1968

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

1968

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

1970

CALENDAR FOR WATER YEAR 1968

OCTOBER 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				

NOVEMBER 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		

DECEMBER 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						

JANUARY 1968

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 1968

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		

MARCH 1968

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 1968

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 1968

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 1968

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 1968

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 1968

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 1968

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, 1968

Part 1. Surface Water Records

INTRODUCTION

The surface-water records for the 1968 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, D. H. Fisher, chief engineer; Maryland Department of Health, W. J. Peeples, M.D., M.P.H., Commissioner; Maryland National Capital Park and Planning Commission, J. S. Hewins, director of planning; Washington Suburban Sanitary Commission, R. J. McLeod, general manager and chief engineer; District of Columbia Department of Sanitary Engineering, R. L. Orndorff, director, succeeded by N. E. Jackson 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 28 gaging stations published in this report.

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

The following organizations aided in collecting records:

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

DEFINITION OF TERMS 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 obtained.

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 of 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 gate that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, a long reach of the channel, or an artificial structure.

Contents is the volume of water in a reservoir 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 indentification, 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 oreder 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 1968 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 pages, 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 a 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.

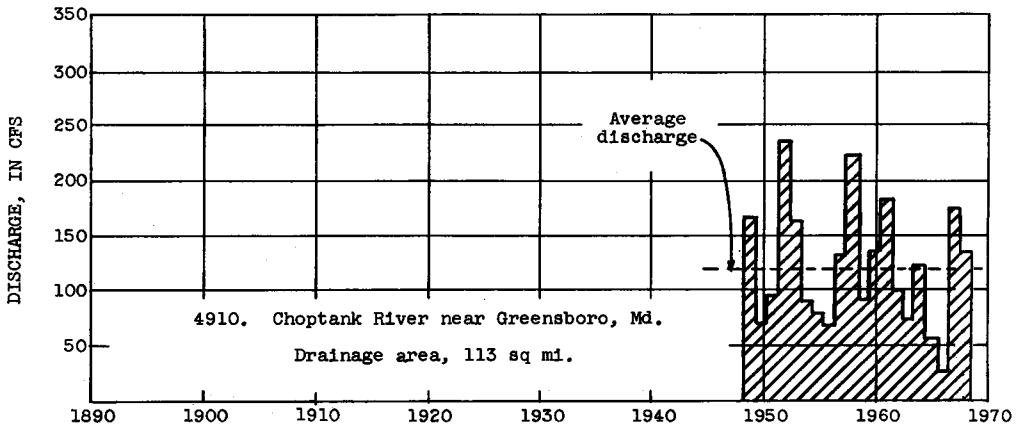
At or near some gaging stations, water-quality records also are collected. Data are obtained on the chemical quality of the stream water, on water temperature, on suspended-sediment concentration, and on the particle-size distribution of suspended sediment and bed material. These data are given in Part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

HYDROLOGIC CONDITIONS DURING 1968

Runoff, which had recovered to the normal range by the end of the 1967 water year, continued to be in the normal range during the 1968 water year.

Maximum peaks of record occurred at several short-term gaging stations in the Patapsco River basin as a result of severe thunderstorm activity on September 10, 1968.

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.



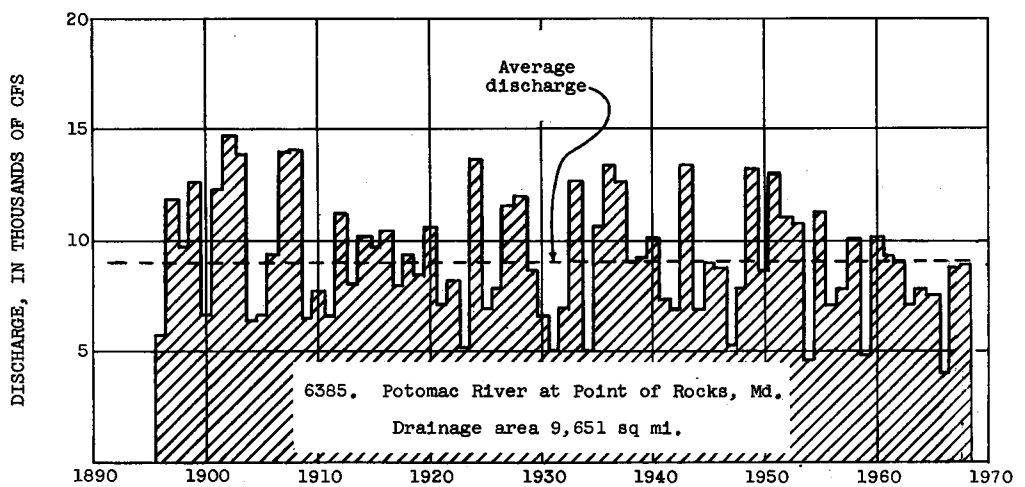


Figure 1.--Annual mean discharge at two gaging stations in Maryland.

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 1968.

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.--22 years (1946-68), 9.07 cfs.

Extremes.--Maximum discharge during year, 1,220 cfs Dec. 3 (gage height, 4.71 ft); minimum daily, 0.11 cfs Sept. 29.

