
12	3.9	9.5	64	19	82	44	45	24	9.5	25	13	3.2
13	4.2	8.7	47	16	64	49	42	24	9.5	19	12	3.2
14	4.4	9.3	42	16	54	42	150	28	9.5	18	16	3.2
15	4.3	9.8	38	16	50	37	240	32	10	44	12	3.2
16	4.3	7.8	32	15	47	25	133	34	25	54	9.5	3.2
17	4.6	7.1	28	14	42	24	99	47	16	31	8.1	2.8
18	4.5	7.0	24	20	42	28	82	32	22	24	7.5	3.6
19	4.4	37	24	18	52	35	72	29	16	20	7.5	3.6
20	4.5	47	22	16	49	89	84	22	12	19	7.5	3.2
21	12	21	20	15	37	79	72	19	18	17	7.5	3.6
22	5.9	16	37	16	37	79	60	18	19	15	6.8	3.6
23	5.6	15	27	14	42	77	54	16	13	15	11	3.6
24	5.3	13	21	14	42	64	101	17	11	15	7.5	3.2
25	5.3	13	13	14	45	56	104	21	11	14	6.8	2.8
26	5.4	12	16	17	38	60	79	18	42	13	6.2	3.2
27	5.4	11	19	20	35	70	70	16	52	14	6.2	5.0
28	5.2	10	20	21	34	58	64	15	24	14	5.6	3.6
29	5.0	9.7	17	45	------	94	58	14	20	16	5.6	3.2
30	5.0	9.5	22	62	------	89	54	13	18	22	5.6	3.2
31	5.1	------	64	40	------	79	------	13	------	17	7.5	------
TOTAL	181.3	469.3	980.3	663	1,734	1,647	2,769	948	513.5	816	335.4	109.5
MEAN	5.85	15.6	31.6	21.4	61.9	53.1	92.3	30.6	17.1	26.3	10.8	3.65
MAX	28	47	168	62	177	94	299	70	52	139	19	5.0
MIN	3.0	5.3	7.6	14	34	24	42	13	9.5	13	5.6	2.8
CFSM	.32	.85	1.72	1.16	3.36	2.89	5.02	1.66	.93	1.43	.59	.20
IN.	.37	.95	1.98	1.34	3.51	3.33	5.60	1.92	1.04	1.65	.68	.22

CAL YR 1969 TOTAL 4,901.8 MEAN 13.4 MAX 168 MIN 1.8 CFSM .73 IN 9.91
WTR YR 1970 TOTAL 11,166.3 MEAN 30.6 MAX 299 MIN 2.8 CFSM 1.66 IN 22.58

PEAK DISCHARGE (BASE, 350 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-10	2100	3.37	498	7- 9	2200	4.88	1,140
4- 2	1230	3.92	718				

01641500 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.--23 years, 10.2 cfs (19.00 inches per year).

EXTREMES.--Current year: Maximum discharge, 85 cfs Apr. 2 (gage height, 2.22 ft); minimum, 1.70 cfs Sept. 23, 25 (gage height, 1.20 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, 0.6 cfs Sept. 10, 11, 12, 1966.

REMARKS.--Records fair.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	1.9	7.5	12	14	17	34	25	9.0	7.0	6.5	3.1
2	10	4.6	6.5	11	28	18	65	25	8.5	6.5	6.0	3.1
3	5.5	2.9	7.0	12	44	18	59	30	8.0	7.0	5.5	3.1
4	3.9	4.2	6.5	11	41	19	52	24	8.5	7.0	5.5	2.9
5	3.3	2.5	6.0	11	37	21	45	23	10	5.5	5.0	2.7
6	3.1	2.3	5.5	11	33	21	40	23	11	5.0	4.6	2.7
7	3.1	2.3	6.5	11	31	23	37	22	8.5	4.6	4.6	2.5
8	3.6	6.0	11	8.5	28	24	33	21	7.0	4.6	5.0	2.5
9	2.3	4.2	8.5	9.0	28	23	31	21	7.0	16	5.0	2.5
10	2.3	3.6	18	10	46	22	29	20	6.5	25	4.6	2.7
11	2.3	3.6	34	10	40	21	26	19	6.0	14	4.2	2.5
12	2.3	3.9	27	11	36	22	24	18	5.5	12	3.8	2.3
13	2.3	3.6	22	9.2	33	22	22	18	5.0	11	3.8	2.3
14	2.3	3.9	21	8.8	30	21	38	17	5.0	9.5	4.2	2.3
15	2.2	3.9	19	8.6	28	20	53	16	5.0	12	4.2	2.2
16	2.2	3.3	16	8.4	25	18	48	16	10	18	3.8	2.2
17	2.2	3.3	14	9.4	23	18	44	24	6.5	12	3.6	2.2
18	2.2	3.3	13	11	23	18	40	16	10	11	3.3	2.5
19	2.0	7.5	12	10	23	17	36	15	7.0	11	3.3	2.3
20	2.0	10	11	10	21	26	38	14	5.5	11	3.6	2.2
21	2.5	7.0	11	8.5	18	26	34	13	10	10	3.3	2.3
22	2.0	7.0	13	9.0	19	27	31	13	11	9.0	3.3	2.3
23	2.0	7.0	14	8.2	20	29	30	13	6.0	9.0	7.0	2.2
24	2.0	7.5	12	8.2	19	28	35	13	5.0	9.5	3.8	2.0
25	2.0	7.0	11	8.2	20	27	32	14	5.0	8.5	3.3	2.0
26	2.0	7.0	7.0	10	18	30	31	13	9.0	8.0	3.3	2.0
27	2.0	7.0	12	11	18	32	31	12	21	7.5	3.1	3.8
28	1.9	7.0	12	12	18	30	30	11	9.5	7.5	3.1	2.2
29	1.9	7.0	11	15	------	37	28	10	8.0	7.0	2.9	2.0
30	1.9	7.0	12	15	------	34	26	9.5	7.5	9.0	2.9	2.0
31	1.9	------	14	13	------	35	------	9.5	------	7.0	6.5	------
TOTAL	84.1	151.3	401.0	321.0	762	744	1,102	538.0	241.5	301.7	132.6	73.6
MEAN	2.71	5.04	12.9	10.4	27.2	24.0	36.7	17.4	8.05	9.73	4.28	2.45
MAX	10	10	34	15	46	37	65	30	21	25	7.0	3.8
MIN	1.9	1.9	5.5	8.2	14	17	22	9.5	5.0	4.6	2.9	2.0
CFSM	.37	.69	1.77	1.43	3.73	3.29	5.03	2.39	1.10	1.33	.59	.34
IN.	.43	.77	2.05	1.64	3.89	3.80	5.62	2.75	1.23	1.54	.68	.38

CAL YR 1969 TOTAL 2,444.9 MEAN 6.70 MAX 34 MIN 1.7 CFSM .92 IN 12.48
WTR YR 1970 TOTAL 4,852.8 MEAN 13.3 MAX 65 MIN 1.9 CFSM 1.82 IN 24.76

PEAK DISCHARGE (BASE, 100 CFS).--No peak above base.

01642500 Linganore Creek near Frederick, Md.

LOCATION.--Lat 39°24'55", long 77°20'00", Frederick County, on left bank 2.4 miles 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.--36 years (1934-70), 77.8 cfs (12.84 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,860 cfs Jan. 29 (gage height, 7.01 ft); minimum 13 cfs Sept. 17, 25, 26 (gage height, 1.67 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	20	20	181	114	63	112	93	48	38	47	24
2	24	21	20	121	195	64	558	91	47	65	35	20
3	36	23	18	91	244	72	248	161	45	71	31	20
4	23	30	18	81	126	81	181	104	45	76	30	20
5	20	21	18	84	108	105	149	96	112	45	28	18
6	20	19	16	73	96	79	139	88	125	39	27	17
7	20	18	18	62	91	72	136	83	58	35	29	16
8	22	32	60	60	86	71	115	82	50	33	111	16
9	21	40	50	55	117	67	107	79	46	317	37	18
10	20	26	180	50	859	65	98	75	44	400	32	19
11	19	23	400	50	284	63	92	72	42	113	30	18
12	20	23	100	50	183	66	89	71	40	71	28	16
13	20	24	80	50	143	80	86	70	42	58	26	15
14	20	22	60	48	117	67	631	83	38	52	30	15
15	19	22	50	46	116	61	658	73	38	60	30	15
16	19	19	45	46	107	58	287	69	78	372	26	15
17	19	18	39	48	101	56	221	107	62	68	24	13
18	18	19	36	108	111	67	188	80	75	57	22	14
19	18	26	37	115	162	78	167	67	50	52	21	16
20	19	67	34	70	113	114	189	63	42	48	24	15
21	29	32	31	60	90	119	155	59	87	55	21	17
22	23	26	70	55	90	125	133	58	98	45	18	18
23	19	25	63	55	90	141	128	56	51	45	61	15
24	18	24	48	50	81	105	175	69	44	48	38	14
25	19	22	40	50	82	95	139	79	41	44	26	13
26	20	22	33	60	60	94	122	64	57	40	23	15
27	20	21	65	150	60	102	117	57	216	37	22	25
28	20	20	54	130	66	83	112	53	55	36	20	16
29	19	20	54	538	------	160	106	52	45	35	19	16
30	19	20	65	240	------	136	99	50	42	50	18	16
31	19	------	582	125	------	125	------	49	------	52	31	------
TOTAL	641	745	2,404	3,002	4,092	2,734	5,737	2,353	1,863	2,557	965	505
MEAN	20.7	24.8	77.5	96.8	146	88.2	191	75.9	62.1	82.5	31.1	16.8
MAX	36	67	582	538	859	160	658	161	216	400	111	25
MIN	18	18	16	46	60	56	86	49	38	33	18	13
CFSM	.25	.30	.94	1.18	1.77	1.07	2.32	.92	.75	1.00	.38	.20
IN.	.29	.34	1.09	1.36	1.85	1.24	2.59	1.06	.84	1.16	.44	.23

CAL YR 1969 TOTAL 17,576.7 MEAN 48.2 MAX 951 MIN 8.0 CFSM .59 IN 7.94
WTR YR 1970 TOTAL 27,598.0 MEAN 75.6 MAX 859 MIN 13 CFSM .92 IN 12.47

PEAK DISCHARGE (BASE, 1,400 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-31	0800	6.49	1,590	4-14	2000	6.28	1,470
1-29	1530	7.01	1,860				

01643000 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 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.--41 years, 852 cfs (14.16 inches per year).

EXTREMES.--Current year: Maximum discharge, 18,300 cfs July 10 (gage height, 16.48 ft); minimum, 98 cfs Sept. 26.
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 1970 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 711: 1930.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	147	144	250	3,160	1,890	719	2,980	1,030	337	369	908	199
2	191	152	240	2,260	2,940	694	7,630	949	327	354	506	219
3	1,030	237	230	1,510	8,870	754	9,860	1,640	313	585	368	185
4	698	447	220	1,100	4,000	945	3,140	1,760	305	538	306	164
5	351	590	200	800	2,020	1,680	2,370	1,110	438	410	279	155
6	260	316	190	750	1,550	1,470	1,990	956	863	331	268	144
7	227	244	180	700	1,350	1,140	2,000	850	755	284	257	134
8	219	264	409	500	1,260	1,030	1,740	794	555	259	434	127
9	213	811	1,100	450	1,280	953	1,440	763	420	716	645	125
10	200	638	1,010	400	8,090	871	1,270	711	361	12,000	344	127
11	186	419	8,000	380	7,370	812	1,100	656	323	7,420	279	132
12	177	346	3,040	380	3,410	797	1,010	628	298	1,420	252	125
13	172	307	1,420	380	2,170	1,300	944	596	282	924	233	119
14	168	296	1,080	360	1,600	1,380	3,180	616	267	718	297	117
15	160	272	1,020	340	1,280	992	14,000	605	253	671	332	115
16	153	265	941	320	1,250	807	6,140	580	365	4,980	270	114
17	149	251	746	320	1,140	720	2,970	757	576	1,980	244	110
18	148	226	600	340	1,110	739	2,340	1,000	532	915	212	110
19	146	248	550	600	1,620	896	1,920	683	619	708	200	115
20	140	1,630	500	550	2,120	1,860	2,040	551	667	599	198	114
21	160	1,130	400	450	1,210	4,350	2,330	485	582	545	212	122
22	225	596	671	400	981	2,180	1,690	445	2,690	528	197	128
23	174	474	1,050	360	950	3,100	1,440	424	1,260	456	255	120
24	149	436	828	340	900	2,070	2,260	424	594	456	297	114
25	143	387	580	340	900	1,570	3,980	611	454	442	244	109
26	146	345	340	550	850	1,360	1,970	628	529	407	215	106
27	145	316	460	665	793	1,720	1,600	498	1,850	365	191	116
28	145	291	550	687	793	1,360	1,440	426	962	333	176	158
29	143	276	600	1,300	------	1,730	1,310	390	525	318	166	173
30	145	266	650	3,940	------	2,980	1,160	367	423	360	158	163
31	141	------	1,870	2,560	------	2,740	------	349	------	1,220	185	------
TOTAL	6,851	12,610	29,925	27,192	63,697	45,709	89,244	22,282	18,725	41,611	9,128	4,059
MEAN	221	420	965	877	2,275	1,474	2,975	719	624	1,342	294	135
MAX	1,030	1,630	8,000	3,940	8,870	4,350	14,000	1,760	2,690	12,000	908	219
MIN	140	144	180	320	793	694	944	349	253	259	158	106
CFSM	.27	.51	1.18	1.07	2.78	1.80	3.64	.88	.76	1.64	.36	.17
IN.	.31	.57	1.36	1.24	2.90	2.08	4.06	1.01	.85	1.89	.42	.18

CAL YR 1969 TOTAL 170,468 MEAN 467 MAX 8,000 MIN 86 CFSM .57 IN 7.76
WTR YR 1970 TOTAL 371,033 MEAN 1,017 MAX 14,000 MIN 106 CFSM 1.24 IN 16.89

PEAK DISCHARGE (BASE, 8,800 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-11	1600	12.11	10,600	4- 3	0500	14.76	14,900
2- 3	1400	12.19	10,700	4-15	1700	15.27	15,800
2-10	2200	12.41	11,000	7-10	2330	16.48	18,300

01643500 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.--14 years (1948-58, 1966-70), 61.8 cfs (13.36 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,480 cfs July 9; maximum gage height, 6.51 ft, Jan. 29 (ice jam); minimum, 9.1 cfs Sept. 27 (gage height, 0.98 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	16	17	136	85	51	93	74	35	27	29	16
2	21	16	16	90	122	53	343	70	34	32	25	14
3	26	18	18	72	152	60	185	115	33	33	23	14
4	18	20	17	60	105	66	139	83	33	32	22	15
5	16	16	16	60	90	87	117	74	72	32	21	13
6	16	15	16	46	76	66	110	66	81	25	20	12
7	16	15	18	46	72	60	108	63	42	23	20	11
8	17	31	56	36	66	58	91	61	35	23	19	11
9	16	28	33	30	93	54	87	60	32	252	23	15
10	15	20	163	30	604	54	79	54	31	263	19	20
11	15	18	245	32	245	53	74	51	29	66	19	19
12	15	19	66	32	157	53	70	50	106	47	18	14
13	15	19	47	34	122	60	68	51	83	38	17	13
14	15	18	41	34	102	51	484	78	34	33	171	13
15	14	18	38	33	100	48	472	51	32	32	44	12
16	14	16	32	32	91	45	227	50	91	29	23	11
17	14	16	29	38	85	44	171	87	53	26	21	11
18	14	16	26	100	91	58	144	61	163	25	19	11
19	14	33	27	89	122	66	124	50	51	23	19	13
20	15	66	25	54	93	102	136	47	38	53	19	11
21	23	27	24	42	79	115	115	42	66	152	18	11
22	16	23	46	36	76	110	102	41	76	33	16	12
23	14	21	46	30	74	122	108	39	39	32	34	11
24	13	20	34	34	68	95	129	61	34	34	23	10
25	14	19	26	42	68	83	117	157	31	29	19	9.6
26	15	19	18	72	55	79	100	60	31	26	18	9.6
27	15	18	38	98	60	83	95	48	131	24	17	13
28	15	18	31	83	56	70	91	42	38	23	16	16
29	14	17	34	250	------	134	85	39	32	36	15	12
30	14	17	47	165	------	115	79	38	29	63	14	12
31	14	------	334	100	------	104	------	36	------	56	21	------
TOTAL	489	633	1,624	2,036	3,209	2,299	4,343	1,899	1,615	1,622	802	385.2
MEAN	15.8	21.1	52.4	65.7	115	74.2	145	61.3	53.8	52.3	25.9	12.8
MAX	26	66	334	250	604	134	484	157	163	263	171	20
MIN	13	15	16	30	55	44	68	36	29	23	14	9.6
CFSM	.25	.34	.83	1.05	1.83	1.18	2.31	.98	.86	.83	.41	.20
IN.	.29	.37	.96	1.21	1.90	1.36	2.57	1.12	.96	.96	.48	.23

CAL YR 1969 TOTAL 12,976.6 MEAN 35.6 MAX 662 MIN 5.0 CFSM .57 IN 7.69
WTR YR 1970 TOTAL 20,956.2 MEAN 57.4 MAX 604 MIN 9.6 CFSM .91 IN 12.41

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-14	1900	4.80	1,280	8-14	1900	4.68	1,230
7- 9	2330	5.29	1,480				

01645000 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.--40 years, 89.6 cfs (12.05 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,490 cfs Sept. 4 (gage height, 8.26 ft); minimum, 13 cfs Sept. 27; (gage height, 1.80 ft). Minimum gage height, 1.80 ft Dec. 6 (freeze up) and Sept. 27.
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 except those for period of no gage-height record, which are poor. Small diversion at times for irrigation above station. Records of chemical analyses for the water year 1970 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	29	32	205	117	72	123	106	72	53	70	26
2	37	30	30	132	149	74	478	104	69	118	55	22
3	59	33	30	108	232	84	229	150	68	95	50	22
4	33	32	30	82	125	96	156	120	71	296	44	25
5	30	29	29	82	110	128	134	112	72	153	42	22
6	29	29	29	76	100	94	128	99	192	69	38	19
7	29	29	35	78	96	82	128	94	86	59	38	18
8	30	48	101	62	91	80	112	94	72	55	36	18
9	30	56	56	55	126	76	106	92	67	362	46	35
10	29	37	254	50	664	74	99	87	64	980	36	54
11	28	33	372	50	278	72	92	82	59	186	36	57
12	29	35	101	55	177	74	89	113	55	106	34	26
13	28	39	76	55	144	84	89	109	58	85	32	25
14	29	35	72	56	123	74	798	128	53	75	550	23
15	27	35	65	54	120	67	593	89	53	70	100	23
16	28	30	57	50	120	65	258	84	83	66	50	22
17	28	30	52	56	106	63	198	157	105	59	40	21
18	26	30	48	128	117	89	173	104	265	54	36	21
19	27	56	48	120	170	104	153	89	81	51	36	25
20	27	134	45	72	126	140	188	80	65	82	34	21
21	40	50	43	56	99	153	156	74	226	595	32	19
22	30	40	131	50	96	147	137	72	389	82	30	19
23	26	37	89	50	94	170	170	78	90	75	90	18
24	26	37	63	50	87	117	221	231	74	80	44	16
25	27	35	48	55	87	101	166	489	68	65	32	15
26	28	35	48	107	72	106	140	141	66	60	28	15
27	29	33	67	205	72	120	131	114	134	55	28	19
28	29	33	59	142	77	94	126	89	66	50	27	28
29	28	32	61	363	------	191	123	81	59	90	26	19
30	28	32	117	256	------	163	114	76	56	200	25	18
31	28	------	503	137	------	137	------	74	------	110	25	------
TOTAL	930	1,173	2,791	3,097	3,975	3,191	5,808	3,612	2,938	4,536	1,790	711
MEAN	30.0	39.1	90.0	99.9	142	103	194	117	97.9	146	57.7	23.7
MAX	59	134	503	363	664	191	798	489	389	980	550	57
MIN	26	29	29	50	72	63	89	72	53	50	25	15
CFSM	.30	.39	.89	.99	1.41	1.02	1.92	1.15	.97	1.45	.57	.23
IN.	.34	.43	1.03	1.14	1.46	1.17	2.14	1.33	1.08	1.67	.66	.26

CAL YR 1969 TOTAL 21,988 MEAN 60.2 MAX 1,840 MIN 13 CFSM .60 IN 8.10
WTR YR 1970 TOTAL 34,552 MEAN 94.7 MAX 980 MIN 15 CFSM .94 IN 12.72

PEAK DISCHARGE (BASE, 1,300 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-14	1800	6.31	1,600	6-21	2345	5.78	1,370
5-24	2400	6.03	1,470	7-10	0130	7.18	2,200

NOTE.--No gage-height record July 24 to Aug. 24.

