1967

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

United States Department of the Interior
Geological Survey - Water Resources Division

WATER RESOURCES DATA FOR MARYLAND AND DELAWARE

Part 1. Surface Water Records

1967

Prepared in cooperation with

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

Copies of this report may be obtained from
District Chief
Water Resources Division
U. S. Geological Survey
724 York Road
Towson, Maryland 21204

1969

CALENDAR FOR WATER YEAR 1967

OCTOBER 1966

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

NOVEMBER 1966

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

DECEMBER 1966

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

JANUARY 1967

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

FEBRUARY 1967

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

MARCH 1967

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

APRIL 1967

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

MAY 1967

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

JUNE 1967

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

JULY 1967

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

AUGUST 1967

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

SEPTEMBER 1967

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

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WATER RESOURCES DATA FOR MARYLAND AND DELAWARE, 1967

Part 1. Surface Water Records

INTRODUCTION

The surface-water records for the 1967 water year for gaging stations, partial-record stations, and miscellaneous sites within the States of Maryland and Delaware are given in this report. For convenience there are also included records for a few pertinent gaging stations in bordering States. 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.

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." Since 1951 there have been 20 volumes in the series; each volume covered an area whose boundaries coincided with those of certain natural drainage areas. The records in Maryland and Delaware were contained in Parts 1B (North Atlantic Slope basins, New York to York River) and 3A (Ohio River basin except Cumberland and Tennessee River basins) of that series.

Beginning with the 1961 water year, streamflow records and related data have been released by the Geological Survey in annual reports on a State-boundary basis. Distribution of these basic-data reports is limited and primarily for local needs. Records will be published in Geological Survey water-supply papers at 5-year intervals.

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: Delaware Geological Survey, J. J. Groot, State geologist; State Highway Department, E. A. Davidson, director of operations.

Maryland: Maryland Geological Survey, K. N. Weaver, director; State Roads Commission, David H. Fisher, chief engineer; Maryland Department of Health, William J. Peeples, M.D., M.P.H., Commissioner; Maryland National Capital Park and Planning Commission, John S. Hewins, director of planning; Washington Suburban Sanitary Commission, Robert J. McLeod, acting general manager and chief engineer; District of Columbia Department of Sanitary Engineering, Roy L. Orndorff, director; city of Baltimore, R. J. Kretzschmar, acting water engineer.

Assistance in the form of funds or services was given by the Corps of Engineers, U. S. Army, in collecting records for 21 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; 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 AND ABBREVIATIONS

The terms of streamflow and other hydrologic data, as used in this report, are defined as follows:

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 obtainted.

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

Cubic foot per second (cfs) is the rate of discharge of a stream whose channel is 1 square foot in cross-sectional area and whose average velocity is 1 foot per second.

Cubic feet per second per square mile (cfsm) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Runoff in inches (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.

Acre-foot (ac-ft) is the quantity of water required to cover an acre to the depth of 1 foot and is equivalent to 43,560 cubic feet.

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.983471 acre-feet, or 646,317 gallons, and represents a runoff of 0.0372 inch from 1 square mile.

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

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constiction of the channel, a long reach of the channel, or an artificial structure.

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.

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

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

DOWNSTREAM ORDER AND STATION NUMBERS

Stations are listed in the same downstream order used in the water-supply papers. Records are listed in a downstream direction along the main stem with all stations on a tributary entering above a main-stem station listed before that station. If a tributary enters between two main-stem stations, it is listed between them. A similar order is followed listing stations on first rank, second rank, and other ranks of tributaries. To indicate the rank of any tributary on which a gaging station is situated and the stream to which it is immediately tributary, each indention in the listing of gaging stations in the table of contents of this report represents one rank. This downstream order and system of indention shows which gaging stations are on tributaries between any two stations on a main stem and the rank of the tributary on which each gaging station is situated.

As an added means of identification, each gaging station and partial-record station has been assigned a station number. The numbers have been assigned in the same downstream order used in the annual series of water-supply papers. In assigning station numbers, no distinction is made between partial-record stations and continuous-record gaging stations, so that the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Gaps are left in the numbers to allow for new stations that may be established; hence the numbers are not consecutive.

The complete 8-digit number for each station, such as 01-6465.00, includes the part number "01" plus a six-digit number. In this report, the nonessential zeros are not shown. For example, the complete number 01-6465.00 would appear as 1-6465, just to the left of the station name. In this report, the records are listed in downstream order by parts. All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

EXPLANATION OF DATA

The base data collected at gaging stations consist of records of stage and measurements of discharge. In addition, observations of factors affecting the stage-discharge relation, weather records, and other information are used to supplement base data in determining the daily flow. Records of stage are obtained from a water-stage recorder that gives a continuous chart of the fluctuations (for digital recorders, a tape punched at 15- or 30-minute intervals) or from direct readings on a nonrecording gage. Measurements of discharge are made with a current meter by the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in Water-Supply Paper 888 and are also outlined in standard textbooks on the measurement of stream discharge.

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, or computation of flow over dams or weirs), velocity-area studies, and logarithmic plotting. The application of the daily mean gage height to those rating tables gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is in effect the shifting-control method.

At some gaging stations the stage-discharge relation is affected by ice during the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and occasional winter discharge measurements, consideration being given to the available information on temperature and precipitation, notes by gage observers and engineers, and comparable records of discharge for other stations in the same or nearby basins.

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 the daily discharge. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, 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.

The data in this report generally comprise a description of the station, and a table showing the daily discharge and monthly and yearly discharge of the stream. Records are published for the water year which begins on October 1 and ends on September 30. A calendar for the 1966 water year is shown on page II to facilitate finding the day of the week for any date.

The description of the station gives the location, drainage area, records available, type and history of gages, average discharge, extremes of discharge, and general remarks. The location of the gaging station and the drainage area are obtained from the most accurate maps available. Under "Records available" are given periods for which there are published records for the present station or for stations generally equivalent to the present one. Under "Gage" are given the type of gage currently in use and the datum of the gage above mean sea level, and a condensed history of the types, locations and datums of previous gages used during the period of records available. The references to "datum of 1929" and adjustments of other years are to the datum and adjustments of the U.S. Coast and Geodetic Survey. Under "Average discharge" is given the average discharge for the number of years indicated. It is not given for stations having fewer than five complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. Under "Extremes" are given the maximum discharge and gage height; the minimum discharge if there is extensive regulation (also the minimum discharge if useful); and the minimum gage height if it is significant. In the first paragraph, the data given are for the complete current water year unless otherwise specified. In the second paragraph, the data given are for the periods of record within the calendar year dates in the heading (not necessarily those for the complete years indicated by the heading dates). Reliable information concerning major floods that have occurred outside the period of record are given in the third or last paragraph under "Extremes." Unless otherwise qualified, the maximum discharge corresponds to the crest stage obtained by use of a water-stage recorder, 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, it is given separately. Information pertaining to the accuracy of the records and to conditions which affect the natural flow at the gaging station is given under "Remarks."

The daily table gives the discharge corresponding to the daily mean gage height unless there are large or rapid changes in discharge during a day. For days having large or rapid changes, discharge for the day is computed by averaging the mean discharges 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.

In the monthly summary below the daily table, the line headed "Total" gives the sum of the daily figures; it is the total cfs-days for the month. The line headed "Mean" gives the average flow in cubic feet per second during the month, and those headed "Max" and "Min" show the highest and lowest daily flows. Discharge for the month may be expressed in cubic feet per second per square mile (line headed "Cfsm") or in inches (line headed "In.").

In the yearly summary below the monthly summary, the figures of maximum are the maximum daily discharges, not the momentary discharges when the water was at crest stage. Likewise, the minimums in this summary are the minimum daily discharges.

Peak discharges and the times of their occurrence (expressed in 24-hour time) and corresponding gage heights for most stations are listed below the table of daily and monthly discharge. All independent peaks above the selected base are given. The base discharge, which is given in parentheses, is selected so that an average of about three peaks a year can be presented. Peak discharges are not published 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, 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 records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage, contents, and change in contents.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretation of records.

The station description under "Remarks" states that the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good," within 10 percent; and "fair," within 15 percent. Poor means that daily discharges have less than "fair" accuracy. The records of monthly and yearly mean discharge and runoff are, in general, more nearly accurate than the daily records.

Discharge at some stations, as indicated by the monthly mean, may vary widely from natural runoff, owing to diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur when relatively large negative adjustments are made or when evaporation is large in comparison with the observed discharge.

For most gaging stations equipped with digital recorders, the figures of mean daily discharge are shown to the nearest hundredth of a cfs for discharges less than 1 cfs. This has been done as a matter of uniformity in the computer program and should not be construed to indicate an accuracy greater than that used in the past.

OTHER DATA AVAILABLE

Data collected at partial-record stations and at miscellaneous sites are given at the end of this report. Data for 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 at miscellaneous sites are given in a third table. Occasionally, a series of discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are given in special tables after the list of measurements at miscellaneous sites.

Information of a more detailed nature than that published for most of the gaging stations is on file in the district office, such as discharge measurements and recorder charts or nonrecording-gage readings. Most gaging-station records in the States through 1960 have been analyzed with an electronic computer to give: (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; (3) the highest mean discharge for selected numbers of consecutive days in each year; and (4) the lowest daily discharge not exceeded during selected number 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. Unter the "Remarks" paragraph of the gaging-station description, reference is made to water-quality records collected on a regular basis.

HYDROLOGIC CONDITIONS DURING 1967

Drought conditions that prevailed throughout Maryland and Delaware since 1962, were alleviated by rains in September and October 1966. Runoff, which had decreased significantly by the 1966 water year recovered to the normal range by the end of the 1967 water year.

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 penisula. Annual mean discharge is shown in figure 1 for the period of record of the two stations.

As a result of severe thunderstorm activity during several periods in August, significant flooding occurred in various areas of the bi-State area. The area affected included the northern two counties in Delaware and most of Maryland east of Frederick County and north of Charles, Calvert, and Dorchester counties.

Maximum peaks of record occurred at 20 of the regular gaging stations. The maximum peak discharge rate recorded was 1,190 cfs per square mile at Matson Run in Wilmington, Delaware (see p. 130).

Detailed information on the August floods is available in two U. S. Geological Survey open-file reports, "Flood of August 24-25, 1967 in the Washington Metropolitan Area", by E. M. Miller and F. P. Kapinos and "Floods of August 1967 in Maryland and Delaware", by D. H. Carpenter and R. H. Simmons.

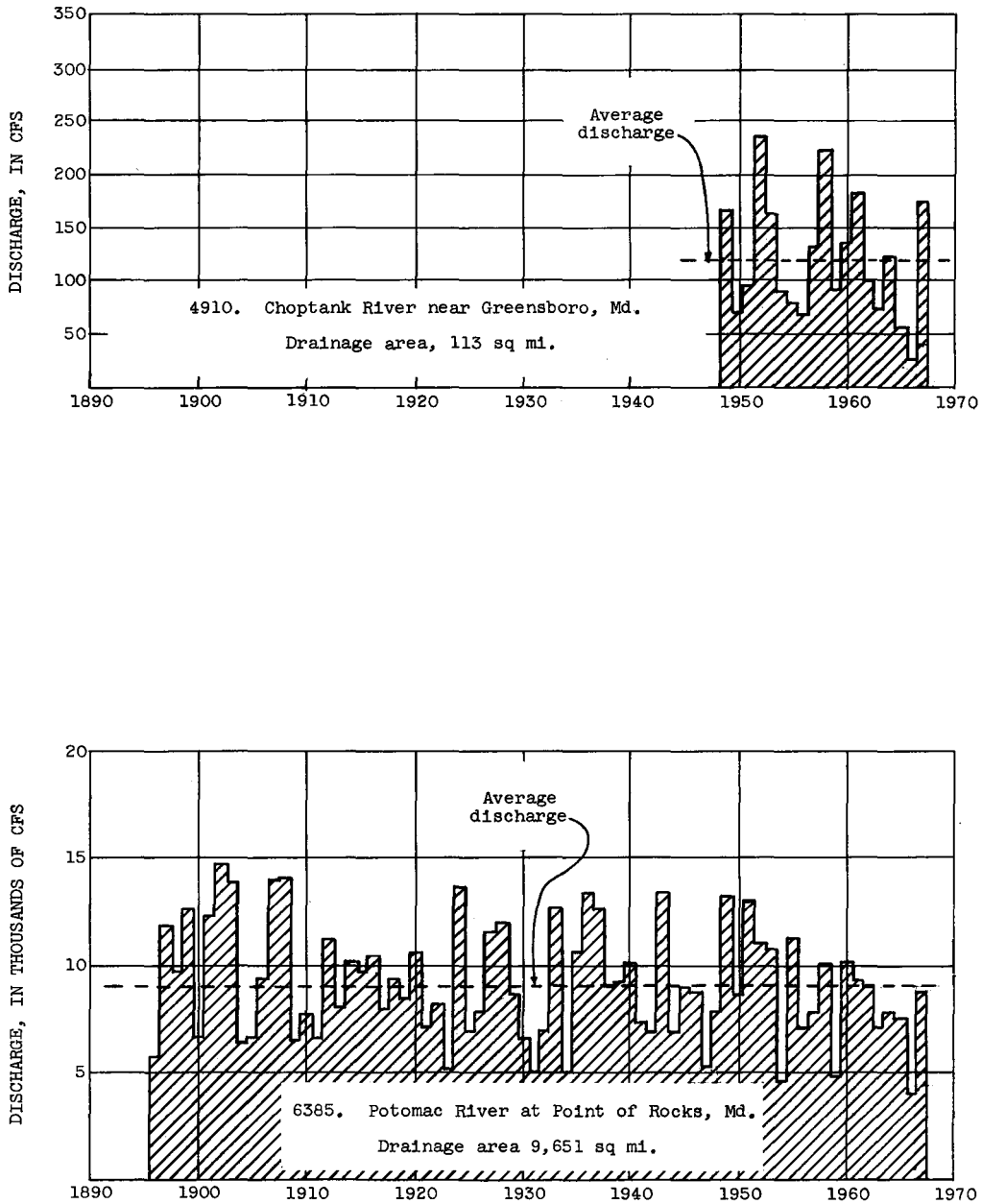

Figure 1.--Annual mean discharge at two gaging stations in Maryland.

DELAWARE RIVER BASIN

1-4778. Shellpot Creek at Wilmington, Del.

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

Drainage area.--7.46 sq mi.

Records available.--December 1945 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 15.16 ft above mean sea level, datum of 1929, supplementary adjustment of 1959. Prior to Oct. 1, 1961, graphic water-stage recorder at same site and datum.

Average discharge.--21 years (1946-67), 9.02 cfs.

Extremes.--Maximum discharge during year, 4,650 cfs Aug. 27 (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, 0.26 cfs Sept. 9.

1945-67: Maximum discharge, that of Aug. 27, 1967; minimum daily, 0.10 cfs Oct. 25, 1959, Aug. 8, 9, 19-23, Aug. 27 to Sept. 13, 1966.

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.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	51	1.8	3.0	8.9	3.8	3.4	3.5	2.8	2.9	2.6	3.6	.99
2	9.5	2.5	2.5	13	5.4	3.0	3.2	3.2	2.7	8.6	2.2	.77
3	3.4	15	2.1	11	6.9	3.2	2.9	5.1	2.3	58	40	.67
4	2.6	1.9	1.9	11	4.1	3.4	2.7	2.6	2.2	3.1	102	.53
5	4.2	1.7	2.0	9.9	4.2	17	2.9	2.4	2.2	2.7	23	.46
6	2.2	2.3	2.2	6.3	3.7	61	2.9	2.6	2.0	1.9	4.2	.39
7	1.6	1.4	2.1	5.9	3.8	336	23	101	1.8	1.7	3.0	.37
8	1.5	1.3	2.1	95	5.2	16	4.4	36	1.8	1.5	2.5	.32
9	1.4	1.4	2.1	24	4.5	8.2	3.5	14	2.1	1.5	150	.26
10	1.3	2.3	2.0	11	4.2	6.3	3.8	4.8	2.0	70	678	.76
11	1.2	4.5	5.4	7.6	6.8	5.6	3.2	19	1.8	95	14	1.2
12	1.1	3.5	2.2	6.0	7.4	4.8	2.9	7.3	1.9	11	5.1	1.2
13	1.0	2.2	3.4	6.0	5.0	4.5	2.7	3.9	1.9	3.4	4.1	1.3
14	1.1	1.5	22	9.5	5.4	4.5	2.7	4.1	1.7	2.5	4.5	1.2
15	1.1	1.4	9.7	11	34	20	2.7	14	1.8	2.3	3.5	.99
16	3.6	1.3	5.2	7.2	43	9.4	2.7	8.6	1.8	6.5	3.2	1.6
17	1.6	1.3	4.5	5.3	7.8	5.9	7.0	4.8	1.6	2.1	3.1	1.9
18	1.8	1.3	4.8	4.7	5.9	3.8	4.1	4.4	2.5	1.8	2.6	3.1
19	344	1.3	3.8	4.1	6.3	3.1	2.9	6.0	37	1.6	2.0	4.4
20	20	1.2	4.7	4.1	6.3	3.3	2.5	7.8	2.6	1.5	4.4	3.1
21	4.3	1.2	13	4.1	17	8.7	2.5	3.6	1.6	94	2.3	36
22	3.0	1.4	8.1	4.1	7.0	21	2.7	4.3	8.7	11	12	41
23	2.6	1.5	5.5	4.4	7.9	14	2.1	3.7	15	3.3	2.0	3.1
24	2.3	1.2	4.6	3.8	5.3	9.2	4.0	3.5	3.8	2.6	4.8	3.8
25	2.7	1.2	6.1	3.8	4.0	5.4	2.3	3.5	2.5	4.0	75	3.9
26	2.3	4.9	8.1	3.5	3.9	4.3	8.1	3.5	1.5	2.2	109	2.2
27	2.0	1.9	5.4	99	3.2	3.8	67	3.5	1.2	1.9	577	2.2
28	1.8	38	4.8	14	3.7	3.5	7.2	3.5	1.0	3.1	104	4.6
29	1.7	5.2	132	6.2	------	10	4.0	6.8	.92	12	3.6	80
30	1.7	3.8	29	4.6	------	4.4	3.0	5.0	18	13	1.7	5.2
31	1.7	------	11	3.8	------	3.8	------	3.5	------	2.8	1.4	------
TOTAL	481.3	111.4	315.3	412.8	225.7	610.5	189.1	298.8	130.82	429.2	1,947.8	207.51
MEAN	15.5	3.71	10.2	13.3	8.06	19.7	6.30	9.64	4.36	13.8	62.8	6.92
MAX	344	38	132	99	43	336	67	101	37	95	678	80
MIN	1.0	1.2	1.9	3.5	3.2	3.0	2.1	2.4	.92	1.5	1.4	.26
CFSM	2.08	.50	1.36	1.79	1.08	2.64	.84	1.29	.58	1.86	8.42	.93
IN.	2.40	.56	1.57	2.06	1.13	3.04	.94	1.49	.65	2.14	9.71	1.03

CAL YR 1966: TOTAL 2,775.70 MEAN 7.60 MAX 344 MIN .10 CFSM 1.02 IN 13.84
WAT YR 1967: TOTAL 5,360.23 MEAN 14.7 MAX 678 MIN .26 CFSM 1.97 IN 26.72

Peak discharge (base, 550 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-19	0945	3.38	632	8-10	0125	8.29	3,630
3- 7	0635	4.22	994	8-27	1555	9.10	4,650
7-10	2145	3.19	556	9-21	2315	3.58	672
7-21	1820	4.51	1,120				

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

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

Drainage area.--20.5 sq mi.

Records available.--April 1943 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 25.6 ft above mean sea level, datum of 1929. Prior to Sept. 14, 1944, wire-weight gage and crest-stage gage on upstream side of bridge at same datum. Sept. 14, 1944, to Sept. 30, 1961, graphic water-stage recorder at present site and datum.

Average discharge.--24 years, 25.3 cfs.

Extremes.--Maximum discharge during year, 1,700 cfs Aug. 10 (gage height, 10.83 ft); minimum daily, 2.7 cfs Oct. 9, 12.
1943-67: Maximum discharge, 2,620 cfs May 1, 1947 (gage height, 12.41 ft); minimum daily, 0.2 cfs Aug. 7, 14, 18, 21, 27, 28, 1966.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	51	7.6	10	26	15	12	25	14	7.3	8.4	11	15
2	35	8.3	7.1	30	19	11	25	14	6.5	5.4	8.7	13
3	8.3	14	6.7	29	38	12	24	18	6.7	64	198	13
4	9.3	8.2	5.3	31	19	14	21	13	5.9	7.4	481	12
5	5.1	7.0	9.8	31	19	47	22	12	5.8	7.0	170	11
6	4.4	7.9	4.2	20	15	117	22	11	5.6	6.1	30	11
7	5.8	7.0	9.5	17	10	898	166	169	5.5	5.0	16	10
8	4.5	7.1	8.1	132	17	74	29	71	5.3	5.0	14	10
9	2.7	7.0	3.9	85	15	49	21	48	6.3	4.2	89	10
10	6.0	8.1	7.2	34	16	39	20	26	4.9	7.0	900	9.9
11	4.7	12	9.0	22	21	35	18	39	4.6	31	71	9.8
12	2.7	11	8.5	16	25	32	16	34	5.1	32	45	9.6
13	3.8	8.7	6.0	15	19	30	15	22	4.3	7.4	36	8.3
14	3.9	6.5	56	31	15	30	15	24	4.4	5.8	32	8.8
15	4.1	4.2	37	43	53	97	14	47	4.8	7.3	30	8.9
16	8.9	6.9	17	29	146	50	14	47	6.0	9.1	30	8.1
17	6.7	5.6	13	17	37	35	22	17	3.8	5.7	28	9.1
18	7.6	6.1	11	15	24	29	24	15	6.2	5.0	25	9.3
19	765	7.7	12	9.6	21	26	16	14	20	5.9	45	9.2
20	84	4.9	8.3	10	22	27	14	30	6.7	5.9	31	6.8
21	19	8.8	17	10	49	35	13	12	5.1	5.1	19	25
22	12	4.9	16	10	29	57	14	13	4.6	7.2	25	73
23	11	4.7	11	14	31	48	13	12	7.9	4.1	16	11
24	9.5	4.8	9.9	15	21	48	16	10	4.4	5.2	14	8.6
25	9.2	8.5	11	14	13	32	14	9.1	5.4	53	170	8.7
26	8.9	7.3	16	12	11	29	16	8.9	5.6	10	115	8.3
27	8.2	7.2	15	292	11	27	82	8.5	3.9	10	507	8.0
28	7.6	29	13	68	13	26	28	7.3	4.1	8.5	390	9.1
29	7.6	31	174	26	------	43	18	10	4.4	7.9	32	25
30	7.3	13	85	18	------	30	15	9.4	22	72	18	11
31	7.3	------	43	15	------	27	------	7.4	------	13	17	------
TOTAL	1,131.1	275.0	660.5	1,136.6	744	2,066	772	792.6	193.1	430.6	3,613.7	390.5
MEAN	36.5	9.17	21.3	36.7	26.6	66.6	25.7	25.6	6.44	13.9	117	13.0
MAX	765	31	174	292	146	898	166	169	22	72	900	73
MIN	2.7	4.2	3.9	9.6	10	11	13	7.3	3.8	4.1	8.7	6.8
CFSM	1.78	.45	1.04	1.79	1.30	3.25	1.26	1.25	.31	.68	5.69	.63
IN.	2.05	.50	1.20	2.06	1.35	3.75	1.40	1.44	.35	.78	6.56	.71

CAL YR 1966: TOTAL 7,099.60 MEAN 19.5 MAX 827 MIN .20 CFSM .95 IN 12.88
WAT YR 1967: TOTAL 12,205.7 MEAN 33.4 MAX 900 MIN 2.7 CFSM 1.63 IN 22.14

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-19	1300	9.87	1,270	8-10	0330	10.83	1,700
3- 7	1030	10.57	1,560	8-28	0245	9.93	1,290
8- 4	0045	10.04	1,340				

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

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

Drainage area.--66.7 sq mi.

Records available.--February 1952 to September 1959, July 1962 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 78.6 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1962, graphic water-stage recorder at same site and datum.

Average discharge.--12 years, 71.4 cfs.

Extremes.--Maximum discharge during year, 4,540 cfs Aug. 10 (gage height, 9.97 ft), from rating curve extended above 1,800 cfs on basis of contracted-opening measurement of peak flow; minimum daily, 21 cfs Oct. 13, 14, 17.

1952-59, 1962-67: Maximum discharge, that of Aug. 10, 1967; 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 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	70	25	29	87	80	52	74	65	53	65	46	100
2	90	27	27	71	84	50	74	68	48	42	41	90
3	40	36	24	80	90	50	71	71	47	239	168	83
4	32	30	28	62	74	56	59	78	46	65	459	78
5	30	26	33	59	77	65	62	62	44	46	289	74
6	25	27	25	50	65	174	68	63	42	38	174	70
7	23	26	25	48	56	1,750	156	215	42	35	108	68
8	22	26	25	126	100	221	115	187	41	33	80	66
9	22	26	24	180	120	153	87	161	40	40	201	66
10	22	27	23	108	109	140	84	114	38	150	1,500	72
11	22	31	29	77	66	136	74	136	36	800	252	67
12	22	30	26	65	57	129	68	142	35	200	150	59
13	21	28	25	56	52	112	68	91	34	90	118	57
14	21	26	76	80	54	112	74	87	34	80	94	55
15	22	26	76	94	64	129	74	98	36	112	84	52
16	25	25	53	84	185	136	74	110	35	94	80	53
17	21	25	47	59	112	118	74	74	32	65	74	57
18	30	25	48	53	84	94	108	70	36	56	71	52
19	600	25	46	50	74	80	80	70	87	53	68	49
20	200	24	42	58	71	77	68	94	47	47	90	47
21	100	24	57	50	87	84	65	74	36	44	90	81
22	60	24	50	42	77	112	68	80	40	44	80	224
23	45	24	44	59	80	122	71	77	102	42	74	76
24	35	25	35	80	71	118	74	68	77	41	71	64
25	31	25	45	71	56	101	77	65	41	90	180	60
26	29	30	80	62	52	87	74	62	35	53	239	54
27	28	28	60	320	52	80	223	59	33	41	423	52
28	27	69	52	268	56	80	101	56	31	40	222	65
29	26	93	230	136	------	101	90	74	31	40	160	161
30	25	34	201	98	------	90	77	84	97	159	130	81
31	25	------	168	87	------	77	------	59	------	50	110	------
TOTAL	1,791	917	1,753	2,820	2,205	4,886	2,532	2,814	1,376	2,994	5,926	2,233
MEAN	57.8	30.6	56.5	91.0	78.8	158	84.4	90.8	45.9	96.6	191	74.4
MAX	600	93	230	320	185	1,750	223	215	102	800	1,500	224
MIN	21	24	23	42	52	50	59	56	31	33	41	47
CFSM	.87	.46	.85	1.36	1.18	2.36	1.27	1.36	.69	1.45	2.87	1.12
IN.	1.00	.51	.98	1.57	1.23	2.72	1.41	1.57	.77	1.67	3.30	1.25

CAL YR 1966: TOTAL 18,658.4 MEAN 51.1 MAX 1,600 MIN 5.6 CFSM .77 IN 10.40
WAT YR 1967: TOTAL 32,247 MEAN 88.3 MAX 1,750 MIN 21 CFSM 1.32 IN 17.98

Peak discharge (base, 1,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	1100	9.17	3,950	8-10	0415	9.97	4,540
7-10 or 11	*	*	*				

* Unknown.

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

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

Drainage area.--87.8 sq mi.

Records available.--October 1931 to September 1936, June 1943 to September 1957, October 1959 to September 1967. Monthly discharge only for some periods, published in WSP 1302.

Gage.--Digital water-stage recorder. Datum of gage is 11.6 ft above mean sea level, datum of 1929. Nov. 17, 1931, to Sept. 30, 1936, at site 15 ft downstream at same datum. Prior to Oct. 1, 1961, graphic water-stage recorder.

Average discharge.--27 years, 103 cfs.

Extremes.--Maximum discharge during year, 6,640 cfs Aug. 10 (gage height, 16.41 ft); minimum, 13 cfs Oct. 10 (gage height, 3.96 ft); minimum daily, 23 cfs Oct. 12-14.
1931-36, 1943-57, 1959-67: Maximum discharge, that of Aug. 10, 1967; 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.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	86	36	47	90	100	64	100	85	63	75	61	107
2	116	39	42	85	103	55	96	86	61	54	60	99
3	50	55	36	79	114	55	94	102	59	271	382	95
4	37	48	34	77	91	60	88	84	56	76	820	91
5	36	36	43	77	91	96	92	78	56	62	414	86
6	30	36	39	69	84	200	100	80	54	51	164	83
7	28	34	38	63	70	2,310	180	283	52	46	100	80
8	25	34	37	154	110	413	120	236	51	42	87	79
9	28	35	35	204	110	244	100	200	50	45	250	79
10	24	36	35	107	120	193	100	120	49	112	2,880	82
11	26	43	47	84	97	168	96	133	48	1,040	297	80
12	23	42	39	72	87	152	90	148	45	340	186	73
13	23	39	38	70	76	139	86	105	43	105	151	72
14	23	34	98	84	80	137	90	104	41	85	133	71
15	26	33	84	111	100	204	90	128	45	99	114	69
16	30	31	63	108	221	175	86	123	45	97	104	69
17	27	30	57	82	137	144	100	96	41	72	97	73
18	24	27	58	77	107	129	130	90	49	66	92	68
19	752	27	55	58	100	116	87	89	109	65	95	65
20	288	27	57	64	102	120	80	118	62	65	126	63
21	120	26	65	62	124	130	80	83	48	62	99	108
22	70	24	54	66	107	160	85	85	47	61	104	317
23	54	24	49	76	105	160	82	81	88	59	87	88
24	44	27	40	92	94	150	88	76	91	59	93	78
25	41	28	50	91	78	130	82	74	56	87	291	73
26	38	38	80	81	70	110	84	72	47	64	336	68
27	36	34	70	431	72	100	257	70	39	60	819	67
28	36	82	66	354	76	100	146	68	37	59	446	74
29	37	128	300	161	------	130	102	76	38	69	177	168
30	38	57	160	124	------	110	91	87	109	182	138	88
31	36	------	100	105	------	100	------	69	------	65	122	------
TOTAL	2,252	1,190	2,016	3,458	2,826	6,554	3,102	3,329	1,679	3,695	9,325	2,713
MEAN	72.6	39.7	65.0	112	101	211	103	107	56.0	119	301	90.4
MAX	752	128	300	431	221	2,310	257	283	109	1,040	2,880	317
MIN	23	24	34	58	70	55	80	68	37	42	60	63
CFSM	.83	.45	.74	1.27	1.15	2.41	1.18	1.22	.64	1.36	3.43	1.03
IN.	.95	.50	.85	1.46	1.20	2.78	1.31	1.41	.71	1.57	3.95	1.15

CAL YR 1966: TOTAL 23,102.0 MEAN 63.3 MAX 1,420 MIN 5.0 CFSM .72 IN 9.79
WAT YR 1967: TOTAL 42,139 MEAN 115 MAX 2,880 MIN 23 CFSM 1.31 IN 17.85

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	1515	13.87	4,330	8- 3	2330	11.63	2,640
7-11	0300	11.71	2,690	8-10	0300	16.41	6,640

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

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

Drainage area.--47.0 sq mi.

Records available.--April 1943 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 81.46 ft above mean sea level, datum of 1929. Prior to Sept. 21, 1950, wire-weight and crest-stage gage at site 10 ft downstream at same datum. Sept. 21, 1950, to Sept. 30, 1961, graphic water-stage recorder at present site and datum.

Average discharge.--24 years, 60.2 cfs.

Extremes.--Maximum discharge during year, 3,210 cfs Mar. 7 (gage height, 7.23 ft); minimum, 5.3 cfs Dec. 24 (result of freezeup); minimum daily, 16 cfs Oct. 12, 13.
1943-67: Maximum discharge, 6,000 cfs Sept. 12, 1960 (gage height, 9.93 ft), from rating curve extended above 1,600 cfs on basis of contracted-opening measurement of peak flow; 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 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	49	20	27	47	51	39	57	49	38	44	32	63
2	64	20	25	45	52	37	56	51	36	34	28	58
3	29	30	22	44	54	41	54	60	35	236	52	55
4	24	23	20	42	47	44	50	46	33	47	253	53
5	23	20	20	42	47	70	53	46	33	51	209	52
6	21	21	23	37	44	124	54	49	32	35	62	50
7	19	20	23	35	29	1,250	105	189	32	31	47	49
8	19	20	22	91	53	153	63	135	30	30	48	48
9	18	20	22	106	56	105	58	98	29	30	131	48
10	17	22	21	59	59	89	58	66	29	128	881	51
11	17	24	27	46	51	82	53	82	28	382	124	47
12	16	23	22	41	49	75	50	79	27	94	86	43
13	16	22	23	40	39	70	50	59	26	52	72	42
14	17	20	49	49	41	70	52	58	26	45	65	42
15	17	20	46	65	54	101	51	63	28	51	57	41
16	19	19	36	62	118	90	49	73	27	54	53	43
17	17	20	33	48	68	76	56	55	26	41	51	42
18	17	20	36	45	56	65	65	52	27	38	49	39
19	474	19	34	36	51	59	51	52	65	39	48	37
20	116	18	33	36	51	58	47	62	37	40	61	37
21	41	18	36	37	60	70	46	48	28	34	52	66
22	31	19	31	38	54	88	51	49	31	33	55	239
23	27	18	30	47	55	87	45	47	129	29	48	53
24	25	18	20	56	49	84	52	44	73	28	58	48
25	25	19	28	55	38	70	47	43	36	51	202	48
26	24	24	42	49	37	63	48	42	32	50	137	42
27	22	21	37	277	39	60	163	40	27	29	331	40
28	21	85	35	154	43	59	76	39	27	28	196	45
29	20	71	166	70	------	72	56	47	26	32	100	112
30	19	33	93	56	------	62	51	51	68	80	82	56
31	19	------	56	50	------	58	------	40	------	36	73	------
TOTAL	1,283	747	1,138	1,905	1,445	3,471	1,767	1,914	1,121	1,932	3,743	1,689
MEAN	41.4	24.9	36.7	61.5	51.6	112	58.9	61.7	37.4	62.3	121	56.3
MAX	474	85	166	277	118	1,250	163	189	129	382	881	239
MIN	16	18	20	35	29	37	45	39	26	28	28	37
CFSM	.88	.53	.78	1.31	1.10	2.38	1.25	1.31	.80	1.33	2.57	1.20
IN.	1.02	.59	.90	1.51	1.14	2.75	1.40	1.51	.89	1.53	2.96	1.34

CAL YR 1966: TOTAL 13,765.6 MEAN 37.7 MAX 1,370 MIN 4.5 CFSM .80 IN 10.89
WAT YR 1967: TOTAL 22,155 MEAN 60.7 MAX 1,250 MIN 16 CFSM 1.29 IN 17.53

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	1130	7.23	3,210	8-10	0130	6.40	2,460
7-11	0030	5.52	1,750				

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

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

Drainage area.--6.70 sq mi.

Records available.--October 1963 to September 1967.

Gage.--Water-stage recorder. Prior to March 19, 1964, staff gage at same site and datum. Datum of gage is 48.62 ft above mean sea level, datum of 1929, supplementary adjustment of 1959.

Extremes.--Maximum discharge during year, 3,960 cfs Aug. 10 (gage height, 8.58 ft), from rating curve extended above 380 cfs on basis of contracted-opening measurement of peak flow; minimum, 0.44 cfs Nov. 24, 25, Mar. 1; minimum gage height, 0.65 ft Aug. 16.
1963-67: Maximum discharge, that of Aug. 10, 1967; minimum, 0.10 cfs July 17, 18, Sept. 18, 19, 1966; minimum gage height, that of Aug. 16, 1967.

Remarks.--Records fair.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	5.6	1.0	5.6	5.6	4.2	5.1	3.8	8.5	6.2	6.5	3.4
2	9.8	7.9	1.0	8.5	8.5	4.2	4.6	5.1	7.9	10	4.1	2.6
3	3.0	12	.72	6.2	10	5.1	5.1	9.2	5.1	47	52	2.2
4	2.6	3.4	.62	7.3	6.2	5.6	4.6	3.8	4.2	5.1	97	1.6
5	5.1	2.6	.72	6.7	5.1	18	6.2	3.8	5.6	4.6	29	2.6
6	2.0	3.8	1.0	4.2	4.6	49	5.6	4.2	6.7	3.4	10	3.0
7	2.0	2.6	1.2	4.2	3.8	246	46	86	6.7	2.6	7.3	3.0
8	1.4	3.4	1.4	43	9.2	24	6.2	25	6.7	2.2	6.8	2.6
9	1.0	3.4	1.4	17	7.9	16	4.6	14	7.3	3.4	69	2.6
10	1.0	5.1	1.2	11	7.9	13	4.6	6.7	6.2	107	899	2.6
11	1.2	7.3	3.8	7.9	11	11	3.8	20	6.2	132	13	2.6
12	1.2	6.2	1.0	5.6	9.2	8.5	3.0	9.2	7.3	21	7.3	2.6
13	1.4	3.0	2.2	5.6	7.3	7.9	3.4	4.6	7.9	9.8	6.2	2.6
14	1.6	2.6	23	8.5	7.9	8.5	3.8	6.7	8.5	10	5.6	3.0
15	1.2	2.6	6.7	10	20	22	3.8	20	8.5	7.3	5.1	3.0
16	3.4	2.6	3.0	7.3	31	15	3.4	9.8	8.5	15	4.8	3.4
17	1.6	2.6	2.0	5.6	12	10	10	4.6	6.7	5.6	6.7	3.4
18	2.2	2.6	1.6	4.6	10	6.2	6.7	7.3	12	5.1	8.5	3.4
19	251	2.2	1.6	4.2	8.5	5.1	4.2	18	35	4.6	11	3.8
20	22	1.4	3.4	3.8	9.8	6.2	4.2	15	4.2	6.2	17	3.8
21	5.1	1.4	17	3.8	18	16	4.2	6.2	2.6	32	16	42
22	2.6	1.2	7.3	3.8	9.2	19	4.6	9.2	8.2	8.6	28	27
23	1.6	.85	3.4	4.6	9.8	15	3.4	8.5	35	5.1	19	4.2
24	1.6	.72	1.4	5.1	6.7	12	7.9	7.3	9.1	4.2	31	5.1
25	2.6	.62	5.1	5.6	4.6	7.9	3.8	7.9	6.6	8.3	77	5.6
26	2.6	5.8	3.4	5.1	5.1	5.6	11	8.5	3.8	4.2	81	4.6
27	2.0	.72	3.4	88	5.6	5.1	50	7.3	3.0	4.2	301	5.1
28	2.0	25	4.2	15	5.1	5.6	8.5	6.7	3.0	5.5	55	9.2
29	1.6	4.6	90	7.9	-	16	4.6	15	3.4	16	13	32
30	1.4	1.4	17	5.6	- - - - -	7.3	3.8	10	27	21	7.4	4.2
31	4.6	- - - - -	7.3	4.6	- - - - -	6.2	- - - - -	9.2	- - - - -	5.1	4.3	- - - - -
Total	387.4	125.21	218.06	325.9	259.6	601.2	240.7	372.6	271.4	522.3	1,898.6	196.8
Mean	12.5	4.17	7.03	10.5	9.27	19.4	8.02	12.0	9.05	16.8	61.2	6.56
Max	251	25	90	88	31	246	50	86	35	132	899	42
Min	1.0	.62	.62	3.8	3.8	4.2	3.0	3.8	2.6	2.2	4.1	1.6
Cfsm	1.87	.622	1.05	1.57	1.38	2.90	1.20	1.79	1.35	2.51	9.13	.979
In.	2.15	.70	1.21	1.81	1.44	3.34	1.34	2.07	1.51	2.90	10.54	1.09

Cal yr 1966: Total 2,472.17 Mean 6.77 Max 251 Min .20 Cfsm 1.01 In. 13.72
Wtr yr 1967: Total 5,419.77 Mean 14.8 Max 899 Min .62 Cfsm 2.21 In. 30.08

Peak discharge (base, 350 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-19	1000	4.57	384	8- 3	2200	4.51	372
1-27	1445	4.57	384	8-10	0300	8.58	3,960
3- 7	0730	5.43	589	8-27	0530	6.71	1,210
7-10	2300	5.04	485	9-21	2230	5.08	495

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

Location.--Lat 39°52'10", long 75°35'35", on left bank 27 ft upstream from Penn Central Railroad bridge at Chadds Ford, Delaware County, and 1,200 ft downstream from highway bridge on U. S. Highway 1.

Drainage area.--287 sq mi.

Records available.--August 1911 to December 1953, October 1962 to September 1967. Monthly discharge only for some periods, published in WSP 1302.

Gage.--Digital water-stage recorder. Datum of gage is 150.45 ft above mean sea level, datum of 1929. Prior to May 21, 1927, chain gage and May 21, 1927, to Mar. 28, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--47 years, 375 cfs.

Extremes.--Maximum discharge during year, 7,700 cfs Mar. 7 (gage height, 10.50 ft); minimum, 49 cfs Feb. 26 (gage height, 0.89 ft).
1911-53, 1962-67: 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 $A\sqrt{d}$ study; minimum, 4.9 cfs Oct. 2, 1941 (gage height, 0.28 ft); minimum daily, 48 cfs Sept. 18, 1932.

Remarks.--Records good except those for winter months, which are fair. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1967 are published in Part 2 of the Pennsylvania annual report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	208	110	216	348	402	180	414	340	265	253	228	265
2	425	138	185	323	404	180	405	349	248	201	197	248
3	216	208	166	313	430	230	391	438	240	845	274	240
4	163	174	142	298	375	311	363	372	228	313	1,430	236
5	144	148	152	293	368	375	367	335	224	248	1,610	228
6	130	148	161	260	346	796	377	367	217	201	617	220
7	120	141	164	249	200	5,170	617	880	213	187	367	217
8	116	141	164	548	240	1,630	481	1,020	205	179	322	213
9	113	138	158	937	280	905	400	661	201	187	391	209
10	113	141	155	485	290	740	386	496	197	429	1,400	232
11	107	163	190	365	290	666	358	544	194	1,020	477	217
12	107	163	181	316	280	607	335	690	187	549	344	201
13	107	152	166	297	250	549	331	472	179	278	304	197
14	103	141	238	329	290	539	340	438	179	236	291	194
15	103	134	249	436	347	622	335	486	187	253	265	187
16	116	130	217	475	684	695	322	563	187	265	248	190
17	116	130	203	360	515	617	335	424	176	220	240	197
18	110	134	214	336	389	515	448	386	176	201	236	190
19	1,040	134	237	210	346	457	358	381	286	201	228	187
20	796	130	221	190	347	462	317	410	217	190	313	179
21	312	124	222	200	379	496	304	349	183	209	261	232
22	180	124	202	250	350	563	326	349	190	220	248	568
23	140	120	189	324	330	592	313	335	840	190	228	217
24	120	124	176	421	280	583	331	317	300	176	248	205
25	130	127	154	419	140	622	335	308	217	217	720	205
26	120	152	264	374	180	525	313	300	187	190	433	187
27	120	144	241	880	190	467	950	286	169	165	795	183
28	120	282	251	1,490	190	443	725	278	162	165	830	194
29	120	766	637	645	-	568	429	326	158	187	429	377
30	110	304	705	463	- - - - -	515	367	405	291	1,080	331	253
31	110	- - - - -	431	410	- - - - -	438	- - - - -	300	- - - - -	291	295	- - - - -
Total	6,035	5,165	7,251	13,244	9,112	22,058	12,073	13,605	6,903	9,546	14,600	6,868
Mean	195	172	234	427	325	712	402	439	230	308	471	229
Max	1,040	766	705	1,490	684	5,170	950	1,020	840	1,080	1,610	568
Min	103	110	142	190	140	180	304	278	158	165	197	179
Cfsm	.68	.60	.81	1.49	1.13	2.48	1.40	1.53	.80	1.07	1.64	.80
In.	.78	.67	.94	1.72	1.18	2.86	1.56	1.76	.89	1.24	1.89	.89

Cal yr 1966: Total 91,632 Mean 251 Max 4,760 Min 42 Cfsm .87 In. 11.87
Wtr yr 1967: Total 126,460 Mean 346 Max 5,170 Min 103 Cfsm 1.21 In. 16.39

Peak discharge (base, 3,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-07	1645	10.50	7,700				

1-4815. Brandywine Creek at Wilmington, Del.

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

Drainage area.--314 sq mi.

Records available.--October 1946 to September 1967. Prior to December 1946, monthly discharge only, published in WSP 1302.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 68.23 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1961, graphic water-stage recorder at same site and datum.

Average discharge.--21 years, 435 cfs.

Extremes.--Maximum discharge during year, 9,510 cfs Mar. 7 (gage height, 9.47 ft); minimum, about 40 cfs Feb. 26 (result of freezeup); minimum daily, 117 cfs Oct. 14, 15.
1946-67: 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 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	241	136	260	440	476	317	515	425	343	336	306	370
2	485	134	217	409	471	304	507	426	321	243	251	350
3	276	181	191	394	499	343	496	507	305	857	332	330
4	191	160	156	374	457	362	464	459	289	416	1,570	320
5	169	138	170	367	445	434	466	411	279	306	1,980	307
6	149	135	178	329	424	725	482	420	268	236	752	296
7	135	133	183	312	334	6,110	703	935	261	211	477	286
8	130	130	183	585	353	2,660	579	1,370	249	202	405	284
9	127	130	178	1,000	425	1,080	490	789	243	201	650	280
10	128	133	170	583	444	926	469	598	235	489	2,630	292
11	125	150	208	457	428	814	444	594	223	1,450	922	298
12	120	153	208	399	444	732	415	782	210	721	577	264
13	119	144	187	371	350	659	407	560	201	369	471	258
14	117	133	265	403	377	645	414	516	195	293	419	251
15	117	129	304	492	435	723	417	538	204	302	372	243
16	126	124	260	546	679	802	404	640	207	326	339	241
17	129	123	233	448	602	714	402	510	192	275	317	257
18	126	122	244	416	475	621	534	466	190	233	306	249
19	1,610	123	272	330	426	559	452	452	359	226	297	238
20	1,050	121	265	333	430	568	401	484	272	218	383	231
21	411	120	260	349	462	587	381	423	211	213	349	331
22	280	118	249	348	438	667	399	417	210	274	345	760
23	225	119	223	385	441	686	400	415	813	219	299	226
24	205	118	183	481	416	677	407	388	417	196	302	193
25	197	119	136	494	301	702	429	377	261	230	939	200
26	191	135	272	458	310	620	396	371	224	215	786	177
27	180	134	298	906	356	571	1,010	361	192	178	1,700	169
28	170	225	238	1,740	356	546	891	350	182	173	1,250	176
29	166	785	580	702	------	640	531	379	178	200	560	432
30	158	382	766	537	------	628	460	502	312	1,150	450	277
31	152	------	487	482	------	542	------	392	------	410	400	------
TOTAL	8,005	4,987	8,024	15,870	12,054	26,964	14,765	16,257	8,046	11,368	21,136	8,586
MEAN	258	166	259	512	431	870	492	524	268	367	682	286
MAX	1,610	785	766	1,740	679	6,110	1,010	1,370	813	1,450	2,630	760
MIN	117	118	136	312	301	304	381	350	178	173	251	169
CFSM	.82	.53	.82	1.63	1.37	2.77	1.57	1.67	.85	1.17	2.17	.91
IN.	.95	.59	.95	1.88	1.43	3.19	1.75	1.93	.95	1.35	2.50	1.02

CAL YR 1966: TOTAL 107,623 MEAN 295 MAX 6,500 MIN 60 CFSM .94 IN 12.75
WAT YR 1967: TOTAL 156,062 MEAN 428 MAX 6,110 MIN 117 CFSM 1.36 IN 18.48

Peak discharge (base, 4,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	2045	9.47	9,510	8-27	1545	7.20	4,200
8-10	0100	7.64	4,880				

1-4832. Blackbird Creek at Blackbird, Del.

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

Drainage area.--3.85 sq mi.

Records available.--Annual maximum, water years 1952-56, and occasional low-flow measurements, water years 1952-53, 1955-56. October 1956 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 19.38 ft above mean sea level, datum of 1929, releveling of 1963 (unadjusted). Mar. 5, 1951, to Oct. 16, 1956, staff gage and crest-stage gage at site 15 ft upstream at same datum. Prior to June 13, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--11 years, (1956-67), 4.26 cfs.

Extremes.--Maximum discharge during year, 97 cfs Oct. 19 (gage height, 1.89 ft); minimum, 0.17 cfs June 29, Aug. 19.
1951-67: Maximum discharge, 510 cfs Sept. 12, 1960 (gage height, 4.10 ft).
1956-67: No flow at times during 1964, 1965, 1966.

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.1	1.8	2.5	5.2	3.3	5.0	4.8	3.5	2.0	2.9	5.5	1.1
2	7.8	1.9	2.0	5.2	3.5	4.4	4.6	3.5	1.8	1.3	1.9	1.0
3	2.8	2.6	1.8	5.2	4.2	4.8	4.4	3.5	1.4	2.3	4.6	.94
4	1.4	2.2	1.8	5.0	3.5	5.0	4.2	3.1	1.1	1.3	41	.86
5	2.6	1.9	1.6	4.6	3.5	5.5	4.4	3.0	1.1	1.5	16	.78
6	2.0	2.2	1.8	4.2	3.1	9.5	4.6	3.3	1.0	1.0	4.3	.74
7	1.1	2.2	1.8	3.9	5.4	60	5.5	18	.93	.84	1.6	.75
8	.75	2.0	1.8	9.5	6.2	22	4.8	17	.84	.89	2.3	.74
9	.67	1.9	1.8	11	5.5	11	4.2	6.2	.67	1.1	10	.76
10	.67	2.0	1.6	6.8	6.2	8.1	3.9	4.2	.75	.99	3.8	1.0
11	.59	2.4	2.2	4.8	4.8	7.3	3.7	4.2	.67	5.2	2.7	.97
12	.52	2.5	2.0	4.2	4.6	6.8	3.3	4.4	.59	2.0	1.3	.82
13	.46	2.6	2.8	4.2	4.6	6.0	3.3	3.3	.54	1.1	1.1	.80
14	.59	2.4	8.1	4.8	3.7	6.0	3.5	3.5	.59	.96	1.1	.77
15	.75	2.0	5.7	5.0	10	10	3.5	4.4	.65	1.1	.89	.73
16	1.9	2.0	3.1	4.4	18	12	3.3	3.9	.56	2.2	.76	.78
17	2.0	2.0	2.6	3.9	11	7.8	5.0	3.1	.45	1.3	.70	1.0
18	1.4	2.0	2.4	3.7	6.8	5.7	8.1	3.0	.58	1.2	.67	.89
19	45	2.0	2.2	3.1	5.7	5.0	4.6	3.0	5.0	1.5	.62	.80
20	36	1.8	3.8	3.5	5.7	5.0	3.5	3.0	2.5	1.4	.99	.76
21	8.5	1.8	7.8	3.5	9.8	6.5	3.3	2.5	1.1	1.8	1.2	.76
22	3.9	1.8	5.2	3.5	8.8	9.2	3.5	3.5	.97	2.1	1.0	.75
23	2.8	1.8	3.5	3.5	7.8	7.5	3.3	3.1	2.1	1.4	1.6	.72
24	2.5	1.8	3.1	3.3	6.8	7.3	3.3	2.8	1.1	1.1	2.6	.77
25	2.2	1.9	4.8	3.3	5.5	6.0	3.1	2.6	.73	.98	15	.85
26	2.0	3.0	4.2	3.1	4.6	5.2	3.3	2.5	.49	.88	10	.78
27	1.9	3.0	3.9	9.1	4.6	4.8	9.8	2.4	.44	.73	2.9	.75
28	1.8	3.3	3.5	14	5.0	4.8	7.3	2.0	.41	.90	2.4	.87
29	1.8	4.8	14	6.2	------	6.5	4.4	2.4	.40	1.1	1.6	4.0
30	1.6	3.3	13	4.2	------	5.7	3.7	3.0	2.9	1.1	1.4	2.2
31	1.5	------	7.8	3.3	------	4.8	------	2.2	------	1.6	1.2	------
TOTAL	144.60	68.9	124.2	159.2	172.2	275.2	132.2	130.1	34.36	45.77	142.73	29.44
MEAN	4.65	2.30	4.01	5.14	6.15	8.88	4.41	4.20	1.15	1.48	4.60	.98
MAX	45	4.8	14	14	18	60	9.8	18	5.0	5.2	41	4.0
MIN	.46	1.8	1.6	3.1	3.1	4.4	3.1	2.0	.40	.73	.62	.72
CFSM	1.21	.60	1.04	1.33	1.60	2.31	1.14	1.09	.30	.38	1.20	.25
IN.	1.39	.67	1.20	1.54	1.66	2.66	1.28	1.26	.33	.44	1.38	.28

CAL YR 1966: TOTAL 794.30 MEAN 2.18 MAX 45 MIN 0 CFSM .57 IN 7.67
WAT YR 1967: TOTAL 1,458.30 MEAN 4.00 MAX 60 MIN .40 CFSM 1.04 IN 14.09

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-19	2115	1.89	97	8- 4	0710	1.82	82
3- 7	1500	1.81	94				

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

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

Drainage area.--31.9 sq mi.

Records available.--January 1958 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 0.50 ft above mean sea level, datum of 1929, supplementary adjustment of 1963.

Average discharge.--9 years, 29.3 cfs.

Extremes.--Maximum discharge during year, 652 cfs Aug. 26 (gage height, 5.91 ft); minimum, 1.4 cfs Oct. 13, 14. 1958-67: 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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	10	15	66	26	35	34	28	13	13	9.7	21
2	18	11	14	50	25	34	32	25	12	13	8.5	16
3	14	15	12	46	25	34	30	25	11	18	41	14
4	12	11	9.3	46	25	34	24	20	10	13	266	13
5	12	11	9.7	42	24	37	26	20	9.7	13	394	12
6	9.7	12	10	36	24	45	27	21	9.7	11	189	12
7	7.3	10	11	32	22	120	33	72	9.3	9.7	82	11
8	7.3	11	11	37	22	206	35	158	8.9	10	34	11
9	6.5	12	11	60	24	166	33	153	8.5	11	18	11
10	5.2	12	11	75	28	105	30	93	8.1	10	14	11
11	3.6	12	13	62	34	72	26	56	7.3	12	12	10
12	2.9	13	11	46	34	58	24	41	6.5	8.9	10	10
13	1.6	12	16	39	29	52	22	32	5.9	7.3	9.7	10
14	1.6	12	20	35	27	48	22	30	5.5	6.5	9.7	10
15	2.2	12	22	34	35	62	23	33	5.9	8.1	9.3	10
16	4.3	11	20	32	74	86	21	33	5.9	25	8.1	10
17	2.5	12	16	30	98	91	24	29	5.2	15	7.7	10
18	2.2	12	14	28	80	67	32	25	8.5	12	7.3	10
19	79	12	13	25	64	49	32	24	62	9.3	23	10
20	120	10	17	23	54	42	27	23	72	8.5	49	9.3
21	142	9.7	26	24	62	45	24	21	45	7.7	33	9.3
22	86	11	25	24	75	58	24	24	27	8.5	16	9.3
23	45	11	24	26	88	72	21	24	27	6.9	20	8.1
24	28	11	27	26	83	66	22	24	24	6.2	30	7.7
25	20	11	14	26	64	60	19	21	16	5.5	287	7.7
26	14	13	13	25	44	49	21	18	11	5.2	561	7.3
27	13	13	18	30	39	44	45	15	8.9	4.9	242	7.7
28	12	17	18	35	36	40	60	14	7.7	5.2	113	11
29	12	19	44	42	-	40	52	14	7.3	6.5	70	108
30	10	18	58	33	- - - - -	37	36	15	11	6.9	42	101
31	9.7	- - - - -	82	27	- - - - -	36	- - - - -	14	- - - - -	6.2	30	- - - - -
Total	722.6	366.7	625.0	1,162	1,265	1,990	881	1,145	469.8	304.0	2,646.0	508.4
Mean	23.3	12.2	20.2	37.5	45.2	64.2	29.4	36.9	15.7	9.81	85.4	16.9
Max	142	19	82	75	98	206	60	158	72	25	561	108
Min	1.6	9.7	9.3	23	22	34	19	14	5.2	4.9	7.3	7.3
Cfsm	.730	.382	.633	1.18	1.42	2.01	.922	1.16	.492	.308	2.68	.530
In.	.84	.43	.73	1.35	1.47	2.32	1.03	1.33	.55	.35	3.08	.59

Cal yr 1966: Total 3,529.0 Mean 9.67 Max 142 Min .50 Cfsm .303 In. 4.12
Wtr yr 1967: Total 12,085.5 Mean 33.1 Max 561 Min 1.6 Cfsm 1.04 In. 14.09

1-4840. Murderkill River near Felton, Del.

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

Drainage area.--13.6 sq mi.

Records available.--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 September 1967.

Gage.--Water-stage recorder. Datum of gage is 22.18 ft above mean sea level, datum of 1929, supplementary adjustment of 1954. July 1931 to October 1933, staff gage read twice daily at bridge 200 ft upstream at datum 2.00 ft higher. March 1951 to May 1960, wire-weight gage and crest-stage gage at bridge 200 ft upstream at datum 2.00 ft higher.

Average discharge.--9 years, 16.5 cfs.

Extremes.--Maximum discharge during year, 2,090 cfs Aug. 4 (gage height, 8.83 ft); minimum, 2.6 cfs June 17.
1931-33, 1951-67: Maximum discharge, that of Aug. 4, 1967.
1931-33, 1960-67: Minimum discharge, 0.80 cfs Aug. 28, 1966.

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.5	9.8	7.6	22	15	25	17	13	9.0	11	27	36
2	11	10	7.4	24	15	21	17	12	8.2	8.8	13	30
3	5.8	12	6.6	25	17	23	17	14	7.1	13	49	26
4	4.7	11	5.8	24	15	23	15	12	6.3	11	1,270	24
5	7.1	9.8	6.2	23	14	22	16	11	6.5	14	597	22
6	6.1	8.8	7.4	20	14	23	17	12	6.3	9.8	300	20
7	4.7	9.2	7.0	19	13	73	21	58	6.3	8.4	159	18
8	3.8	9.5	7.0	30	13	74	18	121	6.0	9.0	92	17
9	3.2	9.8	7.0	34	12	39	16	49	5.4	9.6	63	16
10	4.5	9.8	6.6	26	13	32	16	30	4.5	8.4	60	15
11	6.1	9.8	7.0	22	14	28	15	24	3.8	8.4	55	14
12	4.4	9.0	6.6	20	15	26	14	21	4.2	7.3	44	14
13	4.2	8.4	10	18	13	24	14	17	4.0	6.9	40	13
14	4.4	8.4	16	18	14	23	14	20	4.4	6.9	39	13
15	4.2	8.4	12	18	29	40	14	30	4.4	9.5	35	13
16	4.9	8.2	9.2	17	55	46	13	28	4.0	57	32	20
17	4.9	8.2	8.0	16	39	32	14	19	3.2	20	30	24
18	5.1	8.2	7.4	16	28	25	18	17	9.6	13	28	17
19	63	7.6	7.4	14	25	21	14	15	214	12	28	14
20	115	7.0	9.0	14	28	21	13	13	85	10	28	13
21	28	7.4	14	14	50	26	12	12	29	9.4	30	13
22	16	7.2	11	16	50	40	12	16	19	8.2	57	12
23	13	7.2	10	15	49	33	11	14	24	7.4	122	11
24	12	6.8	9.5	14	43	33	12	13	16	7.4	155	10
25	11	7.0	11	14	27	26	11	12	12	7.3	238	10
26	10	8.6	9.5	13	20	23	12	12	11	7.1	238	10
27	9.8	7.4	9.5	18	19	21	27	10	10	6.9	137	9.7
28	9.5	9.0	9.0	29	24	20	22	9.2	9.2	23	144	11
29	8.8	10	35	20	-	21	16	9.8	8.8	33	77	158
30	8.4	8.6	44	17	-----	20	14	10	12	14	53	77
31	9.0	-----	26	16	-----	18	-----	9.4	-----	11	42	-----
Total	411.1	262.1	349.7	606	683	922	462	663.4	553.2	388.7	4,282	700.7
Mean	13.3	8.74	11.3	19.5	24.4	29.7	15.4	21.4	18.4	12.5	138	23.4
Max	115	12	44	34	55	74	27	121	214	57	1,270	158
Min	3.2	6.8	5.8	13	12	18	11	9.2	3.2	6.9	13	9.7
Cfsm	.978	.643	.831	1.43	1.79	2.18	1.13	1.57	1.35	.919	10.1	1.72
In.	1.12	.72	.96	1.66	1.87	2.52	1.26	1.81	1.51	1.06	11.7	1.92

Cal yr 1966: Total 2,991.8 Mean 8.20 Max 115 Min 1.1 Cfsm .603 In. 8.18
Wtr yr 1967: Total 10,283.9 Mean 28.2 Max 1,270 Min 3.2 Cfsm 2.07 In. 28.12

Peak discharge (base, 130 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-20	0230	4.79	168	8- 4	0530	8.83	2,090
5- 8	0200	4.82	173	8-25	2000	5.52	325
6-19	1100	5.43	270	9-29	1500	5.07	219

1-4841. Beaverdam Branch at Houston, Del.

Location.--Lat 38°54'20", long 75°30'49", on left bank 15 ft upstream from bridge on State Highway 384, 0.8 mile south of Houston, Kent County, 2,000 ft upstream from unnamed stream, and 1¼ miles upstream from Blairs Pond and mouth.

Drainage area.--2.83 sq mi.

Records available.--May 1958 to September 1967.

Gage.--Digital water-stage recorder and timber control. Datum of gage is 35.67 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Prior to Dec. 29, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--9 years, 3.41 cfs.

Extremes.--Maximum discharge during year, 76 cfs Aug. 4 (gage height, 4.17 ft); minimum daily, 0.50 cfs Oct. 8-10, 12-14, 17, 18.
1958-67: 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 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.74	1.6	1.4	2.2	2.4	3.9	3.5	3.0	2.8	1.6	2.5	6.8
2	.93	1.6	1.4	2.3	2.4	3.8	3.5	3.0	2.6	1.6	2.0	6.4
3	.62	1.6	1.4	2.3	2.4	4.2	3.4	3.0	2.5	1.9	2.5	5.9
4	.56	1.5	1.3	2.4	2.4	4.1	3.2	2.9	2.5	2.3	51	5.6
5	.62	1.5	1.3	2.4	2.4	4.2	3.3	2.9	2.4	2.8	37	5.3
6	.62	1.5	1.4	2.3	2.3	4.1	3.3	3.0	2.4	1.9	11	5.0
7	.56	1.5	1.4	2.3	2.5	7.0	4.4	11	2.2	1.8	5.8	4.8
8	.50	1.5	1.3	2.8	2.3	4.8	3.9	6.9	2.1	1.8	4.3	4.7
9	.50	1.5	1.3	2.7	2.3	4.3	3.7	5.2	1.7	1.8	3.6	4.6
10	.50	1.5	1.2	2.5	2.5	4.2	3.8	4.4	2.0	1.7	3.6	4.6
11	.56	1.4	1.2	2.5	2.4	4.2	3.5	4.2	2.0	1.6	3.0	4.3
12	.50	1.4	1.2	2.4	2.4	4.0	3.3	3.9	2.0	1.6	2.9	4.1
13	.50	1.4	1.5	2.4	2.3	4.0	3.3	3.7	1.9	1.6	2.9	3.8
14	.50	1.4	1.7	2.5	2.4	3.9	3.3	4.6	2.0	1.5	2.6	3.6
15	.56	1.4	1.5	2.4	4.3	4.5	3.4	5.8	1.9	2.3	2.4	3.5
16	.56	1.4	1.4	2.4	4.8	4.4	3.2	4.7	1.8	2.1	2.3	4.7
17	.50	1.4	1.4	2.4	3.6	4.1	3.3	4.1	1.8	1.8	2.3	4.1
18	.50	1.4	1.3	2.3	3.2	3.8	3.4	3.9	1.8	1.7	2.1	3.8
19	9.8	1.4	1.3	2.3	3.1	3.7	3.1	3.7	3.0	1.7	2.4	3.5
20	3.1	1.4	1.3	2.4	3.4	3.8	3.1	3.6	2.2	1.7	2.3	3.3
21	1.7	1.4	1.4	2.4	6.3	4.1	3.1	3.4	1.9	2.3	3.1	3.3
22	1.6	1.4	1.4	2.4	4.3	4.5	3.1	3.7	1.8	2.1	6.2	3.3
23	1.5	1.4	1.4	2.4	6.5	4.2	3.0	3.5	1.9	1.8	12	3.1
24	1.5	1.3	1.5	2.3	4.5	4.2	3.0	3.4	1.8	1.6	11	3.1
25	1.5	1.3	1.6	2.3	4.0	4.0	2.9	3.3	1.8	1.6	31	2.9
26	1.5	1.4	1.6	2.3	3.7	3.8	3.1	3.2	1.6	1.6	21	2.9
27	1.5	1.4	1.6	2.9	3.5	3.8	4.2	3.1	1.6	1.6	15	2.8
28	1.5	1.6	1.5	2.8	4.1	3.8	3.5	3.0	1.6	1.6	18	3.3
29	1.5	1.6	5.0	2.5	------	3.7	3.2	3.0	1.6	1.6	9.1	27
30	1.5	1.5	2.7	2.4	------	3.5	3.1	3.0	1.7	1.6	8.3	7.9
31	1.6	------	2.2	2.4	------	3.5	------	2.9	------	1.6	7.5	------
TOTAL	40.13	43.6	49.1	75.3	92.7	128.1	101.1	123.0	60.9	55.8	290.7	152.0
MEAN	1.29	1.45	1.58	2.43	3.31	4.13	3.37	3.97	2.03	1.80	9.38	5.07
MAX	9.8	1.6	5.0	2.9	6.5	7.0	4.4	11	3.0	2.8	51	27
MIN	.50	1.3	1.2	2.2	2.3	3.5	2.9	2.9	1.6	1.5	2.0	2.8
CFSM	.46	.51	.56	.86	1.17	1.46	1.19	1.40	.72	.64	3.31	1.79
IN.	.53	.57	.65	.99	1.22	1.68	1.33	1.62	.80	.73	3.82	2.00

CAL YR 1966: TOTAL 523.53 MEAN 1.43 MAX 9.8 MIN .20 CFSM .51 IN 6.88
WAT YR 1967: TOTAL 1,212.43 MEAN 3.32 MAX 51 MIN .50 CFSM 1.17 IN 15.93

Peak discharge (base, 30 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8- 4	0815	4.17	76				
8-25	1215	3.71	52				
9-29	0900	3.49	45				

1-4843. Sowbridge Branch near Milton, Del.

Location.--Lat 38°48'51", long 75°19'39", on left bank at downstream side of highway bridge 1 mile downstream from Reynolds Pond, 0.7 mile upstream from mouth, and 2½ miles north of Milton, Sussex County.

Drainage area.--7.08 sq mi.

Records available.--October 1956 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 3.43 ft above mean sea level, datum of 1929, supplementary adjustment of 1962.

Average discharge.--11 years, 9.87 cfs.

Extremes.--Maximum discharge during year, 134 cfs Aug. 5 (gage height, 6.33 ft); minimum, 3.6 cfs June 17, 18 (gage height, 4.11 ft).
1956-67: Maximum discharge, that of Aug. 5, 1967; minimum, 1.3 cfs Oct. 3, 4, 5, 6, 1957 (gage height, 3.79 ft).

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.4	4.4	4.3	6.5	5.9	9.7	10	7.8	6.5	5.4	11	18
2	4.6	4.6	4.3	6.4	6.2	9.0	9.9	7.4	6.2	5.4	12	19
3	4.3	5.6	4.0	6.2	6.2	9.7	9.7	7.2	5.9	5.9	11	18
4	4.1	5.0	3.9	6.2	6.0	9.7	9.4	6.8	5.6	7.4	48	18
5	4.6	4.7	3.9	6.2	6.0	9.9	9.7	6.7	5.4	7.6	95	16
6	4.4	4.7	4.0	6.2	5.9	10	9.7	6.8	5.3	6.7	76	15
7	4.3	4.6	4.0	6.2	11	12	10	14	5.1	6.2	42	15
8	4.3	4.6	4.0	6.8	6.7	11	9.9	14	5.0	6.0	29	15
9	4.3	4.6	4.0	6.8	5.7	11	9.7	13	4.8	5.9	24	15
10	4.4	4.7	3.9	6.7	8.0	11	9.4	11	4.7	5.6	19	16
11	4.4	4.7	4.0	6.7	6.5	11	9.0	9.9	4.4	5.3	6.3	16
12	4.1	4.8	3.9	6.5	6.2	10	8.8	8.8	4.3	5.0	6.6	14
13	4.1	4.7	5.6	6.4	6.4	10	8.8	8.0	4.1	4.8	10	13
14	4.1	4.4	7.0	6.5	6.0	11	6.4	9.4	4.1	4.8	14	13
15	4.1	4.3	6.4	6.5	6.8	12	6.7	12	4.1	12	16	14
16	4.6	4.3	6.0	6.4	7.8	11	6.7	12	4.0	12	15	29
17	4.4	4.3	5.7	6.2	7.6	11	7.2	12	3.8	11	13	36
18	4.4	4.3	5.6	6.0	8.8	10	8.2	10	3.8	9.0	12	19
19	7.2	4.3	5.4	6.4	8.6	10	8.0	9.2	14	8.0	12	3.9
20	5.1	4.3	5.4	6.4	8.6	10	8.0	8.4	13	7.0	16	4.7
21	4.3	4.0	5.9	6.4	9.7	11	7.8	8.0	10	7.0	21	6.4
22	4.7	4.0	5.6	6.5	9.0	12	7.8	8.4	8.6	7.0	22	8.0
23	7.4	4.0	5.4	6.5	10	32	7.6	8.2	7.0	6.5	27	9.2
24	6.8	4.0	7.4	6.4	9.7	23	7.6	8.0	6.4	6.0	31	9.9
25	6.2	4.0	15	6.4	9.7	17	7.2	7.8	5.9	5.6	45	9.7
26	5.6	4.1	5.4	6.2	10	14	7.4	7.2	5.6	5.6	53	9.4
27	5.3	4.1	4.8	6.5	9.2	13	10	6.8	5.3	5.4	17	9.7
28	5.0	4.7	4.4	6.5	9.2	12	9.9	6.5	5.1	5.4	47	10
29	4.8	4.7	8.0	6.2	-	12	9.0	6.7	5.1	5.6	34	14
30	4.6	4.4	6.8	6.0	- - - - -	11	8.4	6.8	5.4	5.9	8.7	15
31	4.6	- - - - -	6.7	5.9	- - - - -	11	- - - - -	6.8	- - - - -	5.9	15	- - - - -
Total	149.5	133.9	170.7	197.7	217.4	377.0	257.9	275.6	178.5	206.9	808.6	428.9
Mean	4.82	4.46	5.51	6.38	7.76	12.2	8.60	8.89	5.95	6.67	26.1	14.3
Max	7.4	5.6	15	6.8	11	32	10	14	14	12	95	36
Min	4.1	4.0	3.9	5.9	5.7	9.0	6.4	6.5	3.8	4.8	6.3	3.9
Cfsm	.68	.63	.78	.90	1.10	1.72	1.21	1.26	.84	.94	3.69	2.02
In.	.79	.70	.90	1.04	1.14	1.98	1.35	1.45	.94	1.09	4.25	2.25

Cal yr 1966: Total 2,162.8 Mean 5.93 Max 21 Min 3.0 Cfsm .84 In. 11.36
Wtr yr 1967: Total 3,402.6 Mean 9.32 Max 95 Min 3.8 Cfsm 1.32 In. 17.87

1-4845. Stockley Branch at Stockley, Del.