1945-68: Maximum discharge, 4,650 cfs Aug. 27, 1967 (gage height, 9.10 ft), from rating curve extended above 620 cfs on basis of computation of flow over dam at gage height 6.52 ft, and contracted-opening measurements at gage heights 6.52 and 7.97 ft (8.6 ft from floodmarks) and Type V Culvert measurement of peak flow; minimum daily, 0.10 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 CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	1.3	2.3	5.4	5.4	9.0	4.7	2.0	4.1	.85	2.1	.24
2	2.8	67	2.5	5.0	99	3.5	3.2	1.6	3.2	4.9	7.7	.44
3	2.5	16	326	4.7	45	2.6	3.0	1.2	3.2	8.9	2.5	.24
4	2.2	3.2	20	5.4	7.0	2.0	3.0	1.5	2.6	1.3	1.8	.18
5	1.7	2.4	8.0	4.7	5.0	2.2	5.0	1.8	2.0	1.1	1.0	.24
6	1.5	2.0	5.3	4.4	4.4	2.0	3.1	3.0	2.0	.83	.95	4.1
7	1.3	1.9	5.0	4.4	4.1	2.0	3.1	1.6	1.6	.66	.84	3.8
8	1.2	1.5	4.7	3.5	3.8	1.8	3.6	1.5	1.6	.62	.81	.70
9	1.7	1.3	4.4	4.4	3.2	2.2	3.4	1.2	1.6	.61	.76	.18
10	16	1.4	5.6	4.1	3.0	2.8	2.7	1.5	1.8	1.5	1.9	4.7
11	4.1	1.3	93	3.2	2.8	2.4	2.8	3.5	1.4	1.8	1.8	42
12	1.5	1.4	161	3.0	2.6	121	3.0	6.6	102	2.2	.56	.64
13	1.3	2.1	15	2.8	2.4	168	2.8	1.6	20	1.4	.30	.31
14	1.2	1.4	7.6	292	2.4	9.0	2.4	1.4	3.1	.54	.39	.22
15	1.2	1.3	6.0	42	2.4	6.2	2.0	1.2	2.3	5.7	.41	.19
16	1.3	1.3	5.3	14	2.4	5.0	2.1	2.2	5.6	2.3	.35	.17
17	1.2	1.4	4.7	7.5	2.4	144	2.0	1.5	4.0	1.2	5.3	.17
18	7.3	2.3	4.4	7.0	2.2	266	2.0	1.2	2.7	1.2	2.4	.15
19	3.8	2.6	4.0	7.5	2.2	20	2.0	1.4	1.9	5.4	.52	.13
20	1.5	1.7	3.6	7.5	2.4	8.5	1.8	2.0	3.3	4.7	.36	.15
21	1.3	1.3	3.3	7.5	2.0	7.0	1.6	.90	1.4	.95	.36	.15
22	1.2	1.7	11	7.0	2.0	5.8	1.6	1.0	1.2	.52	.30	.25
23	1.1	14	9.0	10	2.0	30	1.6	6.2	2.4	.70	.36	.22
24	1.2	3.2	4.7	8.5	1.8	8.0	40	12	1.4	8.7	.90	.19
25	37	7.2	4.4	5.4	1.8	5.2	20	1.8	1.5	21	2.6	.17
26	7.2	2.7	7.5	4.7	1.8	4.7	2.2	1.2	2.9	2.0	.52	.25
27	2.3	2.1	4.4	4.7	1.8	4.4	1.8	1.4	11	1.4	.24	.13
28	1.7	1.9	132	5.0	1.6	4.2	1.4	150	1.5	2.3	.18	.13
29	1.5	1.7	69	5.8	3.2	4.0	1.2	94	.90	.93	.18	.11
30	1.3	2.1	7.0	6.6	------	3.8	2.6	12	.70	.96	.24	.15
31	1.3	------	5.8	8.0	------	3.7	------	8.4	------	1.0	.24	------
TOTAL	115.5	152.7	946.5	505.7	222.1	861.0	131.7	328.40	194.90	88.17	38.87	60.70
MEAN	3.73	5.09	30.5	16.3	7.66	27.8	4.39	10.6	6.50	2.84	1.25	2.02
MAX	37	67	326	292	99	266	40	150	102	21	7.7	42
MIN	1.1	1.3	2.3	2.8	1.6	1.8	1.2	.90	.70	.52	.18	.11
CFSM	.50	.68	4.09	2.19	1.03	3.72	.59	1.42	.87	.38	.17	.27
IN.	.58	.76	4.72	2.52	1.11	4.29	.66	1.64	.97	.44	.19	.30

CAL YR 1967 TOTAL 5,666.93 MEAN 15.5 MAX 678 MIN .26 CFSM 2.08 IN 28.25
WTR YR 1968 TOTAL 3,646.24 MEAN 9.96 MAX 326 MIN .11 CFSM 1.34 IN 18.18

PEAK DISCHARGE (BASE, 550 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-03	0910	4.71	1,220	3-18	0725	3.98	886
12-12	1015	3.32	584	5-28	1620	3.29	555
1-14	1700	3.82	814	6-12	2005	3.93	864
3-12	2215	4.17	972				

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 1968.

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.--25 years, 25.3 cfs.