01645200 Watts Branch at Rockville, Md.

NOTE.--Records for the 1970 water year have been withheld pending better definition of the stage-discharge relation. They will be published in a subsequent annual report.

01646500 Potomac River near Washington, D. C.

LOCATION.--Lat 38°56'58", long 77°07'40", Montgomery County, Maryland, on left bank just above Little Falls Dam, 1 mile upstream from District of Columbia boundary line, 1.2 miles upstream from Chain Bridge, 1.8 miles east of Langley, Fairfax County, Virginia, and at mile 117.4.
DRAINAGE AREA.--11,560 sq mi.
PERIOD OF RECORD.--March 1930 to current year.
GAGE.--Water-stage recorder and concrete control. Datum of gage is 37.95 ft above mean sea level. Prior to June 7, 1930, nonrecording gage, and June 7, 1930, to Jan. 22, 1965, water-stage recorder at site 1 mile upstream on right bank at same datum.
AVERAGE DISCHARGE.--40 years, 10,640 cfs (12.50 inches per year), adjusted for diversions.
EXTREMES.--Current year: Maximum discharge, 95,600 cfs Apr. 3 (gage height, 9.34 ft); minimum daily, 1,180 cfs Sept. 26 (does not include diversion of 570 cfs for municipal use); minimum daily (adjusted), 1,720 cfs Sept. 27 (includes diversion of 504 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 station 01595200) and since December 1950, by Savage River Reservoir (see station 01597500). 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,840	1,780	3,290	13,600	38,400	12,200	25,400	19,400	4,350	5,770	7,850	2,320
2	2,910	1,830	3,110	34,000	29,400	11,100	35,600	16,700	4,010	4,720	7,070	2,320
3	3,140	1,760	3,010	39,200	33,000	10,200	77,300	15,500	3,830	4,490	6,250	2,260
4	3,560	1,770	2,860	26,500	36,000	9,980	85,700	16,100	4,200	4,260	5,100	2,180
5	3,520	2,290	2,760	18,800	33,700	11,400	57,000	15,000	3,720	4,470	4,510	1,990
6	3,080	3,820	2,730	15,100	27,400	16,500	41,600	12,900	6,050	3,980	4,010	1,840
7	3,210	4,070	2,760	12,800	21,200	22,200	33,600	11,700	9,590	3,860	3,520	1,720
8	3,150	4,240	3,160	11,100	17,900	21,600	27,900	10,900	10,600	3,890	3,220	1,570
9	3,080	4,240	3,370	7,270	15,600	18,900	24,100	10,200	9,800	4,340	3,240	1,700
10	2,890	4,140	4,380	4,910	28,000	16,300	21,100	9,470	7,190	19,700	3,390	1,700
11	2,730	4,160	12,400	5,000	36,500	14,500	18,800	8,720	6,090	47,100	3,140	1,870
12	2,740	3,800	17,800	5,000	30,100	13,000	17,500	8,320	5,630	32,100	2,940	1,890
13	2,620	3,700	22,400	6,230	24,100	11,900	16,000	8,230	5,030	18,500	2,720	1,810
14	2,320	3,730	23,700	6,150	19,300	11,900	21,900	8,210	4,400	12,600	2,660	1,680
15	2,270	3,730	18,700	6,710	16,000	12,100	41,000	7,520	4,070	9,170	3,800	1,770
16	2,180	3,480	14,800	6,310	13,900	11,400	58,800	6,990	3,880	7,660	3,180	1,610
17	2,060	3,410	12,200	6,140	12,600	10,500	44,100	7,270	4,320	11,100	2,730	1,390
18	2,020	3,360	10,300	7,010	11,900	9,420	33,600	7,990	5,430	7,320	2,620	1,310
19	1,790	3,330	8,810	7,760	13,300	9,580	27,200	7,970	6,660	5,880	2,620	1,420
20	1,760	4,030	7,610	6,840	15,200	9,830	23,500	8,490	6,470	5,230	2,570	1,350
21	1,690	4,670	7,070	5,190	15,700	14,400	23,100	7,790	6,920	6,740	2,540	1,280
22	1,610	4,550	7,150	5,000	17,200	22,300	23,200	6,890	7,640	4,780	3,000	1,250
23	1,600	4,250	7,200	5,000	16,100	28,000	21,000	6,060	9,200	4,260	3,930	1,270
24	1,740	4,330	6,530	5,500	16,000	26,300	21,500	5,430	7,160	4,180	3,530	1,300
25	1,720	4,430	5,600	6,220	16,500	23,100	33,600	7,040	5,640	4,290	3,330	1,220
26	1,660	4,430	4,630	6,920	15,700	20,500	57,800	6,040	4,840	4,270	3,260	1,180
27	1,580	4,150	3,510	8,310	14,700	18,500	43,800	6,050	5,120	4,000	3,330	1,220
28	1,570	3,950	4,520	8,710	13,500	17,700	33,100	6,480	8,200	3,780	3,530	1,350
29	1,700	3,770	4,260	13,000	------	18,800	26,900	5,930	8,700	3,580	3,040	1,360
30	1,680	3,590	5,880	22,500	------	21,900	22,100	5,550	7,370	4,070	2,770	1,810
31	1,710	------	10,000	31,200	------	23,200	------	4,840	------	7,340	2,390	------
TOTAL	72,130	108,790	246,500	363,980	598,900	499,210	1,037.8M	285,680	186,110	267,430	111,790	48,940
MEAN	2,327	3,626	7,952	11,740	21,390	16,100	34,590	9,215	6,204	8,627	3,606	1,631
MAX	3,560	4,670	23,700	39,200	38,400	28,000	85,700	19,400	10,600	47,100	7,850	2,320
MIN	1,570	1,760	2,730	4,910	11,900	9,420	16,000	4,840	3,720	3,580	2,390	1,180
(†)	412	412	389	395	401	384	377	441	460	474	487	504
MEAN‡	2,739	4,038	8,341	12,140	21,790	16,480	34,970	9,656	6,664	9,101	4,093	2,135
CFSM‡	.24	.35	.72	1.05	1.88	1.43	3.03	.84	.58	.79	.35	.18
IN‡	.28	.39	.83	1.21	1.96	1.65	3.38	.97	.65	.91	.40	.20

CAL YR 1969 TOTAL 1,852,750 MEAN 5,076 MAX 29,100 MIN 598 MEAN‡ 5,494 CFSM‡ .48 IN‡ 6.52
WTR YR 1970 TOTAL 3,827,260 MEAN 10,490 MAX 85,700 MIN 1,180 MEAN‡ 10,920 CFSM‡ .94 IN‡ 12.76

PEAK DISCHARGE (BASE, 45,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4- 3	2115	9.34	95,600	4-26	0730	7.62	60,400
4-16	0930	7.75	62,700	7-11	1330	7.21	53,300

† Diversion, in cfs to Chesapeake and Ohio Canal and for municipal supply of Washington, D. C., Washington Suburban Sanitary District, city of Rockville, and city of Fairfax (from Goose Creek); records furnished by Corps of Engineers, Washington Suburban Sanitary Commission, city of Rockville, and city of Fairfax.
‡ Adjusted for diversion.

01646550 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.--23 years (1945-59, 1963-70), 3.13 cfs (10.37 inches per year).

EXTREMES.--Current year: Maximum discharge, 875 cfs July 9 (gage height, 3.95 ft); minimum daily, 0.52 cfs Sept. 13.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.84	.67	.70	2.5	1.1	1.2	3.4	1.5	1.2	.94	.94	.67
2	18	10	.75	1.7	6.0	1.2	18	1.5	1.2	2.7	.84	.59
3	1.2	.75	.84	1.7	14	3.4	2.4	3.4	14	.94	1.8	.67
4	.84	.67	.94	1.2	1.5	5.7	2.0	3.7	3.0	.94	.94	.67
5	.84	.67	.67	1.1	1.5	1.5	1.7	1.7	2.5	.84	.84	.59
6	.84	.75	.67	1.4	1.3	1.3	3.4	1.5	7.0	.84	.84	.59
7	.94	.67	19	1.8	1.2	1.2	2.0	1.5	1.2	.94	.84	.59
8	3.7	7.5	2.5	1.1	1.2	1.2	1.7	1.5	1.1	.94	.75	.67
9	.84	2.3	.94	.90	17	1.2	1.7	1.5	1.1	85	.75	5.3
10	.84	.75	24	.90	23	1.1	1.5	1.5	1.2	3.0	.75	1.3
11	.75	.75	3.7	.90	2.5	1.1	1.5	1.5	1.1	2.0	.75	.75
12	.75	2.5	1.2	.90	1.7	5.0	1.5	4.0	1.1	1.5	.75	.59
13	.84	.75	.94	.80	1.5	1.5	1.7	7.0	.94	1.2	.75	.52
14	.84	2.0	2.7	.80	1.3	1.1	50	6.0	.94	1.2	.94	.59
15	.84	.80	.94	.80	3.4	1.0	5.0	1.4	1.1	1.2	.84	.59
16	.75	.75	.84	.80	3.4	1.0	3.0	1.4	5.7	1.1	.75	.59
17	.84	.70	.94	.90	2.5	1.0	2.3	11	1.7	.94	.84	.59
18	.75	.70	.84	4.5	4.4	4.0	2.0	1.4	8.0	.84	.75	1.4
19	.75	15	.84	1.2	2.5	2.0	1.8	1.3	1.1	.84	.84	.67
20	.75	1.4	.75	2.0	1.5	6.0	8.0	1.3	.94	13	.75	.59
21	1.2	.84	.75	1.1	1.4	2.4	2.0	1.2	5.7	2.0	.75	.75
22	.75	.75	29	1.0	1.4	7.5	1.7	1.3	1.8	.94	.67	.67
23	.67	.70	1.4	1.0	1.4	3.0	6.5	1.3	.94	6.0	9.5	.67
24	.59	.70	1.2	.90	1.3	2.0	2.5	1.8	.94	2.3	.84	.67
25	.59	.70	1.0	1.0	1.3	1.5	1.8	1.7	1.1	.94	.75	.67
26	.67	.70	4.0	5.0	1.2	2.6	1.7	2.1	1.1	.84	.67	.67
27	1.0	.70	2.3	2.0	1.3	1.7	1.7	1.2	1.1	.94	.67	5.3
28	1.0	.70	1.5	1.3	1.2	1.4	1.7	1.2	.84	.94	.67	1.1
29	.67	.70	3.4	3.4	------	9.0	1.5	1.2	.94	1.3	.67	.94
30	.67	.70	26	1.3	------	2.2	1.5	1.2	.84	12	.59	1.1
31	.67	------	22	1.1	------	2.8	------	1.1	------	1.4	1.1	------
TOTAL	45.22	57.27	157.25	47.00	103.0	78.8	137.2	70.9	71.42	150.50	34.13	31.06
MEAN	1.46	1.91	5.07	1.52	3.68	2.54	4.57	2.29	2.38	4.85	1.10	1.04
MAX	18	15	29	5.0	23	9.0	50	11	14	85	9.5	5.3
MIN	.59	.67	.67	.80	1.1	1.0	1.5	1.1	.84	.84	.59	.52
CFSM	.36	.47	1.24	.37	.90	.62	1.11	.56	.58	1.18	.27	.25
IN.	.41	.52	1.43	.43	.93	.71	1.24	.64	.65	1.37	.31	.28

CAL YR 1969 TOTAL 1,045.39 MEAN 2.86 MAX 87 MIN .30 CFSM .70 IN 9.49
WTR YR 1970 TOTAL 983.75 MEAN 2.70 MAX 85 MIN .52 CFSM .66 IN 8.93

PEAK DISCHARGE (BASE, 450 CFS).--July 9 (1730) 875 cfs (3.95 ft).

NOTE.--No gage-height record Mar. 15 to Apr. 16.

01647685 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, 403 cfs July 20 (gage height, 4.49 ft); minimum, 0.12 cfs Sept. 22 (gage height, 1.00 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 1970 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	.61	.69	3.4	1.7	1.3	2.3	1.6	1.1	.77	.85	.59
2	4.3	.69	.61	1.9	3.2	1.4	15	1.4	1.1	.80	.79	.58
3	.95	.66	.65	1.7	7.0	2.0	6.4	2.0	1.1	.81	.88	.60
4	.73	.61	.61	1.4	3.0	3.1	2.0	1.7	1.1	.96	.82	.52
5	.69	.61	.56	1.2	1.6	2.5	1.8	1.6	1.1	.79	.73	.54
6	.68	.61	.61	1.1	1.4	1.7	2.0	1.4	1.2	.73	.71	.50
7	.66	.61	2.8	1.1	1.3	1.5	2.2	1.3	1.0	.69	3.8	.48
8	.72	1.1	2.7	1.0	1.3	1.4	1.7	1.3	.97	.68	1.0	.47
9	.71	.83	1.0	1.0	4.0	1.4	1.7	1.3	.95	20	.79	.59
10	.65	.73	19	1.0	16	1.3	1.4	1.2	.94	11	.76	5.2
11	.65	.69	4.5	.95	3.0	1.2	1.4	1.2	.92	1.2	.74	.75
12	.64	.78	1.4	.95	1.9	1.4	1.4	1.9	.88	.99	.70	.60
13	.64	.73	1.1	.92	1.6	1.6	1.4	13	.85	.86	.67	.57
14	.63	.69	1.3	.92	1.4	1.3	50	6.4	.82	.83	15	.56
15	.59	.65	1.2	.90	1.5	1.2	13	1.6	.85	.83	1.6	.54
16	.61	.61	1.1	.90	1.6	1.2	3.1	1.5	5.3	.79	.99	.47
17	.59	.61	.98	1.3	1.8	1.2	2.5	8.4	1.8	.74	.85	.44
18	.57	.61	.95	9.2	3.7	2.3	2.2	2.1	4.5	.72	.77	.51
19	.57	5.5	.98	3.5	3.7	2.2	1.9	1.6	1.0	.70	.78	.54
20	.58	1.8	.94	1.9	1.8	4.1	2.8	1.3	.93	38	.77	.51
21	.77	.90	.90	1.2	1.4	2.3	2.1	1.2	14	5.6	.73	.40
22	.61	.78	12	.94	1.4	4.7	1.8	1.2	3.0	1.1	.69	.38
23	.58	.78	1.7	.90	1.3	2.5	2.9	1.2	1.2	1.1	6.8	.38
24	.58	.73	1.2	.87	1.3	1.8	5.0	16	1.0	1.1	1.0	.48
25	.61	.73	1.1	.93	1.3	1.5	2.5	6.7	.96	.98	.81	.45
26	.61	.73	1.4	6.2	1.2	1.9	2.2	2.0	1.0	.89	.73	.41
27	.62	.69	1.2	5.1	1.2	1.8	2.1	1.5	.92	.85	.71	.47
28	.62	.69	1.1	5.4	1.2	1.6	2.1	1.2	.85	.81	.71	.45
29	.59	.69	1.3	8.4	------	4.0	1.9	1.2	.81	2.3	.68	.42
30	.61	.69	6.1	2.7	------	3.2	1.8	1.2	.80	1.4	.61	.41
31	.58	------	17	1.6	------	2.5	------	1.1	------	.99	.64	------
TOTAL	23.54	27.14	88.68	70.48	72.8	63.1	140.6	88.3	52.95	100.01	48.11	19.81
MEAN	.76	.90	2.86	2.27	2.60	2.04	4.69	2.85	1.77	3.23	1.55	.66
MAX	4.3	5.5	19	9.2	16	4.7	50	16	14	38	15	5.2
MIN	.57	.61	.56	.87	1.2	1.2	1.4	1.1	.80	.68	.61	.38
CFSM	.34	.40	1.27	1.01	1.16	.91	2.08	1.27	.79	1.44	.69	.29
IN.	.39	.45	1.46	1.17	1.20	1.04	2.32	1.46	.88	1.65	.80	.33

CAL YR 1969 TOTAL 607.60 MEAN 1.66 MAX 40 MIN .17 CFSM .74 IN 10.04
WTR YR 1970 TOTAL 795.52 MEAN 2.18 MAX 50 MIN .38 CFSM .97 IN 13.15

PEAK DISCHARGE (BASE, 90 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-10	2100	2.66	105	6-21	2130	2.72	112
4-14	1400	3.43	210	7- 9	2330	3.33	194
5-13	2215	2.64	103	7-20	2145	4.49	403
5-24	2245	2.90	134	8-14	1815	2.65	104

01647720 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, 518 cfs July 21 (gage height, 4.25 ft); minimum daily, 1.4 cfs Sept. 23.
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 1970 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	3.2	3.8	17	8.7	7.1	11	9.3	5.7	3.2	4.9	2.1
2	11	4.0	3.5	10	15	7.5	54	9.0	5.4	3.5	4.1	2.1
3	5.2	3.2	3.4	8.9	28	9.8	17	12	5.2	3.9	3.6	2.3
4	3.2	2.9	3.3	8.0	12	13	12	10	5.9	5.4	4.5	2.4
5	2.8	2.8	3.1	7.4	7.8	14	11	9.6	5.8	4.5	3.6	1.8
6	2.8	2.7	3.0	6.6	7.5	9.5	11	8.3	7.5	3.0	3.0	1.7
7	2.8	2.7	4.9	6.4	7.5	8.6	12	7.8	5.7	2.6	12	1.5
8	3.6	8.5	21	6.4	7.5	8.6	10	7.5	5.0	2.5	7.1	1.5
9	3.3	7.4	8.2	6.4	13	8.2	9.7	7.1	4.7	72	4.1	2.1
10	3.0	4.6	54	6.0	67	7.9	8.9	6.5	4.6	84	3.7	16
11	2.9	3.7	32	5.8	20	7.7	8.8	6.2	4.3	8.0	3.1	4.5
12	3.0	3.7	8.2	5.8	12	8.5	9.0	8.1	3.9	5.7	2.8	2.8
13	3.0	4.5	6.8	5.6	10	9.5	9.0	28	3.4	4.8	2.7	2.5
14	3.0	4.0	7.1	5.4	8.7	7.9	173	41	3.6	4.4	41	2.2
15	2.9	4.3	6.7	5.2	10	7.3	64	9.7	3.5	4.3	11	1.9
16	2.9	3.8	5.8	5.2	9.3	7.0	21	8.4	14	4.1	4.9	1.7
17	3.0	3.6	5.8	6.4	9.7	6.8	15	33	15	3.5	4.2	1.6
18	3.0	3.5	5.1	31	15	11	13	12	18	3.3	3.4	1.7
19	3.3	14	5.2	15	19	12	12	8.8	6.1	3.1	3.1	2.4
20	3.5	15	5.4	13	11	18	16	7.5	4.7	65	3.6	2.1
21	4.9	5.2	5.6	7.0	8.9	14	13	6.7	38	82	2.9	1.9
22	3.5	4.2	37	6.4	8.9	20	11	6.2	25	6.4	2.6	1.7
23	3.1	4.8	11	6.2	9.0	16	15	6.5	6.7	6.2	24	1.4
24	3.1	4.5	6.9	6.0	8.3	11	23	52	5.3	6.7	5.5	1.6
25	3.3	4.2	5.8	6.0	8.4	9.5	14	47	5.0	5.4	4.0	1.6
26	3.3	4.2	9.6	23	7.4	10	12	11	4.9	4.3	3.6	1.5
27	3.2	4.1	6.7	21	7.8	12	11	8.6	4.6	4.3	2.9	1.7
28	3.0	4.0	5.9	21	7.3	9.1	11	7.1	3.9	3.6	2.9	2.5
29	2.9	3.9	6.1	36	------	21	11	6.6	3.6	11	2.7	2.1
30	2.9	3.8	20	18	------	13	9.7	6.2	3.4	12	2.5	1.9
31	3.0	------	64	9.8	------	12	------	5.9	------	6.4	2.6	------
TOTAL	106.9	145.0	374.9	341.9	364.7	337.5	628.1	413.6	232.4	439.1	186.6	74.8
MEAN	3.45	4.83	12.1	11.0	13.0	10.9	20.9	13.3	7.75	14.2	6.02	2.49
MAX	11	15	64	36	67	21	173	52	38	84	41	16
MIN	2.5	2.7	3.0	5.2	7.3	6.8	9.8	5.9	3.4	2.5	2.5	1.4
CFSM	.35	.50	1.24	1.13	1.34	1.12	2.15	1.37	.80	1.46	.62	.26
IN.	.41	.55	1.43	1.31	1.39	1.29	2.40	1.58	.89	1.68	.71	.29

CAL YR 1969 TOTAL 2,499.74 MEAN 6.85 MAX 164 MIN .40 CFSM .70 IN 9.55
WTR YR 1970 TOTAL 3,645.50 MEAN 9.99 MAX 173 MIN 1.4 CFSM 1.03 IN 13.93

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-14	1545	4.00	455	7- 9	2330	3.93	438
5-24	2300	4.00	455	7-21	0130	4.25	518

01647725 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, 333 cfs July 20 (gage height, 4.56 ft); minimum daily, 0.24 cfs Sept. 6, 22, 26, 30.
Period of record: Maximum discharge, 333 cfs July 20, 1970 (gage height, 4.56 ft); minimum daily, 0.17 cfs Aug. 17, 1967, Sept. 30, Oct. 1-5, 1968.