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

Drainage area.--5.24 sq mi.

Records available.--April 1943 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 24.54 ft above mean sea level, datum of 1929. Prior to Aug. 16, 1950, staff gage and crest-stage gage at same site and datum. Aug. 16, 1950, to Dec. 31, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--24 years, 6.99 cfs.

Extremes.--Maximum discharge during year, 107 cfs Aug. 4 (gage height, 3.67 ft); minimum, 1.0 cfs Feb. 10, Sept. 21.
1943-67: 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 by logarithmic plotting; minimum observed, 0.13 cfs Sept. 1-11, 1944.

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.7	1.7	1.7	3.0	3.0	7.4	5.4	3.5	4.9	4.6	7.5	12
2	1.9	1.7	1.7	3.3	3.1	7.1	5.4	3.5	4.7	4.4	5.5	11
3	1.4	2.0	1.6	3.1	3.1	7.4	5.3	3.5	4.5	5.9	6.1	10
4	1.4	1.7	1.6	3.0	3.0	7.2	5.0	3.3	4.4	4.4	54	9.6
5	1.6	1.7	1.6	3.2	3.0	7.2	5.1	3.3	4.2	4.3	89	9.1
6	1.6	1.7	1.6	3.1	3.0	7.3	5.1	3.5	4.1	3.9	51	8.7
7	1.4	1.7	1.6	3.0	3.2	7.9	5.5	12	3.9	3.8	28	8.4
8	1.3	1.7	1.6	3.5	3.0	7.1	4.9	10	3.9	3.8	19	8.1
9	1.3	1.7	1.6	3.7	2.9	6.8	4.8	8.1	3.7	3.8	15	8.0
10	1.2	1.6	1.6	3.5	3.1	6.6	5.0	7.2	3.6	3.6	13	8.0
11	1.2	1.7	1.6	3.4	3.1	6.7	4.6	6.9	3.4	3.5	12	7.6
12	1.2	1.7	1.6	3.3	3.1	6.6	4.4	6.5	3.2	3.4	12	7.4
13	1.2	1.6	2.2	3.3	3.0	6.4	4.3	6.1	3.2	3.4	11	7.2
14	1.2	1.6	2.8	3.4	3.1	6.3	4.3	7.6	3.3	3.4	11	7.0
15	1.2	1.6	2.2	3.3	4.7	6.9	4.4	9.5	3.2	6.7	10	6.9
16	1.4	1.6	2.0	3.2	5.6	6.8	4.1	8.7	3.2	6.2	9.5	8.4
17	1.4	1.6	2.0	3.1	4.8	6.6	3.8	7.7	3.0	4.6	9.0	7.7
18	1.4	1.6	1.9	3.1	4.6	6.2	4.2	7.2	3.2	4.1	8.7	7.3
19	3.8	1.6	1.7	3.2	4.4	5.9	3.9	6.9	17	4.0	8.4	7.3
20	3.0	1.6	1.7	3.0	4.9	6.1	3.8	6.5	8.7	3.8	8.2	7.0
21	1.7	1.6	1.7	3.2	7.6	6.6	3.7	6.1	6.9	5.7	8.1	6.4
22	1.6	1.6	1.7	3.4	6.6	6.5	3.8	6.3	6.1	5.3	9.1	6.7
23	1.6	1.6	1.7	3.3	9.9	6.4	3.5	6.1	5.5	4.4	13	6.4
24	1.4	1.6	1.7	3.3	8.4	6.4	3.5	6.1	5.3	4.0	14	6.4
25	1.4	1.6	1.7	3.3	7.6	6.1	3.5	5.9	5.3	3.8	58	6.1
26	1.4	1.6	1.7	3.3	7.1	6.0	3.5	5.7	5.5	3.7	38	5.8
27	1.4	1.6	1.7	3.3	7.1	5.8	4.8	5.6	4.7	3.8	26	5.8
28	1.4	1.9	1.6	3.2	7.8	5.8	4.0	5.3	4.5	3.8	23	6.1
29	1.4	1.9	5.8	3.0	------	5.9	3.8	5.2	4.4	3.8	16	7.6
30	1.4	1.9	3.0	3.0	------	5.6	3.5	5.3	4.8	3.8	13	6.4
31	1.7	------	2.8	3.0	------	5.4	------	5.1	------	3.6	12	------
TOTAL	48.2	50.3	61.0	100.0	133.8	203.0	130.9	194.2	146.3	131.3	618.1	230.4
MEAN	1.55	1.68	1.97	3.23	4.78	6.55	4.36	6.26	4.88	4.24	19.9	7.68
MAX	3.8	2.0	5.8	3.7	9.9	7.9	5.5	12	17	6.7	89	12
MIN	1.2	1.6	1.6	3.0	2.9	5.4	3.5	3.3	3.0	3.4	5.5	5.8
CFSM	.30	.32	.38	.62	.91	1.25	.83	1.20	.93	.81	3.81	1.47
IN.	.34	.36	.43	.71	.95	1.44	.93	1.38	1.04	.93	4.39	1.64

CAL YR 1966: TOTAL 1,214.60 MEAN 3.33 MAX 32 MIN .70 CFSM .64 IN 8.62
WAT YR 1967: TOTAL 2,047.5 MEAN 5.61 MAX 89 MIN 1.2 CFSM 1.07 IN 14.53

Peak discharge (base, 45 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8- 4	2315	3.67	107				
8-25	1230	3.47	89				

1-4850. Pocomoke River near Willards, Md.

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

Drainage area.--60.5 sq mi.

Records available.--December 1949 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 13.95 ft above mean sea level, datum of 1929, supplementary adjustment of 1962.

Average discharge.--17 years, (1950-67), 65.6 cfs.

Extremes.--Maximum discharge during year, 586 cfs Aug. 26 (gage height, 10.38 ft); minimum, 4.9 cfs July 27 (gage height, 2.48 ft).
1949-67: 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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.9	14	12	58	33	106	52	29	27	17	14	150
2	10	14	12	64	32	94	48	29	26	16	17	130
3	9.6	18	11	60	31	93	46	28	24	16	14	110
4	9.2	17	11	56	29	97	44	27	23	19	48	91
5	9.6	16	11	54	30	91	47	26	22	46	110	75
6	9.6	15	12	48	29	87	49	26	21	25	270	63
7	8.9	15	11	45	33	91	50	89	20	20	290	53
8	8.7	15	12	48	34	97	46	164	19	17	310	44
9	8.5	14	11	58	32	86	42	115	19	16	200	36
10	8.5	14	11	56	34	80	39	86	18	15	135	32
11	8.3	14	11	51	38	75	37	70	17	13	96	30
12	7.9	14	11	46	43	74	35	62	16	13	89	28
13	7.8	14	12	44	42	70	34	51	16	12	82	26
14	7.8	13	22	45	43	68	33	48	15	12	76	25
15	7.8	13	22	58	71	70	33	61	15	12	68	23
16	8.5	13	20	54	126	84	32	96	15	13	57	38
17	8.5	12	20	48	111	82	30	80	14	12	51	53
18	8.1	12	19	44	102	72	32	67	14	11	46	52
19	12	12	18	41	92	64	30	58	26	10	42	50
20	34	12	18	41	91	61	29	51	37	11	38	48
21	26	12	19	40	214	68	28	44	35	10	37	44
22	22	12	19	42	209	100	28	43	30	8.9	52	40
23	20	11	19	46	224	95	28	41	27	11	336	37
24	19	11	14	47	198	93	26	38	25	8.8	466	34
25	18	11	22	44	136	82	25	38	29	7.3	495	32
26	17	12	20	42	104	74	25	36	25	6.0	582	29
27	16	11	19	41	91	68	32	34	22	4.9	551	28
28	16	12	18	42	96	64	34	31	20	7.4	474	28
29	15	14	70	38	-	62	32	30	17	11	364	34
30	14	12	92	35	- - - - -	59	30	30	17	14	225	39
31	14	- - - - -	66	33	- - - - -	55	- - - - -	28	- - - - -	11	180	- - - - -
Total	399.2	399	665	1,469	2,348	2,462	1,076	1,656	651	426.3	5,815	1,502
Mean	12.9	13.3	21.5	47.4	83.9	79.4	35.9	53.4	21.7	13.8	188	50.1
Max	34	18	92	64	224	106	52	164	37	46	582	150
Min	7.8	11	11	33	29	55	25	26	14	4.9	14	23
Cfsm	.21	.22	.36	.78	1.39	1.31	.59	.88	.36	.23	3.11	.83
In.	.25	.25	.41	.90	1.44	1.51	.66	1.02	.40	.26	3.57	.92

Cal yr 1966: Total 16,006.3 Mean 43.9 Max 391 Min 3.5 Cfsm .73 In. 9.84
Wtr yr 1967: Total 18,868.5 Mean 51.7 Max 582 Min 4.9 Cfsm .85 In. 11.59

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8-26	1200	10.38	586				

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

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

Drainage area.--44.9 sq mi.

Records available.--December 1949 to September 1967.

Gage.--Water-stage recorder and concrete control. Datum of gage is 12.29 ft above mean sea level, datum of 1929, supplementary adjustment of 1942.

Average discharge.--17 years (1950-67), 50.1 cfs.

Extremes.--Maximum discharge during year, 452 cfs Aug. 25 (gage height, 6.64 ft); minimum, 1.4 cfs Oct. 14, 15, 16.
1949-67: Maximum discharge, 988 cfs Aug. 16, 1953 (gage height, 7.82 ft); minimum, 0.80 cfs Sept. 8, 9, 10, 1966.

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.5	3.2	4.2	15	13	56	27	17	13	6.0	7.4	82
2	5.4	3.2	4.0	19	12	52	26	16	12	6.3	12	64
3	4.2	3.8	4.0	17	12	57	24	16	11	6.0	10	50
4	3.0	4.0	3.8	17	12	56	23	14	9.5	11	43	38
5	2.8	4.0	3.5	18	12	52	23	13	8.2	31	102	31
6	3.0	4.0	3.2	16	11	48	24	13	7.4	22	212	27
7	2.6	4.2	3.2	14	14	49	25	35	7.0	16	222	23
8	2.4	4.0	3.5	16	16	49	25	63	6.6	12	225	20
9	2.2	3.8	3.8	19	14	48	24	86	6.0	11	146	18
10	1.8	3.8	3.8	18	12	45	23	105	5.7	8.6	89	18
11	1.7	3.8	4.0	17	14	43	21	92	5.1	7.8	68	18
12	1.7	3.8	4.0	16	18	39	20	66	4.5	7.0	63	16
13	1.6	4.0	5.7	15	17	38	19	44	4.0	6.0	59	15
14	1.4	3.8	12	16	19	38	18	34	3.8	5.7	56	13
15	1.4	3.8	10	20	27	42	17	31	4.0	5.7	49	12
16	1.7	3.8	7.4	18	41	48	16	36	3.8	8.2	40	21
17	1.8	3.8	5.7	16	46	49	16	40	3.2	8.6	33	24
18	1.7	3.8	5.1	16	52	49	16	50	3.0	7.0	27	23
19	4.0	3.8	4.8	14	54	45	16	49	13	6.0	22	23
20	12	3.8	4.8	14	54	39	15	38	19	5.7	21	21
21	8.2	3.5	6.0	14	63	43	14	29	16	6.0	18	19
22	6.3	3.5	6.0	16	67	52	14	24	14	6.6	28	18
23	4.8	3.2	5.7	18	85	57	14	21	12	5.7	234	17
24	4.0	3.2	5.4	18	96	63	13	19	10	5.1	405	16
25	3.5	3.5	5.4	17	87	61	13	18	13	4.5	437	14
26	3.2	3.8	5.4	16	83	55	12	16	14	4.0	385	13
27	3.2	3.8	4.8	16	64	46	21	15	12	4.0	320	12
28	3.2	4.0	4.8	18	59	38	22	14	9.0	5.1	260	12
29	3.2	4.8	18	16	-	35	20	13	6.6	6.6	230	18
30	3.2	4.5	20	15	-----	32	19	18	6.0	8.2	166	19
31	3.0	-----	16	14	-----	30	-----	15	-----	7.0	113	-----
Total	106.7	114.0	198.0	509	1,074	1,454	580	1,060	262.4	260.4	4,102.4	715
Mean	3.44	3.80	6.39	16.4	38.4	46.9	19.3	34.2	8.75	8.40	132	23.8
Max	12	4.8	20	20	96	63	27	105	19	31	437	82
Min	1.4	3.2	3.2	14	11	30	12	13	3.0	4.0	7.4	12
Cfsm	.08	.08	.14	.37	.86	1.04	.43	.76	.19	.19	2.94	.53
In.	.09	.09	.16	.42	.89	1.20	.48	.88	.22	.22	3.40	.59

Cal yr 1966: Total 7,827.8 Mean 21.4 Max 190 Min .80 Cfsm .48 In. 6.48
Wtr yr 1967: Total 10,435.9 Mean 28.6 Max 437 Min 1.4 Cfsm .64 In. 8.64

Peak discharge (base, 280 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8-25	0130	6.64	452				

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

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

Drainage area.--5.8 sq mi, approximately.

Records available.--April 1951 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 8.03 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Average discharge.--16 years, 3.91 cfs.

Extremes.--Maximum discharge during year, 72 cfs Aug. 24 (gage height, 3.55 ft); minimum daily, 0.02 cfs Oct. 12-14, 18, 22, Dec. 22, 23, 27, 28.
1951-67: Maximum discharge, 237 cfs Aug. 13, 1955 (gage height, 6.63 ft), from rating curve extended above 120 cfs by logarithmic plotting; no flow at times in 1954, 1963, 1964, 1966.

Remarks.--Records fair.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.03	.03	.07	.79	.79	5.5	2.3	1.3	1.6	.55	.47	1.7
2	.03	.03	.07	.79	.79	4.3	2.1	1.2	1.3	.47	.35	1.2
3	.03	.03	.06	.79	.69	4.3	2.0	1.2	1.1	.51	.32	.90
4	.03	.03	.06	.79	.64	4.0	1.8	1.1	1.0	1.1	.59	.74
5	.04	.03	.06	.74	.64	3.6	1.8	1.0	.95	2.0	1.1	.55
6	.03	.03	.06	.69	.64	3.4	2.2	1.0	.90	.84	3.6	.43
7	.03	.03	.05	.69	.79	3.7	2.2	9.5	.84	.69	1.5	.35
8	.03	.03	.04	.79	.74	3.6	1.9	11	.79	.69	.95	.28
9	.03	.03	.03	.95	.74	3.1	1.7	6.8	.74	.64	.84	.25
10	.03	.03	.03	.95	1.2	2.7	1.8	4.5	.69	.55	.79	.25
11	.03	.04	.03	.90	.90	2.5	1.6	3.4	.64	.51	.95	.22
12	.02	.04	.03	.84	1.0	2.6	1.5	2.8	.64	.47	1.0	.22
13	.02	.04	.08	.84	1.0	2.5	1.5	2.1	.59	.43	1.0	.19
14	.02	.05	.08	.95	1.0	2.6	1.5	2.2	.59	.47	1.0	.16
15	.03	.05	.05	1.1	2.6	4.7	1.5	3.2	.64	.55	.84	.19
16	.05	.05	.05	1.0	5.8	6.4	1.4	7.1	.59	1.0	.69	.47
17	.04	.04	.05	1.0	4.8	4.9	1.4	4.5	.55	.59	.64	.84
18	.02	.05	.03	.90	4.3	3.6	1.5	3.5	.59	.51	.59	.84
19	.03	.06	.03	.95	3.9	3.0	1.4	2.9	1.3	.51	.64	.79
20	.03	.07	.03	.95	4.8	2.8	1.2	2.2	.84	.47	.69	.79
21	.03	.07	.03	.95	13	5.2	1.2	1.8	.74	.47	.64	.84
22	.02	.07	.02	1.0	8.3	8.2	1.3	1.7	.69	.43	3.7	.95
23	.03	.07	.02	1.1	13	6.0	1.2	1.6	.64	.39	42	.90
24	.03	.07	.03	1.1	8.9	5.4	1.2	1.5	.59	.35	51	.84
25	.03	.07	.04	1.1	5.8	4.5	1.1	1.5	.55	.35	38	.84
26	.03	.06	.03	1.0	4.0	3.9	1.1	1.3	.51	.35	15	.79
27	.03	.05	.02	1.0	3.5	3.3	2.2	1.2	.51	.35	8.1	.79
28	.03	.08	.02	1.0	4.7	3.1	2.3	1.1	.47	.39	12	.84
29	.03	.08	1.1	.95	-	3.0	1.8	1.3	.47	.51	6.4	1.2
30	.03	.08	1.0	.90	- - - - -	2.7	1.5	2.7	.64	.43	3.8	1.1
31	.03	- - - - -	.84	.79	- - - - -	2.4	- - - - -	2.0	- - - - -	.39	2.5	- - - - -
Total	0.92	1.49	4.14	28.29	98.96	121.5	49.2	90.2	22.69	17.96	201.69	20.45
Mean	.030	.050	.13	.91	3.53	3.92	1.64	2.91	.76	.58	6.51	.68
Max	.05	.08	1.1	1.1	13	8.2	2.3	11	1.6	2.0	51	1.7
Min	.02	.03	.02	.69	.64	2.4	1.1	1.0	.47	.35	.32	.16
Cfsm	.005	.009	.02	.16	.61	.68	.28	.50	.13	.10	1.12	.12
In.	.006	.01	.03	.18	.63	.78	.32	.58	.15	.12	1.29	.13

Cal yr 1966: Total 562.55 Mean 1.54 Max 29 Min 0 Cfsm .27 In. 3.61
Wtr yr 1967: Total 657.49 Mean 1.80 Max 51 Min .02 Cfsm .31 In. 4.22

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8-24	1700	3.55	72				

1-4865. Beaverdam Creek near Salisbury, Md.

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

Drainage area.--19.5 sq mi.

Records available.--October 1929 to August 1933, May 1934 to September 1935, May 1936 to September 1967. Prior to October 1948, published as East Branch Wicomico River near Salisbury.

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

Average discharge.--32 years (1929-32, 1938-67), 23.2 cfs.

Extremes.--Maximum discharge during year, 296 cfs Aug. 6; maximum gage height, 11.11 ft Aug. 5; minimum daily discharge, 0.70 cfs June 16 (leakage under dam following closing of floodgate).
1929-67: 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 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.4	4.8	4.8	10	11	30	21	14	12	8.4	10	36
2	8.0	5.3	4.8	12	11	29	19	17	11	7.0	10	25
3	5.9	5.6	4.8	10	11	33	16	17	11	7.4	10	22
4	5.6	5.3	4.8	11	11	31	16	18	10	8.4	57	24
5	5.9	5.3	4.8	14	12	28	16	18	9.9	12	105	24
6	5.9	5.3	5.0	71	12	26	16	19	9.7	10	178	22
7	5.3	5.3	5.0	23	15	28	16	43	3.7	9.2	116	20
8	5.3	6.4	5.3	15	14	26	15	61	11	8.8	80	19
9	6.4	6.7	5.3	15	14	25	11	67	22	8.4	21	19
10	5.9	5.9	5.3	12	15	24	9.0	56	10	7.7	25	19
11	7.7	5.9	5.3	12	16	23	8.9	37	10	7.0	26	18
12	6.7	6.4	5.3	11	17	24	8.9	32	10	7.0	25	17
13	6.4	5.6	7.4	11	16	23	9.7	30	10	7.0	25	17
14	5.9	5.0	11	13	19	23	11	31	10	7.4	23	16
15	5.9	4.8	7.4	14	30	27	11	34	3.5	8.0	20	16
16	6.7	4.8	6.2	12	33	27	11	47	.70	12	17	38
17	6.4	4.8	5.6	12	30	27	11	43	.80	8.4	14	33
18	5.9	5.0	5.3	11	33	26	12	37	.90	7.4	13	20
19	12	4.8	5.0	11	32	24	11	24	1.0	7.0	13	12
20	15	5.0	5.6	12	33	23	11	21	2.2	7.0	14	12
21	8.8	5.0	6.4	12	45	30	11	16	14	7.7	15	14
22	7.4	5.0	5.9	12	45	33	12	15	11	10	25	16
23	5.6	5.0	5.3	12	50	33	12	14	8.0	11	110	16
24	5.0	5.0	6.7	11	53	36	13	14	7.0	12	151	16
25	5.0	5.0	6.7	11	47	31	13	14	12	10	215	16
26	5.0	6.4	5.9	12	49	28	13	13	11	8.4	227	15
27	4.8	8.8	5.6	12	41	25	19	12	10	8.4	161	15
28	4.8	5.6	5.6	12	34	24	16	12	9.4	8.8	65	16
29	4.6	5.6	24	11	-	23	15	12	9.0	11	60	22
30	4.6	5.0	18	11	- - - - -	21	14	13	8.8	17	56	19
31	4.6	- - - - -	11	11	- - - - -	20	- - - - -	12	- - - - -	14	46	- - - - -
Total	199.4	164.4	215.1	439	749	831	398.5	813	259.6	283.8	1,933	594
Mean	6.43	5.48	6.94	14.2	26.8	26.8	13.3	26.2	8.65	9.15	62.4	19.8
Max	15	8.8	24	71	53	36	21	67	22	17	227	38
Min	4.6	4.8	4.8	10	11	20	8.9	12	.70	7.0	10	12
Cfsm	.33	.28	.36	.73	1.37	1.37	.68	1.34	.44	.47	3.20	1.02
In.	.38	.31	.41	.84	1.43	1.58	.76	1.55	.50	.54	3.69	1.13

Cal yr 1966: Total 5,563.4 Mean 15.2 Max 92 Min .60 Cfsm .78 In. 10.61
Wtr yr 1967: Total 6,879.8 Mean 18.8 Max 227 Min .70 Cfsm .96 In. 13.12

1-4870. Nanticoke River near Bridgeville, Del.

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

Drainage area.--75.4 sq mi.

Records available.--April 1943 to September 1967. Prior to October 1955, published as Gravelly Fork near Bridgeville.

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

Average discharge.--24 years, 90.4 cfs.

Extremes.--Maximum discharge during year, 2,360 cfs Aug. 5 (gage height, 8.86 ft); minimum, 23 cfs Oct. 17, Dec. 25; minimum gage height, 2.63 ft Dec. 25 (result of freezeup).
1943-67: Maximum discharge, that of Aug. 5, 1967; minimum observed, 6.3 cfs Sept. 29, 1943.
Maximum stage known, about 11.0 ft in September 1935, from information by local residents.

Remarks.--Records fair. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40	44	30	54	54	115	82	66	70	49	86	218
2	42	44	29	54	54	109	81	64	68	46	68	194
3	35	46	29	55	54	109	81	66	64	143	60	178
4	32	42	28	56	53	112	78	62	61	102	1,040	165
5	34	41	29	56	54	112	78	60	59	114	2,170	156
6	32	40	28	53	53	110	80	62	57	88	1,310	149
7	30	40	28	52	54	133	88	131	55	69	560	142
8	29	40	28	60	53	139	84	219	54	64	364	137
9	28	41	27	66	50	118	79	162	53	63	276	132
10	28	41	26	63	52	109	81	131	50	60	232	128
11	26	40	26	59	55	106	78	110	48	57	211	121
12	26	38	25	57	55	104	75	103	48	56	193	117
13	26	36	29	56	53	100	73	93	46	55	184	113
14	26	34	38	56	54	99	74	102	44	53	178	111
15	26	33	33	56	68	102	73	180	44	66	168	109
16	25	32	32	53	116	109	71	195	44	190	159	121
17	24	33	31	52	117	105	71	154	41	168	150	128
18	24	34	30	51	102	98	75	130	42	101	144	117
19	75	34	29	50	93	93	71	114	88	83	140	109
20	132	34	30	51	92	92	69	103	68	76	152	105
21	69	34	34	51	141	97	67	93	56	73	166	102
22	53	34	33	52	160	106	67	92	52	71	212	101
23	46	34	32	53	173	105	64	92	50	68	303	97
24	43	34	28	54	172	104	63	87	49	64	457	95
25	42	34	30	52	140	101	61	85	49	62	716	92
26	43	34	32	52	119	95	62	81	60	61	957	92
27	44	34	31	54	110	92	77	78	52	59	568	91
28	44	35	30	65	112	91	78	74	48	57	560	94
29	44	34	71	60	-	90	71	74	48	56	408	333
30	43	31	80	56	-----	87	67	74	50	56	317	282
31	42	-----	60	54	-----	83	-----	72	-----	54	259	-----
Total	1,253	1,105	1,046	1,713	2,463	3,225	2,219	3,209	1,618	2,384	12,768	4,129
Mean	40.4	36.8	33.7	55.3	88.0	104	74.0	104	53.9	76.9	412	138
Max	132	46	80	66	173	139	88	219	88	190	2,170	333
Min	24	31	25	50	50	83	61	60	41	46	60	91
Cfsm	.54	.49	.45	.73	1.17	1.38	.98	1.38	.71	1.02	5.46	1.83
In.	.62	.55	.52	.84	1.21	1.59	1.09	1.58	.80	1.18	6.30	2.04

Cal yr 1966: Total 18,954 Mean 51.9 Max 336 Min 20 Cfsm .69 In. 9.35
Wtr yr 1967: Total 37,132 Mean 102 Max 2,170 Min 24 Cfsm 1.35 In. 18.31

Peak discharge (base, 360 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8- 5	1400	8.86	2,360	9-29	1830	6.08	448
8-26	0230	7.49	1,130				

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

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

Drainage area.--16.7 sq mi.

Records available.--June 1951 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 27.57 ft above mean sea level, datum of 1929, supplementary adjustment of 1943. Prior to Jan. 1, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--16 years, 16.1 cfs.

Extremes.--Maximum discharge during year, 608 cfs Aug. 25 (gage height, 4.09 ft); minimum, 0.30 cfs Oct. 19.
1951-67: Maximum discharge, that of Aug. 25, 1967; no flow Aug. 12-14, Sept. 6, 1957, Sept. 11-13, 1966.

Remarks.--Records good. Flow regulated by Trap Pond.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.49	1.8	1.8	7.3	7.4	22	12	7.3	6.3	3.8	7.4	85
2	.40	3.0	1.5	8.4	7.3	21	12	6.7	5.7	3.3	5.3	69
3	.49	3.1	1.1	8.1	7.4	20	12	7.0	5.4	4.7	5.5	44
4	.40	2.0	1.3	8.1	6.9	20	12	6.7	4.9	4.9	107	33
5	.49	2.0	1.6	7.9	7.0	20	12	5.9	4.6	5.0	273	26
6	.40	1.6	2.0	7.6	7.0	19	12	9.0	4.3	4.0	138	22
7	.40	2.0	2.0	7.6	11	22	12	28	4.0	3.3	74	20
8	.40	2.1	2.0	10	8.2	24	11	40	3.9	2.9	45	18
9	.40	2.1	2.0	11	7.2	21	11	34	3.5	2.8	31	17
10	.49	2.3	2.3	9.0	11	19	10	23	3.2	2.6	29	17
11	.40	1.7	2.1	7.9	8.6	18	9.4	19	3.1	2.2	30	16
12	.40	1.8	1.7	8.2	8.8	18	9.1	15	2.7	2.2	26	15
13	.40	1.8	5.0	7.8	8.2	16	9.4	13	2.6	2.2	24	14
14	.40	1.7	6.3	11	8.3	16	9.4	15	2.3	2.2	22	14
15	.40	1.6	3.3	12	12	19	9.3	18	2.5	6.2	19	13
16	.40	1.6	2.5	10	18	21	8.9	20	2.5	6.5	16	21
17	.40	1.8	2.3	9.5	24	23	8.9	20	2.7	3.6	14	22
18	.40	1.8	2.2	8.5	21	18	7.6	17	2.5	2.6	13	21
19	3.2	1.4	2.1	9.9	17	16	7.6	14	16	2.3	12	18
20	5.6	1.6	2.8	9.3	17	15	8.1	11	12	2.3	13	16
21	3.1	1.5	3.6	8.9	26	19	7.9	10	6.9	3.4	13	15
22	2.2	1.6	3.0	9.6	33	23	8.3	11	5.1	8.2	21	14
23	2.0	1.6	2.7	10	38	23	7.0	9.9	4.1	4.6	50	13
24	1.8	1.6	4.3	9.7	38	22	6.6	9.3	4.0	3.1	68	13
25	1.6	1.7	5.0	9.5	28	20	6.7	9.0	4.2	2.5	360	12
26	1.8	2.5	3.0	9.1	23	18	8.1	8.5	3.8	2.4	309	12
27	1.7	2.5	2.7	9.1	19	16	11	7.9	3.3	2.8	132	11
28	1.7	3.1	2.8	7.8	20	16	9.3	7.5	3.0	3.4	120	13
29	1.4	2.4	13	7.1	------	15	8.2	7.2	3.0	2.9	105	20
30	1.5	1.8	11	7.8	------	14	7.8	7.1	3.1	2.9	63	16
31	1.7	------	7.7	7.7	------	13	------	7.0	------	2.6	48	------
TOTAL	36.86	59.1	106.7	275.4	448.3	587	284.6	424.0	135.2	108.4	2,193.2	660
MEAN	1.19	1.97	3.44	8.88	16.0	18.9	9.49	13.7	4.51	3.50	70.7	22.0
MAX	5.6	3.1	13	12	38	24	12	40	16	8.2	360	65
MIN	.40	1.4	1.1	7.1	6.9	13	6.6	5.9	2.3	2.2	5.3	11
CFSM	.07	.12	.21	.53	.96	1.13	.57	.82	.27	.21	4.24	1.32
IN.	.08	.13	.24	.61	1.00	1.31	.63	.94	.30	.24	4.88	1.47

CAL YR 1966: TOTAL 3,112.06 MEAN 8.53 MAX 74 MIN 0 CFSM .51 IN 6.93
WAT YR 1967: TOTAL 5,318.76 MEAN 14.6 MAX 360 MIN .40 CFSM .87 IN 11.84

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8- 5	0100	3.24	349				
8-25	1715	4.09	608				

1-4885. Marshyhope Creek near Adamsville, Del.

Location.--Lat 38°51'00", long 75°40'20", on left bank 10 ft upstream from highway bridge, 1.5 miles northeast of Adamsville, Kent County, 1.7 miles upstream from Saulsbury Creek, and 5.3 miles northwest of Greenwood.

Drainage area.--44.8 sq mi.

Records available.--April 1943 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 28.21 ft above mean sea level, datum of 1929. Prior to Nov. 24, 1953, wire-weight gage and crest-stage gage at site 10 ft downstream at same datum.

Average discharge.--24 years, 51.4 cfs.

Extremes.--Maximum discharge during year, 3,060 cfs Aug. 5 (gage height, 11.98 ft); minimum, 3.3 cfs Oct. 10.
1943-67: Maximum discharge, that of Aug. 5, 1967; minimum, 1.0 cfs Sept. 9, 10, 1964, Aug. 20, 1965.
Maximum stage known, 14.5 ft in September 1935, from information by local residents.

Remarks.--Records fair.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.3	20	12	68	37	69	40	29	20	16	26	68
2	10	20	11	64	36	62	38	27	18	15	32	54
3	9.5	20	11	66	36	60	38	27	17	18	26	44
4	6.5	20	9.9	63	35	61	36	26	16	19	1,030	38
5	4.8	19	9.9	60	34	59	34	24	14	30	2,710	33
6	4.7	18	10	55	32	60	34	24	14	24	1,590	30
7	4.3	18	9.9	49	31	129	43	68	13	18	808	27
8	4.1	18	9.9	60	31	222	48	219	12	17	442	25
9	3.6	18	9.5	77	29	172	42	241	12	17	224	24
10	3.6	18	9.2	68	30	111	40	147	11	16	103	23
11	4.1	18	9.5	58	31	86	38	87	10	15	80	22
12	3.9	17	9.0	51	34	75	34	68	9.7	14	64	21
13	3.8	17	9.5	46	35	66	32	55	9.0	13	53	20
14	3.8	16	17	44	35	61	30	49	8.8	13	46	19
15	3.9	15	20	44	63	74	30	86	8.6	15	40	18
16	4.3	15	17	42	153	108	30	98	8.1	101	35	21
17	4.3	15	16	39	155	88	29	74	7.4	86	31	24
18	4.5	14	16	36	110	70	31	59	9.3	54	27	23
19	57	14	15	34	88	58	31	48	99	38	25	21
20	174	14	15	32	84	53	29	42	105	31	26	20
21	136	13	20	32	161	55	27	37	68	26	28	19
22	72	13	22	33	234	80	27	35	47	22	50	19
23	47	12	21	35	234	79	26	35	45	20	125	18
24	36	12	20	35	220	79	25	32	38	18	300	18
25	30	12	20	33	134	70	24	30	29	16	454	17
26	26	12	20	32	83	60	23	27	23	15	572	16
27	24	12	20	37	67	54	32	25	19	14	497	16
28	22	12	19	74	63	50	44	23	17	14	481	16
29	21	13	61	60	-	48	38	22	16	32	348	150
30	20	12	137	47	- - - - -	45	33	22	16	33	177	222
31	20	- - - - -	95	40	- - - - -	42	- - - - -	20	- - - - -	25	92	- - - - -
Total	777.0	467	701.3	1,514	2,315	2,406	1,006	1,806	739.9	805	10,542	1,086
Mean	25.1	15.6	22.6	48.8	82.7	77.6	33.5	58.3	24.7	26.0	340	36.2
Max	174	20	137	77	234	222	48	241	105	101	2,710	222
Min	3.6	12	9.0	32	29	42	23	20	7.4	13	25	16
Cfsm	.56	.35	.50	1.09	1.85	1.73	.75	1.30	.55	.58	7.59	.81
In.	.65	.39	.58	1.26	1.92	2.00	.84	1.50	.61	.67	8.75	.90

Cal yr 1966: Total 7,500.5 Mean 20.5 Max 174 Min 1.4 Cfsm .46 In. 6.23
Wtr yr 1967: Total 24,165.2 Mean 66.2 Max 2,710 Min 3.6 Cfsm 1.48 In. 20.06

Peak discharge (base, 450 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8- 5	1200	11.98	3,060	8-26	1600	8.37	598

1-4890. Faulkner Branch at Federalsburg, Md.

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

Drainage area.--7.10 sq mi.

Records available.--July 1950 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 16.70 ft above mean sea level, datum of 1929, supplementary adjustment of 1943. Prior to Jan. 1, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--17 years, 8.77 cfs.

Extremes.--Maximum discharge during year, 792 cfs Aug. 25 (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 part of each day June 16, 17 (result of pumpage for irrigation).
1950-67: Maximum discharge, that of Aug. 25, 1967; 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.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.8	4.4	2.6	8.9	6.6	12	7.1	3.8	4.0	5.6	8.5	16
2	3.4	4.2	2.4	9.5	6.5	11	7.0	3.8	3.7	5.0	11	15
3	2.4	4.2	2.2	9.0	6.4	11	6.9	3.9	3.4	12	6.4	13
4	2.0	3.7	2.2	9.0	6.1	11	6.2	3.4	3.2	11	249	12
5	2.4	3.7	2.2	8.7	6.2	10	6.5	3.2	3.0	18	172	11
6	2.2	3.7	2.4	7.7	5.9	10	6.5	4.1	2.9	8.3	44	10
7	1.9	3.7	2.4	7.6	5.7	14	7.3	20	2.8	6.9	26	9.7
8	1.8	3.7	2.4	10	5.5	13	6.0	21	2.6	7.3	29	9.1
9	1.8	3.4	2.2	11	5.5	11	5.6	14	2.4	7.1	44	8.8
10	1.8	3.4	2.2	9.2	6.3	10	6.5	10	2.3	6.2	24	8.5
11	1.6	3.4	2.6	8.4	6.4	9.8	5.7	8.8	2.1	5.6	21	7.7
12	1.4	3.4	2.2	7.8	6.6	9.3	5.1	7.7	2.0	5.1	16	7.3
13	1.4	3.2	2.8	7.6	5.9	8.6	5.0	6.6	1.9	8.7	15	7.0
14	1.4	3.2	3.4	7.9	6.5	8.8	5.0	12	1.4	5.8	14	6.6
15	1.6	3.0	2.8	7.6	11	11	5.1	23	.94	8.1	12	6.3
16	1.8	3.0	2.6	7.0	18	12	4.8	20	.94	78	11	8.2
17	2.0	3.0	2.4	6.8	14	10	5.0	13	1.1	18	9.8	7.7
18	2.0	3.0	2.4	6.4	13	8.9	5.3	10	75	13	9.1	6.8
19	26	3.0	2.4	6.1	12	8.1	4.6	8.9	245	11	9.6	6.2
20	27	3.0	3.0	6.3	13	8.2	4.4	7.7	30	9.9	13	5.7
21	9.4	2.8	3.7	6.4	25	9.9	4.4	6.7	17	9.0	17	5.4
22	7.4	2.8	3.2	6.8	22	11	4.6	7.2	12	8.0	38	5.2
23	6.8	2.8	3.0	7.1	25	10	4.3	6.5	11	7.2	81	4.9
24	6.1	2.8	3.0	6.9	20	9.8	4.1	6.0	8.9	6.5	65	4.8
25	5.8	2.8	3.2	6.7	15	8.9	3.8	5.7	7.8	6.1	398	4.6
26	5.5	3.0	3.0	6.5	14	8.6	4.0	5.3	6.7	5.7	97	4.4
27	5.2	3.0	3.0	8.7	11	8.3	5.7	4.8	6.1	5.3	43	4.3
28	5.0	3.0	2.8	9.7	12	8.2	4.6	4.5	5.7	5.0	46	5.9
29	4.7	3.0	14	7.8	------	8.3	4.1	4.6	5.4	4.9	27	136
30	4.4	2.8	13	7.0	------	7.6	4.1	4.4	6.3	4.9	22	31
31	4.4	------	9.4	6.6	------	7.1	------	4.4	------	4.5	19	------
TOTAL	153.4	98.1	111.1	242.7	311.1	305.4	159.3	265.0	477.58	317.7	1,597.4	389.1
MEAN	4.95	3.27	3.58	7.83	11.1	9.85	5.31	8.55	15.9	10.2	51.5	13.0
MAX	27	4.4	14	11	25	14	7.3	23	245	78	398	136
MIN	1.4	2.8	2.2	6.1	5.5	7.1	3.8	3.2	.94	4.5	6.4	4.3
CFSM	.70	.46	.50	1.10	1.56	1.39	.75	1.20	2.24	1.44	7.26	1.83
IN.	.80	.51	.58	1.27	1.63	1.60	.83	1.39	2.50	1.66	8.37	2.04

CAL YR 1966: TOTAL 1,522.00 MEAN 4.17 MAX 27 MIN 0 CFSM .59 IN 7.97
WAT YR 1967: TOTAL 4,427.88 MEAN 12.1 MAX 398 MIN .94 CFSM 1.71 IN 23.19

Peak discharge (base, 60 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
6-18	2330	4.64	636	8-25	1000	5.03	792
7-16	0545	3.18	178	9-29	0800	3.58	263
8- 4	1900	4.00	398				

1-4900. Chicamacomico River near Salem, Md.

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

Drainage area.--15.0 sq mi.

Records available.--April 1951 to September 1967.

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

Average discharge.--16 years, 16.8 cfs.

Extremes.--Maximum discharge during year, 518 cfs Aug. 25 (gage height, 4.42 ft); minimum, 1.5 cfs Feb. 26; minimum gage height, 0.25 ft Feb. 26 (result of regulation); minimum daily, 4.3 cfs Oct. 13.
1951-67: Maximum discharge, that of Aug. 25, 1967; 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.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.9	7.5	7.6	16	13	21	12	9.4	7.6	8.0	28	27
2	7.6	7.9	7.5	17	13	18	12	9.2	7.3	7.4	18	22
3	5.6	8.6	7.0	18	13	20	12	9.7	6.8	11	13	19
4	4.9	8.6	6.7	18	12	20	11	8.2	6.7	10	41	17
5	5.4	7.8	6.7	17	13	18	12	7.8	6.5	11	175	15
6	5.1	8.1	7.3	16	13	18	13	8.5	5.9	8.5	94	14
7	4.5	7.9	7.2	15	14	21	14	41	5.7	7.4	43	13
8	4.4	8.1	7.2	20	13	21	13	66	5.5	8.5	41	13
9	4.4	8.4	6.9	21	12	18	12	40	5.3	9.3	85	13
10	4.4	8.6	6.7	18	14	17	13	27	5.1	7.7	51	14
11	4.4	9.1	7.5	16	14	16	12	20	5.0	6.8	38	13
12	4.4	8.8	6.7	14	15	16	10	17	4.8	6.4	28	12
13	4.3	8.4	7.8	14	14	14	10	13	4.7	6.6	24	12
14	4.4	8.1	10	16	14	15	11	14	4.8	6.8	21	12
15	4.6	8.0	8.2	16	18	20	10	25	5.0	14	18	11
16	5.5	7.9	7.2	14	31	22	10	33	5.0	57	16	14
17	5.4	8.1	6.8	14	28	18	10	22	4.9	28	14	18
18	5.3	8.1	6.7	13	22	15	14	16	5.2	14	13	14
19	29	8.2	6.6	13	20	14	11	13	59	11	13	13
20	35	7.9	7.2	14	21	14	9.4	11	27	10	15	12
21	8.5	7.8	8.8	14	38	18	9.1	10	13	9.7	20	12
22	5.9	7.8	7.5	14	38	23	10	10	10	9.0	42	12
23	5.6	7.8	7.0	16	40	20	9.5	10	10	7.9	60	11
24	5.4	7.8	7.0	14	40	20	9.1	9.8	8.6	7.8	78	11
25	5.5	8.1	7.8	14	29	18	8.4	9.2	7.8	7.6	320	10
26	5.6	8.5	7.0	13	21	16	8.6	9.0	7.4	7.5	262	9.8
27	5.8	8.1	6.7	15	20	15	12	9.1	6.5	12	121	10
28	6.0	8.8	6.7	19	20	14	11	8.8	6.4	29	105	15
29	6.5	10	29	16	-	15	9.1	8.8	6.2	20	61	205
30	6.4	8.6	29	14	-----	13	9.1	8.8	7.5	22	44	147
31	6.5	-----	18	13	-----	12	-----	8.2	-----	16	36	-----
Total	223.2	247.4	280.0	482	573	540	327.3	512.5	271.2	397.9	1,938	740.8
Mean	7.20	8.25	9.03	15.5	20.5	17.4	10.9	16.5	9.04	12.8	62.5	24.7
Max	35	10	29	21	40	23	14	66	59	57	320	205
Min	4.3	7.5	6.6	13	12	12	8.4	7.8	4.7	6.4	13	9.8
Cfsm	.48	.55	.60	1.03	1.37	1.16	.73	1.10	.60	.85	4.17	1.65
In.	.55	.61	.69	1.20	1.42	1.34	.81	1.27	.67	.99	4.80	1.84

Cal yr 1966: Total	3,783.6	Mean	10.4	Max	52	Min	2.2	Cfsm	.69	In. 9.38
Wtr yr 1967: Total	6,533.3	Mean	17.9	Max	320	Min	4.3	Cfsm	1.19	In. 16.2

1-4910. Choptank River near Greensboro, Md.

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

Drainage area.--113 sq mi.

Records available.--January 1948 to September 1967.

Gage.--Water-stage recorder and concrete control. Datum of gage is 3.51 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Average discharge.--19 years, 121 cfs.

Extremes.--Maximum discharge during year, 6,970 cfs Aug. 4 (gage height, 14.47 ft) from rating curve extended above 3,600 cfs by logarithmic plotting; minimum, 11 cfs July 27, 28 (gage height, 1.89 ft); minimum daily, 12 cfs July 14, 15, 26, 27.
1948-67: Maximum discharge, that of Aug. 4, 1967; 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 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	64	64	68	361	102	148	120	98	44	40	32	190
2	74	64	62	260	98	150	112	85	40	36	37	148
3	70	64	58	246	98	140	105	74	40	33	110	125
4	64	64	53	248	100	138	98	56	39	28	6,160	105
5	52	62	50	227	100	142	93	56	38	30	5,260	93
6	48	60	50	205	98	152	91	52	36	28	3,030	82
7	42	58	50	179	93	288	96	101	36	24	1,390	74
8	39	56	52	177	82	833	102	408	34	24	667	68
9	36	56	52	260	87	720	108	555	34	28	398	62
10	33	55	52	326	87	425	100	343	33	28	286	62
11	33	55	52	266	96	297	96	226	32	24	219	60
12	34	56	52	205	105	241	89	160	32	21	169	53
13	32	56	53	172	108	209	78	118	28	14	130	52
14	32	55	78	158	112	182	74	122	26	12	127	50
15	30	53	98	150	130	197	74	150	23	12	111	47
16	32	52	100	148	288	337	74	145	24	23	90	68
17	32	52	87	138	445	411	74	132	24	28	75	47
18	32	50	80	122	373	295	78	91	27	26	70	45
19	184	50	76	112	278	211	82	66	70	21	65	42
20	752	50	74	105	221	170	80	60	96	19	94	39
21	857	48	89	100	269	155	72	56	91	17	118	36
22	396	47	115	98	444	186	70	70	60	23	93	36
23	231	47	120	100	454	257	70	93	58	21	114	36
24	168	47	102	100	424	257	68	89	48	17	249	36
25	132	47	85	100	334	233	62	68	42	14	887	36
26	110	50	93	98	250	199	60	53	39	12	1,990	34
27	98	55	100	98	200	170	80	48	38	12	1,490	33
28	89	58	100	122	155	148	118	47	32	15	1,050	34
29	80	64	148	155	-	138	140	45	30	26	584	147
30	74	68	345	148	- - - - -	135	122	47	34	27	354	278
31	68	- - - - -	523	120	- - - - -	130	- - - - -	45	- - - - -	26	254	- - - - -
Total	4,018	1,663	3,117	5,304	5,631	7,694	2,686	3,759	1,228	709	25,703	2,218
Mean	130	55.4	101	171	201	248	89.5	121	40.9	22.9	829	73.9
Max	857	68	523	361	454	833	140	555	96	40	6,160	278
Min	30	47	50	98	82	130	60	45	23	12	32	33
Cfsm	1.15	.49	.89	1.51	1.78	2.19	.79	1.07	.36	.20	7.34	.65
In.	1.32	.55	1.03	1.75	1.85	2.53	.88	1.24	.40	.23	8.46	.73

Cal yr 1966: Total 17,477.5 Mean 47.9 Max 857 Min 1.5 Cfsm .42 In. 5.75
Wtr yr 1967: Total 63,730 Mean 175 Max 6,160 Min 12 Cfsm 1.55 In. 20.97

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-21	0230	6.70	1,050	8- 4	1700	14.47	6,970
3- 8	1800	6.44	1,020	8-26	1400	8.80	2,120

1-4920. Beaverdam Branch at Matthews, Md.

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

Drainage area.--5.85 sq mi.

Records available.--July 1950 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 2.33 ft above mean sea level, datum of 1929, supplementary adjustment of 1943. Prior to Jan. 1, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--17 years, 6.58 cfs.

Extremes.--Maximum discharge during year, 693 cfs Aug. 4 (gage height, 6.06 ft); minimum, 0.27 cfs June 17. 1950-67: 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 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.9	2.8	3.0	8.7	3.5	6.6	4.4	2.3	1.6	1.7	9.2	5.0
2	6.0	3.2	2.8	12	3.7	5.5	4.5	2.1	1.3	1.2	2.0	4.0
3	2.0	4.6	2.4	10	4.5	6.7	4.2	3.2	1.1	1.0	5.4	3.0
4	1.2	3.5	2.1	9.7	3.7	6.1	3.6	2.2	1.0	.97	257	2.7
5	1.6	3.0	2.1	9.1	3.7	6.4	4.6	1.9	.95	1.1	161	2.5
6	1.6	3.0	2.6	7.1	3.5	6.8	5.0	2.6	.88	.82	24	2.3
7	1.0	3.0	2.6	7.1	3.0	42	9.6	50	.86	.75	9.4	2.2
8	.86	3.0	2.6	15	3.5	15	6.2	21	.77	3.2	12	2.1
9	.77	3.2	2.4	13	4.6	9.2	4.6	9.5	.67	2.8	9.4	2.0
10	.86	3.2	2.4	8.3	5.4	8.0	5.2	5.6	.61	1.4	8.7	1.8
11	1.0	3.2	3.5	6.9	5.4	7.6	4.3	4.6	.51	1.7	5.8	1.7
12	.68	3.2	2.8	5.9	6.6	7.1	3.5	3.8	.45	3.3	3.7	1.6
13	.60	3.0	6.5	5.7	5.0	6.4	3.3	3.0	.41	1.2	3.4	1.5
14	.60	2.7	13	6.7	5.4	6.7	3.7	9.2	.44	1.1	3.1	1.5
15	.60	2.4	6.2	6.9	24	18	3.7	15	.47	1.1	2.3	1.5
16	.95	2.4	4.0	5.4	26	13	3.2	9.8	.42	3.2	2.0	8.0
17	.86	2.4	3.8	4.7	9.6	8.5	4.5	4.7	.35	1.3	1.7	7.0
18	.77	2.4	3.5	4.3	8.2	6.5	6.3	3.7	25	1.0	1.6	5.0
19	113	2.4	3.0	3.3	8.6	5.5	3.8	3.0	58	.88	2.3	3.0
20	58	2.1	5.6	3.8	10	6.0	3.2	3.3	6.3	9.1	10	2.4
21	10	2.1	8.6	4.7	38	11	3.0	2.2	2.4	84	21	2.0
22	6.6	2.1	5.0	6.2	16	14	3.7	4.5	11	12	14	1.7
23	5.4	2.1	3.8	5.8	16	9.2	3.0	3.4	11	3.5	126	1.4
24	4.4	2.3	3.0	4.8	11	8.7	2.7	2.5	2.9	1.8	63	1.4
25	3.8	2.4	3.8	4.5	5.6	7.0	2.5	2.1	1.8	1.3	130	1.3
26	3.5	3.2	4.6	4.4	4.4	6.3	3.0	1.9	1.3	1.2	60	1.2
27	3.2	2.8	4.6	6.4	4.4	5.7	8.5	1.6	1.1	1.0	15	1.2
28	3.0	6.4	4.4	6.7	7.4	5.5	4.7	1.4	.98	4.7	30	2.1
29	2.8	6.6	50	4.3	------	6.0	3.0	1.5	.92	2.5	12	16
30	2.6	4.0	27	3.5	------	5.2	2.6	1.8	1.7	1.7	10	3.5
31	2.6	------	9.0	3.3	------	4.6	------	1.7	------	1.7	7.0	------
TOTAL	244.75	92.7	200.7	208.2	250.7	280.8	128.1	185.1	137.19	154.22	1,022.0	92.6
MEAN	7.90	3.09	6.47	6.72	8.95	9.06	4.27	5.97	4.57	4.97	33.0	3.09
MAX	113	6.6	50	15	38	42	9.6	50	58	84	257	16
MIN	.60	2.1	2.1	3.3	3.0	4.6	2.5	1.4	.35	.75	1.6	1.2
CFSM	1.35	.53	1.11	1.15	1.53	1.55	.73	1.02	.78	.85	5.64	.53
IN.	1.56	.59	1.28	1.32	1.59	1.79	.81	1.18	.87	.98	6.50	.59

CAL YR 1966: TOTAL 1,619.35 MEAN 4.44 MAX 113 MIN 0 CFSM .76 IN 10.29
WAT YR 1967: TOTAL 2,997.06 MEAN 8.21 MAX 257 MIN .35 CFSM 1.40 IN 19.05

Peak discharge (base, 120 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-19	1830	3.47	198	8- 4	0400	6.06	693
6-18	2015	3.06	153	8-25	0500	4.07	276
7-21	0215	3.79	238				

1-4930. Unicorn Branch near Millington, Md.

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

Drainage area.--22.3 sq mi.

Records available.--January 1948 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 3.57 ft above mean sea level, datum of 1929, supplementary adjustment of 1943. Graphic water-stage recorder prior to Jan. 1, 1967, at same site and datum.

Average discharge.--19 years, 23.1 cfs.

Extremes.--Maximum discharge during year, 582 cfs Aug. 4 (gage height, 5.34 ft); minimum, 0.60 cfs Oct. 3, 4 (gage height, 1.63 ft); minimum daily, 5.3 cfs Oct. 4.
1948-67: 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.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.8	12	13	40	20	24	23	20	10	19	31	22
2	10	12	12	39	20	23	23	17	9.8	14	14	19
3	12	12	11	44	21	23	22	17	9.3	17	35	17
4	5.3	11	11	39	20	24	21	16	8.9	15	463	16
5	11	11	11	35	19	25	20	14	8.6	15	287	15
6	9.5	11	11	31	18	33	21	15	10	12	152	14
7	8.4	11	11	26	16	135	30	42	10	11	75	14
8	7.6	10	11	34	17	204	32	121	10	11	52	13
9	8.0	10	11	61	16	82	26	70	9.6	12	40	13
10	7.7	11	11	52	18	60	24	43	9.4	12	41	15
11	6.4	10	11	37	18	48	22	31	9.0	14	35	14
12	6.4	11	11	29	21	41	20	26	8.6	11	28	13
13	6.8	11	13	26	19	35	18	21	8.6	10	25	13
14	7.2	11	27	25	18	32	18	20	8.6	9.9	24	12
15	7.2	10	25	25	26	43	18	22	8.6	10	21	12
16	9.0	10	19	23	69	76	18	22	8.1	12	19	12
17	7.6	10	16	21	74	58	21	17	7.6	10	17	13
18	7.2	10	14	19	51	43	27	16	18	9.6	17	12
19	66	10	13	18	37	33	24	14	229	9.4	17	11
20	210	9.5	16	16	38	29	20	13	92	9.0	19	11
21	81	9.5	25	17	53	32	18	13	35	10	19	11
22	39	9.5	24	17	68	45	19	15	24	12	17	11
23	24	9.5	19	17	52	48	18	14	32	9.8	27	10
24	20	9.5	17	17	48	42	17	13	27	8.8	33	11
25	17	9.5	16	17	28	37	16	12	17	8.4	68	10
26	15	12	17	16	25	31	17	12	13	8.2	108	9.6
27	14	12	17	34	23	28	31	11	13	8.0	66	10
28	13	13	18	59	23	26	41	11	12	8.5	68	12
29	13	16	39	39	------	28	29	11	11	8.9	55	23
30	12	15	80	26	------	27	22	12	20	12	37	14
31	12	------	62	22	------	24	------	11	------	16	27	------
TOTAL	680.1	329.0	612	921	876	1,439	676	712	697.7	353.5	1,937	402.6
MEAN	21.9	11.0	19.7	29.7	31.3	46.4	22.5	23.0	23.3	11.4	62.5	13.4
MAX	210	16	80	61	74	204	41	121	229	19	463	23
MIN	5.3	9.5	11	16	16	23	16	11	7.6	8.0	14	9.6
CFSM	.98	.49	.89	1.33	1.40	2.08	1.01	1.03	1.04	.51	2.80	.60
IN.	1.13	.55	1.02	1.54	1.46	2.40	1.13	1.19	1.16	.59	3.23	.67

CAL YR 1966: TOTAL 3,728.0 MEAN 10.2 MAX 210 MIN 2.0 CFSM .46 IN 6.22
WAT YR 1967: TOTAL 9,635.9 MEAN 26.4 MAX 463 MIN 5.3 CFSM 1.18 IN 16.07

Peak discharge (base, 180 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-20	0515	3.94	258	6-19	1030	4.42	358
3- 7	2300	4.06	282	8- 4	1100	5.34	582

1-4935. Morgan Creek near Kennedyville, Md.

Location.--Lat 39°16'50", long 76°00'55", on right bank 200 ft upstream from highway bridge, 2 miles southwest of Kennedyville, Kent County, and 4½ miles upstream from mouth.

Drainage area.--10.5 sq mi.

Records available.--May 1951 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 15 ft (from topographic map). Prior to Jan. 1, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--16 years, 9.32 cfs.

Extremes.--Maximum discharge during year, 823 cfs Aug. 4 (gage height, 7.08 ft); minimum, 0.90 cfs Feb. 7 (gage height, 1.23 ft), result of freezeup.
1951-67: Maximum discharge, 1,530 cfs Sept. 12, 1960 (gage height, 8.88 ft), from rating curve extended above 440 cfs by logarithmic plotting; minimum, 0.60 cfs Aug. 28, 29, 1966.

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.9	2.3	4.1	6.1	4.3	4.9	5.0	4.1	3.3	11	14	2.3
2	12	2.5	3.8	6.4	4.3	4.1	4.9	4.3	3.2	4.5	4.5	2.1
3	4.6	3.6	3.3	6.7	5.0	5.3	4.6	6.6	3.0	14	31	2.0
4	3.3	2.8	2.5	6.7	4.2	5.5	4.1	4.2	2.9	5.5	339	2.0
5	3.8	2.5	2.8	6.0	4.2	6.3	4.6	3.7	2.9	4.5	51	2.0
6	4.3	2.8	3.8	4.5	3.9	9.2	5.0	4.0	2.8	3.6	15	1.9
7	3.3	2.8	4.1	4.5	1.2	156	8.2	17	2.8	3.3	5.4	1.9
8	2.8	2.8	4.1	12	4.0	44	5.7	18	2.7	3.4	4.3	1.9
9	2.8	2.8	3.8	16	6.7	12	4.5	7.1	2.6	3.8	3.9	2.0
10	2.5	3.3	3.6	7.7	5.9	7.0	4.5	4.8	2.5	3.5	7.1	2.2
11	2.3	3.6	4.6	4.8	5.5	6.3	4.1	5.3	2.4	3.4	5.2	2.0
12	2.0	3.6	4.1	4.2	6.1	6.1	3.8	5.8	2.2	3.8	3.6	1.8
13	1.8	3.3	4.3	4.1	4.0	5.5	4.1	4.2	2.2	3.2	3.4	2.0
14	2.0	3.0	14	4.7	4.4	5.7	4.3	4.6	2.4	3.1	3.4	1.9
15	2.0	2.8	8.0	4.7	8.7	11	4.3	5.5	2.6	3.3	3.2	1.8
16	3.6	2.8	5.0	4.1	24	9.8	4.1	5.0	2.5	4.3	3.0	1.9
17	3.6	3.0	4.3	3.8	15	6.6	6.3	3.9	2.2	3.5	2.9	2.2
18	3.0	3.0	4.3	3.6	7.9	5.1	9.4	3.7	82	3.3	3.0	2.0
19	85	3.0	4.1	2.8	6.7	4.7	5.7	3.6	209	4.6	2.8	1.9
20	70	3.0	5.0	2.9	6.3	5.4	5.4	4.2	20	4.8	5.1	1.8
21	18	3.0	8.4	3.8	13	7.3	5.0	3.3	6.5	14	4.4	1.9
22	5.7	3.0	5.7	4.5	11	9.1	5.7	4.6	5.6	4.9	4.3	1.8
23	3.6	3.0	4.6	4.6	8.2	6.9	5.4	4.3	6.8	3.7	8.8	1.6
24	3.3	3.0	3.0	4.2	5.7	6.8	4.6	3.7	6.3	2.8	10	1.8
25	3.0	3.0	3.0	3.9	3.8	5.5	4.1	3.4	3.7	2.3	58	1.8
26	2.8	3.8	5.7	3.8	3.8	5.3	4.3	3.2	2.9	2.2	18	1.7
27	2.8	3.6	5.7	8.8	3.9	5.0	12	3.0	2.7	2.1	11	1.8
28	2.8	11	4.6	13	5.7	5.1	6.9	2.9	2.7	2.6	7.2	2.1
29	2.5	10	15	6.1	------	7.4	4.1	3.7	2.7	3.9	3.8	5.0
30	2.5	5.0	20	4.1	------	6.0	4.1	4.9	11	3.5	3.0	3.1
31	2.3	------	8.4	3.8	------	5.1	------	3.7	------	4.7	2.7	------
TOTAL	270.9	107.7	177.7	176.9	187.4	390.0	158.8	160.3	407.1	141.1	642.0	62.2
MEAN	8.74	3.59	5.73	5.71	6.69	12.6	5.29	5.17	13.6	4.55	20.7	2.07
MAX	85	11	20	16	24	156	12	18	209	14	339	5.0
MIN	1.8	2.3	2.5	2.8	1.2	4.1	3.8	2.9	2.2	2.1	2.7	1.6
CFSM	.83	.34	.55	.54	.64	1.20	.50	.49	1.29	.43	1.97	.20
IN.	.96	.38	.63	.63	.66	1.38	.56	.57	1.44	.50	2.27	.22

CAL YR 1966: TOTAL 1,6C9.00 MEAN 4.41 MAX 85 MIN .70 CFSM .42 IN 5.70
WAT YR 1967: TOTAL 2,882.1 MEAN 7.90 MAX 339 MIN 1.2 CFSM .75 IN 10.21

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	1245	5.13	271				
6-18	2400	6.39	598				
8- 4	0145	7.08	823				

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

Location.--Lat 39°39'26", long 75°49'20", on right bank 100 ft downstream from highway bridge at Elk Mills, Cecil County, 3½ miles north of Elkton, and 7 miles upstream from confluence with Little Elk Creek.

Drainage area.--52.6 sq mi.

Records available.--April 1932 to September 1967. Monthly discharge only for some periods, published in WSP 1302.

Gage.--Digital water-stage recorder. Datum of gage is 68.5 ft above mean sea level, datum of 1929. Prior to Oct. 7, 1939, wire-weight gage and Oct. 7, 1939, to May 16, 1946, wire-weight gage and crest-stage gage at bridge 100 ft upstream at same datum. May 17, 1946, to Sept. 30, 1961, graphic water-stage recorder at present site and datum.

Average discharge.--35 years, 67.1 cfs.

Extremes.--Maximum discharge during year, 6,120 cfs Aug. 10 (gage height, 10.35 ft), from rating curve extended above 1,700 cfs on basis of velocity-area and conveyance studies; minimum, 12 cfs Dec. 4; minimum daily, 16 cfs Oct. 12-14.

1932-67: 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.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	42	20	25	60	50	53	58	51	43	52	34	66
2	75	22	23	54	52	50	56	52	41	36	28	62
3	33	35	21	52	57	41	55	61	39	142	88	60
4	25	28	20	51	48	45	50	50	38	44	462	58
5	24	21	21	50	47	66	53	47	37	34	399	56
6	21	22	21	46	44	152	56	48	36	29	117	54
7	19	21	21	44	28	1,510	120	149	35	27	64	53
8	18	20	20	100	60	169	70	135	34	26	73	53
9	18	21	19	124	60	106	60	124	33	27	342	52
10	17	22	19	59	64	91	59	74	32	44	1,510	54
11	17	28	27	46	64	83	55	79	31	193	135	55
12	16	27	23	45	58	76	51	91	29	259	96	49
13	16	24	20	43	45	71	50	65	28	52	82	48
14	16	22	54	47	54	70	53	64	28	36	75	47
15	17	20	54	65	64	102	52	71	30	62	66	46
16	20	20	42	58	110	93	49	72	30	44	62	46
17	21	20	38	44	72	76	56	59	27	33	59	48
18	19	20	38	40	56	66	71	56	33	31	57	46
19	399	20	36	39	50	61	54	55	66	30	56	44
20	118	18	32	39	50	62	49	65	38	26	67	42
21	43	18	36	38	61	69	47	53	31	28	61	80
22	31	18	35	38	52	83	51	55	31	44	62	138
23	27	18	31	41	55	88	48	53	59	27	56	50
24	24	18	26	46	50	84	51	50	38	24	57	45
25	24	19	40	45	40	73	50	48	32	54	139	43
26	22	23	62	41	39	65	49	46	28	30	210	41
27	20	24	55	182	40	61	141	44	26	25	506	41
28	19	37	51	179	43	60	87	43	25	23	194	43
29	19	78	130	72	------	77	60	48	24	25	97	73
30	19	33	125	54	------	66	54	57	66	218	81	51
31	19	------	90	49	------	59	------	47	------	43	74	------
TOTAL	1,218	737	1,255	1,891	1,513	3,828	1,815	2,012	1,068	1,808	5,415	1,650
MEAN	39.3	24.6	40.5	61.0	54.0	123	60.5	64.9	35.6	58.3	175	55.0
MAX	399	78	130	182	110	1,510	141	149	66	259	1,510	138
MIN	16	18	19	38	28	41	47	43	24	23	28	41
CFSM	.75	.47	.77	1.16	1.03	2.35	1.15	1.23	.68	1.11	3.32	1.05
IN.	.86	.52	.89	1.34	1.07	2.71	1.28	1.42	.76	1.28	3.83	1.17

CAL YR 1966: TOTAL 14,458.3 MEAN 39.6 MAX 1,570 MIN 4.8 CFSM .75 IN 10.22
WAT YR 1967: TOTAL 24,210 MEAN 66.3 MAX 1,510 MIN 16 CFSM 1.26 IN 17.12

Peak discharge (base, 1,700 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	0745	8.19	3,780				
8-10	0330	10.35	6,120				

1-4960. Northeast Creek at Leslie, Md.

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

Drainage area.--24.3 sq mi.

Records available.--October 1948 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 115.0 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1961, graphic water-stage recorder at same site and datum.

Average discharge.--19 years, 32.0 cfs.

Extremes.--Maximum discharge during year, 4,060 cfs Aug. 10 (gage height, 7.74 ft), on basis of contracted-opening measurement of peak flow; minimum, 4.8 cfs Oct 11; minimum daily, 5.1 cfs June 29.
1948-67: Maximum discharge, that of Aug. 10, 1967; 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.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	18	6.7	12	26	20	17	19	17	11	15	14	21
2	38	7.6	11	24	22	19	18	17	10	9.3	11	19
3	14	14	9.5	26	27	15	18	23	9.4	45	74	18
4	9.4	12	9.4	23	21	19	17	18	8.8	14	413	17
5	8.2	8.3	8.8	24	20	36	17	16	8.5	11	537	16
6	7.2	8.2	8.8	19	18	85	18	16	8.1	8.1	40	15
7	6.4	8.0	9.8	17	14	1,130	84	110	7.9	6.7	22	15
8	6.0	7.7	9.6	103	19	118	31	92	7.5	6.4	18	15
9	6.0	7.7	9.3	100	20	42	22	85	7.1	8.2	180	15
10	5.7	8.5	9.1	34	19	32	20	29	6.8	6.9	1,750	15
11	5.4	12	14	24	21	28	18	30	6.7	65	78	14
12	5.4	12	13	19	23	26	16	43	6.4	13	30	13
13	5.4	11	11	17	20	23	15	24	6.2	8.2	24	13
14	5.7	9.0	22	24	19	23	16	22	6.0	8.3	22	13
15	5.7	8.0	28	33	31	50	16	27	6.4	15	19	13
16	6.1	7.6	20	28	122	44	15	28	6.6	11	17	12
17	6.5	7.7	17	20	42	28	18	21	6.2	8.4	17	13
18	6.1	7.7	18	18	25	23	29	19	8.4	7.0	16	12
19	232	7.7	17	17	23	19	19	18	19	6.4	17	12
20	112	7.2	14	16	22	20	16	25	10	6.0	19	11
21	21	6.8	14	15	29	23	15	16	7.3	13	18	25
22	14	6.8	13	15	28	36	16	16	6.6	60	20	51
23	12	7.0	12	17	27	43	15	15	9.7	12	16	15
24	11	7.2	8.2	19	24	40	16	14	8.7	8.5	17	13
25	9.8	7.2	15	19	20	28	16	13	6.8	20	72	13
26	9.4	8.5	17	17	18	23	16	13	5.7	12	209	11
27	8.6	9.2	17	84	16	21	75	12	5.2	10	629	11
28	7.9	16	17	158	16	20	42	11	5.2	8.7	245	12
29	7.2	39	76	34	------	31	22	12	5.1	21	41	26
30	6.7	17	76	24	------	25	19	15	17	200	29	16
31	6.6	------	42	20	------	21	------	12	------	22	24	------
TOTAL	623.4	303.3	578.5	1,034	726	2,108	694	829	244.3	674.1	4,638	485
MEAN	20.1	10.1	18.7	33.4	25.9	68.0	23.1	26.7	8.14	21.7	150	16.2
MAX	232	39	76	158	122	1,130	84	110	19	200	1,750	51
MIN	5.4	6.7	8.2	15	14	15	15	11	5.1	6.0	11	11
CFSM	.83	.42	.77	1.37	1.07	2.80	.95	1.10	.34	.89	6.16	.67
IN.	.95	.46	.89	1.58	1.11	3.23	1.06	1.27	.37	1.03	7.10	.74

CAL YR 1966: TOTAL 6,408.4 MEAN 17.6 MAX 603 MIN 1.2 CFSM .72 IN 9.81
WAT YR 1967: TOTAL 12,937.6 MEAN 35.4 MAX 1,750 MIN 5.1 CFSM 1.46 IN 19.80

Peak discharge (base, 800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	1430	5.98	2,310	8-10	0715	7.74	4,060
8- 5	0830	4.31	1,060	8-27	2145	4.56	1,210

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

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

Drainage area.--9.03 sq mi.