Extremes.--Maximum discharge during year, 1,440 cfs Jan. 14 (gage height, 10.57 ft); minimum daily, 1.0 cfs Sept. 29.
1943-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	8.7	10	14	26	27	19	19	18	5.0	4.9	1.6
2	8.2	24	12	11	162	17	16	16	15	8.8	11	2.9
3	8.2	33	553	12	128	16	16	15	14	14	4.7	5.8
4	9.8	12	61	14	24	13	16	14	12	6.1	4.1	4.4
5	6.3	10	21	12	18	14	19	14	11	6.9	5.5	2.7
6	7.6	10	16	9.7	16	14	16	16	10	5.2	2.7	7.1
7	7.4	8.3	18	10	16	14	15	13	9.7	4.9	5.5	7.7
8	7.0	8.4	18	8.7	15	14	16	12	12	5.8	4.0	3.5
9	8.2	9.5	17	8.4	14	15	16	12	9.0	3.9	5.1	4.1
10	18	7.9	19	8.6	13	16	15	12	9.0	4.7	5.0	6.6
11	15	7.5	166	8.1	12	18	14	13	8.7	4.1	5.3	35
12	8.7	7.9	440	7.2	11	186	14	28	22	4.9	3.8	5.0
13	8.1	8.2	37	8.0	11	529	13	19	16	5.4	2.6	3.0
14	8.0	9.1	19	680	10	31	13	14	8.0	3.4	3.8	3.2
15	8.1	8.3	15	420	10	22	13	13	6.8	13	4.7	1.9
16	7.9	8.8	13	140	11	20	14	24	6.4	6.1	3.1	2.7
17	8.3	5.9	12	45	11	384	13	16	5.8	4.5	5.1	3.0
18	10	8.9	12	30	10	554	13	13	8.2	8.2	4.1	3.0
19	14	9.1	11	25	10	50	15	12	6.9	48	3.6	2.7
20	8.6	10	10	22	12	30	15	14	7.4	19	3.9	2.7
21	8.3	9.2	9.6	20	12	24	14	12	6.7	5.9	3.6	2.7
22	8.0	8.3	19	25	11	22	14	12	5.4	5.3	3.5	1.6
23	9.1	13	21	32	11	29	14	20	7.6	4.8	3.3	2.9
24	6.8	11	12	32	11	25	43	44	5.7	5.0	4.1	1.5
25	22	11	11	18	11	20	68	17	5.6	3.8	3.3	3.2
26	31	9.8	16	17	11	19	21	13	5.8	4.5	3.3	1.5
27	11	9.5	11	18	11	18	18	12	11	6.3	2.9	3.4
28	9.4	11	117	16	12	17	17	503	9.2	4.6	2.1	2.4
29	8.5	8.3	170	22	16	17	16	185	5.9	4.0	3.0	1.0
30	9.4	6.8	19	28	------	17	17	35	5.1	3.9	2.6	2.7
31	8.0	------	14	40	------	16	------	33	------	3.8	2.7	------
TOTAL	317.7	313.4	1,899.6	1,761.7	646	2,208	543	1,195	283.9	233.8	126.9	131.5
MEAN	10.2	10.4	61.3	56.8	22.3	71.2	18.1	38.5	9.46	7.54	4.09	4.38
MAX	31	33	553	680	162	554	68	503	22	48	11	35
MIN	6.3	5.9	9.6	7.2	10	13	13	12	5.1	3.4	2.1	1.0
CFSM	.50	.51	2.99	2.77	1.09	3.47	.88	1.88	.46	.37	.20	.21
IN.	.58	.57	3.45	3.20	1.17	4.01	.99	2.17	.52	.42	.23	.24

CAL YR 1967 TOTAL 12,669.8 MEAN 34.7 MAX 900 MIN 3.8 CFSM 1.69 IN 22.98
WTR YR 1968 TOTAL 9,660.5 MEAN 26.4 MAX 680 MIN 1.0 CFSM 1.29 IN 17.53

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12- 3	1515	9.96	1,300	3-13	0230	9.98	1,310
12-12	1400	9.11	1,030	3-18	1015	9.76	1,230
1-14	1830	10.57	1,440	5-28	1845	9.86	1,260

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 1968.

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.--13 years, 72.1 cfs.

Extremes.--Maximum discharge during year, 1,930 cfs Jan. 14 (gage height, 6.09 ft), minimum daily, 20 cfs Sept. 28, 29.
1952-59, 1962-68: Maximum discharge, 4,540 cfs Aug. 10, 1967 (gage height, 9.97 ft), from rating curve extended above 1,800 cfs on basis of contracted-opening measurement of peak flow; minimum, 4.6 cfs Dec. 7, 1954 (gage height, 0.55 ft), result of freezeup; minimum daily, 5.6 cfs Sept. 10, 1966.

Remarks.--Records good. 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 1968 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	48	56	90	86	74	94	77	127	46	42	23
2	52	83	50	80	142	63	86	69	106	46	85	24
3	50	153	530	86	219	61	84	65	101	56	43	31
4	50	65	182	84	101	59	90	70	88	49	38	24
5	48	58	107	76	85	59	110	65	74	47	36	23
6	47	53	87	70	80	60	90	67	68	44	35	34
7	46	52	83	74	76	56	84	60	72	43	39	38
8	47	50	80	66	74	56	88	58	63	41	34	27
9	49	49	71	60	72	60	90	58	60	40	32	26
10	61	49	70	66	70	64	82	57	60	40	33	29
11	76	48	249	60	62	67	80	57	60	41	37	77
12	53	48	499	56	66	179	80	73	408	41	31	33
13	50	48	163	80	64	564	78	65	294	39	30	28
14	49	46	114	700	60	167	76	61	76	39	30	26
15	50	44	98	338	62	130	76	60	64	69	29	25
16	49	43	87	126	66	117	76	66	65	49	29	25
17	49	44	82	110	64	558	74	69	95	39	43	25
18	65	48	80	100	60	698	73	58	77	65	31	25
19	98	49	76	93	56	214	73	58	61	68	29	24
20	54	46	73	99	60	165	72	57	60	98	30	23
21	50	44	71	97	56	155	72	53	54	46	28	23
22	48	46	91	94	54	145	73	52	52	41	25	23
23	48	52	104	94	56	170	73	54	65	39	25	23
24	47	49	77	94	60	150	148	110	53	38	26	22
25	76	52	73	77	58	130	256	68	56	72	27	22
26	148	49	83	76	56	120	89	56	73	44	25	21
27	60	46	71	78	56	110	76	52	70	38	22	21
28	54	44	118	73	56	100	69	527	68	37	23	20
29	50	42	372	79	59	92	66	416	54	35	23	20
30	49	43	117	86	------	90	69	161	49	33	22	21
31	49	------	94	100	------	88	------	170	------	33	22	------
TOTAL	1,776	1,591	4,108	3,462	2,136	4,821	2,647	2,989	2,577	1,456	1,004	806
MEAN	57.3	53.0	133	112	73.7	156	88.2	96.4	85.9	47.0	32.4	26.9
MAX	148	153	530	700	219	698	256	527	408	98	85	77
MIN	46	42	50	56	54	56	66	52	49	33	22	20
CFSM	.86	.80	1.99	1.67	1.10	2.33	1.32	1.45	1.29	.70	.49	.40
IN.	.99	.89	2.29	1.93	1.19	2.69	1.48	1.67	1.44	.81	.56	.45