REMARKS.--Records fair. Farm pond inlet above station. Records of suspended-sediment loads for the water year 1970 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WRD Md. and Del. 1969: 1967-68(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.25	.30	.34	1.8	.68	.60	1.7	.83	.46	.30	.39	.29
2	3.4	.50	.31	1.1	1.7	.82	6.3	.82	.41	.56	.33	.32
3	.54	.35	.31	.80	2.7	1.0	1.6	1.1	.45	.36	.48	.28
4	.35	.28	.31	.60	.80	1.5	1.0	.86	.51	.33	.33	.27
5	.30	.28	.31	.50	.66	1.2	.92	.78	.46	.30	.30	.25
6	.27	.28	.31	.45	.62	.82	1.2	.70	.82	.29	.32	.24
7	.25	.28	2.3	.45	.60	.74	1.2	.62	.44	.29	.71	.26
8	.31	.99	1.0	.48	.58	.67	.90	.63	.40	.26	.44	.37
9	.28	.48	.40	.48	1.6	.67	.86	.58	.41	20	.33	.65
10	.25	.31	14	.45	5.3	.74	.78	.53	.39	1.3	.32	8.4
11	.25	.31	1.6	.42	1.6	.67	.71	.53	.38	.53	.31	.38
12	.25	.31	.67	.42	1.0	.90	.66	.65	.34	.41	.30	.30
13	.25	.31	.48	.40	.82	.90	.79	1.5	.33	.37	.27	.28
14	.25	.50	.74	.40	.67	.67	28	1.2	.32	.42	11	.27
15	.25	.31	.54	.40	.74	.67	3.8	.60	.36	.38	.59	.26
16	.28	.28	.43	.40	.82	.60	1.6	.55	8.9	.33	.35	.25
17	.25	.28	.43	.70	1.0	.60	1.3	2.6	1.0	.30	.33	.25
18	.25	.28	.43	3.4	1.9	1.6	1.1	.93	.88	.27	.32	.25
19	.25	3.9	.43	.80	1.9	1.2	.99	.64	.50	.26	.31	.25
20	.25	.60	.38	.50	.90	2.2	1.3	.59	.39	18	.30	.25
21	1.2	.38	.38	.45	.74	1.2	1.1	.54	9.7	1.3	.30	.25
22	.45	.38	6.3	.42	.74	2.3	.88	.49	1.1	.44	.29	.24
23	.30	.34	.90	.41	.74	1.3	1.5	.52	.56	.50	5.1	.28
24	.25	.34	.54	.38	.74	.94	2.6	12	.42	.48	.70	.25
25	.28	.34	.43	.43	.74	.84	1.3	1.7	.40	.42	.45	.25
26	.28	.34	.90	2.4	.60	1.1	.92	.91	.39	.37	.35	.24
27	.28	.34	.54	1.6	.60	.93	.97	.72	.37	.34	.33	.39
28	.26	.34	.54	1.5	.67	.76	.91	.52	.33	.33	.32	.25
29	.26	.34	.67	2.0	------	2.6	1.0	.48	.33	1.6	.31	.25
30	.25	.34	4.2	.80	------	1.1	.87	.47	.33	1.0	.30	.24
31	.25	------	6.0	.70	------	1.3	------	.47	------	.48	.29	------
TOTAL	12.79	14.61	47.12	26.04	32.16	33.14	68.76	36.06	32.08	52.52	26.77	16.71
MEAN	.41	.49	1.52	.84	1.15	1.07	2.29	1.16	1.07	1.69	.86	.56
MAX	3.4	3.9	14	3.4	5.3	2.6	28	12	9.7	20	11	8.4
MIN	.25	.28	.31	.38	.58	.60	.66	.47	.32	.26	.27	.24
CFSM	.41	.49	1.51	.83	1.14	1.06	2.27	1.15	1.06	1.67	.85	.55
IN.	.47	.54	1.74	.96	1.18	1.22	2.53	1.33	1.18	1.93	.99	.62

CAL YR 1969 TOTAL 322.31 MEAN .88 MAX 16 MIN .23 CFSM .87 IN 11.87
WTR YR 1970 TOTAL 398.76 MEAN 1.09 MAX 28 MIN .24 CFSM 1.08 IN 14.69

PEAK DISCHARGE (BASE, 150 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
5-24	2200	3.91	258	7-20	2115	4.56	333
6-16	2115	3.81	247	8-14	1700	3.49	212
6-21	2115	3.33	195	9-10	1430	3.71	236
7- 9	2215	3.93	260				

01647740 North Branch Rock Creek near Rockville, Md.

LOCATION.--Lat 39°06'09", long 77°07'12", Montgomery County, on left bank 170 ft downstream from outlet of Bernard Frank Lake, 370 ft upstream from mouth, and 2.4 miles northeast of Rockville.

DRAINAGE AREA.--12.5 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 270 ft (from topographic map).

EXTREMES.--Water year 1969: Maximum discharge, 76 cfs Aug. 10 (gage height, 2.20 ft); maximum gage height, 3.32 ft (backwater from Rock Creek); minimum discharge, 1.5 cfs Oct. 23-29 (gage height, 1.02 ft).
Water year 1970: Maximum discharge 93 cfs Apr. 15 (gage height, 2.58 ft); maximum gage height, 3.79 ft Aug. 14 (backwater from Rock Creek); minimum discharge, 4.1 cfs Oct. 29-30 (gage height, 1.14 ft).
Period of record: Maximum discharge, 93 cfs Apr. 15, 1970 (gage height, 2.58 ft); maximum gage height, 3.79 ft Aug. 14, 1970 (backwater from Rock Creek).
REVISIONS.--Figures of maximum discharge for the period Aug.-Sept. 1967 and the water year 1968 have been revised to 58 cfs Aug. 25, 1967 (gage height, 1.97 ft) and 86 cfs Jan. 24, 1968 (gage height, 2.37 ft), superseding figures published in WRD, Maryland and Delaware, 1968.

REMARKS.--Records good. Flow regulated by dam above station. Records of suspended-sediment loads for the 1969 and 1970 water years are published in Part 2 of the 1969 and 1970 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	1.7	1.8	5.5	6.8	9.3	10	7.5	6.5	3.0	2.5	7.2	11
2	1.7	1.9	5.6	6.3	10	10	7.5	6.0	4.1	2.5	12	10
3	1.7	1.9	5.8	6.0	10	10	7.5	5.5	32	2.5	62	10
4	1.8	1.9	9.9	5.8	9.5	11	7.5	5.0	20	2.2	50	18
5	1.9	1.9	12	5.6	8.6	12	7.5	5.0	12	2.0	32	19
6	1.9	2.0	9.6	5.5	8.3	11	8.0	4.5	7.9	2.0	18	18
7	1.9	2.0	8.2	5.5	8.1	10	9.0	4.5	5.8	2.5	11	17
8	1.9	2.3	7.2	5.5	7.9	12	8.0	4.5	5.2	3.0	8.1	17
9	1.9	2.7	6.5	5.5	7.9	12	7.5	6.9	7.2	3.0	8.0	17
10	1.9	6.0	5.9	5.5	7.9	11	7.0	8.0	6.1	2.5	69	17
11	1.9	8.6	5.8	5.5	7.9	10	7.0	6.0	5.3	2.5	55	17
12	1.9	18	5.4	5.3	7.9	9.2	7.0	5.0	4.8	2.0	34	16
13	1.9	24	5.2	5.0	7.9	8.5	7.0	4.5	4.3	2.5	14	16
14	1.9	19	9.5	4.9	7.9	8.2	7.0	4.3	4.0	3.0	7.6	15
15	1.9	13	14	4.9	7.6	8.0	7.0	4.0	3.5	2.5	7.6	15
16	1.9	10	11	4.9	7.6	7.8	7.0	3.8	3.0	2.0	7.6	15
17	1.9	8.3	8.7	4.9	7.6	7.6	7.5	3.7	3.0	1.5	7.4	14
18	1.9	12	7.6	5.0	7.6	7.5	8.0	3.6	3.5	1.5	9.5	13
19	1.9	23	6.6	7.0	7.6	7.5	8.4	3.5	24	1.5	11	13
20	1.9	16	6.2	7.6	7.6	7.5	9.2	6.4	15	2.0	15	12
21	1.9	11	6.2	13	7.6	7.5	9.0	16	9.6	3.0	16	12
22	1.9	8.8	6.4	21	7.6	7.5	8.5	11	7.1	5.0	15	12
23	1.8	7.7	13	16	11	7.5	8.5	8.2	5.9	31	15	11
24	1.5	6.7	11	13	26	7.5	8.0	6.5	5.4	16	14	11
25	1.5	6.5	9.3	11	29	11	7.5	5.0	4.6	10	14	10
26	1.5	6.3	7.9	9.8	21	13	7.0	5.0	4.0	7.8	13	9.9
27	1.5	6.2	7.4	8.3	15	11	7.0	4.5	3.5	6.8	13	9.7
28	1.5	5.9	7.2	7.7	12	9.5	6.5	4.0	3.0	9.8	12	9.0
29	1.6	5.8	7.2	7.6	------	9.0	6.5	3.5	3.0	15	12	8.5
30	1.7	5.7	7.2	7.6	------	8.5	6.5	3.2	2.5	11	11	8.0
31	1.7	------	7.0	8.0	------	8.0	------	3.0	------	8.5	11	------
TOTAL	55.4	246.9	246.0	236.0	293.9	290.8	227.1	171.1	222.3	169.6	592.0	401.1
MEAN	1.79	8.23	7.94	7.61	10.5	9.38	7.57	5.52	7.41	5.47	19.1	13.4
MAX	1.9	24	14	21	29	13	9.2	16	32	31	69	19
MIN	1.5	1.8	5.2	4.9	7.6	7.5	6.5	3.0	2.5	1.5	7.2	8.0
CFSM	.14	.66	.64	.61	.84	.75	.61	.44	.59	.44	1.53	1.07
IN.	.16	.73	.73	.70	.87	.87	.68	.51	.66	.50	1.76	1.19

CAL YR 1968 TOTAL 3,272.14 MEAN 8.94 MAX 86 MIN .02 CFSM .72 IN 9.74
WTR YR 1969 TOTAL 3,152.20 MEAN 8.64 MAX 69 MIN 1.5 CFSM .69 IN 9.38

01647740 North Branch Rock Creek near Rockville, Md.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	4.3	5.8	36	23	10	16	13	10	8.6	11	6.5
2	7.9	4.3	5.8	32	19	10	21	12	9.4	7.9	8.6	6.5
3	11	4.6	5.8	26	24	11	26	13	8.6	7.9	7.9	6.5
4	9.8	4.6	5.8	21	26	12	24	13	9.4	7.9	7.9	6.5
5	8.2	4.6	5.8	16	21	13	22	13	9.4	7.9	7.9	6.5
6	6.5	4.6	5.8	13	18	14	21	13	9.4	7.4	7.9	6.2
7	6.2	4.6	5.8	12	16	12	20	11	9.4	7.2	7.9	6.2
8	6.2	4.6	6.2	10	14	11	20	11	9.0	6.9	7.9	6.2
9	6.2	4.6	6.2	9.0	13	11	18	11	8.6	13	7.9	5.9
10	6.2	4.9	9.8	8.2	33	11	16	11	8.6	61	7.9	6.6
11	6.2	4.9	35	7.9	39	11	16	11	8.6	48	7.9	7.6
12	6.2	4.9	30	7.9	33	11	15	10	8.2	37	7.6	7.0
13	6.2	4.9	22	7.9	28	11	14	11	8.0	24	7.6	6.0
14	6.2	5.2	18	7.9	22	11	27	29	8.0	16	13	5.8
15	6.0	5.2	15	7.9	18	11	75	24	8.0	11	28	5.8
16	5.8	5.2	11	7.9	16	10	89	19	15	9.4	19	5.8
17	5.5	5.2	9.4	7.9	15	10	77	23	16	8.2	13	5.8
18	5.5	5.2	8.2	16	17	10	59	25	17	7.9	10	5.8
19	5.5	5.2	7.6	24	18	11	40	20	15	7.9	9.2	5.8
20	5.5	5.4	6.8	20	19	12	30	16	12	10	7.6	5.8
21	5.8	5.8	6.8	16	16	14	25	13	36	59	7.2	5.8
22	5.5	5.8	16	13	14	14	21	11	33	50	7.2	5.8
23	5.2	5.8	24	11	12	18	18	11	26	39	12	5.8
24	5.1	5.8	18	9.9	11	17	21	12	18	26	13	5.8
25	4.9	5.8	15	9.4	11	16	23	43	13	16	11	5.8
26	4.8	5.8	12	12	10	14	21	39	11	11	9.0	5.8
27	4.6	5.8	11	22	10	14	18	31	9.4	9.0	7.9	5.8
28	4.3	5.8	9.8	23	10	14	16	22	8.6	8.2	7.9	5.8
29	4.1	5.8	9.5	28	------	14	15	16	8.6	7.9	7.6	5.8
30	4.1	5.8	12	32	------	17	14	13	8.6	12	7.6	5.8
31	4.3	------	33	28	------	17	------	11	------	12	6.8	------
TOTAL	186.3	155.0	392.9	502.8	526	392	838	531	379.8	565.2	301.9	182.8
MEAN	6.01	5.17	12.7	16.2	18.8	12.6	27.9	17.1	12.7	18.2	9.74	6.09
MAX	11	5.8	35	36	39	18	89	43	36	61	28	7.6
MIN	4.1	4.3	5.8	7.9	10	10	14	10	8.0	6.9	6.8	5.8
CFSM	.48	.41	1.02	1.30	1.50	1.01	2.23	1.37	1.02	1.46	.78	.49
IN.	.55	.46	1.17	1.50	1.57	1.17	2.49	1.58	1.13	1.68	.90	.54

CAL YR 1969 TOTAL 3,338.1 MEAN 9.15 MAX 69 MIN 1.5 CFSM .73 IN 9.93
WTR YR 1970 TOTAL 4,953.7 MEAN 13.6 MAX 89 MIN 4.1 CFSM 1.09 IN 14.74

01648000 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.--41 years, 55.6 cfs (12.14 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,780 cfs Apr. 14 (gage height, 7.27 ft); minimum, 14 cfs Oct. 31, Nov. 5, 6, 7, Dec. 6, Sept. 27 (gage height 1.28 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	15	17	122	62	35	64	49	40	29	48	24
2	134	54	17	86	93	36	388	48	39	54	42	22
3	66	20	18	75	174	56	109	67	101	45	37	21
4	24	15	17	61	85	63	123	59	106	33	46	21
5	22	15	16	55	70	70	72	53	48	33	32	20
6	20	15	15	46	55	45	64	48	182	32	30	19
7	19	15	73	50	49	41	65	46	45	30	29	19
8	34	57	141	40	46	40	50	45	37	30	33	19
9	21	36	24	36	67	38	51	45	36	304	30	66
10	18	19	289	34	387	37	70	43	35	811	26	59
11	17	17	315	36	133	36	49	42	32	179	26	45
12	17	22	75	38	94	50	47	49	32	127	26	25
13	16	25	57	40	78	57	51	53	30	93	25	22
14	16	21	57	39	66	39	976	174	28	67	100	21
15	16	24	47	36	65	35	316	65	28	54	252	21
16	16	16	43	34	70	34	191	57	51	48	63	20
17	16	16	40	46	59	33	200	150	142	42	48	19
18	15	16	35	220	73	99	174	75	174	37	40	20
19	15	125	32	79	88	52	150	61	65	35	36	22
20	15	128	29	82	65	83	153	54	48	153	33	18
21	28	24	26	50	54	65	63	48	89	517	30	18
22	16	22	290	46	50	93	53	45	174	130	26	17
23	15	21	71	40	47	80	96	43	79	106	204	17
24	15	20	51	35	44	58	111	51	61	96	51	17
25	15	19	42	36	43	53	63	325	54	65	37	15
26	15	20	42	74	39	69	54	103	54	53	33	15
27	15	19	55	84	38	131	53	81	39	46	30	39
28	18	18	48	67	37	112	53	65	33	43	28	26
29	15	18	40	91	------	174	51	54	32	43	26	15
30	15	18	150	96	------	75	49	48	30	214	25	15
31	14	------	400	74	------	88	------	43	------	119	32	------
TOTAL	715	870	2,572	1,948	2,231	1,977	4,009	2,189	1,944	3,668	1,524	717
MEAN	23.1	29.0	83.0	62.8	79.7	63.8	134	70.6	64.8	118	49.2	23.9
MAX	134	128	400	220	387	174	976	325	182	811	252	66
MIN	14	15	15	34	37	33	47	42	28	29	25	15
CFSM	.37	.47	1.33	1.01	1.28	1.03	2.15	1.14	1.04	1.90	.79	.38
IN.	.43	.52	1.54	1.17	1.33	1.18	2.40	1.31	1.16	2.19	.91	.43

CAL YR 1969 TOTAL 18,666 MEAN 51.1 MAX 1,390 MIN 10 CFSM .82 IN 11.16
WAT YR 1970 TOTAL 24,364 MEAN 66.8 MAX 976 MIN 14 CFSM 1.07 IN 14.57

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-11	0045	5.60	1,180	7-10	0500	7.12	1,720
4- 2	1700	4.76	938	7-21	0715	5.52	1,160
4-14	1630	7.27	1,780	7-30	2230	4.84	960
5-25	0500	4.52	871	8-15	0230	4.45	851
6- 3	2330	4.29	808				

01649500 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 (gas purge system orifice 200 ft downstream), at datum 12.68 ft above mean sea level (Washington Suburban Sanitary Commission bench mark). Prior to June 12, 1942, nonrecording gage at bridge at datum 14.00 ft above mean sea level. Mar. 23, 1966 to Apr. 11, 1967, nonrecording gage 600 ft downstream at datum 9.25 ft above mean sea level.

AVERAGE DISCHARGE.--32 years, 76.0 cfs (14.17 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,240 cfs July 9 (gage height, 5.76 ft); minimum daily, 12 cfs Sept. 16, 17, 25, 26.
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).

REMARKS.--Records fair. Some regulation at low flow by sand and gravel plants above station.

REVISIONS (WATER YEARS).--WRD Md. and Del. 1968: 1967(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	23	25	263	56	44	105	66	26	21	26	15
2	94	44	24	124	75	43	661	65	25	175	20	14
3	75	40	24	104	320	66	350	67	91	181	17	15
4	33	32	25	90	164	98	140	76	132	52	19	17
5	27	27	27	79	104	112	95	68	46	30	18	17
6	24	25	27	75	66	73	82	59	55	27	21	15
7	22	26	108	75	62	61	92	57	35	26	26	17
8	50	51	142	70	59	54	71	57	28	26	19	15
9	32	59	47	50	106	50	69	57	25	590	16	39
10	23	40	454	60	560	48	61	52	24	850	14	38
11	19	33	391	65	211	47	56	46	23	149	15	29
12	19	38	104	60	100	61	54	102	22	65	14	17
13	18	29	57	60	65	76	56	102	26	45	14	15
14	18	40	64	55	60	55	1,230	304	24	39	18	14
15	17	30	48	50	55	50	706	93	23	40	22	14
16	17	24	41	50	85	44	223	51	48	48	16	12
17	17	22	37	100	80	42	129	90	94	31	14	12
18	17	22	34	260	110	114	108	59	128	29	13	15
19	17	154	34	160	134	96	100	43	48	28	235	18
20	17	101	33	100	93	96	166	38	32	98	97	15
21	28	37	31	80	62	97	118	33	82	234	32	15
22	24	28	617	65	57	132	93	31	174	43	22	14
23	20	27	230	55	54	128	115	33	48	77	90	14
24	18	26	104	50	50	83	137	48	36	73	33	14
25	19	25	79	50	54	64	109	142	73	38	24	12
26	21	25	268	85	52	88	90	123	48	30	21	12
27	22	25	198	71	47	103	79	66	34	25	19	28
28	27	24	127	62	46	72	75	39	26	24	18	19
29	23	24	102	75		203	71	31	23	23	17	15
30	23	24	407	75	------	132	68	29	22	50	18	15
31	23	------	824	59	------	145	------	28	------	48	22	------
TOTAL	824	1,125	4,733	2,677	2,987	2,577	5,509	2,155	1,521	3,215	970	521
MEAN	26.6	37.5	153	86.4	107	83.1	184	69.5	50.7	104	31.3	17.4
MAX	94	154	824	263	560	203	1,230	304	174	850	235	39
MIN	17	22	24	50	46	42	54	28	22	21	13	12
CFSM	.37	.52	2.10	1.19	1.47	1.14	2.53	.95	.70	1.43	.43	.24
IN.	.42	.57	2.42	1.37	1.53	1.32	2.81	1.10	.78	1.64	.50	.27

CAL YR 1969 TOTAL 28,144.2 MEAN 77.1 MAX 2,850 MIN 9.2 CFSM 1.06 IN 14.38
WTR YR 1970 TOTAL 28,814 MEAN 78.9 MAX 1,230 MIN 12 CFSM 1.08 IN 14.72

PEAK DISCHARGE (BASE, 1,250 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-10	1945	Unknown	*1,800	4-14	1400	5.15	2,520
12-22	1145	3.84	1,260	5-14	0030	3.90	1,310
12-31	0100	Unknown	*1,400	7- 9	1900	5.76	3,240
4- 2	1415	4.90	2,260	8-19	1830	4.68	2,040

* About.