Records available.--June to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 215 ft (from topographic map).

Extremes.--Maximum discharge during year, 4,260 cfs Aug. 9 (gage height, 8.89 ft), from rating curve extended above 170 cfs on basis of slope-area measurements at 1,400 cfs and 4,260 cfs; minimum, 2.1 cfs July 27, 28 (gage height, 1.70 ft).

Remarks.--Records good.

Discharge, in cubic feet per second, June to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1									5.8	4.7	3.6	11
2									5.2	4.2	3.3	9.8
3									4.9	19	59	9.3
4									4.7	4.6	154	8.9
5									4.5	4.4	33	8.6
6									4.3	3.6	11	8.3
7									4.2	3.4	7.3	8.0
8									4.0	3.3	6.3	7.9
9									3.8	3.5	422	8.0
10									3.6	3.3	214	8.0
11									3.5	20	18	7.3
12									3.4	4.1	12	7.1
13									3.3	3.4	10	7.0
14									3.2	3.3	8.9	6.8
15									3.4	5.1	7.8	6.6
16									3.8	4.3	7.2	6.9
17									3.3	3.3	6.9	7.0
18									9.8	3.3	6.6	6.6
19									10	3.0	7.4	6.4
20									4.6	2.9	9.0	6.3
21									3.7	3.9	8.1	17
22									3.8	6.9	8.7	11
23									5.1	3.0	7.1	6.8
24									3.9	2.6	8.7	6.7
25									3.3	3.9	25	6.4
26									2.9	2.8	50	6.1
27									2.8	2.5	180	6.1
28									2.8	2.5	48	8.3
29					------				2.8	8.6	17	11
30					------				10	33	14	6.8
31		------			------		------		------	4.4	12	------
TOTAL									134.4	180.8	1,390.9	242.0
MEAN									4.48	5.83	44.9	8.07
MAX									10	33	422	17
MIN									2.8	2.5	3.3	6.1
CFSM									.50	.65	4.97	.89
IN.									.55	.74	5.73	1.00

Cal yr 1966: Total - Mean - Max - Min - Cfsm - In. -
Wtr yr 1967: Total - Mean - Max - Min - Cfsm - In. -

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	Unknown	a7.0	1,400	8- 9	2200	8.89	4,260
8-4	2030	6.18	730	8-27	0530	5.98	642

a Estimated.

1-5800. Deer Creek at Rocks, Md.

Location.--Lat 39°37'49", long 76°24'13", on right bank a quarter of a mile upstream from highway bridge on Cherry Hill Road, three-quarters of a mile southeast of Rocks, Harford County, 1.2 miles upstream from Stirrup Run, 7 miles northwest of Bel Air, and 23½ miles upstream from mouth.

Drainage area.--94.4 sq mi.

Records available.--October 1926 to September 1967. Monthly discharge only for November and December 1926, published in WSP 1302.

Gage.--Digital 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). Prior to Oct. 1, 1962, graphic water-stage recorder at same site and datum.

Average discharge.--41 years, 118 cfs.

Extremes.--Maximum discharge during year, 3,920 cfs Aug. 4 (gage height, 9.82 ft); minimum, 17 cfs Feb. 25 (gage height, 1.76 ft), result of freezeup, but may have been less during period of no gage-height record.
1926-67: 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, except those for period of no gage-height record, which are fair. Some regulation at low flow by mills above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	53	35	62	77	70	61	99	87	77	69	75	121
2	84	37	57	70	78	58	98	85	74	65	59	113
3	49	210	49	66	84	63	95	103	71	514	356	108
4	42	73	43	66	72	66	90	87	69	93	1,260	102
5	40	55	48	64	70	100	92	83	68	83	390	98
6	36	50	48	61	68	141	94	83	67	66	145	95
7	34	46	49	60	36	1,290	140	188	66	61	100	93
8	34	44	48	104	76	317	104	179	64	59	309	91
9	34	44	46	118	68	212	94	169	63	61	249	91
10	34	46	53	89	70	171	95	124	61	228	943	95
11	30	61	69	78	72	153	89	136	60	275	212	90
12	30	53	52	73	70	143	85	140	58	97	152	86
13	30	49	54	69	66	128	85	113	57	73	130	84
14	30	46	57	75	70	124	86	113	56	66	115	83
15	30	44	53	88	90	158	85	138	58	78	100	80
16	30	42	51	84	120	150	83	157	59	65	91	80
17	30	42	52	70	85	133	96	117	56	60	86	80
18	30	42	61	64	81	117	113	110	55	59	83	78
19	154	41	60	62	74	108	90	105	57	57	80	78
20	97	39	58	60	73	108	85	107	57	55	125	78
21	56	39	55	58	82	117	82	96	53	54	115	83
22	47	38	52	60	74	127	88	96	54	52	88	84
23	44	38	50	64	73	138	81	93	64	51	80	84
24	42	38	34	68	70	130	84	89	56	50	102	80
25	41	39	56	66	48	118	81	86	51	59	505	75
26	40	44	60	64	71	111	83	84	49	51	485	72
27	38	42	56	250	75	106	164	81	47	49	1,100	71
28	37	129	45	170	69	104	117	79	46	48	288	75
29	36	141	120	90	------	130	96	90	47	118	189	90
30	35	76	112	80	------	110	90	95	93	290	152	75
31	35	------	79	70	------	102	------	82	------	88	136	------
TOTAL	1,382	1,723	1,789	2,538	2,055	5,094	2,864	3,395	1,813	3,094	8,300	2,613
MEAN	44.6	57.4	57.7	81.9	73.4	164	95.5	110	60.4	99.8	268	87.1
MAX	154	210	120	250	120	1,290	164	188	93	514	1,260	121
MIN	30	35	34	58	36	58	81	79	46	48	59	71
CFSM	.47	.61	.61	.87	.78	1.74	1.01	1.16	.64	1.06	2.84	.92
IN.	.54	.68	.70	1.00	.81	2.01	1.13	1.34	.71	1.22	3.27	1.03

CAL YR 1966: TOTAL 22,497.2 MEAN 61.6 MAX 1,600 MIN 8.6 CFSM .65 IN 8.86
WAT YR 1967: TOTAL 36,660 MEAN 100 MAX 1,290 MIN 30 CFSM 1.06 IN 14.44

Peak discharge (base, 1,900 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	0830	7.68	2,660	8-10	0230	6.87	2,210
7- 3	0130	7.34	2,470	8-27	0500	9.49	3,720
8- 4	0130	9.82	3,920				

Note.--No gage-height record Jan. 15 to Feb. 17.

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

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

Drainage area.--8.52 sq mi.

Records available.--June 1944 to April 1951, July 1955 to September 1967. October 1950 to September 1955 at site 0.5 mile upstream, published as "near Bel Air"; records not equivalent.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 251.94 ft above mean sea level (Maryland State Roads Commission bench mark). Prior to Jan. 21, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--18 years (1944-50, 1955-67), 10.4 cfs.

Extremes.--Maximum discharge during year, 1,280 cfs Aug. 25 (gage height, 6.56 ft) from rating curve extended above 580 cfs on basis of logarithmic plotting; minimum, 0.2 cfs July 31 (regulated); minimum daily, 1.8 cfs Oct. 12-13.

1944-51, 1955-67: 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, 0.1 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.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	27	2.3	5.1	8.3	6.0	5.0	7.7	5.4	4.1	3.8	4.3	11
2	15	3.0	4.3	8.3	7.7	4.8	7.4	5.4	3.8	23	2.3	9.0
3	5.1	50	3.4	8.7	9.8	6.3	7.1	11	3.4	136	54	8.3
4	3.6	20	3.0	9.8	6.6	6.6	6.3	5.7	3.2	5.7	226	8.0
5	4.6	9.0	3.2	9.8	6.3	16	7.1	5.1	3.0	4.1	111	7.7
6	3.0	6.0	4.1	7.1	5.4	46	7.1	5.1	3.0	3.4	15	7.1
7	3.0	4.0	4.1	8.0	3.8	289	18	82	3.0	3.0	6.3	6.9
8	2.3	2.6	4.1	49	6.0	21	8.3	22	2.8	3.4	8.3	6.9
9	2.3	2.6	3.6	21	5.7	14	7.4	15	2.8	3.6	106	6.9
10	2.2	4.0	4.8	11	6.0	11	7.7	8.3	2.8	109	138	7.1
11	1.9	5.5	11	8.0	7.7	12	6.6	15	2.6	27	12	6.0
12	1.8	4.0	4.8	6.9	7.4	12	6.0	10	2.5	5.7	7.4	5.7
13	1.8	3.5	4.6	6.9	5.4	9.4	5.7	7.1	2.3	4.8	6.3	6.0
14	1.9	3.0	11	6.6	6.0	9.4	6.0	9.4	2.3	4.3	5.7	5.7
15	2.0	3.0	11	5.1	13	41	5.7	13	2.6	4.1	5.1	5.4
16	3.4	2.8	7.4	5.7	45	19	5.4	11	2.5	3.6	4.6	5.4
17	2.1	2.8	7.4	5.4	12	12	11	7.4	2.3	3.2	4.3	5.7
18	2.3	2.8	8.7	5.1	9.0	8.7	9.4	6.6	8.7	3.2	3.8	8.7
19	144	2.8	7.4	4.8	8.0	8.9	6.6	6.9	6.9	3.0	4.6	5.7
20	19	2.6	6.3	5.5	8.0	8.0	5.7	8.3	3.0	2.8	47	4.8
21	8.3	2.6	6.6	5.0	16	12	5.4	5.4	2.8	2.8	16	22
22	5.0	2.6	6.3	5.0	11	19	6.0	6.0	32	2.8	5.4	11
23	4.0	2.6	5.7	5.0	10	16	5.1	5.4	5.4	2.6	4.0	5.4
24	3.2	2.6	4.3	5.0	7.4	13	6.3	4.8	3.2	3.4	34	4.8
25	3.2	2.6	5.5	5.0	6.6	9.8	5.1	4.8	2.6	5.1	320	4.6
26	2.8	4.8	5.7	5.0	5.4	8.7	7.7	4.6	2.3	3.0	93	4.3
27	2.6	3.0	5.4	58	5.1	8.0	27	4.3	2.2	3.0	580	4.3
28	2.5	70	5.1	23	6.3	8.0	10	4.1	2.3	2.5	75	6.0
29	2.3	18	65	8.7	------	17	6.6	7.4	2.2	2.6	24	6.6
30	2.2	7.4	21	6.6	------	9.4	5.7	6.0	20	2.6	17	4.3
31	2.2	------	10	5.7	------	8.0	------	4.3	------	5.7	14	------
TOTAL	286.6	252.5	259.9	333.0	252.6	688.1	237.1	316.8	142.6	392.8	1,954.4	211.3
MEAN	9.25	8.42	8.38	10.7	9.02	22.2	7.90	10.2	4.75	12.7	63.0	7.04
MAX	144	70	65	58	45	289	27	82	32	136	580	22
MIN	1.8	2.3	3.0	4.8	3.8	4.8	5.1	4.1	2.2	2.5	2.3	4.3
CFSM	1.09	.99	.98	1.26	1.06	2.61	.93	1.20	.56	1.49	7.40	.83
IN.	1.25	1.10	1.13	1.45	1.10	3.00	1.03	1.38	.62	1.71	8.53	.92

CAL YR 1966: TOTAL 2,684.80 MEAN 7.36 MAX 343 MIN .10 CFSM .86 IN 11.72
WAT YR 1967: TOTAL 5,327.7 MEAN 14.6 MAX 580 MIN 1.8 CFSM 1.71 IN 23.26

Peak discharge (base, 440 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	0615	5.60	880	8-9	2045	5.45	645
7-3	0230	5.14	709	8-25	2315	6.56	1,280
7-10	1945	5.12	702	8-27	0600	6.44	1,220
8-4	2045	5.45	818				

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

Location.--Lat 39°36'16", long 76°37'16", on left bank at downstream side of Pennsylvania Railroad bridge, 0.2 mile north of Blue Mount, Baltimore County, 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.

Records available.--June 1944 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 305 ft (from topographic map). Prior to Oct. 1, 1961, graphic water-stage recorder at same site and datum.

Average discharge.--23 years, 63.6 cfs.

Extremes.--Maximum discharge during year, 2,750 cfs Aug. 3 (gage height, 7.34 ft); minimum, 16 cfs Jan. 19 (gage height, 0.51 ft), result of freezeup.
1944-67: 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 (gage height, 0.19 ft); 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 fair. Slight diurnal fluctuation at low flow caused by mill above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	36	21	34	39	40	33	57	50	46	36	33	63
2	39	31	31	37	42	32	57	50	45	36	32	59
3	26	232	26	34	45	32	56	62	43	112	247	57
4	23	42	25	34	38	34	53	51	42	39	404	55
5	22	32	26	34	38	61	55	49	41	42	125	53
6	20	28	27	31	35	85	56	50	40	35	66	51
7	19	27	27	31	29	689	74	111	40	33	53	50
8	19	26	27	53	32	154	58	90	39	32	158	49
9	19	25	25	52	34	112	55	82	38	35	307	49
10	19	27	26	43	35	94	56	68	38	197	441	55
11	18	36	38	39	36	88	52	82	37	118	113	49
12	18	30	28	35	34	82	51	75	35	48	84	47
13	18	27	28	34	32	75	51	65	34	39	73	46
14	19	25	30	41	34	73	51	67	34	43	65	45
15	19	24	28	44	38	90	51	90	35	53	58	44
16	22	24	27	40	58	84	49	83	34	38	53	43
17	20	24	27	37	45	78	62	69	32	35	50	44
18	20	24	31	32	42	69	61	65	32	34	48	43
19	93	23	32	30	40	65	52	64	34	33	47	42
20	42	22	30	32	39	65	50	63	33	31	69	41
21	29	22	29	31	43	71	50	57	31	32	59	44
22	26	22	28	32	39	77	54	57	32	34	50	44
23	24	22	27	34	40	80	48	55	35	30	46	42
24	23	22	25	35	35	75	51	52	31	29	83	42
25	24	22	28	34	32	69	48	51	29	36	200	42
26	23	25	30	33	34	65	52	50	28	32	173	40
27	22	23	28	111	36	62	85	48	27	32	380	40
28	21	95	28	77	35	62	61	47	27	29	135	44
29	21	64	80	52	------	72	54	59	27	69	91	49
30	20	41	54	44	------	62	51	56	55	76	78	41
31	20	------	43	41	------	58	------	49	------	37	71	------
TOTAL	784	1,108	973	1,276	1,060	2,848	1,661	1,967	1,074	1,509	3,892	1,413
MEAN	25.3	36.9	31.4	41.2	37.9	91.9	55.4	63.5	35.8	48.7	126	47.1
MAX	93	232	80	111	58	689	85	111	55	197	441	63
MIN	18	21	25	30	29	32	48	47	27	29	32	40
CFSM	.48	.70	.59	.78	.72	1.74	1.05	1.20	.68	.92	2.37	.89
IN.	.55	.78	.68	.90	.75	2.00	1.17	1.38	.76	1.06	2.74	.99

CAL YR 1966: TOTAL 12,274.7 MEAN 33.6 MAX 785 MIN 4.5 CFSM .64 IN 8.63
WAT YR 1967: TOTAL 19,565 MEAN 53.6 MAX 689 MIN 18 CFSM 1.01 IN 13.75

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	0800	5.23	1,560	8- 9	2230	6.36	2,170
7-10	1900	4.18	1,060	8-27	0430	4.82	1,360
8- 3	2400	7.34	2,750				

1-5830. Slade Run near Glyndon, Md.

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

Drainage area.--2.09 sq.mi.

Records available.--September 1947 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 420 ft (from topographic map). Prior to Oct. 1, 1961, graphic water-stage recorder at same site and datum.

Average discharge.--20 years, 2.14 cfs.

Extremes.--Maximum discharge during year, 222 cfs Aug. 27 (gage height, 3.96 ft) from rating curve extended above 30 cfs on basis of slope-area measurement at gage height 3.96 ft; minimum, 0.37 cfs Mar. 3, regulated (gage height, 1.19 ft).
1947-67: Maximum discharge, 485 cfs July 21, 1956 (gage height, 4.68 ft), from rating curve extended above 92 cfs by logarithmic plotting; no flow many days in August and September 1966.

Remarks.--Records fair.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.7	.62	.94	1.0	1.0	1.0	1.4	1.2	1.1	1.7	.90	1.9
2	1.5	.90	.85	1.0	1.1	.80	1.4	1.1	1.0	3.4	.80	1.7
3	.80	.90	.80	1.0	1.1	.49	1.4	1.6	1.0	3.6	1.2	1.6
4	.70	.71	.80	1.0	1.0	1.0	1.3	1.1	.90	1.6	2.4	1.6
5	.60	.62	.85	1.0	1.0	1.2	1.3	1.1	.90	1.4	.90	1.6
6	.50	.62	.85	1.0	1.0	2.1	1.4	1.2	.90	1.1	.80	1.5
7	.50	.62	.76	.94	.70	21	1.6	4.2	.90	1.0	.70	1.5
8	.50	.62	.76	1.7	.90	3.0	1.3	2.4	.90	1.3	2.0	1.5
9	.50	.71	.76	1.4	.90	2.1	1.3	3.8	.90	1.5	1.0	1.5
10	.50	.80	.76	1.2	1.0	1.9	1.4	1.7	.90	1.0	5.0	1.5
11	.50	.71	.94	1.1	1.1	1.8	1.3	2.0	.90	1.5	2.4	1.2
12	.50	.71	.85	1.0	1.1	1.6	1.2	1.7	.90	1.2	2.0	1.0
13	.50	.71	.85	1.0	.90	1.5	1.2	1.5	.90	1.0	1.7	1.0
14	.50	.71	.94	1.1	1.0	1.5	1.3	1.6	.90	1.0	1.6	1.0
15	.50	.71	.85	1.1	1.3	2.6	1.2	2.1	.90	1.0	1.4	.94
16	.50	.62	.85	1.0	1.4	2.2	1.2	2.0	.90	.80	1.2	.94
17	.50	.62	.85	1.0	1.2	1.9	1.9	1.8	.90	.80	1.2	1.0
18	.50	.62	.94	1.0	1.1	1.6	1.5	1.6	1.0	.70	1.3	.94
19	3.5	.62	.94	1.0	1.4	1.5	1.2	1.5	1.0	.70	1.4	.94
20	1.3	.62	.94	1.0	1.1	1.5	1.2	1.4	.90	.60	1.8	.94
21	.90	.62	.94	.90	1.2	1.7	1.2	1.2	.90	2.5	1.5	1.0
22	.80	.62	.85	.94	1.3	2.1	1.3	1.3	2.3	1.6	1.4	1.0
23	.71	.62	.85	.94	1.1	2.1	1.2	1.3	2.2	1.2	1.3	.94
24	.71	.62	1.9	1.0	1.1	1.9	1.4	1.2	1.7	.90	5.1	.94
25	.71	.71	3.6	.94	1.0	1.7	1.2	1.1	1.2	2.0	8.9	.94
26	.62	.71	.94	.94	1.2	1.6	1.4	1.1	.80	1.7	8.0	.85
27	.62	.71	.76	3.8	1.2	1.5	2.1	1.0	.80	.80	27	.85
28	.62	2.4	1.2	1.7	1.1	1.5	1.4	.90	.90	.60	3.0	1.0
29	.62	1.3	4.7	1.2	------	1.6	1.3	1.8	.80	.90	2.5	1.0
30	.62	1.0	1.2	1.2	------	1.5	1.2	1.3	3.5	1.4	2.1	.85
31	.62	------	1.9	1.2	------	1.5	------	1.1	------	1.0	1.9	------
TOTAL	26.15	23.08	35.92	36.30	30.50	70.99	40.7	49.90	33.70	41.50	94.40	35.17
MEAN	.84	.77	1.16	1.17	1.09	2.29	1.36	1.61	1.12	1.34	3.05	1.17
MAX	3.7	2.4	4.7	3.8	1.4	21	2.1	4.2	3.5	3.6	27	1.9
MIN	.50	.62	.76	.90	.70	.49	1.2	.90	.80	.60	.70	.85
CFSM	.40	.37	.55	.56	.52	1.10	.65	.77	.54	.64	1.46	.56
IN.	.47	.41	.64	.65	.54	1.26	.72	.89	.60	.74	1.68	.63

CAL YR 1966: TOTAL 448.35 MEAN 1.23 MAX 54 MIN 0 CFSM .59 IN 7.98
WAT YR 1967: TOTAL 518.31 MEAN 1.42 MAX 27 MIN .49 CFSM .68 IN 9.22

Peak discharge (base, 90 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8-27	0415	3.96	222				

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

Location.--Lat 39°30'38", long 76°40'37", on right bank 100 ft downstream from bridge on Western Run Road, 0.3 mile southeast of Western Run, Baltimore County, 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.

Records available.--September 1944 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 260 ft (from topographic map). Prior to Oct. 1, 1961, graphic water-stage recorder at same site and datum.

Average discharge.--23 years, 62.6 cfs.

Extremes.--Maximum discharge during year, 2,610 cfs Aug. 27 (gage height, 7.53 ft); minimum, 14 cfs Feb.7, 25 (gage height 0.57 ft), result of freezeup.
1944-67: Maximum discharge, 5,590 cfs July 21, 1956 (gage height, 10.84 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurements at gage heights 8.55 and 9.88 ft; minimum 2.4 cfs Sept. 12, 1966 (gage height, 0.41 ft).

Remarks.--Records fair.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	27	22	29	36	34	30	52	45	37	30	20	51
2	38	28	27	34	34	30	52	45	35	29	22	46
3	24	55	24	34	36	29	50	53	34	83	54	43
4	21	28	22	34	32	31	48	45	33	31	343	40
5	20	25	23	34	32	40	49	43	33	29	110	38
6	19	23	24	30	31	51	50	43	32	26	44	35
7	19	22	24	32	25	755	60	99	32	24	36	34
8	18	22	23	50	30	140	51	72	31	24	38	33
9	18	22	22	56	33	98	49	61	30	27	49	32
10	18	23	23	43	34	84	50	52	29	110	218	34
11	18	26	29	38	35	76	47	57	28	150	49	31
12	18	24	25	38	32	69	46	54	27	36	40	29
13	17	23	25	36	30	65	46	48	26	28	36	28
14	18	22	27	37	32	64	47	49	26	27	35	28
15	19	22	27	40	35	92	46	58	27	35	31	27
16	20	21	25	37	51	79	44	69	27	26	29	26
17	20	21	25	34	41	71	51	53	24	24	28	27
18	20	21	27	32	38	64	53	50	24	23	28	26
19	80	21	29	31	35	59	46	48	25	22	27	25
20	43	20	28	32	35	59	44	48	24	22	35	25
21	28	20	27	29	40	62	43	43	23	24	37	27
22	25	20	26	30	37	68	46	44	23	25	32	30
23	23	20	25	31	37	71	42	43	29	21	29	25
24	22	20	22	32	34	69	44	42	27	21	65	26
25	21	20	30	31	31	62	42	40	23	29	218	25
26	21	22	32	30	32	60	42	39	20	31	96	24
27	20	20	29	82	34	57	61	38	20	24	969	24
28	20	56	25	71	32	56	50	36	20	21	176	27
29	20	53	62	43	------	64	45	42	20	23	91	33
30	21	34	51	38	------	56	46	46	44	30	70	26
31	21	------	42	35	------	53	------	39	------	22	60	------
TOTAL	737	776	879	1,190	962	2,664	1,442	1,544	833	1,077	3,115	925
MEAN	23.8	25.9	28.4	38.4	34.4	85.9	48.1	49.8	27.8	34.7	100	30.8
MAX	80	56	62	82	51	755	61	99	44	150	969	51
MIN	17	20	22	29	25	29	42	36	20	21	20	24
CFSM	.40	.43	.47	.64	.57	1.44	.80	.83	.46	.58	1.68	.52
IN.	.46	.48	.55	.74	.60	1.66	.90	.96	.52	.67	1.94	.58

CAL YR 1966: TOTAL 11,038.7 MEAN 30.2 MAX 733 MIN 2.5 CFSM .51 IN 6.87
WAT YR 1967: TOTAL 16,144 MEAN 44.2 MAX 969 MIN 17 CFSM .74 IN 10.04

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	0900	6.00	1,700	8-10	0130	4.35	1,010
7-11	0030	4.57	1,100	8-27	0830	7.53	2,610
8- 4	0230	5.50	1,470				

1-5835.8. Baisman Run at Broadmoor, Md.

Location.--Lat 39°28'45", long 76°40'42", on right bank at upstream side of bridge on Ivy Hill Road, 0.3 mile upstream from mouth, 0.6 mile southwest of Broadmoor, Baltimore County, and 1¾ miles west of Cockeysville.

Drainage area.--1.47 sq mi.

Records available.--August 1964 to September 1967.

Gage.--Water-stage recorder. Altitude of gage is 350 ft (from topographic map).

Extremes.--Maximum discharge during year, 200 cfs Aug. 27 (gage height, 3.50 ft), from rating curve extended above 30 cfs on basis of slope-area measurement made prior to establishment of station at gage height 2.87 ft; minimum, 0.20 cfs Dec. 24 (gage height, 1.23 ft), result of freezeup.
1964-67: Maximum discharge, that of Aug. 27, 1967; no flow many days in August and September, 1966. Flood of July 3, 1964, reached a stage of 2.87 ft, from floodmarks (discharge 111 cfs from rating curve extended as explained above).

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	.40	.70	.70	1.0	.90	1.4	1.2	1.2	.90	.60	1.7
2	.50	1.4	.70	.70	1.1	.90	1.4	1.2	1.1	1.9	.50	1.5
3	.40	2.7	.70	.80	1.1	1.0	1.3	1.5	1.0	2.1	6.3	1.4
4	.40	.80	.70	.80	1.0	.90	1.3	1.3	.90	1.0	7.7	1.4
5	.40	.60	.70	.80	1.0	1.1	1.3	1.2	.90	.80	2.2	1.3
6	.30	.60	.70	.80	.90	1.6	1.4	1.2	.80	.70	1.2	1.2
7	.30	.60	.60	.70	.60	9.4	1.6	3.8	.80	.70	1.0	1.2
8	.30	.60	.60	1.2	.70	3.3	1.4	2.2	.80	.90	1.2	1.2
9	.30	.60	.60	1.2	.80	2.5	1.3	2.0	.80	.90	9.0	1.2
10	.30	.60	.70	1.0	.90	2.2	1.4	1.7	.80	.80	3.0	1.2
11	.30	.70	1.0	.90	1.0	2.1	1.3	2.0	.70	1.0	1.6	1.1
12	.30	.60	.70	.80	1.0	1.8	1.3	1.7	.70	.70	1.4	1.1
13	.30	.60	.70	.80	.90	1.6	1.3	1.6	.70	.70	1.2	1.1
14	.30	.60	.70	1.0	.90	1.6	1.3	1.6	.70	.70	1.1	1.0
15	.30	.50	.70	1.0	1.2	2.5	1.3	1.9	.70	.70	1.0	1.0
16	.30	.50	.60	.90	1.5	2.1	1.3	1.8	.70	.60	.90	1.1
17	.30	.50	.60	.80	1.2	1.8	1.7	1.5	.80	.60	.90	1.1
18	.40	.50	.70	.80	1	1.5	1.5	1.5	.90	.60	.90	1.0
19	2.9	.50	.70	.80	.90	1.2	1.3	1.4	.90	.60	.90	1.0
20	.80	.40	.70	.80	.80	1.3	1.3	1.4	.80	.70	1.2	1.0
21	.60	.40	.70	.70	1.2	1.6	1.3	1.4	.70	.80	1.0	1.1
22	.50	.40	.70	.80	1.1	2.0	1.4	1.4	.90	.70	.90	1.0
23	.50	.40	.60	.80	1.0	1.9	1.2	1.4	1.0	.60	.90	1.0
24	.40	.50	.40	.90	1.0	1.7	1.4	1.3	.90	.50	2.0	1.0
25	.40	.50	.60	.90	.90	1.5	1.2	1.3	.70	1.3	6.0	.90
26	.40	.60	.60	.80	.90	1.5	1.4	1.3	.70	.80	4.5	.90
27	.40	.50	.60	2.6	.90	1.4	2.1	1.2	.60	.60	25	.90
28	.40	2.2	.60	1.7	.90	1.4	1.6	1.2	.60	.60	4.0	1.1
29	.40	1.2	1.8	1.2	-	1.8	1.3	1.5	.70	.70	3.0	1.1
30	.40	.80	1.0	1.1	- - - - -	1.4	1.2	1.4	2.0	.80	2.3	.90
31	.40	- - - - -	.80	1.0	- - - - -	1.4	- - - - -	1.2	- - - - -	.60	2.0	- - - - -
Total	15.20	21.80	22.20	29.80	27.40	58.90	41.5	48.3	25.50	25.60	95.40	33.70
Mean	.49	.73	.72	.96	.98	1.90	1.38	1.56	.85	.83	3.08	1.12
Max	2.9	2.7	1.8	2.6	1.5	9.4	2.1	3.8	2.0	2.1	25	1.7
Min	.30	.40	.40	.70	.60	.90	1.2	1.2	.60	.50	.50	.90
Cfsm	.33	.50	.49	.65	.67	1.29	.94	1.06	.58	.56	2.10	.76
In.	.38	.55	.56	.75	.69	1.49	1.05	1.22	.65	.65	2.41	.85

Cal yr 1966: Total 239.10 Mean .66 Max 5.3 Min 0 Cfsm .45 In. 6.05
Wtr yr 1967: Total 445.30 Mean 1.22 Max 25 Min .30 Cfsm .83 In. 11.27

Peak discharge (base, 30 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8-3	2300	3.04	131	8-24	About 2330	2.53	57
8-9	Unknown	3.28	167	8-27	Unknown	3.50	200

Note.--No gage-height record Aug. 9-29.

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

Location.--Lat 39°30'18", long 76°25'56", on right bank 700 ft upstream from Laurel Brook, 0.4 mile southwest of Laurel Brook railroad station, Harford County, 1 mile downstream from Maryland and Pennsylvania Railroad bridge, 5 miles southwest of Bel Air, and 10½ miles upstream from mouth.

Drainage area.--36.1 sq mi.

Records available.--October 1926 to September 1967. Monthly discharge only for some periods, published in WSP 1302.

Gage.--Digital water-stage recorder. Datum of gage is 261.43 ft above mean sea level (city of Baltimore bench mark). Prior to Oct. 1, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--41 years, 45.2 cfs.

Extremes.--Maximum discharge during year, 5,130 cfs Aug. 27 (gage height, 7.72 ft); minimum, 8.0 cfs Feb. 7 (gage height 0.70 ft), result of freezeup.
1926-67: 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 measurements at gage heights 5.70, 6.15, and 10.3 ft; minimum recorded, 3.1 cfs Feb. 15, 1931, Mar. 15, 1932, Feb. 20, 1947, result of freezeup; minimum daily, 3.0 cfs Sept. 7-11, 1966 (during period of no gage-height record).

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	21	13	23	27	27	24	35	31	27	24	22	54
2	30	14	21	26	27	24	34	31	26	31	20	50
3	18	67	18	26	33	25	33	37	25	386	53	48
4	15	25	17	26	28	26	32	31	23	37	515	46
5	15	20	18	26	27	36	33	30	23	33	125	44
6	14	18	19	23	26	48	34	30	23	26	51	42
7	13	17	19	23	15	429	54	96	23	23	39	40
8	13	16	18	45	25	76	38	62	23	22	78	40
9	13	16	17	46	26	55	35	49	22	24	76	40
10	13	18	18	33	27	47	35	40	21	477	204	45
11	12	20	30	29	28	48	33	43	20	135	58	40
12	12	19	22	26	27	47	31	44	20	48	45	38
13	12	17	21	25	24	41	31	36	19	35	40	38
14	12	16	23	29	25	40	32	37	19	31	38	37
15	12	16	23	31	31	74	31	44	20	31	35	36
16	12	15	21	28	53	56	30	50	20	28	33	35
17	12	15	21	26	35	46	35	39	18	27	32	37
18	11	15	23	24	32	39	41	37	18	26	31	36
19	69	15	26	24	30	37	33	35	26	24	30	35
20	35	14	23	23	29	37	31	36	21	23	45	34
21	22	14	22	22	35	42	30	32	19	24	46	57
22	18	14	21	23	32	48	32	33	25	26	35	46
23	16	14	20	24	32	49	33	32	24	22	32	38
24	16	14	15	25	29	47	32	30	20	21	48	37
25	15	15	21	25	21	41	31	30	18	25	289	36
26	15	17	22	24	27	38	30	29	16	23	118	34
27	14	16	20	91	26	37	54	28	16	21	1,050	32
28	14	75	18	65	26	36	40	27	16	20	163	32
29	13	44	52	36	------	49	33	30	16	20	93	41
30	13	27	40	30	------	40	32	35	38	60	73	36
31	13	------	28	28	------	36	------	28	------	25	64	------
TOTAL	533	636	700	959	803	1,718	1,038	1,172	645	1,778	3,581	1,204
MEAN	17.2	21.2	22.6	30.9	28.7	55.4	34.6	37.8	21.5	57.4	116	40.1
MAX	69	75	52	91	53	429	54	96	38	477	1,050	57
MIN	11	13	15	22	15	24	30	27	16	20	20	32
CFSM	.48	.59	.63	.86	.79	1.54	.96	1.05	.60	1.59	3.20	1.11
IN.	.55	.66	.72	.99	.83	1.77	1.07	1.21	.66	1.83	3.69	1.24

CAL YR 1966: TOTAL 8,143.0 MEAN 22.3 MAX 713 MIN 3.0 CFSM .62 IN 8.39
WAT YR 1967: TOTAL 14,767 MEAN 40.5 MAX 1,050 MIN 11 CFSM 1.12 IN 15.21

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	0745	4.81	1,180	8- 4	0430	5.56	1,860
7- 3	0215	5.32	1,600	8-25	0415	4.58	1,020
7-10	1900	6.29	2,950	8-27	0900	7.72	5,130

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

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

Drainage area.--7.61 sq mi.

Records available.--February 1959 to September 1967.

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

Average discharge.--8 years, 8.95 cfs.

Extremes.--Maximum discharge during year, 1,510 cfs Aug. 25 (gage height, 6.00 ft) from rating curve extended as explained below; minimum, 0.20 cfs June 9 (gage height, 1.18 ft) result of regulation; minimum daily, 1.1 cfs June 17.
1959-67: Maximum discharge 1,780 cfs (revised) 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 Mar. 20, 1965, result of regulation caused by construction work above station; minimum daily, 0.1 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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	2.4	4.2	7.1	4.6	5.0	5.2	4.2	2.8	5.2	8.4	4.8
2	11	4.6	4.0	9.1	7.0	5.0	5.2	4.2	2.4	42	3.0	4.2
3	4.1	39	3.4	9.5	7.6	5.2	4.8	15	2.2	179	33	3.6
4	3.0	4.6	2.4	9.9	5.8	5.4	4.2	4.8	2.0	9.5	139	3.6
5	4.0	3.6	2.6	8.3	4.6	5.8	4.8	4.2	2.0	5.8	81	3.6
6	2.4	3.4	3.4	4.8	4.2	21	5.8	4.2	1.8	4.0	17	3.4
7	2.0	2.8	3.0	7.5	3.0	308	14	125	1.8	3.0	7.5	3.4
8	1.8	2.8	3.0	22	6.0	16	6.2	18	1.8	8.0	13	3.0
9	1.8	2.8	2.8	13	7.0	11	5.2	11	1.2	7.0	23	3.0
10	1.8	4.2	3.5	8.3	8.5	10	5.2	7.5	1.6	8.7	93	3.0
11	1.6	4.8	11	5.8	14	12	4.6	10	1.4	4.6	8.7	3.0
12	1.4	4.0	3.6	4.8	10	9.9	4.2	7.5	1.2	2.8	4.8	2.8
13	1.4	3.0	4.2	4.6	5.8	8.3	4.2	5.2	1.2	2.6	4.0	2.8
14	1.5	2.8	19	6.2	8.7	7.9	4.2	7.6	1.2	7.4	3.4	2.8
15	1.5	2.6	10	5.8	32	36	4.2	14	3.4	6.4	2.6	2.6
16	3.6	2.6	6.2	4.6	23	16	4.2	10	2.0	2.8	2.6	2.6
17	1.6	2.6	5.8	4.0	10	9.9	15	5.8	1.1	2.4	2.6	2.6
18	2.8	2.8	5.8	2.8	9.9	7.1	7.0	4.8	1.2	2.2	2.8	3.2
19	176	2.4	4.6	2.8	8.3	6.2	5.0	5.8	2.2	2.0	9.9	2.4
20	16	2.2	5.8	3.4	8.7	6.2	4.5	10	1.8	1.8	34	2.0
21	6.2	2.2	8.3	3.6	23	12	4.0	4.6	2.0	5.9	5.2	2.4
22	4.6	2.2	7.5	4.0	10	15	4.0	6.2	20	3.9	5.2	2.2
23	4.0	2.2	5.2	4.0	8.7	15	4.0	4.6	12	2.2	4.2	1.8
24	3.4	2.2	2.4	3.6	5.8	11	4.0	4.0	3.4	1.8	41	2.0
25	3.0	2.2	5.0	3.4	5.8	8.3	4.0	3.4	2.0	7.7	296	2.0
26	2.8	4.0	5.0	3.6	5.8	7.1	7.0	3.0	2.8	5.6	24	1.8
27	2.6	2.8	5.0	43	4.6	6.2	20	3.0	2.8	2.4	208	1.8
28	2.6	52	5.0	19	6.2	6.2	7.0	2.8	2.0	2.9	67	2.3
29	2.4	12	75	8.3	-	18	5.0	7.7	2.2	2.4	11	2.8
30	2.2	6.2	17	6.5	- - - - -	7.9	4.5	5.2	55	3.0	7.9	1.8
31	2.4	- - - - -	8.3	4.2	- - - - -	5.8	- - - - -	3.4	- - - - -	32	6.2	- - - - -
Total	310.5	188.0	252.0	247.5	258.6	624.4	181.2	326.7	140.5	377.0	1,169.0	83.3
Mean	10.0	6.27	8.13	7.98	9.24	20.1	6.04	10.5	4.68	12.2	37.7	2.78
Max	176	52	75	43	32	308	20	125	55	179	296	4.8
Min	1.4	2.2	2.4	2.8	3.0	5.0	4.0	2.8	1.1	1.8	2.6	1.8
Cfsm	1.31	.82	1.07	1.05	1.21	2.64	.79	1.38	.61	1.60	4.95	.37
In.	1.51	.92	1.23	1.21	1.26	3.05	.89	1.60	.69	1.84	5.71	.41

Cal yr 1966: Total 2,828.1 Mean 7.75 Max 319 Min .1 Cfsm 1.02 In. 13.82
Wtr yr 1967: Total 4,158.7 Mean 11.4 Max 308 Min 1.1 Cfsm 1.50 In. 20.32

Peak discharge (base, 390 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	0730	5.21	1,190	8-10	0715	3.67	578
5-7	Unknown	3.37	458	8-25	0415	6.00	1,510
7-3	0100	5.29	1,230	8-27	2300	5.60	1,350
8-4	0100	4.30	830				

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

Location.--Lat 39°22'25", long 76°35'35", on left bank at downstream side of highway bridge on Regester Avenue 0.1 mile north of Baltimore city limits, 1 mile upstream from mouth, and 1.3 miles east of U. S. Highway 111 in Idlewylde, Baltimore County.

Drainage area.--2.13 sq mi.

Records available.--July 1957 to May 1965, January 1966 to September 1967.

Gage.--Water-stage recorder and V-notch 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.--8 years (1958-1964, 1967), 2.23 cfs.

Extremes.--Maximum discharge during year, 1,540 cfs Aug. 27 (gage height, 6.46 ft), from rating curve extended above 90 cfs on basis of slope-area measurement at gage height 6.37 ft; minimum daily, 0.30 cfs Oct. 11-15, 17.
1957-67: Maximum discharge, that of Aug. 27, 1967, from rating curve extended as explained above; no flow Aug. 14-24, 1957.

Remarks.--Records fair except those for period of no gage-height record, which are poor. Slight diurnal fluctuation (occasionally extensive) caused by ready-mixed concrete plant above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	.50	.80	1.4	.90	1.2	1.6	1.1	1.0	1.3	.70	2.0
2	1.6	16	.70	2.4	3.6	1.2	1.4	1.9	1.0	28	.70	1.8
3	.90	4.0	.70	1.9	1.2	1.4	1.3	4.4	1.0	12	20	1.5
4	.80	1.0	.70	2.1	1.0	1.5	1.3	1.0	.90	4.4	30	1.4
5	2.2	.90	.70	1.4	.90	2.7	1.8	1.0	.90	1.5	10	1.4
6	.40	.80	.70	1.2	.90	11	1.6	2.2	.90	1.2	3.0	1.2
7	.40	.70	.60	1.8	.90	35	3.3	23	.90	1.1	2.0	1.1
8	.40	.70	.80	5.6	1.0	3.0	1.3	2.6	.90	3.1	3.0	1.3
9	.40	.90	.80	1.6	1.6	2.4	1.3	1.7	.90	1.2	5.0	1.1
10	.40	2.1	3.6	1.3	2.5	2.0	1.7	1.4	.90	1.0	20	1.1
11	.30	1.3	3.1	1.1	4.6	2.7	1.2	3.6	.80	1.0	2.0	1.1
12	.30	1.1	.80	1.0	1.6	1.8	1.2	1.3	.80	.90	1.5	1.1
13	.30	.60	.90	1.0	1.2	1.7	1.2	1.2	.80	.80	1.2	1.1
14	.30	.60	4.8	1.4	2.7	1.9	1.3	3.8	.80	3.3	1.0	1.1
15	.30	.60	1.6	1.0	4.4	8.0	1.2	2.5	.90	2.6	1.0	1.0
16	2.3	.60	1.1	.90	2.8	3.0	1.2	1.3	.90	.90	1.0	.90
17	.30	.60	1.3	.90	2.4	2.0	5.7	1.3	.90	.80	1.0	.90
18	3.1	.60	1.3	.80	2.4	1.5	1.3	1.2	3.0	.70	1.0	.90
19	26	.60	1.0	1.0	2.0	1.4	1.2	3.4	1.4	.80	9.0	.80
20	1.3	.50	1.5	1.2	2.4	1.4	1.0	1.7	.90	1.8	3.0	.90
21	.90	.50	2.0	1.0	4.2	4.7	1.1	1.1	.80	1.0	2.4	2.6
22	.80	.50	1.0	.90	1.7	2.8	1.6	2.0	5.8	.80	2.0	.90
23	.70	.50	.90	.90	1.5	3.7	1.0	1.2	1.2	.70	2.0	.80
24	.60	.50	.80	.90	1.3	2.1	1.6	1.0	1.0	.70	15	.80
25	.70	.60	.90	1.0	1.2	1.7	1.0	1.0	1.0	5.0	25	.70
26	.50	1.6	.90	.80	1.2	1.6	5.3	1.0	1.0	.80	9.0	.80
27	.50	.60	.90	12	1.2	1.7	5.6	1.0	.90	.70	97	.70
28	.50	15	1.0	1.6	1.4	1.5	1.3	1.0	1.0	1.3	7.8	2.2
29	.40	1.2	14	1.0	-	3.2	1.2	6.4	1.10	.70	3.0	1.1
30	.40	.90	2.6	.90	- - - - -	1.6	1.1	1.3	13	.70	2.4	.80
31	.40	- - - - -	1.5	.90	- - - - -	1.6	- - - - -	1.1	- - - - -	.70	2.2	- - - - -
Total	60.40	56.60	54.00	52.90	54.70	113.0	53.9	79.7	47.30	81.50	283.90	35.10
Mean	1.95	1.89	1.74	1.71	1.95	3.65	1.80	2.57	1.58	2.63	9.16	1.17
Max	26	16	14	12	4.6	35	5.7	23	13	28	97	2.6
Min	.30	.50	.60	.80	.90	1.2	1.0	1.0	.80	.70	.70	.70
Cfsm	.92	.89	.82	.80	.92	1.71	.85	1.21	.74	1.23	4.30	.55
In.	1.05	.99	.94	.92	96	1.97	.94	1.39	.83	1.42	4.96	.61

Cal yr 1966: Total 595.10 Mean 1.63 Max 44 Min .1 Cfsm .77 In. 10.39
Wtr yr 1967: Total 973.00 Mean 2.67 Max 97 Min .30 Cfsm 1.25 In. 16.99

Peak discharge (base, 230 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11- 2	2200	3.68	350	8-25	0200	4.03	449
1-27	1200	3.25	245	8-27	2000	6.46	1,540
7- 2	2200	4.08	464				

Note.--No gage-height record July 30 to Aug. 24.

1-5853. Stemmers Run at Rossville, Md.

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

Drainage area.--4.94 sq mi.

Records available.--December 1958 to September 1967.

Gage.--Water-stage recorder and concrete control. Nov. 4, 1963, to Oct. 3, 1966, digital water-stage recorder at same site and datum. Altitude of gage is 20 ft (from topographic map).

Average discharge.--8 years, 5.94 cfs.

Extremes.--Maximum discharge during year, 1,240 cfs July 2 (gage height, 7.05 ft), from rating curve extended above 500 cfs on basis of contracted-opening measurement at gage height 7.86 ft; minimum daily, 0.40 cfs many days in June and July.

1959-67: Maximum discharge, 1,720 cfs Aug. 4, 1965 (gage height, 7.86 ft), from rating curve extended as explained above; minimum daily, 0.1 cfs many days in 1962, 1964, and 1966.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	1.2	2.1	3.6	1.5	1.9	3.1	1.9	1.0	1.3	2.1	2.1
2	4.4	17	1.7	5.7	2.5	1.9	3.3	1.9	1.0	105	1.0	1.9
3	2.2	30	1.3	5.4	3.6	2.2	2.9	6.5	.90	103	73	1.7
4	1.7	2.2	1.2	6.4	1.7	2.4	2.4	1.7	.70	6.0	85	1.7
5	3.0	1.9	1.3	4.2	1.5	3.3	3.1	1.5	.70	3.1	31	1.7
6	1.3	1.7	1.5	2.7	1.3	24	4.8	1.8	.70	2.2	4.0	1.5
7	1.2	1.7	1.3	3.3	1.2	280	8.7	108	.50	1.7	2.2	1.5
8	1.2	1.7	1.3	13	2.0	9.3	3.1	7.5	.40	1.8	3.9	1.5
9	1.2	1.7	1.3	4.4	2.5	5.7	2.4	3.3	.40	2.1	8.1	1.5
10	1.2	2.7	2.0	3.1	2.9	4.4	2.7	1.3	.40	1.7	40	1.5
11	1.0	2.4	5.8	2.4	11	7.3	2.2	4.9	.40	1.3	2.4	1.3
12	.90	2.3	1.5	2.1	6.0	4.6	2.1	2.7	.40	1.2	1.7	1.2
13	1.0	1.5	2.0	2.1	3.6	3.8	1.9	2.2	.40	1.2	1.5	1.2
14	1.2	1.3	15	2.7	6.0	3.8	2.1	4.0	.50	3.2	1.3	1.2
15	1.2	1.3	4.6	2.2	21	24	2.1	6.5	.60	2.2	1.2	1.0
16	3.3	1.3	2.9	1.9	10	8.6	2.2	3.1	.70	1.2	1.0	1.0
17	1.3	1.3	2.4	1.5	4.2	4.4	7.4	1.9	.70	.90	1.2	1.0
18	2.6	1.3	2.7	1.3	4.2	3.3	4.4	1.7	.70	.90	1.2	2.3
19	211	1.3	2.2	1.3	4.0	2.7	3.1	2.9	1.3	.70	13	.60
20	6.6	1.2	2.4	1.3	4.4	2.9	2.7	3.9	.70	.70	11	.60
21	2.9	1.2	4.0	1.3	14	7.1	2.7	1.3	.60	1.0	2.3	.70
22	2.2	1.2	2.9	1.3	4.2	7.8	3.3	2.2	26	.90	1.9	.50
23	1.9	1.2	2.4	1.3	3.6	6.9	2.4	1.3	2.2	.50	1.3	.60
24	1.5	1.2	2.4	1.2	3.1	4.2	3.3	1.0	1.0	.40	63	.60
25	1.5	1.2	2.4	1.2	2.6	3.3	2.2	1.0	.60	6.1	165	.60
26	1.3	2.1	2.4	1.2	2.1	3.1	6.0	1.0	.50	1.9	27	.50
27	1.2	1.2	2.4	33	2.1	2.9	13	1.0	.40	.50	124	.70
28	1.2	44	2.4	7.5	2.4	2.9	3.6	1.0	.40	1.1	13	1.0
29	1.2	4.6	62	2.4	-	10	2.4	5.6	.40	.70	3.6	1.3
30	1.2	2.4	7.8	1.9	- - - - -	3.8	2.2	2.2	43	1.4	2.7	.70
31	1.2	- - - - -	3.8	1.5	- - - - -	3.3	- - - - -	1.2	- - - - -	30	2.4	- - - - -
Total	299.80	137.3	151.4	124.4	129.2	455.8	107.8	188.0	88.20	285.90	692.0	35.20
Mean	9.64	4.58	4.88	4.01	4.61	14.7	3.59	6.06	2.94	9.22	22.3	1.17
Max	211	44	62	33	21	280	13	108	43	105	165	2.3
Min	.90	1.2	1.2	1.2	1.2	1.9	1.9	1.0	.40	.40	1.0	.50
Cfsm	1.95	.93	.99	.81	.93	2.98	.73	1.23	.60	1.87	4.51	.24
In.	2.25	1.03	1.14	.94	.97	3.43	.81	1.42	.66	2.15	5.21	.26

Cal yr 1966: Total 2,140.0 Mean 5.86 Max 278 Min .1 Cfsm 1.19 In. 16.11
Wtr yr 1967: Total 2,694.00 Mean 7.38 Max 280 Min .40 Cfsm 1.49 In. 20.28

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	0630	6.64	1,080	8-25	0300	6.94	1,200
7-2	2330	7.05	1,240	8-27	2200	5.50	770
8-4	0015	6.19	953				

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

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

Drainage area.--1.97 sq mi.

Records available.--May 1958 to September 1967.

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

Average discharge.--9 years, 2.05 cfs.

Extremes.--Maximum discharge during year, 379 cfs Aug. 25 (gage height, 4.29 ft); minimum, 0.30 cfs several days in May and June.
1958-67: Maximum discharge, 506 cfs Sept. 12, 1960 (gage height, 5.03 ft); from rating curve extended above 180 cfs on basis of logarithmic plotting and velocity-area study; no flow at times many years.

Remarks.--Records fair.

Discharge, in cubic feet per second, water year October 1966 to September 67

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	.50	.70	1.6	.80	.60	.80	.50	.40	.80	.70	.80
2	3.0	1.3	.60	2.5	.80	.60	.80	.60	.40	10	.70	.80
3	.80	5.4	.50	2.5	1.2	.70	.70	2.9	.40	22	30	.80
4	.70	.70	.50	2.5	.80	.70	.70	.70	.40	2.0	50	.80
5	1.1	.50	.50	2.0	.80	1.0	.70	.50	.40	1.2	12	.70
6	.60	.40	.50	1.2	.70	11	1.6	.60	.40	.70	2.0	.70
7	.50	.40	.50	1.1	.70	87	4.6	35	.40	.60	1.1	.70
8	.50	.40	.50	4.4	.80	3.8	1.2	6.4	.40	1.7	8.2	.70
9	.50	.40	.50	2.5	.80	1.8	.80	1.6	.40	.80	1.6	.60
10	.40	.70	.60	1.4	.80	1.4	.80	.80	.40	.60	5.1	.60
11	.40	.80	1.8	1.0	3.3	2.5	.80	1.5	.30	.40	1.0	.60
12	.50	.60	.70	.80	3.2	1.8	.70	1.0	.30	.40	.70	.60
13	.50	.50	.60	.80	1.2	1.2	.70	.70	.30	.40	.70	.60
14	.40	.40	6.0	1.0	2.1	1.1	.60	.80	.30	16	.60	.60
15	.40	.40	2.5	.80	11	12	.60	2.4	.40	4.8	.50	.60
16	.80	.40	1.2	.80	6.8	4.0	.60	1.2	.40	.80	.50	.60
17	.40	.40	1.0	.80	1.8	1.6	2.7	.70	.30	.80	.50	.60
18	.60	.40	.80	.70	1.7	.80	1.4	.60	.40	.70	.50	2.9
19	66	.40	.80	.60	1.8	.80	.80	1.3	.40	.70	9.0	.80
20	3.8	.40	.80	.60	1.8	.80	.70	1.7	.40	.60	2.0	.50
21	1.2	.40	1.7	.60	8.5	3.7	.60	.70	.30	.60	1.0	.50
22	.80	.40	1.2	.70	2.2	3.2	.60	.80	1.2	.70	.90	.40
23	.80	.40	1.0	.70	1.6	2.8	.50	.60	1.1	.70	.80	.40
24	.70	.40	.80	.70	1.0	1.8	.60	.40	.40	.70	22	.40
25	.80	.40	.80	.60	.70	1.1	.50	.40	.30	.60	100	.40
26	.80	.60	.80	.60	.60	.80	1.1	.40	.30	.80	15	.40
27	.50	.40	.80	15	.60	.80	5.2	.40	.30	.80	45	.40
28	.50	13	.80	4.9	.70	.80	1.2	.30	.30	.80	6.0	.40
29	.50	2.4	25	1.6	-	3.1	.80	2.0	.30	.70	2.0	.40
30	.50	.80	4.4	1.0	- - - - -	1.2	.70	.80	12	.70	1.0	.40
31	.50	- - - - -	1.7	.80	- - - - -	.80	- - - - -	.60	- - - - -	.60	.90	- - - - -
Total	100.50	34.60	60.60	56.80	58.80	155.30	34.10	68.90	24.00	73.70	322.00	19.70
Mean	3.24	1.15	1.95	1.83	2.10	5.01	1.14	2.22	.80	2.38	10.4	.66
Max	66	13	25	15	11	87	5.2	35	12	22	100	2.9
Min	.40	.40	.50	.60	.60	.60	.50	.30	.30	.40	.50	.40
Cfsm	1.64	.58	.99	.93	1.07	2.54	.58	1.13	.41	1.21	5.28	.34
In.	1.90	.65	1.14	1.07	1.11	2.93	.64	1.30	.45	1.39	6.08	.37

Cal yr 1966: Total 731.60 Mean 2.00 Max 93 Min .2 Cfsm 1.02 In. 13.81
Wtr yr 1967: Total 1,009.00 Mean 2.76 Max 100 Min .30 Cfsm 1.40 In. 19.05

Peak discharge (base, 120 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-19	0800	2.56	137	8- 3	2330	4.27	376
3- 7	0630	3.67	280	8-25	0200	4.29	379
7-14	2130	2.70	154	8-27	1530	3.12	206

1-5855. Cranberry Branch near Westminster, Md.

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

Drainage area.--3.29 sq mi.

Records available.--September 1949 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 670 ft (from topographic map). Prior to Apr. 7, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--18 years, 3.30 cfs (unadjusted for storage).

Extremes.--Maximum discharge during year, 170 cfs Aug. 9 (gage height, 3.86 ft); minimum daily, 0.40 cfs Nov. 13, Jan. 6 (regulated).
1949-67: Maximum discharge, 720 cfs July 4, 1951 (gage height, 5.14 ft, from high-water mark in well), from rating curve extended above 200 cfs; minimum daily 0.3 cfs Sept. 16, 1966.
Flood of July 12, 1949, reached a stage of 5.2 ft, from floodmarks (discharge, 750 cfs).

Remarks.--Records good. Flow regulated by Cranberry Reservoir, 1 mile above station, since August 1957 (capacity, 113,700,000 gal).

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.1	1.2	.90	4.50	.85	.71	2.8	2.4	1.3	1.7	1.8	3.0
2	1.3	1.3	1.6	.50	1.3	.61	2.8	2.4	.78	4.8	1.7	2.9
3	1.8	1.6	1.4	.50	1.3	.86	2.8	2.9	.77	5.1	11	2.8
4	1.6	1.3	1.3	.60	.78	.78	2.1	1.6	1.4	4.5	12	2.7
5	1.4	1.2	1.3	.50	.83	2.9	1.2	1.4	1.9	2.1	2.5	2.6
6	1.3	1.2	1.4	.40	.70	6.8	2.3	2.5	1.9	.70	1.2	2.6
7	1.3	1.2	1.6	.70	.50	40	4.3	6.9	1.1	1.5	1.3	2.6
8	1.2	1.2	1.5	4.9	1.0	6.5	2.9	3.2	.67	1.9	13	2.6
9	1.2	1.3	1.4	2.2	1.2	4.4	2.8	1.9	.92	2.8	22	2.6
10	1.2	1.6	1.5	1.5	1.5	3.3	2.8	2.3	1.8	6.4	15	3.4
11	1.1	2.8	2.2	.93	2.5	2.8	2.6	4.4	1.9	5.8	2.8	2.6
12	1.1	1.0	1.6	.64	2.2	2.4	2.5	3.3	1.8	2.3	1.9	2.4
13	1.1	.40	1.5	.71	2.0	2.7	1.9	2.8	1.8	2.0	1.6	2.4
14	1.1	.90	1.8	1.5	2.2	3.7	1.6	3.0	1.8	2.3	1.8	2.3
15	1.1	1.3	1.8	1.4	2.9	5.5	2.5	3.4	1.9	3.5	2.1	2.3
16	1.2	1.3	1.7	.83	2.4	4.8	2.4	3.1	1.9	2.1	2.6	2.3
17	1.1	1.3	1.7	.63	1.1	4.1	2.7	2.8	1.8	1.9	2.5	2.3
18	1.2	1.3	2.4	.95	1.1	3.6	1.4	2.7	1.8	1.8	2.4	2.3
19	2.9	1.2	2.2	1.8	1.1	3.4	1.5	3.0	1.8	1.8	2.4	2.2
20	1.1	1.2	1.9	1.8	1.1	3.4	2.5	2.8	1.7	1.8	2.9	2.2
21	1.6	1.2	1.8	2.0	1.3	3.7	1.6	2.5	1.5	1.9	2.7	2.3
22	1.5	1.2	1.8	2.1	1.1	5.2	1.7	1.8	1.6	1.8	2.4	2.3
23	1.4	1.2	1.7	1.3	1.2	4.7	2.3	.90	1.7	1.7	2.3	2.2
24	1.3	1.2	1.4	.60	1.1	4.2	1.8	.85	1.6	1.7	7.0	2.2
25	1.4	1.2	1.8	.55	.80	3.7	.86	1.3	1.5	2.1	14	2.2
26	1.4	1.3	1.7	.49	1.0	3.5	2.0	2.1	1.4	6.8	3.2	2.1
27	1.3	1.3	1.6	6.5	1.0	3.3	4.1	2.1	1.4	3.2	8.7	2.1
28	1.3	5.9	1.7	3.2	.79	3.3	2.8	2.1	1.4	2.1	4.9	2.8
29	1.2	1.5	2.7	1.6	------	3.6	2.5	3.2	1.4	2.2	3.8	2.9
30	1.2	.60	.80	1.0	------	3.1	2.5	2.6	2.9	2.3	3.5	2.2
31	1.2	------	.50	.73	------	2.9	------	2.3	------	1.9	3.2	------
TOTAL	42.2	42.40	50.20	43.56	36.85	144.46	70.56	80.55	47.14	84.50	160.2	74.4
MEAN	1.36	1.41	1.62	1.41	1.32	4.66	2.35	2.60	1.57	2.73	5.17	2.48
MAX	2.9	5.9	2.7	6.5	2.9	40	4.3	6.9	2.9	6.8	22	3.4
MIN	1.1	.40	.50	.40	.50	.61	.86	.85	.67	.70	1.2	2.1

CAL YR 1966: TOTAL 615.10 MEAN 1.69 MAX 37 MIN .30
WAT YR 1967: TOTAL 877.02 MEAN 2.40 MAX 40 MIN .40

Peak discharge (base, 80 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	0715	3.10	97	8-9	2145	3.86	170
8-3	2300	3.06	95				

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

Location.--Lat 39°30'00", long 76°53'00", on left bank at downstream side of private footbridge at Cedarhurst, Carroll County, 0.8 mile downstream from Roaring Run, 8 miles southeast of Westminster, and 16½ miles upstream from mouth.

Drainage area.--56.6 sq mi.

Records available.--September 1945 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 425 ft (from topographic map). Prior to Oct. 1, 1961, graphic water-stage recorder at same site and datum.

Average discharge.--22 years, 59.0 cfs.

Extremes.--Maximum discharge during year, 2,090 cfs Mar. 7 (gage height, 6.43 ft); minimum, 2.8 cfs July 19 (gage height, 1.16 ft), result of filling pond above station; minimum daily, 13 cfs Oct. 12, 13.
1945-67: Maximum discharge, 4,130 cfs Aug. 13, 1955 (gage height, 10.38 ft), from rating curve extended above 1,700 cfs by logarithmic plotting; 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 1.41 cfs diverted above station for municipal supply of Westminster; sewage effluent discharged into Little Pipe Creek.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	40	16	27	31	41	27	52	37	31	24	24	48
2	47	16	25	31	42	30	53	37	28	48	23	45
3	25	25	20	31	52	33	50	51	26	185	41	42
4	21	18	18	32	38	33	46	37	25	32	395	40
5	21	16	20	31	38	58	46	35	26	53	121	39
6	16	16	22	27	36	108	49	36	25	25	46	38
7	16	16	22	27	19	1,050	68	133	24	23	35	35
8	15	16	22	67	32	202	51	83	23	22	323	35
9	15	16	21	67	37	131	48	66	24	25	199	35
10	14	20	20	50	39	102	48	50	23	146	451	44
11	14	35	32	43	40	90	44	67	23	163	77	35
12	13	24	23	37	39	81	42	62	21	39	54	32
13	13	21	22	36	30	73	41	47	20	25	46	32
14	14	18	26	44	35	74	42	51	20	51	44	31
15	14	18	25	48	51	113	42	66	22	63	38	30
16	16	16	23	42	75	96	40	63	21	36	35	29
17	14	18	23	36	46	84	54	49	19	28	34	30
18	14	16	27	32	42	69	53	46	19	26	31	29
19	114	18	34	27	40	65	42	44	20	25	31	29
20	45	16	27	32	39	64	39	48	19	24	39	26
21	25	16	26	33	44	70	38	40	17	35	40	29
22	23	15	25	34	40	87	42	40	19	28	32	30
23	22	16	24	35	41	87	37	37	22	23	30	26
24	20	16	19	35	35	81	39	35	19	22	129	26
25	20	16	23	34	23	70	35	33	17	34	408	25
26	20	19	27	32	30	66	37	33	15	54	100	24
27	18	18	24	172	31	62	71	32	15	75	370	24
28	16	120	19	109	31	59	47	32	15	28	129	26
29	16	63	59	58	------	69	40	46	15	28	74	48
30	16	34	47	47	------	57	38	46	45	42	62	29
31	15	------	34	41	------	54	------	34	------	27	54	------
TOTAL	712	708	806	1,401	1,086	3,345	1,374	1,516	658	1,507	3,515	991
MEAN	23.0	23.6	26.0	45.2	38.8	108	45.8	48.9	21.9	48.6	113	33.0
MAX	114	120	59	172	75	1,050	71	133	45	185	451	48
MIN	13	15	18	27	19	27	35	32	15	22	23	24
CFSM	.41	.42	.46	.80	.69	1.91	.81	.86	.39	.86	2.00	.58
IN.	.47	.47	.53	.92	.71	2.20	.90	1.00	.43	.99	2.31	.65

CAL YR 1966: TOTAL 11,468.8 MEAN 31.4 MAX 934 MIN 3.1 CFSM .56 IN 7.54
WAT YR 1967: TOTAL 17,619 MEAN 48.3 MAX 1,050 MIN 13 CFSM .85 IN 11.58

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	0830	6.43	2,090	8- 9	2330	5.63	1,645
7-10	2230	4.74	1,200	8-25	0430	4.50	1,080

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

Location.--Lat 39°21'05", long 76°54'50", on right bank at downstream side of bridge on State Highway 101 at Henryton, Carroll County, 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.

Records available.--August 1948 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 289.15 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1961, graphic water-stage recorder at same site and datum.

Average discharge.--19 years, 64.7 cfs.

Extremes.--Maximum discharge during year, 4,080 cfs Aug. 27 (gage height, 10.38 ft, from high-water mark in well); minimum, 15 cfs Feb. 26 (result of freezeup).
1948-67: 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, 0.4 cfs Sept. 9-12, 1966.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	50	26	38	46	51	42	67	48	41	32	22	72
2	85	28	35	45	67	39	66	48	38	131	21	61
3	40	40	30	45	62	44	64	62	36	198	21	55
4	32	30	25	48	53	48	59	49	35	40	81	52
5	30	26	27	50	50	57	61	48	34	68	81	49
6	28	26	30	42	48	84	66	48	33	34	30	46
7	26	25	30	41	35	1,090	76	200	32	30	24	43
8	26	25	30	85	40	249	63	114	31	28	34	42
9	26	26	29	85	44	149	59	83	29	32	81	40
10	24	30	29	64	48	127	59	68	29	28	621	41
11	22	38	38	56	50	111	54	76	28	34	60	39
12	22	34	32	50	49	99	52	71	26	27	42	36
13	20	30	30	49	41	89	52	60	25	24	34	36
14	20	27	35	56	42	89	54	63	25	27	32	34
15	22	27	35	60	67	171	53	77	27	48	29	33
16	24	26	32	53	92	140	50	92	25	29	26	32
17	22	26	32	47	63	111	65	66	24	25	25	32
18	22	26	38	45	58	91	71	62	24	24	24	30
19	170	26	46	40	53	84	55	57	26	23	29	28
20	85	25	39	44	53	84	52	61	24	30	76	26
21	45	25	37	42	66	90	51	51	22	64	34	27
22	36	24	36	43	58	106	55	53	59	28	30	30
23	33	24	34	45	58	120	49	51	48	24	26	29
24	30	25	30	46	52	99	51	48	28	22	91	27
25	30	25	35	44	41	85	48	45	24	22	370	26
26	30	27	35	41	41	80	51	44	21	26	220	25
27	27	25	33	165	50	75	85	43	20	24	2,300	24
28	26	70	30	83	49	73	60	42	20	20	600	23
29	26	100	81	59	------	79	52	49	19	23	125	49
30	26	50	66	54	------	72	49	57	71	59	95	33
31	26	------	49	51	------	68	------	44	------	24	88	------
TOTAL	1,131	962	1,126	1,724	1,481	3,945	1,749	1,980	924	1,248	5,372	1,120
MEAN	36.5	32.1	36.3	55.6	52.9	127	58.3	63.9	30.8	40.3	173	37.3
MAX	170	100	81	165	92	1,090	85	200	71	198	2,300	72
MIN	20	24	25	40	35	39	48	42	19	20	21	23
CFSM	.57	.50	.56	.86	.82	1.98	.91	.99	.48	.63	2.69	.58
IN.	.65	.56	.65	1.00	.86	2.28	1.01	1.14	.53	.72	3.10	.65

CAL YR 1966: TOTAL 13,975.80 MEAN 38.3 MAX 938 MIN .40 CFSM .59 IN 8.07
WAT YR 1967: TOTAL 22,762 MEAN 62.4 MAX 2,300 MIN 19 CFSM .97 IN 13.14

Peak discharge (base, 950 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	0930	6.34	2,000	8-25	0400	4.25	1,100
8-10	0530	6.25	1,960	8-27	About 2400	10.38	4,080

1-5890. Patapsco River at Hollofield, Md.

Location.--Lat 39°18'36", long 76°47'39", on right bank at downstream side of highway bridge at Hollofield, Howard County, 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.

Records available.--May 1944 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 190 ft (from topographic map). Prior to Oct. 1, 1961, graphic water-stage recorder at same site and datum.

Extremes.--Maximum discharge during year, 5,240 cfs Aug. 27 (gage height, 6.32 ft); minimum 33 cfs Oct. 13 (gage height, 1.21 ft).
1944-67: 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 beginning July 22, 1954 (usable capacity, 42,070,000,000 gal; dead storage, 1,260,000,000 gal). Diversion above station for municipal supply of Westminster (sewage effluent discharged into Little Pipe Creek) and from Liberty Reservoir beginning Feb. 26, 1953, for municipal supply of Baltimore.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	90	49	66	92	89	70	116	87	77	75	43	129
2	150	52	60	85	92	72	115	87	73	80	39	113
3	76	76	52	87	130	80	113	115	69	448	70	103
4	60	53	44	92	96	86	105	91	65	84	204	97
5	57	46	47	96	90	98	106	85	64	104	162	92
6	49	46	52	80	85	138	116	85	63	64	67	87
7	43	45	52	74	57	1,720	133	351	61	53	50	82
8	42	45	52	140	70	400	116	229	59	49	86	81
9	40	47	50	174	78	251	105	154	56	54	99	79
10	39	51	50	119	91	202	107	126	55	71	1,070	82
11	37	66	70	103	92	179	100	128	54	67	127	78
12	36	60	60	89	92	163	94	137	51	52	80	72
13	35	53	55	89	72	149	93	109	50	45	65	71
14	35	48	66	94	78	148	97	113	48	49	60	69
15	38	47	68	107	123	277	96	136	51	72	53	66
16	42	46	58	96	179	237	90	159	50	56	49	65
17	41	46	57	84	122	184	104	120	45	45	46	66
18	40	46	66	80	110	154	138	112	47	44	44	66
19	348	46	85	65	98	141	101	103	52	43	45	63
20	170	43	74	76	96	142	94	112	48	43	127	60
21	88	43	68	74	121	156	91	93	43	101	67	77
22	71	42	64	75	110	174	98	99	52	56	57	78
23	63	42	62	77	110	197	90	97	121	44	50	63
24	58	43	57	79	97	169	89	88	54	41	120	59
25	56	44	66	76	66	146	87	84	47	42	760	59
26	56	46	72	72	76	139	87	80	40	52	248	56
27	52	44	64	175	80	132	151	76	38	58	2,640	57
28	51	118	50	232	80	129	116	75	38	44	1,010	59
29	50	176	170	120	------	146	95	88	36	45	249	94
30	47	85	145	97	------	128	90	113	149	113	180	64
31	47	------	96	87	------	120	------	85	------	50	151	------
TOTAL	2,107	1,694	2,098	3,086	2,680	6,527	3,133	3,617	1,756	2,244	6,118	2,287
MEAN	68.0	56.5	67.7	99.5	95.7	211	104	117	58.5	72.4	262	76.2
MAX	348	176	170	232	179	1,720	151	351	149	448	2,640	129
MIN	35	42	44	65	57	70	87	75	36	41	39	56
(†)	24,250	23,920	23,670	24,460	24,630	28,770	28,890	29,980	29,020	29,870	36,000	35,660
(‡)	+88	+101	+107	+105	+123	+124	+145	+117	+123	+83	+84	+115

CAL YR 1966: TOTAL 25,755 MEAN 70.6 MAX 1,340 MIN 10
WAT YR 1967: TOTAL 39,347 MEAN 108 MAX 2,640 MIN 35

† Month-end total contents, in millions of gallons, in Liberty Reservoir (contents on Sept. 30, 1966, 24,510 million gallons); furnished by Baltimore Department of Public Works.
‡ Diversions, in cubic feet per second, above station for municipal supply of Westminster, and from Liberty Reservoir for municipal supply of Baltimore. Records furnished by city of Westminster and Baltimore Department of Public Works respectively.