CAL YR 1967 TOTAL 35,261 MEAN 96.6 MAX 1,750 MIN 31 CFSM 1.45 IN 19.66
WTR YR 1968 TOTAL 29,373 MEAN 80.3 MAX 700 MIN 20 CFSM 1.20 IN 16.38

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-14	1515	6.09	1,930	5-28	1900	5.29	1,500

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 1968. 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.--28 years, 104 cfs.

Extremes.--Maximum discharge during year, 2,360 cfs Jan. 14 (gage height, 11.17 ft); minimum, 19 cfs Aug. 30; minimum gage height, 4.06 ft Sept. 28; minimum daily, 21 cfs Aug. 29, 30, Sept. 28.

1931-36, 1943-57, 1959-68: Maximum discharge, 6,640 cfs Aug. 10, 1967 (gage height 16.41 ft); minimum, 4.7 cfs Sept. 11, 1966; minimum gage height, 3.66 ft July 26, 1954; minimum daily discharge, 5.0 cfs Sept. 10, 1966.

Maximum stage known, 23 ft in July 1937 (probably affected by backwater from railroad bridge which has since been raised and widened), from information by Baltimore & Ohio Railroad.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	65	70	118	115	121	120	108	129	62	45	23
2	69	113	58	110	219	95	110	96	112	76	118	31
3	67	207	710	130	331	92	105	88	107	82	58	37
4	64	84	272	111	156	89	112	94	96	64	51	25
5	62	73	135	100	133	85	138	84	85	62	46	23
6	61	66	110	94	125	85	113	94	82	60	41	44
7	60	62	104	100	119	81	109	78	78	58	45	53
8	62	60	99	90	115	79	112	76	77	54	43	31
9	64	59	85	80	110	86	114	75	72	52	38	27
10	88	60	92	86	105	95	104	75	71	50	40	32
11	105	58	355	80	94	99	102	77	70	48	51	123
12	68	60	717	74	96	257	100	105	426	47	37	45
13	64	60	274	100	94	889	99	85	277	46	34	33
14	64	54	169	700	90	255	98	77	109	45	34	31
15	65	53	139	646	94	192	98	76	90	90	34	31
16	63	50	120	187	94	178	97	91	85	70	33	29
17	63	54	110	155	94	711	92	89	130	42	52	26
18	76	60	100	135	90	1,230	91	76	96	70	38	27
19	137	62	94	125	84	386	89	77	80	120	33	26
20	71	56	90	134	86	254	85	77	80	153	35	25
21	68	53	85	130	84	209	85	71	71	64	32	26
22	64	56	115	128	82	187	86	71	66	54	27	28
23	62	72	138	129	82	210	84	78	84	50	27	27
24	60	63	96	129	84	180	164	159	68	48	28	25
25	100	66	91	105	82	160	331	96	70	85	30	24
26	198	61	109	103	82	150	122	76	91	58	27	24
27	83	56	85	104	84	140	107	70	96	51	22	22
28	75	52	194	99	82	130	98	695	91	48	22	21
29	70	50	489	105	90	120	94	656	68	44	21	23
30	67	58	152	114	------	115	99	213	64	39	21	23
31	66	------	122	131	------	110	------	205	------	39	22	------
TOTAL	2,360	2,003	5,579	4,632	3,196	7,070	3,358	4,088	3,121	1,931	1,185	965
MEAN	76.1	66.8	180	149	110	228	112	132	104	62.3	38.2	32.2
MAX	198	207	717	700	331	1,230	331	695	426	153	118	123
MIN	60	50	58	74	82	79	84	70	64	39	21	21
CFSM	.87	.76	2.05	1.70	1.26	2.60	1.27	1.50	1.18	.71	.44	.37
IN.	1.00	.85	2.36	1.96	1.35	2.99	1.42	1.73	1.32	.82	.50	.41

CAL YR 1967 TOTAL 46,623 MEAN 128 MAX 2,880 MIN 37 CFSM 1.45 IN 19.75
WTR YR 1968 TOTAL 39,488 MEAN 108 MAX 1,230 MIN 21 CFSM 1.23 IN 16.73

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-14	2015	11.17	2,360	3-18	1045	10.64	2,060

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 1968.

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.--25 years, 60.3 cfs.