01650050 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, 382 cfs July 9 (gage height, 3.70 ft); minimum daily, 0.43 cfs Sept. 26.
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 1970 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.55	.77	.82	3.5	2.1	1.5	2.9	2.1	1.5	.95	.95	.62
2	2.5	1.0	.80	2.4	4.6	1.5	22	2.1	1.3	2.1	.86	.62
3	1.2	.86	.79	1.8	8.6	2.1	4.2	2.6	1.2	1.3	.77	.62
4	.75	.76	.74	1.6	2.9	3.2	2.9	2.4	1.5	1.2	.86	.62
5	.62	.74	.74	1.5	2.1	3.2	2.4	2.4	1.3	1.0	.77	.55
6	.62	.74	.95	1.4	1.8	2.4	2.4	1.8	1.8	.95	.77	.49
7	.69	.74	2.6	1.5	1.7	2.1	2.6	1.8	1.3	.86	.77	.49
8	.77	1.6	3.5	1.5	1.7	2.1	2.4	1.8	1.2	.86	.95	.49
9	.69	1.2	1.5	1.4	3.8	1.8	2.1	1.8	1.0	30	.86	.69
10	.69	.95	28	1.4	19	1.8	1.8	1.6	1.0	12	.77	1.5
11	.69	.95	3.5	1.2	4.6	1.6	1.8	1.5	1.0	2.4	.69	.77
12	.69	1.0	1.8	1.2	2.9	1.8	1.8	1.5	.95	1.5	.69	.69
13	.69	.98	1.5	1.2	2.4	2.1	1.8	7.0	.95	1.2	.69	.62
14	.77	.86	1.5	1.1	2.1	1.8	68	6.0	.95	1.0	1.6	.62
15	.69	.86	1.5	1.1	2.4	1.6	15	2.1	1.0	1.0	1.0	.62
16	.77	.77	1.3	1.1	2.1	1.6	4.2	1.8	6.4	1.0	.77	.55
17	.77	.77	1.2	1.2	2.4	1.5	3.2	7.0	2.6	.86	.77	.55
18	.69	.77	1.0	9.2	3.8	2.6	2.9	2.6	2.1	.86	.69	.62
19	.77	3.5	1.2	4.2	4.6	2.9	2.6	2.1	1.3	.86	1.0	.62
20	.69	2.4	1.0	2.5	2.9	4.6	2.9	1.6	1.2	29	.86	.49
21	.86	1.0	1.0	1.6	2.1	3.2	2.6	1.5	9.8	5.0	.77	.49
22	.69	.95	14	1.5	2.1	4.2	2.4	1.3	3.8	1.8	.62	.55
23	.62	.95	2.6	1.4	2.1	3.5	3.5	1.3	1.6	1.5	4.2	.49
24	.62	.86	1.6	1.4	1.8	2.6	5.0	28	1.3	1.3	1.0	.49
25	.69	.86	1.3	1.4	1.8	2.1	3.2	12	1.2	1.2	.86	.49
26	.69	.86	2.6	6.4	1.6	2.4	2.6	2.9	1.2	1.0	.77	.43
27	.69	.86	1.6	4.6	1.5	2.4	2.6	2.1	1.2	.95	.69	.62
28	.69	.86	1.5	4.6	1.5	2.1	2.4	1.6	1.0	.95	.69	.62
29	.69	.86	1.6	7.0	------	6.0	2.4	1.5	.95	.95	.69	.55
30	.69	.82	8.0	3.8	------	3.2	2.1	1.5	.95	1.2	.62	.55
31	.69	------	18	2.4	------	2.9	------	1.6	------	1.0	.62	------
TOTAL	23.92	31.10	109.74	78.1	93.0	78.4	178.7	108.9	54.55	107.75	28.62	18.12
MEAN	.77	1.04	3.54	2.52	3.32	2.53	5.96	3.51	1.82	3.48	.92	.60
MAX	2.5	3.5	28	9.2	19	6.0	68	28	9.8	30	4.2	1.5
MIN	.55	.74	.74	1.1	1.5	1.5	1.8	1.3	.95	.86	.62	.43
CFSM	.31	.42	1.44	1.03	1.36	1.03	2.43	1.43	.74	1.42	.38	.24
IN.	.36	.47	1.67	1.19	1.41	1.19	2.71	1.65	.83	1.64	.43	.28

CAL YR 1969 TOTAL 518.63 MEAN 1.42 MAX 35 MIN .05 CFSM .58 IN 7.87
WTR YR 1970 TOTAL 910.90 MEAN 2.50 MAX 68 MIN .43 CFSM 1.02 IN 13.83

PEAK DISCHARGE (BASE, 150 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-10	2030	2.07	162	7- 9	2315	3.70	382
4-14	1315	3.38	322	7-20	2130	3.60	362
5-24	2300	3.13	282				

01650085 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, 113 cfs June 3 (gage height, 3.08 ft); minimum, 0.09 cfs Sept. 16 (gage height, 1.59 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 1970 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	.17	.22	.70	.48	.39	.64	.53	.31	.25	.25	.15
2	.76	.28	.19	.45	.70	.43	2.4	.53	.28	.43	.22	.15
3	.29	.24	.22	.38	1.0	.58	.94	.58	4.2	.31	.22	.15
4	.20	.19	.19	.36	.64	.64	.64	.58	.94	.28	.22	.15
5	.17	.19	.19	.35	.48	.58	.58	.53	.53	.25	.19	.15
6	.17	.19	.19	.35	.43	.48	.58	.48	1.2	.25	.19	.15
7	.17	.19	.77	.39	.40	.43	.58	.48	.53	.22	.19	.15
8	.22	.43	.70	.35	.40	.43	.53	.48	.43	.22	.22	.15
9	.18	.31	.31	.32	.73	.43	.53	.43	.39	2.6	.19	.19
10	.17	.25	2.9	.31	2.3	.39	.48	.43	.35	1.0	.19	.48
11	.17	.22	1.0	.31	.85	.39	.48	.39	.31	.48	.43	.22
12	.17	.28	.48	.31	.64	.48	.48	.43	.31	.35	.77	.17
13	.17	.28	.39	.30	.53	.48	.48	1.2	.28	.28	.77	.15
14	.17	.28	.39	.29	.50	.43	6.0	.85	.28	.28	1.1	.15
15	.17	.25	.35	.28	.53	.39	1.6	.53	.31	.28	.53	.15
16	.17	.22	.31	.28	.53	.39	.94	.48	1.6	.25	.43	.15
17	.17	.22	.31	.35	.53	.39	.77	.94	.70	.22	.43	.13
18	.15	.22	.28	1.0	.64	.64	.70	.53	.53	.22	.39	.15
19	.15	1.0	.28	.64	.85	.53	.70	.43	.39	.22	.53	.15
20	.17	.53	.28	.43	.58	.70	.85	.39	.31	3.1	.43	.13
21	.32	.31	.25	.31	.50	.58	.70	.39	2.4	.77	.19	.13
22	.17	.25	2.0	.28	.53	.70	.64	.35	.85	.39	.17	.13
23	.17	.25	.53	.27	.50	.58	.77	.35	.53	.39	.77	.13
24	.17	.25	.39	.26	.48	.53	1.0	.94	.39	.39	.28	.13
25	.17	.25	.35	.25	.44	.48	.70	.77	.35	.31	.22	.13
26	.17	.25	.58	.71	.39	.58	.70	.48	.35	.28	.19	.13
27	.17	.25	.43	.64	.39	.53	.64	.39	.31	.25	.19	.15
28	.18	.25	.35	.58	.43	.43	.64	.35	.28	.25	.17	.15
29	.17	.25	.39	.77	------	.94	.64	.35	.28	.28	.17	.13
30	.17	.22	1.1	.70	------	.58	.58	.35	.28	.39	.15	.15
31	.17	------	2.0	.53	------	.64	------	.31	------	.31	.15	------
TOTAL	6.18	8.47	18.32	13.45	17.40	16.17	27.91	16.25	20.20	15.50	10.54	4.78
MEAN	.20	.28	.59	.43	.62	.52	.93	.52	.67	.50	.34	.16
MAX	.76	1.0	2.9	1.0	2.3	.94	6.0	1.2	4.2	3.1	1.1	.48
MIN	.15	.17	.19	.25	.39	.39	.48	.31	.28	.22	.15	.13
CFSM	.57	.80	1.69	1.23	1.77	1.49	2.66	1.49	1.91	1.43	.97	.46
IN.	.66	.90	1.95	1.43	1.85	1.72	2.97	1.73	2.15	1.65	1.12	.51

CAL YR 1969 TOTAL 112.75 MEAN .31 MAX 3.7 MIN .08 CFSM .89 IN 11.98
WTR YR 1970 TOTAL 175.17 MEAN .48 MAX 6.0 MIN .13 CFSM 1.37 IN 18.62

PEAK DISCHARGE (BASE, 30 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
6-3	1645	3.08	113	7-20	2115	2.85	74

01650450 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.--1.69 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, 313 cfs July 20 (gage height, 5.96 ft); minimum daily, 0.08 cfs Sept. 8.
Period of record: Maximum discharge, 338 cfs (revised) Aug. 25, 1967 (gage height, 6.18 ft); minimum daily, 0.04 cfs Aug. 25, 26, Sept. 1, 1968.
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 Resources Data reports indicated.

Report	Water year	Date	Discharge (cfs)	Gage height (feet)
WRD Md. and Del.	1967	Aug. 25, 1967	338	6.18
WRD Md. and Del.	1968	June 19, 1968	178	4.31
WRD Md. and Del.	1969	Aug. 10, 1969	307	5.98

REMARKS.--Records good. 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 1970 are published in Part 2 of this report.
REVISIONS (WATER YEARS).--WRD Md. and Del. 1968: 1967. The figures of peak discharge for water years 1967-69 have been revised as shown in the following table. They supersede figures published in WRD Md. and Del., 1967-69.
REVISED PEAK DISCHARGE.--1967: Mar. 7 (0530) 193 cfs (4.53 ft); Aug. 4 (2030) 158 cfs (4.03 ft); Aug. 25 (0015) 338 cfs (6.18 ft).
1968: Jan. 14 (0800) 159 cfs (4.04 ft); June 19 (2015) 178 cfs (4.31 ft).
1969: May 20 (2300) 192 cfs (4.52 ft); June 3 (0030) 206 cfs (4.75 ft); July 20 (1745) 214 cfs (5.27 ft); Aug. 10 (0015) 307 cfs (5.98 ft); Aug. 18 (0130) 207 cfs (5.21 ft); Sept. 4 (1600) 164 cfs (4.85 ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.19	.21	.24	2.5	.55	.54	2.4	.63	.38	.28	.32	.18
2	2.1	.54	.25	1.0	3.3	.70	21	.58	.37	.64	.28	.14
3	.80	.23	.29	.60	8.0	1.0	2.5	1.3	1.2	.33	1.2	.12
4	.28	.19	.28	.50	2.0	2.5	1.3	.93	.78	.32	.45	.14
5	.21	.19	.23	.47	1.2	1.1	.99	.82	.51	.27	.26	.15
6	.19	.24	.23	.47	.58	.80	1.3	.62	2.7	.19	.21	.11
7	.22	.25	5.3	.50	.56	.60	1.5	.55	.50	.17	1.6	.09
8	.44	1.6	3.5	.46	.52	.50	.89	.58	.37	.23	.52	.08
9	.23	.62	.67	.44	4.5	.45	.82	.50	.33	32	.32	1.1
10	.21	.28	27	.45	19	.44	.68	.44	.31	12	.26	7.8
11	.20	.27	7.3	.45	2.9	.44	.64	.44	.31	.72	.23	.59
12	.20	.63	.82	.42	1.2	1.1	.58	.87	.30	.45	.25	.28
13	.25	.32	.49	.40	.78	1.1	.78	4.9	.29	.36	.15	.25
14	.20	.46	.97	.40	.65	.65	66	3.0	.28	.34	11	.23
15	.20	.33	.60	.40	.64	.53	13	.61	.30	.33	1.2	.19
16	.20	.23	.40	.44	.84	.51	2.4	.56	16	.30	.38	.21
17	.20	.27	.36	2.0	1.1	.51	1.5	7.1	4.6	.26	.27	.23
18	.19	.21	.34	12	3.5	2.5	1.2	1.2	3.8	.23	.23	.19
19	.19	8.5	.33	2.9	3.5	2.2	.98	.67	.68	.22	.26	.19
20	.19	2.1	.30	1.2	.90	4.9	1.9	.50	.42	25	.24	.17
21	1.2	.40	.28	.60	.70	2.2	1.1	.44	15	7.2	.23	.15
22	.20	.29	16	.47	.62	4.4	.91	.43	6.0	.56	.21	.16
23	.17	.28	1.4	.45	.58	2.2	2.5	.50	.71	.75	8.0	.15
24	.22	.28	.66	.45	.56	1.1	4.4	18	.46	.63	.50	.15
25	.20	.23	.46	.50	.52	.79	1.7	8.2	.40	.39	.32	.17
26	.19	.24	1.0	5.8	.47	1.1	1.1	1.1	.38	.37	.28	.19
27	.19	.23	.84	3.2	.50	1.0	.97	.68	.36	.32	.25	.63
28	.19	.23	.61	2.9	.61	.73	.86	.48	.33	.28	.21	.24
29	.19	.25	.97	4.2	------	6.3	.82	.42	.31	.63	.19	.18
30	.19	.23	12	1.7	------	1.8	.71	.38	.28	1.4	.15	.15
31	.18	------	18	.64	------	2.0	------	.38	------	.53	.37	------
TOTAL	10.01	20.33	102.12	48.91	60.78	46.69	137.43	57.81	58.66	87.70	30.34	14.61
MEAN	.32	.68	3.29	1.58	2.17	1.51	4.58	1.86	1.96	2.83	.98	.49
MAX	2.1	8.5	27	12	19	6.3	66	18	16	32	11	7.8
MIN	.17	.19	.23	.40	.47	.44	.58	.38	.28	.17	.15	.08
CFSM	.19	.40	1.95	.93	1.28	.89	2.71	1.10	1.16	1.67	.58	.29
IN.	.22	.45	2.25	1.08	1.34	1.03	3.03	1.27	1.29	1.93	.67	.32

CAL YR 1969 TOTAL 458.79 MEAN 1.26 MAX 34 MIN .06 CFSM .75 IN 10.10
WTR YR 1970 TOTAL 675.39 MEAN 1.85 MAX 66 MIN .08 CFSM 1.09 IN 14.87

PEAK DISCHARGE (BASE, 140 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-10	1945	3.96	153	6-21	2200	4.26	174
4-14	1315	5.14	234	7- 9	2230	5.50	265
5-24	2230	4.88	216	7-20	2130	5.96	313
6-16	2130	5.06	228	9-10	1500	3.81	141

01650500 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, 21.3 cfs (13.71 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,380 cfs Aug. 10 (gage height, 7.82 ft); minimum, 2.4 cfs Sept. 24 (gage height, 1.55 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 1970 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	5.8	7.2	37	16	14	24	18	12	7.9	8.8	5.3
2	31	9.7	6.8	22	34	13	167	18	11	10	8.0	4.4
3	14	7.2	7.2	20	70	18	41	20	48	11	8.0	4.8
4	7.2	6.2	5.8	15	24	25	26	20	24	8.9	8.4	4.9
5	5.8	5.8	6.5	16	19	28	23	19	15	8.6	6.8	4.3
6	5.4	6.2	6.5	13	17	19	23	17	50	7.7	6.2	3.5
7	5.4	6.2	29	12	15	17	25	16	16	7.0	8.7	3.4
8	7.6	15	44	12	15	16	20	16	13	6.9	8.4	3.5
9	6.8	12	14	11	29	15	18	15	11	123	7.3	11
10	5.8	8.0	168	11	155	15	18	14	10	194	6.6	31
11	5.8	6.8	103	11	41	14	17	14	9.2	20	6.6	10
12	5.8	8.4	21	11	25	17	17	16	8.8	14	5.7	5.7
13	5.8	8.4	15	10	20	20	17	23	8.8	11	5.5	4.9
14	5.8	8.4	16	10	17	15	544	76	8.4	9.7	56	4.9
15	5.4	8.0	14	9.8	19	14	157	19	9.2	9.6	19	4.2
16	5.4	6.5	12	10	19	13	43	17	62	8.6	8.2	4.4
17	5.8	6.5	11	21	20	13	32	52	70	7.7	7.1	4.2
18	5.4	6.8	10	85	36	26	26	24	27	7.5	6.4	4.4
19	5.4	50	10	39	42	25	24	18	14	7.1	7.6	4.7
20	5.4	34	9.2	19	24	37	31	15	11	136	8.4	4.3
21	10	12	8.8	13	18	29	25	13	77	144	7.2	3.9
22	5.8	9.2	117	12	18	35	22	13	85	16	5.8	3.8
23	5.1	8.8	26	12	17	31	31	12	18	15	45	3.5
24	5.1	8.4	16	11	16	21	49	55	14	15	11	3.3
25	5.4	8.0	13	11	16	19	30	127	12	12	8.0	3.3
26	5.8	8.0	24	53	14	20	24	24	12	10	7.2	3.5
27	5.8	7.6	20	39	14	21	22	17	11	9.2	6.5	5.1
28	6.2	7.6	16	30	14	17	22	14	9.2	8.8	6.2	5.4
29	5.4	7.2	16	43	------	49	21	13	8.8	8.8	5.7	4.2
30	5.4	7.2	77	29	------	29	20	12	8.5	15	5.3	4.0
31	5.8	------	174	18	------	28	------	12	------	12	5.9	------
TOTAL	215.9	309.9	1,024.0	665.8	784	673	1,559	759	693.9	882.0	321.5	167.8
MEAN	6.96	10.3	33.0	21.5	28.0	21.7	52.0	24.5	23.1	28.5	10.4	5.59
MAX	31	50	174	85	155	49	544	127	85	194	56	31
MIN	5.1	5.8	5.8	9.8	14	13	17	12	8.4	6.9	5.3	3.3
CFSM	.33	.49	1.56	1.02	1.33	1.03	2.46	1.16	1.09	1.35	.49	.26
IN.	.38	.55	1.81	1.17	1.38	1.19	2.75	1.34	1.22	1.55	.57	.30

CAL YR 1969 TOTAL 5,348.4 MEAN 14.7 MAX 313 MIN 1.1 CFSM .70 IN 9.43
WTR YR 1970 TOTAL 8,055.8 MEAN 22.1 MAX 544 MIN 3.3 CFSM 1.05 IN 14.20

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-10	2100	6.17	694	7- 9	2400	7.45	985
4-14	1430	8.56	1,380	7-20	2300	7.51	1,000

01651000 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, 39.9 cfs (10.97 inches per year) unadjusted.