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

Location.--Lat 39°14'24", long 76°41'33", on right bank at downstream side of highway bridge on Tom Day Boulevard at U. S. Route 1 in Arbutus, Baltimore County, ½ mile upstream from mouth, and 2 miles south of Baltimore city limits.

Drainage area.--2.47 sq mi.

Records available.--August 1957 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 45 ft (from topographic map). Prior to Oct. 1, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--10 years, 2.86 cfs.

Extremes.--Maximum discharge during year, 569 cfs July 2 (gage height, 3.98 ft); minimum daily, 0.60 cfs June 11.
1958-67: Maximum discharge, 824 cfs July 12, 1958 (gage height, 4.83 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, 0.3 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 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	1.2	1.3	2.1	1.4	1.3	1.7	1.3	1.3	1.3	1.2	1.7
2	1.9	21	1.2	3.0	2.6	1.5	1.6	2.7	1.3	39	1.2	1.3
3	1.9	6.4	1.0	2.7	1.5	1.5	1.7	3.8	1.2	18	32	1.1
4	1.3	2.0	.80	2.9	1.3	1.8	1.8	1.4	.80	2.8	20	1.1
5	2.2	1.4	1.1	2.3	1.2	1.7	1.8	1.4	1.1	1.8	23	1.5
6	1.2	1.1	1.2	1.9	1.2	11	2.6	2.1	1.2	1.6	2.8	1.6
7	1.2	1.2	1.2	1.8	1.2	56	4.6	24	1.1	1.6	1.9	1.5
8	.90	1.4	1.2	4.1	1.7	5.7	1.7	4.4	1.1	2.1	1.9	1.6
9	.70	1.4	1.2	2.2	1.7	4.0	1.5	2.6	1.0	1.2	1.6	1.3
10	1.6	2.3	4.6	2.0	3.0	3.3	1.6	2.1	.80	2.0	2.6	.98
11	1.1	1.7	3.1	1.8	5.5	2.8	1.6	3.1	.60	1.4	1.5	1.3
12	1.1	1.3	1.3	1.8	2.3	2.3	1.6	1.9	.70	1.3	1.1	1.3
13	1.1	1.0	2.8	1.7	1.5	2.3	1.6	1.7	.70	1.2	.91	1.4
14	1.1	1.2	8.7	2.1	3.3	2.8	1.6	2.8	.80	8.1	1.2	1.4
15	.90	1.2	2.7	1.2	5.2	9.0	1.5	4.0	.80	1.6	1.4	1.3
16	2.2	1.2	2.0	1.4	3.3	4.3	1.3	1.9	.80	1.0	1.4	1.1
17	1.0	1.2	1.7	1.5	3.0	3.0	4.0	1.7	.70	1.5	1.4	.87
18	5.5	1.2	1.3	1.4	3.1	2.3	1.8	1.6	1.1	1.5	1.3	1.2
19	45	1.0	1.5	1.4	2.4	1.8	1.5	3.6	1.2	1.4	2.0	1.3
20	3.5	.80	3.1	1.4	3.1	2.1	1.5	1.7	.80	2.4	2.4	1.3
21	2.1	1.0	2.4	1.2	5.2	7.0	1.5	1.5	1.0	1.6	2.3	1.4
22	1.4	1.2	1.7	1.1	2.3	3.7	1.8	2.4	3.2	.97	1.5	1.1
23	1.2	1.2	1.2	1.3	2.2	3.9	1.2	1.6	1.3	.75	1.4	.98
24	1.3	.80	1.2	1.3	2.0	2.8	1.6	1.5	1.0	1.1	15	.90
25	1.4	.90	1.5	1.3	1.3	2.3	1.4	1.5	.80	1.3	33	1.1
26	1.4	1.5	1.5	1.3	1.2	2.1	3.7	1.5	1.2	1.2	18	1.3
27	1.3	.80	1.7	13	1.4	2.1	4.8	1.3	1.3	1.2	13	1.2
28	1.3	14	1.7	2.7	1.7	2.1	1.6	1.0	1.4	2.6	3.9	2.0
29	1.1	2.1	15	1.4	------	4.3	1.3	3.9	1.4	.97	2.4	1.3
30	.80	1.5	3.6	1.7	------	2.0	1.1	1.3	8.8	.99	2.0	.86
31	1.1	------	2.2	1.7	------	1.9	------	1.3	------	1.0	1.8	------
TOTAL	100.20	76.20	76.70	68.7	66.8	154.7	58.6	88.6	40.50	106.48	197.11	38.29
MEAN	3.23	2.54	2.47	2.22	2.39	4.99	1.95	2.86	1.35	3.43	6.36	1.28
MAX	45	21	15	13	5.5	56	4.8	24	8.8	39	33	2.0
MIN	.70	.80	.80	1.1	1.2	1.3	1.1	1.0	.60	.75	.91	.86
CFSM	1.31	1.03	1.00	.90	.97	2.02	.79	1.16	.55	1.39	2.57	.52
IN.	1.51	1.15	1.15	1.03	1.01	2.33	.88	1.33	.61	1.60	2.97	.58

CAL YR 1966: TOTAL 910.70 MEAN 2.50 MAX 75 MIN .30 CFSM 1.01 IN 13.71
WAT YR 1967: TOTAL 1,072.86 MEAN 2.94 MAX 56 MIN .60 CFSM 1.19 IN 16.15

Peak discharge (base, 260 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-2	2245	3.66	473	8- 3	2315	3.90	545
3-7	0545	3.09	292	8-25	0200	3.79	512
7-2	2115	3.98	569	8-26	2130	3.56	443

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

Location.--Lat 39°26'16", long 76°46'57", on left bank at downstream side of bridge on railroad siding, 0.4 mile upstream from small tributary, 1¼ miles north of Owings Mills, Baltimore County, and 21 miles upstream from mouth.

Drainage area.--4.90 sq mi.

Records available.--July 1958 to September 1967.

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

Average discharge.--9 years, 4.12 cfs.

Extremes.--Maximum discharge during year, 1,330 cfs Aug. 27 (gage height, 5.06 ft) from rating curve extended above 100 cfs on basis of contracted-opening measurement of peak flow; minimum daily, 1.6 cfs many days in October, June and July.
1958-1967: Maximum discharge, that of Aug. 27, 1967, from rating curve extended as explained above; minimum daily, 0.5 cfs Sept. 6, 8, 1966.

Remarks.--Records fair. Occasional diversion from gage pool to nearby fire-control reservoir.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.1	1.8	1.8	2.2	2.5	2.2	2.9	2.5	2.2	2.2	2.2	2.9
2	2.9	2.5	1.8	2.5	3.0	2.2	2.9	2.5	2.2	8.4	1.8	2.5
3	1.8	5.3	1.8	2.5	3.3	2.5	2.9	5.1	1.8	7.1	6.7	2.5
4	1.6	2.2	1.8	2.9	2.5	2.5	2.9	2.5	1.8	2.2	16	2.5
5	1.8	1.8	1.8	2.5	2.5	3.8	2.9	2.5	1.8	2.2	4.9	2.5
6	1.8	1.8	1.8	2.2	2.5	9.1	3.3	2.9	1.8	1.8	2.9	2.5
7	1.8	1.8	2.2	2.5	2.0	75	4.8	19	1.8	1.8	2.2	2.5
8	1.8	1.8	1.8	9.0	2.2	6.0	2.9	6.0	1.8	2.2	2.9	2.5
9	1.8	1.8	1.8	4.3	2.2	4.3	2.9	4.3	1.8	2.5	46	2.5
10	1.8	2.2	1.8	2.9	2.5	3.8	3.3	3.3	1.8	1.8	52	2.5
11	1.8	2.9	3.9	2.5	3.3	3.3	2.9	5.2	1.8	1.8	3.8	2.5
12	1.8	2.2	2.2	2.5	2.9	3.3	2.9	3.1	1.8	1.8	2.9	2.5
13	1.8	2.2	2.2	2.2	2.5	3.3	2.9	2.5	1.8	1.8	2.5	2.5
14	1.8	1.8	2.9	2.9	2.5	3.3	2.9	3.4	1.8	1.8	2.5	2.2
15	1.8	1.8	2.5	2.9	5.8	14	2.5	6.1	1.8	1.8	2.2	2.2
16	3.3	1.8	2.2	2.5	4.8	6.6	2.2	3.8	1.8	1.8	2.2	2.2
17	2.5	1.8	2.2	2.2	3.3	4.3	5.1	2.9	1.8	1.6	2.2	2.2
18	3.1	1.8	3.3	2.2	3.3	3.3	3.8	2.9	1.8	1.6	2.2	2.2
19	22	1.8	2.9	2.2	2.9	3.3	2.9	2.5	1.8	1.6	2.2	2.2
20	3.6	1.8	2.5	2.2	2.5	3.3	2.5	2.5	1.8	1.8	4.1	2.2
21	2.5	1.8	2.5	2.2	4.3	4.3	2.5	2.5	1.6	5.7	2.9	2.9
22	2.2	1.8	2.2	2.2	2.9	6.2	3.3	2.5	7.1	2.5	2.5	2.5
23	1.8	1.8	1.8	2.2	2.9	5.4	2.5	2.5	2.9	1.8	2.2	2.2
24	1.8	1.8	1.8	2.2	2.5	4.3	2.9	2.5	2.2	1.8	20	2.2
25	1.8	1.8	1.8	2.2	2.0	3.8	2.5	2.2	1.6	12	28	2.2
26	1.8	1.8	1.8	2.2	2.2	3.3	3.3	2.2	1.6	5.1	22	2.2
27	1.8	1.8	1.8	13.0	2.5	3.3	6.4	2.2	1.6	2.2	181	2.5
28	1.8	14	2.2	4.9	2.5	3.3	2.9	2.2	1.6	2.2	10	2.9
29	1.8	3.3	8.7	2.9	-	4.8	2.5	5.1	1.6	4.0	5.4	2.5
30	1.8	2.2	3.3	2.5	- - - - -	2.9	2.5	2.9	7.8	4.2	3.8	2.2
31	1.8	- - - - -	2.5	2.5	- - - - -	2.9	- - - - -	2.2	- - - - -	2.5	3.3	- - - - -
Total	90.6	75.0	75.6	96.8	80.8	203.9	93.6	114.5	66.4	93.6	445.5	72.6
Mean	2.92	2.50	2.44	3.12	2.89	6.58	3.12	3.69	2.21	3.02	14.4	2.42
Max	22	14	8.7	13	5.8	75	6.4	19	7.8	12	181	2.9
Min	1.6	1.8	1.8	2.2	2.0	2.2	2.2	2.2	1.6	1.6	1.8	2.2
Cfsm	.60	.51	.50	.64	.59	1.34	.64	.75	.45	.62	2.94	.49
In.	.69	.57	.57	.73	.61	1.55	.71	.87	.50	.71	3.38	.55

Cal yr 1966: Total 1,080.8 Mean 2.96 Max 78 Min .5 Cfsm .60 In. 8.20
Wtr yr 1967: Total 1,508.9 Mean 4.13 Max 181 Min 1.6 Cfsm .84 In. 11.45

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	0830	2.49	205	8-25	0230	2.17	124
8-9	2400	3.28	478	8-27	0515	5.06	1,330

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

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

Drainage area.--32.5 sq mi.

Records available.--February 1957 to September 1967.

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

Average discharge.--10 years, 29.3 cfs.

Extremes.--Maximum discharge during year, 2,010 cfs Aug. 27 (gage height, 8.92 ft); minimum, 5.3 cfs Feb. 25 (gage height, 0.72 ft), result of freezeup.
1957-1967: Maximum discharge, that of Aug. 27, 1967, minimum, 1.7 cfs Sept. 7-8, 1966 (gage height, 0.50 ft).
Maximum discharge known, 5,270 cfs July 21, 1956 (gage height, 12.6 ft) by 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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	9.9	16	20	19	18	23	16	14	12	9.3	22
2	39	31	14	26	26	19	23	16	13	120	8.2	20
3	13	54	12	23	34	17	21	36	11	110	58	18
4	10	15	12	27	21	20	18	18	11	17	233	17
5	12	12	12	26	20	27	20	16	10	14	112	16
6	9.5	11	12	19	18	71	23	17	10	12	21	16
7	8.3	11	12	20	15	706	36	212	10	10	14	15
8	8.3	11	12	75	18	74	23	60	10	11	30	14
9	7.9	11	12	46	25	48	20	37	10	14	65	14
10	7.5	14	18	29	32	40	22	26	9.1	15	446	15
11	7.2	20	39	23	42	38	20	37	10	11	35	14
12	6.9	15	15	19	32	35	18	30	8.7	9.6	21	14
13	6.7	13	15	18	25	31	17	22	7.2	8.9	18	14
14	6.9	12	28	23	30	30	19	29	6.9	10	16	13
15	7.5	12	23	24	56	110	18	38	7.9	9.6	14	13
16	11	11	16	20	60	61	18	40	7.5	8.9	13	13
17	8.3	11	18	17	32	41	34	24	6.7	8.6	12	14
18	11	11	30	16	28	29	30	22	9.3	8.2	12	14
19	233	11	24	15	27	24	20	20	9.5	8.2	23	14
20	44	11	20	15	25	25	17	32	7.9	11	38	13
21	18	11	20	15	46	38	17	18	6.7	23	17	32
22	14	11	18	15	31	52	19	20	17	23	16	17
23	13	11	16	15	28	49	16	18	19	9.6	13	13
24	12	10	15	16	23	41	18	16	9.1	8.9	105	13
25	12	10	15	15	16	30	15	15	7.2	24	369	13
26	11	13	15	14	20	26	21	14	6.4	59	170	12
27	9.9	11	18	113	21	24	52	13	6.4	14	972	12
28	9.9	122	33	59	20	23	26	13	6.1	10	233	16
29	9.1	46	116	27	-	41	19	36	6.1	10	44	19
30	8.7	22	44	22	-----	27	17	34	95	25	32	13
31	9.1	-----	26	20	-----	25	-----	16	-----	11	26	-----
Total	641.7	573.9	696	832	790	1,840	660	961	368.7	646.5	3,195.5	463
Mean	20.7	19.1	22.4	26.8	28.2	59.4	22.0	31.0	12.3	20.9	103	15.4
Max	233	122	116	113	60	706	52	212	95	120	972	32
Min	6.7	9.9	12	14	15	17	15	13	6.1	8.2	8.2	12
Cfsm	.64	.59	.69	.82	.87	1.83	.68	.95	.38	.64	3.17	.47
In.	.73	.66	.80	.95	.90	2.11	.76	1.10	.42	.74	3.66	.53

Cal yr 1966: Total 8,356.4 Mean 22.9 Max 635 Min 1.7 Cfsm .70 In. 9.56
Wtr yr 1967: Total 11,668.3 Mean 32.0 Max 972 Min 6.1 Cfsm .98 In. 13.35

Peak discharge (base, 540 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	0630	7.34	1,390	8-10	0630	6.70	1,200
7-2	2330	6.22	1,060	8-25	0130	7.15	1,340
8-3	2330	6.24	1,060	8-27	2000	8.92	2,010

1-5893.3. Dead Run at Franklintown, Md.

Location.--Lat 39°18'40", long 76°43'02", on right bank at downstream side of bridge on Colonial Road at Security Boulevard at Franklintown, Baltimore County, 0.3 mile west of Baltimore city limits, 1.2 miles southwest of Woodlawn, and 2½ miles upstream from mouth.

Drainage area.--5.52 sq mi.

Records available.--October 1959 to September 1967.

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

Average discharge.--8 years, 5.95 cfs.

Extremes.--Maximum discharge during year, 1,430 cfs Aug. 3 (gage height, 6.86 ft); minimum, 0.50 cfs June 27, 28 (gage height, 0.70 ft).
1959-1967: Maximum discharge, 1,180 cfs (revised) Jan. 1, 1961 (gage height, 6.16 ft), minimum, 0.1 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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	1.5	1.8	4.7	2.1	2.1	2.1	1.2	1.1	1.2	.80	1.8
2	4.7	16	1.5	7.0	5.7	2.1	2.1	1.5	.90	127	.80	1.5
3	2.1	28	1.1	7.0	4.2	2.1	1.8	5.8	.80	89	70	1.2
4	1.5	1.8	.90	9.4	2.4	2.1	1.5	1.2	.80	2.4	85	1.1
5	2.8	1.2	1.1	6.3	2.1	4.2	1.8	1.1	.80	1.5	32	1.2
6	1.1	1.2	1.2	3.7	2.1	38	3.2	2.1	.80	1.1	2.8	1.1
7	.80	1.2	1.2	4.2	1.1	247	8.5	90	.80	.90	1.5	1.1
8	.80	1.2	1.2	29	3.2	7.0	2.1	5.7	.80	.90	1.8	.90
9	.80	1.5	1.1	7.0	2.4	4.2	1.8	2.8	.80	1.1	.90	.90
10	.80	2.8	6.5	4.2	2.8	3.2	1.8	2.1	.80	25	22	1.1
11	.80	2.4	9.4	3.2	13	2.8	1.5	5.0	.80	1.8	1.1	.90
12	.70	2.1	1.8	2.8	6.3	2.4	1.2	2.1	.70	1.1	.80	.90
13	.70	1.5	1.8	2.8	4.2	3.2	1.2	1.5	.70	.90	.80	.90
14	.70	1.2	12	3.7	8.4	2.8	1.5	6.2	.70	2.6	.80	.90
15	.80	1.1	5.2	3.2	30	36	1.5	3.7	.70	1.1	.90	.90
16	2.1	1.1	3.2	2.4	12	9.4	1.5	2.4	.70	.70	.90	.80
17	.90	1.1	3.7	2.1	5.2	3.7	7.0	1.8	.70	.70	.90	.80
18	3.9	1.1	6.3	1.8	5.2	2.4	2.4	1.8	17	.70	.90	.80
19	167	.90	4.2	1.8	2.1	2.1	1.5	5.2	1.8	.70	22	.80
20	6.3	.80	3.2	1.8	4.2	2.1	1.2	2.1	.90	2.1	8.2	.80
21	2.8	.80	5.2	2.1	15	9.9	1.2	1.5	.80	1.2	2.1	1.1
22	1.8	.80	2.8	2.1	5.2	12	1.8	2.8	6.1	.60	1.5	.90
23	1.5	.80	2.1	2.1	4.2	8.2	1.1	1.8	1.2	.60	1.8	.70
24	1.5	.80	1.5	2.1	2.8	5.2	1.8	1.5	.80	.60	58	.80
25	1.2	.90	2.4	1.8	2.4	3.2	1.2	1.2	.70	1.5	139	.90
26	1.2	1.5	2.4	1.8	2.4	2.4	6.2	1.2	.60	.90	59	.70
27	1.5	.90	2.1	60	2.1	2.1	13	1.1	.60	.80	217	.70
28	1.5	52	2.4	11	2.8	2.1	2.1	1.1	.60	1.1	17	2.4
29	1.5	5.2	56	3.7	-	7.6	1.5	9.9	.70	.90	4.2	1.8
30	1.5	2.4	12	2.4	- - - - -	2.8	1.2	2.1	35	1.2	2.4	.80
31	1.5	- - - - -	6.3	2.4	- - - - -	2.1	- - - - -	1.1	- - - - -	.80	2.1	- - - - -
Total	252.80	135.80	163.60	199.6	155.6	436.5	78.3	170.6	80.20	272.70	759.00	31.20
Mean	8.15	4.53	5.28	6.44	5.56	14.1	2.61	5.50	2.67	8.80	24.5	1.04
Max	167	52	56	60	30	247	13	90	35	127	217	2.4
Min	.70	.80	.90	1.8	1.1	2.1	1.1	1.1	.60	.60	.80	.70
Cfsm	1.48	.82	.96	1.17	1.01	2.55	.47	1.00	.48	1.59	4.44	.19
In.	1.70	.91	1.10	1.34	1.05	2.94	.53	1.15	.54	1.84	5.11	.21

Cal yr 1966: Total 2,077.90 Mean 5.69 Max 246 Min .2 Cfsm 1.03 In. 14.00
Wtr yr 1967: Total 2,735.90 Mean 7.50 Max 247 Min .60 Cfsm 1.36 In. 18.43

Peak discharge (base, 550 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	0630	5.69	1,030	8-25	0215	6.84	1,420
7-2	2315	6.64	1,350	8-27	2115	6.03	1,140
8-3	2345	6.86	1,430				

1-5894.4 Jones Falls at Sorrento, Md.

Location.--Lat 39°23'30", long 76°39'42", on right bank 0.3 mile downstream from bridge on State Highway 25 (Falls Road), 10 ft east of the highway, 0.4 mile downstream from Slaughterhouse Branch and Sorrento, Baltimore County, and 18 miles upstream from mouth.

Drainage area.--25.2 sq mi.

Records available.--Annual maximum, water years 1958-66. April 1966 to September 1967.

Gage.--Water-stage recorder and crest-stage gage. Altitude of gage is 240 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,140 cfs Aug. 27 (gage height, 7.89 ft); minimum, 7.4 cfs Oct. 18 (gage height, 1.34 ft).
1966-67: Maximum discharge, that of Aug. 27, 1967; minimum, 1.8 cfs Sept. 7, 8 (gage height, 1.16 ft).

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	9.1	14	19	17	17	25	21	18	17	11	26
2	18	33	12	19	20	15	24	21	17	55	11	24
3	12	67	11	18	21	17	24	27	17	153	38	23
4	10	18	11	18	18	18	23	21	16	20	172	21
5	12	14	11	18	17	21	24	21	16	17	98	21
6	9.6	13	11	16	16	36	24	21	15	15	22	19
7	9.1	12	11	17	14	319	30	96	15	14	17	18
8	9.1	12	11	33	16	54	24	41	15	15	17	18
9	9.1	12	13	28	26	39	23	29	14	16	40	18
10	8.7	13	19	22	18	34	24	25	14	15	223	18
11	8.3	15	18	20	19	33	22	29	14	14	28	18
12	8.3	13	13	18	18	30	22	24	13	13	21	16
13	8.3	12	15	18	18	29	21	23	12	12	19	16
14	8.3	11	18	20	16	29	22	26	13	12	17	16
15	8.7	11	16	20	24	53	22	29	14	14	16	15
16	11	10	16	18	30	42	21	27	13	12	15	15
17	8.3	10	17	18	23	33	28	23	12	12	15	15
18	8.6	10	20	16	22	30	26	23	13	12	14	16
19	81	10	18	14	20	27	22	23	14	11	19	15
20	23	10	16	14	19	28	22	27	12	11	30	15
21	14	10	16	15	26	32	22	22	11	14	18	28
22	12	10	15	15	21	37	22	22	18	14	16	20
23	12	10	15	16	21	35	21	22	15	12	15	15
24	10	11	15	16	19	31	22	21	13	11	52	15
25	10	12	15	15	18	28	21	20	12	20	242	15
26	10	12	15	15	19	27	24	19	11	24	134	14
27	9.1	22	16	56	16	26	36	18	11	13	492	15
28	9.1	50	25	33	18	26	25	18	11	12	178	17
29	9.1	20	45	21	-	33	23	29	11	12	56	18
30	9.1	17	24	18	-----	27	22	24	47	16	37	15
31	9.1	-----	20	17	-----	25	-----	20	-----	12	30	-----
Total	407.9	489.1	512	621	550	1,231	711	812	447	620	2,113	535
Mean	13.2	16.3	16.5	20.0	19.6	39.7	23.7	26.2	14.9	20.0	68.2	17.8
Max	81	67	45	56	30	319	36	96	47	153	492	28
Min	8.3	9.1	11	14	14	15	21	18	11	11	11	14
Cfsm	.52	.65	.65	.79	.78	1.58	.94	1.04	.59	.79	2.71	.71
In.	.60	.72	.76	.92	.81	1.82	1.05	1.20	.66	.91	3.12	.79

Cal yr 1966: Total - Mean - Max - Min - Cfsm - In. -
Wtr yr 1967: Total 9,049.0 Mean 24.8 Max 492 Min 8.3 Cfsm .98 In. 13.35

Peak discharge (base, 470 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	0630	6.41	772	8-10	0530	5.94	655
7-3	0100	6.88	890	8-25	0300	6.98	915
8-4	0015	6.03	678	8-27	2100	7.89	1,140

1-5900. North River near Annapolis, Md.

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

Drainage area.--8.5 sq mi, approximately.

Records available.--December 1931 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 10 ft (from topographic map). Prior to Nov. 2, 1933, staff gage at same site and datum. Prior to Oct. 13, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--35 years (1932-67), 10.1 cfs.

Extremes.--Maximum discharge during year, 88 cfs Oct. 19 (gage height, 2.13 ft); Minimum, 1.7 cfs Feb. 7 (gage height, 0.87 ft).
1931-67: 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 period of no gage-height record, which are fair.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.4	4.3	4.9	6.9	5.5	8.0	6.2	5.5	4.8	3.7	2.5	5.2
2	12	4.9	4.6	6.6	5.2	8.0	6.2	5.5	4.4	3.2	2.2	4.6
3	5.5	28	4.6	6.6	5.9	7.6	6.2	12	4.1	10	3.7	4.3
4	4.0	11	3.5	6.9	5.2	7.3	5.5	7.6	3.8	4.9	55	4.0
5	4.6	7.3	3.7	6.9	5.2	6.9	5.9	6.2	3.7	4.0	39	3.7
6	4.3	5.9	4.9	6.2	4.9	8.4	6.6	6.6	3.4	3.2	15	3.7
7	3.2	5.2	4.6	5.9	2.8	39	8.4	26	3.5	3.0	6.9	3.5
8	3.0	5.2	4.6	8.8	4.3	20	7.3	20	3.2	3.0	4.9	3.5
9	3.0	5.2	4.3	12	6.2	12	6.2	15	3.3	3.5	4.3	3.5
10	2.8	5.9	4.3	8.0	6.2	9.9	6.2	11	3.1	3.2	4.3	3.7
11	2.6	6.2	6.9	6.9	6.6	8.8	5.9	9.4	2.7	2.8	3.7	3.5
12	2.5	5.5	5.2	5.9	6.8	8.0	5.5	9.2	2.4	2.8	3.2	3.2
13	2.3	5.2	4.9	5.9	6.2	7.3	5.5	8.0	2.6	2.5	3.2	3.2
14	2.3	4.6	9.5	7.3	6.9	7.6	5.9	7.0	2.6	5.9	3.0	3.2
15	2.5	4.6	8.8	7.6	9.9	15	5.9	8.6	2.5	9.1	2.8	3.0
16	3.7	4.3	6.2	6.6	18	13	5.5	8.0	2.5	4.0	2.6	3.2
17	3.0	4.3	5.9	5.5	13	9.5	5.9	6.6	2.3	3.2	2.5	3.7
18	2.8	4.3	6.2	5.2	9.1	7.6	7.3	6.0	2.5	3.0	2.5	3.5
19	56	4.6	6.9	4.0	8.8	6.9	5.9	6.4	3.7	2.8	2.5	3.2
20	28	4.0	6.6	4.9	8.8	6.9	5.5	7.6	3.2	2.6	8.4	3.0
21	11	4.0	7.6	5.2	10	8.4	5.5	6.5	2.6	3.5	11	3.0
22	7.3	4.0	6.9	5.5	9.5	11	6.2	7.4	10	4.6	5.9	3.5
23	6.2	4.0	5.9	5.9	8.8	9.9	5.9	6.8	18	3.0	15	3.2
24	5.5	4.0	4.9	5.9	8.0	8.4	5.5	6.2	6.6	2.6	31	3.2
25	4.9	4.0	5.5	5.5	7.0	7.3	5.2	5.6	4.0	2.5	52	3.2
26	4.9	4.6	6.6	5.2	8.0	6.9	5.5	5.2	3.2	2.3	21	2.8
27	4.3	4.3	5.2	7.3	8.4	6.6	11	4.7	2.8	2.3	20	3.0
28	4.3	8.0	4.9	10	8.0	6.6	8.0	4.5	2.6	2.3	33	3.2
29	4.3	9.9	14	6.6	------	8.4	6.2	5.0	2.5	2.6	13	4.3
30	4.0	6.2	11	5.2	------	7.3	5.9	6.8	3.5	3.0	8.0	3.5
31	4.0	------	7.3	4.9	------	6.6	------	5.5	------	2.8	6.6	------
TOTAL	219.2	183.5	190.3	201.8	213.2	305.1	188.4	256.4	120.1	111.9	388.7	105.3
MEAN	7.07	6.12	6.14	6.51	7.61	9.84	6.28	8.27	4.00	3.61	12.5	3.51
MAX	58	28	14	12	18	39	11	26	18	10	55	5.2
MIN	2.3	4.0	3.5	4.0	2.8	6.6	5.2	4.5	2.3	2.3	2.2	2.8
CFSM	.83	.72	.72	.77	.90	1.16	.74	.97	.47	.42	1.48	.41
IN.	.96	.80	.83	.88	.93	1.33	.82	1.12	.53	.49	1.70	.46

CAL YR 1966: TOTAL 2,098.0 MEAN 5.75 MAX 58 MIN 1.0 CFSM .68 IN 9.18
WAT YR 1967: TOTAL 2,483.9 MEAN 6.81 MAX 58 MIN 2.2 CFSM .80 IN 10.87

Peak discharge (base, 75 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-19	1400	2.13	88	8-4	0400	2.10	85

Note.--No gage height record May 9 to June 12.

1-5910. Patuxent River near Unity, Md.

Location.--Lat 39°14'18", long 77°03'23", 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, Montgomery County, and 97 miles upstream from mouth.

Drainage area.--34.8 sq mi.

Records available.--July 1944 to September 1967.

Gage.--Digital 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. Aug. 14, 1946 to Oct. 27, 1961, graphic water-stage recorder at same site and datum.

Average discharge.--23 years, 34.9 cfs.

Extremes.--Maximum discharge during year, 1,800 cfs Aug. 27 (gage height, 7.52 ft); minimum, 6.6 cfs June 27, 28, 29 (gage height, 1.96 ft).
1944-67: 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.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	44	17	23	32	33	36	42	29	21	17	11	42
2	48	17	21	32	35	37	42	29	20	24	9.1	38
3	30	20	17	33	53	33	40	36	18	59	8.7	34
4	25	16	16	35	37	35	38	28	17	24	36	32
5	23	15	17	34	35	39	39	27	16	30	32	30
6	19	16	18	29	33	54	43	28	15	15	15	28
7	17	15	19	29	27	674	54	124	15	13	12	26
8	16	16	18	59	23	133	42	71	14	13	11	25
9	15	16	17	59	28	93	39	52	13	17	13	25
10	14	18	17	47	34	77	39	43	13	13	33	27
11	14	29	29	42	32	69	36	47	12	19	13	24
12	13	20	20	38	30	61	34	43	11	13	10	21
13	12	18	20	37	28	57	33	37	10	11	9.3	21
14	12	16	23	43	36	58	34	39	10	18	9.0	20
15	13	16	22	44	47	114	33	46	11	44	9.0	19
16	15	15	20	39	60	86	32	48	10	16	8.4	18
17	13	15	20	35	44	68	41	38	8.9	13	8.4	19
18	13	15	26	33	42	58	45	36	8.9	12	8.0	19
19	114	15	32	30	38	55	35	33	10	11	8.0	17
20	56	14	27	26	38	55	32	34	9.1	11	27	17
21	32	13	25	32	49	59	32	28	7.9	36	18	17
22	27	13	24	31	42	71	35	31	11	18	12	20
23	24	13	22	32	37	69	29	29	15	12	10	17
24	22	14	19	32	33	59	30	26	9.9	11	20	16
25	21	14	28	31	29	54	28	24	8.4	11	300	15
26	20	14	23	29	30	52	31	23	7.3	21	40	14
27	18	14	21	67	32	49	53	21	7.1	10	600	14
28	18	52	18	58	34	48	38	21	7.0	9.3	150	15
29	17	47	56	40	------	51	32	29	6.8	10	80	39
30	16	29	44	34	------	46	31	33	59	25	60	18
31	17	------	39	32	------	43	------	24	------	12	50	------
TOTAL	752	562	741	1,174	1,019	2,493	1,112	1,157	402.3	568.3	1,630.9	687
MEAN	24.3	18.7	23.9	37.9	36.4	80.4	37.1	37.3	13.4	18.3	52.6	22.9
MAX	114	52	56	67	60	674	54	124	59	59	600	42
MIN	12	13	16	26	23	33	28	21	6.8	9.3	8.0	14
CFSM	.70	.54	.69	1.09	1.05	2.31	1.07	1.07	.39	.53	1.51	.66
IN.	.80	.60	.79	1.25	1.09	2.66	1.19	1.24	.43	.61	1.74	.73

CAL YR 1966: TOTAL 8,738.20 MEAN 23.9 MAX 940 MIN .20 CFSM .69 IN 9.34
WAT YR 1967: TOTAL 12,298.5 MEAN 33.7 MAX 674 MIN 6.8 CFSM .97 IN 13.14

Peak discharge (base, 770 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	1300	6.59	1,250	8-27	Unknown	7.52	1,800

1-5925. Patuxent River near Laurel, Md.

Location.--Lat 39°06'56", long 76°52'27", 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, Prince Georges County, and 81 miles upstream from mouth.

Drainage area.--132 sq mi.

Records available.--October 1944 to September 1967.

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

Extremes.--Maximum discharge during year, 2,780 cfs Aug. 28 (gage height, 9.30 ft); minimum daily, 7.5 cfs many days throughout the year.
1944-67: Maximum discharge, 11,800 cfs July 21, 1956 (gage height, 17.7 ft from floodmarks, present site and datum); minimum, 0.1 cfs Sept. 25, 1964 (valve closed for repair); minimum daily, 1.1 cfs June 26, 1956.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.6	7.5	9.0	8.6	7.6	11	52	39	12	8.0	7.8	175
2	7.6	7.5	8.8	8.6	8.0	12	52	51	9.2	7.8	7.8	175
3	7.6	7.8	8.6	8.6	8.1	12	52	51	7.8	7.8	7.8	175
4	7.6	8.3	8.6	8.6	7.8	12	26	21	7.8	8.0	7.8	155
5	8.1	8.3	8.8	8.8	7.8	13	11	12	7.6	7.8	7.8	123
6	8.1	8.3	8.5	8.5	7.8	13	10	12	7.6	7.8	7.8	46
7	8.1	8.3	8.5	8.1	7.8	1,320	9.9	83	7.6	7.8	7.8	42
8	8.1	8.3	8.5	8.1	7.8	365	16	240	7.6	7.8	7.8	29
9	8.1	8.6	8.5	8.1	7.8	283	23	160	7.8	7.8	7.8	9.5
10	8.1	8.5	8.5	8.1	7.8	162	45	162	7.5	7.8	7.8	9.5
11	8.1	8.3	8.5	8.1	7.8	162	62	159	7.5	7.8	7.8	9.0
12	8.1	8.3	8.5	7.8	7.8	162	62	106	7.5	7.8	7.8	7.8
13	8.3	8.3	8.5	7.8	7.8	162	63	95	7.5	7.8	7.8	7.8
14	8.1	8.3	8.5	7.8	7.8	162	59	99	7.5	7.8	7.8	9.9
15	8.1	8.1	8.5	7.8	7.8	165	55	99	7.8	7.8	7.8	8.3
16	8.1	8.1	8.5	7.8	7.8	188	55	99	7.6	7.8	7.8	7.8
17	8.1	8.1	8.5	7.8	7.8	190	51	99	7.6	7.8	7.8	7.8
18	8.1	8.1	8.5	7.8	7.8	188	15	62	7.8	7.8	7.8	7.8
19	8.1	8.0	8.5	7.8	7.8	188	15	32	7.8	7.8	7.8	8.0
20	8.3	8.0	8.5	7.8	7.8	188	12	16	7.6	7.8	7.8	8.6
21	8.1	8.0	8.5	7.8	7.8	188	14	16	7.6	7.8	7.8	8.6
22	8.1	8.0	8.5	7.6	7.8	188	14	37	8.3	7.8	7.8	8.6
23	8.1	8.0	8.5	7.6	9.2	188	15	46	7.6	7.8	7.8	8.6
24	7.6	8.0	8.5	7.6	10	185	16	25	7.6	7.8	7.8	8.6
25	7.5	8.5	8.5	8.1	11	160	15	8.1	7.6	7.8	7.8	8.6
26	7.5	8.6	8.5	7.8	10	102	15	7.8	7.6	7.8	7.8	8.6
27	7.5	8.5	8.5	8.9	10	63	30	7.8	7.6	7.8	1,110	8.6
28	7.5	8.5	8.5	7.8	11	54	19	7.8	7.6	7.8	1,140	8.6
29	7.5	8.6	8.5	7.8	-	54	12	12	7.6	7.8	180	8.6
30	7.5	8.8	8.6	8.0	-----	52	12	13	8.6	7.8	175	8.6
31	7.5	-----	8.6	7.6	-----	52	-----	12	-----	7.8	175	-----
Total	244.8	246.5	265.0	249.0	233.1	5,244	887.9	1,889.5	236.4	242.2	2,982.8	1,107.8
Mean	7.90	8.22	8.55	8.03	8.32	169	29.6	61.0	7.88	7.81	96.2	36.9
Max	8.3	8.8	9.0	8.9	11	1,320	63	240	12	8.0	1,140	175
Min	7.5	7.5	8.5	7.6	7.6	11	9.9	7.8	7.5	7.8	7.8	7.8
(†)	10,820	10,810	11,120	12,070	12,810	12,960	13,050	12,980	12,290	12,140	13,080	12,030
(‡)	+67.9	+66.3	+66.0	+68.8	+71.1	+80.5	+88.6	+82.9	+90.3	+78.7	+86.3	+78.8

Cal yr 1966: Total 2,832.5 Mean 7.76 Max 13 Min 3.7 ‡ 65.8
Wtr yr 1967: Total 13,829.0 Mean 37.9 Max 1,320 Min 7.5 ‡ 77.2

† Combined month-end total contents, in millions of gallons, in Triadelphia and Rocky Gorge Reservoirs (contents on Sept. 30, 1966 10,460 million gallons); furnished by Washington Suburban Sanitary Commission.
‡ Diversion, in cubic feet per second, above station at Patuxent (formerly Willis School) filtration plant for supply of Washington Suburban Sanitary District. Records furnished by Washington Suburban Sanitary Commission.

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

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

Drainage area.--38.0 sq mi.

Records available.--April 1932 to September 1967. Monthly discharge only for April 1932, published in WSP 1302.

Gage.--Digital water-stage recorder. Concrete control since June 20, 1946. Altitude of gage is 260 ft (from topographic map). Prior to June 25, 1946, staff gage at same site and datum. June 25, 1946 to Sept. 30, 1961, graphic water-stage recorder at same site and datum.

Average discharge.--35 years, 39.1 cfs.

Extremes.--Maximum discharge during year, 1,180 cfs Mar. 7 (gage height, 8.90 ft); minimum, 7.7 cfs Oct. 18, 19, but may have been less during period of ice effect.
1932-67: Maximum discharge, 5,300 cfs Sept. 1, 1952 (gage height, 13.26 ft), from rating curve extended above 1,800 cfs on basis of contracted-opening measurement of peak flow; minimum, no flow Sept. 8, and parts of Sept. 6, 7, 9-12, 1966.

Remarks.--Records fair. Low flow affected by regulation from unknown source.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	53	17	22	36	34	31	38	24	21	21	11	19
2	87	25	21	56	37	32	38	23	20	27	10	18
3	51	18	18	41	41	31	37	33	19	253	11	17
4	35	17	17	54	34	33	35	24	18	25	269	16
5	26	16	16	43	32	36	36	23	17	22	152	16
6	22	16	19	34	30	48	36	24	17	19	47	16
7	17	16	19	34	18	797	48	221	16	16	20	15
8	15	16	19	79	17	109	35	65	15	16	18	14
9	14	16	18	68	26	70	32	39	15	17	17	15
10	13	19	19	44	28	60	32	36	14	16	29	15
11	12	30	35	39	26	55	29	37	14	39	17	14
12	11	22	21	35	22	39	27	36	14	17	14	14
13	10	19	21	34	25	50	27	30	13	14	13	14
14	9.7	18	28	37	30	52	28	31	13	16	13	13
15	9.6	17	31	37	57	90	27	40	15	24	12	13
16	10	17	25	34	93	68	26	37	15	16	12	12
17	9.4	17	24	30	54	55	31	29	12	14	11	13
18	8.1	17	32	27	47	50	37	28	12	14	11	13
19	321	17	36	25	43	47	28	29	19	13	11	12
20	100	15	28	23	41	45	26	33	14	16	24	12
21	58	15	27	25	50	48	26	25	12	34	17	12
22	36	16	26	25	47	60	27	30	14	17	14	21
23	25	16	24	26	44	58	24	29	21	14	13	13
24	22	16	21	26	40	50	25	25	14	12	35	12
25	21	16	30	25	35	45	23	24	13	12	466	12
26	20	17	25	24	34	43	25	22	11	12	41	12
27	19	16	23	80	31	42	44	21	10	11	377	12
28	18	49	21	72	33	42	31	20	10	11	254	12
29	16	51	101	41	------	47	26	24	10	11	23	15
30	17	26	63	35	------	42	25	32	41	16	20	12
31	17	------	43	31	------	40	------	24	------	12	20	------
TOTAL	1,092.8	601	871	1,200	1,049	2,315	931	1,118	469	777	2,002	424
MEAN	35.3	20.0	28.1	38.7	37.5	74.7	31.0	36.1	15.6	25.1	64.6	14.1
MAX	321	51	101	80	93	797	48	221	41	253	466	42
MIN	8.1	15	16	23	17	31	23	20	10	11	11	12
CFSM	.93	.53	.74	1.02	.99	1.97	.82	.96	.41	.66	1.70	.37
IN.	1.07	.59	.85	1.17	1.03	2.27	.91	1.09	.46	.76	1.96	.41

CAL YR 1966: TOTAL 10,403.70 MEAN 28.5 MAX 657 MIN 0 CFSM .75 IN 10.18
WAT YR 1967: TOTAL 12,849.8 MEAN 35.2 MAX 797 MIN 8.1 CFSM .93 IN 12.58

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	1400	8.90	1,180	8-25	0700	7.18	783
7-3	0430	6.20	607				

1-5945. Western Branch near Largo, Md.

Location.--Lat 38°52'34", long 76°47'54", 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, Prince Georges County, 4.8 miles northwest of Upper Marlboro, and 11 miles upstream from mouth.

Drainage area.--30.2 sq mi.

Records available.--October 1949 to September 1967. Monthly discharge only for some periods, published in WSP 1302.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 46.50 ft above mean sea level (levels by private consultant engineers). Prior to Oct. 1, 1961 graphic water-stage recorder at same site and datum.

Average discharge.--18 years, 28.1 cfs.

Extremes.--Maximum discharge during year, 750 cfs Aug. 27 (gage height, 6.06 ft); minimum, 0.93 cfs Sept. 27 (gage height, 1.24 ft).

1949-67: Maximum discharge, 1,580 cfs Aug. 13, 1955 (gage height, 8.51 ft) from high-water mark in well); minimum, no flow Sept. 8-13, 1966.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	52	8.9	17	40	18	19	22	13	8.9	3.8	3.9	13
2	67	9.7	13	30	17	19	20	12	8.0	23	2.7	9.8
3	33	31	11	40	20	19	19	35	7.2	167	3.9	8.1
4	19	17	9.0	50	18	18	17	29	6.3	61	83	6.8
5	15	14	10	85	16	20	18	21	5.7	21	79	6.0
6	12	11	10	25	15	55	18	30	5.1	12	40	5.4
7	10	10	9.5	45	10	463	24	175	4.9	8.2	17	4.8
8	8.5	10	11	100	14	300	24	211	4.6	7.3	10	4.4
9	7.2	12	12	80	19	124	20	87	4.2	8.0	7.0	4.3
10	6.8	12	25	50	24	52	20	62	3.7	6.1	5.7	4.5
11	5.7	12	45	30	24	38	17	29	3.3	7.7	4.3	4.1
12	4.9	10	20	25	24	31	16	25	2.9	4.1	3.5	3.6
13	4.4	10	30	20	22	27	15	21	2.6	3.5	3.0	3.4
14	4.1	9.7	70	22	92	26	15	28	2.5	7.0	2.6	3.1
15	4.2	9.3	45	20	134	104	15	27	2.5	9.5	2.1	2.9
16	5.2	9.3	30	19	95	105	14	24	2.6	7.6	1.8	3.0
17	9.1	9.3	40	18	68	58	15	20	2.1	4.8	1.7	3.5
18	5.1	8.5	35	16	47	36	17	18	2.3	3.8	1.5	3.2
19	484	8.1	30	12	38	828	15	15	3.8	3.0	7.9	3.0
20	254	8.1	55	13	35	826	13	14	3.6	2.7	48	2.7
21	86	8.1	35	14	68	32	13	13	2.8	3.2	89	10
22	41	8.1	25	14	47	53	15	20	4.9	2.8	22	3.7
23	27	8.1	22	13	38	61	14	19	16	2.8	54	2.6
24	21	8.1	20	13	24	51	13	15	11	2.2	213	2.8
25	18	8.1	18	15	17	38	11	13	5.7	1.9	450	2.6
26	14	8.9	17	13	19	30	12	11	3.8	1.7	221	2.3
27	12	8.5	17	46	20	26	21	9.6	2.9	9.2	369	2.1
28	11	8.9	18	32	19	24	19	8.8	2.6	6.7	184	2.2
29	9.7	27	120	24	------	27	15	9.2	2.5	4.2	55	2.6
30	9.5	24	80	21	------	87	14	10	3.7	5.8	28	2.1
31	8.9	58	65	18	------	84	------	10	------	4.5	18	------
TOTAL	1,269.1	356.8	824.5	913	1,802	6,961	501	1,000.6	142.0	415.1	1,971.6	132.6
MEAN	40.8	11.9	26.6	29.5	65.8	224.6	16.7	32.3	4.73	13.4	63.6	4.42
MAX	484	31	120	100	134	463	24	211	16	167	450	13
MIN	4.1	8.1	9.0	12	10	18	11	8.8	2.1	1.7	1.5	2.1
CFSM	1.35	.39	.89	.98	1.18	2.09	.55	1.07	.16	.44	2.11	.15
IN.	1.56	.44	1.14	1.12	1.38	2.41	.62	1.23	.17	.51	2.43	.16

CAL YR 1966: TOTAL 7,847.90 MEAN 21.5 MAX 484 MIN 0 CFSM .71 IN 9.66
WAT YR 1967: TOTAL 10,585.3 MEAN 29.0 MAX 484 MIN 1.5 CFSM .96 IN 13.04

Peak discharge (base, 340 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-19	1130	5.88	705	8-20	2400	4.38	401
3- 7	Unknown	5.38	586	8-27	1900	6.06	750
5- 7	1300	4.18	369				

Note.--Doubtful gage-height record Oct. 17 to Mar. 9.

1-5946. Cocktown Creek near Huntingtown, Md.

Location.--Lat 38°38'27", long 76°38'07", on right bank at downstream side of bridge, 2 miles northwest of Huntingtown, Calvert County, 2¾ miles southeast of Lower Marlboro, and 3½ miles upstream from mouth.

Drainage area.--3.85 sq mi.

Records available.--December 1956 to September 1967.

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

Average discharge.--10 years (1957-67), 4.13 cfs.

Extremes.--Maximum discharge during year, 47 cfs Oct. 19 (gage height, 3.50 ft); minimum daily, 0.26 cfs Sept. 25, 26.

1956-67: 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 winter months, which are poor.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.1	2.5	2.3	3.0	2.3	4.0	5.2	3.1	3.7	1.4	1.2	.75
2	4.0	4.0	2.3	3.0	2.5	4.5	5.1	3.0	3.1	1.6	.95	.75
3	2.3	10	2.2	3.0	2.6	4.6	5.0	4.6	3.0	1.9	.75	.65
4	1.9	3.6	2.0	3.0	2.3	4.0	4.7	3.2	2.6	1.4	1.1	.6
5	2.4	3.2	2.2	3.0	2.2	4.3	5.2	3.0	2.4	1.0	1.1	.55
6	1.7	2.9	2.5	2.5	2.1	4.1	5.0	4.1	2.2	1.0	.70	.50
7	1.5	2.8	2.4	2.5	1.5	17	5.0	18	2.2	1.8	.55	.47
8	1.3	2.8	2.4	7.0	1.7	9.0	4.5	8.1	2.1	4.0	.55	.44
9	1.3	2.7	2.5	6.0	2.0	7.0	4.5	7.0	2.0	2.0	.47	.47
10	1.2	2.7	2.5	3.6	2.3	6.3	4.7	5.0	1.8	1.6	.60	.60
11	.99	2.8	3.5	3.2	2.6	6.5	4.3	4.9	1.6	5.0	.47	.55
12	.88	3.0	2.8	3.0	2.5	7.0	4.2	4.3	1.4	6.1	.47	.50
13	.88	2.7	5.0	3.0	1.8	6.6	4.2	4.1	1.3	3.5	.47	.47
14	.88	2.5	9.0	3.4	2.3	8.0	4.3	9.0	1.4	2.8	.44	.44
15	.99	2.4	4.0	3.2	5.8	12	4.1	7.2	1.4	2.3	.35	.40
16	1.2	2.4	3.0	2.8	6.8	7.2	3.9	5.1	1.3	2.0	.35	.47
17	.99	2.4	2.7	2.8	3.9	6.4	4.4	4.8	1.2	1.6	.30	.60
18	1.2	2.4	2.5	2.5	3.4	5.9	4.2	4.5	1.5	1.5	.30	.50
19	24	2.3	2.5	2.1	3.2	5.7	3.8	4.1	5.2	1.4	.44	.40
20	7.2	2.2	2.8	1.8	4.7	5.9	3.6	3.7	2.0	1.8	.65	.35
21	4.6	2.2	4.5	2.1	7.4	8.6	3.6	3.7	1.6	1.6	.55	.40
22	3.9	2.2	3.0	2.7	5.2	8.3	3.9	4.5	1.5	1.3	.60	.35
23	3.4	2.2	2.5	2.6	5.0	7.3	3.5	4.0	2.4	1.1	14	.30
24	3.2	2.2	3.0	2.5	4.0	6.7	3.4	3.7	2.1	1.0	7.3	.30
25	3.0	2.2	5.0	2.4	3.5	6.3	3.2	3.4	2.3	.90	3.9	.26
26	2.9	2.2	4.0	2.4	2.7	5.9	3.8	3.2	2.0	.75	2.5	.26
27	2.7	2.1	3.5	4.2	2.5	5.7	4.6	3.0	1.2	.65	3.3	.30
28	2.7	4.6	3.5	3.2	4.2	5.7	3.7	2.9	1.2	.65	2.4	.40
29	2.5	3.2	8.0	2.4	-	5.8	3.4	11	1.2	.81	1.4	.55
30	2.4	2.5	6.0	2.3	- - - - -	5.4	3.3	4.6	2.0	1.1	1.2	.30
31	2.4	- - - - -	3.5	2.2	- - - - -	5.2	- - - - -	4.4	- - - - -	8.1	1.0	- - - - -
Total	96.61	87.9	107.6	93.4	93.0	206.9	126.3	159.2	60.9	56.37	50.36	13.88
Mean	312	2.93	3.47	3.01	3.32	6.67	4.21	5.14	2.03	1.82	1.62	.46
Max	24	10	9.0	7.0	7.4	17	5.2	18	5.2	6.1	14	.75
Min	.88	2.1	2.0	1.8	1.5	4.0	3.2	2.9	1.2	.65	.30	.26
Cfsm	.81	.76	.90	.78	.86	1.73	1.09	1.34	.53	.47	.42	.12
In.	.93	.85	1.04	.90	.90	2.00	1.22	1.54	.59	.54	.49	.13

Cal yr 1966: Total	945.91	Mean	2.59	Max	25	Min	.1	Cfsm	.67	In.	9.14	
Wtr yr 1967: Total	1,152.32	Mean	3.16	Max	24	Min	.26	Cfsm	.82	In.	11.13	

Peak discharge (base, 80 cfs).--No peak above base.

1-5948. St. Leonard Creek near St. Leonard, Md.

Location.--Lat 38°26'57", long 76°29'43", on left bank at downstream side of highway bridge, 1¾ miles south of St. Leonard, Calvert County, and 5½ miles upstream from mouth.

Drainage area.--6.73 sq mi.

Records available.--December 1956 to September 1967.

Gage.--Water-stage recorder. Timber control since June 13, 1958. Altitude of gage is 5 ft (from topographic map).

Average discharge.--10 years (1957-67), 7.60 cfs.

Extremes.--Maximum discharge during year, 77 cfs Oct. 19 (gage height, 4.56 ft); minimum daily, 0.20 cfs Aug. 17, 18.

1956-67: Maximum discharge, 288 cfs July 30, 1960 (gage height, 6.35 ft); no flow at times during summer months of 1963-1966.

Remarks.--Records poor.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.7	2.7	3.1	6.0	3.9	6.0	4.6	3.5	4.0	2.0	4.4	1.3
2	5.2	2.9	3.1	6.0	3.7	5.5	4.6	3.3	3.5	1.7	2.3	1.3
3	2.9	4.1	2.9	6.0	4.1	5.5	4.6	4.9	3.0	2.0	1.1	1.1
4	2.3	3.5	2.7	6.0	3.7	5.0	4.1	3.5	3.2	1.6	3.3	1.2
5	2.6	2.7	2.9	6.0	3.5	5.2	4.6	3.3	2.8	1.7	5.2	1.1
6	2.6	2.7	3.5	5.5	3.5	4.9	4.9	3.7	2.5	1.1	2.6	1.0
7	1.8	2.7	3.3	5.0	3.0	14	4.9	24	2.0	1.0	1.5	1.0
8	1.7	2.7	3.3	8.4	3.5	9.3	4.4	16	1.8	5.1	1.2	.90
9	1.6	2.9	3.3	11	4.6	6.5	4.1	6.2	1.5	7.6	1.2	1.0
10	1.5	2.9	3.3	6.2	4.9	5.8	4.4	4.6	1.4	2.9	1.2	1.4
11	1.4	2.9	4.9	5.2	5.5	6.2	4.1	4.4	1.3	2.0	1.2	1.3
12	1.2	3.1	3.7	4.4	6.9	7.6	3.9	3.9	1.2	3.3	1.0	1.1
13	1.1	3.3	5.6	4.4	6.5	5.8	3.7	3.7	1.1	5.5	.90	1.0
14	1.2	2.7	13	5.2	5.8	6.5	4.1	5.8	1.0	2.6	.90	1.0
15	1.3	2.6	5.2	5.2	8.9	8.9	4.1	10	2.0	2.1	.60	.90
16	1.7	2.6	3.9	4.4	14	8.0	3.7	8.9	1.7	2.4	.40	1.0
17	1.7	2.6	3.7	3.9	5.5	5.5	4.1	4.6	.90	1.5	.20	1.7
18	1.5	2.6	3.7	3.9	3.9	4.9	5.2	4.1	1.2	1.3	.20	1.5
19	41	2.7	3.5	3.9	5.0	4.9	3.9	3.7	9.3	1.1	.50	1.0
20	22	2.6	4.1	4.0	7.5	5.2	3.7	3.1	5.0	1.0	2.7	1.0
21	6.5	2.6	5.8	4.9	130	8.9	3.7	2.7	2.5	2.0	3.3	1.1
22	4.1	2.6	3.9	5.5	8.5	9.8	4.1	4.4	1.9	1.2	8.4	1.4
23	3.9	2.6	3.5	5.5	7.2	6.5	3.7	3.7	3.5	.90	13	.90
24	3.5	2.6	3.8	4.4	6.5	6.5	3.7	3.3	2.5	.80	15	1.0
25	3.1	2.6	7.0	4.1	5.5	5.8	3.3	3.1	4.0	.70	16	1.0
26	3.1	3.1	6.0	3.9	5.2	5.2	3.9	2.9	3.0	.70	6.2	1.0
27	2.9	2.9	5.0	5.2	5.2	5.2	8.4	2.5	2.0	1.4	3.9	1.1
28	2.9	5.2	5.0	5.8	6.5	5.2	4.6	2.1	1.6	1.4	3.1	1.7
29	2.7	6.9	15	3.9	-	5.5	3.9	15	1.5	3.7	2.1	5.2
30	2.6	3.7	10	3.5	- - - - -	4.9	3.7	10	2.0	2.4	1.8	2.1
31	2.6	- - - - -	7.0	3.5	- - - - -	4.6	- - - - -	5.5	- - - - -	1.5	1.5	- - - - -
Total	136.9	92.3	154.7	160.8	165.5	199.3	128.7	180.4	74.90	66.20	106.90	39.30
Mean	4.42	3.08	4.99	5.19	5.91	6.43	4.29	5.82	2.50	2.14	3.45	1.31
Max	41	6.9	15	11	14	14	8.4	24	9.3	7.6	16	5.2
Min	1.1	2.6	2.7	3.5	3.0	4.6	3.3	2.1	.90	.70	.20	.90
Cfsm	.66	.46	.74	.77	.88	.96	.64	.86	.37	.32	.51	.19
In.	.76	.51	.85	.89	.91	1.10	.71	1.00	.41	.37	.59	.22

Cal yr 1966: Total 1,510.80 Mean 4.14 Max 69 Min 0 Cfsm .62 In. 8.35
Wtr yr 1967: Total 1,505.90 Mean 4.13 Max 41 Min .20 Cfsm .61 In. 8.32

Peak discharge (base, 100 cfs).--No peak above base.

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

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

Drainage area.--73.0 sq mi.

Records available.--July 1956 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 2,276.01 ft above mean sea level, datum of 1929, Parkersburg-Uniontown supplementary adjustment of 1944. Prior to Jan. 5, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--11 years, 162 cfs.

Extremes.--Maximum discharge during year, 5,220 cfs Mar. 6 (gage height, 8.45 ft); minimum, 6.8 cfs Sept. 28, (gage height, 2.13 ft).
1956-67: Maximum discharge, 6,240 cfs Mar. 5, 1963 (gage height, 9.13 ft), from rating curve extended above 3,000 cfs by logarithmic plotting; 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 months, which are poor.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	520	41	150	110	314	115	167	145	183	26	138	36
2	600	47	130	130	290	120	147	137	152	30	113	30
3	280	183	100	125	326	350	130	148	127	46	200	27
4	190	109	80	115	242	526	117	123	108	28	321	23
5	148	85	100	90	216	1,540	262	112	97	28	161	22
6	125	87	130	80	192	3,760	238	131	84	25	117	19
7	102	78	320	80	144	2,930	196	1,640	74	20	89	18
8	87	74	300	150	140	954	164	1,160	67	17	77	16
9	78	74	230	167	135	582	145	938	58	27	72	16
10	109	72	210	128	130	407	167	613	54	37	86	18
11	92	114	230	112	126	349	151	858	49	601	62	15
12	72	99	190	105	120	333	128	666	44	402	54	14
13	66	85	170	100	105	265	120	441	39	224	44	14
14	58	78	160	99	115	830	137	466	35	170	40	13
15	54	76	140	99	235	1,600	115	791	33	150	34	12
16	58	70	125	85	391	950	99	822	29	130	32	11
17	52	70	110	80	263	599	177	558	27	92	29	12
18	54	68	120	60	210	410	236	456	140	79	27	9.5
19	107	64	115	50	176	321	164	340	59	85	29	10
20	107	62	125	60	175	282	141	270	41	268	43	10
21	92	58	107	70	301	704	130	221	32	223	34	12
22	78	56	94	84	223	623	206	195	28	117	29	17
23	70	52	92	57	184	439	168	164	57	90	23	14
24	66	50	87	92	140	375	203	141	41	73	32	12
25	60	50	80	92	115	411	204	126	37	90	46	11
26	56	50	76	89	120	512	189	111	42	376	81	8.9
27	52	49	82	233	115	437	209	105	31	150	91	8.1
28	49	255	88	241	135	328	207	96	28	465	118	51
29	47	280	130	167	------	285	173	441	27	459	66	76
30	42	180	130	150	------	229	154	348	31	275	47	30
31	39	------	110	140	------	193	------	235	------	166	41	------
TOTAL	3,610	2,716	4,311	3,480	5,378	21,759	5,044	12,998	1,854	5,053	2,376	585.5
MEAN	116	90.5	139	112	192	702	168	419	61.8	163	76.6	19.5
MAX	600	280	320	241	391	3,760	262	1,640	183	601	321	76
MIN	39	41	76	50	105	115	99	96	27	17	23	8.1
CFSM	1.60	1.24	1.90	1.54	2.63	9.62	2.30	5.74	.85	2.23	1.05	.27
IN.	1.84	1.38	2.20	1.77	2.74	11.1	2.57	6.62	.94	2.57	1.21	.30

CAL YR 1966: TOTAL 57,497.7 MEAN 158 MAX 2,200 MIN 6.8 CFSM 2.16 IN 29.29
WAT YR 1967: TOTAL 69,164.5 MEAN 189 MAX 3,760 MIN 8.1 CFSM 2.60 IN 35.24

Peak discharge (base, 2,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 6	0145	8.45	5,220	3-15	1015	6.32	2,550

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

Location.--Lat 39°16'10", long 79°15'45", on left bank 100 ft downstream from highway bridge on U. S. Highway 50, 1 mile west of Mt. Storm, Grant County.

Drainage area.--48.8 sq mi.

Records available.--October 1961 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 2,554.54 ft above mean sea level, datum of 1929, Parkersburg-Uniontown supplementary adjustment of 1944.

Average discharge.--6 years, 86.0 cfs (unadjusted).

Extremes.--Maximum discharge during year, 2,310 cfs Mar. 7 (gage height, 7.39 ft), from rating curve extended above 1,000 cfs; minimum daily, 6.0 cfs Sept. 26, 27.
1961-67: 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, 2.2 cfs Oct. 6, 1965 (gage height, 2.01 ft).

Remarks.--Records good. Flow regulated by Stony River Reservoir, 14 miles upstream from station (capacity, 1,948,000,000 gal, of which 1,681,000,000 gal is controlled above minimum pool). Since 1963, minor regulation by Virginia Power and Electric Company dam 4 miles upstream from station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	536	64	64	45	182	64	65	46	211	31	59	39
2	464	119	58	50	175	76	65	45	102	37	50	36
3	195	308	36	60	195	135	65	44	45	44	55	34
4	125	127	43	45	144	523	62	40	43	39	59	32
5	104	118	35	31	149	443	81	37	40	38	45	30
6	108	60	47	33	118	1,480	120	44	38	33	38	27
7	104	59	193	36	120	1,580	175	378	36	30	33	25
8	51	64	125	76	116	180	149	1,010	34	26	30	23
9	109	54	104	71	110	240	127	563	32	28	27	21
10	76	59	118	59	104	290	62	361	31	50	26	20
11	62	76	131	50	99	274	37	204	29	268	21	18
12	55	68	102	64	89	262	34	355	27	182	18	16
13	66	64	100	52	86	265	33	473	25	158	15	14
14	65	50	99	47	88	391	33	160	23	138	13	12
15	51	27	91	42	93	741	32	314	22	127	11	11
16	38	26	77	42	208	674	30	380	20	110	9.2	10
17	33	25	59	40	198	546	46	398	20	95	7.9	9.7
18	50	26	65	42	131	451	56	319	56	88	6.6	9.2
19	89	27	55	77	99	251	47	172	70	77	7.5	9.2
20	77	23	100	58	99	64	44	120	49	257	9.2	8.8
21	59	23	59	40	95	120	43	110	43	172	7.9	9.2
22	76	23	54	54	86	131	51	106	42	106	6.6	9.2
23	77	21	52	77	76	120	47	97	56	84	6.3	8.4
24	76	20	54	76	72	310	56	86	55	71	9.7	7.5
25	74	20	46	82	72	374	55	62	52	84	38	6.6
		21										
26	72	21	40	77	76	219	52	58	47	110	66	6.0
27	72	21	40	230	100	287	59	55	40	74	63	6.0
28	54	140	45	216	70	349	58	50	36	104	68	13
29	45	149	50	125	-	303	52	120	33	106	50	15
30	32	86	45	76	---	102	49	198	33	82	43	11
31	68	---	40	76	---	64	---	247	---	70	40	---
Total	3,163	1,968	2,227	2,149	3,250	11,309	1,885	6,652	1,390	2,919	938.9	496.8
Mean	102	65.6	71.8	69.3	116	365	62.8	215	46.3	94.2	30.3	16.6
(†)	1,205	1,216	1,170	1,190	1,175	1,230	1,759	1,837	1,809	1,812	1,784	1,520

Cal yr 1966 Total 31,420.6 Mean 86.1 Max 1,070 Min 3.6 Cfsm 1.76 In. 23.95
Wtr yr 1967 Total 38,347.7 Mean 105 Max 1,580 Min 6.0 Cfsm 2.15 In. 29.22

† Month-end contents, in millions of gallons, in Stony River Reservoir (contents on Sept. 30, 1966, 1,782 million gallons); furnished by West Virginia Pulp and Paper Co.

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

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

Drainage area.--225 sq mi.

Records available.--October 1949 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 1,572.26 ft above mean sea level, datum of 1929, Parkersburg-Uniontown supplementary adjustment of 1944. Prior to Oct. 15, 1954, water-stage recorder at site 0.3 mile upstream at datum 7.58 ft higher. Oct. 15, 1954, to Nov. 20, 1955, wire-weight gage at bridge half a mile upstream at datum 21.51 ft higher.

Average discharge.--18 years, 427 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 12,300 cfs Mar. 7 (gage height, 8.70 ft); minimum, 23 cfs Sept. 26, 27 (gage height, 2.32 ft).
1949-67: 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 (capacity, 1,948,000,000 gal, of which 1,681,000,000 gal is controlled storage above minimum pool). Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,530	127	382	291	794	327	455	314	626	86	330	106
2	1,690	167	347	360	780	343	405	303	465	86	246	92
3	780	840	265	340	896	991	375	311	318	155	379	84
4	528	405	211	310	693	1,670	338	260	270	106	764	76
5	415	303	258	240	633	2,860	516	233	243	96	384	71
6	339	261	351	220	567	7,620	596	233	211	86	270	64
7	303	218	840	220	465	5,910	608	2,940	191	71	211	59
8	238	224	808	400	460	2,210	510	3,260	172	65	178	55
9	228	202	615	460	425	1,570	445	2,350	155	62	152	53
10	279	196	544	368	410	1,280	410	1,710	140	120	185	50
11	251	279	621	315	386	1,090	354	1,870	134	1,180	143	49
12	187	258	500	295	331	1,040	288	1,730	118	880	116	44
13	181	221	440	295	299	880	270	1,540	106	532	102	40
14	173	199	415	295	339	1,820	284	1,070	96	392	89	36
15	162	159	368	303	609	3,510	252	1,680	89	425	78	33
16	144	144	331	261	1,060	2,510	230	1,920	78	334	68	31
17	134	141	295	238	800	1,800	311	1,420	74	256	62	31
18	139	137	323	175	645	1,370	560	1,280	299	236	57	30
19	272	137	311	125	506	1,020	379	896	388	211	57	28
20	283	121	339	175	490	732	326	712	191	680	82	28
21	231	114	299	210	693	1,250	295	590	143	662	76	30
22	215	108	261	261	528	1,310	396	532	131	338	61	40
23	211	104	248	295	485	1,020	379	455	202	243	51	38
24	196	102	224	307	391	1,070	405	396	167	200	61	31
25	187	102	211	283	323	1,300	430	330	138	202	110	28
26	181	102	202	268	335	1,300	392	292	140	578	303	23
27	173	100	218	711	327	1,230	455	266	114	318	239	23
28	159	573	228	872	382	1,100	450	249	96	674	350	32
29	129	742	347	567	—	960	375	880	89	852	185	157
30	121	480	355	450	-----	771	342	888	94	554	138	66
31	137	-----	295	378	-----	516	-----	745	-----	401	112	-----
Total	10,196	7,266	11,452	10,288	15,052	53,380	11,831	31,655	5,678	11,081	5,639	1,528
Mean	329	242	369	332	538	1,722	394	1,021	189	357	182	50.9
Max	1,690	840	840	872	1,060	7,620	608	3,260	626	1,180	764	157
Min	121	100	202	125	299	327	230	233	74	62	51	23
†	1,205	1,216	1,170	1,190	1,175	1,230	1,759	1,837	1,809	1,812	1,784	1,520

Cal yr 1966: Total 145,510 Mean 399 Max 4,720 Min 15 Cfsm 1.77 In. 24.05
Wtr yr 1967: Total 175,046 Mean 480 Max 7,620 Min 23 Cfsm 2.13 In. 28.93

Peak discharge (base, 3,400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	0500	8.70	12,300	5- 7	1830	7.03	4,570
3-15	1100	7.29	5,360	7-11	1400	6.55	3,470

† Month-end contents, in millions of gallons, in Stony River Reservoir (contents on Sept. 30, 1966, 1,782 million gallons); furnished by West Virginia Pulp and Paper Co.

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

Location.--Lat 39°26'44", long 79°06'39", on left bank at bridge at Barnum, Mineral County, 0.45 mile upstream from Folly Run, and 4 miles southwest of Piedmont.

Drainage area.--266 sq mi.

Records available.--July 1966 to September 1967.

Gage.--Water-stage recorder. Altitude of gage is 1,150 ft (from topographic map).