Extremes.--Maximum discharge during year, 1,750 cfs Jan. 14 (gage height, 5.53 ft); minimum, 3.5 cfs Sept. 27; minimum daily, 12 cfs Sept. 27.
1943-68: 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 1968 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	37	37	70	69	80	74	60	74	30	22	14
2	42	74	33	61	124	63	66	55	68	29	62	15
3	41	108	565	65	179	60	65	51	66	42	29	21
4	39	54	128	66	96	53	65	55	58	34	26	16
5	36	46	74	56	82	56	81	49	54	32	24	15
6	35	43	62	55	77	56	64	55	51	29	24	22
7	34	41	61	57	74	52	62	48	48	27	25	29
8	34	40	57	49	72	51	65	46	45	26	23	18
9	36	39	51	48	69	55	66	45	45	26	22	16
10	48	39	51	50	65	59	60	45	44	27	22	21
11	57	38	198	47	57	61	59	46	43	26	23	105
12	40	38	438	45	58	149	57	65	123	27	18	26
13	37	37	122	50	57	519	56	49	103	25	19	21
14	36	36	86	666	54	101	56	46	49	25	20	19
15	36	35	74	262	57	79	57	45	43	28	20	18
16	35	32	67	99	58	72	56	51	41	31	19	18
17	35	34	62	80	58	416	53	48	59	26	23	18
18	47	38	61	74	53	625	52	43	50	25	19	18
19	73	39	59	75	52	165	51	43	41	30	19	17
20	40	34	56	78	55	123	49	45	42	38	20	17
21	37	34	55	76	53	109	49	40	36	25	19	17
22	35	36	76	73	50	99	49	38	34	23	16	16
23	34	45	77	76	50	113	49	44	44	22	16	16
24	34	39	59	75	51	101	106	88	36	22	16	16
25	74	43	57	63	50	84	180	52	39	51	20	15
26	115	38	66	57	50	81	69	43	39	26	16	16
27	47	35	55	58	51	78	60	40	50	24	15	12
28	42	34	113	59	51	76	55	407	55	23	15	14
29	38	32	272	64	57	74	51	352	37	20	15	13
30	37	35	85	69	------	70	55	115	32	19	14	14
31	37	------	72	79	------	68	------	114	------	19	14	------
TOTAL	1,357	1,253	3,329	2,802	1,929	3,848	1,937	2,323	1,549	857	655	613
MEAN	43.8	41.8	107	90.4	66.5	124	64.6	74.9	51.6	27.6	21.1	20.4
MAX	115	108	565	666	179	625	180	407	123	51	62	105
MIN	34	32	33	45	50	51	49	38	32	19	14	12
CFSM	.93	.89	2.28	1.92	1.42	2.64	1.37	1.59	1.10	.59	.45	.43
IN.	1.07	.99	2.63	2.22	1.53	3.04	1.53	1.84	1.23	.68	.52	.48

CAL YR 1967 TOTAL 24,926 MEAN 68.3 MAX 1,250 MIN 26 CFSM 1.45 IN 19.72
WTR YR 1968 TOTAL 22,452 MEAN 61.3 MAX 666 MIN 12 CFSM 1.31 IN 17.77

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-03	1330	5.24	1,520	3-18	0945	4.93	1,300
1-14	1915	5.53	1,750	5-28	2015	4.80	1,210
3-13	0030	4.89	1,240				

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 1968.

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.

Average discharge.--5 years, 8.99 cfs.

Extremes.--Maximum discharge during year, 500 cfs July 15 (gage height, 5.08 ft), from rating curve extended above 380 cfs on basis of contracted-opening measurement of peak flow; minimum, 0.44 cfs Oct. 29, 30.
1963-68: Maximum discharge, 3,960 cfs Aug. 10, 1967 (gage height, 8.58 ft); minimum, 0.10 cfs July 17, 18, Sept. 18, 19, 1966.

Remarks.--Records good except those for period July 21 to Sept. 30, which are poor.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	.72	2.6	6.2	4.6	15	8.5	5.6	12	2.6	5.0	1.4
2	3.8	27	2.6	7.3	60	6.2	5.6	4.6	5.1	13	2.0	1.4
3	4.2	4.2	156	6.7	23	4.2	5.6	3.8	4.2	8.9	1.9	1.4
4	4.2	1.2	15	7.9	9.2	3.8	5.6	4.2	3.8	3.8	1.8	1.4
5	4.2	.85	9.8	5.6	6.7	4.6	7.9	3.8	3.8	3.8	1.8	1.4
6	3.8	1.0	7.9	5.6	6.2	4.6	4.6	6.7	3.8	3.4	1.7	11
7	3.4	1.2	9.8	4.6	6.2	4.2	4.6	3.8	4.2	2.2	1.7	5.6
8	3.4	1.2	7.9	7.9	5.6	4.2	6.2	3.8	3.8	4.6	1.7	3.0
9	5.6	1.0	6.2	8.5	5.6	4.2	5.6	3.8	3.4	10	1.6	2.0
10	15	1.0	20	6.2	4.6	4.6	5.6	3.8	3.8	6.2	3.0	13
11	3.0	1.0	52	7.9	5.1	4.6	6.2	9.8	3.8	4.6	1.7	35
12	1.2	1.4	89	7.3	6.2	78	5.6	9.8	53	4.2	1.6	2.8
13	1.2	3.0	14	4.6	5.6	95	5.6	4.6	17	3.4	1.5	2.0
14	1.2	3.4	9.8	200	5.6	10	5.6	4.2	3.8	2.6	1.5	1.5
15	1.4	3.8	7.9	20	5.6	7.9	6.7	4.2	3.0	52	1.5	1.3
16	2.0	3.4	6.7	9.2	5.1	7.3	6.7	6.7	4.2	8.8	1.5	1.3
17	2.6	3.8	5.6	8.5	5.1	86	6.2	3.8	6.2	5.1	5.0	1.3
18	11	4.6	5.6	5.6	6.2	140	5.1	3.4	4.2	3.8	2.0	1.3
19	2.6	3.8	5.6	6.2	7.9	15	5.1	3.4	3.8	10	1.6	1.3
20	1.0	3.4	5.1	5.6	7.9	12	4.6	3.8	9.8	20	1.5	1.2
21	.85	3.0	4.6	5.6	7.3	10	4.6	4.2	6.2	7.3	1.5	1.2
22	.85	3.5	14	5.1	9.2	9.2	5.6	3.4	3.8	4.5	1.5	1.2
23	1.0	13	10	9.8	7.9	15	5.6	12	3.4	3.0	1.5	1.3
24	1.2	4.0	6.2	7.3	6.7	9.2	32	13	3.0	2.1	1.7	1.3
25	28	6.0	5.6	5.1	6.7	7.3	13	3.8	3.8	6.0	3.0	1.2
26	3.8	3.4	10	5.1	6.7	6.7	5.1	2.2	8.5	2.0	1.6	1.3
27	1.0	2.6	5.1	3.8	6.7	7.3	4.6	3.4	16	1.9	1.5	1.2
28	.85	2.0	66	3.8	6.7	6.7	3.8	94	6.2	1.9	1.4	1.2
29	.62	2.0	35	4.6	12	6.7	3.8	43	3.4	1.8	1.4	1.2
30	.52	3.0	8.5	5.6	------	5.6	7.3	15	3.0	1.8	1.4	1.2
31	.62	------	7.3	6.2	------	5.6	------	12	------	1.8	1.4	------
TOTAL	117.51	113.47	611.4	403.4	261.9	600.7	202.6	303.6	214.0	207.1	59.5	102.9
MEAN	3.79	3.78	19.7	13.0	9.03	19.4	6.75	9.79	7.13	6.68	1.92	3.43
MAX	28	27	156	200	60	140	32	94	53	52	5.0	35
MIN	.52	.72	2.6	3.8	4.6	3.8	3.8	2.2	3.0	1.8	1.4	1.2
CFSM	.57	.56	2.94	1.94	1.35	2.90	1.01	1.46	1.06	1.00	.29	.51
IN.	.65	.63	3.39	2.24	1.45	3.33	1.12	1.69	1.19	1.15	.33	.57