EXTREMES.--Current year: Maximum discharge, 3,220 cfs July 9 (gage height, 10.53 ft); minimum, 3.4 cfs Sept. 26.
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 fair. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	9.6	11	82	30	24	49	38	20	14	33	11
2	118	38	11	54	57	25	525	38	19	137	18	9.8
3	43	15	11	48	201	40	87	45	113	25	15	9.8
4	14	11	11	45	55	52	51	52	113	18	21	9.8
5	9.6	9.6	12	41	42	48	45	38	45	16	13	8.6
6	9.6	9.6	14	39	35	31	51	32	102	15	13	7.4
7	9.6	12	90	41	34	28	52	34	32	14	32	6.2
8	30	49	110	30	33	27	39	35	24	13	25	7.4
9	13	33	30	34	65	26	40	35	22	452	15	55
10	10	16	440	28	390	25	34	34	20	502	13	42
11	10	12	300	28	72	25	33	31	19	51	12	27
12	10	18	50	28	44	36	31	110	19	32	11	11
13	9.5	17	34	28	36	37	36	97	18	24	8.6	11
14	9.5	21	40	28	34	26	1,500	246	17	20	37	9.8
15	8.0	18	30	26	48	24	394	40	17	20	76	9.8
16	8.0	12	24	26	49	24	97	35	51	18	19	9.8
17	9.5	11	22	65	42	24	71	100	131	14	13	7.4
18	8.0	11	20	160	52	70	60	52	122	12	11	9.8
19	9.5	131	20	78	65	42	52	34	28	12	9.8	11
20	9.5	89	19	47	44	55	105	29	17	102	15	8.6
21	16	24	17	38	35	49	54	25	51	307	12	7.4
22	11	17	460	34	33	64	49	24	210	41	8.6	7.4
23	8.6	15	57	32	31	52	87	31	28	45	113	7.4
24	8.6	15	35	30	29	35	92	35	19	41	28	7.4
25	9.6	13	33	34	30	31	64	238	49	29	16	9.8
26	9.6	13	106	48	27	54	51	80	32	24	12	6.2
27	11	13	55	70	28	40	47	32	23	22	11	24
28	14	12	44	45	25	29	45	25	17	22	11	12
29	9.6	12	41	58	------	123	43	23	16	21	11	9.8
30	9.6	12	275	51	------	58	41	22	16	57	9.8	7.4
31	9.6	------	470	34	------	70	------	20	------	42	16	------
TOTAL	474.1	688.8	2,892	1,430	1,666	1,294	3,925	1,710	1,410	2,162	658.8	381.0
MEAN	15.3	23.0	93.3	46.1	59.5	41.7	131	55.2	47.0	69.7	21.3	12.7
MAX	118	131	470	160	390	123	1,500	246	210	502	113	55
MIN	8.0	9.6	11	26	25	24	31	20	16	12	8.6	6.2
CFSM	.31	.47	1.89	.93	1.20	.84	2.65	1.12	.95	1.41	.43	.26
IN.	.36	.52	2.18	1.08	1.25	.97	2.96	1.29	1.06	1.63	.50	.29

CAL YR 1969 TOTAL 14,795.4 MEAN 40.5 MAX 1,440 MIN 2.8 CFSM .82 IN 11.14
WTR YR 1970 TOTAL 18,691.7 MEAN 51.2 MAX 1,500 MIN 6.2 CFSM 1.04 IN 14.08

PEAK DISCHARGE (BASE, 1,250 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-10	2000	7.67	1,910	5-13	2400	7.28	1,740
12-22	0915	6.44	1,360	6- 3	2300	6.63	1,450
4- 2	1315	7.43	1,810	7- 2	1715	6.81	1,530
4- 4	1430	9.65	2,780	7- 9	1815	10.53	3,220

01653500 Henson Creek at Oxon Hill, Md.

NOTE.--Records for the 1970 water year have been withheld pending further analysis of the stage-discharge relation. They will be published in a subsequent annual report.

01653600 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).

AVERAGE DISCHARGE.--5 years (1966-70), 34.5 cfs (11.86 inches per year).

EXTREMES.--Current year: Maximum discharge, 902 cfs Apr. 14 (gage height, 6.64), from rating curve extended above 520 cfs; no flow Sept. 22-26.
Period of record: Maximum discharge, 938 cfs Jan 14, 1968 (gage height, 6.76), from rating curve extended above 520 cfs, no flow during parts of July, Aug., Sept. 1966, and Sept. 1970.

REMARKS.--Records good except those for January to March, which are fair, and those for September, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	5.2	8.9	286	35	39	98	51	18	2.6	5.4	.40
2	6.4	7.2	8.0	118	43	40	332	48	16	15	5.1	.40
3	25	11	8.4	98	172	44	438	46	14	22	10	.40
4	8.1	6.3	7.9	75	90	52	110	69	14	8.4	51	.30
5	5.5	5.7	7.2	65	52	75	87	60	15	11	8.4	.30
6	5.1	5.3	7.1	66	51	48	78	45	45	5.0	5.6	.30
7	4.6	5.4	13	67	48	41	75	41	26	3.0	4.6	.20
8	15	8.1	120	52	47	40	66	40	16	2.3	3.5	.20
9	22	13	33	40	49	37	63	37	13	32	3.1	.20
10	8.6	12	89	36	266	36	58	33	12	74	2.9	.90
11	6.5	8.2	524	37	112	35	51	30	11	18	3.0	6.1
12	6.5	7.9	83	37	68	37	50	32	10	9.5	2.2	1.4
13	6.2	11	46	32	57	48	49	36	31	6.0	1.6	.64
14	6.0	9.3	43	28	50	36	449	90	11	4.3	1.3	.50
15	4.9	17	36	28	58	34	739	39	9.5	3.7	3.2	.40
16	4.4	9.3	29	26	84	32	200	33	16	3.4	1.5	.30
17	4.8	8.0	25	32	84	31	118	60	17	2.2	3.1	.30
18	4.1	7.7	23	299	105	56	99	49	16	1.6	2.8	.20
19	4.5	13	23	94	99	59	86	32	12	1.3	21	.20
20	4.7	77	21	57	66	53	193	26	7.6	1.2	26	.10
21	3.8	23	18	46	55	67	117	22	10	27	16	.10
22	3.4	15	279	40	55	63	86	21	17	5.7	3.5	0
23	3.0	13	264	39	51	83	89	20	7.0	26	3.6	0
24	2.8	11	65	39	48	51	99	36	5.7	112	4.4	0
25	3.4	10	47	38	48	45	85	144	5.1	18	2.2	0
26	4.6	10	192	49	39	52	71	46	4.9	12	1.7	0
27	5.3	9.6	134	45	36	79	69	44	7.2	7.4	1.4	.20
28	5.5	9.3	74	39	39	49	65	26	4.6	5.6	1.1	3.1
29	5.2	9.0	62	45	------	126	60	23	3.4	4.6	.78	.95
30	4.7	9.0	238	49	------	111	55	21	3.1	20	.65	.45
31	5.0	------	720	36	------	171	------	19	------	9.7	.50	------
TOTAL	202.8	366.5	3,248.5	2,038	2,007	1,770	4,235	1,319	398.1	474.5	201.13	18.54
MEAN	6.54	12.2	105	65.7	71.7	57.1	141	42.5	13.3	15.3	6.49	.62
MAX	25	77	720	299	266	171	739	144	45	112	51	6.1
MIN	2.8	5.2	7.1	26	35	31	49	19	3.1	1.2	.50	0
CFSM	.17	.31	2.66	1.66	1.82	1.45	3.57	1.08	.34	.39	.16	.02
IN.	.19	.35	3.06	1.92	1.89	1.67	3.99	1.24	.37	.45	.19	.02

CAL YR 1969 TOTAL 13,073.84 MEAN 35.8 MAX 720 MIN .20 CFSM .91 IN 12.31
WTR YR 1970 TOTAL 16,279.07 MEAN 44.6 MAX 739 MIN 0 CFSM 1.13 IN 15.33

PEAK DISCHARGE (BASE, 450 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-11	0430	5.77	641	4- 2	2130	6.16	758
12-22	2100	5.40	545	4-14	2000	6.64	902
12-31	0730	6.23	779	8-19	1830	5.38	540
1-18	1500	5.56	585				

01658000 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.--20 years (1950-70), 50.7 cfs (11.93 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,440 cfs Apr. 15 (gage height, 5.17 ft); no flow many days in July August, and September.
Period of record: Maximum discharge, 9,300 cfs Aug. 13, 1955 (gage height, 7.52), 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	2.4	9.0	758	40	35	245	50	14	0	20	
2	.40	5.4	8.6	412	43	33	322	45	12	0	11	
3	1.0	7.2	8.4	212	109	40	404	40	10	0	5.3	
4	2.1	7.0	8.4	124	165	53	455	57	8.8	0	57	
5	1.9	6.5	8.1	79	123	87	225	70	8.3	3.9	93	
6	1.1	6.2	7.9	74	87	75	116	52	13	3.5	28	
7	.52	5.7	8.8	68	74	59	94	40	19	.28	16	
8	.76	6.5	64	56	64	52	81	33	14	.20	11	
9	7.5	9.0	54	50	63	45	73	28	9.7	17	7.2	
10	9.5	11	44	40	207	38	64	24	7.5	108	3.4	
11	7.2	9.7	218	40	268	31	56	21	5.1	42	1.4	
12	5.7	9.7	217	30	225	31	50	42	3.9	18	.54	
13	3.3	9.7	96	24	125	52	47	50	13	12	.04	
14	1.9	9.7	41	20	84	47	344	35	8.8	7.7	0	
15	1.1	10	25	18	75	38	1,030	23	6.0	3.9	0	
16	1.1	9.7	18	18	105	28	829	20	6.7	1.7	0	
17	.48	8.8	15	20	123	24	330	29	10	.38	0	
18	.34	8.2	13	110	148	47	164	59	9.4	0	0	
19	.31	9.5	13	150	160	83	108	33	7.0	0	0	
20	.31	22	12	110	140	72	126	22	3.4	0	0	
21	.34	18	14	70	105	95	158	17	2.1	3.2	6.0	
22	.28	13	101	60	78	90	122	16	6.2	1.2	10	
23	.16	12	206	50	68	118	98	14	2.4	2.1	3.0	
24	.13	11	176	50	58	97	111	13	1.0	9.4	1.3	
25	.10	10	79	50	56	73	98	97	.50	14	.60	
26	.16	9.7	91	70	47	66	83	108	.20	10	.01	
27	.31	9.5	155	60	42	115	77	64	10	6.0	0	
28	.37	9.3	153	50	42	105	71	35	4.9	1.6	0	
29	.56	9.0	93	51	------	117	64	23	1.7	.66	0	
30	.68	9.0	158	62	------	179	57	18	.28	25	0	
31	1.7	------	460	48	------	232	------	16	------	56	0	------
TOTAL	51.51	284.4	2,575.2	3,034	2,924	2,257	6,102	1,194	218.88	347.72	274.79	0
MEAN	1.66	9.48	83.1	97.9	104	72.8	203	38.5	7.30	11.2	8.86	0
MAX	9.5	22	460	758	268	232	1,030	108	19	108	93	0
MIN	.10	2.4	7.9	18	40	24	47	13	.20	0	0	0
CFSM	.03	.16	1.44	1.70	1.80	1.26	3.52	.67	.13	.19	.15	0
IN.	.03	.18	1.66	1.96	1.89	1.46	3.93	.77	.14	.22	.18	0

CAL YR 1969 TOTAL 10,517.61 MEAN 28.8 MAX 460 MIN 0 CFSM .50 IN 6.78
WTR YR 1970 TOTAL 19,263.50 MEAN 52.8 MAX 1,030 MIN 0 CFSM .92 IN 12.42

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
1-1	0530	4.80	840	4-15	1730	5.17	1,440
4-4	0200	4.48	526				

01661000 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.--23 years, 9.49 cfs (12.04 inches per year).

EXTREMES.--Current year: Maximum discharge, 235 cfs Apr. 14 (gage height, 4.50 ft); no flow part or all of each day Sept. 8-10.
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, 68-70.

REMARKS.--Records fair. Occasional small diversion above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.94	2.0	2.6	21	6.1	7.5	14	14	3.8	1.3	2.0	.20
2	3.2	2.3	2.2	14	8.1	7.8	31	13	3.5	6.5	1.4	.17
3	5.5	2.5	2.4	12	21	9.2	23	13	3.0	4.1	1.0	.17
4	1.9	2.3	2.3	9.2	10	12	14	16	2.9	1.8	3.9	.28
5	1.3	2.2	2.0	8.5	9.0	15	12	20	3.0	3.4	1.5	.20
6	1.1	2.0	2.3	8.9	8.9	9.5	11	15	7.0	2.1	1.3	.10
7	1.3	2.0	3.6	9.5	8.1	8.6	12	12	4.8	.86	1.1	.05
8	6.7	2.7	18	8.0	7.6	8.4	9.9	12	3.2	.78	.92	0
9	6.2	4.1	6.4	6.5	8.8	7.8	10	10	3.9	1.6	.84	0
10	3.0	3.7	25	6.0	29	7.5	9.8	9.5	2.8	3.0	.87	.80
11	2.2	2.8	43	6.0	18	7.4	8.5	9.0	2.7	2.4	1.0	11
12	2.0	3.4	11	6.5	12	8.3	8.3	8.5	2.1	1.2	.68	1.8
13	1.8	8.1	7.8	7.0	10	10	8.4	8.0	2.8	.52	.44	1.0
14	2.2	4.6	7.5	6.5	9.2	8.1	102	7.5	1.6	.35	.36	.76
15	1.6	3.4	6.7	6.0	12	7.2	40	7.0	1.8	.64	.28	.68
16	1.4	2.7	5.2	6.5	17	7.0	21	8.0	3.9	.63	.26	.52
17	1.6	2.3	4.6	8.1	18	7.2	17	11	6.0	.31	.20	.36
18	1.3	2.5	3.8	33	17	12	15	15	4.0	.17	.19	.60
19	1.4	3.4	4.6	14	13	12	14	10	2.7	.15	1.4	3.0
20	1.6	15	3.9	12	10	12	24	6.4	1.6	2.3	14	.65
21	1.5	5.5	3.7	9.0	9.0	13	20	5.7	2.7	11	20	.41
22	1.4	3.7	28	7.0	9.4	13	14	4.9	30	3.4	3.0	.26
23	1.3	3.4	15	6.5	8.9	14	19	4.8	5.1	19	2.0	.17
24	1.4	3.2	8.1	6.5	8.3	8.9	30	6.1	3.0	20	1.9	.13
25	1.4	2.8	6.2	7.5	8.4	8.1	19	20	2.4	7.0	1.3	.10
26	1.5	2.8	39	12	7.5	12	18	9.0	2.3	8.1	1.1	.08
27	1.8	2.7	16	8.1	8.1	18	20	8.6	2.5	3.2	.92	.10
28	1.5	2.7	9.5	6.5	7.8	10	17	5.6	1.8	2.5	.76	.48
29	1.5	2.7	8.4	7.9	------	28	16	5.0	1.3	2.7	.60	.24
30	1.6	2.5	53	10	------	17	15	4.3	1.1	3.4	.44	.16
31	1.8	------	57	6.5	------	22	------	4.2	------	3.0	.36	------
TOTAL	64.84	106.0	408.8	296.7	320.2	348.5	592.9	303.1	119.3	117.41	66.02	24.47
MEAN	2.09	3.53	13.2	9.57	11.4	11.2	19.8	9.78	3.98	3.79	2.13	.82
MAX	6.7	15	57	33	29	28	102	20	30	20	20	11
MIN	.84	2.0	2.0	6.0	6.1	7.0	8.3	4.2	1.1	.15	.19	0
CFSM	.20	.33	1.23	.89	1.07	1.05	1.85	.91	.37	.35	.20	.08
IN.	.23	.37	1.42	1.03	1.11	1.21	2.06	1.05	.41	.41	.23	.09

CAL YR 1969 TOTAL 2,396.22 MEAN 6.57 MAX 98 MIN 0 CFSM .61 IN 8.33
WTR YR 1970 TOTAL 2,768.24 MEAN 7.58 MAX 102 MIN 0 CFSM .71 IN 9.62

PEAK DISCHARGE (BASE, 160 CFS).--April 14 (1730) 235 cfs (4.50 ft).

01661050 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, 207 cfs Dec. 30 and Apr. 14 (gage height, 3.37 ft); minimum, 0.07 cfs Sept. 7, 8 (gage height, 0.69 ft).

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	4.4	5.4	43	12	11	37	20	5.7	2.1	3.4	.22
2	3.6	5.1	5.0	26	16	11	81	19	5.5	6.8	2.2	.17
3	7.5	5.6	5.1	21	38	15	52	19	5.0	5.8	1.7	.22
4	3.4	5.1	5.1	17	25	21	31	32	4.7	4.2	5.3	.32
5	2.6	4.6	4.8	14	15	30	26	33	5.1	4.2	3.4	.26
6	2.4	4.2	4.6	16	14	18	25	21	7.2	3.8	2.5	.11
7	2.4	4.1	7.4	17	13	15	26	18	7.0	2.5	2.2	.10
8	7.0	5.0	34	14	12	14	23	18	5.1	2.0	1.8	.11
9	15	7.4	13	11	17	13	22	16	4.4	1.2	1.5	.11
10	5.8	6.7	39	10	55	13	21	14	4.2	5.4	1.7	4.0
11	4.6	5.4	79	10	34	12	19	13	4.1	6.4	1.5	24
12	3.4	6.2	23	11	21	13	18	13	3.6	3.6	1.3	5.2
13	3.0	12	12	13	16	15	17	12	4.3	2.4	1.0	1.8
14	3.2	7.0	14	12	15	12	124	11	3.4	1.5	.84	1.4
15	3.0	5.7	13	11	20	11	98	10	3.3	2.5	.73	1.1
16	2.8	4.8	9.1	11	32	11	39	11	4.8	1.6	.65	.89
17	3.0	4.6	8.1	13	36	10	29	22	7.9	.94	.61	.80
18	2.8	4.7	7.5	64	35	21	25	22	6.7	.76	.57	.83
19	2.6	6.1	8.2	35	24	24	23	12	5.0	.62	1.5	3.6
20	2.8	21	7.3	17	18	23	36	9.3	3.5	3.3	6.7	1.6
21	3.0	8.9	6.6	14	14	27	31	7.9	6.2	15	6.3	1.2
22	3.0	6.3	38	12	15	28	23	7.8	20	7.0	2.1	1.0
23	2.8	6.2	26	11	14	29	34	7.5	6.6	37	1.5	.81
24	2.8	6.1	13	10	13	19	42	7.4	4.2	47	1.6	.68
25	3.6	5.7	9.9	14	13	16	30	17	3.6	9.3	1.1	.60
26	4.6	5.6	77	20	13	23	29	11	3.6	7.8	.93	.52
27	5.0	5.5	43	16	13	56	33	9.6	4.1	4.5	.77	.44
28	4.4	5.4	20	12	12	27	26	7.0	2.9	3.8	.62	.75
29	3.8	5.4	17	16	------	74	24	6.6	2.4	3.0	.53	.76
30	3.8	5.4	108	23	------	53	22	6.2	2.2	3.6	.43	.65
31	4.0	------	130	13	------	51	------	6.1	------	4.0	.33	------
TOTAL	124.3	190.2	793.1	547	575	716	1,066	439.4	156.3	207.62	61.71	54.25
MEAN	4.01	6.34	25.6	17.6	20.5	23.1	35.5	14.2	5.21	6.70	1.99	1.81
MAX	15	21	130	64	55	74	124	33	20	47	9.3	24
MIN	2.4	4.1	4.6	10	12	10	17	6.1	2.2	.62	.33	.10
CFSM	.22	.34	1.38	.95	1.11	1.25	1.92	.77	.28	.36	.11	.098
IN.	.25	.38	1.59	1.10	1.16	1.44	2.14	.88	.31	.42	.12	.11

CAL YR 1969 TOTAL 4,998.46 MEAN 13.7 MAX 347 MIN .32 CFSM .74 IN 10.05
WAT YR 1970 TOTAL 4,930.88 MEAN 13.5 MAX 130 MIN .10 CFSM .73 IN 9.92

PEAK DISCHARGE (BASE, 150 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-11	0030	2.76	154	4-14	2000	3.37	207
12-30	2130	3.37	207				

01661500 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 bridge on State Highway 471 in Great Mills, 0.3 mile downstream 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.--24 years, 22.8 cfs (12.90 inches per year).