Extremes.--1966: Maximum discharge during period July to September, 1,260 cfs Sept. 28 (gage height, 4.50 ft); minimum, 18 cfs July 24 (gage height, 1.80 ft).
1967: Maximum discharge during year, 12,200 cfs Mar. 7 (gage height, 9.70 ft); minimum, 0.28 cfs Sept. 27, 28 (gage height, 1.95 ft).
1966-67: Maximum, that of Mar. 7, 1967; minimum, that of July 24, 1966.

Remarks.--Records fair. Regulation at low flow by Stony River Reservoir, 39 miles above station (see p. 67).

Discharge, in cubic feet per second. July to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										77	36	32
2										54	30	32
3										35	29	28
4										45	31	27
5										65	30	28
6										205	28	42
7										117	26	34
8										68	25	30
9										47	32	30
10										45	262	26
11										41	126	25
12										32	362	24
13										45	212	25
14										59	119	275
15										41	176	365
16										53	107	134
17										51	88	84
18										44	94	62
19										38	66	52
20										27	53	316
21										24	58	850
22										23	62	556
23										20	78	378
24										24	58	244
25										46	46	164
26										50	40	155
27										32	37	199
28										27	34	875
29										61	32	664
30					- - - - -					72	29	397
31		- - - - -			- - - - -		- - - - -		- - - - -	50	28	- - - - -
Total										1,618	2,434	5,153
Mean										52.2	78.5	205
Max										205	362	875
Min										20	25	24

Cal yr 1966: Total - Mean - Max - Min - Cfsm - In. -
Wtr yr 1967: Total - Mean - Max - Min - Cfsm - In. -

Peak discharge (base, 4,000 cfs).--No peak above base during July to September.

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

Discharge, in cubic feet per second, water year October 1966to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,400	131	412	312	828	369	550	374	700	96	387	117
2	1,750	150	378	402	828	374	496	364	550	92	283	103
3	850	765	287	364	970	963	458	369	387	155	382	92
4	550	442	226	342	760	1,870	412	320	333	129	810	82
5	422	303	275	267	685	2,970	550	291	295	107	437	77
6	342	299	342	237	615	8,490	692	287	259	96	320	68
7	312	233	826	233	520	8,170	708	3,370	233	84	233	62
8	259	229	872	437	490	2,830	596	3,710	205	73	205	58
9	215	215	643	490	469	1,980	526	2,760	185	72	173	55
10	267	205	556	387	458	1,570	490	2,080	167	113	198	53
11	271	267	643	338	437	1,300	432	2,270	155	1,180	164	53
12	198	279	532	308	374	1,250	364	2,110	139	1,000	131	48
13	182	237	464	320	325	1,040	333	1,870	124	582	117	45
14	173	212	442	308	378	2,030	342	1,290	109	417	103	39
15	161	179	397	320	632	3,960	320	1,860	101	448	90	37
16	144	155	364	283	1,130	2,940	287	2,200	90	378	78	34
17	136	150	333	252	936	2,160	328	1,630	84	283	70	34
18	131	144	342	208	760	1,610	650	1,510	252	259	64	34
19	248	144	346	140	589	1,240	458	1,080	486	233	64	32
20	291	131	364	190	563	895	392	872	233	559	82	32
21	244	124	333	226	760	1,400	364	715	167	777	86	32
22	215	114	291	275	602	1,580	442	650	153	378	72	36
23	212	112	279	312	570	1,250	464	550	215	271	61	41
24	202	112	252	320	464	1,260	458	485	202	226	61	36
25	191	112	237	308	374	1,550	502	417	153	212	109	32
26	182	109	212	299	374	1,540	448	369	153	564	298	29
27	173	109	226	630	364	1,450	502	338	131	376	229	28
28	164	544	237	995	427	1,300	508	312	109	546	409	32
29	134	842	338	643	—	1,140	437	871	98	986	222	145
30	124	520	407	496	- - - - -	918	402	1,010	98	622	158	88
31	124	- - - - -	325	412	- - - - -	636	- - - - -	835	- - - - -	432	129	- - - - -
Total	10,267	7,568	12,181	11,054	15,682	62,035	13,911	37,169	5,566	11,746	6,225	1,654
Mean	331	252	393	357	596	2,001	464	1,199	219	379	201	55.1
Max	1,750	842	872	995	1,130	8,490	708	3,710	700	1,180	810	145
Min	124	109	212	140	325	369	287	287	84	72	61	28

Cal yr 1966: Total - Mean - Max - Min - Cfsm - In. -
Wtr yr 1967: Total 197,058 Mean 540 Max 8,490 Min 28 Cfsm 2.03 In. 27.55

Peak discharge (base, 4,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	0600	9.70	12,200	5- 7	1830	7.42	5,330
3-15	1215	7.74	6,050				

1-5965. Savage River near Barton, Md.

Location.--Lat 39°34'05", long 79°06'10", 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, Allegany County, and 10 miles upstream from mouth.

Drainage area.--49.1 sq mi.

Records available.--September 1948 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 1,605 ft (from topographic map). Prior to Oct. 20, 1960, graphic water-stage recorder at same site and datum.

Average discharge.--19 years, 71.2 cfs.

Extremes.--Maximum discharge during year, 1,610 cfs Mar. 7 (gage height, 4.21 ft); minimum, 1.0 cfs Sept. 19, 20 (gage height, 1.06 ft).
1948-67: 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 good except those for winter months, which are poor.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	43	4.1	69	26	115	33	97	70	59	6.7	17	4.1
2	53	4.8	57	30	152	35	82	67	53	7.3	13	3.2
3	33	19	43	30	168	70	71	63	46	9.3	12	2.8
4	23	16	36	30	145	150	59	51	40	7.0	16	2.5
5	18	12	36	26	123	516	71	45	35	6.1	12	2.3
6	14	11	40	24	100	1,350	79	45	31	5.5	7.6	2.2
7	11	10	60	26	77	1,200	91	410	28	5.1	5.4	2.0
8	9.1	9.4	94	35	62	483	92	495	25	4.6	4.4	1.8
9	8.2	10	90	42	64	332	90	412	23	5.6	4.9	1.8
10	10	10	76	45	60	277	108	332	21	9.4	9.0	2.2
11	12	13	86	44	50	249	104	357	19	73	5.9	2.0
12	8.9	14	74	41	45	210	95	331	17	51	4.1	1.6
13	7.0	13	68	37	40	164	84	214	15	26	3.4	1.6
14	6.2	12	60	35	45	167	76	167	13	19	3.1	1.4
15	5.7	11	51	35	68	358	66	169	12	19	2.5	1.3
16	5.4	10	47	31	114	343	57	179	11	17	2.2	1.2
17	5.0	9.6	40	28	113	246	152	175	9.9	13	1.8	1.2
18	5.6	9.0	39	26	103	180	249	152	12	11	1.8	1.2
19	7.8	8.5	36	22	89	144	173	134	15	11	2.0	1.1
20	9.5	7.6	34	25	76	123	128	118	12	9.4	5.1	1.6
21	8.8	7.0	32	30	77	120	96	97	11	8.7	6.2	3.4
22	7.7	6.5	28	40	70	111	94	86	13	8.2	5.0	3.8
23	7.0	6.6	25	42	63	107	76	73	28	7.1	3.6	2.9
24	6.6	6.8	18	42	51	107	70	62	17	5.8	4.1	2.3
25	6.2	6.6	24	40	39	142	63	59	13	19	5.5	2.0
26	5.9	6.5	21	38	35	247	59	48	11	16	8.2	1.7
27	5.5	6.9	20	100	33	376	81	41	8.9	9.1	10	1.6
28	5.4	103	20	154	36	279	78	37	7.6	12	11	6.5
29	4.7	134	30	127	------	206	78	63	7.3	20	7.6	14
30	4.5	92	24	108	------	152	76	72	7.2	33	6.0	6.8
31	4.1	------	24	90	------	118	------	65	------	22	5.0	------
TOTAL	361.8	589.9	1,402	1,449	2,213	8,595	2,795	4,689	620.9	476.9	205.4	84.1
MEAN	11.7	19.7	45.2	46.7	79.0	277	93.2	151	20.7	15.4	6.63	2.80
MAX	53	134	94	154	168	1,350	249	495	59	73	17	14
MIN	4.1	4.1	18	22	33	33	57	37	7.2	4.6	1.8	1.1
CFSM	.24	.40	.92	.95	1.61	5.65	1.90	3.08	.42	.31	.13	.06
IN.	.27	.45	1.06	1.10	1.68	6.51	2.12	3.55	.47	.36	.16	.06

CAL YR 1966: TOTAL 19,785.60 MEAN 54.2 MAX 1,150 MIN .50 CFSM 1.10 IN 14.99
WAT YR 1967: TOTAL 23,482.0 MEAN 64.3 MAX 1,350 MIN 1.1 CFSM 1.31 IN 17.79

Peak discharge (base, 800 cfs)

Date	Time	Gage height	Discharge
3- 7	0515	4.21	1,610

1-5970. Crabtree Creek near Swanton, Md.

Location.--Lat 39°30'00", long 79°09'35", on left bank, 1/2 mile upstream from mouth, 1.0 mile downstream from Springlick Run, and 5.0 miles northeast of Swanton, Garrett County.

Drainage area.--16.7 sq mi.

Records available.--September 1948 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 1,529.06 ft above mean sea level (Corps of Engineers bench mark). Prior to Dec. 1, 1960, graphic water-stage recorder at same site and datum.

Average discharge.--19 years, 28.2 cfs.

Extremes.--Maximum discharge during year, 706 cfs Mar. 6 (gage height, 3.11 ft); minimum, 1.6 cfs Sept. 25-27 (gage height, 0.74 ft).
1948-67: 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 fair except those for winter months, which are poor. Small diversion above station by Baltimore and Ohio Railroad.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	26	2.3	20	11	26	14	35	23	26	4.6	10	2.8
2	24	3.1	17	13	33	15	30	22	23	12	9.2	2.6
3	15	8.8	14	13	41	30	26	20	21	8.5	9.9	2.5
4	11	5.1	12	13	38	78	22	17	18	6.0	11	2.3
5	8.5	4.9	12	12	36	196	28	15	17	5.1	8.5	2.3
6	6.6	4.9	13	11	32	531	30	17	15	4.6	7.2	2.2
7	5.4	4.4	21	13	28	415	39	178	14	4.4	6.6	2.2
8	4.6	4.4	30	18	24	199	43	233	13	4.1	6.0	2.1
9	4.1	4.6	29	23	25	140	40	178	12	4.1	5.7	2.1
10	4.9	4.6	26	24	20	120	37	148	11	6.0	5.7	2.3
11	3.9	5.7	24	21	19	100	31	178	10	164	4.9	2.1
12	3.3	5.1	20	19	15	90	26	189	9.2	91	4.4	1.9
13	3.1	4.9	19	17	13	70	24	112	8.5	45	3.9	1.8
14	2.8	4.9	17	16	17	70	22	74	7.8	30	3.9	1.8
15	2.6	4.6	15	16	32	170	20	70	7.2	23	3.5	1.8
16	2.6	4.4	13	15	61	170	17	86	6.6	17	3.3	1.7
17	2.5	4.4	13	14	54	110	25	81	6.0	13	3.1	1.8
18	2.8	4.1	13	12	43	86	30	65	14	13	3.1	1.8
19	4.6	3.9	12	10	36	70	30	55	17	12	3.3	1.7
20	3.5	3.5	11	11	32	60	29	46	9.5	12	3.9	1.7
21	3.1	3.5	11	12	33	58	27	38	7.8	11	3.3	1.7
22	2.8	3.1	11	14	30	54	29	34	9.5	9.5	2.9	1.8
23	2.8	3.1	10	15	27	52	26	30	13	8.5	2.8	1.8
24	2.8	3.1	9.5	17	22	51	26	27	9.2	7.8	3.5	1.7
25	2.6	2.9	9.2	17	17	60	25	24	7.8	7.5	3.7	1.6
26	2.5	3.1	9.2	16	15	90	24	21	6.9	7.2	4.9	1.6
27	2.5	3.1	8.5	30	14	140	27	19	6.0	6.0	7.2	1.6
28	2.3	22	9.2	37	15	100	25	17	5.4	13	5.1	4.4
29	2.3	28	13	31	------	76	25	27	5.4	13	3.5	4.1
30	2.3	24	11	26	------	60	25	25	5.4	14	3.1	2.2
31	2.2	------	11	22	------	40	------	26	------	12	2.9	------
TOTAL	170.0	188.5	464.0	539	798	3,515	843	2,095	342.2	589.9	160.0	64.0
MEAN	5.48	6.28	15.0	17.4	28.5	113	28.1	67.6	11.4	19.0	5.16	2.13
MAX	26	28	30	37	61	531	43	233	26	164	11	4.4
MIN	2.2	2.3	6.5	10	13	14	17	15	5.4	4.1	2.8	1.6
CFSM	.33	.38	.90	1.04	1.71	6.79	1.68	4.05	.68	1.14	.31	.13
IN.	.38	.42	1.03	1.20	1.78	7.83	1.88	4.67	.76	1.31	.36	.14

CAL YR 1966: TOTAL 8,112.60 MEAN 22.2 MAX 297 MIN .90 CFSM 1.33 IN 18.07
WAT YR 1967: TOTAL 9,768.6 MEAN 26.8 MAX 531 MIN 1.6 CFSM 1.60 IN 21.75

Peak discharge (base, 330 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 6	0745	3.11	706	7-11	0815	2.67	455

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

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

Drainage area.--106 sq mi.

Records available.--October 1948 to September 1967.

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.--19 years, 159 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 3,770 cfs Mar. 8 (gage height, 6.05 ft); minimum, 0.35 cfs Oct. 27 (gage height, 0.57 ft); minimum daily, 11 cfs Nov. 11, 12.
1948-67: Maximum discharge, 6,530 cfs Oct. 16, 1954 (gage height, 7.70 ft); minimum, that of Oct. 27, 1966; 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).

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	105	100	45	97	95	17	123	153	18	33	94
2	14	105	100	45	336	97	17	123	138	21	26	92
3	14	105	100	45	359	97	16	123	123	31	29	92
4	14	105	100	76	490	362	16	51	110	22	29	92
5	13	105	100	95	237	600	16	16	97	20	24	92
6	13	105	100	63	95	566	16	16	84	16	21	92
7	78	105	230	42	97	1,310	16	947	74	27	18	92
8	111	103	223	42	97	2,240	17	1,560	67	34	16	100
9	111	103	333	42	97	2,900	17	1,230	60	34	16	108
10	111	53	100	63	97	2,050	17	980	53	41	20	111
11	111	11	100	88	352	814	17	1,040	48	233	16	111
12	88	11	361	97	234	531	17	1,130	43	234	15	111
13	52	12	255	97	63	550	17	649	38	115	15	115
14	51	12	98	97	45	370	17	468	34	74	15	116
15	51	12	98	97	77	385	16	424	33	64	14	116
16	50	12	65	97	351	1,050	16	503	29	54	28	116
17	90	13	45	97	232	847	30	503	24	98	44	116
18	110	14	45	82	248	362	57	416	32	51	60	116
19	110	14	45	74	346	105	18	356	50	16	67	116
20	110	14	73	68	97	106	18	306	36	16	67	106
21	110	60	98	55	97	110	19	245	30	16	67	116
22	108	103	223	55	97	383	19	218	32	18	67	116
23	108	103	98	68	356	389	18	187	63	20	67	115
24	108	103	64	221	204	108	46	159	45	19	67	115
25	106	102	44	74	45	110	64	144	36	21	83	115
26	106	102	44	74	45	111	97	123	26	23	94	115
27	69	102	44	90	45	116	125	108	21	21	95	90
28	107	103	44	449	75	418	123	98	19	30	94	80
29	106	345	215	372	-	595	123	146	18	40	94	80
30	106	272	218	97	- - - - -	590	123	166	20	50	92	80
31	106	- - - - -	45	219	- - - - -	260	- - - - -	159	- - - - -	40	94	- - - - -
Total	2,457	2,514	3,808	3,226	5,011	18,627	1,145	12,717	1,636	1,517	1,487	3,126
Mean	79.3	83.8	123	104	179	601	38.2	410	54.5	48.9	48.0	104
Max	111	345	361	449	490	2,900	125	1,560	153	234	95	116
Min	13	11	44	42	45	95	16	16	18	16	14	80
(†)	9,280	6,680	4,500	4,450	4,380	8,840	19,200	20,080	19,980	20,050	18,140	12,560

Cal yr 1966: Total 45,525 Mean 125 Max 2,420 Min 10 Cfsm 1.18 In. 15.97
Wtr yr 1967: Total 57,271 Mean 157 Max 2,900 Min 11 Cfsm 1.48 In. 20.09

† Month-end contents, in acre-ft, in Savage River Reservoir (contents on Sept. 30, 1966, 12,660 acre-ft).
Records furnished by Corps of Engineers.

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

Location.--Lat 39°28'45", long 79°03'55", on right bank 0.2 mile downstream from Savage River, 0.5 mile northwest of Luke, Allegany County, and 53.3 miles upstream from mouth.

Drainage area.--404 sq mi.

Records available.--June 1899 to July 1906 (published as "at Piedmont, W. Va."), October 1949 to September 1967.

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, chain gage at bridge 1.1 miles downstream at datum about 35 feet lower.

Average discharge.--24 years (1899-1905, 1949-67), 683 cfs (adjusted for storage since 1949).

Extremes.--Maximum discharge during year, 14,500 cfs Mar. 7 (gage height, 11.13 ft); minimum, 75 cfs Sept. 20 (gage height, 1.07 ft).
1899-1906, 1949-67: Maximum discharge, 39,400 cfs Oct. 15, 1954 (gage height, 17.15 ft); minimum daily, 6 cfs Sept. 4, 1904.

Remarks.--Records good. Flow regulated since 1913 by Stony River Reservoir, 45 miles above station (see p. 67) and, since December 1950, by Savage River Reservoir, 5 miles above station (see preceding page). Some regulation at low flow by West Virginia Pulp and Paper Company at site used 1899-1906. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,240	218	530	351	938	430	649	522	900	122	426	202
2	1,870	251	490	419	1,180	400	590	514	741	117	307	192
3	894	793	396	382	1,320	1,100	538	518	546	186	392	177
4	572	577	350	392	1,290	2,240	490	403	474	161	831	167
5	458	411	330	347	972	3,480	570	325	415	128	498	161
6	357	407	370	289	747	9,680	777	319	364	114	351	155
7	378	338	975	264	640	11,000	765	4,390	328	109	273	149
8	382	338	1,070	460	560	5,840	680	5,730	289	109	224	151
9	316	319	966	550	540	5,390	604	4,460	264	106	194	157
10	378	270	654	462	595	4,180	568	3,480	238	143	211	161
11	392	270	730	442	806	2,340	514	3,600	221	1,430	186	159
12	301	289	888	403	675	1,930	430	3,700	197	1,330	149	155
13	234	254	788	430	430	1,700	396	2,920	173	730	131	153
14	224	226	550	426	438	2,430	400	1,950	153	518	116	151
15	209	194	510	450	698	4,380	371	2,400	142	530	104	149
16	192	167	438	411	1,490	4,420	325	3,010	128	450	102	144
17	211	159	382	364	1,220	3,390	357	2,300	117	385	111	144
18	234	157	392	320	1,020	2,220	735	2,160	211	328	120	142
19	328	153	400	220	1,000	1,530	514	1,590	617	262	128	140
20	396	146	430	210	685	1,160	450	1,330	304	451	140	131
21	354	165	446	280	874	1,490	407	1,100	224	848	149	138
22	316	218	521	330	705	2,070	470	985	197	407	135	140
23	319	211	378	380	940	1,770	514	843	292	301	125	147
24	304	206	325	562	726	1,450	502	730	278	246	125	140
25	292	204	292	400	420	1,780	582	640	206	218	184	135
26	281	204	260	388	400	1,700	554	559	186	530	376	131
27	241	204	260	688	420	1,660	649	502	165	414	331	111
28	270	550	280	1,480	450	1,780	658	458	138	452	505	111
29	241	1,210	500	1,080	—	1,810	590	948	122	1,040	325	205
30	228	850	660	631	- - - - -	1,600	546	1,250	123	672	254	177
31	216	- - - - -	360	663	- - - - -	1,040	- - - - -	1,040	- - - - -	470	216	- - - - -
Total	12,628	9,959	15,921	14,474	22,179	87,390	15,195	54,676	8,753	13,307	7,719	4,575
Mean	407	332	514	467	792	2,819	540	1,764	292	429	249	152
Max	1,870	1,210	1,070	1,480	1,490	11,000	777	5,730	900	1,430	831	205
Min	192	146	260	210	400	400	325	319	117	106	102	111

Cal yr 1966: Total 211,377 Mean 579 Max 7,030 Min 83 Cfsm 1.43 In. 19.46
Wtr yr 1967: Total 267,776 Mean 734 Max 11,000 Min 102 Cfsm 1.81 In. 24.65

1-5990. Georges Creek at Franklin, Md.

Location.--Lat 39°29'38", long 79°02'42", on right bank at Franklin, Allegany County, 1¼ miles upstream from Westernport and mouth.

Drainage area.--72.4 sq mi.

Records available.--May 1905 to July 1906 (Published as "at Westernport"), October 1929 to September 1967.

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, chain gage at bridge three quarters of a mile downstream at different datum. Oct. 16, 1929, to Oct. 1, 1937, graphic water-stage recorder at site 95 ft downstream at present datum.

Average discharge.--38 years, (1929-67), 77.1 cfs.

Extremes.--Maximum discharge during year, 2,180 cfs Mar. 7 (gage height, 7.86 ft); minimum, 5.1 cfs Sept. 19, 20 (gage height, 3.03 ft).
1905-6, 1929-67: 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, 1965-67 by the U. S. Geological Survey and in the water years 1958 and 1959 by the Maryland Geological Survey.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	62	6.8	37	20	82	38	143	77	78	15	17	9.1
2	49	7.3	31	25	94	39	125	81	72	18	14	8.0
3	27	21	24	23	90	66	115	80	68	19	13	7.5
4	21	14	22	23	76	118	101	68	62	15	17	7.0
5	17	11	23	22	73	450	117	63	55	16	15	7.0
6	14	9.6	23	19	66	1,040	117	66	52	14	13	6.5
7	12	9.0	26	20	54	1,350	132	624	48	13	12	6.5
8	11	9.0	33	25	48	640	105	550	45	13	11	6.0
9	10	9.6	30	28	43	475	97	510	44	24	11	6.0
10	12	9.6	30	26	50	380	119	398	58	47	12	6.5
11	10	12	48	25	50	324	109	584	41	333	11	6.5
12	9.0	11	39	24	43	260	96	485	33	150	11	6.0
13	9.0	10	36	24	38	215	83	384	29	66	10	5.5
14	8.4	9.6	34	26	44	249	81	352	26	50	9.6	5.5
15	7.8	9.0	31	32	66	489	75	348	23	54	9.6	5.5
16	7.8	8.4	28	30	92	380	71	312	22	46	9.1	5.5
17	7.8	7.8	28	28	73	324	119	272	20	30	8.5	5.5
18	9.0	7.8	30	22	68	249	143	242	44	25	8.5	5.5
19	14	7.3	30	17	62	205	111	212	36	22	8.5	5.5
20	12	7.3	28	24	61	190	101	185	27	22	10	9.6
21	10	7.3	27	25	63	199	96	160	22	22	9.6	13
22	9.0	6.8	25	30	53	185	101	145	32	22	8.5	7.5
23	8.4	6.8	24	32	53	196	90	128	72	18	8.5	7.0
24	8.4	6.8	23	33	43	212	88	109	34	15	10	6.5
25	7.8	6.8	21	31	37	215	77	97	25	18	15	6.0
26	7.8	7.8	19	30	34	249	74	88	21	16	17	6.0
27	7.3	7.8	18	107	33	308	109	80	19	13	25	5.5
28	6.8	110	18	138	41	264	88	72	17	27	22	19
29	6.8	81	23	90	—	228	81	145	17	30	12	22
30	6.8	46	20	70	- - - - -	190	78	113	17	25	10	10
31	6.8	- - - - -	18	63	- - - - -	165	- - - - -	90	- - - - -	19	9.1	- - - - -
Total	415.7	484.2	847	1,132	1,630	9,892	3,042	7,120	1,159	1,217	377.5	233.2
Mean	13.4	16.1	27.3	36.5	58.2	319	101	230	38.6	39.3	12.2	7.77
Max	62	110	48	138	94	1,350	143	624	78	333	25	22
Min	6.8	6.8	18	17	33	38	71	63	17	13	8.5	5.5
Cfsm	.19	.22	.38	.50	.80	4.41	1.40	3.18	.53	.54	.17	.11
In.	.21	.25	.44	.58	.84	5.08	1.56	3.66	.60	.63	.19	.12

Cal yr 1966: Total 19,572.9 Mean 53.6 Max 868 Min 2.4 Cfsm .74 In. 10.05
Wtr yr 1967: Total 27,549.6 Mean 75.5 Max 1,350 Min 5.5 Cfsm 1.04 In. 14.15

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge
3- 7	0500	7.86	2,180

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

Location.--Lat 39°33'59", long 78°50'25", on right bank at downstream side of Western Maryland Railway bridge at Pinto, Allegany County, 2.8 miles downstream from Mill Run, and 32.6 miles upstream from mouth.

Drainage area.--596 sq mi.

Records available.--October 1938 to September 1967.

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, wire-weight gage at highway bridge 250 ft downstream at same datum.

Average discharge.--29 years, 860 cfs (unadjusted).

Extremes.--Maximum discharge during year, 20,400 cfs Mar. 7 (gage height, 17.12 ft); minimum, 110 cfs Aug. 16, Sept. 28 (gage height, 1.82 ft).
1938-67: Maximum discharge, 37,000 cfs Oct. 16, 1954 (gage height, 23.23 ft); minimum, 31 cfs Dec. 18, 19, 1943 (gage height, 1.37 ft), 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 fair. Some regulation at low flow by Stony River Reservoir, 66 miles above station (see p. 67), and since December 1950, by Savage River Reservoir (see p. 73).

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	773	244	656	364	955	585	960	672	1,130	161	500	235
2	2,540	248	560	422	1,380	525	800	661	952	152	420	221
3	1,190	650	475	490	1,420	885	720	672	747	179	360	204
4	735	694	368	465	1,540	2,470	680	585	620	246	700	195
5	555	460	356	450	1,290	3,650	670	445	550	185	600	182
6	422	414	404	396	929	12,700	1,020	427	490	152	450	173
7	376	364	801	332	825	15,800	980	4,650	442	130	350	167
8	409	340	1,150	384	694	8,650	900	8,320	398	136	290	161
9	344	340	1,030	672	672	5,180	760	5,600	359	138	240	167
10	372	324	711	560	717	5,220	760	4,360	355	182	240	173
11	396	248	777	530	807	2,960	720	4,280	319	1,320	230	173
12	340	320	851	470	988	2,390	610	5,190	280	2,000	190	167
13	248	276	955	485	540	2,110	550	3,690	246	1,020	160	164
14	230	244	612	480	545	2,600	520	2,600	214	693	145	164
15	217	227	565	495	747	5,460	520	2,940	191	658	130	158
16	213	188	510	490	1,490	5,630	460	3,630	182	609	120	155
17	194	173	427	418	1,680	4,230	500	2,840	167	475	125	155
18	248	170	414	388	1,180	2,830	960	2,770	161	456	140	155
19	288	162	450	255	1,330	2,000	740	2,060	699	355	155	152
20	422	162	422	241	890	1,600	630	1,710	447	367	170	147
21	388	150	515	332	1,000	1,680	580	1,390	311	1,050	180	155
22	340	210	525	372	916	2,540	580	1,250	257	576	160	158
23	328	220	460	418	1,000	2,440	700	1,100	380	406	150	155
24	320	217	400	545	1,000	2,040	610	959	393	323	150	158
25	308	220	328	490	505	2,310	740	849	291	276	188	150
26	300	220	276	436	480	2,200	670	741	243	429	319	147
27	284	217	280	515	505	2,240	790	658	225	582	452	144
28	251	436	292	1,930	560	2,180	860	598	185	384	525	152
29	266	1,420	324	1,540	-	2,250	770	900	167	1,170	434	198
30	237	1,160	777	884	- - - - -	1,970	710	1,610	161	855	315	265
31	227	- - - - -	380	825	- - - - -	1,600	- - - - -	1,260	- - - - -	592	261	- - - - -
Total	13,761	10,718	17,051	15,974	26,585	111,925	21,470	69,417	11,562	15,257	8,849	5,150
Mean	444	357	550	548	949	3,610	716	2,239	385	524	285	172
Max	2,540	1,420	1,150	1,830	1,680	15,800	1,020	8,320	1,130	2,000	700	265
Min	194	150	276	241	480	525	460	427	161	130	120	144

Cal yr 1966: Total 259,658 Mean 711 Max 9,490 Min 82 Cfsm 1.19 In. 16.20
Wtr yr 1967: Total 329,719 Mean 903 Max 15,800 Min 120 Cfsm 1.52 In. 20.57

1-6010. Wills Creek below Hyndman, Pa.

Location.--Lat 39°48'43", long 78°43'00", on left bank 150 ft upstream from county highway bridge, 150 ft downstream from Pennsylvania Railroad bridge, 0.35 mile downstream from Little Wills Creek, half a mile south of Hyndman, Bedford County, and 14 miles upstream from mouth.

Drainage area.--146 sq mi.

Records available.--June 1951 to September 1967 (discontinued).

Gage.--Digital water-stage recorder. Datum of gage is 891.37 ft above mean sea level (Pennsylvania Railroad bench mark). Prior to Oct. 24, 1960, graphic water-stage recorder at same site and datum.

Average discharge.--16 years, 183 cfs.

Extremes.--Maximum discharge during year, 5,520 cfs Mar. 5 (gage height, 7.70 ft); minimum, 3.9 cfs Sept. 18-20 (gage height, 1.77 ft).
1951-67: Maximum discharge, 11,600 cfs Oct. 15, 1954 (gage height, 11.02 ft), from rating curve extended above 6,000 cfs by logarithmic plotting; minimum, 0.70 cfs Sept. 10, 11, 1965, Aug. 9, 1966.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	92	7.6	199	46	237	96	264	264	251	28	47	18
2	129	9.3	163	51	296	96	230	260	206	23	35	14
3	88	62	110	46	405	172	202	238	170	24	30	12
4	64	45	84	52	393	254	171	210	142	22	35	10
5	42	31	90	42	329	2,560	171	184	122	28	38	9.0
6	32	27	104	45	254	4,710	167	174	107	21	62	7.8
7	24	23	100	46	195	3,320	305	1,590	95	18	36	7.1
8	20	22	140	52	130	1,680	315	1,640	83	16	28	6.7
9	17	22	170	56	130	1,110	300	1,120	97	16	30	6.7
10	17	23	170	45	142	1,080	371	797	109	19	47	7.1
11	17	32	254	52	133	1,160	345	1,440	83	77	31	7.1
12	14	33	219	46	113	989	305	1,300	70	55	23	6.3
13	12	30	203	50	92	688	268	797	60	47	19	5.7
14	10	28	174	55	116	559	234	580	53	35	16	5.1
15	9.8	27	140	72	149	998	202	559	49	47	14	4.5
16	10	24	115	68	196	1,160	174	484	41	45	13	4.3
17	8.8	23	103	60	194	831	251	471	51	28	11	4.3
18	9.3	22	92	50	207	566	305	410	85	23	10	4.1
19	12	21	81	40	188	410	300	382	114	22	9.9	4.1
20	16	19	74	56	172	339	282	310	77	20	17	4.3
21	14	16	69	70	177	315	255	260	60	27	23	9.0
22	13	15	59	90	149	277	277	234	58	35	16	11
23	11	16	54	90	144	268	222	202	72	22	12	7.4
24	10	18	44	95	126	282	206	174	56	20	13	6.3
25	9.8	16	45	91	100	339	188	155	45	51	30	5.4
26	9.2	16	45	89	96	471	174	136	39	41	27	4.8
27	8.8	17	40	228	94	636	320	122	32	26	36	4.5
28	8.4	300	35	443	110	583	329	112	28	24	49	601
29	7.9	436	50	390	------	504	339	249	27	75	31	371
30	7.8	286	47	281	------	371	310	324	31	55	23	123
31	7.6	------	44	218	------	310	------	300	------	60	19	------
TOTAL	751.4	1,666.9	3,317	3,115	5,067	27,134	7,782	15,478	2,513	1,134	834.9	1,291.6
MEAN	24.2	55.6	107	100	181	875	259	499	83.8	36.6	26.9	43.1
MAX	129	436	254	443	405	4,710	371	1,640	251	55	62	601
MIN	7.6	7.6	35	40	92	96	167	112	27	16	9.9	4.1
CFSM	.17	.38	.73	.69	1.24	6.00	1.78	3.42	.57	.25	.18	.29
IN.	.19	.42	.84	.79	1.29	6.91	1.98	3.94	.64	.29	.21	.33

CAL YR 1966: TOTAL 45,530.10 MEAN 125 MAX 2,590 MIN .70 CFSM .85 IN 11.60
WAT YR 1967: TOTAL 70,084.8 MEAN 192 MAX 4,710 MIN 4.1 CFSM 1.32 IN 17.85

Peak discharge (base, 2,100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 5	2345	7.70	5,520	9-28	1915	5.95	3,000
5- 7	1800	5.20	2,120				

1-6015. Wills Creek near Cumberland, Md.

Location.--Lat 39°40'07", long 78°47'18", on right bank at downstream side of Western Maryland Railway bridge, 2 miles upstream from Cumberland, Allegany County, and mouth.

Drainage area.--247 sq mi.

Records available.--May 1905 to July 1906 (published as "at Cumberland"), October 1929 to September 1967.

Gage.--Digital 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, chain gage at highway bridge 700 ft upstream at different datum. Oct. 18, 1929, to Mar. 17, 1936, graphic water-stage recorder, and Apr. 1, 1936, to Mar. 19, 1937, tape gage, at site 200 ft upstream at present datum. Mar. 20, 1937, to Sept. 27, 1962, graphic water-stage recorder at present site and datum.

Average discharge.--38 years (1929-67), 309 cfs.

Extremes.--Maximum discharge during year, 7,220 cfs Mar. 6 (gage height, 8.49 ft) result of release from temporary storage upstream; maximum unregulated discharge, 7,140 cfs Mar. 7 (gage height, 8.45 ft); minimum, 16 cfs Sept. 19 (gage height, 1.43 ft).
1905-6, 1929-67: Maximum discharge, 38,100 cfs Mar. 17, 1936 (gage height, 20.2 ft, from floodmarks at present site), from rating curve extended above 6,500 cfs on basis of slope-area measurements at gage heights 13.45 and 20.2 ft; minimum, 9 cfs Oct. 14, 1930.

Remarks.--Records good. Records include drainage from numerous active and abandoned coal mines. An undetermined amount of water is diverted into basin from Georges Creek basin by Hoffman drainage tunnel (see p. 75). Slight diurnal fluctuation at low flow caused by quarry upstream.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	100	23	275	73	339	147	474	451	424	75	110	45
2	175	26	228	79	384	147	424	415	361	72	89	43
3	120	60	150	72	492	244	384	420	309	70	82	39
4	93	76	122	79	478	415	330	357	268	75	83	36
5	71	57	133	63	438	2,620	325	321	234	69	91	32
6	57	51	154	66	357	6,420	330	306	207	65	94	31
7	49	46	147	69	279	5,510	483	1,750	187	57	83	29
8	43	44	207	77	215	2,430	492	2,200	172	57	70	28
9	39	43	237	85	215	1,560	474	1,650	167	57	65	28
10	41	46	237	76	231	1,360	540	1,240	231	162	79	28
11	38	50	313	86	231	1,370	520	1,640	172	402	73	27
12	35	57	272	80	190	1,200	474	1,810	142	361	61	26
13	30	53	257	91	140	926	424	1,250	125	180	54	24
14	28	49	231	93	201	806	388	978	110	134	47	23
15	28	47	198	116	240	1,250	348	926	105	150	45	23
16	28	46	164	110	306	1,420	309	860	97	159	42	22
17	27	44	152	99	294	1,120	420	788	109	112	40	22
18	28	44	140	82	306	836	545	737	154	94	38	20
19	36	42	127	52	286	666	496	655	231	101	38	18
20	36	40	118	76	272	590	474	605	154	91	48	22
21	36	35	112	101	279	565	438	501	125	136	57	24
22	34	32	97	127	221	535	469	456	131	131	49	28
23	30	31	97	133	244	570	402	411	174	96	40	27
24	26	34	77	138	172	585	366	366	131	93	45	25
25	26	35	77	138	150	622	334	321	107	162	63	22
26	26	35	82	131	147	721	309	290	94	116	69	22
27	25	37	75	261	145	866	515	264	86	93	80	20
28	25	343	57	550	169	825	510	244	77	86	91	540
29	24	550	85	492	------	765	530	402	75	105	72	585
30	24	379	76	384	------	616	501	545	75	210	56	198
31	23	------	66	298	------	530	------	478	------	133	49	------
TOTAL	1,401	2,455	4,763	4,377	7,421	38,237	13,028	23,637	5,034	3,964	2,003	2,057
MEAN	45.2	81.8	154	141	265	1,233	434	762	168	128	64.6	68.6
MAX	175	550	313	550	492	6,420	545	2,200	424	402	110	585
MIN	23	23	57	52	140	147	309	244	75	57	38	18
CFSM	.18	.33	.62	.57	1.07	4.99	1.76	3.09	.68	.52	.26	.28
IN.	.21	.37	.72	.66	1.12	5.76	1.96	3.56	.76	.60	.30	.31

CAL YR 1966: TOTAL 71,203 MEAN 195 MAX 3,780 MIN 11 CFSM .79 IN 10.72
WAT YR 1967: TOTAL 108,377 MEAN 297 MAX 6,420 MIN 18 CFSM 1.20 IN 16.32

Peak discharge (base, 3,500 cfs)

Date	Time	Gage height	Discharge
3- 6	0315	8.49	7,220

1-6030. North Branch Potomac River near Cumberland, Md.

Location.--Lat 39°37'16", long 78°46'24", on left bank at downstream side of Wiley Ford Bridge, 2 miles south of Cumberland, Allegany County, 2.1 miles downstream from Wills Creek, and 19.6 miles upstream from mouth.

Drainage area.--875 sq mi.

Records available.--May 1929 to September 1967. 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.--Graphic water-stage recorder. Datum of gage is 585.22 ft above mean sea level (Corps of Engineers bench mark). Prior to June 18, 1929, chain gage, and Oct. 24, 1960, to Sept. 27, 1962, digital water-stage recorder, at same site and datum.

Average discharge.--38 years, 1,205 cfs (unadjusted).

Extremes.--Maximum discharge during year, 25,400 cfs Mar. 7 (gage height, 18.91 ft); minimum, 147 cfs Aug. 17 (gage height, 2.31 ft).

1929-67: 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 fair. Regulation by Stony River Reservoir, about 79 miles above station (see p. 67), and since December 1950, by Savage River Reservoir (see p. 73). 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 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	635	272	977	443	1,240	752	1,460	1,160	1,540	238	630	289
2	2,850	289	824	478	1,680	689	1,270	1,110	1,320	238	530	272
3	1,400	503	680	584	1,880	963	1,150	1,120	1,090	243	460	253
4	878	896	528	552	2,020	2,700	1,040	1,010	932	316	770	238
5	648	592	492	536	1,760	5,840	995	851	833	284	740	229
6	513	506	576	485	1,270	17,500	1,300	788	752	238	570	214
7	436	464	779	423	1,120	22,400	1,440	5,140	672	205	460	214
8	457	409	1,320	436	932	13,200	1,440	11,400	616	196	380	205
9	409	402	1,240	725	905	7,960	1,270	7,810	584	205	320	205
10	396	389	1,070	664	950	7,300	1,300	6,280	624	344	320	210
11	436	340	1,040	632	959	5,020	1,270	5,920	528	1,180	320	214
12	402	358	1,060	560	1,260	4,010	1,120	7,890	464	2,740	270	210
13	316	352	1,280	584	743	3,620	1,020	5,500	409	1,290	225	201
14	272	316	900	576	752	3,770	950	4,010	358	914	205	196
15	262	289	800	616	896	5,460	923	4,120	322	905	185	196
16	253	257	680	616	1,520	7,950	833	4,700	311	833	170	187
17	233	233	600	536	2,080	6,200	905	3,930	300	640	155	191
18	267	229	560	485	1,440	4,180	1,440	3,790	364	592	190	191
19	322	219	584	346	1,560	3,470	1,300	2,930	761	513	205	187
20	443	214	552	322	1,210	2,920	1,160	2,510	680	478	225	201
21	450	201	624	430	1,180	2,370	1,060	1,990	471	1,070	245	210
22	396	214	568	485	1,170	3,300	1,070	1,760	416	815	220	210
23	376	262	632	552	1,130	3,200	1,120	1,540	536	552	200	196
24	364	257	499	608	1,270	2,800	1,000	1,360	552	471	205	196
25	352	257	423	734	716	3,200	1,060	1,200	423	478	253	196
26	346	253	370	592	698	3,100	1,010	1,070	352	430	322	187
27	334	262	358	725	689	3,300	1,320	968	316	761	568	187
28	284	634	364	2,210	716	3,100	1,390	905	284	513	568	743
29	311	1,890	409	2,140	—	3,200	1,330	1,110	253	1,080	544	887
30	284	1,690	806	1,340	- - - - -	2,900	1,240	2,250	243	1,080	389	464
31	272	- - - - -	492	1,050	- - - - -	2,220	- - - - -	1,740	- - - - -	779	316	- - - - -
Total	15,597	13,449	22,087	21,465	33,746	159,594	35,186	97,862	17,306	20,621	11,160	7,779
Mean	503	448	712	692	1,205	5,148	1,173	3,157	577	665	360	259
Max	2,850	1,890	1,320	2,210	2,080	22,400	1,460	11,400	1,540	2,740	770	887
Min	233	201	358	322	689	689	833	788	243	196	155	187

Cal yr 1966: Total 343,047 Mean 940 Max 10,800 Min 107 Cfsm 1.07 In. 14.58
Wtr yr 1967: Total 455,852 Mean 1,249 Max 22,400 Min 155 Cfsm 1.43 In. 19.37

Peak discharge (base, 10,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	1330	18.91	25,400	5- 8	0330	11.90	12,900
3-15	2200	10.23	10,300				

1-6035. Evitts Creek near Centerville, Pa.

Location.--Lat 39°47'23", long 78°38'48", on left bank 2 miles upstream from Thomas W. Koon Dam, 3 miles south of Centerville, Bedford County, 7 miles upstream from Rock Gully Creek, and 16.3 miles upstream from mouth.

Drainage area.--30.2 sq mi.

Records available.--September 1932 to September 1967. Prior to October 1952, published as "near Bedford Valley".

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 1,027.59 ft above mean sea level (city of Cumberland bench mark). Prior to September 26, 1962, graphic water-stage recorder at same site and datum.

Average discharge.--35 years, 29.6 cfs.

Extremes.--Maximum discharge during year, 1,970 cfs Sept. 28 (gage height, 4.42 ft); minimum, 1.5 cfs Jan. 18 (gage height, 0.98 ft), result of freezeup.
1932-67: 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.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12	2.1	12	5.5	21	12	35	35	31	4.9	3.4	3.0
2	11	2.7	11	6.1	25	12	34	40	29	4.8	2.9	2.5
3	4.5	6.1	7.7	5.8	28	20	32	48	28	5.3	2.9	2.3
4	3.4	3.5	6.2	6.1	21	20	30	34	25	5.6	3.5	2.1
5	2.8	2.6	6.1	5.6	21	258	32	32	23	7.7	3.1	2.0
6	2.4	2.5	6.5	4.9	20	536	32	33	21	4.8	11	2.0
7	2.4	2.4	7.5	5.2	13	635	44	256	18	4.2	12	2.0
8	2.4	2.4	10	7.8	16	246	32	172	16	4.2	4.2	2.0
9	2.4	2.5	9.7	7.8	18	164	29	137	20	4.3	4.0	2.1
10	2.4	2.8	10	5.2	18	136	39	101	22	4.5	6.8	2.2
11	2.2	3.1	24	6.0	21	114	32	191	17	6.4	3.8	2.1
12	2.1	3.0	14	5.0	16	93	29	144	14	5.8	3.0	1.9
13	2.1	2.6	12	6.0	12	78	28	110	12	4.2	2.7	1.8
14	2.1	2.4	12	7.2	16	75	29	98	11	5.0	2.6	1.8
15	2.1	2.3	11	8.9	21	138	28	108	10	7.8	2.4	1.8
16	2.1	2.3	9.8	5.8	22	101	26	93	9.4	5.3	2.3	1.7
17	2.1	2.3	9.4	5.0	17	85	43	72	8.7	3.9	2.3	1.7
18	2.3	2.3	9.2	3.5	16	70	48	66	9.4	3.4	2.3	1.8
19	2.9	2.3	8.5	4.7	16	56	34	64	9.9	3.4	2.4	1.7
20	2.8	2.2	8.1	5.4	17	45	32	57	9.0	4.1	6.5	3.1
21	2.4	2.2	7.7	6.4	19	40	31	48	7.7	3.7	5.0	7.1
22	2.2	2.2	7.0	7.6	15	35	43	44	10	4.1	3.0	3.1
23	2.2	2.3	6.7	6.9	14	34	35	40	12	3.5	2.6	2.3
24	2.2	2.3	5.8	6.7	12	35	32	36	8.0	3.9	3.8	2.1
25	2.2	2.4	6.3	6.4	11	42	29	32	6.8	5.1	7.5	2.0
26	2.1	2.5	5.6	6.1	11	54	29	30	6.2	4.1	7.0	2.0
27	2.0	2.6	5.2	37	11	70	56	28	5.6	3.2	9.0	2.0
28	2.0	36	5.1	55	14	45	41	26	5.1	3.4	12	606
29	2.0	35	6.7	25	------	49	36	58	5.2	4.5	6.0	233
30	2.0	16	5.6	19	------	41	36	50	5.7	6.5	4.0	54
31	2.0	------	5.0	16	------	38	------	34	------	3.9	3.5	------
TOTAL	91.8	157.9	271.4	309.6	482	3,377	1,036	2,317	415.7	146.1	147.5	955.2
MEAN	2.96	5.26	8.75	9.99	17.2	109	34.5	74.7	13.9	4.71	4.76	31.8
MAX	12	36	24	55	28	635	56	256	31	7.8	12	606
MIN	2.0	2.1	5.0	3.5	11	12	26	26	5.1	3.2	2.3	1.7
CFSM	.10	.17	.29	.33	.57	3.61	1.14	2.47	.46	.16	.16	1.05
IN.	.11	.19	.33	.38	.59	4.16	1.28	2.85	.51	.18	.18	1.18

CAL YR 1966: TOTAL 5,708.1 MEAN 15.6 MAX 402 MIN 1.0 CFSM .52 IN 7.03
WAT YR 1967: TOTAL 9,707.2 MEAN 26.6 MAX 635 MIN 1.7 CFSM .88 IN 11.95

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	0515	3.41	889	9-28	1800	4.42	1,970
5- 7	1345	2.94	498				

1-6085. South Branch Potomac River near Springfield, W. Va.

Location.--Lat 39°26'49", long 78°39'16", on left bank at highway bridge, 2 miles east of Springfield, Hampshire County, and 13 miles upstream from confluence with North Branch.

Drainage area.--1,471 sq mi.

Records available.--June 1894 to February 1896 (fragmentary), June 1899 to February 1902, August 1903 to July 1906, August 1928 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 562.02 ft above mean sea level, datum of 1929. June 1894 to February 1896, wire-weight gage at Baltimore & Ohio Railroad bridge 11 1/4 miles upstream at different datum. June 26, 1899, to Feb. 2, 1902, wire-weight gage at bridge 10 miles upstream at different datum. Aug. 28, 1903, to July 14, 1906, chain gage at present site at different datum. Aug. 8 to Sept. 24, 1928, chain gage at present site and datum.

Average discharge.--43 years (1899-1901, 1903-5, 1928-67), 1,242 cfs.

Extremes.--Maximum discharge during year, 45,500 cfs Mar. 8 (gage height, 21.00 ft), from rating curve extended above 18,000 cfs as explained below; minimum, 111 cfs Sept. 23 (gage height, 0.97 ft).
1894-96, 1899-1902, 1903-6, 1928-67: 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 above 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.
Maximum stage known prior to 1928, about 34 ft in November 1877, from floodmarks (discharge, 140,000 cfs).

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,910	354	1,100	1,000	1,450	850	1,400	623	1,440	300	275	443
2	10,800	349	900	959	1,370	800	1,260	609	1,450	350	263	360
3	5,820	359	800	1,140	1,320	900	1,160	595	1,330	563	298	311
4	3,230	2,250	700	1,280	1,360	1,500	1,070	567	1,190	958	514	271
5	2,120	1,640	700	1,300	1,260	2,500	1,000	528	1,060	637	567	243
6	1,510	1,220	732	1,220	1,180	4,830	1,010	508	916	476	418	221
7	1,170	1,020	732	1,100	1,000	23,200	1,080	2,810	820	376	306	204
8	950	860	878	1,110	900	28,400	1,080	9,500	732	330	255	188
9	788	764	1,010	1,840	800	8,630	1,050	6,160	672	311	280	176
10	684	692	968	2,600	900	5,150	985	4,570	630	442	255	170
11	592	652	950	2,180	1,100	3,760	949	3,890	588	443	224	162
12	525	780	1,080	1,750	1,300	3,130	900	4,630	588	623	200	154
13	470	941	1,140	1,450	1,150	2,680	828	4,010	534	528	182	151
14	430	896	1,130	1,320	995	3,770	788	3,410	469	476	167	143
15	399	820	1,060	1,210	1,080	16,300	796	5,390	424	430	156	138
16	378	748	950	1,150	1,340	18,500	740	6,780	388	430	148	130
17	354	684	869	1,020	1,630	9,230	724	5,440	350	488	143	126
18	359	620	860	905	1,610	5,710	804	4,120	335	424	136	120
19	378	571	959	804	1,450	4,020	820	3,150	345	406	133	118
20	430	525	1,080	660	1,340	3,190	772	2,600	670	462	138	116
21	716	493	1,130	732	1,320	2,980	724	2,150	609	900	165	120
22	676	458	1,100	692	1,380	4,360	700	1,850	495	708	162	130
23	613	436	1,000	716	1,310	4,140	693	1,690	488	534	146	114
24	571	404	959	812	1,200	3,550	772	1,460	574	406	148	128
25	537	388	941	1,000	1,100	3,000	764	1,270	462	330	238	126
26	500	378	852	1,070	1,000	2,720	740	1,150	350	293	1,640	120
27	470	368	780	1,080	950	2,680	732	1,030	330	267	2,430	118
28	436	1,020	732	2,340	900	2,440	740	940	310	255	1,750	196
29	409	2,200	820	2,650	-	2,150	700	976	300	263	1,240	649
30	388	1,500	968	2,090	- - - - -	1,850	651	1,290	290	311	804	540
31	368	- - - - -	1,080	1,680	- - - - -	1,600	- - - - -	1,440	- - - - -	320	574	- - - - -
Total	39,981	24,390	28,960	40,860	33,695	178,520	26,432	85,136	19,139	14,040	14,355	6,186
Mean	1,290	813	934	1,318	1,203	5,759	881	2,746	638	453	463	206
Max	10,800	2,250	1,140	2,650	1,630	28,400	1,400	9,500	1,450	958	2,430	649
Min	354	349	700	660	800	800	651	508	290	255	133	114
Cfsm	.88	.55	.63	.90	.82	3.92	.60	1.87	.43	.31	.31	.14
In.	1.01	.62	.73	1.03	.85	4.51	.67	2.15	.48	.35	.36	.16

Cal yr 1966: Total 374,699 Mean 1,027 Max 10,800 Min 52 Cfsm .70 In. 9.49
Wtr yr 1967: Total 511,694 Mean 1,402 Max 28,400 Min 114 Cfsm .95 In. 12.92

Peak discharge (base,10,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-2	1300	10.77	12,600	3-16	0600	15.24	22,900
3-8	0430	21.00	45,500	5- 8	1130	9.51	10,300

1-6100. Potomac River at Paw Paw, W. Va.

Location.--Lat 39°32'13", long 78°27'28", on left bank 250 ft upstream from bridge on Maryland State Highway 51 at Paw Paw, Morgan County, 3.3 miles downstream from Little Cacapon River, and 277 miles upstream from mouth.

Drainage area.--3,109 sq mi.

Records available.--October 1938 to September 1967.

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, wire-weight gage at bridge 250 ft downstream at same datum.

Average discharge.--29 years, 3,066 cfs.

Extremes.--Maximum discharge during year, 70,000 cfs Mar. 8 (gage height, 30.24 ft); minimum observed, 349 cfs Sept. 27 (gage height, 3.36 ft).

1938-67: 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 p. 67) and, since December 1950, by Savage River Reservoir (see p. 73).

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,880	762	3,830	2,020	3,450	2,140	4,070	2,530	3,790	652	1,300	1,040
2	12,900	755	2,930	1,910	3,600	1,970	3,510	2,380	3,570	692	1,140	875
3	9,620	792	2,450	2,070	3,970	2,040	3,210	2,450	3,210	720	1,120	755
4	5,380	2,350	1,990	2,410	4,090	3,230	2,910	2,260	2,770	1,460	1,440	678
5	3,730	2,960	1,700	2,420	3,900	5,930	2,710	2,040	2,490	1,450	1,850	607
6	2,820	2,190	1,660	2,310	3,390	25,600	2,890	1,840	2,200	1,100	1,530	568
7	2,220	1,870	1,730	2,130	3,000	55,400	3,230	7,180	1,980	860	1,240	529
8	1,880	1,620	2,330	1,970	2,580	58,600	3,450	25,400	1,770	734	980	490
9	1,680	1,460	2,750	2,550	2,340	21,900	3,160	18,100	1,600	666	838	478
10	1,430	1,360	2,660	3,810	2,400	15,000	2,990	13,100	1,600	734	800	450
11	1,340	1,300	2,410	3,520	2,530	10,900	3,020	10,900	1,470	1,240	748	430
12	1,240	1,200	2,620	2,970	3,210	8,770	2,780	15,600	1,360	3,600	685	420
13	1,110	1,520	2,850	2,640	3,070	7,450	2,500	11,900	1,280	2,660	594	410
14	935	1,520	2,710	2,490	2,560	6,910	2,340	9,310	1,120	1,880	522	400
15	875	1,380	2,430	2,350	2,670	22,200	2,290	10,300	980	1,640	478	390
16	830	1,290	2,170	2,280	3,370	33,500	2,160	13,100	905	1,680	430	380
17	770	1,180	1,950	2,070	4,390	19,500	2,070	11,400	838	1,510	410	370
18	741	1,100	1,870	1,840	4,140	12,300	2,840	9,460	815	1,380	370	370
19	868	1,030	1,910	1,600	3,770	8,720	3,150	7,710	972	1,280	350	360
20	950	958	2,040	1,340	3,540	7,090	2,720	6,480	1,580	1,560	350	370
21	1,280	905	2,140	1,370	3,220	6,400	2,530	5,460	1,520	1,930	350	420
22	1,390	845	2,200	1,530	3,300	8,280	2,420	4,760	1,220	2,490	380	470
23	1,270	830	2,130	1,580	3,160	9,440	2,460	4,350	1,340	1,730	440	450
24	1,200	838	1,930	1,690	3,180	8,550	2,440	3,840	1,420	1,310	480	410
25	1,140	808	1,790	2,020	2,600	7,630	2,370	3,410	1,290	1,220	522	380
26	1,070	792	1,640	2,040	1,940	7,230	2,350	3,060	1,010	1,060	1,210	360
27	1,030	778	1,390	2,140	1,990	7,070	2,540	2,740	845	1,100	3,360	350
28	972	1,300	1,430	4,780	2,100	6,680	3,080	2,500	778	1,140	2,780	600
29	882	5,770	1,610	6,080	—	5,420	2,890	2,500	713	1,120	2,520	4,380
30	868	5,250	1,770	4,760	- - - - -	5,700	2,680	4,130	672	1,940	1,760	2,020
31	792	- - - - -	2,250	3,730	- - - - -	4,980	- - - - -	4,180	- - - - -	1,650	1,300	- - - - -
Total	67,093	46,713	67,270	78,420	87,460	408,530	83,760	224,370	47,108	44,188	32,277	20,210
Mean	2,164	1,557	2,170	2,530	3,124	13,180	2,792	7,238	1,570	1,425	1,041	674
Max	12,900	5,770	3,830	6,080	4,390	58,600	4,070	25,400	3,790	3,600	3,360	4,380
Min	741	755	1,390	1,340	1,940	1,970	2,070	1,840	672	652	350	350

Cal yr 1966: Total 866,336 Mean 2,374 Max 28,000 Min 172 Cfsm .76 In. 10.36
Wtr yr 1967: Total 1,207,399 Mean 3,308 Max 58,600 Min 350 Cfsm 1.06 In. 14.44

Peak discharge (base, 20,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 8	0400	30.24	70,000	5- 8	1130	18.12	27,400
3-16	0900	21.14	36,800				

1-6130. Potomac River at Hancock, Md.

Location.--Lat 39°41'49", long 78°10'39", on left bank 0.2 mile downstream from Little Tonoloway Creek, half a mile downstream from bridge on U. S. Highway 522 at Hancock, Washington County, 1.1 miles upstream from Tonoloway Creek (formerly called Great or Big Tonoloway Creek), and 239 miles upstream from mouth.

Drainage area.--4,073 sq mi.

Records available.--October 1932 to September 1967. Gage-height records collected at same site since June 1925 are contained in reports of U. S. Weather Bureau.

Gage.--Digital water-stage recorder. Datum of gage is 383.46 ft above mean sea level, adjustment of 1912. Oct. 1, 1932, to Aug. 27, 1934, chain gage, and Aug. 28, 1934, to Jan. 5, 1935, Mar. 18, 1936, to Jan. 20, 1937, wire-weight gage, on former highway bridge just upstream at same datum. Jan. 6, 1935, to Mar. 18, 1936, Jan. 21, 1937, to Nov. 3, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--35 years, 3,928 cfs.

Extremes.--Maximum discharge during year, 85,900 cfs Mar. 8 (gage height, 26.91 ft); minimum, 455 cfs Aug. 19, 20, 21 (gage height, 2.60 ft).

1932-67: Maximum discharge, 340,000 cfs Mar. 18, 1936 (gage height, 47.6 ft), from rating curve extended above 120,000 cfs on basis of slope-area measurement of peak flow; minimum observed, 180 cfs Oct. 4, 1932 (gage height, 2.01 ft).

Maximum stage known prior to 1932, about 40 ft in May 1889 (discharge, about 220,000 cfs).

Remarks.--Records good. Slight regulation at low flow from power plants upstream. Low flow affected slightly by Stony River Reservoir (see p. 67) and since December 1950 by Savage River Reservoir (see p. 73). Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4,590	892	6,330	2,570	4,190	2,590	5,490	3,230	4,650	838	1,940	1,780
2	9,200	910	4,530	2,360	4,080	2,540	4,520	3,120	4,340	828	1,590	1,430
3	15,400	1,010	3,670	2,290	4,480	2,390	4,070	3,250	3,970	1,120	2,940	1,200
4	8,230	1,040	3,010	2,710	4,670	2,600	3,740	3,130	3,510	1,670	1,710	1,040
5	5,310	3,340	2,460	2,920	4,690	5,670	3,450	2,830	3,080	2,250	2,100	905
6	3,840	2,870	2,210	2,920	4,310	22,900	3,370	2,540	2,740	1,800	3,020	809
7	2,970	2,300	2,210	2,770	3,760	58,800	3,780	5,860	2,440	1,390	2,320	735
8	2,410	2,020	2,290	2,530	3,300	81,000	4,090	28,200	2,200	1,120	1,740	673
9	2,080	1,770	3,050	2,570	2,830	37,900	3,930	26,100	2,000	942	1,370	628
10	1,830	1,640	3,130	3,860	2,810	20,100	3,650	17,200	1,880	870	1,190	594
11	1,570	1,570	2,980	4,450	2,960	15,100	3,600	13,800	1,850	1,020	1,070	566
12	1,450	1,480	2,880	3,890	3,230	11,600	3,430	17,100	1,660	2,130	932	548
13	1,350	1,450	3,110	3,340	4,040	9,750	3,120	15,900	1,550	4,150	846	537
14	1,190	1,730	3,370	3,070	3,390	8,430	2,890	12,300	1,420	2,740	728	526
15	1,030	1,650	2,990	2,930	3,240	16,600	2,750	11,200	1,230	2,170	636	510
16	965	1,530	2,780	2,820	3,730	40,100	2,690	14,700	1,110	2,020	574	492
17	902	1,430	2,510	2,690	4,930	28,000	2,630	14,700	1,010	1,950	528	488
18	854	1,310	2,330	2,390	5,470	17,300	3,050	12,100	980	1,810	493	480
19	882	1,230	2,290	2,130	4,720	12,200	3,830	10,300	940	1,640	466	476
20	983	1,150	2,420	1,940	4,530	9,440	3,540	8,470	1,630	1,550	461	486
21	1,120	1,080	2,530	1,770	4,050	8,280	3,180	7,430	2,410	1,550	467	546
22	1,570	1,020	2,610	1,830	3,960	9,090	3,000	6,200	1,940	3,000	499	616
23	1,570	959	2,520	1,890	3,950	11,800	2,960	5,530	1,780	2,650	598	592
24	1,410	964	2,470	1,940	3,770	11,400	2,930	4,940	2,710	2,310	654	556
25	1,320	949	2,220	2,040	3,660	10,200	2,820	4,340	2,450	1,990	655	514
26	1,240	932	2,050	2,340	2,830	9,510	2,810	3,860	1,820	1,610	2,010	509
27	1,180	915	1,870	2,400	2,380	8,860	2,980	3,460	1,380	1,290	4,850	512
28	1,120	1,110	1,750	3,990	2,530	8,540	3,680	3,130	1,130	1,360	6,110	706
29	1,060	4,810	1,930	7,570	-	7,950	3,750	3,040	996	1,340	4,340	3,680
30	978	8,620	2,140	6,580	------	7,390	3,480	3,900	931	1,710	3,340	4,900
31	946	------	2,580	4,990	------	6,400	------	5,370	------	2,120	2,350	------
TOTAL	80,550	53,681	85,220	94,490	106,490	504,430	103,210	277,230	61,737	55,618	52,527	28,034
MEAN	2,598	1,789	2,749	3,048	3,803	16,270	3,440	8,943	2,058	1,794	1,694	934
MAX	15,400	8,620	6,330	7,570	5,470	81,000	5,490	28,200	4,650	4,150	6,110	4,900
MIN	854	892	1,750	1,770	2,380	2,390	2,630	2,540	931	828	461	476
CFSM	.64	.44	.67	.75	.93	4.00	.84	2.20	.51	.44	.42	.23
IN.	.74	.49	.78	.86	.97	4.61	.94	2.53	.56	.51	.48	.26

CAL YR 1966: TOTAL 1,051,586 MEAN 2,881 MAX 33,300 MIN 205 CFSM .71 IN 9.60
WAT YR 1967: TOTAL 1,503,217 MEAN 4,118 MAX 81,000 MIN 461 CFSM 1.01 IN 13.73

Peak discharge (base,23,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 8	0900	26.91	85,900	5- 8	1730	16.34	34,400
3-16	1400	18.47	43,000				

1-6145. Conococheague Creek at Fairview, Md.

Location.--Lat 39°42'57", long 77°49'28", on right bank 0.7 mile upstream from highway bridge in Fairview, Washington County, 2 miles upstream from Rockdale Run, 6½ miles northwest of Hagerstown, and 18.7 miles upstream from mouth.

Drainage area.--494 sq mi.

Records available.--June 1928 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 391.77 ft above mean sea level, adjustment of 1912. Prior to Dec. 6, 1932, chain gage at highway bridge 0.7 mile downstream at datum 2.85 ft lower. Dec. 6, 1932, to Oct. 7, 1933, staff gage 150 ft downstream from former site at datum 4.84 ft lower than present datum. Oct. 8, 1933, to Dec. 20, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--39 years, 546 cfs.

Extremes.--Maximum discharge during year, 8,360 cfs Mar. 7 (gage height, 10.57 ft); minimum, 58 cfs Nov. 24, 25.
1928-67: 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 fair. Low flow partly regulated by small powerplants near Mercersburg, Pa. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	196	66	597	228	770	280	770	614	425	295	409	147
2	712	70	442	228	740	272	724	603	386	222	324	138
3	502	79	327	227	854	275	691	946	361	333	299	128
4	322	68	248	243	712	297	636	806	337	292	896	123
5	234	71	253	240	646	770	614	663	318	302	1,360	120
6	180	73	236	221	592	3,870	614	625	299	244	707	117
7	146	67	225	239	478	7,440	824	1,820	284	204	483	116
8	131	68	225	283	460	5,040	848	2,770	270	199	390	103
9	121	67	228	353	522	2,870	658	1,980	260	231	330	108
10	109	73	207	375	488	2,270	630	1,530	250	295	298	98
11	102	92	389	347	469	1,970	592	1,600	250	1,840	271	102
12	92	107	464	296	498	1,720	533	1,920	237	1,530	237	102
13	83	94	382	281	408	1,480	502	1,440	219	718	211	98
14	81	91	344	294	395	1,340	488	1,250	204	478	200	94
15	78	83	327	359	451	1,380	464	1,260	202	549	189	93
16	80	73	277	420	619	1,670	438	1,440	196	619	174	87
17	81	72	251	396	570	1,530	460	1,170	240	425	166	87
18	80	70	263	338	493	1,290	752	1,030	213	330	160	88
19	100	68	265	254	455	1,100	592	946	543	287	158	87
20	130	66	260	244	433	1,020	502	979	333	255	153	85
21	117	66	249	292	442	1,010	464	788	240	281	154	98
22	108	66	242	284	403	1,020	507	718	231	304	156	105
23	94	63	223	322	386	1,270	575	663	390	239	146	98
24	86	62	207	345	361	1,290	488	603	314	209	155	94
25	82	65	198	337	277	1,430	455	554	234	221	327	91
26	77	62	190	306	290	1,300	433	512	202	239	279	88
27	77	62	190	511	300	1,180	812	478	185	244	255	87
28	75	350	198	2,650	290	1,090	959	464	168	210	246	110
29	67	1,620	227	1,740	-	1,060	746	512	163	630	225	522
30	65	946	331	1,150	------	966	669	641	257	1,310	185	394
31	63	------	295	878	------	836	------	498	------	597	161	------
TOTAL	4,471	4,880	8,760	14,681	13,802	50,336	18,440	31,823	8,211	14,132	9,704	3,808
MEAN	144	163	283	474	493	1,624	615	1,027	274	456	313	127
MAX	712	1,620	597	2,650	854	7,440	959	2,770	543	1,840	1,360	522
MIN	63	62	190	221	277	272	433	464	163	199	146	85
CFSM	.29	.33	.57	.96	1.00	3.29	1.24	2.08	.55	.92	.63	.26
IN.	.34	.37	.66	1.11	1.04	3.79	1.39	2.40	.62	1.06	.73	.29

CAL YR 1966: TOTAL 121,347 MEAN 332 MAX 9,790 MIN 26 CFSM .67 IN 9.14
WAT YR 1967: TOTAL 183,048 MEAN 502 MAX 7,440 MIN 62 CFSM 1.02 IN 13.78

Peak discharge (base, 4,300 cfs)

Date	Time	Gage height	Discharge
3- 7	1430	10.57	8,360

1-6178. Marsh Run at Grimes, Md.

Location.--Lat 39°30'53", long 77°46'38", on right bank 220 ft upstream from bridge on Sprecher Road, 0.1 mile downstream from unnamed tributary, 0.5 mile southwest of Grimes, Washington County, 1.5 miles upstream from mouth, and 2.2 miles southwest of Fairplay.

Drainage area.--18.9 sq mi.

Records available.--October 1963 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 360 ft (from topographic map). Prior to July 7, 1967, graphic water-stage recorder at same site and datum.

Extremes.--Maximum discharge during year, 62 cfs Mar. 7 (gage height 1.97 ft); minimum, not determined (occurred during period of ice effect); minimum daily, 4.0 cfs Oct. 10.
1963-67: 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 CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.9	6.2	6.5	7.6	13	9.6	16	12	10	7.9	8.7	11
2	6.5	6.2	6.2	7.6	14	9.2	15	12	9.6	16	8.4	11
3	5.6	6.8	5.6	7.6	13	9.2	15	13	9.3	20	15	11
4	5.3	5.9	5.9	7.6	12	9.6	15	12	9.0	11	32	11
5	4.6	5.6	5.0	7.6	12	12	15	12	9.0	10	30	10
6	4.6	5.6	5.3	7.2	12	18	15	12	9.0	9.0	16	10
7	4.6	5.6	5.3	7.6	11	49	16	20	8.6	8.2	23	9.9
8	4.6	5.9	5.3	9.0	11	32	14	18	8.6	9.3	23	9.8
9	4.2	5.9	5.0	9.3	11	27	14	15	8.2	9.0	16	9.8
10	4.0	5.9	5.0	9.3	11	23	14	13	8.2	9.1	16	10
11	4.2	6.2	7.9	9.0	12	22	13	15	8.2	31	14	9.6
12	4.2	5.9	6.2	8.6	12	20	13	15	7.9	17	13	9.5
13	4.2	5.3	5.9	8.6	10	20	12	12	7.6	13	13	9.3
14	4.2	5.3	6.2	9.3	10	20	13	14	7.6	12	12	9.2
15	4.2	5.3	5.9	9.6	12	28	12	15	7.6	12	12	9.0
16	4.6	5.3	5.6	9.3	12	25	12	13	7.2	11	11	8.8
17	4.6	5.0	5.6	8.6	11	22	14	12	6.8	10	11	8.7
18	4.8	5.0	6.2	8.2	11	19	15	12	8.2	9.7	11	8.7
19	6.8	5.0	6.5	7.9	11	19	12	12	10	9.4	11	8.5
20	5.6	4.8	6.5	7.9	12	19	13	12	8.2	9.2	11	8.3
21	5.0	5.0	6.2	7.9	12	21	13	11	7.6	12	11	10
22	5.0	5.0	6.2	7.6	11	23	13	11	13	11	11	9.7
23	5.0	4.8	6.2	7.9	12	22	12	11	12	9.9	10	8.7
24	5.3	5.0	6.2	7.9	11	20	12	10	9.3	10	16	8.5
25	5.6	5.0	5.9	7.9	10	19	12	10	8.2	12	19	8.2
26	5.6	5.0	5.3	7.6	11	19	13	9.6	7.9	9.6	20	8.2
27	5.3	4.8	5.0	25	11	18	15	9.3	7.6	9.0	20	8.1
28	5.0	12	5.3	24	10	17	13	9.3	7.2	9.1	15	11
29	5.3	9.6	8.2	15	-	17	12	12	7.6	10	14	14
30	5.9	7.2	7.6	13	------	17	12	13	8.6	9.9	13	9.5
31	5.9	------	7.2	13	------	16	------	11	------	9.2	12	------
TOTAL	156.2	176.1	186.9	304.2	321	621.6	405	388.2	257.8	355.5	468.1	289.0
MEAN	5.04	5.87	6.03	9.81	11.5	20.1	13.5	12.5	8.59	11.5	15.1	9.63
MAX	6.8	12	8.2	25	14	49	16	20	13	31	32	14
MIN	4.0	4.8	5.0	7.2	10	9.2	12	9.3	6.8	7.9	8.4	8.1
CFSM	.27	.31	.32	.52	.61	1.06	.71	.66	.45	.61	.80	.51
IN.	.31	.35	.37	.60	.63	1.22	.80	.76	.51	.70	.92	.57

CAL YR 1966: TOTAL 2,215.70 MEAN 6.07 MAX 31 MIN .40 CFSM .32 IN 4.36
WAT YR 1967: TOTAL 3,929.6 MEAN 10.8 MAX 49 MIN 4.0 CFSM .57 IN 7.73

Peak discharge (base, 40 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-27	1330	1.81	49	8- 4	2245	1.93	59
3- 7	0430	1.97	62	8- 7	1900	1.77	46
7- 2	2030	1.84	52				

1-6180. Potomac River at Shepherdstown, W. Va.