CAL YR 1967 TOTAL 5,531.48 MEAN 15.2 MAX 899 MIN .52 CFSM 2.27 IN 30.70
WTR YR 1968 TOTAL 3,198.08 MEAN 8.74 MAX 200 MIN .52 CFSM 1.30 IN 17.75

PEAK DISCHARGE (BASE, 350 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12- 3	0845	4.94	460	3-18	0845	4.56	382
1-14	1345	4.53	428	6-12	2030	4.86	442
3-12	2230	4.49	368	7-15	1800	5.08	500

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 1968. 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.--48 years, 375 cfs.

Extremes.--Maximum discharge during year, 6,840 cfs June 13 (gage height, 10.00 ft); minimum, 54 cfs Sept. 30 (gage height, 0.94 ft).
1911-53, 1962-68: Maximum discharge, 17,200 cfs Mar. 5, 1920 (gage height, 15.0 ft, from floodmark), from rating curve extended above 7,000 cfs on basis of an area-depth study; minimum, 4.9 cfs Oct. 2, 1941 (gage height, 0.28 ft); minimum daily, 42 cfs Sept. 12, 1966.

Remarks.--Records good except those for winter months, which are fair. Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1968 are published in Part 2 of the Pennsylvania annual report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	205	187	183	433	486	396	462	386	602	335	248	121
2	187	269	183	340	539	335	438	363	510	322	308	131
3	183	790	1,520	410	1,100	322	410	344	549	344	228	151
4	179	349	1,080	396	588	291	400	363	462	331	209	138
5	172	291	491	335	481	313	472	340	405	322	197	128
6	165	244	377	350	448	313	396	496	372	304	197	176
7	162	228	340	370	429	300	377	367	344	295	244	286
8	165	217	326	280	419	286	381	322	331	282	201	169
9	169	209	300	330	405	300	381	304	326	278	183	145
10	197	209	282	350	386	326	354	300	313	278	183	169
11	354	201	860	320	326	335	344	300	308	278	179	985
12	217	205	1,460	270	377	448	335	424	2,490	282	162	291
13	190	209	885	320	350	1,570	326	340	3,500	269	158	187
14	179	201	539	1,300	330	725	322	304	965	265	162	158
15	183	194	453	1,700	358	525	322	291	710	269	162	141
16	176	183	405	661	331	457	326	313	641	322	155	134
17	172	187	377	510	335	1,610	308	583	1,010	248	179	138
18	244	201	358	448	304	2,890	304	372	686	236	194	131
19	477	205	349	453	308	1,390	300	304	553	240	165	128
20	244	190	331	486	317	905	295	300	534	291	165	125
21	205	183	317	515	295	750	295	269	462	228	158	125
22	187	190	381	588	304	695	300	253	433	217	141	125
23	179	217	481	520	335	725	300	269	491	209	138	125
24	176	209	354	501	291	755	496	651	433	213	141	121
25	261	220	326	405	286	573	1,490	424	438	617	248	115
26	597	217	363	367	282	529	563	313	433	300	176	112
27	278	197	322	377	282	505	424	269	453	240	141	112
28	228	190	400	377	291	486	381	1,160	453	220	131	109
29	205	179	1,390	405	313	472	358	3,010	405	205	131	109
30	194	183	597	457	------	448	358	1,080	363	197	125	105
31	190	------	453	568	------	429	------	840	------	194	121	------
TOTAL	6,920	6,954	16,483	15,142	11,296	20,404	12,218	15,654	19,975	8,631	5,530	5,190
MEAN	223	232	532	488	390	658	407	505	666	278	178	173
MAX	597	790	1,520	1,700	1,100	2,890	1,490	3,010	3,500	617	308	985
MIN	162	179	183	270	282	286	295	253	308	194	121	105
CFSM	.78	.81	1.85	1.70	1.36	2.29	1.42	1.76	2.32	.97	.62	.60
IN.	.90	.90	2.14	1.96	1.46	2.64	1.58	2.03	2.59	1.12	.72	.67

CAL YR 1967 TOTAL 138,366 MEAN 379 MAX 5,170 MIN 140 CFSM 1.32 IN 17.93
WTR YR 1968 TOTAL 144,397 MEAN 395 MAX 3,500 MIN 105 CFSM 1.37 IN 18.71

PEAK DISCHARGE (BASE, 3,500 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
3-18	1645	7.47	3,600	6-13	0245	10.00	6,840
5-29	0400	8.09	4,200				

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 1968. 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.--22 years, 436 cfs.