EXTREMES.--Current year: Maximum discharge, 457 cfs Dec. 26 (gage height, 5.26 ft); minimum, 1.2 cfs Sept. 6, 7, 8, 9 (gage height, 1.25 ft).
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	6.1	6.9	84	16	14	67	19	5.7	2.5	5.4	1.7
2	5.0	8.3	6.6	44	17	14	107	17	5.7	7.6	4.0	1.5
3	7.4	9.4	6.5	30	39	17	110	16	5.4	8.0	3.3	1.5
4	4.3	7.6	6.5	23	34	22	58	26	5.0	7.3	4.3	1.7
5	3.4	6.8	6.1	18	20	34	36	35	5.7	13	4.3	1.5
6	3.3	6.3	6.1	18	20	23	30	22	27	6.5	3.8	1.4
7	3.3	6.1	7.9	17	18	19	32	17	28	4.3	3.3	1.4
8	5.7	6.5	38	15	16	17	26	16	11	3.5	3.3	1.4
9	8.6	7.6	16	13	22	16	24	14	7.6	3.0	3.0	1.4
10	4.6	8.1	58	12	169	15	22	13	6.5	42	3.8	4.0
11	3.9	7.3	106	12	87	14	19	12	5.7	20	3.0	26
12	3.8	7.5	29	13	47	15	18	11	5.0	8.9	2.5	9.5
13	3.8	11	17	14	30	17	18	10	4.6	5.7	2.3	4.6
14	3.9	8.8	17	13	23	15	67	8.9	4.0	4.3	2.3	3.2
15	3.8	7.4	17	12	25	14	77	8.4	4.0	3.8	2.3	2.8
16	3.6	6.7	13	12	34	13	46	8.9	5.0	3.8	2.3	2.5
17	3.8	6.5	12	15	48	13	31	16	8.0	3.0	3.8	2.5
18	3.6	6.5	11	88	63	23	26	19	7.3	2.8	3.3	3.5
19	3.5	7.2	11	60	53	29	22	12	6.1	2.5	2.3	6.9
20	3.7	20	10	26	34	29	28	9.5	4.6	2.8	8.0	4.3
21	3.8	12	8.9	19	25	44	26	8.0	5.4	7.6	4.6	3.5
22	3.8	8.4	40	14	22	36	21	7.6	5.5	10	3.5	3.0
23	3.6	7.7	34	12	20	39	29	7.6	4.0	26	6.9	2.8
24	3.6	7.6	20	11	18	27	37	7.6	3.5	36	13	2.5
25	4.6	7.2	16	14	17	21	27	11	4.3	11	4.6	2.2
26	5.7	7.4	304	21	16	25	26	11	4.3	6.9	3.3	2.2
27	6.5	7.3	108	17	16	60	39	11	4.2	5.7	2.5	2.0
28	6.1	7.2	48	15	15	32	29	7.6	3.5	4.6	2.3	2.5
29	5.6	7.0	30	18	------	167	24	6.9	3.3	4.0	2.1	2.8
30	5.5	6.9	119	28	------	119	21	6.5	2.8	16	2.1	2.5
31	5.8	------	206	19	------	95	------	6.1	------	8.0	1.9	------
TOTAL	141.6	240.4	1,335.5	727	964	1,038	1,143	401.6	202.7	291.1	117.4	109.3
MEAN	4.57	8.01	43.1	23.5	34.4	33.5	38.1	13.0	6.76	9.39	3.79	3.64
MAX	8.6	20	304	88	169	167	110	35	28	42	13	26
MIN	3.3	6.1	6.1	11	15	13	18	6.1	2.8	2.5	1.9	1.4
CFSM	.19	.33	1.80	.98	1.43	1.40	1.59	.54	.28	.39	.16	.15
IN.	.22	.37	2.07	1.13	1.49	1.61	1.77	.62	.31	.45	.18	.17

CAL YR 1969 TOTAL 10,287.8 MEAN 28.2 MAX 2,180 MIN 1.4 CFSM 1.18 IN 15.95
WTR YR 1970 TOTAL 6,711.6 MEAN 18.4 MAX 304 MIN 1.4 CFSM .77 IN 10.40

PEAK DISCHARGE (BASE, 400 CFS).--December 26 (1330) 457 cfs (5.26 ft).

03075500 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.--29 years, 282 cfs (28.58 inches per year).

EXTREMES.--Current year: Maximum discharge, 4,040 cfs Apr. 2 (gage height, 7.30 ft); minimum, 26 cfs July 8 (gage height, 2.02 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	43	144	1,220	780	220	838	258	66	56	204	79
2	64	71	125	734	820	237	3,100	216	59	64	189	53
3	116	103	118	544	1,100	798	2,480	189	61	104	127	46
4	84	103	104	425	740	1,020	1,260	164	208	62	345	46
5	59	90	102	380	620	1,570	896	147	425	47	204	63
6	48	90	93	304	500	1,180	727	136	586	39	136	61
7	46	93	91	220	420	831	779	118	385	33	105	41
8	95	107	131	150	380	662	682	102	250	30	99	34
9	77	361	157	125	360	568	656	94	350	332	84	30
10	58	282	250	120	340	457	630	84	258	423	70	50
11	51	225	1,100	150	258	360	502	76	171	196	59	254
12	48	196	700	186	245	345	415	72	130	149	50	102
13	44	194	450	164	237	370	355	81	111	106	42	66
14	41	171	390	147	180	294	390	130	108	84	42	51
15	38	166	370	136	190	254	430	92	124	73	42	42
16	38	146	350	130	270	220	370	92	174	208	34	37
17	37	142	300	120	260	204	330	345	121	146	32	32
18	34	190	270	170	250	233	290	224	272	91	41	59
19	31	275	272	210	400	250	268	160	556	71	34	220
20	31	332	230	170	410	838	390	133	304	60	42	86
21	270	260	210	157	340	1,400	340	118	260	64	36	59
22	160	223	212	150	330	876	276	97	200	51	37	51
23	97	218	186	140	370	636	1,140	84	151	50	935	44
24	74	415	175	157	400	490	2,350	114	117	54	818	39
25	66	336	140	174	474	415	1,850	229	94	45	322	34
26	61	291	130	1,250	365	662	1,030	212	82	44	204	34
27	59	238	140	700	335	1,080	714	143	104	57	140	326
28	60	204	130	500	263	824	520	114	84	98	121	276
29	52	177	151	3,000	------	838	400	97	63	86	84	147
30	47	155	408	2,100	------	662	317	81	53	96	70	108
31	44	------	1,700	1,000	------	649	------	72	------	361	79	------
TOTAL	2,067	5,897	9,329	15,133	11,637	19,443	24,725	4,274	5,927	3,380	4,827	2,570
MEAN	66.7	197	301	488	416	627	824	138	198	109	156	85.7
MAX	270	415	1,700	3,000	1,100	1,570	3,100	345	586	423	935	326
MIN	31	43	91	120	180	204	268	72	53	30	32	30
CFSM	.50	1.47	2.25	3.64	3.10	4.68	6.15	1.03	1.48	.81	1.16	.64
IN.	.57	1.64	2.59	4.20	3.23	5.40	6.86	1.19	1.65	.94	1.34	.71

CAL YR 1969 TOTAL 72,209 MEAN 198 MAX 1,700 MIN 12 CFSM 1.48 IN 20.05
WTR YR 1970 TOTAL 109,209 MEAN 299 MAX 3,100 MIN 30 CFSM 2.23 IN 30.32

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-31	1545	5.69	2,210	4- 2	1845	7.30	4,040
†	*	*	‡	4-24	2000	6.07	2,590

NOTE:
† Jan. 29 or 30.
* Unknown
‡ Unknown (discharge greater than base).
No gage height record Jan. 27 to Feb 10.

Reservoirs in Monongahela River Basin

03076000 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 (unadjusted). Maximum contents during year, 87,800 acre-ft Apr. 27 (elevation, 2,460.60 ft); minimum, 63,400 acre-ft Dec. 27 (elevation, 2,453.70 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 1969 TO SEPTEMBER 1970

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2,456.30	72,200	-
Oct. 31	2,455.00	67,700	-4,500
Nov. 30	2,454.20	65,000	-2,700
Dec. 31	2,453.90	64,000	-1,000
CAL YR 1969	-	-	-2,000
Jan. 31	2,455.50	69,400	+5,400
Feb. 28	2,457.40	76,100	+6,700
Mar. 31	2,459.70	84,400	+8,300
Apr. 30	2,460.50	87,400	+3,000
May 31	2,459.40	83,300	-4,100
June 30	2,460.20.	86,300	+3,000
July 31	2,458.80	81,100	-5,200
Aug. 31	2,456.90	74,300	-6,800
Sept. 30	2,455.10	68,100	-6,200
WTR YR 1970	-	-	-4,100

03076500 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.--36 years (1898-1904, 1940-1970), 624 cfs (28.73 inches per year), adjusted for storage since 1940.

EXTREMES.--Current year: Maximum discharge, 7,220 cfs Apr. 2 (gage height, 6.71 ft); minimum, 40 cfs Oct. 1 (gage height, 2.00 ft); minimum daily, 52 cfs Oct. 19.
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 1970 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	147	132	382	2,180	1,500	423	1,610	848	255	280	392	307
2	196	90	367	1,420	1,560	507	5,900	610	249	279	324	260
3	244	219	376	938	3,160	1,230	5,220	521	240	176	386	216
4	138	264	344	713	2,100	1,900	3,180	568	298	174	618	185
5	99	262	370	818	1,380	3,220	2,430	514	928	122	564	88
6	74	224	212	608	1,030	2,610	2,020	466	886	242	425	101
7	64	247	190	612	749	1,650	2,060	425	730	234	368	88
8	88	198	332	450	645	1,290	1,900	368	595	225	172	145
9	128	387	407	540	668	1,260	1,900	288	902	462	164	152
10	94	495	530	505	619	994	1,840	276	986	904	306	227
11	114	414	2,090	417	559	802	1,220	391	679	356	294	353
12	71	379	1,760	540	488	853	998	369	479	260	267	219
13	128	389	970	540	487	879	936	427	321	358	255	128
14	164	386	861	623	390	609	1,040	484	277	314	236	178
15	157	265	1,070	607	360	500	1,150	427	402	296	130	217
16	157	220	828	576	1,040	584	1,000	273	580	438	87	200
17	153	285	698	404	829	547	901	638	478	445	234	220
18	96	346	653	426	840	697	728	712	707	185	255	206
19	52	476	634	979	1,200	614	658	581	1,230	142	268	241
20	104	598	400	887	1,120	1,150	1,050	456	627	272	277	192
21	254	502	340	676	716	2,310	1,060	419	480	289	260	190
22	384	338	605	644	666	1,480	817	464	641	283	87	281
23	270	325	553	711	924	1,260	1,590	293	526	274	856	370
24	212	711	540	421	877	1,030	4,020	228	429	289	1,520	355
25	162	682	320	336	924	897	3,580	532	399	120	656	235
26	97	586	417	2,170	777	1,130	2,140	473	357	83	480	72
27	153	385	298	2,270	709	2,110	1,550	416	209	269	394	247
28	199	454	210	1,190	497	1,670	1,240	356	207	354	371	563
29	202	314	427	3,440	------	1,690	1,080	214	314	345	167	353
30	193	266	701	5,500	------	1,490	940	184	291	317	125	279
31	178	------	2,580	2,490	------	1,370	------	164	------	582	283	------
TOTAL	4,772	10,839	20,465	34,631	26,814	38,756	55,758	13,385	15,702	9,369	11,221	6,868
MEAN	154	361	660	1,117	958	1,250	1,859	432	523	302	362	229
MAX	384	711	2,580	5,500	3,160	3,220	5,900	848	1,230	904	1,520	563
MIN	52	90	190	336	360	423	658	164	207	83	87	72
†	-73.1	-45.4	-16.3	+87.7	+120	+135	+50.4	-66.6	+50.4	-84.7	-110	-104
MEAN ‡	80.9	316	644	1,205	1,078	1,385	1,909	365	573	217	252	125
CFSM ‡	.27	1.07	2.18	4.08	3.65	4.69	6.47	1.24	1.94	.74	.85	.42
IN. ‡	.31	1.20	2.51	4.71	3.80	5.41	7.22	1.43	2.17	.85	.98	.47

CAL YR 1969 TOTAL 149,844 MEAN 411 MAX 2,580 MIN 30 MEAN‡ 408 CFSM‡ 1.38 IN‡ 18.77
WTR YR 1970 TOTAL 248,580 MEAN 681 MAX 5,900 MIN 52 MEAN‡ 675 CFSM‡ 2.29 IN‡ 31.06

† Change in contents, equivalent in cubic feet per second, in Deep Creek Reservoir, furnished by Pennsylvania Electric Co.
‡ Adjusted for change in contents.

03076600 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.--6 years, 67.4 cfs (18.72 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,590 cfs Apr. 2 (gage height, 5.73 ft); minimum, 4.9 cfs Oct. 20 (gage height, 0.70 ft).
Period of record: Maximum discharge, 1,980 cfs Mar. 7, 1967 (gage height, 6.61 ft); minimum, 1.5 cfs Sept. 12, 1966 (gage height, 0.42 ft).

REMARKS.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	5.3	18	174	231	66	271	104	29	18	102	19
2	12	8.4	17	130	281	76	1,340	89	26	20	71	16
3	15	12	18	110	445	166	600	80	25	33	54	14
4	10	10	16	100	284	225	374	71	43	28	54	15
5	8.7	8.6	16	90	208	413	271	64	73	19	38	14
6	7.4	8.9	15	78	163	341	239	60	130	17	32	13
7	7.2	8.7	15	70	134	245	236	53	87	15	27	12
8	9.1	18	16	62	119	208	226	48	68	14	38	11
9	8.1	50	20	58	110	179	242	46	98	120	47	11
10	6.9	26	67	54	100	150	242	41	73	115	36	27
11	6.4	19	238	60	86	128	205	37	59	76	29	26
12	6.4	16	155	68	78	128	176	36	50	59	24	14
13	6.5	17	105	60	72	127	158	70	43	46	20	12
14	6.0	16	96	54	68	113	155	90	39	38	24	11
15	5.6	16	88	49	80	99	160	68	48	34	23	10
16	5.7	14	78	45	85	86	149	92	44	59	18	10
17	5.8	15	69	50	76	72	140	196	37	36	17	10
18	5.6	18	67	60	84	82	130	187	67	28	16	62
19	5.6	31	62	76	120	82	130	155	71	23	15	52
20	5.2	44	49	60	130	140	167	127	50	21	15	30
21	9.4	34	48	56	100	218	171	103	54	22	14	22
22	8.4	31	50	50	100	195	155	86	49	19	12	19
23	6.6	28	43	50	135	164	265	74	39	19	144	16
24	6.0	38	40	50	132	140	527	71	33	18	66	16
25	5.8	33	36	47	140	140	435	74	29	17	41	14
26	5.8	32	35	309	92	256	296	57	27	15	32	14
27	5.9	27	34	222	94	336	223	49	29	19	25	68
28	6.4	24	34	166	78	262	180	43	24	42	21	44
29	5.9	21	35	841		259	151	38	20	26	18	31
30	5.5	19	93	647	------	210	122	34	18	36	17	27
31	5.3	------	230	338	------	195	------	31	------	53	35	------
TOTAL	220.2	648.9	1,903	4,284	3,825	5,501	8,136	2,374	1,482	1,105	1,125	660
MEAN	7.10	21.6	61.4	138	137	177	271	76.6	49.4	35.6	36.3	22.0
MAX	15	50	238	841	445	413	1,340	196	130	120	144	68
MIN	5.2	5.3	15	45	68	66	122	31	18	14	12	10
CFSM	.15	.44	1.26	2.82	2.80	3.62	5.54	1.57	1.01	.73	.74	.45
IN.	.17	.49	1.45	3.26	2.91	4.18	6.19	1.81	1.13	.84	.86	.50

CAL YR 1969 TOTAL 17,658.9 MEAN 48.4 MAX 345 MIN 5.2 CFSM .99 IN 13.43
WTR YR 1970 TOTAL 31,264.1 MEAN 85.7 MAX 1,340 MIN 5.2 CFSM 1.75 IN 23.78

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-29	1800	5.65	1,540	4-24	1500	3.92	608
4- 2	1745	5.73	1,590				

03078000 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.--23 years, 112 cfs (24.34 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,910 cfs Apr. 2 (gage height 5.77 ft); maximum gage height, 6.43 ft Jan. 26 (ice jam); minimum discharge, not determined (occurred during period of ice effect); minimum daily, 6.7 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 1970 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1143: 1948.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	8.6	46	209	281	78	400	126	36	26	97	43
2	18	21	43	157	420	92	2,250	110	33	26	57	25
3	39	41	40	133	500	380	895	101	31	35	43	19
4	26	35	38	120	357	395	637	90	49	49	43	17
5	16	30	36	110	272	748	480	83	194	28	35	15
6	12	29	35	90	201	469	436	85	902	21	30	13
7	12	28	35	82	163	362	458	74	302	17	33	11
8	18	32	46	75	140	326	410	68	153	14	32	11
9	14	88	49	70	129	294	607	63	259	250	26	9.8
10	12	62	103	64	118	225	579	57	153	263	27	22
11	11	44	431	72	106	205	431	53	101	90	21	39
12	9.8	38	205	80	99	225	353	51	78	62	17	19
13	9.2	43	129	72	92	205	318	88	69	47	14	13
14	8.6	41	120	64	90	159	366	134	62	39	13	11
15	8.6	41	110	58	96	132	447	82	77	36	25	11
16	8.6	36	97	54	108	113	330	173	85	63	14	9.8
17	8.6	35	88	58	97	90	259	357	69	44	13	8.6
18	8.1	37	86	72	98	100	213	217	118	32	14	66
19	7.6	54	78	90	150	106	221	137	108	27	11	82
20	7.6	106	68	72	156	191	366	108	69	25	11	36
21	17	72	60	66	124	233	259	90	69	27	11	26
22	15	49	62	60	124	173	198	78	62	22	9.8	20
23	13	59	54	60	176	147	492	71	51	28	173	17
24	11	75	50	60	156	126	860	74	43	29	63	14
25	9.8	75	45	56	169	143	573	101	31	22	33	12
26	9.2	66	44	600	110	390	362	75	35	18	24	14
27	9.8	57	42	250	113	415	281	63	53	66	17	77
28	9.8	56	42	700	92	366	225	56	39	75	14	57
29	9.8	52	43	1,460	------	380	183	49	31	46	13	36
30	8.6	49	120	831	------	281	153	43	27	63	11	29
31	8.6	------	442	355	------	290	------	39	------	92	95	------
TOTAL	383.0	1,459.6	2,887	6,300	4,737	7,839	14,042	2,996	3,389	1,682	1,039.8	783.2
MEAN	12.4	48.7	93.1	203	169	253	468	96.6	113	54.3	33.5	26.1
MAX	39	106	442	1,460	500	748	2,250	357	902	263	173	82
MIN	6.7	8.6	35	54	90	78	153	39	27	14	9.8	8.6
CFSM	.20	.78	1.49	3.25	2.71	4.05	7.49	1.55	1.81	.87	.54	.42
IN.	.23	.87	1.72	3.75	2.82	4.66	8.36	1.78	2.02	1.00	.62	.47

CAL YR 1969 TOTAL 27,809.4 MEAN 76.2 MAX 625 MIN 6.6 CFSM 1.22 IN 16.55
WTR YR 1970 TOTAL 47,537.6 MEAN 130 MAX 2,250 MIN 6.7 CFSM 2.08 IN 28.29

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
1-29	0900	5.28	2,420	6- 6	0815	4.29	1,530
4- 2	1315	5.77	2,910				

03078500 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 September 1970 (discontinued).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 2,240 ft (from topographic map).