Location.--Lat 39°26'04", long 77°48'07", on right bank 0.1 mile downstream from Rumsey Bridge at Shepherdstown, Jefferson County, 3.3 miles upstream from Antietam Creek, and 184 miles upstream from mouth.

Drainage area.--5,936 sq mi.

Records available.--August 1928 to September 1953, July 1964 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 281.00 ft above mean sea level, adjustment of 1912. Prior to Nov. 4, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--28 years (1928-53, 1964-67), 5,678 cfs.

Extremes.--Maximum discharge during year, 102,000 cfs Mar. 8 (gage height, 22.54 ft); minimum, 728 cfs Sept. 26, 27 (gage height, 1.79 ft); minimum gage height, 1.74 ft Nov. 1.
1928-53, 1964-67: 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 fair. Some regulation at low flow by powerplants above station, Stony River Reservoir (see p. 67), and since December 1950 by Savage River Reservoir (see p. 73).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4,000	1,070	10,100	3,430	6,870	3,520	8,170	5,160	6,490	1,550	3,400	3,160
2	6,930	1,350	7,470	3,830	6,150	3,570	7,170	4,800	5,700	1,650	2,700	2,590
3	17,700	1,260	5,670	3,520	6,180	3,680	6,410	5,130	5,320	1,800	3,500	2,200
4	14,200	1,360	4,590	3,480	6,670	4,070	5,900	5,480	4,870	2,500	4,500	1,940
5	8,420	1,690	3,730	3,880	6,520	4,270	5,430	4,930	4,390	3,000	3,500	1,790
6	5,870	3,590	3,340	4,000	6,320	17,300	5,210	4,470	3,950	3,100	4,800	1,540
7	4,470	3,180	3,090	3,920	5,870	62,800	5,240	4,770	3,590	2,600	4,500	1,470
8	3,550	2,660	3,020	3,800	4,870	98,100	5,900	25,900	3,250	2,100	4,000	1,310
9	2,980	2,360	3,130	3,710	4,320	70,300	5,950	38,400	2,960	1,800	3,000	1,210
10	2,590	2,140	3,850	4,070	4,320	32,200	5,540	26,000	2,740	1,650	2,490	1,230
11	2,320	2,040	4,090	5,430	4,340	23,300	5,270	19,400	2,590	2,100	2,160	1,150
12	2,060	2,000	4,000	5,510	4,540	17,900	5,130	19,400	2,530	4,500	1,960	1,010
13	1,860	1,850	4,120	4,870	4,930	14,500	4,870	22,500	2,980	5,800	1,750	1,080
14	1,690	1,880	4,270	4,370	5,350	12,400	4,590	17,600	2,780	5,400	1,660	975
15	1,580	2,040	4,340	4,220	4,870	12,200	4,340	14,700	2,060	4,200	1,540	975
16	1,330	2,040	3,920	4,140	5,240	38,100	4,120	16,400	1,880	3,800	1,350	900
17	1,360	1,900	3,640	3,980	6,090	42,000	3,970	18,800	1,730	3,500	1,210	873
18	1,240	1,790	3,380	3,760	7,080	26,400	4,340	16,400	1,660	3,100	1,350	846
19	1,280	1,690	3,320	3,200	6,960	18,200	5,080	14,000	1,860	2,800	1,180	887
20	1,520	1,620	3,340	2,590	6,230	13,700	5,380	12,000	2,120	2,600	1,100	819
21	1,350	1,510	3,410	2,510	6,010	11,700	4,900	10,300	2,360	2,350	1,100	873
22	1,670	1,430	3,450	2,700	5,590	11,000	4,570	8,830	2,980	2,200	900	1,050
23	1,830	1,360	3,500	2,890	5,460	13,700	4,490	7,710	2,780	4,000	1,040	915
24	1,980	1,260	3,360	2,870	5,300	15,600	4,470	7,020	2,960	3,800	1,280	930
25	1,810	1,280	3,160	2,910	4,720	14,800	4,270	6,260	3,730	3,500	1,960	930
26	1,730	1,300	2,980	2,980	3,640	13,400	4,090	5,620	3,130	3,000	2,340	779
27	1,620	1,260	2,660	3,430	3,570	12,400	4,290	5,060	2,590	2,400	4,290	753
28	1,510	1,540	2,470	6,350	3,270	11,500	5,320	4,620	2,000	2,000	8,110	860
29	1,420	3,640	2,380	10,800	------	10,900	5,900	4,440	1,700	1,800	6,810	2,300
30	1,380	11,000	2,740	11,000	------	10,300	5,540	4,950	1,550	1,900	5,240	6,900
31	1,400	------	3,000	8,580	------	9,280	------	6,180	------	3,700	4,120	------
TOTAL	104,650	65,090	119,520	136,730	151,280	653,090	155,850	367,230	91,230	90,200	88,840	44,245
MEAN	3,376	2,170	3,855	4,411	5,403	21,070	5,195	11,850	3,041	2,910	2,866	1,475
MAX	17,700	11,000	10,100	11,000	7,080	98,100	8,170	38,400	6,490	5,800	8,110	6,900
MIN	1,240	1,070	2,380	2,510	3,270	3,520	3,970	4,440	1,550	1,550	900	753
CFSM	.57	.37	.65	.74	.91	3.55	.88	2.00	.51	.49	.48	.25
IN.	.66	.41	.75	.86	.95	4.09	.98	2.30	.57	.57	.56	.28

CAL YR 1966: TOTAL 1,425,282 MEAN 3,905 MAX 53,300 MIN 185 CFSM .66 IN 8.93
WAT YR 1967: TOTAL 2,067,955 MEAN 5,666 MAX 98,100 MIN 753 CFSM .95 IN 12.96

Peak discharge (base, 23,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 8	1415	22.54	102,000	5- 9	0415	12.83	41,700
3-16	2330	14.21	48,900				

1-6190. Antietam Creek near Waynesboro, Pa.

Location.--Lat 39°42'59", long 77°36'28", on right bank 100 feet upstream from highway bridge at Rocky Forge, 0.4 mile downstream from Pennsylvania-Maryland State line, 0.7 mile downstream from confluence of West and East Branches, 1.9 miles northeast of Leitersburg, Md., 2½ miles southwest of Waynesboro, Franklin County, and 36.6 miles upstream from mouth.

Drainage area.--93.5 sq mi.

Records available.--May 1948 to September 1951, October 1965 to September 1967.

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, wire-weight gage 100 ft downstream at present datum.

Average discharge.--5 years (1948-51, 1965-67), 106 cfs.

Extremes.--Maximum discharge during year, 1,200 cfs March 7 (gage height, 6.15 ft); minimum, 28 cfs Nov. 20 (gage height 3.14 ft).
1948-51, 1965-67: Maximum discharge, 1,490 cfs Nov. 25, 1950 (gage height, 8.55 ft) from rating curve extended above 400 cfs by logarithmic plotting; 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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76	33	65	56	129	61	135	109	91	62	86	54
2	88	33	62	58	132	67	132	133	86	102	79	51
3	63	37	56	58	141	72	129	177	81	114	79	49
4	54	34	51	60	114	79	123	138	79	63	150	48
5	51	32	51	58	111	134	126	132	79	62	128	48
6	46	32	50	54	104	318	123	132	76	54	88	48
7	45	33	50	56	98	818	166	266	74	54	81	46
8	43	32	49	83	112	432	129	234	72	60	81	46
9	41	33	48	88	96	343	120	218	70	63	91	45
10	41	37	52	76	91	296	117	188	86	234	98	48
11	38	41	81	74	91	262	111	238	83	414	74	46
12	37	37	58	72	86	234	106	214	67	177	67	43
13	37	34	54	70	76	210	101	181	63	141	65	42
14	35	33	58	81	79	207	104	177	63	126	65	42
15	33	32	56	86	96	222	101	192	63	117	62	42
16	35	32	53	81	111	210	96	184	62	101	60	41
17	35	32	53	76	91	188	137	154	58	88	56	41
18	34	32	60	74	88	164	129	147	150	81	56	42
19	58	32	63	64	86	154	109	147	183	79	59	41
20	53	28	60	70	88	154	104	141	98	76	58	39
21	42	31	56	70	93	160	101	126	83	74	58	49
22	39	30	54	70	83	160	114	123	113	72	54	56
23	37	31	53	76	83	167	104	117	114	76	51	42
24	37	30	53	76	79	154	98	111	81	72	85	41
25	38	31	53	74	73	154	93	109	72	70	120	41
26	37	32	53	74	104	157	97	104	70	97	72	38
27	35	32	49	167	70	157	151	98	67	67	73	38
28	34	152	48	271	74	151	114	98	63	63	96	64
29	33	135	76	170	—	160	109	138	60	128	65	94
30	33	83	67	147	- - - - -	147	109	126	83	183	60	49
31	33	- - - - -	56	132	- - - - -	138	- - - - -	98	- - - - -	101	56	- - - - -
Total	1,341	1,256	1,748	2,722	2,679	6,330	3,488	4,750	2,490	3,271	2,373	1,414
Mean	43.3	41.9	56.4	87.8	95.7	204	116	153	83.0	106	76.5	47.1
Max	88	152	81	271	141	818	166	266	183	414	150	94
Min	33	28	48	54	70	61	93	98	58	54	51	38
Cfsm	.46	.45	.60	.94	1.02	2.18	1.24	1.64	.89	1.13	.82	.50
In.	.53	.50	.70	1.08	1.07	2.52	1.39	1.89	.99	1.30	.94	.56

Cal yr 1966: Total 20,530 Mean 56.2 Max 477 Min 11 Cfsm .60 In. 8.17
Wtr yr 1967: Total 33,862 Mean 92.8 Max 818 Min 28 Cfsm .99 In. 13.47

Peak discharge (base, 850 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	0830	6.15	1,200	7-10	1900	5.88	1,070

1-6195. Antietam Creek near Sharpsburg, Md.

Location.--Lat 39°27'01", long 77°43'52", on left bank 400 ft downstream from Burnside Bridge, 1 mile southeast of Sharpsburg, Washington County, and 4 miles upstream from mouth.

Drainage area.--281 sq mi.

Records available.--June 1897 to September 1905. August 1928 to September 1967. Monthly discharge only for some periods, published in WSP 1302.

Gage.--Digital 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, staff 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, staff gage at Burnside Bridge at present datum. July 14, 1933 to Oct. 1, 1962, graphic water-stage recorder at present site and datum.

Average discharge.--44 years (1897-1903, 1904-5, 1930-1967), 257 cfs (adjusted for inflow since 1930).

Extremes.--Maximum discharge during year, 2,110 cfs March 7 (gage height, 6.39 ft); minimum, 75 cfs November 23-26 (gage height 2.24 ft); minimum daily, 83 cfs Nov. 21, 25.
1928-67: 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, 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 analyses and water temperatures for the water year 1967, are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	161	95	181	159	343	212	376	253	235	185	242	171
2	242	95	160	160	332	201	364	251	222	190	216	164
3	205	104	147	163	363	202	359	317	214	426	222	158
4	171	94	137	167	324	207	348	315	206	240	337	155
5	156	95	132	168	298	260	337	277	199	203	468	155
6	144	90	133	163	286	420	339	271	195	181	278	153
7	138	88	135	158	282	1,740	359	395	189	169	342	149
8	135	91	135	187	252	1,360	374	524	187	175	282	147
9	132	91	133	243	260	913	319	446	181	178	232	144
10	127	93	130	236	267	762	314	397	178	208	270	147
11	125	101	173	220	261	678	311	399	235	1,190	232	142
12	120	105	174	210	263	619	293	478	187	588	206	141
13	117	97	152	205	240	564	285	386	172	393	196	137
14	115	91	151	211	231	547	281	372	167	333	190	135
15	112	92	155	222	251	586	279	399	164	318	187	134
16	113	89	145	222	290	590	270	408	161	290	179	131
17	110	89	143	214	292	533	282	366	156	258	176	128
18	112	89	149	204	270	486	355	344	153	241	170	129
19	151	87	161	193	260	454	295	328	330	226	170	130
20	153	86	168	184	255	444	268	328	263	221	173	127
21	131	83	162	192	263	460	262	299	197	222	170	172
22	116	85	159	191	251	475	271	289	213	216	165	210
23	109	85	152	193	245	468	271	280	283	208	160	152
24	108	84	148	199	238	461	257	267	223	267	202	133
25	114	83	148	199	218	433	249	257	185	232	317	128
26	113	84	144	192	207	430	242	250	171	218	293	128
27	107	85	140	286	221	429	294	240	165	212	273	124
28	103	191	139	640	217	422	309	233	160	194	236	151
29	100	379	166	494	–	420	265	269	156	197	225	218
30	95	244	194	400	------	414	256	355	176	358	194	182
31	93	------	170	362	------	395	------	270	------	344	180	------
TOTAL	4,028	3,265	4,716	7,237	7,480	16,585	9,084	10,263	5,923	8,881	7,183	4,475
MEAN	130	109	152	233	267	535	303	331	197	286	232	149
MAX	242	379	194	640	363	1,740	376	524	330	1,190	468	218
MIN	93	83	130	158	207	201	242	233	153	169	160	124
†	-8.4	-8.3	-8.0	-8.7	-8.5	-9.1	-9.0	-8.9	-10.1	-8.8	-8.8	-9.6
MEAN‡	122	101	144	224	258	526	294	322	187	277	223	139
CFSM‡	.43	.36	.51	.80	.92	1.87	1.05	1.15	.67	.99	.79	.49
IN.‡	.50	.40	.59	.92	.96	2.16	1.17	1.32	.74	1.14	.91	.55

CAL YR 1966: TOTAL 51,032 MEAN 140 MAX 1,130 MIN 37 MEAN‡ 130 CFSM‡ .46 IN.‡ 6.27
WAT YR 1967: TOTAL 89,120 MEAN 244 MAX 1,740 MIN 83 MEAN‡ 235 CFSM‡ .84 IN.‡ 11.37

Peak discharge (base, 1,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	1845	6.39	2,110	7-11	1200	6.08	1,920

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

1-6365. Shenandoah River at Millville, W. Va.

Location.--Lat 39°16'55", long 77°47'22", on left bank 0.4 mile downstream from Cattail Run, 1 mile upstream from Millville, Jefferson County, and 5 miles upstream from Harpers Ferry and mouth.

Drainage area.--3,040 sq mi.

Records available.--April 1895 to March 1909, August 1928 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 293.00 ft above mean sea level, adjustment of 1912. Apr. 15, 1895, to Mar. 13, 1909, staff gage at site three-quarters of a mile downstream at datum 0.32 ft higher. Aug. 23, 1928, to Nov. 4, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--52 years (1895-1908, 1928-67), 2,614 cfs.

Extremes.--Maximum daily discharge during year, 40,000 cfs Mar. 9; minimum, 465 cfs Aug. 18 (gage height, 1.35 ft); minimum daily, 498 cfs Aug. 18.
1895-1909, 1928-67: 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 except those for period of no gage-height record, which are poor. Regulation by hydroelectric plants, particularly that of Potomac Light and Power Co., half a mile upstream from station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,000	953	5,810	2,000	2,540	1,900	3,100	1,290	1,530	740	650	1,770
2	3,500	890	4,900	1,970	2,350	1,800	2,900	1,150	1,520	708	700	1,620
3	4,500	983	3,680	1,910	2,300	1,800	2,700	1,260	1,410	781	800	1,400
4	5,000	1,150	2,990	1,990	2,170	1,800	2,550	1,260	1,390	841	650	1,320
5	5,000	1,250	2,530	2,140	2,050	1,800	2,410	1,270	1,330	1,100	600	1,260
6	4,000	2,210	2,130	2,230	2,000	1,900	2,290	1,280	1,280	1,110	650	1,120
7	3,000	2,180	1,940	2,270	1,920	9,000	2,300	1,600	1,190	887	800	991
8	2,300	1,850	1,830	2,340	1,740	25,000	2,270	3,040	1,130	774	1,000	930
9	1,900	1,630	1,650	2,600	1,700	40,000	2,160	3,730	1,030	738	1,300	942
10	1,600	1,360	1,630	3,670	1,590	20,000	2,050	4,530	1,010	690	1,000	939
11	1,400	1,390	1,590	4,180	1,690	12,000	1,950	3,870	1,020	696	867	920
12	1,300	1,180	1,610	3,710	1,770	8,000	1,900	3,250	929	771	767	759
13	1,200	1,200	1,550	3,210	1,990	7,000	1,820	2,790	993	873	648	823
14	1,100	1,230	1,470	2,860	1,860	7,000	1,760	2,570	946	768	628	813
15	1,000	1,170	1,590	2,660	1,990	10,000	1,760	2,620	839	727	583	815
16	900	1,100	1,640	2,470	2,520	15,000	1,670	3,070	852	760	568	720
17	850	1,050	1,680	2,310	2,830	25,000	1,670	4,040	834	716	559	732
18	841	1,080	1,730	2,120	3,080	15,000	1,700	3,820	807	723	498	718
19	952	1,070	1,570	1,840	2,930	10,000	1,610	3,280	797	786	505	713
20	1,180	1,150	1,620	1,760	2,780	7,500	1,490	2,910	791	791	604	702
21	1,410	1,090	1,820	1,670	2,770	6,090	1,540	2,560	797	733	695	700
22	2,340	924	2,010	1,700	2,940	5,990	1,490	2,300	1,050	1,080	642	658
23	1,930	922	2,360	1,660	3,110	6,010	1,430	2,090	981	1,410	592	730
24	1,610	881	2,360	1,560	3,030	6,530	1,340	1,950	975	1,350	694	764
25	1,370	818	2,280	1,550	2,730	5,700	1,370	1,890	946	953	4,340	706
26	1,300	852	2,190	1,590	2,400	5,200	1,290	1,650	853	800	9,560	687
27	1,180	856	1,990	2,130	2,120	4,700	1,270	1,630	717	700	6,370	621
28	1,110	840	1,860	3,080	2,100	4,300	1,210	1,490	650	650	4,590	644
29	1,080	1,070	1,710	3,180	-	3,900	1,300	1,500	650	650	3,880	1,060
30	988	3,370	1,740	3,090	- - - - -	3,600	1,300	1,580	681	650	2,990	1,490
31	903	- - - - -	1,990	2,750	- - - - -	3,300	- - - - -	1,540	- - - - -	650	2,270	- - - - -
Total	60,744	37,699	67,450	74,200	65,000	277,820	55,600	72,810	29,928	25,606	51,000	28,067
Mean	1,959	1,257	2,176	2,394	2,321	8,962	1,853	2,349	998	826	1,645	936
Max	6,000	3,370	5,810	4,180	3,110	40,000	3,100	4,530	1,530	1,410	9,560	1,770
Min	841	818	1,470	1,550	1,590	1,800	1,210	1,150	650	650	498	621
Cfsm	.64	.41	.72	.79	.76	2.95	.61	.77	.33	.27	.54	.31
In.	.74	.46	.83	.91	.80	3.40	.68	.89	.37	.31	.62	.34

Cal yr 1966: Total 565,557 Mean 1,549 Max 10,900 Min 217 Cfsm .51 In. 6.92
Wtr yr 1967: Total 845,924 Mean 2,318 Max 40,000 Min 498 Cfsm .76 In. 10.35

Peak discharge (base, 15,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-8 or 9	Unknown	-	Unknown	3-16 or 17	Unknown	[a]11.80	29,500

a. From floodmarks.
Note.--No gage-height record Mar. 1-20.

1-6375. Catoctin Creek near Middletown, Md.

Location.--Lat 39°25'35", long 77°33'25", on right bank 300 ft downstream from bridge on State Highway 17, 1.3 miles south of Middletown, Frederick County, 2¼ miles downstream from Little Catoctin Creek, and 14.8 miles upstream from mouth.

Drainage area.--66.9 sq mi.

Records available.--August 1947 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 385 ft (from topographic map). Prior to Oct. 20, 1960, graphic water-stage recorder at same site and datum.

Average discharge.--20 years, 67.7 cfs.

Extremes.--Maximum discharge during year, 1,850 cfs Mar. 7 (gage height, 5.32 ft); minimum discharge, 3.6 cfs June 22 (gage height, 0.93 ft).
1947-67: 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; minimum, zero flow Aug. 27 to Sept. 12, 1966.

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	83	19	77	71	129	59	89	45	43	24	21	20
2	109	19	70	71	130	56	86	44	36	33	14	16
3	78	22	56	70	149	59	82	62	31	74	11	14
4	67	22	50	70	110	64	74	48	26	30	54	13
5	48	18	45	69	103	99	74	42	24	31	126	12
6	40	16	47	62	95	187	77	41	20	21	29	11
7	35	16	46	62	83	1,120	93	151	16	17	29	10
8	31	16	45	80	70	493	73	131	14	17	50	9.5
9	28	17	41	98	65	360	65	110	13	21	26	9.5
10	26	19	40	94	82	279	66	92	15	18	31	12
11	26	31	93	89	75	234	60	124	21	57	21	13
12	23	26	62	82	70	194	55	119	14	45	15	9.5
13	22	22	58	81	65	167	52	95	10	24	14	8.5
14	21	19	63	92	88	167	52	102	8.3	18	12	7.5
15	20	17	59	108	74	270	51	133	7.5	16	11	6.5
16	24	17	53	105	114	251	46	128	6.3	15	9.7	5.5
17	24	16	53	93	97	220	60	111	5.4	13	8.6	5.5
18	21	16	64	84	92	180	84	107	4.6	12	8.0	5.5
19	64	16	75	76	86	159	56	100	7.4	10	7.7	5.5
20	54	15	69	74	85	150	50	94	6.9	9.9	10	5.2
21	32	15	68	72	88	151	48	81	4.4	12	16	12
22	26	15	63	71	77	150	58	78	4.4	13	12	77
23	24	15	58	77	76	153	52	71	62	17	9.3	17
24	24	15	52	81	69	142	48	63	48	47	18	12
25	27	15	50	75	50	146	44	56	23	26	101	10
26	31	16	47	67	55	137	44	50	17	16	99	8.5
27	24	16	45	196	69	125	79	44	15	12	132	7.5
28	22	110	50	407	67	118	60	41	14	11	56	14
29	21	132	90	215	------	119	50	70	14	11	34	71
30	19	89	87	167	------	105	47	92	27	17	27	23
31	19	------	79	141	------	95	------	56	------	35	23	------
TOTAL	1,113	817	1,855	3,200	2,413	6,209	1,875	2,581	558.2	722.9	1,035.3	451.2
MEAN	35.9	27.2	59.8	103	86.2	200	62.5	83.3	18.6	23.3	33.4	15.0
MAX	109	132	93	407	149	1,120	93	151	62	74	132	77
MIN	19	15	40	62	50	56	44	41	4.4	9.9	7.7	5.2
CFSM	.54	.41	.89	1.54	1.29	2.99	.93	1.24	.28	.35	.50	.22
IN.	.62	.45	1.03	1.78	1.34	3.45	1.04	1.43	.31	.40	.58	.25

CAL YR 1966: TOTAL 15,948.00 MEAN 43.7 MAX 690 MIN 0 CFSM .65 IN 8.87
WAT YR 1967: TOTAL 22,830.6 MEAN 62.5 MAX 1,120 MIN 4.4 CFSM .94 IN 12.69

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	0630	5.32	1,850				

1-6385. Potomac River at Point of Rocks, Md.

Location.--Lat 39°16'25", long 77°32'35", on left bank at downstream side of bridge on U. S. Highway 15 at Point of Rocks, Frederick County, a third of a mile downstream from Catoctin Creek (Virginia), 6 miles upstream from Monocacy River, and 160 miles upstream from mouth.

Drainage area.--9,651 sq mi.

Records available.--February 1895 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 200.54 ft above mean sea level, adjustment of 1912. Prior to Sept. 2, 1902, wire-weight gage on downstream side of bridge at datum about 0.45 ft higher. Sept. 2, 1902, to Oct. 28, 1929, chain gage at same site and present datum. Oct. 29, 1929 to Nov. 1, 1964, graphic water-stage recorder at same site and present datum.

Average discharge.--72 years, 9,107 cfs.

Extremes.--Maximum discharge during year, 144,000 cfs Mar. 8 (gage height, 22.53 ft); minimum, 1,550 cfs Sept. 21 (gage height, 0.87 ft).

1895-1967: Maximum discharge, 480,000 cfs Mar. 19, 1936 (gage height, 41.03 ft), from rating curve extended above 300,000 cfs on basis of adjustment of figure of peak flow at station near Washington for inflow and storage, and slope-area measurement of peak flow; minimum, 530 cfs Sept. 11, 12, 1966 (gage height, 0.27 ft).

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

Remarks.--Records good. Low flow affected slightly since 1913 by Stony River Reservoir (see p. 67) and since December 1950 by Savage River Reservoir (see p. 73). 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 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6,240	2,500	17,600	5,840	11,600	6,210	13,000	7,510	9,180	2,570	4,610	6,280
2	10,700	2,300	13,400	6,780	10,300	6,350	11,700	7,020	8,330	2,690	4,020	4,950
3	19,400	2,430	10,300	6,370	9,970	6,370	10,500	6,910	7,670	3,160	3,470	4,300
4	23,900	2,640	8,490	6,290	10,300	6,590	9,690	7,840	7,160	3,510	5,680	3,640
5	15,800	2,880	7,030	6,690	10,000	6,760	9,120	7,350	6,550	4,570	6,510	3,410
6	11,100	5,010	6,140	7,070	9,750	13,000	8,670	6,800	5,950	4,760	6,200	3,150
7	8,480	6,380	5,700	7,140	9,260	65,100	8,660	7,350	5,420	4,190	6,180	2,790
8	6,870	5,310	5,320	7,230	8,170	132,000	9,110	20,500	4,910	3,330	6,400	2,580
9	5,590	4,470	5,240	7,400	7,250	118,000	9,350	42,700	4,480	2,980	5,310	2,440
10	4,800	3,990	5,860	7,940	6,880	54,400	8,890	35,500	4,200	2,640	4,380	2,370
11	4,320	3,780	6,560	10,200	7,070	37,700	8,250	26,900	4,010	4,160	3,640	2,340
12	3,680	3,440	6,430	10,900	7,120	29,700	7,980	23,500	3,770	7,650	3,090	2,200
13	3,300	3,420	6,230	9,680	7,600	24,000	7,650	26,800	3,560	7,300	2,810	1,940
14	3,070	3,190	6,710	8,720	8,230	20,300	7,260	23,200	3,360	7,790	2,510	2,020
15	2,910	3,260	6,750	8,170	8,000	21,000	6,920	19,700	3,140	5,520	2,430	1,970
16	2,730	3,330	6,570	7,820	8,850	48,600	6,620	19,700	2,930	5,070	2,250	1,930
17	2,460	3,190	6,090	7,430	9,930	66,500	6,500	23,900	2,790	5,040	2,050	1,830
18	2,410	3,060	5,850	7,010	11,200	44,100	6,770	22,800	2,580	4,460	1,860	1,820
19	2,680	2,970	5,870	6,340	11,500	31,400	7,410	19,500	2,640	4,040	1,840	1,780
20	2,880	2,980	6,100	5,440	10,500	23,900	7,840	17,100	3,100	3,820	1,940	1,770
21	3,150	2,690	6,440	4,930	10,200	20,000	7,580	14,800	3,000	3,520	1,960	1,640
22	4,030	2,580	6,750	4,920	9,890	19,500	7,120	13,100	4,160	3,670	1,920	1,800
23	4,300	2,450	6,700	5,210	9,740	22,000	6,790	11,400	4,480	5,240	1,750	1,920
24	4,090	2,330	6,580	5,270	9,720	23,900	6,680	10,300	4,200	5,960	2,060	1,990
25	3,700	2,240	6,220	5,070	9,030	22,400	6,550	9,430	4,660	4,930	6,220	1,920
26	3,450	2,270	5,790	5,170	8,120	20,400	6,240	8,450	4,910	4,440	12,900	1,980
27	3,220	2,260	5,400	6,460	6,700	19,000	6,420	7,670	3,890	3,690	13,800	1,830
28	2,970	2,740	4,850	5,630	6,350	17,500	6,970	7,080	3,170	3,130	13,900	1,700
29	2,840	5,440	4,950	14,900	------	16,600	8,030	6,750	2,680	2,830	13,400	2,000
30	2,660	15,400	5,360	16,300	------	15,600	7,980	7,260	2,540	3,170	10,300	6,690
31	2,460	------	5,780	14,100	------	14,800	------	8,140	------	5,110	8,160	------
TOTAL	180,190	110,930	213,060	242,420	253,230	973,680	242,250	476,960	133,420	135,780	163,550	78,980
MEAN	5,813	3,698	6,873	7,820	9,044	31,410	8,075	15,390	4,447	4,380	5,276	2,633
MAX	23,900	15,400	17,600	16,300	11,600	132,000	13,000	42,700	9,180	7,790	13,900	6,690
MIN	2,410	2,240	4,850	4,920	6,350	6,210	6,240	6,750	2,540	2,570	1,750	1,640
CFSM	.60	.38	.71	.81	.94	3.25	.84	1.59	.46	.45	.55	.27
IN	.69	.43	.82	.93	.98	3.75	.93	1.84	.51	.52	.63	.30

CAL YR 1966: TOTAL 2,162,835 MEAN 5,926 MAX 63,800 MIN 547 CFSM .61 IN 8.33
WAT YR 1967: TOTAL 3,204,450 MEAN 8,779 MAX 132,000 MIN 1,640 CFSM .91 IN 12.35

Peak discharge (base, 35,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 8	2345	22.53	144,000	5- 9	1130	9.96	44,300
3-17	0500	14.23	72,800				

1-6390. Monocacy River at Bridgeport, Md.

Location.--Lat 39°40'43", long 77°14'06", on right bank 60 ft downstream from bridge on State Highway 97, at Bridgeport, Carroll County, 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 47.9 miles upstream from mouth.

Drainage area.--173 sq mi.

Records available.--May 1942 to September 1967.

Gage.--Digital 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, staff gage and crest-stage gages at site 0.3 mile downstream at datum 0.98 ft lower. May 3, 1946 to Sept. 30, 1961, graphic water-stage recorder at present site and datum.

Average discharge.--25 years, 187 cfs.

Extremes.--Maximum discharge during year, 9,580 cfs Mar. 7 (gage height, 14.65 ft); minimum, 6.8 cfs Sept. 18, 19 (gage height, 1.96 ft).

1942-67: 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 logarithmic plotting and velocity-area studies; minimum, no flow July 24-29, 1966.

Maximum stage known, about 25 ft, present site and datum, Aug. 24, 1933, 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.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	590	25	195	219	185	50	132	98	51	75	53	34
2	842	26	150	208	213	45	124	91	44	31	37	28
3	237	28	90	243	364	60	114	180	40	110	27	22
4	160	33	50	270	185	79	100	130	33	65	68	19
5	115	29	55	261	175	274	91	92	32	54	370	17
6	79	26	64	140	148	2,140	98	87	30	37	94	15
7	62	25	99	130	70	6,530	386	950	28	24	51	13
8	55	23	110	806	65	1,110	192	770	26	21	590	12
9	50	23	79	660	95	685	122	438	24	20	274	11
10	44	26	69	309	120	480	114	243	24	302	585	13
11	36	38	330	222	120	378	102	570	23	500	113	18
12	32	55	165	163	155	320	85	615	22	102	56	14
13	28	42	108	135	90	243	77	246	20	51	40	12
14	26	36	110	205	80	236	77	204	18	40	32	10
15	26	29	140	430	168	600	75	260	18	49	26	9.2
16	26	27	120	376	770	685	68	334	19	61	22	8.0
17	29	25	95	190	277	485	72	189	18	34	19	7.4
18	29	25	246	150	195	253	232	155	27	23	17	7.1
19	72	25	337	65	173	183	116	128	66	20	15	8.0
20	178	24	178	75	183	183	87	124	40	19	14	8.8
21	75	23	160	85	165	201	72	100	26	22	13	8.8
22	52	22	150	101	133	455	78	91	26	31	13	15
23	43	21	140	165	110	775	104	83	112	25	14	21
24	40	21	120	243	70	570	74	75	46	20	20	16
25	42	21	100	193	50	495	75	68	26	26	776	12
26	52	22	90	150	45	299	64	61	20	45	195	9.2
27	43	23	85	1,830	50	222	414	56	19	39	173	9.2
28	37	1,150	80	2,020	55	192	250	51	16	26	288	9.6
29	33	1,210	412	425	------	257	138	56	14	74	113	70
30	28	309	746	243	------	198	112	108	24	430	61	43
31	26	------	333	195	------	153	------	66	------	96	43	------
TOTAL	3,187	3,412	5,206	10,907	4,509	18,836	3,845	6,719	932	2,472	4,212	500.3
MEAN	103	114	168	352	161	608	128	217	31.1	79.7	136	16.7
MAX	842	1,210	746	2,020	770	6,530	414	950	112	500	776	70
MIN	26	21	50	65	45	45	64	51	14	19	13	7.1
CFSM	.59	.66	.97	2.03	.93	3.51	.74	1.25	.18	.46	.79	.10
IN.	.69	.73	1.12	2.34	.97	4.05	.83	1.44	.20	.53	.91	.11

CAL YR 1966: TOTAL 57,669.50 MEAN 158 MAX 4,630 MIN 0 CFSM .91 IN 12.40
WAT YR 1967: TOTAL 64,737.3 MEAN 177 MAX 6,530 MIN 7.1 CFSM 1.03 IN 13.92

Peak discharge (base, 3,800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-28	2100	9.16	3,930	3-7	1015	14.65	9,580

1-6395. Big Pipe Creek at Bruceville, Md.

Location.--Lat 39°36'45", long 77°14'10", on left bank 300 ft downstream from bridge on State Highway 194, 800 ft downstream from Bruceville, Carroll County, 3 miles upstream from Detour, and confluence with Little Pipe Creek.

Drainage area.--102 sq mi.

Records available.--October 1947 to September 1967. Prior to December 1947 monthly discharge only, published in WSP 1302.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 340 ft (from topographic map). Prior to Dec. 14, 1960, graphic water-stage recorder at same site and datum.

Average discharge.--20 years, 98.0 cfs.

Extremes.--Maximum discharge during year, 3,760 cfs Aug. 10 (gage height, 8.38 ft); minimum daily, 16 cfs June 27.

1947-67: 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 except those for period of no gage-height record, which are poor. Occasional diversion for irrigation above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	137	32	60	100	90	67	84	55	44	56	55	68
2	153	35	52	92	103	68	82	55	40	33	50	62
3	79	37	45	95	131	59	79	67	36	205	41	58
4	60	32	40	114	86	59	72	53	34	42	214	55
5	50	30	43	100	84	135	74	50	33	105	137	50
6	42	30	43	85	70	299	77	50	32	41	67	47
7	37	29	44	95	60	2,280	116	153	32	32	52	46
8	34	28	45	280	55	441	84	124	30	29	628	45
9	31	30	42	250	65	283	72	112	29	28	526	45
10	28	35	40	150	75	214	74	82	28	231	1,630	67
11	27	45	80	125	80	184	67	122	28	462	196	53
12	25	37	56	100	85	162	62	118	26	80	133	44
13	24	33	45	90	75	140	61	82	24	52	109	42
14	24	32	52	105	80	135	64	86	23	41	95	41
15	25	32	55	100	129	217	62	99	24	62	79	38
16	26	31	50	90	187	217	58	93	22	53	70	36
17	26	30	50	80	103	166	72	77	20	37	62	37
18	24	30	68	70	95	124	93	74	18	34	58	41
19	80	29	90	60	84	114	67	68	17	33	55	37
20	77	28	74	65	84	114	61	70	17	30	67	35
21	50	27	68	72	101	129	58	58	19	86	62	35
22	45	27	64	65	82	194	64	59	21	37	55	38
23	43	27	58	70	84	184	56	56	26	30	47	35
24	40	27	50	68	70	157	58	50	24	31	131	34
25.	38	28	61	65	64	126	55	47	21	53	572	34
26	37	30	58	60	62	118	53	45	17	95	142	32
27	36	28	54	322	67	107	95	44	16	93	212	31
28	35	150	50	256	64	103	74	42	18	36	178	31
29	34	110	212	133	------	116	59	64	18	249	105	93
30	33	75	217	101	------	97	56	70	55	313	88	42
31	33	------	142	90	------	90	------	49	------	67	79	------
TOTAL	1,433	1,174	2,108	3,548	2,415	6,899	2,109	2,274	792	2,776	5,995	1,352
MEAN	46.2	39.1	68.0	114	86.3	223	70.3	73.4	26.4	89.5	193	45.1
MAX	153	150	217	322	187	2,280	116	153	55	462	1,630	93
MIN	24	27	40	60	55	59	53	42	16	28	41	31
CFSM	.45	.38	.67	1.12	.85	2.18	.69	.72	.26	.88	1.90	.44
IN.	.52	.43	.77	1.29	.88	2.52	.77	.83	.29	1.01	2.19	.49

CAL YR 1966: TOTAL 21,577.1 MEAN 59.1 MAX 1,330 MIN 1.0 CFSM .58 IN 7.87
WAT YR 1967: TOTAL 32,875 MEAN 90.1 MAX 2,280 MIN 16 CFSM .88 IN 11.99

Peak discharge (base, 1,600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	0800	8.06	3,500	8- 8	1400	5.83	2,000
7-10	2130	5.44	1,760	8-10	0130	8.38	3,760

Note.--No gage height record Oct. 21 to Dec. 13.

1-6405. Owens Creek at Lantz, Md.

Location.--Lat 39°40'36", long 77°27'50", on right bank half a mile west of Lantz Post Office (Deerfield station on Western Maryland Railway), Frederick County, 1½ miles south of Sabillasville, 4½ miles northwest of Thurmont, and 14.2 miles upstream from mouth.

Drainage area.--5.93 sq mi.

Records available.--October 1931 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 965 ft (from topographic map). Prior to Nov. 6, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--36 years, 8.60 cfs (adjusted for diversion).

Extremes.--Maximum discharge during year, 502 cfs July 10 (gage height, 4.18 ft); minimum, 0.92 cfs Sept. 19, 20 (gage height, 1.25 ft).
1931-67: Maximum discharge, 3,270 cfs Dec. 1, 1934 (gage height, 8.4 ft); from rating curve extended above 750 cfs on basis of slope-area measurements at gage heights 5.11 and 6.30 ft; no flow Sept. 2-11, 1966.

Remarks.--Records good. A small diversion is occasionally made to Victor Cullen State School at Cullen, half a mile above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	15	2.8	10	6.1	17	6.8	12	9.6	8.9	2.6	4.7	2.5
2	9.0	2.9	8.8	6.2	18	6.4	11	9.7	8.2	4.9	3.6	2.0
3	7.0	3.9	7.0	6.0	17	8.8	11	14	7.6	7.1	3.5	1.9
4	6.5	2.9	6.0	6.0	14	8.2	9.6	9.6	7.0	3.9	6.8	1.8
5	5.5	2.7	5.8	5.7	13	15	9.9	8.9	6.4	4.1	6.9	1.7
6	5.0	2.6	6.0	6.0	12	42	9.6	9.2	6.0	2.6	3.9	1.7
7	4.7	2.6	6.2	5.8	10	90	13	33	5.7	2.3	4.4	1.6
8	4.5	2.5	6.1	12	9.0	44	9.3	23	5.2	3.6	4.3	1.7
9	4.3	2.6	5.5	11	8.5	35	8.7	19	5.0	3.1	7.0	1.7
10	4.2	3.4	5.8	9.5	9.5	29	9.1	16	5.5	60	7.0	2.0
11	4.0	7.0	11	8.5	9.7	25	8.2	26	6.5	58	3.6	1.7
12	3.8	4.1	6.6	7.9	9.0	22	7.7	19	5.0	28	2.9	1.5
13	3.4	3.4	6.5	7.8	7.5	20	7.5	17	4.0	17	2.7	1.4
14	3.3	3.0	6.7	11	10	18	7.5	19	3.5	13	2.6	1.3
15	3.3	2.9	6.3	12	14	24	7.2	21	4.0	11	2.2	1.2
16	4.3	2.8	6.0	10	14	21	6.7	19	3.5	9.1	2.0	1.1
17	3.4	2.7	6.5	9.0	11	18	12	17	3.0	7.4	1.8	1.4
18	3.5	2.8	10	8.5	10	16	10	16	2.5	6.6	1.7	1.3
19	14	2.7	9.2	7.0	10	16	8.0	16	10	6.0	1.8	1.1
20	6.3	2.6	8.3	7.0	9.6	15	7.5	14	7.5	5.6	2.3	1.1
21	4.2	2.5	7.7	7.5	9.8	15	7.4	13	3.5	6.0	2.2	6.6
22	3.8	2.5	7.3	9.8	11	15	9.6	12	12	5.5	1.9	4.3
23	3.6	2.5	6.9	12	8.6	15	7.4	11	7.7	6.5	1.7	1.7
24	3.6	2.4	6.6	12	8.0	15	7.9	11	3.9	6.0	15	1.5
25	4.8	2.5	6.2	10	7.0	16	7.0	11	3.2	5.5	25	1.3
26	3.9	2.9	6.0	9.3	7.5	15	8.4	9.6	2.8	4.3	10	1.2
27	3.3	2.6	5.5	52	8.0	14	17	8.5	2.4	3.8	12	1.1
28	3.2	30	5.7	47	7.0	14	11	8.0	2.3	3.9	5.0	9.8
29	2.9	18	8.5	27	------	15	11	19	2.3	6.6	3.8	7.4
30	2.8	12	6.8	22	------	13	10	14	4.2	5.7	3.2	2.6
31	2.8	------	6.4	18	------	12	------	9.9	------	5.3	2.9	------
TOTAL	153.6	140.8	217.9	389.6	299.7	639.2	282.2	463.0	159.3	315.0	158.4	69.2
MEAN	4.95	4.69	7.03	12.6	10.7	20.6	9.41	14.9	5.31	10.2	5.11	2.31
MAX	15	30	11	52	18	90	17	33	12	60	25	9.8
MIN	2.8	2.4	5.5	5.7	7.0	6.4	6.7	8.0	2.3	2.3	1.7	1.1
CFSM	.84	.79	1.19	2.12	1.80	3.48	1.59	2.52	.90	1.71	.86	.39
IN.	.96	.88	1.37	2.44	1.88	4.01	1.77	2.90	1.00	1.98	.99	.43

CAL YR 1966: TOTAL 1,946.70 MEAN 5.33 MAX 100 MIN 0 CFSM .90 IN 12.21
WAT YR 1967: TOTAL 3,287.9 MEAN 9.01 MAX 90 MIN 1.1 CFSM 1.52 IN 20.62

Peak discharge (base, 120 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-27	2030	2.92	137	7-10	1915	4.18	502
3- 7	0530	2.99	150				

1-6410. Hunting Creek at Jimtown, Md.

Location.--Lat 39°35'40", long 77°23'50", on right bank just downstream from highway bridge, 0.4 mile southwest of Jimtown, Frederick County, about 2¼ miles southeast of Thurmont, 2¼ miles upstream from Little Hunting Creek, and 5.2 miles upstream from mouth.

Drainage area.--18.4 sq mi.

Records available.--October 1949 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 355 ft (from topographic map). Prior to Oct. 1, 1961, graphic water-stage recorder at same site and datum.

Average discharge.--18 years, 22.7 cfs.

Extremes.--Maximum discharge during year, 810 cfs Mar. 7 (gage height, 4.15 ft); minimum, 3.2 cfs Aug. 17, 18, 19, 23, 24, Sept. 19 (gage height, 1.59 ft).
1949-67: Maximum discharge, 1,170 cfs Sept. 1, 1952 (gage height, 4.94 ft), from rating curve extended above 500 cfs by logarithmic plotting; 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 filling of pond near Thurmont by Maryland Game and Inland Fish Commission.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	42	9.5	28	21	42	21	32	27	21	8.1	6.8	6.2
2	32	10	24	22	44	20	32	26	20	12	5.6	5.1
3	24	13	21	22	44	20	30	30	18	18	5.1	4.6
4	20	10	19	22	35	23	28	24	17	9.5	13	4.6
5	16	9.5	17	21	34	47	29	23	16	10	17	4.6
6	13	9.5	20	18	31	111	29	23	14	7.4	7.4	4.1
7	12	9.5	18	21	26	380	32	108	13	6.8	6.8	4.1
8	11	9.5	18	38	23	135	28	68	12	7.4	9.5	4.1
9	10	9.5	17	35	25	96	26	53	11	9.5	6.8	4.6
10	9.5	12	17	30	29	78	27	44	13	31	9.5	6.8
11	9.5	21	30	27	30	65	24	70	16	83	5.6	5.1
12	8.8	13	20	24	28	57	22	55	11	35	4.6	4.1
13	8.1	11	19	24	23	51	22	44	9.5	26	4.1	4.1
14	8.1	9.5	19	31	27	49	22	53	8.8	20	4.6	4.1
15	8.1	9.5	21	34	34	90	22	65	9.5	18	4.1	3.8
16	11	8.8	19	30	41	78	20	59	8.1	14	3.6	3.6
17	9.5	8.8	19	27	30	59	32	47	7.4	12	3.6	3.6
18	8.8	8.8	24	24	28	49	31	44	8.8	9.5	3.2	3.6
19	31	8.8	26	21	27	44	24	42	26	7.4	3.2	3.6
20	20	8.1	23	22	26	44	22	38	10	7.4	4.1	3.6
21	12	8.1	21	22	29	45	22	34	8.8	8.1	4.1	14
22	11	7.4	20	24	26	59	26	34	31	8.1	4.1	14
23	9.5	7.4	20	29	26	55	22	31	23	6.8	3.2	5.1
24	10	7.4	19	30	21	49	23	29	14	7.4	31	4.1
25	14	8.1	19	27	18	47	21	27	9.5	6.8	61	4.1
26	13	8.8	17	24	18	45	23	26	7.4	6.8	30	4.1
27	10	8.1	17	135	24	42	49	23	6.8	6.8	37	4.1
28	9.5	96	18	132	22	39	31	23	6.8	5.6	17	22
29	10	55	38	73	------	42	29	35	6.8	7.4	9.5	27
30	9.5	34	28	53	------	37	28	32	12	8.8	8.1	8.1
31	9.5	------	22	45	------	35	------	24	------	6.2	6.8	------
TOTAL	430.4	449.6	658	1,108	811	2,012	808	1,261	396.2	430.8	340.0	194.4
MEAN	13.9	15.0	21.2	35.7	29.0	64.9	26.9	40.7	13.2	13.9	11.0	6.48
MAX	42	96	38	135	44	380	49	108	31	83	61	27
MIN	8.1	7.4	17	18	18	20	20	23	6.8	5.6	3.2	3.6
CFSM	.75	.81	1.15	1.94	1.57	3.53	1.46	2.21	.72	.76	.60	.35
IN.	.87	.91	1.33	2.24	1.64	4.07	1.63	2.55	.80	.87	.69	.39

CAL YR 1966: TOTAL 6,339.60 MEAN 17.4 MAX 451 MIN .60 CFSM .94 IN 12.81
WAT YR 1967: TOTAL 8,899.4 MEAN 24.4 MAX 380 MIN 3.2 CFSM 1.33 IN 17.99

Peak discharge (base, 350 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	0630	4.15	810				

1-6415. Fishing Creek near Lewistown, Md.

Location.--Lat 39°31'35", long 77°28'00", on left bank immediately upstream from Fishing Creek Reservoir, 50 ft downstream from Little Fishing Creek, 2.8 miles west of Lewistown, Frederick County, and 9.9 miles upstream from mouth.

Drainage area.--7.29 sq mi.

Records available.--October 1947 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 735 ft (from topographic map). Prior to Nov. 6, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--20 years, 10.3 cfs.

Extremes.--Maximum discharge during year, 56 cfs Mar. 7 (gage height, 1.99 ft); minimum, 1.7 cfs Aug. 18 (gage height, 1.21 ft).
1947-67: 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 good except those for period of doubtful gage-height record, which are fair.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	5.6	6.5	8.0	18	9.5	20	16	14	6.0	2.7	3.3
2	9.5	5.6	6.5	8.5	18	9.0	20	17	14	8.5	2.5	3.1
3	8.5	4.2	7.5	8.5	17	10	20	17	13	9.0	2.2	3.1
4	6.0	3.6	7.0	8.5	15	10	18	16	13	6.0	7.0	2.9
5	7.5	3.3	7.0	8.5	14	12	18	16	13	6.0	6.0	2.7
6	7.0	3.3	7.5	8.0	14	16	18	16	13	4.6	3.1	2.9
7	6.5	3.3	7.5	8.5	13	42	19	17	12	4.6	2.9	2.7
8	6.0	3.3	7.5	12	13	35	17	16	12	4.6	2.9	2.7
9	5.5	3.6	7.5	11	12	33	16	16	12	5.0	2.7	2.9
10	5.5	3.9	7.5	11	12	32	16	16	13	4.2	2.9	3.1
11	5.5	5.0	11	11	12	31	15	17	13	7.0	2.3	2.7
12	5.0	3.9	7.5	11	12	28	14	16	11	4.6	2.2	2.5
13	4.2	3.6	6.0	11	11	27	14	16	9.5	3.9	2.2	2.5
14	4.2	3.3	9.0	12	11	26	14	16	9.5	4.2	2.2	2.3
15	4.2	3.3	6.5	13	12	30	14	16	9.0	4.2	2.0	2.3
16	5.0	3.3	6.5	12	13	27	13	16	8.5	3.3	2.0	2.3
17	4.2	3.3	6.5	11	11	27	16	15	8.0	3.3	2.0	2.3
18	4.2	3.3	10	11	11	25	15	16	7.5	3.3	1.9	2.3
19	9.0	3.3	10	11	11	25	13	16	9.0	3.1	1.9	2.2
20	5.5	3.3	10	11	11	24	13	15	7.5	3.1	2.7	2.2
21	4.2	3.1	9.5	11	12	25	13	15	7.5	3.1	2.9	3.6
22	4.2	3.1	9.0	11	11	24	14	16	9.0	3.1	2.0	3.9
23	4.2	3.1	9.0	12	11	23	13	16	9.5	6.0	2.0	2.3
24	3.9	3.1	8.3	11	11	22	13	16	8.0	4.2	11	2.3
25	4.0	3.3	6.6	11	9.0	22	12	15	7.0	3.3	15	2.2
26	4.2	3.3	8.5	11	9.5	21	13	14	6.0	2.9	7.0	2.2
27	3.9	3.3	6.5	18	9.5	21	19	14	5.5	2.9	8.5	2.0
28	3.6	13	8.5	21	10	21	16	13	5.5	2.7	5.5	0.5
29	3.6	11	11	21	------	21	16	16	5.5	5.0	4.2	7.0
30	3.6	9.0	9.0	19	------	21	16	16	9.0	4.6	3.9	2.7
31	3.6	------	8.0	18	------	21	------	14	------	2.9	3.6	------
TOTAL	169.0	126.6	265.4	370.5	344.0	720.5	468	487	294.0	139.2	121.9	87.7
MEAN	5.47	4.22	8.56	12.0	12.3	23.2	15.6	15.7	9.80	4.49	3.93	2.92
MAX	11	13	11	21	18	42	20	17	14	9.0	15	7.0
MIN	3.6	3.1	7.0	8.0	9.0	9.0	12	13	5.5	2.7	1.9	2.0
CFSM	.75	.58	1.17	1.64	1.69	3.19	2.14	2.15	1.34	.62	.54	.40
IN.	.87	.65	1.35	1.89	1.75	3.68	2.39	2.48	1.50	.71	.62	.45

CAL YR 1966: TOTAL 2,374.90 MEAN 6.51 MAX 42 MIN .70 CFSM .89 IN 12.12
WAT YR 1967: TOTAL 3,594.4 MEAN 9.85 MAX 42 MIN 1.9 CFSM 1.35 IN 18.34

Peak discharge (base, 100 cfs).--No peak above base.

Note.--Doubtful gage-height record Apr. 27 to June 10.

1-6425. Linganore Creek near Frederick, Md.

Location.--Lat 39°24'55", long 72°20'00", on left bank 2½ miles upstream from mouth and 4 miles east of Frederick, Frederick County.

Drainage area.--82.3 sq mi.

Records available.--November 1931 to March 1932, September 1934 to September 1967.

Gage.--Digital water-stage recorder. Concrete control since Sept. 23, 1946. Altitude of gage is 270 ft (from topographic map). Prior to Mar. 27, 1932, staff gage at Frederick pumping station 1½ miles downstream at datum about 20 ft lower. Sept. 12, 1934 to Sept. 25, 1946, staff gage at present site and datum. Sept. 26, 1946 to Sept. 30, 1961, graphic water-stage recorder at present site and datum.

Average discharge.--33 years (1934-67), 79.2 cfs.

Extremes.--Maximum discharge during year, 2,940 cfs Mar. 7 (gage height, 9.17 ft); minimum, 16 cfs Aug. 19 (gage height, 1.85 ft).
1931-32, 1934-67: 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, 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.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	111	37	48	76	73	60	88	54	45	33	22	45
2	118	38	44	73	77	61	86	54	42	29	20	40
3	71	42	38	77	102	58	84	61	40	65	18	37
4	60	36	36	82	71	60	76	52	39	32	72	35
5	50	34	38	77	71	77	77	51	38	51	95	33
6	44	34	39	62	66	139	82	52	38	29	31	31
7	42	33	40	67	51	1,800	98	190	36	26	23	30
8	40	34	40	209	50	380	78	128	35	24	23	29
9	36	37	38	148	60	261	72	100	34	28	51	29
10	34	39	37	115	70	202	73	76	34	25	264	33
11	34	51	62	95	73	174	68	92	35	58	39	28
12	32	41	43	81	76	151	65	85	31	28	28	26
13	32	38	41	78	65	135	64	67	30	24	24	25
14	32	35	47	88	67	134	65	70	29	23	23	24
15	34	35	48	86	110	282	64	82	30	24	20	24
16	40	34	45	72	128	220	61	95	29	22	18	22
17	36	34	45	66	85	164	71	70	27	21	18	23
18	34	34	55	63	82	133	81	67	26	22	17	23
19	178	34	65	54	76	123	64	64	27	19	19	22
20	84	32	56	55	73	122	61	66	27	19	27	21
21	54	31	54	62	94	136	59	56	24	49	21	23
22	49	31	51	59	77	169	65	57	35	24	19	25
23	47	31	49	61	79	156	57	55	40	20	17	22
24	45	31	46	59	65	134	59	52	30	19	77	21
25	44	32	50	56	60	119	55	50	26	20	314	20
26	43	33	53	53	55	114	56	48	23	26	103	19
27	40	31	48	344	60	106	84	46	22	19	745	18
28	39	113	45	171	55	105	64	45	22	17	180	19
29	38	100	161	101	------	112	57	53	21	68	79	86
30	36	55	126	81	------	97	55	70	59	103	60	26
31	36	------	91	73	------	91	------	49	------	26	52	------
TOTAL	1,613	1,220	1,679	2,844	2,071	6,075	2,089	2,157	974	993	2,519	859
MEAN	52.0	40.7	54.2	91.7	74.0	196	69.6	69.6	32.5	32.0	81.3	28.6
MAX	178	113	161	344	128	1,800	98	190	59	103	745	86
MIN	32	31	36	53	50	58	55	45	21	17	17	18
CFSM	.63	.49	.66	1.11	.90	2.38	.85	.85	.39	.39	.99	.35
IN.	.73	.55	.76	1.29	.94	2.75	.94	.97	.44	.45	1.14	.39

CAL YR 1966: TOTAL 19,589.4 MEAN 53.7 MAX 1,780 MIN 2.1 CFSM .65 IN 8.85
WAT YR 1967: TOTAL 25,093 MEAN 68.7 MAX 1,800 MIN 17 CFSM .83 IN 11.34

Peak discharge (base, 1,400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	0900	9.17	2,940	8-27	0630	6.97	1,840

1-6430. Monocacy River at Jug Bridge near Frederick, Md.

Location.--Lat 39°24'13", long 77°21'58", on right bank a quarter of a mile upstream from Jug Bridge on U. S. Highway 40, 0.35 mile downstream from Linganore Creek, .2 miles east of Frederick, Frederick County, and 15.8 miles upstream from mouth.

Drainage area.--817 sq mi.

Records available.--October 1929 to September 1967. 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.--38 years, 862 cfs.

Extremes.--Maximum discharge during year, 22,600 cfs Mar. 8 (gage height, 18.42 ft); minimum, 145 cfs Sept. 28 (gage height, 1.54 ft).
1929-67: Maximum discharge, 51,000 cfs Aug. 24, 1933 (gage height, 28.1 ft); minimum daily, 19 cfs Sept. 7-13, 1966. Maximum stage known, 30 ft in June 1889, from floodmarks (discharge, 56,000 cfs).

Remarks.--Records good. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	901	223	850	1,100	1,060	475	872	575	449	250	380	364
2	2,730	223	655	938	1,070	455	828	545	396	307	296	313
3	1,240	238	525	1,000	1,470	505	801	570	364	446	250	282
4	792	242	324	1,050	1,140	515	730	696	340	526	350	260
5	650	230	302	1,070	932	761	680	545	320	352	1,190	244
6	535	223	375	844	850	2,740	696	503	302	376	696	232
7	435	209	370	726	680	15,700	827	954	296	244	380	220
8	390	209	500	1,670	505	11,800	1,160	2,920	282	208	554	211
9	370	209	530	2,760	600	3,520	746	1,610	268	192	1,700	211
10	338	223	400	1,640	650	2,550	670	1,190	264	199	3,780	220
11	315	279	656	1,270	700	2,080	640	1,040	282	3,480	1,150	235
12	288	365	860	964	720	1,820	575	2,170	257	1,040	535	220
13	258	320	530	838	660	1,540	535	1,220	240	526	384	193
14	250	270	510	906	620	1,440	521	990	210	372	320	184
15	242	242	560	1,440	782	2,270	530	1,160	210	302	282	178
16	250	226	560	1,400	2,050	3,060	508	1,350	230	316	247	166
17	254	220	505	990	1,640	2,140	516	1,090	200	292	229	163
18	246	216	615	850	1,060	1,630	828	912	400	250	211	163
19	473	212	1,140	620	932	1,270	740	834	900	226	199	160
20	776	212	856	480	880	1,200	575	801	600	211	199	166
21	548	206	721	560	945	1,260	521	696	300	223	223	175
22	380	198	700	645	912	1,550	521	630	280	674	211	192
23	333	198	645	680	804	2,620	535	605	1,500	260	187	220
24	302	198	605	826	748	2,080	521	555	800	226	272	190
25	292	198	500	814	555	1,830	494	512	350	217	2,930	175
26	315	198	450	705	520	1,450	476	472	250	342	1,650	166
27	310	202	410	1,680	520	1,250	680	440	160	467	1,900	155
28	284	630	380	7,020	550	1,120	1,220	420	166	306	1,270	148
29	258	3,880	850	2,300	-	1,140	740	432	160	264	913	354
30	242	1,360	2,200	1,480	-----	1,170	615	702	210	1,860	560	439
31	226	-----	1,630	1,170	-----	966	-----	595	-----	732	436	-----
Total	15,223	12,059	20,714	40,436	24,555	73,907	20,301	27,734	10,986	15,686	23,884	6,599
Mean	491	402	668	1,304	877	2,384	677	895	366	506	770	220
Max	2,730	3,880	2,200	7,020	2,050	15,700	1,220	2,920	1,500	3,480	3,780	439
Min	226	198	302	480	505	455	476	420	160	192	187	148
Cfsm	.60	.49	.82	1.60	1.07	2.92	.83	1.10	.45	.62	.94	.27
In.	.69	.55	.94	1.84	1.12	3.36	.92	1.26	.50	.71	1.09	.30

Cal yr 1966: Total 229,413 Mean 629 Max 20,100 Min 19 Cfsm .77 In. 10.44
Wtr yr 1967: Total 292,084 Mean 800 Max 15,700 Min 148 Cfsm .98 In. 13.30

Peak discharge (base, 8,800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-28	0930	11.13	10,000	3-8	0030	18.42	22,600

1-6435. Bennett Creek at Park Mills, Md.

Location.--Lat 39°17'40", long 77°24'30", on left bank 75 ft downstream from highway bridge, 0.2 mile south of Park Mills, Frederick County, 1.8 miles upstream from mouth, and 3.7 miles southwest of Urbana.

Drainage area.--62.8 sq mi.

Records available.--July 1948 to September 1958, water years 1960-66 (Annual maximum), August 1966 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 240 ft (from topographic map). Prior to Oct. 1, 1958 graphic water-stage recorder at same site and datum. Oct. 1, 1959 to July 31, 1966, crest-stage gage at same site and datum.

Average discharge.--11 years (1948-1958, 1967) 65.2 cfs.

Extremes.--Maximum discharge during year, 2,320 cfs Mar. 7 (gage height, 7.24 ft); minimum 13 cfs Aug. 18-19 (gage height, 1.08 ft).
1948-58, 1960-67: 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 except those for period of no gage-height record, which are fair.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	117	27	34	53	55	65	63	42	31	30	22	65
2	117	29	31	53	58	67	63	41	30	28	17	55
3	60	34	26	57	101	49	61	47	28	45	17	49
4	47	26	24	60	63	52	55	39	27	28	130	45
5	41	23	23	60	60	60	57	38	25	35	110	44
6	36	23	26	52	55	120	63	39	26	26	32	39
7	32	22	27	52	47	1,350	83	245	25	23	29	37
8	29	23	26	152	50	340	61	110	24	21	30	35
9	28	25	25	127	55	215	55	85	23	25	30	35
10	27	27	25	92	56	164	58	64	26	21	61	38
11	25	41	55	74	57	141	52	63	24	33	22	33
12	22	32	36	63	57	120	49	53	22	24	19	31
13	21	27	33	60	55	105	49	49	21	32	18	30
14	21	25	36	63	51	105	49	43	20	76	18	29
15	21	25	36	61	96	203	47	44	22	44	16	28
16	25	23	34	53	110	158	46	41	22	26	15	26
17	21	23	34	47	78	122	60	39	20	22	15	27
18	21	23	47	46	73	98	68	20	20	21	14	27
19	245	23	55	44	66	89	50	40	23	19	16	25
20	77	21	47	45	64	89	47	35	21	18	41	24
21	47	21	44	41	91	102	46	33	19	37	22	26
22	41	20	41	43	74	125	50	36	30	22	19	28
23	37	20	40	43	75	122	44	36	35	19	16	24
24	36	20	40	41	65	100	46	35	25	17	97	24
25	34	21	52	40	54	89	42	34	21	19	336	23
26	32	21	41	37	50	85	44	32	19	54	181	22
27	29	20	38	179	49	79	72	31	18	20	1,390	21
28	28	85	36	130	56	77	52	30	18	18	536	22
29	27	67	110	74	------	79	44	37	17	22	154	63
30	26	41	81	60	------	70	43	50	50	48	102	25
31	26	------	65	55	------	67	------	35	------	21	81	------
TOTAL	1,396	858	1,268	2,057	1,821	4,707	1,619	1,566	732	894	3,606	1,000
MEAN	45.0	28.6	40.9	66.4	65.0	152	54.0	50.5	24.4	28.8	116	33.3
MAX	245	85	110	179	110	1,350	83	245	50	76	1,390	65
MIN	21	20	23	37	47	49	42	20	17	17	14	21
CFSM	.72	.46	.65	1.06	1.04	2.42	.86	.80	.39	.46	1.85	.53
IN.	.83	.51	.75	1.22	1.08	2.79	.96	.93	.43	.53	2.14	.59

CAL YR 1966: TOTAL - MEAN - MAX - MIN - CFSM - IN -
WAT YR 1967: TOTAL 21,524 MEAN 59.0 MAX 1,390 MIN 14 CFSM .94 IN 12.75

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	1130	7.24	2,320	8-27	0700	6.79	2,110

Note.--No gage-height record May 19 to July 7.

1-6450. Seneca Creek at Dawsonville, Md.

Location.--Lat 39°07'41", long 77°20'13", 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, Montgomery County, and 5.8 miles upstream from mouth.

Drainage area.--101 sq mi.

Records available.--September 1930 to September 1967.

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, Apr. 7, 1934, to June 27, 1967, graphic water-stage recorder at present site and datum.

Average discharge.--37 years, 90.4 cfs.

Extremes.--Maximum discharge during year, 2,660 cfs Aug. 27 (gage height, 7.64 ft); minimum, 26 cfs Aug. 19 (gage height, 1.87 ft).
1930-67: 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, 1.8 cfs Sept. 12-13, 1966 (gage height, 1.54 ft).

Remarks.--Records good. Small diversion at times for irrigation above station. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	160	47	56	84	72	65	92	67	57	62	39	76
2	153	48	50	84	76	75	92	67	56	131	32	67
3	92	54	45	89	117	72	89	79	52	180	30	61
4	76	47	42	92	82	76	82	67	50	62	188	57
5	72	43	43	89	78	87	82	65	48	90	323	56
6	61	43	45	78	76	130	89	69	48	53	59	54
7	54	43	50	78	56	1,830	109	361	47	52	45	50
8	50	43	54	164	52	550	92	172	45	60	43	48
9	48	43	48	162	72	350	82	117	45	80	39	48
10	47	47	45	117	78	250	84	96	47	45	47	52
11	42	65	76	99	74	200	80	94	45	70	36	47
12	40	54	56	87	69	170	76	94	42	50	32	43
13	39	48	54	84	57	160	76	82	40	65	30	42
14	37	45	61	94	72	160	74	80	40	150	30	42
15	37	45	63	94	124	300	76	80	42	55	29	39
16	40	43	57	89	160	200	72	80	42	40	28	37
17	39	43	56	106	109	180	84	80	39	37	27	39
18	39	43	69	96	101	150	96	78	39	35	27	39
19	422	43	82	69	92	140	76	80	45	33	32	37
20	144	42	74	65	92	130	74	78	40	32	104	36
21	84	40	69	72	128	140	72	69	37	100	104	37
22	74	40	67	69	106	190	76	72	57	45	45	42
23	69	39	63	69	101	180	72	72	72	35	36	35
24	63	39	52	69	92	160	69	67	43	30	155	35
25	61	39	57	67	75	140	67	63	39	35	659	33
26	57	40	61	65	70	130	69	61	36	90	185	32
27	54	40	50	168	70	120	99	57	35	35	1,710	32
28	52	116	56	136	60	104	80	57	34	32	370	43
29	48	113	146	87	------	106	72	65	33	40	140	67
30	48	67	123	74	------	99	69	69	269	80	109	37
31	48	------	92	72	------	94	------	61	------	35	92	------
TOTAL	2,350	1,502	1,962	2,868	2,411	6,738	2,422	2,699	1,564	1,939	4,825	1,383
MEAN	75.8	50.1	63.3	92.5	86.1	217	80.7	87.1	52.1	62.5	156	46.1
MAX	422	116	146	168	160	1,830	109	361	269	180	1,710	87
MIN	37	39	42	65	52	65	67	57	33	30	27	32
CFSM	.75	.50	.63	.92	.85	2.15	.80	.86	.52	.62	1.54	.46
IN	.87	.55	.72	1.06	.89	2.48	.89	.99	.58	.71	1.78	.51

CAL YR 1966: TOTAL 24,490.1 MEAN 67.1 MAX 1,580 MIN 1.8 CFSM .66 IN 9.02
WAT YR 1967: TOTAL 32,663 MEAN 89.5 MAX 1,830 MIN 27 CFSM .89 IN 12.03

Peak discharge (base, 1,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	0845	7.63	2,650	8-27	0800	7.64	2,660
8-25	0315	5.67	1,330				

1-6452. Watts Branch at Rockville, Md.

Location.--Lat 39°05'03", long 77°10'38", on left bank 0.2 mile south of State Highway 28, 1.3 miles west of post office in Rockville, Montgomery County, and 9.4 miles upstream from mouth.

Drainage area.--3.70 sq mi.

Records available.--June 1957 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 330 ft (from topographic map). Prior to Oct. 1, 1960, graphic water-stage recorder at same site and datum.

Average discharge.--10 years, 3.17 cfs.

Extremes.--Maximum discharge during year, 1,230 cfs Aug. 4 (gage height, 5.58 ft); minimum, 0.43 cfs Aug. 18 (gage height, 1.17 ft).
1957-67: Maximum discharge, 1,230 cfs Aug. 4, 1967 (gage height, 5.58 ft) from rating curve extended above 660 cfs on basis of velocity-area studies; minimum, 0.10 cfs Sept. 2, 1966 (gage height, 1.10 ft).
Note.--Some high-water records published prior to the 1965 water year have been found to be in error. Revisions of published data, based on better definition of the stage-discharge relation will be published in a subsequent annual report. Provisional data can be obtained from the District office.