Extremes.--Maximum discharge during year, 7,500 cfs June 13 (gage height, 8.76 ft); minimum, 88 cfs Sept. 25; minimum daily, 106 cfs Sept. 29.
1946-68: 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 1968 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	198	214	217	538	575	492	515	480	664	380	234	117
2	181	304	208	426	640	417	507	453	584	358	434	133
3	171	858	1,940	508	1,300	399	475	425	593	395	277	153
4	165	437	1,510	492	733	339	470	440	535	370	235	143
5	159	344	642	400	601	391	526	419	481	364	213	124
6	150	279	558	411	555	378	470	546	444	341	204	152
7	145	249	421	461	527	364	445	457	410	336	269	368
8	146	232	324	330	516	344	443	394	390	313	228	185
9	152	223	233	480	497	359	451	376	385	311	193	159
10	180	220	212	431	480	393	417	371	367	311	190	162
11	348	213	1,520	390	385	410	408	373	353	307	178	1,040
12	221	211	2,040	330	418	588	402	516	2,190	315	169	415
13	179	216	1,270	392	403	2,140	391	452	4,490	301	154	220
14	165	207	663	1,500	382	978	388	398	1,060	296	166	171
15	167	204	523	2,240	430	663	384	379	699	290	164	144
16	163	189	530	833	416	576	396	398	612	349	157	148
17	158	185	428	600	410	1,740	372	621	1,000	285	173	142
18	183	207	414	500	359	3,870	366	501	685	270	199	139
19	576	218	388	500	369	1,770	364	415	558	266	174	135
20	308	204	388	540	399	978	358	395	537	334	165	132
21	245	197	376	570	351	875	358	362	488	261	158	131
22	219	200	454	654	317	829	356	333	467	245	143	122
23	204	249	946	596	376	827	357	339	507	236	134	132
24	203	239	726	588	350	860	469	696	471	234	138	127
25	280	247	586	490	346	678	1,780	555	479	662	244	122
26	704	247	481	427	344	621	670	429	462	411	202	118
27	374	204	408	453	339	589	534	356	472	292	142	116
28	282	223	558	449	353	563	486	1,150	470	257	135	112
29	248	212	1,650	468	377	545	451	3,890	442	232	127	106
30	230	212	758	524	------	518	450	1,330	417	209	131	115
31	219	------	565	628	------	496	------	951	------	205	123	------
TOTAL	7,323	7,644	21,937	18,069	13,548	24,990	14,459	19,200	21,712	9,736	5,853	5,583
MEAN	236	255	708	583	467	806	482	619	724	314	189	186
MAX	704	858	2,040	2,240	1,300	3,870	1,780	3,890	4,490	662	434	1,040
MIN	145	185	208	330	317	339	356	333	353	205	123	106
CFSM	.75	.81	2.25	1.86	1.49	2.57	1.53	1.97	2.30	1.00	.60	.59
IN.	.87	.91	2.60	2.14	1.60	2.96	1.71	2.27	2.57	1.15	.69	.66

CAL YR 1967 TOTAL 171,950 MEAN 471 MAX 6,110 MIN 145 CFSM 1.50 IN 20.37
WTR YR 1968 TOTAL 170,054 MEAN 465 MAX 4,490 MIN 106 CFSM 1.48 IN 20.14

PEAK DISCHARGE (BASE, 4,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
3-18	1815	7.27	4,300	6-13	0730	8.76	7,500
5-29	0715	7.93	5,460				

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 1968.

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.--12 years, (1956-68), 4.25 cfs.

Extremes.--Maximum discharge during year, 158 cfs May 31 (gage height, 2.94 ft); minimum, 0.01 cfs Sept. 30.
1951-68: Maximum discharge, 510 cfs Sept. 12, 1960 (gage height, 4.10 ft).
1956-68: No flow at times during 1964, 1965, 1966.