AVERAGE DISCHARGE.--38 years, 37.1 cfs (20.56 inches per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 2,100 cfs Jan. 29 (gage height, 5.53 ft); minimum, 1.3 cfs Sept. 17, 18 (gage height, 1.17 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	3.0	19	81	99	32	108	37	5.9	7.1	7.8	5.0
2	9.0	35	17	70	127	39	1,140	31	5.7	7.4	5.4	3.5
3	14	31	16	55	194	90	438	28	5.2	8.6	4.3	2.9
4	7.4	26	14	41	132	127	238	25	34	16	3.9	2.6
5	5.2	22	14	38	95	238	168	22	65	8.2	3.3	2.3
6	4.1	19	12	35	75	179	141	21	293	7.1	3.2	2.1
7	4.3	16	12	36	57	134	117	19	127	5.4	6.5	1.8
8	7.4	22	14	33	45	112	100	16	73	4.7	7.8	1.8
9	5.7	44	15	30	41	97	173	15	57	25	4.1	1.6
10	4.5	36	25	28	37	76	207	13	38	31	3.5	2.6
11	4.1	31	161	31	31	62	146	12	28	17	3.0	5.2
12	3.7	28	97	34	31	61	110	12	24	13	2.6	3.0
13	3.5	26	70	30	26	54	97	14	19	11	2.3	2.2
14	4.1	24	66	26	27	47	134	17	16	7.8	2.2	1.8
15	3.9	22	54	19	26	40	188	13	19	7.8	3.9	1.7
16	3.7	19	43	17	23	34	153	35	29	27	3.0	1.6
17	3.5	17	42	19	20	29	115	83	19	14	2.7	1.3
18	3.3	18	66	28	25	31	90	50	19	9.9	2.4	8.2
19	3.2	34	31	24	47	30	83	39	26	7.4	2.2	8.6
20	3.0	47	26	24	38	42	132	31	16	6.2	1.9	4.7
21	6.2	42	25	22	36	55	108	26	18	6.8	1.8	3.5
22	5.9	54	28	19	42	52	86	21	18	5.4	1.6	2.9
23	4.7	35	24	23	54	48	146	17	13	5.9	19	2.4
24	3.9	36	24	24	53	43	228	17	10	7.4	12	2.2
25	3.7	28	21	26	58	43	197	20	8.2	5.2	6.2	1.9
26	3.3	27	21	179	45	112	132	16	12	3.9	4.3	2.2
27	3.2	26	20	134	46	153	93	12	27	5.2	3.3	9.5
28	3.5	23	20	84	37	161	70	11	14	7.4	2.9	11
29	3.2	21	21	513	------	168	55	9.0	10	5.0	2.6	5.9
30	3.0	19	31	281	------	119	44	7.4	8.6	5.2	2.3	4.5
31	3.0	------	84	139	------	104	------	6.5	------	13	7.4	------
TOTAL	143.6	831.0	1,133	2,143	1,567	2,612	5,237	695.9	1,057.6	312.0	139.4	110.5
MEAN	4.63	27.7	36.5	69.1	56.0	84.3	175	22.4	35.3	10.1	4.50	3.68
MAX	14	54	161	513	194	238	1,140	83	293	31	19	11
MIN	2.4	3.0	12	17	20	29	44	6.5	5.2	3.9	1.6	1.3

CAL YR 1969 TOTAL 8,177.25 MEAN 22.4 MAX 201 MIN .79 CFSM .91 IN 12.41
WTR YR 1970 TOTAL 15,982.0 MEAN 43.8 MAX 1,140 MIN 1.3 CFSM 1.79 IN 24.27

PEAK DISCHARGE (BASE, 450 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-11	0100	3.56	501	4-2	1615	5.16	1,760
1-29	1430	5.53	2,100	6-6	0145	3.69	588

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 1970, in North Atlantic Slope basins

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Delaware River basin				
01477400	South Branch Naaman Creek near Claymont, Del.	Lat 39°49'00", long 75°29'40", New Castle County, at dam 800 ft above bridge on Marsh Road, 2.2 miles west of Claymont.	3.83	1955-66 1968-70	9-21-70	.28
01479500	Mill Creek at Stanton, Del.	Lat 39°42'50", long 75°40'00", New Castle County, at highway bridge, 1.2 miles west of Stanton.	12.4	1931-34‡ 1955-66 1968-70	9-22-70	1.51
01482300	Red Lion Creek at Red Lion, Del.	Lat 39°36'20", long 75°39'55", New Castle County, at bridge on State Highway 7, 0.2 mile south of Red Lion.	3.20	1955-60 1962-70	6- 2-70 9- 3-70	.67 .26
01483150	Wiggins Millpond Outlet at Townsend, Del.	Lat 39°24'12", long 75°42'16", New Castle County, at bridge on State Highway 446, 0.8 mile northwest of Townsend.	3.82	1957-60 1962-66 1968-70	6- 2-70	2.79
		St. Jones River basin				
01483650	Fork Branch at Dupont, Del.	Lat 39°11'56", long 75°34'40", Kent County, at highway bridge, 0.8 mile northwest of Dupont.	7.50	1955-57 1959-60 1962-66 1968-70	9-22-70	0
01483680	Maidstone Branch at Dupont, Del.	Lat 39°11'18", long 75°34'04", Kent County, at highway bridge, 0.4 mile southwest of Dupont.	17.3	1955-57 1959-60 1962-66 1968-70	9-22-70	.59
		Murderkill River basin				
01484020	Browns Branch near Houston, Del.	Lat 38°57'31", long 75°30'33", Kent County, at highway bridge, 2.9 miles north of Houston.	12.4	1955-70	9-11-70	7.04
*01484050	Pratt Branch near Felton, Del.	Lat 39°00'37", long 75°31'46", Kent County, at highway bridge, 2.6 miles east of Felton.	3.29	1955-57 1959-60 1962-70	9- 9-70	1.89
01484060	Double Run near Magnolia, Del.	Lat 39°03'16", long 75°29'43", Kent County, at highway bridge, 1.5 miles southwest of Magnolia.	5.68	1955-57 1959-60 1962-64 1966-70	9- 9-70	2.50

Discharge measurements made at low-flow partial-record stations during water year 1970, in North Atlantic Slope basins--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements Date	Measurements Discharge (cfs)
		Broadkill River basin				
01484240	Pemberton Branch near Milton, Del.	Lat 38°46'26", long 75°20'29", Sussex County, at highway bridge, 1.5 miles west of Milton.	6.68	1955-66 1968-70	9-15-70	4.36
*01484270	Beaverdam Creek near Milton, Del.	Lat 38°45'41", long 75°16'03", Sussex County, at highway bridge, 2.5 miles east of Milton.	6.10	1955-70	8-18-70 9- 2-70 9-15-70	9.47 9.05 7.75
		Indian River basin				
*01484550	Pepper Creek at Dagsboro, Del.	Lat 38°32'50", long 75°14'40", Sussex County, at bridge on State Highway 26, at Dagsboro.	8.78	1955-70	9-18-70	1.48
		Nanticoke River basin				
01487700	Elliott Pond Branch near Laurel, Del. b/	Lat 38°34'39", long 75°31'42", Sussex County, at highway bridge, 2.9 miles northeast of Laurel.	8.55	1955-66 1968-70	9-25-70	2.83
		Choptank River basin				
01491180	Watts Creek near Denton, Md.	Lat 38°52'29", long 75°47'38", Caroline County, at bridge on State Highway 474, 1.6 miles southeast of Denton.	a11	1964-70	9- 1-70 9-23-70	1.10 .87
		Chester River basin				
01492980	Cypress Branch at Millington, Md.	Lat 39°15'28", long 75°50'01", Kent County, at bridge on State Highway 291, 0.04 mile east of Millington.	a38	1964-66 1968-70	9- 4-70 9-24-70	3.70 2.81
01494100	Old Mill Stream Branch at Centreville, Md.	Lat 39°02'23", long 76°04'22", Queen Annes County, at bridge on U.S. Highway 213, at Centreville.	11.2	c1953-54 1964-70	9-23-70	3.08
		Elk River basin				
01495550	Perch Creek near Elkton, Md.	Lat 39°34'16", long 75°48'53", Cecil County, at bridge on U.S. Highway 213, 2.5 miles south of Elkton.	a6.0	1964-70	6- 1-70	1.78
		Northeast River basin				
01496050	Little Northeast Creek at Mechanic Valley, Md.	Lat 39°38'26", long 75°55'49", Cecil County, at highway bridge, 0.8 mile northwest of Mechanic Valley.	a14	1964-70	6- 1-70	7.37
		Potomac River basin				
01601300	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	1964-70	9-17-70	.68
01604150	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	1964-70	9-17-70	.08
01619150	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	1965-70	9-17-70	9.74

Discharge measurements made at low-flow partial-record stations during water year 1970, in North Atlantic Slope basins--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements Date	Measurements Discharge (cfs)
		Potomac River basin--Continued				
01619480	Little Antietam Creek at Keedysville, Md.	Lat 39°29'10", long 77°42'05" at bridge on Koffman Lane, at Keedysville, Washington County.	a24	d1956 1964-70	9-17-70	7.64

Discharge measurements made at low-flow partial-record stations during water year 1970, in Ohio River basin

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements Date	Measurements Discharge (cfs)
		Monongahela River basin				
03075400	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	1964-70	9-17-70	2.90
03076580	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	1964-70	9-17-70	.79

* Also a crest-stage partial-record station
‡ Operated as a continuous-record gaging station.
a Approximately.
b From 1958 to 1965 published as "Chipman Pond Branch."
c Miscellaneous measurements during this period.
d Miscellaneous flood measurement during this period.

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 1970, 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					
01478950	Pike Creek near Newark, Del.	Lat 39°42'11", long 75°41'41", New Castle County, on right upstream wingwall of bridge on State Highway 2, 2.6 miles northeast of Newark, and 0.4 mile upstream from mouth.	6.04	1969-70	4- 2-70	5.12	427
01479200	Mill Creek at Hockessin, Del.	Lat 39°46'31", long 75°41'26", New Castle County, 20 ft above bridge on Brackenville Road, and 0.9 mile southeast of Hockessin.	b4.19	1966-70	4- 2-70	6.98	579
01479950	Red Clay Creek tributary near Yorklyn, Del.	Lat 39°47'50", long 75°39'33", New Castle County, 8 ft above culvert, and 1.1 miles southeast of Yorklyn.	0.38	1966-70	7-31-70	5.58	69
01481200	Brandywine Creek tributary near Centerville, Del.	Lat 39°50'08", long 75°35'57", New Castle County, 30 ft above bridge on State Highway 100, and 1.4 miles northeast of Centerville.	0.97	1966-70	8- 1-70	5.69	154
01481450	Willow Run at Rockland, Del.	Lat 39°47'32", long 75°33'16", New Castle County, 15 ft above culvert on Country Club Drive, and 1.0 mile east of Rockland.	0.37	1966-70	8- 1-70	10.55	375
01482310	Doll Run at Red Lion, Del.	Lat 39°35'53", long 75°39'43", New Castle County, 10 ft above culvert on secondary road, 0.7 mile south of Red Lion.	a1.2	1966-70	6-22-70	4.46	117
		Smyrna River basin					
01483290	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, and 2.4 miles northwest of Clayton.	a1.3	1966-70	12-26-69	5.56	99
01483400	Sawmill Branch tributary near Blackbird, Del.	Lat 39°20'57", long 75°38'31", New Castle County, 10 ft above culvert on U.S. Highway 13, and 1.8 miles southeast of Blackbird.	a0.6	1966-70	6-14-70	3.43	7.3
		Leipsic River basin					
01483500	Leipsic River near Cheswold, Del.	Lat 39°13'58", long 75°37'57", Kent County, 75 ft below highway bridge, 1.9 miles east of Kenton, and 2.6 miles northwest of Cheswold.	9.35	1931-33‡ 1943-57‡ 1958-70	4-15-70	3.49	186
		St. Jones River basin					
01483720	Puncheon Branch at Dover, Del.	Lat 39°08'25", long 75°32'20", Kent County, 10 ft above bridge on New Burton Road, and at Dover.	a2.3	1966-70	12-26-69	3.28	70

Annual maximum discharge at crest-stage partial-record stations during water year 1970, 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)
		Murderkill River basin					
014840.02	Murderkill River tributary near Felton, Del.	Lat 38°58'19", long 75°33'31", Kent County, 6 ft above culvert on secondary road, and 2.9 miles south of Felton.	a1.0	1966-70	6-21-70	4.50	25
*01484050	Pratt Branch near Felton, Del.	Lat 39°00'37", long 75°31'46", Kent County, at highway bridge, and 2.6 miles east of Felton.	3.29	1966-70	6-21-70	8.32	72
		Broadkill River basin					
*01484270	Beaverdam Creek near Milton, Del.	Lat 38°45'41", long 75°16'03", Sussex County, at highway bridge on secondary road, and 2.5 miles east of Milton.	6.10	1966-70	12-26-69	4.05	24
		Indian River basin					
*01484550	Pepper Creek at Dagsboro, Del.	Lat 38°32'50", long 75°14'39", Sussex County, at bridge on State Highway 26, and at Dagsboro.	8.78	1960-70	7-30-70	6.08	479
		Wicomico River basin					
01486100	Andrews Branch near Delmar, Md.	Lat 38°26'15", long 75°31'46", Wicomico County, at culvert on Rum Ridge Road, 1.2 miles above Williams Pond, and 2.8 miles southeast of Delmar.	a4.1	1967-70	12-26-69	5.97	70
		Nanticoke River basin					
01486980	Toms Dam Branch near Greenwood, Del.	Lat 38°48'04", long 75°33'28", Sussex County, 16 ft above bridge on State Highway 16, and 1.5 miles east of Greenwood.	a6.4	1966-70	12-26-69	4.55	28
01487900	Meadow Branch near Delmar, Del.	Lat 38°29'05", long 75°35'16", Sussex County, 14 ft above culverts on secondary road, 2.1 miles northwest of Delmar, and 3.1 miles upupstream from confluence with Holly Branch.	a3.9	1967-70	4-15-70	4.47	52
01488000	Holly Ditch near Laurel, Del.	Lat 38°32'20", long 75°35'55", Sussex County, 10 ft above culvert on secondary road, and 1.5 miles southwest of Laurel.	2.19	1951-56‡ 1959-70	4-15-70	2.45	8.3
		Choptank River basin					
01490470	Tappahanna Ditch near Hartly, Del.	Lat 39°08'07", long 75°41'30", Kent County, 100 ft below bridge on State Highway 103, and 2.7 miles southeast of Hartly.	5.93	1952-70	12-26-69	7.42	117
01490490	Beachy Neidig Ditch near Willow Grove, Del.	Lat 39°04'57", long 75°39'27", Kent County, 10 ft above culvert on secondary road, and 1.8 miles northwest of Willow Grove.	a2.3	1966-70	4-15-70	4.81	76
01490600	Meredith Branch near Sandtown, Del.	Lat 39°02'23", long 75°41'52", Kent County, at bridge on State Highway 10, and 1.2 miles east of Sandtown.	a8.4	1966-70	12-26-69	3.37	191

Annual maximum discharge at crest-stage partial-record stations during water year 1970, 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)
		Choptank River basin--Continued					
01491010	Sangston Prong near Whiteleysburg, Del.	Lat 38°58'25", long 75°43'32", Kent County, 10 ft above culvert on secondary road, and 1.2 miles north of Whiteleysburg.	a1.9	1966-70	12-26-69	5.48	66
01491050	Spring Branch near Greensboro, Md.	Lat 38°56'34", long 75°47'25", Caroline County, at culvert on Knife Box Road, 2.0 miles above mouth, and 2.2 miles southeast of Greensboro.	a3.8	1967-70	6-21-70	6.54	95
		Wye River basin					
01492500	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‡ 1957-70	12-26-69	4.36	219
01492550	Mill Creek near Skipton, Md.	Lat 38°55'00", long 76°03'42", Talbot County, at upstream side of culvert at U.S. Route 50, 1.5 miles north of Skipton, and 2.0 miles southeast of Wye Mills.	a4.6	1966-70	9-21-66 8- 4-67 5-28-68 5-20-69 7-31-70	4.98 11.23 5.80 4.84 5.65	98 1,520 200 88 180
		Northeast River basin					
01496080	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	1967-70	4- 2-70	5.08	210
		Susquehanna River basin					
01579000	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‡ 1965-70	4- 2-70	4.35	690
		Gunpowder River basin					
01582510	Piney Creek near Hereford, Md.	Lat 39°34'38", long 76°40'39", at culvert on Interstate Route 83, 1.1 miles soughwest of Hereford, Baltimore County, and 5.3 miles above mouth.	a1.5	1966-70	8-23-70	10.14	360
01583495	Western Run tributary at Western Run, Md. 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	1966-70	6-27-70	3.78	35
		Patapsco River basin					
01587050	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	1966-70	7-20-70	4.27	74

Annual maximum discharge at crest-stage partial-record stations during water year 1970, in North Atlantic Slope basins--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum Date	Annual maximum Gage height (feet)	Annual maximum Discharge (cfs)
		Patapsco River basin--Continued					
01588000	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‡ 1959-70	7- 9-70	3.55	200
01589500	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‡ 1965-70	7-20-70	2.67	45
		South River basin					
01590500	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‡ 1965-70	4- 2-70	3.77	250
		Patuxent River basin					
01593350	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	1966-70	7-20-70	5.05	84
		Potomac River basin					
01601000	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‡ 1968-70	4- 2-70	8.04	6,060
01609500	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‡ 1963-70	4- 2-70	2.68	150
01613150	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	1965-70	7- 9-70	6.41	275
01613160	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	1965-70	7- 9-70	4.63	84
01619475	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	1966-70	7- 9-70	4.66	16
01637600	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	1965-70	7- 9-70	6.04	420

Annual maximum discharge at crest-stage partial-record stations during water year 1970, 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					
01639095	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	1967-70	7- 9-70	8.84	170
01640000	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 1967-70	7- 9-70	4.71	460
01640700	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 northwest of Rocky Ridge, Frederick County.	a1.2	1967-70	7- 9-70	13.40	360
01642400	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	1967-70	3- 7-67 5-28-68 7-20-69 7-15-70	5.04 5.60 8.88 6.71	140 230 760 410
01644420	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	5-24-70	9.36	127
01660900	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	1966-70	6- 5-70	5.30	130
01660930	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	1966-70	4-14-70	6.67	260
01661430	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	1968-70	7-10-70	3.86	17

Annual maximum discharge at crest-stage partial-record stations during water year 1970, 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					
03075450	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	1965-70	4- 2-70	4.85	27
03075600	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	1965-70	4- 2-70	4.95	33
03076505	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	1965-70	4- 2-70	3.45	12
03077700	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	1965-70	4- 2-70	4.97	26

* Also a low-flow partial-record station.
‡ Operated as a continuous-record gaging station.
a Approximately.
b 0.15 sq mi is probably noncontributing.

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. Drainage areas given to two significant figures are approximate.

Discharge measurements made at miscellaneous sites during water year 1970, in North Atlantic Slope basins

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
		Delaware River basin				
West Branch	Christina River	Lat 39°39'20", long 75°47'00", New Castle County, at bridge on County Road 397, 1.1 miles above mouth, and 2.5 miles southwest of Newark, Del.	4.1	1968-69	6- 2-70 9- 3-70	1.42 1.10
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.	5.3	1968-69	6- 2-70 9- 3-70	1.16 .45
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	1968-69	6- 3-70 9- 3-70	6.25 2.91
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.	4.7	1968-69	6- 2-70 9- 3-70	2.73 2.44
Sawmill Branch	Smyrna River	Lat 39°21'38", long 75°37'19", New Castle County, at culvert on County Road 465, 0.3 mile below unnamed tributary, and 2.2 miles southeast of Blackbird, Del.	3.4	1968-69	5- 6-70 6- 2-70 9- 3-70	3.55 .87 .38
		Leipsic River basin				
*Leipsic River	Delaware Bay	Lat 39°13'58", long 75°37'57", Kent County, 75 ft below highway bridge, 1.9 miles east of Kenton, and 2.6 miles northwest of Cheswold, Del.	9.35	1931-33‡ 1943-57‡ 1968-69	9-24-70	2.55
		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.	8.6	1968-69	9- 3-70	3.93
		Mispillion River basin				
Tantrough Branch	Mispillion River	Lat 38°53'22", long 74°29'27", Kent County, at culvert on County Road 620, 1.0 mile above Beaverdam Branch, and 3.8 miles southwest of Milford, Del.	4.2	1968-69	5- 6-70 9- 3-70	8.36 1.93
		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.	5.5	1968-69	9- 2-70	2.20

* Also a crest-stage partial-record station.
‡ Operated as a continuous-record gaging station.

Discharge measurements made at miscellaneous sites during water year 1970, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
		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.	3.3	1968-69	5- 6-70 9- 2-70	4.78 .38
		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.	6.4	1968-69	9- 2-70	.89
Shoals Branch	Long Drain Ditch	Lat 38°34'37", long 75°20'38", Sussex County, at bridge on County Road 412, 0.8 mile above mouth, and 3.0 miles west of Millsboro, Del.	7.2	1968-69	9- 2-70	1.70
Herring Branch	Vines Creek	Lat 38°32'27", long 75°13'19", Sussex County, at culverts on secondary road, 1.4 miles southeast of Dagsboro, Del., and 1.6 miles upstream from mouth.	1.34	-	7-30-70	a340
		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.	6.2	1968-69	5- 6-70 9- 2-70	10.8 1.70
		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.	3.7	1968-69	9- 2-70	.03
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.	6.5	1968-69	9- 2-70	b.35
		Pocomoke River basin				
North Fork Green Run	Green Run	Lat 38°27'07", long 75°22'41", Wicomico County, at culvert on State Highway 54 at Maryland-Delaware state line, 1.8 miles above confluence with South Fork, and 2.8 miles east of Whitesville, Del.	2.6	1968-69	10-30-69 9- 1-70	.62 .94
South Fork Green Run	Green Run	Lat 38°25'50", long 75°22'36", Wicomico County, at culvert on Burnt Mill Road, 2.1 miles above confluence with North Fork, and 3.0 miles northwest of Willards, Md.	5.7	1968-69	10-30-69 9- 1-70	.42 .98
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.	4.2	1968-69	10-30-69 9- 1-70	.22 .87
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.	4.1	1968-69	10-30-69	.24

a Peak flow.
b Includes 0.05 cfs flow from pipe under bridge.