Remarks.--Records good. Some regulation of low flow from unknown cause. Records of water temperature for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14	1.2	1.3	2.2	2.0	1.8	2.2	1.6	1.5	.82	.90	1.3
2	2.8	1.5	1.3	3.0	3.0	1.8	2.2	1.8	1.3	14	.62	1.2
3	1.8	1.5	1.1	3.5	2.4	2.0	2.2	2.8	1.2	5.2	2.6	1.2
4	1.6	1.2	1.1	3.5	2.0	2.2	2.0	1.6	1.2	3.0	110	1.2
5	1.8	1.2	1.2	2.8	1.8	2.6	2.2	1.6	1.2	2.0	10	1.1
6	1.3	1.2	1.2	2.2	1.8	13	2.4	2.6	1.2	1.3	2.0	1.1
7	1.3	1.2	1.2	2.8	1.4	117	5.2	37	1.1	1.2	1.3	1.1
8	1.2	1.2	1.2	12	2.6	6.2	2.2	4.6	1.1	7.0	1.9	1.1
9	.93	1.2	1.2	4.0	2.4	4.6	2.2	3.0	1.1	2.0	1.5	1.1
10	1.2	1.6	1.8	2.8	2.4	4.0	2.2	2.4	1.1	1.2	2.5	1.3
11	1.2	1.6	2.4	2.2	3.5	3.8	2.2	3.3	.93	1.4	1.3	1.1
12	1.1	1.2	1.2	2.2	2.6	3.5	2.0	2.2	.93	1.6	1.0	.93
13	1.1	1.2	1.5	2.2	2.0	3.5	2.0	2.0	.93	1.3	.90	.93
14	1.1	1.2	2.8	2.8	4.0	3.5	2.0	3.3	1.1	12	.80	.93
15	1.1	1.2	2.0	2.4	9.9	19	2.0	3.3	.93	3.0	.62	.82
16	1.3	1.2	1.6	2.0	4.3	4.9	1.8	2.4	.93	1.1	.62	.82
17	1.1	1.2	1.8	2.0	3.0	3.5	4.3	2.2	.82	1.2	.62	.82
18	2.8	1.2	4.0	1.8	3.0	3.0	2.2	2.0	.82	.93	.62	.82
19	39	1.2	2.2	1.6	2.8	3.0	1.8	3.0	.93	.93	7.1	.82
20	2.8	1.1	2.0	1.8	3.8	3.0	1.8	1.8	.82	10	6.2	.72
21	2.0	1.1	2.4	1.8	6.7	5.5	1.8	1.6	.72	2.0	1.6	1.6
22	1.6	1.2	2.0	1.8	3.0	5.5	2.2	2.4	15	1.3	1.1	.93
23	1.6	1.2	1.8	1.8	2.8	3.8	1.6	1.8	1.3	1.0	1.5	.72
24	1.5	1.2	1.6	1.8	2.3	3.0	1.6	1.6	.93	.93	65	.72
25	1.5	1.3	1.8	1.8	2.0	2.8	1.6	1.5	.82	.82	93	.72
26	1.3	1.2	1.8	1.8	1.8	2.6	2.8	1.5	.72	.80	5.8	.72
27	1.3	1.2	1.6	12	1.9	2.6	2.8	1.5	.82	.80	14	.72
28	1.2	11	1.5	3.0	2.2	2.6	1.8	1.3	.82	.80	2.6	.82
29	1.2	2.2	10	2.2	------	3.3	1.6	3.0	.93	.90	1.8	.82
30	1.2	1.5	3.5	2.0	------	2.4	1.6	1.6	2.2	1.3	1.5	.72
31	1.3	------	2.4	2.0	------	2.2	------	1.6	------	1.0	1.5	------
TOTAL	96.23	48.4	64.5	91.8	83.4	242.2	66.5	103.9	45.40	82.83	342.50	28.90
MEAN	3.10	1.61	2.08	2.96	2.98	7.81	2.22	3.35	1.51	2.67	11.0	.96
MAX	39	11	10	12	9.9	117	5.2	37	15	14	110	1.6
MIN	.93	1.1	1.1	1.6	1.4	1.8	1.6	1.3	.72	.80	.62	.72
CFSM	.84	.44	.56	.80	.81	2.11	.60	.91	.41	.72	2.99	.26
IN.	.97	.49	.65	.92	.84	2.43	.67	1.04	.46	.83	3.44	.29

CAL YR 1966: TOTAL 1,037.03 MEAN 2.84 MAX 160 MIN .10 CFSM .77 IN 10.42
WAT YR 1967: TOTAL 1,296.56 MEAN 3.55 MAX 117 MIN .62 CFSM .96 IN 13.03

Peak discharge (base, 130 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	0600	4.96	574	8- 4	2000	5.58	1,230
5- 7	0915	3.43	130	8-24	2400	5.50	1,130
6-22	1530	4.63	345				

1-6465. Potomac River near Washington, D. C.

Location.--Lat 38°56'58", long 77°07'40", on left bank just above Little Falls Dam, 1 mile upstream from District of Columbia boundary line, 1¼ miles upstream from Chain Bridge, 1¾ miles east of Langley, Fairfax County, Va., and 117 miles upstream from mouth.

Drainage area.--11,560 sq mi.

Records available.--March 1930 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 37.95 ft above mean sea level, datum of 1929. Prior to June 7, 1930, staff gage at site 1 mile upstream on right bank at same datum. June 7, 1930 to Jan. 22, 1965, graphic water-stage recorder at site 1 mile upstream on right bank at same datum.

Average discharge.--37 years, 10,790 cfs (adjusted for diversions).

Extremes.--Maximum discharge during year, 147,000 cfs Mar. 9 (gage height, 11.48 ft); minimum daily, 1,660 cfs Sept. 22 (does not include diversion of 451 cfs for municipal use).
1930-67: Maximum discharge, 484,000 cfs Mar. 19, 1936 (gage height, 28.1 ft, site then in use); minimum daily observed at gaging station, 121 cfs Sept. 9, 1966 (does not include diversion of 489 cfs for municipal use); minimum daily (adjusted) 601 cfs Sept. 10, 1966 (includes diversion of 449 cfs for municipal use).
Flood of June 2, 1889, was of approximately the same magnitude as that of March 19, 1936.

Remarks.--Records good. Diversions at Great Falls through aqueducts, and since June 1959, from gage pool at Little Falls Dam, for municipal supply of Washington, D. C.; since October 1958, at Rockville Filtration Plant, for municipal supply of city of Rockville since April 1961, at Potomac Filtration Plant, for water supply of Washington Suburban Sanitary District; since October 1961, at Fairfax Water Treatment Plant for water supply of city of Fairfax (from Goose Creek); and since April 1964, at Violets Lock, to Chesapeake and Ohio Canal. Low flow affected slightly by Stony River Reservoir (see p. 67) and since December 1950, by Savage River Reservoir (see p. 73). Low flow affected extensively at times by run-of-the-river hydroelectric plants.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6,250	2,960	19,400	8,020	14,800	7,690	15,500	8,830	9,640	3,120	5,240	7,760
2	9,730	2,820	16,500	7,670	12,600	7,010	14,000	8,320	10,000	2,850	4,350	6,180
3	14,900	2,820	12,500	8,280	12,100	7,230	12,500	7,880	8,600	3,810	3,800	5,130
4	25,100	2,820	9,970	8,160	12,100	7,270	11,300	8,070	7,700	3,630	3,670	4,490
5	19,700	2,910	8,280	8,110	11,900	7,620	10,400	8,810	7,100	4,440	10,400	3,970
6	13,300	3,120	7,060	8,420	11,200	8,590	10,200	8,240	6,400	4,790	7,670	3,680
7	9,950	5,050	6,400	8,460	11,000	63,100	9,740	10,100	5,500	4,620	6,170	3,350
8	7,860	6,040	6,000	9,170	9,930	133,000	9,910	14,100	5,080	4,140	6,430	3,020
9	6,490	5,160	5,630	11,300	8,850	139,000	10,400	43,900	4,610	3,500	6,500	2,730
10	5,370	4,560	5,540	11,200	8,450	76,400	10,100	43,700	4,240	3,010	6,190	2,710
11	4,680	4,280	6,390	10,800	8,310	46,700	9,540	32,500	3,940	2,680	7,500	2,660
12	4,310	4,060	7,200	12,300	8,380	36,500	8,950	27,100	3,890	7,090	4,620	2,590
13	3,830	3,840	7,300	11,900	8,440	29,500	8,660	28,800	3,550	7,720	3,530	2,550
14	3,540	3,870	7,010	10,700	8,820	25,100	8,170	28,200	3,290	8,170	3,050	2,190
15	3,350	3,570	7,200	10,100	9,910	26,000	7,820	23,500	3,260	7,690	2,650	2,140
16	3,180	3,580	7,320	9,930	11,200	40,900	7,520	21,400	3,000	5,600	2,460	2,120
17	3,010	3,590	7,190	9,550	12,500	73,100	7,170	24,400	2,760	4,890	2,230	2,090
18	2,850	3,580	6,730	8,630	12,800	56,100	7,250	26,300	2,690	4,690	2,040	1,900
19	5,620	3,350	7,240	8,040	13,300	39,300	7,720	22,800	2,650	4,270	1,840	1,830
20	6,300	3,310	7,570	6,620	12,900	30,000	8,330	20,100	2,600	3,890	2,680	1,830
21	4,630	3,310	7,500	6,190	12,500	24,800	8,440	17,400	2,930	3,840	3,210	1,800
22	4,320	3,180	7,550	5,870	12,300	23,200	8,170	15,200	3,170	3,550	2,880	1,660
23	4,620	2,900	7,720	5,970	11,600	24,900	7,610	13,300	4,410	3,880	2,470	1,750
24	4,750	2,740	7,630	6,240	11,400	28,700	7,340	11,800	4,590	4,700	3,450	2,030
25	4,540	2,700	7,170	6,360	10,500	27,500	7,180	10,700	4,090	5,100	24,600	2,050
26	4,210	2,600	6,740	6,210	8,740	25,200	7,090	9,820	4,380	4,480	17,800	2,020
27	3,940	2,630	6,430	6,730	8,210	22,800	7,180	8,800	4,450	4,120	24,000	2,040
28	3,710	2,900	6,040	14,700	8,650	20,900	7,450	7,800	3,680	3,710	18,600	1,950
29	3,410	4,880	6,190	18,400	------	19,700	8,730	7,300	3,180	3,120	15,700	1,900
30	3,250	11,700	7,510	18,500	------	18,500	9,120	7,600	3,040	3,180	12,800	2,270
31	3,120	------	8,450	17,700	------	17,300	------	8,600	------	4,710	9,750	------
TOTAL	203,820	114,830	247,360	300,230	303,390	1,113,610	273,490	535,370	138,420	138,990	228,280	84,390
MEAN	6,575	3,828	7,979	9,685	10,840	35,920	9,116	17,270	4,614	4,484	7,364	2,813
MAX	25,100	11,700	19,400	18,500	14,800	139,000	15,500	43,900	10,000	8,170	24,600	7,760
MIN	2,850	2,600	5,540	5,870	8,210	7,010	7,090	7,300	2,600	2,680	1,840	1,660
(†)	+385	+398	+411	+395	+393	+386	+378	+379	+465	+440	+422	+405
MEAN‡	6,960	4,226	8,390	10,080	11,230	36,310	9,494	17,650	5,079	4,924	7,786	3,218
CFSM‡	.60	.37	.73	.87	.97	3.14	.82	1.53	.44	.43	.67	.28
IN‡	.69	.41	.84	1.00	1.01	3.62	.92	1.76	.49	.50	.77	.31

Cal yr 1966:	Total	2,459,300	Mean	6,738	Max	77,500	Min	121	Mean‡	7,145	Cfsm‡	.62	In.‡	8.42
Wat yr 1967:	Total	3,682,180	Mean	10,090	Max	139,000	Min	1,660	Mean‡	10,500	Cfsm‡	.91	In.‡	12.35

Peak discharge (base, 45,000 cfs).--Mar. 9 (0715) 147,000 cfs (11.48 ft); May 9 (1800) 49,200 cfs (6.97 ft).

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

1-6465.5 Little Falls Branch near Bethesda, Md.

Location.--Lat 39°57'27", long 77°06'31", 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, Montgomery County.

Drainage area.--4.1 sq mi, approximately.

Records available.--June 1944 to September 1959. Annual maximum, water years 1960-61. Occasional low-flow measurements water years 1960-62 (published in "Surface Water Records of Maryland and Delaware" - 1962). December 1961 to September 1967.

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.--20 years (1945-59, 1963-67), 3.17 cfs.

Extremes.--Maximum discharge during year, 1,900 cfs Aug. 24 (gage height, 5.70 ft from crest-stage gage); minimum, 0.20 cfs Dec. 24 (gage height, 1.30 ft).
1944-67: 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. Occasional slight regulation at low flow from unknown source above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	.48	.65	1.5	.75	.65	1.4	1.2	.99	.75	.75	.70
2	1.7	2.0	.56	2.7	3.3	.75	1.2	2.4	.99	23	.65	.65
3	.99	1.3	.56	2.7	.99	.99	1.4	6.6	.87	6.7	11	.65
4	.87	.65	.48	2.4	.75	.87	1.2	.99	.75	2.5	22	.65
5	2.2	.65	.56	1.4	.75	1.6	1.5	.99	.75	1.1	4.4	.75
6	.65	.65	.56	1.2	.65	13	2.1	6.6	.75	.87	.99	.65
7	.65	.65	.56	1.4	.41	44	5.3	32	.75	.87	.99	.65
8	.65	.65	.56	6.0	1.4	2.9	1.2	3.4	.87	9.8	1.8	.65
9	.56	.65	.56	1.5	1.5	1.9	1.2	1.5	.75	1.1	1.1	.56
10	.65	3.3	3.6	1.2	1.2	1.7	1.4	1.4	.75	.87	4.2	.48
11	.56	1.6	2.5	1.1	2.5	1.5	1.1	2.6	.75	.99	.87	.41
12	.56	1.1	.56	.99	.90	1.2	1.2	1.1	.75	1.6	.75	.48
13	.65	.56	1.3	1.1	.70	1.1	1.1	1.7	.75	.87	.75	.41
14	.48	.65	9.5	2.0	.90	1.9	1.2	6.1	.87	7.0	.75	.48
15	.48	.65	2.0	.99	6.0	16	1.1	4.0	.87	1.7	.75	.65
16	2.2	.65	1.2	.87	2.0	2.6	.99	1.7	.87	.75	.75	.65
17	.48	.65	1.4	.87	1.2	1.5	6.0	2.0	.75	.87	.75	.65
18	9.8	.65	2.2	.75	1.0	1.2	1.4	1.4	2.2	2.4	.75	.65
19	64	.56	1.2	.75	.80	1.1	1.2	3.1	1.2	.87	4.8	1.2
20	2.2	.56	2.8	.99	1.5	1.1	1.1	1.4	.75	3.1	1.0	.65
21	1.2	.56	2.0	.87	4.2	9.3	1.2	2.4	.75	4.2	.80	2.6
22	.99	.65	1.2	.87	1.2	2.7	2.2	4.1	7.8	1.1	.70	.65
23	.99	.65	.99	.87	1.2	2.2	.87	1.2	1.1	.75	1.0	.48
24	.99	.56	.75	.87	.99	1.5	.99	.99	.87	.75	130	.48
25	.99	.65	1.2	.75	.65	1.4	.99	.99	.75	.75	200	.56
26	.75	.56	1.2	.87	.65	1.4	5.3	1.1	.65	.75	3.0	.56
27	.75	.48	.75	8.0	.65	1.4	3.2	.99	.75	.75	17	.56
28	.75	16	.99	1.1	.75	1.2	.99	.99	.75	.87	1.5	.92
29	.65	.99	14	.75	-	4.3	.87	3.9	.75	1.1	.90	.65
30	.65	.75	2.0	.75	- - - - -	1.5	.99	1.1	3.2	1.4	.80	.41
31	.56	- - - - -	1.2	.87	- - - - -	1.4	- - - - -	1.8	- - - - -	.87	.70	- - - - -
Total	121.60	40.46	59.59	48.98	39.49	125.86	51.89	101.74	35.35	81.00	416.20	20.49
Mean	3.92	1.35	1.92	1.58	1.41	4.06	1.73	3.28	1.18	2.61	13.4	.68
Max	64	16	14	8.0	6.0	44	6.0	32	7.8	23	200	2.6
Min	.48	.48	.48	.75	.41	.65	.87	.99	.65	.75	.65	.41
Cfsm	.96	.33	.47	.39	.34	.99	.42	.80	.29	.64	3.27	.17
In.	1.10	.37	.54	.44	.36	1.14	.47	.92	.32	.73	3.78	.19

Cal yr 1966: Total 1,222.65 Mean 3.35 Max 255 Min .2 Cfsm .82 In. 11.10
Wtr yr 1967: Total 1,142.65 Mean 3.13 Max 200 Min .41 Cfsm .76 In. 10.36

Peak discharge (base, 450 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8-24	†2400	*5.70	1,900				

* From crest-stage gage.
† About.
Note.--No gage-height record Aug. 21 to Sept. 1.

1-6476.85. Williamsburg Run near Olney, Md.

Location.--Lat 39°08'32", long 77°05'48", on right bank 200 ft downstream from vehicle bridge on golf course of Norbeck County Club, ¼ mile downstream from Cashell Road, ½ mile upstream from mouth, and 1¾ miles southwest of Olney, Montgomery County.

Drainage area.--2.25 sq mi.

Records available.--October 1966 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 390 ft (from topographic map).

Extremes.--Maximum discharge during year, 418 cfs Aug. 25 (gage height 4.48 ft); minimum, 0.54 cfs several days during June and August (gage height, 1.14 ft).

Remarks.--Records good. Records of suspended sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.5	1.0	1.1	1.7	1.6	1.3	2.0	1.2	.96	.70	.61	.89
2	2.3	1.1	1.1	2.0	2.3	1.4	2.0	1.2	.93	1.2	.59	.81
3	1.3	1.2	.95	2.4	2.0	1.7	2.0	1.7	.91	2.2	2.8	.81
4	1.2	.96	.91	2.7	1.6	1.9	1.7	1.2	.89	1.1	14	.79
5	1.1	.96	.96	2.3	1.6	2.4	1.7	1.2	.89	.80	2.9	.78
6	.99	.97	1.0	1.7	1.5	7.3	2.4	1.3	.87	.70	.91	.77
7	.93	.93	1.1	2.1	1.3	49	3.3	16	.84	.69	.77	.76
8	.93	.99	1.0	8.5	1.0	3.6	2.1	3.0	.81	.72	.75	.75
9	.91	1.0	.94	3.2	1.3	2.8	2.1	2.2	.77	.73	.72	.75
10	.90	1.1	.99	2.3	1.5	2.5	2.0	1.7	.74	.68	.73	.76
11	.85	1.2	1.9	1.9	1.7	2.5	1.7	1.9	.72	.68	.69	.73
12	.81	1.0	1.1	1.7	1.7	2.4	1.7	1.7	.71	.67	.66	.71
13	.81	1.0	1.1	1.8	1.4	2.1	1.7	1.4	.69	.68	.65	.70
14	.82	1.0	1.3	2.3	2.1	2.4	1.7	1.7	.69	.85	.66	.69
15	.82	.94	1.6	2.1	6.6	11	1.7	2.2	.71	.91	.64	.67
16	.89	.93	1.2	1.7	4.7	3.6	1.7	1.9	.68	.70	.61	.67
17	.82	.93	1.3	1.6	2.1	2.6	1.9	1.4	.65	.67	.60	.68
18	.89	.93	2.8	1.4	2.1	2.2	1.9	1.3	.66	.68	.60	.67
19	18	.93	2.0	1.2	2.1	2.1	1.7	1.6	.67	.65	.94	.66
20	2.3	.94	1.5	1.1	2.2	2.2	1.7	1.5	.64	2.4	2.6	.65
21	1.4	1.0	1.4	1.2	4.2	2.7	1.5	1.2	.61	1.1	.87	.75
22	1.3	1.0	1.4	1.2	2.4	4.8	1.6	1.6	2.1	.71	.69	.70
23	1.2	1.0	1.3	1.4	2.4	3.1	1.3	1.3	.80	.66	.68	.65
24	1.1	1.0	1.5	2.0	1.8	2.6	1.3	1.2	.70	.64	10	.65
25	1.1	1.1	1.2	1.5	1.3	2.5	1.2	1.1	.65	.62	43	.62
26	1.1	1.1	1.3	1.4	1.2	2.3	1.5	1.1	.62	.63	1.8	.62
27	1.0	1.0	1.2	12	1.2	2.1	2.3	1.0	.61	.61	4.3	.64
28	1.0	5.5	1.3	3.0	1.6	2.1	1.5	.99	.60	.61	1.5	.63
29	1.0	1.9	5.7	2.0	———	2.6	1.3	1.2	.60	.67	1.1	.64
30	1.0	1.3	2.9	1.6	———	2.1	1.2	1.1	.85	.84	.98	.60
31	1.0	———	1.8	1.5	———	2.0	———	1.0	———	.65	.93	———
TOTAL	56.27	35.91	46.85	74.5	58.5	135.9	53.4	60.09	23.57	26.15	99.28	21.20
MEAN	1.82	1.20	1.51	2.40	2.09	4.38	1.78	1.94	.79	.84	3.20	.71
MAX	18	5.5	5.7	12	6.6	49	3.3	16	2.1	2.4	43	.89
MIN	.81	.93	.91	1.1	1.0	1.3	1.2	.99	.60	.61	.59	.60
CFSM	.81	.53	.67	1.07	.93	1.95	.79	.86	.35	.37	1.42	.32
IN.	.93	.59	.77	1.23	.97	2.25	.88	.99	.39	.43	1.64	.35

CAL YR 1966: TOTAL - MEAN - MAX - MIN - CFSM - IN -
WAT YR 1967: TOTAL 691.62 MEAN 1.89 MAX 49 MIN .59 CFSM .84 IN 11.43

Peak discharge (base, 90 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-07	0600	3.64	207	8-25	0100	4.48	418
8-04	2115	2.83	100				

1-6477.2 North Branch Rock Creek near Norbeck, Md.

Location.--Lat 39°06'59", long 77°06'09", on left bank 550 ft downstream from bridge on Muncaster Mill Road (State Highway 115), 0.7 mile upstream from Manor Run, 1½ miles northwest of Norbeck, Montgomery County, and 2 miles upstream from mouth.

Drainage area.--9.73 sq mi.

Records available.--December 1966 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 320 ft (from topographic map).

Extremes.--Maximum discharge during year, 823 cfs Aug. 25 (gage height, 5.31 ft, from floodmark); minimum daily, 1.6 cfs Aug. 17, 18.

Remarks.--Records good. Diversion at low flow for irrigation of golf courses above station. Records of suspended sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, December 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1			5.5	7.8	7.5	7.0	9.3	6.9	4.6	2.9	2.0	4.3
2			5.2	8.4	8.3	7.0	9.3	6.9	4.4	7.8	1.7	4.0
3			4.6	9.4	9.6	7.8	9.0	9.1	4.2	13	2.6	3.8
4			4.6	11	7.4	8.5	8.5	6.7	4.0	5.1	58	3.6
5			4.5	9.7	7.3	10	8.9	6.5	4.0	5.4	31	3.5
6			5.1	7.5	6.9	23	11	7.1	3.8	3.1	5.0	3.4
7			5.1	8.0	6.0	263	17	73	3.6	2.8	3.6	3.2
8			4.8	32	5.0	21	10	17	3.4	3.3	3.3	3.2
9			4.4	16	5.4	15	9.1	10	3.4	3.8	2.9	3.3
10			4.6	11	7.0	12	9.4	8.4	3.2	2.8	3.2	3.4
11			8.2	8.9	8.0	12	8.6	9.1	3.0	4.3	2.6	3.1
12			5.0	7.9	8.0	11	8.2	8.2	2.8	2.8	2.2	2.9
13			5.3	8.1	7.5	10	8.0	7.1	2.7	2.4	2.1	2.7
14			6.3	10	8.0	11	8.3	8.1	2.7	4.1	2.1	2.7
15			6.9	10	22	45	8.1	9.9	3.0	5.2	1.8	2.5
16			5.7	8.5	21	20	7.6	8.8	2.7	3.0	1.7	2.6
17			5.6	7.6	10	14	9.8	7.1	2.4	2.6	1.6	2.9
18			10	7.1	9.7	11	10	6.9	2.4	2.3	1.6	2.8
19			9.0	6.0	8.9	10	8.0	7.4	2.5	2.5	1.9	2.6
20			7.0	5.4	9.2	11	7.6	7.5	2.4	9.7	9.3	2.4
21			6.6	5.4	17	13	7.5	6.0	2.1	8.3	5.2	3.0
22			6.5	5.8	11	23	8.5	7.2	8.9	3.2	2.9	3.9
23			6.2	6.6	11	16	7.2	6.6	4.6	2.7	2.5	2.7
24			7.5	7.7	8.8	13	7.3	5.8	3.0	2.4	24	2.7
25			7.8	7.0	7.0	11	6.8	5.4	2.6	2.3	194	2.6
26			6.2	6.7	6.0	11	8.0	5.1	2.3	2.3	9.1	2.4
27			6.1	40	6.0	10	13	4.8	2.1	2.0	42	2.3
28			7.0	15	7.9	10	8.5	4.6	2.0	2.0	12	2.6
29			23	8.9	------	12	7.3	5.7	2.0	2.1	6.5	3.0
30			13	7.7	------	10	7.1	5.6	5.5	3.5	5.5	2.4
31			11	7.2	------	9.4	------	5.0	------	2.2	5.0	------
TOTAL			218.3	318.3	257.4	667.7	266.9	293.5	100.3	121.9	448.9	90.5
MEAN			7.04	10.3	9.19	21.5	8.90	9.47	3.34	3.93	14.5	3.02
MAX			23	40	22	263	17	73	8.9	13	194	4.3
MIN			4.4	5.4	5.0	7.0	6.8	4.6	2.0	2.0	1.6	2.3
CFSM			.72	1.06	.94	2.21	.91	.97	.34	.40	1.49	.31
IN.			.83	1.22	.98	2.55	1.02	1.12	.38	.47	1.72	.35

CAL YR 1966: TOTAL - MEAN - MAX - MIN - CFSM - IN -
WAT YR 1967: TOTAL - MEAN - MAX - MIN - CFSM - IN -

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	0730	5.23	799	8-25	0315	5.31	823
8-4	2215	3.38	317				

1-6477.25 Manor Run near Norbeck, Md.

Location.--Lat 39°06'36", long 77°06'00", on left bank 100 ft downstream from ford on farm lane, ½ mile upstream from mouth, and 1¼ miles west of Norbeck, Montgomery County.

Drainage area.--1.01 sq mi.

Records available.--December 1966 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 330 ft (from topographic map).

Extremes.--Maximum discharge during year, 471 cfs Aug. 25 (gage height, 4.28 ft, from floodmark); minimum daily, 0.17 cfs Aug. 17.

Remarks.--Records fair. Farm pond inlet above station. Records of suspended sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, December 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			.53	.96	.97	.76	.93	.62	.45	.24	.21	.31
2			.49	1.2	1.1	.76	.88	.61	.46	1.6	.19	.27
3			.41	1.4	1.1	.84	.80	1.0	.38	1.4	2.0	.27
4			.39	1.6	.75	.83	.73	.62	.37	.73	5.7	.26
5			.42	1.2	.73	1.0	.82	.57	.41	.35	.98	.29
6			.47	.90	.68	3.4	.92	.78	.38	.25	.30	.26
7			.47	1.2	.60	42	1.6	14	.33	.21	.27	.25
8			.45	4.2	.50	1.5	.95	1.9	.34	.44	.25	.24
9			.45	1.5	.60	1.3	.82	1.2	.33	.28	.23	.25
10			.58	1.1	.70	1.2	.87	.97	.30	.22	.26	.26
11			1.1	.94	.80	1.1	.76	1.1	.28	.31	.20	.26
12			.54	.85	.90	1.1	.73	.87	.27	.23	.19	.22
13			.57	.91	.74	1.1	7.7	.76	.26	.22	.20	.20
14			1.0	1.1	1.3	1.1	.69	1.1	.28	1.1	.19	.26
15			1.0	1.0	3.40	6.6	.65	1.2	.31	.42	.18	.19
16			.67	.81	1.8	1.8	.63	.94	.27	.24	.18	.18
17			.81	.76	1.1	1.2	1.5	.78	.23	.23	.17	.20
18			1.8	.65	1.1	1.0	1.1	.71	.25	.23	.19	.20
19			1.1	.60	1.1	.98	.75	.86	.27	.21	1.1	.18
20			.84	.55	1.3	1.1	.70	.68	.23	1.2	.84	.19
21			.85	.55	2.4	1.3	.66	.60	.21	.53	.34	.22
22			.88	.57	1.4	2.3	.76	.83	4.2	.29	.27	.21
23			.78	.60	1.3	1.5	.62	.73	.42	.26	.27	.19
24			1.4	.69	1.0	1.2	.63	.64	.26	.22	14	.20
25			.90	.65	.70	1.1	.58	.55	.22	.23	27	.21
26			.77	.65	.60	1.0	.91	.54	.21	.22	.71	.18
27			.71	6.0	.60	.93	1.2	.54	.20	.21	.96	.18
28			.72	1.5	.96	.93	.73	.41	.20	.22	.67	.18
29			3.6	1.1	-	1.4	.65	.61	.20	.62	.40	.18
30			1.5	.97	- - - - -	.99	.62	.49	.40	.46	.36	.18
31		- - - - -	1.0	.92	- - - - -	.92	- - - - -	.46	- - - - -	.25	.35	- - - - -
Total			27.20	37.63	30.23	84.24	24.89	37.67	12.92	13.62	59.16	6.67
Mean			.88	1.21	1.08	2.72	.83	1.22	.43	.44	1.91	.22
Max			3.6	6.0	3.4	42	1.6	14	4.2	1.6	27	.31
Min			.39	.55	.50	.76	.58	.41	.20	.21	.17	.18
Cfsm			.87	1.20	1.07	2.69	.82	1.21	.43	.44	1.89	.22
In.			1.00	1.39	1.11	3.10	.92	1.39	.48	.50	2.18	.25

Cal yr 1966: Total - Mean - Max - Min - Cfsm - In. -
Wtr yr 1967: Total - Mean - Max - Min - Cfsm - In. -

Peak discharge (base, 60 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	0615	3.20	201	8- 4	2015	a2.08	77
5- 7	1015	1.95	66	8-25	0030	a4.28	471
6-22	1515	a2.44	110				

a From floodmark.

1-6480. Rock Creek at Sherrill Drive, Washington, D. C.

Location.--Lat 38°58'21", long 77°02'25", 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.

Records available.--October 1929 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 148.87 ft above mean sea level, datum of 1929. Prior to Mar. 18, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--38 years, 55.5 cfs.

Extremes.--Maximum discharge during year, 3,440 cfs Aug. 25 (gage height, 10.30 ft); minimum, 8.1 cfs Aug. 19 (gage height, 1.21 ft).
1929-67: 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 construction of reservoirs upstream; Needwood Lake on Rock Creek and Lake Frank on North Branch Rock Creek. Water channeled through 42-inch pipe at Needwood site beginning Dec. 17, 1964. Gate closed on completed structure Sept. 1, 1966. No flow past site until the storm of Sept. 14, 1966. Water channeled through 42-inch pipe at Lake Frank site on Aug. 1, 1966. Buildup occurred during period Sept. 12-14, 1966, behind partially completed structure. Structure completed during the year and buildup continued.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	162	22	30	51	48	37	54	39	30	26	17	63
2	93	25	28	57	53	36	54	40	29	95	14	53
3	49	40	25	59	61	36	53	79	28	251	29	41
4	37	24	22	61	45	36	51	36	26	45	371	38
5	45	21	25	57	43	43	51	28	26	61	393	36
6	30	21	24	48	36	91	54	43	25	30	75	32
7	25	21	24	45	28	1,060	101	477	25	26	57	22
8	24	21	24	106	45	171	53	96	24	49	37	21
9	24	21	24	89	45	136	49	57	19	46	28	20
10	21	36	29	79	40	117	56	46	18	22	40	20
11	20	32	69	54	67	101	81	54	18	24	22	19
12	19	26	29	48	56	84	57	42	17	35	19	19
13	18	24	28	46	40	75	39	108	15	21	18	18
14	17	21	75	54	54	73	39	122	17	116	17	18
15	17	21	49	53	86	225	30	108	15	92	15	17
16	36	21	35	46	77	103	29	71	33	32	15	17
17	18	21	33	43	67	79	46	45	32	24	14	17
18	26	21	40	42	65	71	42	43	24	28	13	17
19	793	21	43	39	57	67	30	49	19	20	91	16
20	103	21	40	46	56	65	29	49	18	183	280	16
21	67	18	51	40	93	110	40	39	17	177	75	42
22	56	22	40	39	57	89	54	51	188	37	29	19
23	48	20	37	39	53	77	43	40	59	29	133	18
24	42	20	33	39	49	69	45	36	32	25	520	16
25	37	21	46	37	42	63	42	33	24	20	1,520	15
26	30	22	39	37	36	61	54	33	18	19	136	15
27	28	20	35	157	43	59	71	32	18	18	150	14
28	26	188	32	79	40	57	43	30	17	14	136	16
29	25	75	150	56	------	79	42	51	15	33	106	21
30	22	40	81	53	------	57	40	46	53	103	89	15
31	22	------	61	49	------	57	------	37	------	19	75	------
TOTAL	1,980	927	1,301	1,748	1,482	3,484	1,472	2,060	899	1,720	4,534	711
MEAN	63.9	30.9	42.0	56.4	52.9	112	49.1	66.5	30.0	55.5	146	23.7
MAX	793	188	150	157	93	1,060	101	477	188	251	1,520	63
MIN	17	18	22	37	28	36	29	28	15	14	13	14
CFSM	1.03	.50	.67	.91	.85	1.81	.79	1.07	.48	.89	2.35	.38
IN.	1.18	.55	.78	1.05	.89	2.08	.88	1.23	.54	1.03	2.71	.43

CAL YR 1966: TOTAL 18,710.4 MEAN 51.3 MAX 1,990 MIN 1.8 CFSM .82 IN 11.19
WAT YR 1967: TOTAL 22,318 MEAN 61.1 MAX 1,520 MIN 13 CFSM .98 IN 13.34

Peak discharge (base, 800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-19	0700	6.16	1,360	7- 3	0030	4.36	827
3- 7	1100	7.55	1,890	7-20	2400	5.32	1,100
5- 7	1230	4.94	988	8- 4	2245	5.93	1,280
6-22	2000	4.35	824	8-25	0345	10.30	3,440

1-6495. Northeast Branch Anacostia River at Riverdale, Md.

Location.--Lat 38°57'37", long 76°55'34", on right bank at downstream side of bridge on Riverdale Road in Riverdale, Prince Georges County, 1¾ miles downstream from Indian Creek, and 1¾ miles upstream from confluence with Northwest Branch.

Drainage area.--72.8 sq mi.

Records available.--August 1938 to September 1967.

Gage.--Staff gage 600 ft downstream from bridge Oct. 1 to Apr. 11, at datum 9.25 ft above mean sea level; digital water-stage recorder at bridge from Apr. 12 to Sept. 30, at datum 14.00 ft above mean sea level. Prior to June 12, 1942, wire-weight gage; June 12, 1942 to Sept. 30, 1961, graphic water-stage recorder; Oct. 1, 1961 to Sept. 30, 1964, digital water-stage recorder; Oct. 1, 1964 to Mar. 22, 1966, graphic water-stage recorder all at downstream side of bridge, all at datum 14.00 ft above mean sea level; Mar. 23, 1966 to Sept. 30, 1966 staff gage 600 ft downstream from bridge at datum 9.25 ft above mean sea level (Washington Suburban Sanitary Commission bench mark).

Average discharge.--29 years, 75.9 cfs.

Extremes.--Maximum discharge during year, 4,080 cfs Aug. 25 (gage height, *6.44 ft); minimum daily, 13 cfs Aug. 17.

1938-67: Maximum discharge, 5,060 cfs Aug. 20, 1963 (gage height, 6.98 ft), from rating curve extended above 2,100 cfs by logarithmic plotting; 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.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	250	28	35	70	40	38	55	35	30	21	19	38
2	150	30	32	95	42	38	55	49	28	215	17	32
3	75	46	28	85	46	40	50	102	26	711	72	28
4	48	28	26	100	42	42	48	50	23	120	501	27
5	60	24	28	85	40	44	48	39	22	42	435	25
6	25	24	30	65	38	140	55	61	21	28	90	24
7	25	24	28	60	26	1,450	95	639	21	23	36	23
8	24	24	28	260	26	360	55	346	21	28	28	23
9	24	24	28	120	38	120	50	157	21	26	24	24
10	22	44	40	85	46	75	50	90	20	20	38	24
11	20	32	100	62	50	70	44	82	20	20	23	21
12	18	30	32	48	50	65	42	68	18	18	19	20
13	18	26	34	47	46	60	42	54	18	17	19	19
14	19	24	140	70	70	60	43	87	18	167	17	19
15	20	24	100	60	200	200	43	97	19	156	16	18
16	34	24	65	48	130	160	41	84	20	36	15	19
17	19	24	44	46	70	100	55	59	19	26	13	20
18	80	24	50	40	65	75	56	52	18	26	14	19
19	1,400	24	65	32	60	65	44	54	25	21	95	17
20	460	24	50	30	65	60	39	58	19	81	335	18
21	80	24	60	28	140	80	37	48	17	80	138	34
22	48	24	55	28	100	120	48	68	109	29	42	18
23	44	24	48	32	80	110	39	53	58	20	529	16
24	38	24	34	34	65	100	37	44	24	18	711	16
25	34	24	34	33	42	85	33	38	18	17	2,320	15
26	32	24	40	32	38	70	49	36	16	18	369	14
27	30	24	34	200	40	55	77	33	16	17	200	14
28	28	240	30	90	44	55	52	30	16	17	116	37
29	28	85	225	55	-	90	42	48	15	39	77	26
30	28	38	150	44	-----	70	39	45	55	82	61	17
31	26	-----	75	37	-----	60	-----	43	-----	24	49	-----
Total	3,207	1,083	1,768	2,121	1,739	4,157	1,463	2,749	771	2,163	6,438	665
Mean	103	36.1	57.0	68.4	62.1	134	48.8	88.7	25.7	69.8	208	22.2
Max	1,400	240	225	260	200	1,450	95	639	109	711	2,320	38
Min	18	24	26	28	26	38	33	30	15	17	13	14
Cfsm	1.41	.50	.78	.94	.85	1.84	.67	1.22	.35	.96	2.86	.30
In.	1.64	.55	.90	1.08	.89	2.12	.75	1.40	.39	1.10	3.29	.34

Cal yr 1966: Total 22,135.2 Mean 60.6 Max 1,600 Min 1.4 Cfsm .83 In. 11.31
Wtr yr 1967: Total 28,324 Mean 77.6 Max 2,320 Min 13 Cfsm 1.07 In. 14.47

Peak discharge (base, 1,250 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-19	1200	†5.5	a1,700	7-14	2100	*3.04	1,250
3- 7	1215	†6.6	a2,400	8- 4	2130	*3.42	1,560
5- 7	1030	*3.05	1,260	8-19	2345	*3.08	1,280
7- 3	0015	*4.27	2,240	8-25	0700	*6.44	4,080

* Datum, 14.00 ft above mean sea level.
† Datum, 9.25 ft above mean sea level.
a About.

1-6500.5 Northwest Branch Anacostia River at Norwood, Md.

Location.--Lat 39°07'36", long 77°01'15", on left bank 20 ft downstream from bridge on Ednor Road, 0.2 mile downstream from tributary, 0.4 mile east of Norwood, Montgomery County, and 19 miles upstream from mouth.

Drainage area.--2.45 sq mi.

Records available.--December 1966 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 360 ft (from topographic map).

Extremes.--Maximum discharge during year, 414 cfs Aug. 25 (gage height, 3.53 ft); minimum daily, 0.30 cfs Sept. 27.
Flood of Aug. 8, 1953, reached a stage of 5.31, from floodmark.

Remarks.--Records good. Records of suspended sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, December 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1			1.1	1.6	1.6	1.1	1.9	1.2	.97	.54	.43	.60
2			1.0	1.7	1.8	1.3	1.9	1.2	.93	2.9	.38	.58
3			.95	1.9	1.8	1.5	1.8	1.7	.92	2.2	1.9	.55
4			.91	2.2	1.4	1.7	1.6	1.2	.89	.67	12	.54
5			.92	2.0	1.3	2.1	1.6	1.2	.89	.65	2.4	.53
6			.95	1.5	1.2	6.5	1.9	1.4	.89	.54	.75	.53
7			.95	1.6	1.1	69	2.6	19	.86	.52	.60	.53
8			.95	7.8	1.0	3.7	1.8	3.7	.79	.57	.56	.56
9			.95	3.4	1.1	2.6	1.6	2.1	.74	.60	.52	.58
10			.98	2.2	1.4	2.4	1.6	1.6	.71	.55	.57	.62
11			1.4	1.7	1.7	2.3	1.5	1.8	.67	.53	.47	.54
12			1.1	1.5	1.5	2.1	1.5	1.7	.64	.51	.42	.52
13			1.1	1.5	1.3	2.0	1.5	1.4	.61	.47	.42	.44
14			1.4	1.9	1.7	2.0	1.4	1.5	.63	.97	.41	.41
15			1.4	1.8	5.3	14	1.3	1.7	.67	.79	.38	.41
16			1.2	1.5	5.2	4.1	1.2	1.5	.63	.54	.36	.42
17			1.2	1.5	2.2	2.7	1.8	1.3	.57	.53	.36	.47
18			2.1	1.3	2.0	2.1	1.6	1.3	.57	.53	.36	.44
19			1.8	1.2	1.8	1.9	1.4	1.4	.61	.53	.46	.41
20			1.5	1.2	1.8	2.0	1.3	1.3	.57	1.1	1.2	.39
21			1.4	1.3	3.5	2.5	1.3	1.2	.52	.83	.65	.44
22			1.3	1.3	2.3	4.6	1.4	1.4	2.9	.54	.51	.47
23			1.2	1.3	2.2	3.1	1.2	1.3	.76	.48	.51	.38
24			1.3	1.3	1.8	2.4	1.2	1.2	.57	.47	19	.39
25			1.3	1.3	1.6	2.1	1.1	1.1	.51	.47	35	.37
26			1.2	1.3	1.4	2.1	1.5	1.1	.47	.49	1.2	.31
27			1.2	5.2	1.1	1.9	2.1	1.0	.46	.39	4.1	.30
28			1.2	2.5	1.2	1.9	1.4	.98	.44	.42	1.9	.36
29			6.6	1.7	------	2.5	1.3	1.2	.44	.49	.88	.43
30			2.7	1.6	------	1.9	1.2	1.1	.71	.74	.75	.32
31			1.7	1.6	------	1.9	------	1.0	------	.45	.67	------
TOTAL			44.96	61.4	53.3	154.0	46.5	61.78	22.54	22.01	90.12	13.84
MEAN			1.45	1.98	1.90	4.97	1.55	1.99	.75	.71	2.91	.46
MAX			6.6	7.8	5.3	69	2.6	19	2.9	2.9	.35	.62
MIN			.91	1.2	1.0	1.1	1.1	.98	.44	.39	.36	.30
CFSM			.59	.81	.78	2.03	.63	.81	.31	.29	1.19	.19
IN.			.68	.93	.81	2.34	.71	.94	.34	.33	1.37	.21

Calendar year 1966: Max - Min - Mean - Cfsm - In. -
Water year 1967: Max - Min - Mean - Cfsm - In. -

Peak discharge (base, 250 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	0545	3.03	340	8-25	0030	3.53	414
8-4	2030	2.53	264				

1-6500.85 Nursery Run at Cloverly, Md.

Location.--Lat 39°07'05", long 77°00'24", on left bank 300 ft upstream from culvert on Bryants Nursery Road, 350 ft upstream from mouth, 0.8 mile northwest of Cloverly, Montgomery County, and 2.4 miles southeast of Sandy Spring.

Drainage area.--0.35 sq mi.

Records available.--November 1966 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 400 ft (from topographic map).

Extremes.--Maximum discharge during year, 120 cfs Aug. 25 (gage height, 3.46 ft); minimum, 0.12 cfs July 27, Aug. 18 (gage height, 1.62 ft).

Remarks.--Records good. Records of suspended sediment loads for the water year 1967 are published in Part 2 of of this report.

Discharge, in cubic feet per second, November 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		.25	.26	.35	.30	.28	.43	.33	.27	.21	.18	.24
2		.30	.25	.37	.33	.29	.43	.34	.27	.92	.16	.21
3		.25	.22	.40	.34	.33	.43	.52	.24	.85	1.0	.21
4		.22	.22	.41	.30	.34	.43	.34	.23	.30	3.0	.21
5		.22	.22	.37	.30	.37	.43	.34	.22	.25	.91	.20
6		.22	.22	.33	.28	.74	.48	.41	.21	.20	.35	.19
7		.22	.22	.33	.25	6.4	.85	2.8	.21	.18	.26	.19
8		.22	.22	.84	.24	.68	.45	.70	.20	.19	.25	.19
9		.22	.22	.54	.26	.54	.43	.53	.20	.21	.22	.19
10		.25	.25	.42	.31	.48	.43	.44	.19	.18	.20	.19
11		.25	.42	.37	.33	.47	.39	.49	.19	.18	.18	.17
12		.22	.26	.35	.32	.44	.39	.42	.18	.16	.17	.17
13		.22	.27	.34	.29	.41	.39	.39	.17	.16	.17	.17
14		.22	.36	.40	.35	.43	.39	.46	.17	.34	.16	.16
15		.22	.33	.39	.67	1.1	.39	.50	.19	.28	.15	.16
16		.22	.29	.35	.67	.61	.38	.40	.17	.18	.15	.16
17		.22	.29	.32	.43	.50	.66	.38	.16	.17	.15	.17
18		.22	.41	.31	.41	.43	.48	.37	.17	.17	.14	.17
19		.21	.35	.28	.37	.42	.40	.45	.19	.16	.27	.15
20		.19	.31	.27	.40	.43	.39	.37	.18	.38	.50	.15
21		.19	.33	.27	.54	.51	.39	.34	.15	.27	.30	.23
22		.19	.30	.27	.42	.69	.42	.43	1.1	.19	.23	.18
23		.19	.29	.27	.40	.55	.37	.37	.31	.16	.25	.15
24		.19	.31	.30	.37	.50	.37	.34	.22	.15	3.7	.15
25		.19	.28	.28	.30	.44	.35	.30	.18	.15	7.0	.15
26		.19	.28	.28	.28	.43	.47	.30	.16	.15	.61	.14
27		.20	.25	.78	.26	.43	.58	.28	.16	.14	.86	.14
28		.94	.26	.46	.29	.44	.41	.27	.15	.14	.56	.16
29		.41	.69	.33	------	.59	.37	.35	.16	1.4	.29	.16
30		.29	.46	.31	------	.47	.34	.32	.30	.54	.27	.15
31		------	.37	.30	------	.43	------	.30	------	.22	.26	------
TOTAL		7.54	9.41	11.59	10.01	21.17	13.12	14.58	6.90	9.18	22.90	5.26
MEAN		.25	.30	.37	.36	.68	.44	.47	.23	.30	.74	.18
MAX		.94	.69	.84	.67	6.4	.85	2.8	1.1	1.4	7.0	.24
MIN		.19	.22	.27	.24	.28	.34	.27	.15	.14	.14	.14
CFSM		.71	.86	1.06	1.03	1.94	1.26	1.34	.66	.86	2.11	.51
IN		.80	1.00	1.23	1.06	2.25	1.39	1.55	.73	.98	2.43	.56

Calendar year 1966: Max - Min - Mean - Cfsm - In. -
Water year 1967: Max - Min - Mean - Cfsm - In. -

Peak discharge (base, 30 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	0530	2.53	32	8- 4	2030	2.68	42
7-29	2230	2.52	31	8-25	0030	3.46	120

1-6504.5. Bel Pre Creek at Layhill, Md.

Location.--Lat 39°05'27", long 77°03'11", on right bank 130 ft upstream from bridge on Bel Pre Road, 1/2 mile west of Layhill, Montgomery County, 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.

Records available.--November 1966 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 350 ft (from topographic map).

Extremes.--Maximum discharge during year, 772 cfs Aug. 25 (gage height, 6.18 ft); minimum daily, 0.15 cfs June 27, 28 and July 17, 18.

Remarks.--Records fair. Records of suspended sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, November 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		.34	.43	.75	.44	.58	.75	.58	.53	.25	.30	.39
2		.45	.37	1.7	.44	.58	.75	.59	.48	3.8	.24	.37
3		.46	.34	2.2	.51	.75	.75	1.4	.54	3.8	5.6	.36
4		.32	.30	2.5	.51	.75	.66	.60	.43	.79	16	.35
5		.28	.38	1.7	.44	.98	.66	.47	.41	.44	4.0	.32
6		.28	.44	.75	.40	8.6	.75	1.1	.44	.32	.55	.30
7		.50	.38	1.4	.35	57	2.2	31	.52	.28	.40	.30
8		.30	.38	11	.30	2.3	.86	2.9	.45	.49	.45	.30
9		.39	.38	2.3	.35	1.4	.75	1.4	.35	.32	.33	.30
10		.50	.51	1.1	.75	1.1	.75	.89	.40	.26	.45	.35
11		.46	1.5	.75	1.4	1.1	.66	1.2	.42	.23	.38	.32
12		.36	.44	.58	1.5	.98	.58	.85	.43	.20	.86	.30
13		.30	.44	.66	.98	.75	.58	.69	.47	.17	.29	.30
14		.29	2.0	.98	2.5	.98	.66	1.3	.41	.45	.32	.30
15		.32	1.5	.75	9.6	15	.66	1.5	.40	.60	.33	.30
16		.28	.75	.66	4.4	2.9	.58	.91	.34	.22	.71	.28
17		.28	1.1	.58	1.5	1.4	2.6	.82	.41	.15	.32	.27
18		.32	3.8	.44	1.4	1.2	1.2	.64	.32	.15	.35	.26
19		.30	1.4	.38	1.4	.75	.66	1.7	.52	.17	3.0	.26
20		.28	.66	.35	2.0	.75	.66	.77	.27	6.1	2.2	.26
21		.29	.98	.33	6.0	1.7	.59	.58	.39	1.2	.62	.37
22		.28	.98	.30	1.7	4.4	.79	.92	10	.42	.35	.29
23		.28	.75	.30	1.4	2.2	.53	.82	.83	.30	.57	.25
24		.28	.58	.45	.86	1.4	.59	.72	.36	.43	55	.25
25		.29	.66	.35	.70	.98	.40	.49	.31	.29	42	.22
26		.33	.75	.58	.50	.86	1.2	.45	.26	.27	1.1	.26
27		.28	.75	8.0	.45	.86	1.6	.54	.15	.35	3.6	.23
28		12	.66	1.5	.66	.75	.67	.42	.15	.37	1.4	.34
29		1.4	9.3	.51	------	1.8	.64	.86	.25	1.8	.54	.28
30		.55	2.7	.51	------	.98	.52	.53	.85	1.2	.44	.25
31		------	.98	.44	------	.86	------	.52	------	.29	.41	------
TOTAL		22.99	36.59	44.80	43.44	116.64	25.25	58.16	22.09	26.11	143.11	8.93
MEAN		.77	1.18	1.45	1.55	3.76	.84	1.88	.74	.84	4.62	.30
MAX		12	9.3	11	9.6	57	2.6	31	10	6.1	55	.39
MIN		.28	.30	.30	.30	.58	.40	.42	.15	.15	.24	.22
CFSM		.45	.70	.86	.92	2.22	.50	1.11	.44	.50	2.73	.18
IN.		.51	.81	.99	.96	2.57	.56	1.28	.49	.57	3.15	.20

Cal yr 1966: Total - Mean - Max - Min - Cfsm - In. -
Wtr yr 1967: Total - Mean - Max - Min - Cfsm - In. -

Peak discharge (base, 180 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	0530	4.53	277	8-25	0015	6.18	772
8-4	2030	a4.03	190				

a From floodmark.

1-6505. Northwest Branch Anacostia River near Colesville, Md.

Location.--Lat 39°03'55", long 77°01'48", on right bank 400 ft upstream from bridge on State Highway 183, 1½ miles southwest of Colesville, Montgomery County, 3 miles upstream from Burnt Mills, 10 miles upstream from Sligo Branch, and 12½ miles upstream from mouth.

Drainage area.--21.1 sq mi.

Records available.--October 1923 to September 1967. Monthly discharge only for some periods, published in WSP 1302.

Gage.--Digital 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, staff gages in same general vicinity at different datums. Apr. 22, 1932, to Apr. 11, 1934, staff gage and Apr. 11, 1934, to Oct. 3, 1962, graphic water-stage recorder, at same site and datum.

Average discharge.--44 years, 21.5 cfs (unadjusted).

Extremes.--Maximum discharge during year, 1,740 cfs Aug. 25 (gage height, 9.15 ft); minimum, 3.4 cfs on July 28 and Sept. 26 (gage height, 1.60 ft).
1924-1967: 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 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	47	7.8	10	16	13	10	17	13	10	5.7	5.0	7.7
2	23	8.1	9.6	17	14	12	16	12	9.6	22	4.4	7.3
3	11	11	8.2	19	15	13	16	19	9.0	49	12	6.8
4	9.2	7.8	7.6	22	13	14	14	13	8.5	9.1	149	6.6
5	9.1	7.5	7.2	20	13	16	15	12	8.3	9.0	75	6.3
6	7.2	7.7	8.6	15	12	38	16	14	8.2	6.4	13	6.0
7	6.5	7.9	8.6	16	9.5	535	28	197	8.0	5.9	8.6	5.7
8	5.8	8.2	8.3	77	10	43	17	43	7.5	6.7	7.8	6.0
9	5.4	7.9	8.3	33	12	27	16	24	6.9	7.1	6.8	6.0
10	5.2	8.9	8.7	21	14	22	16	18	6.7	5.8	7.3	6.4
11	5.1	9.4	16	17	15	21	14	20	12	6.0	5.5	5.7
12	5.0	8.6	9.5	15	15	20	13	17	11	5.6	5.5	5.5
13	4.9	7.9	10	15	14	18	14	15	14	4.8	4.9	5.2
14	5.0	7.6	16	18	16	18	14	18	14	9.5	4.8	4.8
15	5.3	7.5	16	17	57	90	14	21	16	12	4.3	4.4
16	7.6	7.6	12	15	47	39	13	17	15	6.0	4.4	4.5
17	5.6	7.8	12	13	22	25	20	15	10	5.2	4.1	5.0
18	7.3	7.7	22	12	20	20	19	14	5.7	5.4	4.0	4.7
19	265	7.6	19	11	17	18	15	16	6.4	4.9	12	5.2
20	30	7.3	14	11	18	18	14	16	5.4	32	22	4.1
21	15	7.3	14	11	40	22	14	12	5.1	17	11	7.6
22	12	7.2	14	11	23	37	15	16	50	6.6	6.5	5.0
23	11	6.8	12	13	21	32	13	14	14	5.4	6.2	4.3
24	9.6	6.9	12	12	17	24	13	13	7.1	4.8	144	4.3
25	9.0	6.9	14	12	12	20	12	12	5.9	4.6	491	4.2
26	8.9	7.2	12	12	11	19	15	11	5.1	4.6	24	3.9
27	8.4	6.9	12	56	12	18	23	11	4.8	4.2	23	3.9
28	8.1	56	12	27	12	17	15	10	4.4	3.8	25	4.6
29	8.4	25	66	16	------	24	13	13	4.3	7.1	12	5.3
30	7.7	13	32	13	------	19	13	12	9.2	27	10	4.1
31	7.7	------	20	12	------	17	------	11	------	6.2	8.9	------
TOTAL	576.0	305.0	451.6	595	514.5	1,266	467	669	302.1	309.4	1,122.0	161.1
MEAN	18.6	10.2	14.6	19.2	18.4	40.8	15.6	21.6	10.1	9.98	36.2	5.37
MAX	265	56	66	77	57	535	28	197	50	49	491	7.7
MIN	4.9	6.8	7.2	11	9.5	10	12	10	4.3	3.8	4.0	3.9
CFSM	.88	.48	.69	.91	.87	1.93	.74	1.02	.48	.47	1.72	.25
IN.	1.02	.54	.80	1.05	.91	2.23	.82	1.18	.53	.55	1.97	.28

CAL YR 1966: TOTAL 5,624.70 MEAN 15.4 MAX 637 MIN 0 CFSM .73 IN 9.91
WAT YR 1967: TOTAL 6,738.7 MEAN 18.5 MAX 535 MIN 3.8 CFSM .88 IN 11.88

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	0730	8.37	1,300	8-25	0130	9.15	1,740
8-4	2130	6.51	762				

1-6510. Northwest Branch Anacostia River near Hyattsville, Md.

Location.--Lat 38°57'09", long 76°58'00", 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, Prince Georges County, and 1.6 miles upstream from mouth.

Drainage area.--49.4 sq mi.

Records available.--July 1938 to September 1967. Monthly discharge only for July 1938 published in WSP 1302.

Gage.--Digital water-stage recorder. Datum of gage is 17.30 ft above mean sea level, adjustment of 1912. Prior to Oct. 22, 1938, wire-weight gage; Oct. 22, 1938, to Sept. 17, 1951, graphic water-stage recorder; Sept. 17, 1951, to Aug. 29, 1952, staff gage and crest-stage gage; Aug. 30, 1952 to Sept. 30, 1961, graphic water-stage recorder at same site and datum.

Average discharge.--29 years, 39.5 cfs (unadjusted).

Extremes.--Maximum discharge during year, 5,030 cfs Aug. 25 (gage height, 12.67 ft); minimum daily, 7.6 cfs Aug. 17, 18.
1938-67: Maximum discharge, 7,000 cfs Sept. 14, 1966 (gage height, 13.50 ft); minimum, 0.2 cfs Sept. 11, 1966.
Maximum stage known, about 13.5 ft Aug. 24, 1933, and Sept. 14, 1966.

Remarks.--Records poor. Prior to June 1961, low flow regulated by storage at Burnt Mills Dam, 7 miles above station. Inflow pumped from Patuxent River to augment water supply for Washington Suburban Sanitary District, August 1939 to August 1960. Small diversion since 1962 for irrigation of golf courses above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	170	19	21	33	24	22	32	23	18	12	12	25
2	58	21	20	43	26	24	30	25	18	49	10	23
3	23	38	18	39	28	26	30	79	17	229	55	21
4	18	18	15	43	25	28	28	25	16	20	420	20
5	27	16	17	38	23	30	35	23	16	20	248	19
6	16	16	19	30	21	60	34	51	15	14	34	17
7	16	16	18	28	20	1,000	74	466	15	13	21	16
8	14	16	18	200	16	200	31	106	14	24	17	14
9	14	17	17	85	19	100	30	52	14	16	16	14
10	14	33	30	36	25	60	30	36	13	12	35	15
11	13	22	78	31	28	46	28	48	12	13	12	14
12	12	20	20	26	28	40	27	34	15	14	10	13
13	12	17	23	25	26	36	28	29	15	12	9.6	12
14	13	16	103	34	30	36	28	62	15	80	10	12
15	14	16	47	31	150	160	27	59	17	34	8.0	11
16	26	16	28	26	100	90	24	36	16	16	8.0	11
17	13	16	26	25	50	50	52	29	15	14	7.6	12
18	33	17	30	23	40	40	44	28	11	18	7.6	12
19	1,020	18	39	20	36	36	26	37	12	13	188	11
20	99	16	32	18	40	36	24	36	11	229	203	11
21	36	15	36	17	100	50	23	30	10	71	50	38
22	27	16	30	17	55	80	33	45	103	18	18	12
23	24	15	26	19	40	50	23	26	20	13	283	10
24	23	15	22	20	30	42	24	24	15	12	624	10
25	21	15	19	19	26	38	22	23	12	11	1,380	9.3
26	21	16	21	18	24	36	40	21	10	10	77	8.9
27	20	15	19	160	26	34	57	21	10	10	76	8.5
28	19	192	17	70	28	32	27	20	9.5	10	62	9.3
29	19	99	180	35	-	60	24	40	9.0	25	40	12
30	19	26	70	25	-----	44	23	22	20	84	34	8.9
31	18	-----	35	22	-----	30	-----	22	-----	16	29	-----
Total	1,872	808	1,094	1,256	1,084	2,616	958	1,578	513.5	1,132	4,004.8	429.9
Mean	60.4	26.9	35.3	40.5	38.7	84.4	31.9	50.9	17.1	36.5	129	14.3
Max	1,020	192	180	200	150	1,000	74	466	103	229	1,380	38
Min	12	15	15	17	16	22	22	20	9.0	10	7.6	8.5
Cfsm	1.22	.54	.71	.82	.78	1.71	.65	1.03	.35	.74	2.61	.29
In.	1.41	.61	.82	.95	.82	1.97	.72	1.19	.39	.85	3.01	.32

Cal yr 1966: Total 14,854.60 Mean 40.7 Max 1,970 Min .40 Cfsm .82 In. 11.18
Wtr yr 1967: Total 17,346.2 Mean 47.5 Max 1,380 Min 7.6 Cfsm .96 In. 13.06

Peak discharge (base, 1,250 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-19	0730	8.34	1,890	8- 4	2200	8.57	1,980
3- 7	Unknown	7.20	1,420	8-19	2215	8.84	2,100
7- 2	2400	8.19	1,830	8-25	0145	12.67	5,030
7-20	1945	8.63	2,010				

Note.--No gage-height record Jan. 27 to Apr. 5, May 30 to July 2.

1-6535. Henson Creek at Oxon Hill, Md.

Location.--Lat 38°47'05", long 76°58'42", on left bank 100 ft downstream from bridge on Tucker Road, 1.0 mile south of Oxon Hill, Prince Georges County, 1.4 miles upstream from Carey Branch and mouth.

Drainage area.--16.7 sq mi.

Records available.--June 1948 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 62 ft (from topographic map). Prior to Oct. 1, 1961, graphic water-stage recorder at same site and datum.

Average discharge.--19 years, 18.3 cfs.

Extremes.--Maximum discharge during year, 1,030 cfs Oct. 19 (gage height, 4.77 ft); minimum, 0.55 cfs Aug. 19 (gage height, 0.40 ft).
1948-67: Maximum discharge, 3,000 cfs Aug. 13, 1955 (gage height, 7.33 ft), from rating curve extended above 520 cfs on basis of slope-area measurements at gage heights 6.63 and 7.27 ft; no flow at times during some summer months in 1954, 1955, 1957, 1962-64, and 1966.

Remarks.--Records fair. Some diversion above station for irrigation of truck farm. Some regulation at low flow by sand and gravel plant above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	86.0	6.5	7.3	20	9.3	17	14	7.5	7.0	5.3	8.4	7.0
2	30	8.0	6.5	17	15	17	14	11	6.7	61	3.2	6.5
3	15	20	6.0	19	20	17	12	32	7.3	75	6.2	6.0
4	10	7.5	5.5	22	13	15	11	11	6.1	11	28	5.5
5	8.0	6.0	6.9	17	12	20	12	8.6	5.7	9.1	27	5.0
6	7.0	5.5	6.5	15	9.3	31	13	27	4.7	5.7	6.7	4.5
7	6.0	5.5	6.2	14	6.0	290	21	147	5.4	5.4	4.6	4.0
8	5.5	5.5	6.5	50	9.0	45	13	42	4.9	12	3.8	4.0
9	5.0	5.5	6.3	30	12	30	12	29	4.6	14	3.8	4.5
10	4.5	10	12	20	15	23	11	21	4.6	5.8	12	6.0
11	4.0	9.0	23	15	30	20	9.6	19	4.6	74	4.2	4.5
12	3.5	6.0	7.8	14	24	17	9.5	14	4.0	18	3.5	3.4
13	3.5	5.5	13	13	14	16	9.6	13	3.0	8.0	3.3	3.7
14	4.8	5.5	45	17	31	18	10	33	3.4	6.8	3.2	3.4
15	6.3	5.5	21	14	57	52	11	24	4.7	7.7	2.2	2.7
16	9.5	5.5	18	11	35	29	9.7	15	4.0	6.0	2.2	3.4
17	4.6	5.0	22	10	24	22	11	12	3.4	5.1	2.0	4.8
18	6.4	5.0	24	9.0	26	18	11	14	3.8	4.7	2.0	3.7
19	553	5.0	16	7.0	27	17	8.9	11	13	4.3	15	2.7
20	35	5.0	29	9.0	33	18	8.7	10	4.1	7.9	53	2.4
21	18	5.0	20	11	57	34	8.6	9.0	3.3	9.4	63	60
22	13	5.0	13	10	32	30	12	20	7.4	5.5	10	8.9
23	10	5.0	12	9.3	25	25	8.7	14	16	4.8	97	4.9
24	9.0	5.0	14	8.7	23	20	7.8	10	5.7	4.0	150	3.7
25	8.5	5.0	12	9.3	18	18	7.5	8.3	4.2	3.0	109	2.7
26	8.0	7.5	11	8.7	17	16	13	7.3	2.9	3.8	21	3.1
27	7.5	6.0	11	38	18	14	19	7.9	2.2	3.4	146	3.6
28	7.0	40	10	21	19	14	10	6.9	2.2	5.5	25	17
29	7.0	17	60	13	-	22	9.4	12	2.4	4.8	8.5	4.0
30	6.5	9.3	30	11	- - - - -	15	8.8	11	7.3	12	6.0	3.0
31	6.0	- - - - -	22	9.3	- - - - -	13	- - - - -	8.4	- - - - -	5.1	8.0	- - - - -
Total	908.1	241.8	503.5	492.3	630.6	953	336.8	615.9	158.6	408.1	837.8	198.6
Mean	29.3	8.06	16.2	15.9	22.5	30.7	11.2	19.9	5.29	13.2	27.0	6.62
Max	553	40	60	50	57	290	21	147	16	75	150	60
Min	3.5	5.0	5.5	7.0	6.0	13	7.5	6.9	2.2	3.0	2.0	2.4
Cfsm	1.75	.48	.97	.95	1.35	1.84	.67	1.19	.32	.79	1.62	.40
In.	2.02	.54	1.12	1.10	1.40	2.12	.75	1.37	.35	.91	1.87	.44

Cal yr 1966: Total 5,533.8 Mean 15.2 Max 553 Min 0 Cfsm .91 In. 12.32
Wtr yr 1967: Total 6,285.1 Mean 17.2 Max 553 Min 2.0 Cfsm 1.03 In. 14.00

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-19	1030	4.77	1,030	7-11	1800	3.55	599
3- 7	0800	3.69	639	8-20	2230	3.36	548
5- 7	1100	2.95	444	8-23	1200	2.98	451
7- 2	2230	3.24	516	8-27	1500	3.68	636

1-6536. Piscataway Creek at Piscataway, Md.

Location.--Lat 38°42'20", long 76°58'00", on left bank 70 ft upstream from bridge on State Highway 223, at Piscataway, Prince Georges County, 0.4 mile upstream from Tinker Creek, and 4.8 miles upstream from mouth.

Drainage area.--39.5 sq mi.

Records available.--October 1965 to September 1967.

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

Extremes.--Maximum discharge during year, 749 cfs Oct. 19 (gage height, 6.13 ft); minimum daily, 0.34 cfs Aug. 19.
1965-67: Maximum discharge that of Oct. 19, 1966; no flow during parts of July, August, and September 1966.

Remarks.--Records good except those below 2 cfs, which are fair.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	114	21	23	47	29	47	40	22	23	3.7	2.8	14
2	88	21	22	49	29	42	45	21	20	5.4	2.7	12
3	26	57	19	59	51	47	40	56	16	77	1.9	10
4	19	25	17	66	34	42	35	27	14	16	7.6	9.4
5	18	22	17	63	32	46	35	22	13	12	9.9	8.5
6	14	22	19	46	28	47	38	28	12	7.6	4.9	7.5
7	12	21	21	43	25	342	60	226	9.0	5.7	2.7	7.0
8	12	22	22	72	34	188	41	166	9.0	14	1.9	6.5
9	11	22	21	82	28	90	35	90	7.9	30	2.4	5.8
10	10	22	22	59	32	75	35	59	6.8	11	6.3	8.0
11	9.4	22	30	49	40	69	31	48	5.9	11	4.9	6.0
12	8.2	22	22	44	48	63	29	38	4.9	24	2.4	5.0
13	7.6	22	22	42	36	56	29	32	4.3	9.0	1.7	4.0
14	7.9	21	50	46	38	50	30	48	4.0	40	1.4	3.0
15	8.5	19	67	44	117	150	29	82	5.3	24	1.1	2.5
16	12	18	34	37	164	140	26	43	4.5	11	.79	1.8
17	12	18	32	33	75	110	27	33	3.9	7.6	.64	2.0
18	9.4	18	36	31	68	80	31	33	3.6	6.3	.49	10
19	441	17	38	27	65	60	24	27	12	4.9	.34	9.0
20	445	16	35	34	69	55	23	25	9.7	4.2	3.4	5.0
21	73	15	60	32	136	65	23	22	6.1	6.6	16	4.5
22	48	15	38	32	94	90	25	43	4.5	4.5	5.3	3.5
23	37	13	31	31	80	80	23	32	5.5	2.9	77	2.5
24	30	15	28	29	68	70	23	23	5.5	2.3	181	4.0
25	27	16	33	29	45	60	23	23	3.5	1.9	288	2.7
26	25	16	32	28	45	55	24	22	2.2	2.0	87	2.0
27	22	16	30	50	50	50	44	19	1.8	2.3	86	1.8
28	22	32	29	64	54	45	28	17	1.8	1.8	88	1.9
29	22	56	78	36	-	60	23	24	1.6	1.9	28	2.8
30	22	26	100	30	- - - - -	50	23	41	2.2	2.4	20	2.2
31	21	- - - - -	54	28	- - - - -	45	- - - - -	23	- - - - -	2.4	17	- - - - -
Total	1634.0	668	1082	1362	1614	2469	942	1415	223.5	355.4	953.56	164.9
Mean	52.7	22.3	34.9	43.9	57.6	79.6	31.4	45.6	7.45	11.5	30.8	5.50
Max	445	57	100	82	164	342	60	226	23	77	288	14
Min	7.6	13	17	27	25	42	23	17	1.6	1.8	.34	1.8
Cfsm	1.33	.56	.88	1.11	1.46	2.02	.79	1.15	.19	.29	.78	.14
In.	1.54	.63	1.02	1.28	1.52	2.33	.89	1.33	.21	.33	.90	.16

Cal yr 1966: Total 10,131.1 Mean 27.8 Max 445 Min 0 Cfsm .70 In. 9.54
Wtr yr 1967: Total 12,883.36 Mean 35.3 Max 445 Min .34 Cfsm .89 In. 12.13

Peak discharge (base, 250 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-19	1600	6.13	749	5- 7	2030	4.84	405
3- 7	1630	5.26	510	8-25	0830	4.70	370

1-6580. Mattawoman Creek near Pomonkey, Md.

Location.--Lat 38°35'45", long 77°03'25", 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, Charles County, and 12.6 miles upstream from mouth.

Drainage area.--57.7 sq mi.

Records available.--November 1949 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 40 ft (from topographic map). Prior to Oct. 30, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--17 years (1950-67), 52.7 cfs.

Extremes.--Maximum discharge during year, 466 cfs Oct. 20 (gage height, 4.42 ft); no flow Aug. 19.
1949-67: Maximum discharge, 9,300 cfs Aug. 13, 1955 (gage height, 7.52 ft), from rating curve extended above 6,000 cfs; no flow at times each year.

Remarks.--Records fair except those below 2 cfs, which are poor.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	55	19	27	83	37	60	44	21	26	.90	2.1	27
2	119	19	23	76	36	49	46	19	20	7.5	1.4	21
3	94	29	20	81	53	54	40	47	15	60	1.0	16
4	38	33	17	92	49	51	35	35	12	26	1.2	14
5	25	26	15	99	42	49	35	25	9.0	12	1.8	13
6	20	22	17	88	37	50	38	24	7.1	6.8	2.2	8.0
7	14	20	18	74	30	159	44	134	6.0	4.6	1.2	6.0
8	11	19	18	90	36	232	43	221	4.2	7.8	.90	4.0
9	9.3	19	18	124	33	212	36	229	2.9	27	.80	3.0
10	7.0	19	17	114	35	129	36	170	2.0	18	.80	4.0
11	5.1	20	28	87	43	97	34	99	1.4	17	.80	3.0
12	3.3	20	26	68	55	101	30	71	1.0	72	.70	2.5
13	2.0	21	24	59	46	91	28	43	.90	163	.60	2.0
14	1.5	22	41	58	49	81	29	50	.70	176	.40	1.7
15	1.5	18	65	59	101	118	29	103	.80	196	.40	1.5
16	2.5	16	49	49	157	170	27	93	.70	76	.30	1.3
17	3.4	15	42	41	142	152	26	62	.60	36	.20	1.6
18	3.0	15	52	37	108	103	34	48	2.6	29	.10	1.9
19	173	15	60	30	91	77	29	38	42	22	0	1.8
20	342	13	52	34	90	69	25	34	35	17	1.7	1.4
21	384	12	68	36	136	81	24	30	14	16	1.2	1.1
22	156	11	66	38	177	113	26	44	6.8	15	1.1	1.1
23	68	11	52	36	157	105	25	49	8.2	11	71	.90
24	46	11	40	34	121	95	23	34	6.4	7.5	185	.80
25	34	12	42	32	82	81	20	27	4.0	5.0	195	.80
26	30	13	46	31	67	70	20	23	2.0	3.6	168	.70
27	26	13	36	45	59	61	36	20	1.0	2.5	98	.70
28	24	21	34	89	63	56	33	16	.80	2.0	163	.60
29	22	54	70	71	------	59	26	15	.70	1.8	322	1.0
30	20	38	108	49	------	56	24	26	.80	2.7	87	.80
31	19	------	107	39	------	50	------	29	------	2.6	38	------
TOTAL	1,758.6	596	1,298	1,943	2,132	2,931	945	1,879	234.60	1,044.30	1,347.90	143.20
MEAN	56.7	19.9	41.9	62.7	76.1	94.5	31.5	60.6	7.82	33.7	43.5	4.77
MAX	384	54	108	124	177	232	46	229	42	196	322	27
MIN	1.5	11	15	30	30	49	20	15	.60	.90	0	.60
CFSM	.98	.34	.73	1.09	1.32	1.64	.55	1.05	.14	.58	.75	.08
IN.	1.13	.38	.84	1.25	1.37	1.89	.61	1.21	.15	.67	.87	.09

CAL YR 1966: TOTAL 11,693.40 MEAN 32.0 MAX 384 MIN 0 CFSM .56 IN 7.54
WAT YR 1967: TOTAL 16,252.60 MEAN 44.5 MAX 384 MIN 0 CFSM .77 IN 10.48

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-20	2100	4.42	466	8-29	0530	4.34	414

1-6610. Chaptico Creek at Chaptico, Md.

Location.--Lat 38°22'45", long 76°46'56", on right bank at downstream side of highway culvert, 0.8 mile north of Chaptico, St. Marys County, and 0.8 mile upstream from Chaptico Bay.

Drainage area.--10.7 sq mi.

Records available.--June 1947 to September 1967.

Gage.--Digital water-stage recorder. Concrete control prior to Oct. 25, 1961. Altitude of gage is 15 ft (from topographic map). Prior to Mar. 12, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--20 years, 9.89 cfs.

Extremes.--Maximum discharge during year, 320 cfs Oct. 19 (gage height, 4.80 ft); minimum, 0.22 cfs Aug. 19 (gage height, 1.12 ft).
1947-67: 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, 1955, 1957, 1962, 1963, 1964, and 1966.

Remarks.--Records good. Occasional small diversion above station for irrigation. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12	4.7	4.7	11	6.4	9.9	7.7	5.4	4.6	1.8	2.1	1.6
2	12	6.1	4.5	11	6.4	9.6	7.7	5.1	4.1	1.1	1.3	1.3
3	5.2	32	3.7	11	7.3	9.3	8.3	11	3.4	1.4	.98	1.2
4	4.0	7.9	3.7	12	6.1	8.3	7.7	5.9	3.2	1.1	1.8	1.2
5	4.7	5.8	4.2	11	5.8	9.0	8.0	5.4	2.7	1.1	2.5	1.1
6	4.0	5.2	4.7	8.9	5.5	9.0	8.0	6.7	2.5	.84	1.6	1.1
7	2.7	4.7	4.2	8.9	6.1	34	9.3	45	2.3	.91	1.2	1.1
8	2.7	4.7	4.2	20	8.2	14	7.4	19	2.1	18	1.1	.98
9	2.5	4.7	4.2	16	7.0	12	7.1	12	1.6	6.4	1.3	1.1
10	2.7	4.7	4.2	11	7.9	11	7.7	9.0	1.4	2.5	1.1	1.3
11	2.3	5.5	5.5	8.9	8.6	11	6.7	8.7	1.3	3.2	.98	1.1
12	1.9	5.5	4.2	7.9	10	12	6.1	7.4	1.2	9.6	.77	.98
13	1.7	5.2	18	7.6	9.3	9.6	6.1	7.4	1.1	7.7	.77	.91
14	1.9	4.2	20	9.3	9.3	11	6.4	11	1.1	3.6	.84	.91
15	2.1	4.0	9.3	8.6	17	18	6.4	14	1.6	3.6	.64	.77
16	4.0	4.0	7.0	7.0	18	14	5.9	11	1.2	2.5	.46	.77
17	2.7	4.0	6.4	6.7	10	11	6.7	8.0	1.1	1.6	.40	1.3
18	2.3	4.0	6.1	6.1	11	9.0	8.0	7.7	1.1	1.4	.40	1.3
19	147	4.0	5.5	6.0	11	8.7	6.1	6.1	6.7	1.2	2.1	1.1
20	30	3.5	7.0	7.5	13	9.0	5.9	5.4	2.5	1.1	2.9	.84
21	12	3.5	8.2	7.6	31	16	5.9	4.6	1.4	3.6	2.1	.77
22	8.6	3.7	5.8	8.9	16	13	6.7	7.7	1.6	1.4	4.9	.98
23	6.7	4.0	5.2	7.6	14	11	5.6	6.4	4.1	1.1	29	.64
24	5.8	4.0	5.8	6.7	13	10	5.6	5.4	1.6	.91	31	.58
25	5.8	4.5	11	6.4	11	9.3	5.1	4.9	1.2	.77	16	.64
26	5.5	4.7	8.9	6.1	9.0	8.7	6.7	4.4	.91	.84	7.4	.52
27	4.7	4.2	7.3	15	9.5	8.3	13	3.9	.84	3.6	11	.58
28	4.7	13	7.6	12	12	8.3	7.7	3.6	.91	17	9.0	.64
29	4.5	10	34	7.3	------	9.0	6.1	6.7	.77	11	4.1	1.6
30	4.2	5.5	26	6.4	------	8.0	5.9	7.7	2.1	4.6	2.9	.77
31	4.2	------	17	6.1	------	7.7	------	5.4	------	2.9	2.3	------
TOTAL	315.1	181.5	268.1	286.5	299.4	348.7	211.5	271.9	62.23	118.37	144.94	29.68
MEAN	10.2	6.05	8.65	9.24	10.7	11.2	7.05	8.77	2.07	3.82	4.68	.99
MAX	147	32	34	20	31	34	13	45	6.7	18	31	1.6
MIN	1.7	3.5	3.7	6.0	5.5	7.7	5.1	3.6	.77	.77	.40	.52
CFSM	.95	.57	.81	.86	1.00	1.05	.66	.82	.19	.36	.44	.09
IN.	1.10	.63	.93	1.00	1.04	1.21	.74	.95	.22	.41	.50	.10

CAL YR 1966: TOTAL 2,251.80 MEAN 6.17 MAX 151 MIN 0 CFSM .58 IN 7.83
WAT YR 1967: TOTAL 2,537.92 MEAN 6.95 MAX 147 MIN .40 CFSM .65 IN 8.82

Peak discharge (base, 160 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-19	1530	4.80	320				

1-6615. St. Marys River at Great Mills, Md.

Location.--Lat 38°14'36", long 76°30'13", on left bank at downstream side of bridge on State Highway 471 in Great Mills, St. Marys County, 0.3 mile downstream from Western Branch, and 12.0 miles upstream from mouth.

Drainage area.--24.0 sq mi.

Records available.--June 1946 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 10 ft (from topographic map). Prior to Oct. 1, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--21 years, 23.3 cfs.

Extremes.--Maximum discharge during year, 870 cfs Oct. 19 (gage height, 8.15 ft); minimum, 1.6 cfs parts of several days in July, Aug. and Sept. (gage height, 1.28 ft).
1946-1967: Maximum discharge, 4,900 cfs July 30, 1960 (gage height, 12.08 ft), from rating curve extended above 1,500 cfs on basis of contracted-opening measurement of peak flow; minimum, 0.2 cfs Sept. 7, 1966 (gage height, 1.13 ft).

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	17	7.9	9.5	26	14	20	14	9.5	11	3.0	4.3	3.5
2	29	8.4	8.4	35	13	18	14	8.9	8.4	2.8	3.8	3.3
3	13	14	7.9	36	13	17	15	12	6.7	3.3	2.3	3.0
4	8.4	11	6.7	38	12	15	14	9.5	5.9	14	3.8	2.8
5	8.4	8.4	7.1	34	12	17	14	8.9	5.2	17	23	2.8
6	8.4	8.4	7.9	26	12	17	15	8.9	4.9	5.9	9.5	2.5
7	6.3	7.9	7.5	23	13	90	16	163	4.6	3.8	4.6	2.5
8	5.2	7.9	7.9	66	13	30	15	112	4.3	21	3.5	2.5
9	4.9	7.9	7.5	101	12	22	13	43	4.0	18	4.0	2.5
10	4.6	7.9	7.5	46	13	20	14	24	3.8	7.5	3.3	3.3
11	4.3	7.9	8.4	28	16	20	13	18	3.3	4.6	3.5	3.0
12	4.0	7.9	7.9	22	21	23	12	15	3.0	4.6	3.0	2.8
13	3.8	8.4	32	19	15	18	12	13	2.8	4.0	2.8	2.5
14	3.9	7.5	54	21	16	20	12	16	2.8	4.0	2.8	2.5
15	3.8	7.1	21	22	52	60	12	18	3.3	4.0	2.3	2.3
16	4.9	7.1	15	17	98	30	11	25	3.0	6.7	2.1	2.8
17	5.2	7.1	13	15	44	22	11	16	3.0	4.6	1.9	4.0
18	4.3	7.1	12	14	31	18	13	14	3.8	3.5	1.9	4.0
19	431	7.1	11	13	26	17	12	12	7.9	3.0	1.9	3.5
20	287	6.7	13	14	33	19	11	9.5	7.5	2.8	2.5	2.8
21	63	6.7	19	14	159	40	10	7.9	4.6	3.0	4.0	2.5
22	29	6.7	13	17	99	27	11	10	3.5	3.0	12	2.3
23	19	6.7	11	16	60	22	11	10	3.3	2.5	30	2.1
24	15	6.7	12	14	38	18	9.5	8.4	3.5	2.1	67	1.9
25	13	7.1	14	13	27	17	8.4	7.5	3.0	1.9	122	1.9
26	12	7.5	13	13	23	16	10	6.7	2.3	1.9	31	1.9
27	10	7.1	11	39	20	15	23	5.9	2.1	2.3	14	1.9
28	9.5	16	11	35	23	16	15	5.6	2.1	2.8	12	2.8
29	8.9	22	94	21	------	20	11	13	2.1	4.0	6.7	17
30	7.9	13	66	16	------	15	11	37	2.5	5.9	5.2	7.5
31	7.9	------	35	14	------	14	------	16	------	4.9	4.3	------
TOTAL	1,052.5	263.1	583.8	817	928	733	382.9	684.2	128.2	172.4	395.0	100.7
MEAN	34.0	8.77	18.8	26.4	33.1	23.6	12.8	22.1	4.27	5.56	12.7	3.36
MAX	431	22	94	101	159	90	23	163	11	21	122	17
MIN	3.8	6.7	6.7	13	12	14	8.4	5.6	2.1	1.9	1.9	1.9
CFSM	1.41	.37	.78	1.10	1.38	.99	.53	.92	.18	.23	.53	.14
IN.	1.63	.41	.90	1.27	1.44	1.14	.59	1.06	.20	.27	.61	.16

CAL YR 1966: TOTAL 5,500.90 MEAN 15.1 MAX 431 MIN .30 CFSM .63 IN 8.52
WAT YR 1967: TOTAL 6,240.8 MEAN 17.1 MAX 431 MIN 1.9 CFSM .71 IN 9.67

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-19	2030	8.15	870				

Note.--Doubtful gage-height record Feb. 24 to Apr. 3.

3-0755. Youghiogheny River near Oakland, Md.

Location.--Lat 39°25'19", long 79°25'32", on left bank 200 ft downstream from Baltimore and Ohio Railroad bridge, 250 ft downstream from Little Youghiogheny River, 1¼ miles northwest of Oakland, Garrett County, and 1½ miles upstream from Dunkard Lick Run.

Drainage area.--134 sq mi.

Records available.--August 1941 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 2,353.11 ft above mean sea level, unadjusted. Prior to Aug. 1, 1946, wire-weight gage at bridge 200 ft upstream at same datum. Aug. 2, 1946, to Sept. 19, 1960, graphic water-stage recorder at present site and datum.

Average discharge.--26 years, 285 cfs.

Extremes.--Maximum discharge during year, 7,390 cfs Mar. 6 (gage height, 9.62 ft); minimum, 12 cfs Sept. 21, 27 (gage height, 1.89 ft).
1941-67: 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.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	551	31	304	211	535	190	280	230	280	26	231	42
2	692	36	275	302	510	184	242	220	222	34	161	35
3	325	221	214	258	569	576	213	247	186	67	153	30
4	201	132	197	240	459	1,050	185	187	157	46	337	27
5	142	90	189	210	412	1,780	359	165	135	40	213	25
6	103	90	246	181	355	6,470	421	167	116	33	149	23
7	80	87	685	177	271	5,920	352	1,560	102	31	115	21
8	66	80	864	346	250	2,280	301	2,520	91	27	95	19
9	58	80	580	344	230	1,190	258	1,750	80	24	79	18
10	88	83	427	285	213	843	272	1,310	71	30	91	20
11	118	141	502	240	195	685	247	1,270	66	433	75	22
12	72	135	403	219	189	644	201	1,330	59	499	59	19
13	56	113	341	193	164	492	181	871	51	226	52	16
14	48	99	300	183	164	1,220	194	714	44	136	48	15
15	43	91	248	194	399	1,910	168	854	45	136	42	14
16	40	82	205	162	618	1,730	147	1,280	38	111	39	13
17	39	75	188	148	497	1,080	244	910	35	77	34	13
18	39	70	187	110	397	763	408	762	34	68	31	13
19	57	68	174	80	320	575	298	605	152	95	30	13
20	75	60	169	90	296	504	249	547	71	301	52	13
21	81	54	204	102	541	1,110	219	419	51	252	67	13
22	63	50	171	134	442	1,300	374	371	51	132	43	17
23	54	47	156	149	375	895	372	300	85	92	33	19
24	52	46	137	149	277	736	347	247	71	72	30	16
25	49	44	110	142	223	731	346	210	46	74	34	14
26	44	48	105	127	249	812	301	180	43	305	65	13
27	40	52	100	217	206	740	347	155	37	180	106	12
28	37	335	94	361	215	584	307	140	30	431	128	85
29	35	506	222	260	------	522	282	450	28	854	74	206
30	32	366	258	245	------	399	254	486	27	467	55	69
31	31	------	216	235	------	328	------	351	------	297	46	------
TOTAL	3,411	3,412	8,471	6,294	9,571	38,243	8,369	20,808	2,504	5,600	2,767	875
MEAN	110	114	273	203	342	1,234	279	671	83.5	181	89.3	29.2
MAX	692	506	864	361	618	6,470	421	2,520	280	854	337	206
MIN	31	31	94	80	164	184	147	140	27	24	30	12
CFSM	.82	.85	2.04	1.52	2.55	9.21	2.08	5.01	.62	1.35	.67	.22
IN.	.95	.95	2.35	1.75	2.66	10.6	2.32	5.77	.69	1.55	.77	.24

CAL YR 1966: TOTAL 88,271.7 MEAN 242 MAX 2,950 MIN 3.4 CFSM 1.80 IN 24.50
WAT YR 1967: TOTAL 110,325 MEAN 302 MAX 6,470 MIN 12 CFSM 2.26 IN 30.62

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 6	1245	9.62	7,390	5- 8	0045	6.64	3,230
3-15	1730	5.90	2,420				

Reservoirs in Monongahela River Basin

3-0760.--Deep Creek Reservoir.--Lat 39°30'34", long 79°23'28", on Deep Creek at dam, 1.8 miles upstream from mouth and 7 miles north of Oakland, Garrett County, Md. Drainage area, 64.7 sq mi. Records available, July 1925 to September 1967 (prior to October 1950, month-end contents published in WSP 1305, and October 1950 to September 1955, month-end 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, 93,000 acre-ft May 9 (elevation 2462.00 ft); minimum, 58,200 acre-ft Dec. 31 (elevation, 2452.10 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.

Month-end elevation and contents, water year October 1966 to September 1967

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2,455.40	69,100	-
Oct. 31	2,454.00	64,300	- 4,800
Nov. 30	2,452.70	60,100	- 4,200
Dec. 31	2,452.10	58,200	- 1,900
Calendar year 1966	-	-	+ 5,000
Jan. 31	2,452.60	59,800	+ 1,600
Feb. 28	2,454.50	66,000	+ 6,200
Mar. 31	2,460.80	88,500	+22,500
Apr. 30	2,461.30	90,400	+ 1,900
May 31	2,461.30	90,400	0
June 30	2,460.10	85,900	- 4,500
July 31	2,460.00	85,500	- 400
Aug. 31	2,458.70	80,800	- 4,700
Sept. 30	2,457.00	74,700	- 6,100
Water year 1966-67	-	-	+ 5,600

† Elevation at 2400.

3-0765. Youghiogheny River at Friendsville, Md.

Location.--Lat 39°39'13", long 79°24'31", on left bank 0.7 mile upstream from bridge on State Highway 42 at Friendsville, Garrett County, and 1½ miles upstream from Bear Creek.

Drainage area.--295 sq mi.

Records available.--August 1898 to December 1904 and October 1940 to September 1967 in reports of Geological Survey. 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.--Digital water-stage recorder. Datum of gage is 1,487.33 ft above mean sea level, datum of 1929. Aug. 17, 1898, to Dec. 31, 1904, and Sept. 1, 1922, to Sept. 30, 1926, wire-weight and chain gages at bridge 0.7 mile downstream at datum 16.24 and 16.29 ft lower, respectively. Dec. 4, 1940, to Sept. 19, 1960, graphic water-stage recorder at present site and datum.

Average discharge.--33 years (1898-1904, 1940-1967), 630 cfs (adjusted for storage since 1940).

Extremes.--Maximum discharge during year, 10,500 cfs Mar. 6 (gage height, 8.05 ft); minimum, 19 cfs Sept. 18 (gage height, 1.75 ft); minimum daily, 29 cfs Sept. 17.
1898-1904, 1940-67: 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 known, 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 on basis of slope-area measurement for peak of Oct. 16, 1954).

Remarks.--Records good. Low and medium flow regulated since 1925 by Deep Creek Reservoir (see preceding page). Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	436	183	619	348	848	335	563	639	649	67	421	172
2	952	196	580	461	897	473	477	629	563	58	337	67
3	566	401	320	530	996	699	536	678	378	180	318	59
4	399	388	310	505	779	1,660	554	609	306	114	485	49
5	301	178	487	450	693	2,730	830	545	385	180	331	139
6	261	148	513	420	627	9,070	1,140	343	421	176	214	160
7	226	282	1,050	352	531	8,720	918	2,600	399	168	272	153
8	119	272	1,540	476	470	4,340	730	4,540	312	64	290	191
9	83	279	1,130	600	460	2,540	599	3,760	293	52	229	99
10	191	289	732	509	400	1,830	818	3,240	200	147	261	41
11	324	357	822	449	365	1,350	762	3,140	153	350	243	144
12	258	262	837	390	290	1,200	629	3,400	244	818	109	196
13	179	203	714	393	300	1,000	572	2,410	229	460	88	187
14	166	284	642	323	345	1,720	572	1,950	215	318	185	191
15	112	290	572	336	533	3,040	406	2,150	210	176	165	183
16	63	280	519	352	951	3,260	331	2,960	312	168	173	92
17	152	276	383	309	837	2,130	629	2,260	150	215	177	29
18	198	262	332	280	645	1,390	1,110	2,040	94	205	184	128
19	209	149	449	393	537	1,030	794	1,740	363	219	59	180
20	239	120	438	300	518	1,000	688	1,270	299	444	71	183
21	251	209	440	240	804	1,670	629	958	229	485	211	183
22	145	226	434	243	711	2,490	730	1,010	224	229	198	183
23	94	233	400	318	666	1,710	818	868	299	161	177	97
24	178	115	279	307	516	1,260	848	668	176	233	166	34
25	213	178	205	292	310	1,230	843	581	122	215	158	134
26	262	134	220	271	310	1,470	784	518	196	331	80	141
27	228	109	350	334	340	1,610	880	363	187	392	134	117
28	180	568	372	577	270	1,210	855	299	180	337	295	229
29	97	1,030	470	430	------	1,110	572	719	172	1,030	252	469
30	55	744	626	350	------	944	485	855	172	561	205	205
31	156	------	451	403	------	794	------	730	------	493	185	------
TOTAL	7,293	8,645	17,236	11,941	15,949	65,015	21,102	48,472	8,132	9,070	6,693	4,435
MEAN	235	288	556	385	570	2,097	703	1,564	271	293	216	148
MAX	952	1,030	1,540	600	996	9,070	1,140	4,540	649	1,030	485	469
MIN	55	109	205	240	270	335	331	299	94	52	59	29
†	-78.1	-70.6	-30.9	+26.0	+111	+366	+31.9	0	-75.6	-6.5	-76.6	-102
MEAN‡	157	217	525	411	681	2,463	735	1,564	195	286	139	46.0
CFSM‡	.53	.74	1.78	1.39	2.31	8.35	2.49	5.30	.66	.97	.47	.16
IN. ‡	.61	.82	2.05	1.61	2.40	9.63	2.78	6.11	.74	1.12	.54	.17

CAL YR 1966: TOTAL 174,843.2 MEAN 475 MAX 4,800 MIN 8.2 MEAN‡ 486 CFSM‡ 1.65 IN.‡ 22.36
WAT YR 1967: TOTAL 223,983 MEAN 614 MAX 9,070 MIN 29 MEAN‡ 622 CFSM‡ 2.11 IN.‡ 28.59

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

3-0766. Bear Creek at Friendsville, Md.

Location.--Lat 39°39'22", long 79°23'41", 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, Garrett County, and 1.2 miles upstream from mouth.

Drainage area.--48.9 sq mi.

Records available.--October 1964 to September 1967.

Gage.--Graphic water-stage recorder. Altitude of gage is 1,555 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,980 cfs Mar. 7 (gage height, 6.61 ft); minimum not determined; minimum daily, 2.8 cfs Sept. 26, 27.
1965-67: Maximum discharge, that of Mar. 7, 1967; minimum, 1.5 cfs Sept. 12, 1966 (gage height, 0.42 ft).

Remarks.--Records poor.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53	4.4	54	18	145	45	106	79	64	12	15	8.0
2	34	5.1	45	21	160	45	94	75	60	12	12	7.2
3	16	14	37	19	160	155	86	73	54	13	11	5.8
4	12	11	31	18	118	215	76	63	49	12	32	5.4
5	10	8.2	34	16	106	560	117	58	43	12	18	4.9
6	9.0	7.8	40	15	90	1,800	131	58	40	10	12	4.8
7	7.8	7.6	100	17	82	1,610	177	548	36	9.6	11	4.4
8	6.6	7.4	118	25	74	635	171	611	34	8.8	9.4	4.3
9	6.1	8.6	86	25	64	426	146	587	30	9.2	12	4.3
10	8.8	9.4	58	21	58	348	250	445	28	9.2	21	6.0
11	9.6	15	72	19	50	304	210	488	25	69	12	5.4
12	7.8	12	56	17	43	241	155	438	23	38	9.0	4.7
13	7.0	12	45	17	40	181	142	301	20	22	8.6	4.2
14	6.3	10	40	19	46	191	119	240	19	19	8.0	4.0
15	5.9	9.8	36	21	102	382	103	304	18	17	7.5	3.8
16	5.6	9.0	36	17	150	390	88	372	16	14	7.0	3.5
17	5.4	8.6	33	15	102	318	124	301	15	12	6.8	3.4
18	5.6	8.2	36	14	84	226	128	228	34	12	6.5	3.4
19	7.2	7.8	34	13	72	174	109	200	37	16	6.7	3.4
20	8.4	7.0	31	15	72	144	97	176	21	21	14	3.3
21	8.4	6.4	28	20	76	194	90	137	17	17	12	4.0
22	7.2	6.1	27	27	66	244	114	119	25	13	8.0	5.0
23	6.6	5.8	24	36	60	208	103	102	49	12	7.0	4.5
24	6.3	6.3	17	36	54	171	103	88	26	12	6.8	3.7
25	5.9	6.1	19	31	48	198	94	77	20	16	7.6	3.1
26	5.4	6.4	17	29	46	297	86	69	19	12	9.4	2.8
27	5.1	7.0	16	94	45	328	96	62	15	9.6	14	2.8
28	4.8	88	16	114	47	251	89	56	14	20	16	15
29	4.6	86	19	80	-	201	83	87	13	34	12	25
30	4.4	66	17	64	-----	146	83	80	14	28	10	11
31	4.4	-----	16	64	-----	122	-----	70	-----	19	9.2	-----
Total	295.2	467.0	1,238	957	2,260	10,750	3,570	6,592	878	540.4	351.5	171.1
Mean	9.52	15.6	39.9	30.9	80.7	347	119	213	29.3	17.4	11.3	5.70
Max	53	88	118	114	160	1,800	250	611	64	69	32	25
Min	4.4	4.4	16	13	40	45	76	56	13	8.8	6.5	2.8
Cfsm	.19	.32	.82	.63	1.65	7.10	2.43	4.36	.60	.36	.23	.12
In.	.22	.36	.94	.73	1.72	8.18	2.72	5.01	.67	.41	.27	.13

Cal yr 1966: Total 19,877.0 Mean 54.5 Max 960 Min 1.6 Cfsm 1.11 In. 15.12
Wtr yr 1967: Total 28,070.2 Mean 76.9 Max 1,800 Min 2.8 Cfsm 1.57 In. 21.35

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 7	0400	6.61	1,980	5-11	1130	4.23	690
5- 7	1930	4.48	796				

Note.--No gage-height record Nov. 28 to Mar. 6.

3-0780. Casselman River at Grantsville, Md.

Location.--Lat 39°42'08", long 79°08'12", on left bank at downstream side of highway bridge, 0.3 mile upstream from Slaubough Run, 0.7 mile downstream from U. S. Highway 40, and 1.0 mile northeast of Grantsville, Garrett County.

Drainage area.--62.5 sq mi.

Records available.--July 1947 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 2,090 ft (from topographic map). Prior to Oct. 24, 1960, graphic water-stage recorder at same site and datum.

Average discharge.--20 years, 113 cfs.

Extremes.--Maximum discharge during year, 2,520 cfs Mar. 6 (gage height, 5.58 ft); minimum, 2.6 cfs Sept. 20 (gage height, 1.02 ft).
1947-67: 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 and logarithmic plotting; 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 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	152	9.8	83	37	246	64	155	97	90	11	39	11
2	120	13	75	50	272	64	137	99	78	9.2	29	9.2
3	54	59	64	40	272	235	122	106	71	12	25	7.6
4	35	38	56	40	190	332	101	86	63	11	47	6.7
5	26	28	60	37	166	882	224	77	57	12	41	6.2
6	19	25	70	32	142	2,140	264	77	51	11	26	5.3
7	15	22	221	35	110	1,700	268	870	47	8.6	20	4.4
8	13	21	256	60	115	702	210	780	44	7.6	17	4.4
9	12	25	155	60	100	534	169	840	39	7.2	16	4.4
10	29	27	120	45	90	455	296	561	36	30	33	7.2
11	33	51	150	40	80	405	242	655	32	190	24	6.2
12	21	43	115	36	66	323	175	550	29	125	17	4.8
13	16	35	92	36	62	253	150	336	26	54	14	4.4
14	13	29	83	40	70	309	139	292	22	37	13	4.0
15	12	26	75	50	160	627	122	420	22	32	12	3.6
16	11	24	74	36	235	495	103	425	19	27	9.8	3.2
17	11	21	68	33	157	355	235	305	16	19	9.2	3.2
18	11	21	74	30	129	264	309	272	16	32	8.6	3.2
19	18	20	70	26	110	217	181	242	32	38	8.1	3.2
20	29	17	64	30	110	200	144	235	28	56	21	2.9
21	29	16	58	40	120	180	124	178	21	46	26	3.6
22	21	13	54	78	100	170	184	160	28	25	14	4.8
23	18	13	50	86	90	160	155	134	63	20	11	5.3
24	16	13	35	85	80	150	134	115	38	22	11	4.0
25	14	13	40	75	69	264	124	99	25	44	13	3.2
26	13	15	35	68	66	435	115	88	22	31	19	2.9
27	12	17	32	160	64	517	175	78	16	19	31	2.9
28	12	190	32	193	70	350	147	74	13	51	36	22
29	11	184	45	124	------	296	120	169	12	120	22	39
30	9.8	108	37	100	------	224	106	169	13	110	14	16
31	9.2	------	35	100	------	184	------	112	------	54	11	------
TOTAL	815.0	1,136.8	2,478	1,902	3,541	13,486	5,130	8,701	1,069	1,279.6	637.7	208.8
MEAN	26.3	37.9	79.9	61.4	126	435	171	281	35.6	41.3	20.6	6.96
MAX	152	190	256	193	272	2,140	309	870	90	190	47	39
MIN	9.2	9.8	32	26	62	64	101	74	12	7.2	8.1	2.9
CFSM	.42	.61	1.28	.98	2.02	6.96	2.74	4.49	.57	.66	.33	.11
IN.	.48	.68	1.47	1.13	2.11	8.02	3.05	5.18	.64	.76	.38	.12

CAL YR 1966: TOTAL 32,322.50 MEAN 88.6 MAX 1,400 MIN .90 CFSM 1.42 IN 19.23
WAT YR 1967: TOTAL 40,384.9 MEAN 111 MAX 2,140 MIN 2.9 CFSM 1.77 IN 24.03

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 6	0945	5.58	2,520	5- 7	1830	4.18	1,320

3-0785. Big Piney Run near Salisbury, Pa.

Location.--Lat 39°43'32", long 79°02'57", on left bank an eighth of a mile upstream from Little Piney Run, a quarter of a mile north of Maryland-Pennsylvania State line, and 2½ miles southeast of Salisbury, Somerset County.

Drainage area.--24.5 sq mi.

Records available.--June 1932 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 2,240 ft (from topographic map). Prior to Oct. 25, 1961, graphic water-stage recorder at same site and datum.

Average discharge.--35 years, 37.4 cfs (unadjusted).

Extremes.--Maximum discharge during year, 1,010 cfs Mar. 7 (gage height, 4.26 ft); minimum, 0.50 cfs Sept. 16, 18 (gage height, 1.06 ft).
1932-67: 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 (ice jam); minimum, 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.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	35	.95	42	10	62	20	59	39	41	3.0	18	1.2
2	29	1.5	34	13	78	20	49	43	33	2.9	14	1.4
3	19	24	26	11	88	64	41	41	28	5.2	18	1.1
4	14	12	21	11	75	95	35	32	24	3.2	12	1.0
5	11	8.6	22	9.9	64	273	42	30	20	3.0	7.4	.90
6	7.1	7.8	24	8.6	52	843	46	30	16	2.9	5.9	.80
7	5.1	7.1	44	9.5	35	728	54	270	14	1.8	5.4	.70
8	4.1	6.2	65	15	34	285	47	285	12	1.9	5.7	.70
9	3.2	6.2	54	15	31	196	44	240	10	2.1	4.2	.70
10	5.4	6.2	46	12	28	169	71	177	9.4	4.0	3.3	1.1
11	7.1	12	56	11	26	159	61	222	7.4	57	2.7	1.0
12	3.5	9.9	43	10	20	134	55	190	6.5	39	2.6	.90
13	2.7	8.2	39	10	19	103	48	132	5.9	20	2.2	.80
14	2.4	7.1	35	11	22	99	42	108	5.0	16	1.8	.80
15	2.0	6.2	28	13	35	142	36	126	4.5	18	1.9	.60
16	1.6	5.4	24	10	52	137	30	120	4.0	13	7.8	.60
17	1.5	5.1	22	9.0	45	116	52	112	5.7	8.6	5.2	.60
18	1.9	5.1	22	8.0	42	91	56	99	15	10	2.9	.60
19	5.1	4.6	19	7.0	37	70	48	86	19	9.4	2.9	.60
20	5.4	4.4	18	8.0	37	61	41	77	8.6	7.1	5.0	.70
21	3.9	3.5	16	11	40	59	37	59	5.9	6.8	5.7	1.1
22	3.2	3.2	15	22	33	51	50	52	10	9.8	9.8	1.5
23	2.7	2.4	12	25	31	47	37	43	22	5.7	5.2	1.7
24	2.1	2.7	9.4	28	27	44	37	36	11	7.8	3.2	1.4
25	2.1	2.7	11	26	22	60	35	30	7.1	16	2.7	1.0
26	2.1	3.0	9.4	25	21	116	33	27	5.9	8.6	2.3	.80
27	1.7	3.4	8.6	70	21	177	56	23	4.3	5.9	1.6	.80
28	1.5	80	8.6	83	23	154	49	20	3.6	9.8	1.2	6.2
29	1.4	76	12	66	------	126	48	57	3.5	74	1.1	15
30	1.3	55	10	46	------	91	44	60	3.6	41	.90	4.3
31	1.2	------	9.0	45	------	72	------	50	------	27	.90	------
TOTAL	189.3	380.45	805.0	659.0	1,100	4,802	1,383	2,916	365.9	440.5	163.50	50.60
MEAN	6.11	12.7	26.0	21.3	39.3	155	46.1	94.1	12.2	14.2	5.27	1.69
MAX	35	80	65	83	88	843	71	285	41	74	18	15
MIN	1.2	.95	8.6	7.0	19	20	30	20	3.5	1.8	.90	.60

CAL YR 1966: TOTAL 9,921.45 MEAN 27.2 MAX 679 MIN .10 CFSM 1.11 IN. 15.06
WAT YR 1967: TOTAL 13,255.25 MEAN 36.3 MAX 843 MIN .60 CFSM 1.48 IN. 20.12

Peak discharge (base, 450 cfs)

Date	Time	Gage height	Discharge
3- 7	0600	4.26	1,010

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 1967, in North Atlantic Slope basins--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Delaware River basin				
1-4823	Red Lion Creek at Red Lion, Del.	Lat 39°36'20", long 75°39'55", at bridge on State Highway 7, 0.2 mile south of Red Lion, New Castle County.	3.20	1955-60 1962-67	5- 2-67	1.89
		Murderkill River basin				
1-4840.2	Browns Branch near Houston, Del.	Lat 38°57'31", long 75°30'33", at highway bridge, 2.9 miles north of Houston, Kent County.	12.4	1955-67	5- 2-67	12.4
*1-4840.5	Pratt Branch near Felton, Del.	Lat 39°00'37", long 75°31'46", at highway bridge, 2.6 miles east of Felton, Kent County.	3.29	1955-57 1959-60 1962-67	5- 2-67	2.00
1-4840.6	Double Run near Magnolia, Del.	Lat 39°03'16", long 75°29'43", at highway bridge, 1.5 miles southwest of Magnolia, Kent County.	5.68	1955-57 1959-60 1962-64 1966-67	5- 2-67	4.08
		Broadkill River basin				
*1-4842.7	Beaverdam Creek near Milton, Del.	Lat 38°45'41", long 75°16'03", at highway bridge, 2.5 miles east of Milton, Sussex County.	6.10	1955-67	9-15-67	13.8
		Indian River basin				
*4845.5	Pepper Creek at Dagsboro, Del.	Lat 38°32'50", long 75°14'40", at bridge on State Highway 26, at Dagsboro, Sussex County.	8.78	1955-67	9-15-67	4.34
		Choptank River basin				
1-4911.8	Watts Creek near Denton, Md.	Lat 38°52'29", long 75°47'38", at bridge on State Highway 474, 1.6 miles southeast of Denton, Caroline County.	[a]11	1964-67	5- 2-67 9-28-67	4.91 3.17
		Chester River basin				
1-4941	Old Mill Stream Branch at Centreville, Md.	Lat 39°02'23", long 76°04'22", at bridge on U. S. Highway 213, at Centreville, Queen Annes County.	11.2	[b]1953-54 1964-67	5- 2-67	8.27
		Elk River basin				
1-4955.5	Perch Creek near Elkton, Md.	Lat 39°34'16", long 75°48'53", at bridge on U. S. Highway 213, 2.5 miles south of Elkton, Cecil County.	a6.0	1964-67	5- 2-67	3.81

* Also a crest-stage partial-record station.
a Approximately.
b Miscellaneous measurements during this period.

Discharge measurements made at low-flow partial-record stations during water year 1967, in North Atlantic Slope basins--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Northeast River basin				
1-4960.5	Little Northeast Creek at Mechanic Valley, Md.	Lat 39°38'26", long 75°55'49", at highway bridge, 0.8 mile northwest of Mechanic Valley, Cecil County.	a14	1964-67	5- 2-67	12.9
		Patapsco River basin				
1-5890.9	Stony Run at Elkridge, Md.	Lat 39°12'43", long 76°41'46", at highway bridge on Elkridge-Patapsco Road, 0.9 mile east of Elkridge, Howard County.	a9.4	b1935,55, 1964-67	9-19-67	3.80
		Severn River basin				
1-5898	Severn Run at Benfield, Md.	Lat 39°04'51", long 76°37'36", at bridge on Maryland State Highway 3, 0.5 mile south of Benfield, Anne Arundel County.	a24	b1955, b1961-62, 1964-67	9-19-67	13.0
		Patuxent River basin				
1-5945.45	Lyons Creek at Lyons Creek, Md.	Lat 38°45'53", long 76°39'27", at bridge on State Highway 4, 0.1 mile east of Lyons Creek, Anne Arundel County.	14.7	1964-67	11- 2-66 5-27-67 6-21-67	6.88 8.28 3.04
		Potomac River basin				
1-6013	North Branch Jennings Run at Barrelville, Md.	Lat 39°42'13", long 78°50'38", at bridge on State Highway 47, at Barrelville, Allegany County	a12	1964-67	6-13-67 9-15-67	6.30 .92
1-6041.5	Collier Run at Spring Gap, Md.	Lat 39°34'03", long 78°43'23", at culvert on State Highway 51, 0.6 mile west of Spring Gap, Allegany County.	a11	1964-67	6-13-67 9-15-67	.31 .12
1-6191.5	Marsh Run at Fiddlesburg, Md.	Lat 39°39'29", long 77°41'16", at bridge on Old Forge Road, at Fiddlesburg, 0.6 miles above mouth and 0.5 mile east of Hagerstown city limits, Washington County.	a31	1965-67	7-17-67 9-14-67	35.7 12.6
1-6194.8	Little Antietam Creek at Keedysville, Md.	Lat 39°29'10", long 77°42'05", at bridge on Koffman Lane, at Keedysville, Washington County.	a24	c1956, 1964-67	6- 6-67 7-18-67 9-14-67 9-21-67	14.3 10.5 8.21 7.41
1-6444	Little Seneca Creek at Boyds, Md.	Lat 39°10'29", long 77°18'01", at bridge on State Highway 117, 0.9 mile southeast of Boyds, Montgomery County.	a21	1964, 1966-67		
1-6462.2 (revised)	Rock Run near Cabin John, Md.	Lat 38°58'30", long 77°10'58", at bridge on east access road from MacArthur Blvd. to David Taylor Model Basin, 1.1 miles west of Cabin John, Montgomery County.	a4.8	1964, 1966-67	9-21-67	.79
1-6583	Reeder Run at Chicamuxen, Md.	Lat 38°31'58", long 77°13'39", at bridge on State Highway 224, 0.8 mile west of Chicamuxen, Charles County.	5.48	1964-67	11- 8-66 5-26-67 6-15-67	1.55 2.53 .98
1-6613	McIntosh Run at Tintop Hill, Md.	Lat 38°20'02", long 76°37'57", at bridge on McIntosh Road, 1.0 mile northwest of Tintop Hill, St. Marys County.	12.1	1964-67	11- 1-66 5-25-67 6-14-67	3.31 4.64 .54

a Approximately.
b Miscellaneous measurements during this period.
c Miscellaneous flood measurement during this period.

Discharge measurements made at low-flow partial-record stations during water year 1967, in Ohio River basin

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Monongahela River basin				
3-0754	Laurel Run at Crellin, Md.	Lat 39°23'04", long 79°28'25", 800 ft above mouth, 0.5 mile southwest of Crellin, Garrett County.	10.9	1964-67	11-18-66 6- 9-67 9-13-67	11.0 11.0 1.65
3-0765.8	South Branch Bear Creek near Accident, Md.	Lat 39°36'39", long 79°20'02", at culvert on U. S. Highway 219, 1.5 miles southwest of Accident, Garrett County.	6.01	1964-67	6- 9-67 9-13-67	1.71 .40

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 1967, in North Atlantic Slope basins

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
Delaware River basin							
1-4792	Mill Creek at Hockessin, Del.	Lat 39°46'31", long 75°41'26", 20 ft above bridge on Brackenville Road, 0.9 mile southeast of Hockessin, New Castle County.	a4.0	1966-67	8-10-67	7.07	727
1-4799.5	Red Clay Creek tributary near Yorklyn, Del.	Lat 39°47'50", long 75°39'33", 8 ft above culvert, 1.1 miles southeast of Yorklyn, New Castle County.	a0.5	1966-67	8- 9-67	5.78	49
1-4812	Brandywine Creek tributary near Centerville, Del.	Lat 39°50'08", long 75°35'57", 30 ft above bridge on State Highway 100, 1.4 miles northeast of Centerville, New Castle County.	a0.9	1966-67	3- 7-67	4.33	64
1-4814.5	Willow Run at Rockland, Del.	Lat 39°47'32", long 75°33'16", 15 ft above culvert on Country Club Drive, 1.0 mile east of Rockland, New Castle County.	a0.5	1966-67	8-27-67	10.49	372
1-4823.1	Doll Run at Red Lion, Del.	Lat 39°35'53", long 75°39'43", 10 ft above culvert on secondary road, 0.7 mile south of Red Lion, New Castle County.	a1.2	1966-67	8-10-67	4.23	97
Smyrna River basin							
1-4832.9	Paw Paw Branch tributary near Clayton, Del.	Lat 39°18'41", long 75°40'08", 6 ft above culverts on road No. 483, 2.4 miles northwest of Clayton, Kent County.	a1.4	1966-67	3- 7-67	5.60	91
1-4834	Sawmill Branch tributary near Blackbird, Del.	Lat 39°20'57", long 75°38'31", 10 ft above culvert on U. S. Highway 13, 1.8 miles southeast of Blackbird, New Castle County.	a0.7	1966-67	3- 7-67	3.78	a20
Leipsic River basin							
1-4835	Leipsic River near Cheswold, Del.	Lat 39°13'58", long 75°37'57", 75 ft below highway bridge, 1.9 miles east of Kenton and 2.6 miles northwest of Cheswold, Kent County.	9.35	1931-33‡ 1943-57‡ 1958-67	8- 4-67	3.84	233
St. Jones River basin							
1-4837.2	Puncheon Branch at Dover, Del.	Lat 37°08'25", long 75°32'20", 10 ft above bridge on New Burton Road, at Dover, Kent County.	a2.4	1966-67	8- 4-67	5.04	284
Murderkill River basin							
1-4840.02	Murderkill River tributary near Felton, Del.	Lat 38°58'19", long 75°33'31", 6 ft above culvert on secondary road, 2.9 miles south of Felton, Kent County.	a1.2	1966-67	8- 4-67	8.10	360
*1-4840.5	Pratt Branch near Felton, Del.	Lat 39°00'37", long 75°31'46", at highway bridge, 2.6 miles east of Felton, Kent County.	3.29	1966-67	8- 4-67	10.50	459
Broadkill River basin							
*1-4842.7	Beaverdam Creek near Milton, Del.	Lat 38°45'41", long 75°16'03", at highway bridge on secondary road, 2.5 miles east of Milton, Sussex County.	6.10	1966-67	8-25-67	4.02	20

* Also a low-flow partial-record station.
‡ Operated as a continuous-record station.
a Approximately.

Annual maximum discharge at crest-stage partial-record stations during water year 1967, 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)
		Indian River basin					
*1-4845.5	Pepper Creek at Dagsboro, Del.	Lat 38°32'50", long 75°14'40", at bridge on State Highway 26, at Dagsboro, Sussex County.	8.78	1960-67	8-25-67	5.67	346
		Nanticoke River basin					
1-4869	Bridgeville Branch tributary at Bridgeville, Del.	Lat 38°44'53", long 75°36'51", 10 ft above culvert on private road, at Bridgeville, Sussex County.	a0.8	1966-67	8- 4-67	8.44	a150
1-4869.8	Toms Dam Branch near Greenwood, Del.	Lat 38°48'04", long 75°33'28", 16 ft above bridge on State Highway 16, 1.5 miles east of Greenwood, Sussex County.	a6.2	1966-67	8- 4-67	7.94	88
1-4879	Meadow Branch near Delmar Del.	Lat 38°29'05", long 75°35'16", 14 ft above culvert on road No. 503B, 2.1 miles northwest of Delmar, Sussex County.	a3.4	1967	8-25-67	6.53	99
1-4880	Holly Ditch near Laurel, Del.	Lat 38°32'20", long 75°35'55", 10 ft above culvert, 1½ miles southwest of Laurel, Sussex County.	2.19	1951-56‡, 1959-67	8-25-67	3.70	26
		Choptank River basin					
1-4904.7	Tappahanna Ditch near Hartly, Del.	Lat 39°08'07", long 75°41'30", 100 ft ft below bridge on State Highway 103, 2.7 miles southeast of Hartly, Kent County.	5.93	1952-67	8- 4-67	7.47	80
1-4904.9	Beachy Neidig Ditch near Willow Grove, Del.	Lat 39°04'57", long 75°39'27", 10 ft above culvert on secondary road, 1.8 miles northwest of Willow Grove, Kent County.	a2.4	1966-67	8- 4-67	8.46	67
1-4905	Culbreth Marsh Ditch near Chapeltown, Del b/	Lat 39°04'45", long 75°41'05", 40 ft below bridge on State Highway 223, 1.6 miles south of Chapeltown, Kent County.	11.6	1951-56‡, 1957-67	8- 4-67	8.31	(†)
1-4906	Meredith Branch near Sandtown, Del.	Lat 39°02'23", long 75°41'52", at bridge on State Highway 10, 1.2 miles east of Sandtown, Kent County.	a8.8	1966-67	8- 4-67	6.39	2,140
1-4910.1	Sangston Prong near Whiteleysburg, Del.	Lat 38°58'25", long 75°43'32", 10 ft above culvert on secondary road, 1.2 miles north of Whiteleysburg, Kent County.	a2.0	1966-67	8- 4-67	9.16	765
		Wye River basin					
1-4925	Sallie Harris Creek near Carmichael, Md.	Lat 38°57'55" long 76°06'30", on upstream wingwall of bridge on U. S. Highway 50, 2.0 miles northeast of Carmichael, Queen Annes County, and 2.2 miles northwest of Wye Mills.	8.09	1952-56‡, 1957-67	8- 4-67	7.33	1,180
		Susquehanna River basin					
1-5785	Octoraro Creek near Rising Sun, Md.	Lat 39°41'27", long 76°07'38", on right bank at downstream side of Porter Bridge, 3½ miles west of Rising Sun, Cecil County.	193	1932-58‡, 1963-67	8-10-67	9.58	6,870
1-5790	Basin Run at Liberty Grove, Md.	Lat 39°39'30", long 76°06'10", on left bank 100 ft upstream from highway bridge, 0.9 mile east of Liberty Grove, Cecil County, 1.0 mile southwest of Colora, and 3 miles upstream from mouth.	5.31	1948-58‡, 1965-67	8- 9-67	7.66	2,400

* Also a low-flow partial-record station.
† Discharge not determined.
‡ Operated as a continuous-record gaging station.
a Approximately.
b Prior to 1956 published as "Shades Branch".

Annual maximum discharge at crest-stage partial-record stations during water year 1967, 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)
		Patapsco River basin					
1-5880	Piney Run near Sykesville, Md.	Lat 39°22'55", long 76°58'00", 75 ft below bridge on State Highway 32, 1¼ miles north of Sykesville, Carroll County and 5¼ miles above mouth.	11.4	1932-58‡, 1959-67	8-27-67	7.17	2,100
1-5892.2	Gwynns Falls at Owings Mills, Md.	Lat 39°25'14", long 76°46'56", at bridge on U. S. Highway 140, at Owings Mills, Baltimore County.	9.12	1958-65, 1967	8-27-68	6.64	(†)
1-5892.4	Gwynns Falls at McDonogh, Md.	Lat 39°23'28", long 76°45'56", at bridge on McDonogh Road, at McDonogh, Baltimore County.	19.3	1958-67	8-27-67	8.81	(†)
1-5895	Sawmill Creek at Glen Burnie, Md.	Lat 39°10'12", long 76°37'51", on left bank 300 ft upstream from bridge on State Highway 648, 1/4 mile southeast of Maryland Highway 3, and 1/2 mile northwest of Glen Burnie, Anne Arundel County.	4.97	1944-52‡, 1965-67	8-25-67	3.19	78
		South River basin					
1-5905	Bacon Ridge Branch at Chesterfield, Md.	Lat 39°00'07", long 76°36'53", on left bank 50 ft downstream from timber highway bridge, 0.5 mile east of Chesterfield, Anne Arundel County, 1.4 miles upstream from confluence with North River, and 6.8 miles northwest of Annapolis.	6.92	1942-52‡, 1965-67	8- 4-67	3.88	390
		Patuxent River basin					
1-5944	Dorsey Run near Jessup, Md.	Lat 39°07'15", long 76°47'00", at bridge on State Highway 32, 0.6 mile southeast of Fort George G. Meade Junction, 1.0 mile above mouth, and 2 miles south of Jessup, Anne Arundel County.	11.6	1948-58‡, 1959-67	8-25-67	5.07	330
		Potomac River basin					
1-6095	Sawpit Run near Oldtown, Md.	Lat 39°32'50", long 78°33'20", 900 ft above bridge on State Highway 51, 1.0 mile above mouth, and 3.0 miles east of Oldtown, Allegany County.	5.08	1948-58‡, 1963-67	3- 7-67	3.69	410
1-6370	Little Catoctin Creek at Harmony, Md.	Lat 39°28'54", long 77°32'17", at county highway bridge, 0.9 mile southwest of Harmony, Frederick County, and 2.8 miles above mouth.	8.83	1947-58‡, 1959-67	3- 7-67	3.37	231
1-6400	Little Pipe Creek at Avondale, Md.	Lat 39°33'40", long 77°02'38", at private bridge, 0.1 mile below Copps Branch, 1/2 mile northwest of Avondale, and 3 miles southwest of Westminster, Carroll County.	8.10	1948-56‡, 1959-64, 1967	8- 9-67	4.93	513

† Discharge not determined.
‡ Operated as a continuous-record gaging station.

Measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table. All measurements in this table were made during periods of base flow, except as otherwise noted.

Discharge measurements made at miscellaneous sites during water year 1967, in North Atlantic Slope basins

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Delaware River basin						
Matson Run	Shellpot Creek	Lat 39°45'58", long 75°31'36", at culvert on Lea Boulevard, 0.7 mile upstream from mouth, at Wilmington, New Castle County, Del.	0.94	-	8-27-67	*1,120
Murderkill River basin						
Black Swamp Creek	Murderkill River	Lat 38°58'33", long 75°36'09", at bridge on road No. 284, 2.1 miles southeast of Felton, and 1.0 mile northeast of Mastens Corners, Kent County, Del.	4.56	-	8- 4-67	*1,430
Wicomico River basin						
Connelly Mill	Leonard Pond Run	Lat 38°25'59", long 75°35'41", at culvert 1.4 miles upstream from mouth, 3.4 miles north of Salisbury, Wicomico County, Md.	3.66	1964	9-19-67	5.66
Leonard Pond Run	North Prong Wicomico River	Lat 38°25'24", long 75°33'56", at Leonard Pond, 0.6 mile above Wood Creek, 2.4 miles southeast of Delmar, Wicomico County, Md.	13.4	1950-51, 1962-65	9-19-67	12.4
North Prong Wicomico River	Wicomico River	Lat 38°24'45", long 75°35'39", 1,260 ft upstream from bridge on Nailers Mill Road, 600 ft downstream from confluence of Connelly Mill Branch and Leonard Pond Run, and 2.0 miles north of Salisbury, Wicomico County, Md.	21.1	-	9-18-67 9-18-67 9-19-67	35.4 **33.0 **36.2
Little Burnt Branch	North Prong Wicomico River	Lat 38°25'25", long 75°36'28", just below dirt road at Culver Farm, 3.0 miles northwest of Salisbury, Wicomico County, Md.	2.74	1964	9-15-67	.38
Little Burnt Branch	North Prong Wicomico River	Lat 38°24'49", long 75°36'04", at culvert on Jersey Road, 0.5 mile upstream from Nailers Pond, 2.1 miles northwest of Salisbury, Wicomico County, Md.	3.39	1964	1-27-67 6- 7-67 6-20-67 7-10-67 7-14-67 7-31-67 8-17-67 9- 5-67 9-15-67 9-19-67	.79 1.06 1.30 1.14 1.27 1.36 1.89 3.76 **3.17 **2.85
Little Burnt Branch	North Prong Wicomico River	Lat 38°24'43", long 75°35'52", 1,000 ft upstream from Nailers Pond, and 2.0 miles northwest of Salisbury, Wicomico County, Md.	3.57	-	6- 7-67 6-20-67 8-17-67 9- 5-67 9-11-67 9-19-67 9-20-67	2.01 2.48 3.14 5.59 **4.74 **2.82 **2.61
Little Burnt Branch	North Prong Wicomico River	Lat 38°24'41", long 75°35'46", 450 ft upstream from Nailers Pond, and 2.0 miles northwest of Salisbury, Wicomico County, Md.	3.58	-	1-27-67 6- 7-67 6-20-67 7-14-67 8-17-67 9-11-67 9-14-67 9-19-67	2.19 2.50 2.80 2.20 3.91 **5.32 5.04 **3.50
North Prong Wicomico River	Wicomico River	Lat 38°24'32", long 75°35'42", at bridge on Naylor Mill Road, 0.1 mile below confluence of Leonard Pond Run and Little Burnt Branch, and 1.9 miles north of Salisbury, Wicomico County, Md.	24.8	1962-65	9-18-67 9-18-67 9-19-67	38.8 **51.0 **49.2

* Peak flow

** Affected by pumping test; preliminary testing on Sept. 11, 1967; continuous pumping from Sept. 18 to Oct. 13, 1967; production well located at lat 38°24'42", long 75°35'52", on right bank of Little Burnt Branch, about 1,100 feet northeast of intersection of Jersey Road and Naylor Mill Road.

Discharge measurements made at miscellaneous sites during water year 1967, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Nanticoke River basin						
Gales Creek	Nanticoke River	Lat 38°34'01", long 75°42'49", at outlet to Galestown Millpond on State Highway 531 at Galestown, Dorchester County, Md.	-	1964-66	5- 1-67	8.72
Skinners Run	Marshyhope Creek	Lat 38°39'46", long 75°48'38", at bridge on unimproved road, 0.6 mile upstream from mouth, 1.0 mile northeast of Williamsburg, Dorchester County, Md.	-	1964-66	12- 2-66	2.22
					5- 1-67	3.62
Transquaking River basin						
Transquaking River	Fishing Bay	Lat 38°33'33", long 75°55'29", at culvert on Red Hill Road, 3.1 miles upstream from Higgins Millpond, and 0.3 mile west of Hawkeye, Dorchester County, Md.	-	1966	12- 2-66	.51
					5- 1-67	.58
Choptank River basin						
Kings Creek	Choptank River	Lat 38°47'20", long 76°00'35", at bridge on county road, 0.8 mile downstream from confluence of Wootenaux Creek and Galloway Run, and 3.5 miles east of Easton, Talbot County, Md.	8.67	1951-53, 1965-66	12- 2-66	2.49
					5- 1-67	2.92
Miles Creek	Choptank River	Lat 38°40'15", long 76°01'45", at bridge on county road, 3.5 miles upstream from mouth, and 1.8 miles northeast of Trappe, Talbot County, Md.	5.70	1951-53, 1965-66	12- 2-66	2.45
					5- 1-67	1.88
Gravel Run	Hunting Creek	Lat 38°40'56", long 75°53'57", at culvert on State Route 16, at Beulah, Dorchester County, Md.	a8.4	1964-66	12- 2-66	5.11
					5- 1-67	6.80
Wye River basin						
Mill Creek	Skipton Creek	Lat 38°54'36", long 76°04'26", at bridge on StateRoute 662, 1.4 miles northwest of Skipton, Talbot County, Md.	-	1964-66	12- 2-66	4.42
					5- 1-67	4.72
Fishing Creek basin						
Fishing Creek	Chesapeake Bay	Lat 38°39'05", long 76°34'13", at bridge on Dalyrumple Road, 2.1 miles southeast of Sunderland, Calvert County, Md.	7.09	1966	†5-18-66	7.54
					†7-25-66	.08
					5- 2-67	5.40
					5-27-67	4.93
					6-16-67	1.97
Patuxent River basin						
Hall Creek	Patuxent River	Lat 38°42'33", long 76°39'27", at bridge on State Highway 4, 0.9 mile south of Dunkirk, Calvert County, Md.	14.0	1966	†5-18-66	11.8
					†7-26-66	.09
					11- 2-66	5.90
					5-27-67	10.2
					6-16-67	3.44
Hunting Creek	Patuxent River	Lat 38°35'05", long 76°36'25", at bridge on State Highway 2, 200 ft below mouth of Sewell Branch, and 2.2 miles south of Huntington, Calvert County, Md.	a16	1966	†5-18-66	14.2
					†7-20-66	0
					11- 2-66	5.52
					5- 2-67	11.8
					5-27-67	9.19
					6-16-67	2.63
					6-27-67	2.27
Mill Creek	Huntington Creek	Lat 38°33'02", long 76°37'51", at bridge on Stoakley Road, 1.8 miles west of Stoakley, Calvert County, Md.	3.83	1966	†5-18-66	2.43
					†7-26-66	0
					11- 7-66	1.66
					5- 2-67	2.86
					5-28-67	2.48
					6-16-67	.89
Battle Creek	Patuxent River	Lat 38°29'38", long 76°35'38", at bridge on State Highway 506, 1.8 miles east of Bowens, Calvert County, Md.	5.92	1966	†7-26-66	.02
Helen Creek	Patuxent River	Lat 38°23'28", long 76°27'17", at dam on private road, 0.5 mile southeast of Sollers Road, 0.6 mile above St. Paul Branch, and 1.4 miles south of Lusby, Calvert County, Md.	1.04	1966	†7-26-66	.11
					11- 2-66	.56
					5- 2-67	.67
					5-27-67	.49
					6-16-67	.40
Swanson Creek	Patuxent River	Lat 38°33'39", long 76°44'23", at bridge on State Highway 381, 1.4 miles north of Patuxent, Charles County, Md.	20.2	1964	7-28-66	.16
					11- 9-66	5.80
					5-25-67	7.41
Killpeck Creek	Trent Hall Creek	Lat 38°28'38", long 76°44'02", at bridge on All Faiths Road, 2.7 miles above mouth, and 0.7 mile north of Huntersville, St. Marys County, Md.	3.64	1966	†6-28-66	.79
					†7-27-66	.32
					11- 7-66	2.49
					5-25-67	3.03
					6-15-67	1.70

† Not previously published.
a Approximately.

Discharge measurements made at miscellaneous sites during water year 1967, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
		Patuxent River basin--Continued				
Lock Swamp Creek	Trent Hall Creek	Lat 38°27'49", long 76°42'50", at bridge on State Highway 6, 2.8 miles northeast of Mechanicsville, St. Marys County, Md.	4.62	1964	†7-28-66	.34
					11- 7-66	2.56
					5-25-67	3.20
					6-14-67	1.47
Persimmon Creek	Patuxent River	Lat 38°27'02", long 76°40'47", at bridge on State Highway 6, 2.3 miles northeast of Mechanicsville, St. Marys County, Md.	5.62	1964	†6-28-66	.66
					†7-28-66	0
					11- 7-66	2.76
					5-25-67	3.20
		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.	-	1958-66	6-13-67	12.3
					9-15-67	7.74
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.	-	1958-66	9-20-67	.87
Piney Branch	Mattawoman Creek	Lat 38°38'22", long 76°57'31", 50 ft upstream from bridge on Cat Pond Road, and 2.9 miles northwest of Waldorf, Charles County, Md.	5.3	1961-62	†7-22-66	0
Mattawoman Creek	Potomac River	Lat 38°36'57", long 77°02'55", at bridge on Billingsly Road, 2.1 miles upstream from Old Womans Run, and 2.0 miles west of Benville, Charles County, Md.	47.7	1966	†5-18-66	15.6
					†7-22-66	0
					11- 8-66	16.1
					5-26-67	17.6
					6-15-67	.67
					6-27-67	1.75
Old Womans Run	Mattawoman Creek	Lat 38°35'43", long 77°00'57", at bridge on State Highway 228, 2.2 miles above mouth, and 0.9 mile south of Benville, Charles County, Md.	3.61	1966	†5-18-66	2.12
					†7-22-66	0
					11- 8-66	1.48
					5-26-67	1.98
					6-15-67	.53
Ward Run	Nanjemoy Creek	Lat 38°30'30", long 77°08'58", at end of farm road, 500 ft east of State Highway, and 1.3 miles north of Ironsides, Charles County, Md.	7.31	-	11- 8-66	1.92
					5-26-67	2.47
					6-15-67	1.21
Nanjemoy Creek	Potomac River	Lat 38°25'23", long 77°12'48", at Lord on Mills Road, 0.3 mile downstream from Hancock Run, and 0.8 mile west of Grayton P.O., Charles County, Md.	20.3	1966	†5-18-66	1.88
					†7-28-66	.06
					11- 8-66	2.04
					5-26-67	1.70
					6-15-67	.36
Port Tobacco Creek	Potomac River	Lat 38°32'33", long 77°01'04", at bridge on State Highway 225, and 1.8 miles west of LaPlata, Charles County, Md.	16.7	1966	†5-18-66	7.44
					†7-22-66	0
					9-13-66	0
					11- 8-66	6.49
					5-26-67	6.51
					6-15-67	1.68
					6-26-67	1.75
Zekiah Swamp Run	Allens Fresh Run	Lat 38°36'53", long 76°49'58", at bridge on State Highway 382, 0.9 miles above Devils Nest, and 2.6 miles northwest of Gallant Green, Charles County, Md.	12.5	1966	†5-18-66	7.55
					11- 8-66	5.56
					5-25-67	7.87
					6-14-67	2.23
					6-26-67	3.12
Gilbert Creek	Newport Run	Lat 38°31'43", long 76°48'11", at bridge on State Highway 231, 1.1 miles west of Hughesville, Charles County, Md.	-	-	11-22-66	.61
Wheatly Run	Gilbert Swamp Run	Lat 38°29'02", long 76°51'15", at bridge on State Highway 6, and 1.1 miles east of Olivers Shop, Charles County, Md.	2.97	-	11-22-66	1.14
Trinity Church Run	Gilbert Swamp Run	Lat 38°27'21", long 76°51'12", at bridge on Old Sycamore Road, and 1.8 miles southwest of Dubois, Charles County, Md.	8.38	-	11-23-66	2.64
Denton Run	Trinity Church Run	Lat 38°27'42", long 76°51'00", at bridge on Old Sycamore Road, and 1.3 miles southwest of Dubois, Charles County, Md.	1.41	-	11-23-66	.39
St. Clements Creek	Potomac River	Lat 38°20'00", long 76°43'31", at bridge on State Highway 242, 0.5 mile north of Clements, and 5.7 miles northwest of Leonardtown, St Marys County, Md.	18.5	-	11- 9-66	8.05
					5-25-67	7.66
					6-14-67	2.41
					6-26-67	3.72
St. Clement Creek	Potomac River	Lat 38°19'29", long 76°43'23", at bridge on State Highway 237, at Clements, St. Marys County, Md.	20.5	1966	6-27-66	1.14

† Not previously published.

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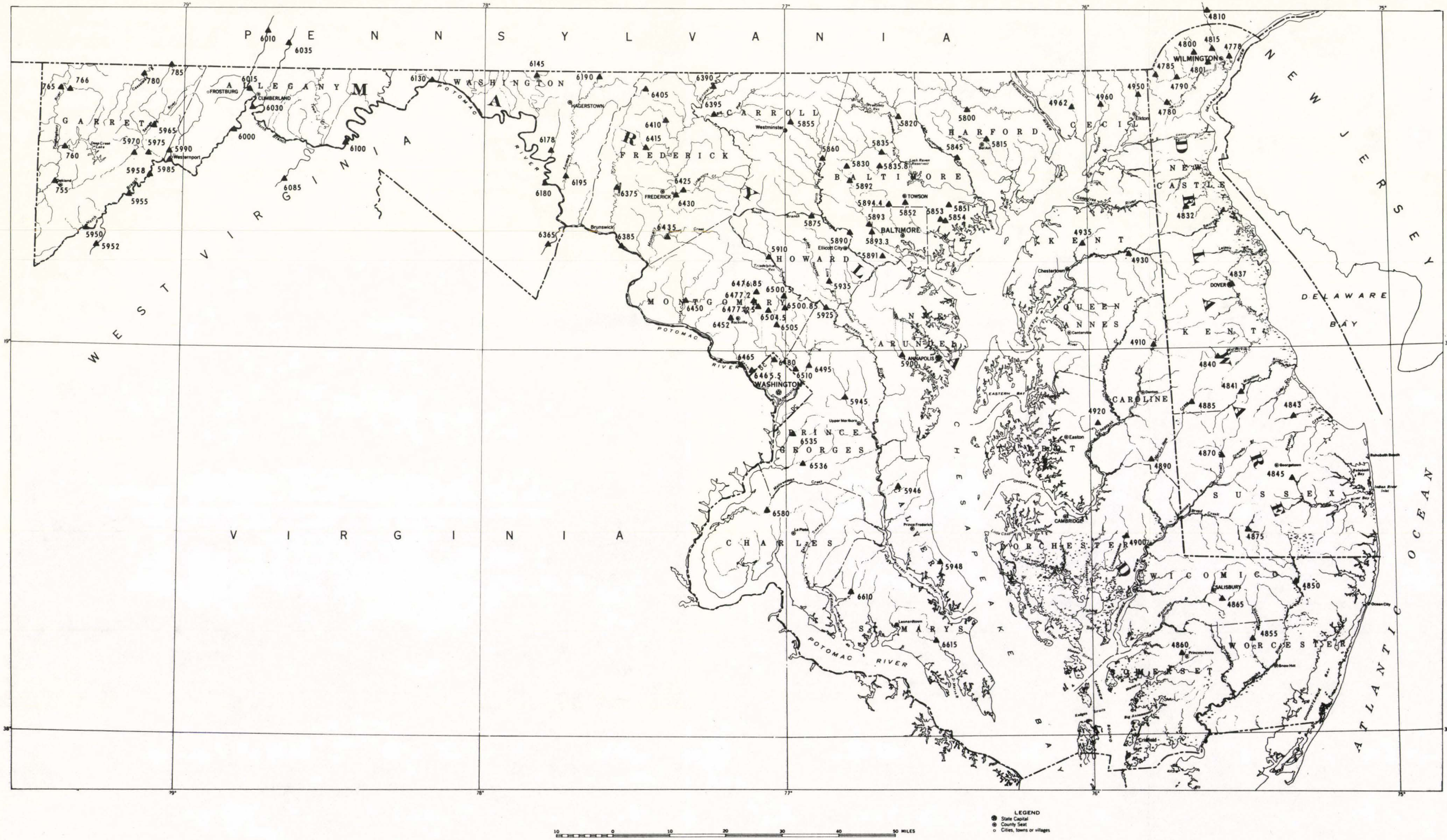

Plate 1.--Map showing location of gaging stations.