Discharge measurements made at miscellaneous sites during water year 1970, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
		Pocomoke River basin--Continued				
Burnt Mill Branch	Pocomoke River	Lat 38°23'20", long 75°20'15", Wicomico County, 0.5 mile upstream from Gordys Branch, 0.75 mile east of Willards, Md., and 0.8 mile upstream from mouth.	18.1	1950-53 1969	10-30-69 9- 1-70	4.46 7.41
Tilghman Race	Pocomoke River	Lat 38°16'55", long 75°22'45", Worcester County, at bridge on State Highway 354, 0.7 mile abouve mouth, and 3.2 miles south of Powellville, Md.	5.8	1968-69	3-12-70 9- 2-70	3.33 .15
Pollitts 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.	2.3	1968-69	9- 3-70	.02
Wagram Swamp Branch	Wagram Creek	Lat 38°01'52", long 75°31'55", Worcester County, at bridge on Brantly Road, 0.1 mile above mouth, and 3.5 miles southeast of Pocomoke City, Md.	3.3	1968-69	3-11-70 9-15-70	1.47 .05
		Manokin River basin				
Loretto Branch	Manokin River	Lat 38°12'57", long 75°41'28", Somerset County, at culvert under Pennsylvania Railroad, 0.7 mile above confluence with Manokin Branch, and 1.0 mile north of Princess Anne, Md.	4.0	1968-69	9- 3-70	.56
Jones Creek	Taylor Branch	Lat 38°10'29", long 75°41'06", Somerset County, at bridge on county road, 1.1 miles above mouth, and 2 miles south of Princess Anne, Md.	3.2	1968	3-12-70 9- 3-70	1.17 .02
		Wicomico River basin				
Connelly Mill Branch	Leonard Pond Run	Lat 38°25'59", long 75°35'41", Wicomico County, at culvert on Jersey Road, 1.4 Miles above mouth, and 1.5 miles southwest of Delmar, Md.	3.66	1964, 1968-69	10-31-69 9- 1-70	1.84 1.34
Leonard Pond Run	North Prong Wicomico River	Lat 38°25'24", long 75°33'56", Wicomico County, at Leonard Pond, 0.6 mile above Wood Creek, 2.4 miles southeast of Delmar, Md.	13.4	1950-51 1963-65 1967,69	10-31-69	4.45
Little Burnt Branch	North Prong Wicomico River	Lat 38°24'49", long 75°36'04", Wicomico County, at culvert on Jersey Road, 0.5 mile upstream from Naylors Pond, 2.1 miles northwest of Salisbury, Md.	3.39	1964, 1967-69	10-31-69 3-12-70 9- 1-70	1.71 2.74 1.66
North Prong Wicomico River	Wicomico River	Lat 38°24'32", long 75°35'42", Wicomico County, 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, Md.	24.8	1963-65 1967-69	10-31-69	23.9
Middle Neck Branch	North Prong Wicomico River	Lat 38°23'18", long 75°33'01", Wicomico County, at culvert on Parker Road, 1.4 miles above Peggy Branch, and 1.7 miles northeast of Salisbury, Md.	2.1	1964, 1968-69	10-30-69 9- 1-70	.91 1.06
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.	7.2	1968-69	9- 3-70	.62

Discharge measurements made at miscellaneous sites during water year 1970, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
		Wicomico River basin--Continued				
Barkley Branch	Passerdyke Creek	Lat 38°16'54", long 75°40'50", Somerset County, at culvert on county road, 0.6 mile southeast of Allen, Md., and 0.6 mile above mouth.	2.7	1968-69	9- 3-70	.63
		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.	16	1968-69	7-30-70	13.8
Gum Branch	Nanticoke River	Lat 38°46'07", long 75°30'59", Sussex County, at bridge on County Road 594, 0.6 mile below Parker Branch, and 5 miles northeast of Bridgeville, Del.	7.5	1968-69	7-30-70	7.53
Gum Branch	Nanticoke River	Lat 38°35'53", long 75°37'49", Sussex County, at bridge on County Road 487, 1.6 miles above mouth, and 3.2 miles south of Seaford, Del.	5.8	1968-69	7-31-70	1.25
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.	15	1968-69	7-31-70	4.36
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.	8.7	1968-69	7-31-70	.82
Wright Creek	Nanticoke River	Lat 38°35'06", long 75°41'50", Sussex County, at culvert on County Road 538, 2.0 miles above mouth, and 3.8 miles northwest of Portsville, Del.	3.6	1968-69	7-31-70	2.88
Chicone Creek	Nanticoke River	Lat 38°31'55", long 75°49'06", Dorchester County, on upstream side of bridge on county road, 0.5 mile east of Reids Grove, Md., and 4.25 miles upstream from mouth.	4.69	1951-53 1969	9- 1-70	.66
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.	2.8	1968-69	10-31-69 3-12-70 9- 2-70	1.51 3.83 1.18
Nanticoke River tributary	Nanticoke River	Lat 38°30'43", long 75°43'59", Wicomico County, at culvert on Cooper Mill Road, 1.5 miles above mouth, and 2.0 miles southwest of Sharptown, Md.	1.4	1968-69	10-31-69 9- 2-70	.19 .07
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.	3.9	1968-69	9- 3-70	.65
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.	12	1968-69	9- 2-70 9-16-70	.71 1.95

Discharge measurements made at miscellaneous sites during water year 1970, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
		Nanticoke River basin--Continued				
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.	4.6	1968-69	7-31-70	1.37
Sullivan Branch	Marshyhope Creek	Lat 38°44'38", long 75°46'45", Caroline County, at bridge on Long Swamp Road, 1.5 miles above mouth, and 3.5 miles north of Federalsburg, Md.	7.6	1968-69	9- 2-70	1.01
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.	2.8	1968-69	5- 5-70 9- 2-70	4.90 .49
North Branch Davis Millpond Branch	Davis Millpond Branch	Lat 38°39'53", long 75°45'17", Dorchester County, at bridge on State Highway 313, 0.2 mile above confluence with South Branch, and 2.3 miles southeast of Federalsburg, Md.	2.8	1968-69	9- 2-70	1.36
Skinners Run	Marshyhope Creek	Lat 38°40'30", long 75°49'20", Dorchester County, at bridge on State Highway 307, 1.7 miles above mouth, and 3.0 miles southwest of Federalsburg, Md.	3.2	1968-69	9- 1-70	.85
Wrights Branch	Marshyhope Creek	Lat 38°36'46", long 75°49'55", Dorchester County, at culvert on Rosedale-Harrison Ferry Road, 0.6 mile above mouth, and 2 miles southeast of Hurlock, Md.	3.4	1968-69	9- 1-70	a5.97
Marshyhope Creek tributary	Marshyhope Creek	Lat 38°36'18", long 75°50'05", Dorchester County, at culvert on Rosedale-Harrison Ferry Road, 0.6 mile above mouth, and 0.9 mile east of Petersburg, Md.	3.0	1968-69	9- 1-70	1.59
Puckum Branch	Marshyhope Creek	Lat 38°36'44", long 75°47'50", Dorchester County, at culvert on Puckum Road, 1.8 miles above mouth, and 2.0 miles north of Eldorado, Md.	2.5	1968-69	9- 2-70	.40
		Transquaking River basin				
Transquaking River	Fishing Bay	Lat 38°33'33", long 75°55'29", Dorchester County at culvert on Red Hill Road, 3.1 miles upstream from Higgins Millpond, and 0.3 mile west of Hawkeye, Md.	2.2	1966-69	5- 5-70 9- 1-70	2.53 .21
		Choptank River basin				
Harrington Beaverdam Ditch	Tidy Island Creek	Lat 39°06'38", long 75°44'25", Kent County, at bridge on State Highway 8, 0.2 mile above confluence with Tappahanna Ditch, and at Marydel, Del.	9.8	1968-69	6- 3-70 9- 4-70	3.05 .93
Tappahanna Ditch	Tidy Island Creek	Lat 39°06'36", long 75°43'40", Kent County, at bridge on County Road 222, 0.9 mile above confluence with Harrington-Beaverdam Ditch, and 1.0 mile east of Marydel, Del.	16	1968-69	6- 3-70 9- 4-70	2.45 .86
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.	20	1968-69	9- 3-70	1.37

a Includes sewage from Hurlock, Md.

Discharge measurements made at miscellaneous sites during water year 1970, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
		Choptank River basin--Continued				
Gravelly Branch	Choptank River	Lat 38°59'27", long 75°45'50", Caroline County, at bridge on Boyce Mill Road, 1.6 miles above mouth, and 2.5 miles northeast of Greensboro, Md.	16	1968-69	9- 1-70	2.90
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.	10	1968-69	9- 1-70	2.34
Forge Branch tributary	Forge Branch	Lat 38°57'23", long 75°50'27", Caroline County, at culvert on Holly Road, 1.3 miles above mouth, and 2.5 miles east of Ridgely, Md.	2.6	1968-69	9- 1-70	.34
Spring Branch	Choptank River	Lat 38°56'37", long 75°48'45", Caroline County, at bridge on State Highway 313, 0.8 mile above mouth, and 2.1 miles south of Greensboro, Md.	5.3	1968-69	9- 1-70	2.08
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.	4.9	1968-69	9- 1-70	.23
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.	4.5	1968-69	9- 1-70	1.26
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.	4.5	1968-69	9- 1-70	.22
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.	6.1	1968-69	9- 1-70	1.81
Beaverdam Ditch	Mason Branch	Lat 39°05'32", long 75°52'37", Queen Annes County, at bridge on State Highway 19 at Ingleside, Md., 3.0 miles above mouth, and 9 miles northwest of Greensboro.	4.5	1968-69	8-14-70	1.64
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	1968-69	9- 1-70	11.4
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.	11	1968-69	8-13-70	2.37
Blockston Branch	Tuckahoe Creek	Lat 38°58'06", long 75°56'45", Queen Annes County, at bridge on county road, 0.2 mile above mouth, and 2.5 miles south of Ruthsburg, Md.	8.4	1968-69	8-14-70	2.30
Piney Branch	Tuckahoe Creek	Lat 38°57'39", long 75°55'09", Caroline County, at culvert on Crouse Mill Road, 1.1 miles above mouth, and 2.2 miles northwest of Ridgely, Md.	4.8	1968-69	9- 1-70	1.56

Discharge measurements made at miscellaneous sites during water year 1970, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
		Choptank River basin--Continued				
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.	9.7	1968-69	8-14-70	.25
Knott Mill-pond	Tuckahoe Creek	Lat 38°52'54", long 75°55'33", Caroline County, at bridge on Tuckahoe Road, 0.9 mile above mouth, and 2.5 miles south of Hillsboro, Md.	8.45	1952-53 1968-69	9- 1-70	4.89
Deep Branch	Tuckahoe Creek	Lat 38°51'25", long 75°54'41", Caroline County, at bridge on Tuckahoe Road, 0.7 mile above mouth, and 4.8 miles southwest of Denton, Md.	3.3	1968-69	9- 1-70	2.13
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 1968-69	9- 1-70	.91
Wootenaux Creek	Kings Creek	Lat 38°47'48", long 76°01'32", Talbot County, at bridge on State Highway 328, 0.3 mile above Galloway Run, and 3.0 miles northeast of Easton, Md.	4.8	1968-69	5- 5-70 9- 1-70	5.79 .11
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.	4.3	1968-69	5- 5-70 9- 1-70	6.34 1.46
		Wye River basin				
Wye River	Eastern Bay	Lat 38°59'21", long 76°08'28", Queen Annes County, at bridge on county road, 0.5 mile above State Highway 404, and 0.9 mile east of Queenstown, Md.	3.8	1968-69	8-12-70	1.10
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.	10	1968-69	5- 5-70 8-12-70	11.4 3.47
*Sallie Harris Creek	Wye East River	Lat 38°57'55", long 76°06'30", Queen Annes County, at bridge on U. S. Highway 50, 2.0 miles northeast of Carmichael, Md., and 2.2 miles northwest of Wye Mills.	8.09	1952-56‡ 1966,68 1969	8-12-70	2.11
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.	4.6	1968-69	9- 1-70	.42
Mill Creek	Skipton Creek	Lat 38°54'36", long 76°04'26", Talbot County, at bridge on State Highway 662, 1.4 miles northwest of Skipton, Md.	6.4	1964-69	9- 1-70	3.37
		Chester River basin				
Gravelly Run	Andover Branch	Lat 39°13'07", long 75°45'41", Queen Annes County, 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, Md.	12	1968-69	8-13-70	.53

* Also a crest-stage partial-record station.
‡ Operated as a continuous-record gaging station.

Discharge measurements made at miscellaneous sites during water year 1970, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
		Chester River basin--Continued				
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.	6.5	1968-69	6- 3-70 9- 4-70	.80 .11
Jordon Branch	Sewell Branch	Lat 39°14'04", long 75°43'13", Kent County, at bridge on County Road 94, 1.3 miles above mouth, and 3 miles west of Kenton, Del.	4.5	1968-69	6- 3-70 9- 4-70	.45 .16
Mills Branch	Chester River	Lat 39°16'34", long 75°52'10", Kent County, at bridge on Millington Road, 1.5 miles above mouth, and 2.1 miles northwest of Millington, Md.	9.98	1953-54 1968-69	9- 4-70	1.17
Unicorn Branch	Chester River	Lat 39°11'28", long 75°50'03", Queen Annes County, at bridge on State Highway 300, 1.2 miles above Chapel Branch Ditch, and 1.4 miles east of Sudlersville, Md.	8.1	1968-69	5- 7-70 8-13-70	8.93 1.32
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.	22	1968-69	8-13-70	7.38
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 Chestertown, Md., and 2.8 miles above mouth.	3.6	1968-69	9- 4-70	1.90
Granny Finley Branch	Island Creek	Lat 39°06'55", long 76°02'28", Queen Annes County, at bridge on Friel Farm Road, 1.8 miles above mouth, and 2.0 miles northeast of Burrisville, Md.	8.5	1968-69	8-13-70	1.14
Three Bridges Branch	Yellow Bank Stream	Lat 39°03'14", long 76°03'17", Queen Annes County, at bridge on State Highway 213, 0.7 mile above confluence with Gravel Run, and 0.9 mile northeast of Centreville, Md.	8.5	1968-69	8-13-70	1.37
East Fork Langford Creek tributary	East Fork Langford Creek	Lat 39°11'13", long 76°06'56", Kent County, at bridge on Langford-Brices Mill Road, 400 ft below Mill Pond, 0.1 mile above mouth, and 3 miles southwest of Chestertown, Md.	5.4	1968-69	9-17-70	2.35
		Fairlee Creek basin				
Fairlee Creek tributary	Fairlee Creek	Lat 39°14'46", long 76°10'12", Kent County, at bridge on Fish Hatchery Road, 100 ft below Fairlee Lake, and 1.6 miles north of Fairlee, Md.	4.1	1968-69	5- 7-70	1.85
		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.	4.5	1953-54 1968-69	9-17-70	.79

Discharge measurements made at miscellaneous sites during water year 1970, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
		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.	1.7	1968-69	9-17-70	.89
		Sassafras River basin				
Duffy Creek	Sassafras River	Lat 39°23'45", long 75°49'31", Cecil County, at bridge on Wards Hill Road, 1.4 miles above mouth, and 2.4 miles east of Cecilton, Md.	1.6	1968-69	6- 1-70 9- 4-70	1.10 .83
		Elk River basin				
Mill Creek	Little Elk Creek	Lat 39°36'03", long 75°51'47", Cecil County, at bridge on Elk Neck Road, 0.8 mile above mouth, and 1.7 miles west of Elkton, Md.	4.2	1968-69	5- 6-70 6- 1-70 9- 4-70	2.45 1.27 .94
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.	5.2	1968-69	6- 1-70 9- 4-70	1.06 .62
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.	4.8	1968-69	5- 6-70 6- 2-70 9- 3-70	3.21 2.50 1.31
Sandy Branch	Great Bohemia Creek	Lat 39°27'36", long 75°46'27", Cecil County, 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, Md.	2.8	1968-69	6- 1-70 9- 4-70	2.33 1.79
		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	9-17-70	7.72
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	9-17-70	.85

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	Elevation above mean sea level (feet)
01483335	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.	1966-70	12-26-69	4.09
01484085	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.	1966-70	11-10-69	6.16
01484235	Cedar Creek near Slaughter Beach, Del.	Lat 38°56'06", 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.	1966-70	11-10-69	4.15
01484595	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.	1966-70	11-10-69	*3.11

* Gage datum; not to mean sea level datum.

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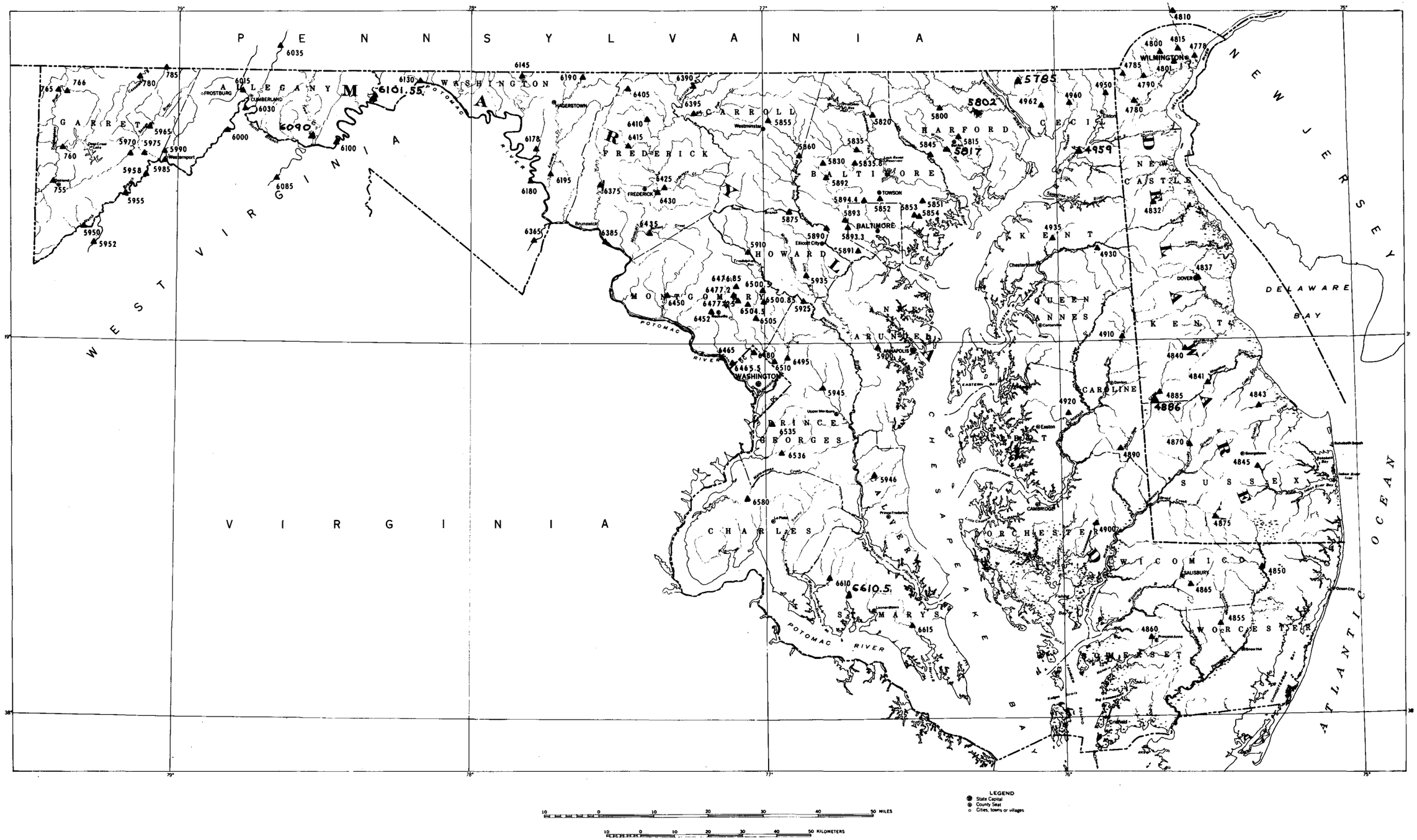

Figure 2.--Map showing location of gaging stations.

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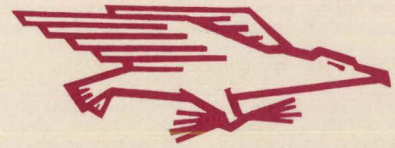

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