Remarks.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.97	1.1	1.7	4.2	4.7	5.9	5.4	3.8	12	1.7	1.0	.23
2	.80	1.7	1.8	4.4	6.0	5.3	5.1	3.2	6.4	1.6	1.4	.26
3	.75	3.0	13	3.4	12	4.6	5.4	3.0	5.5	14	1.3	.36
4	.73	1.9	17	4.4	7.4	4.7	4.7	2.8	4.5	5.3	1.1	.34
5	.67	1.4	6.3	7.1	5.1	3.3	4.7	2.8	3.8	3.0	.90	.26
6	.62	1.3	3.8	3.4	4.7	3.4	4.9	4.2	3.3	2.5	.82	.36
7	.64	1.2	3.3	3.4	4.5	3.1	4.7	2.7	2.9	2.3	.82	.45
8	.74	1.2	3.0	4.4	4.3	3.0	4.2	2.5	2.8	1.9	.64	.30
9	.84	1.2	2.6	4.0	4.1	3.2	4.2	2.3	2.7	1.8	.63	.26
10	1.1	1.2	2.7	3.2	4.3	3.2	3.9	2.1	2.6	1.9	.67	.28
11	1.8	1.2	10	3.7	6.3	3.1	3.9	2.2	2.7	1.8	1.2	.48
12	1.1	1.3	15	3.6	4.7	11	3.7	4.4	4.8	1.7	.72	.35
13	.97	1.3	11	3.4	5.0	28	3.7	3.1	8.4	1.6	.60	.24
14	.93	1.3	5.1	29	4.3	12	3.9	2.7	3.7	1.9	.74	.20
15	.97	1.3	3.7	24	3.5	6.2	3.9	2.7	2.7	3.1	.96	.17
16	.92	1.2	3.3	14	3.5	5.2	3.9	2.6	2.6	2.9	.66	.15
17	.95	1.2	3.1	5.0	3.6	16	3.9	2.4	5.0	1.7	.74	.16
18	1.4	1.4	3.1	4.0	4.4	47	3.9	2.3	5.8	1.5	.58	.16
19	2.1	1.5	3.0	5.0	3.9	21	3.9	2.4	4.3	1.4	.55	.17
20	1.3	1.4	2.9	6.0	3.4	11	3.9	2.7	40	1.5	.62	.18
21	1.1	1.3	2.8	6.4	5.2	8.7	3.9	2.2	7.0	1.2	.48	.13
22	.99	1.3	4.3	5.4	6.5	7.6	5.0	1.8	3.5	1.1	.37	.16
23	.98	2.0	8.1	6.0	4.5	12	4.5	2.2	2.9	1.0	.36	.14
24	1.0	2.6	5.2	7.0	3.6	13	5.0	5.0	2.6	.97	.59	.12
25	1.7	1.9	3.7	4.5	3.5	8.3	8.0	3.1	2.4	.96	1.0	.07
26	3.6	1.6	5.5	4.0	3.4	6.7	4.2	2.1	2.1	1.0	.58	.03
27	2.1	1.4	4.2	4.0	3.3	6.1	3.5	2.0	5.6	.86	.28	.06
28	1.4	1.2	6.9	4.1	3.1	5.9	3.4	25	3.2	.87	.26	.07
29	1.2	1.1	15	4.3	3.5	5.6	3.1	49	2.3	.73	.24	.06
30	1.1	1.1	7.6	4.4	------	5.4	3.4	26	1.9	.66	.23	.02
31	1.1	------	4.3	5.1	------	5.1	------	67	------	.78	.23	------
TOTAL	36.57	43.2	183.0	194.8	136.3	284.6	129.8	242.3	160.0	65.13	21.27	6.22
MEAN	1.18	1.44	5.90	6.28	4.70	9.18	4.33	7.82	5.33	2.10	.69	.21
MAX	3.6	3.0	17	29	12	47	8.0	67	40	14	1.4	.48
MIN	.62	1.1	1.7	3.2	3.1	3.0	3.1	1.8	1.9	.66	.23	.02
CFSM	.31	.37	1.53	1.63	1.22	2.38	1.12	2.03	1.39	.55	.18	.05
IN.	.35	.42	1.77	1.88	1.32	2.75	1.25	2.34	1.55	.63	.21	.06

CAL YR 1967 TOTAL 1,383.97 MEAN 3.79 MAX 60 MIN .40 CFSM .98 IN 13.37
WTR YR 1968 TOTAL 1,503.19 MEAN 4.11 MAX 67 MIN .02 CFSM 1.07 IN 14.52

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-14	2125	1.69	78	5-31	0345	2.94	158
3-18	1440	1.42	61	6-20	0745	2.49	89
5-29	0135	2.51	91				

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 1968.

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

Average discharge.--10 years, 30.0 cfs.

Extremes.--Maximum discharge during year, 404 cfs Mar. 19 (gage height, 4.82 ft); minimum, 0.72 cfs Sept. 30. 1958-68: 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 CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	11	19	83	54	42	44	26	142	7.7	4.6	2.2
2	29	19	18	60	56	41	37	27	91	8.9	11	2.9
3	15	27	67	55	77	42	36	24	55	23	10	5.7
4	12	30	118	61	91	35	35	21	35	28	9.3	4.9
5	10	26	122	61	70	33	35	18	26	19	8.5	4.3
6	9.7	21	86	55	55	33	30	18	22	13	7.7	6.5
7	8.5	19	56	50	48	32	30	15	18	10	6.9	6.9
8	8.5	17	44	41	42	29	30	14	15	8.9	4.9	4.9
9	9.3	16	37	35	40	26	29	14	15	8.5	5.2	2.9
10	12	15	38	32	40	29	28	14	14	23	8.1	3.1
11	13	16	74	30	32	29	27	13	13	40	10	3.9
12	12	17	160	28	29	49	25	15	32	29	7.3	3.3
13	11	17	175	25	27	156	25	15	82	15	4.9	2.4
14	10	15	129	84	24	217	23	15	112	11	4.9	2.0
15	9.7	17	90	190	26	146	25	15	77	10	6.5	1.3
16	9.7	13	64	158	28	93	23	15	37	10	5.2	1.4
17	9.7	14	54	97	29	98	22	15	36	9.3	20	1.8
18	14	16	46	61	28	259	22	14	45	8.1	12	1.6
19	14	15	44	52	25	352	20	13	45	6.9	7.3	1.6
20	14	15	41	49	27	209	21	14	34	6.9	6.2	1.8
21	13	14	39	50	26	133	19	13	24	5.5	5.5	1.6
22	11	15	50	52	23	96	20	12	19	4.3	3.6	2.2
23	10	24	96	52	22	94	20	12	15	4.9	3.1	1.6
24	9.7	21	120	55	24	109	36	18	13	5.2	3.6	1.6
25	13	26	100	52	23	110	60	20	12	5.5	5.5	1.4
26	17	22	83	41	23	85	72	17	11	4.9	3.9	1.6
27	18	21	83	40	24	62	49	14	12	3.9	2.4	1.2
28	17	17	89	40	26	58	32	60	12	3.6	2.0	1.3
29	13	15	135	42	32	55	26	205	10	3.1	1.8	1.2
30	12	19	148	46	------	49	26	312	8.9	2.4	2.2	.96
31	11	------	112	52	------	44	------	199	------	2.2	2.5	------
TOTAL	432.8	550	2,537	1,829	1,071	2,845	927	1,217	1,082.9	341.7	196.6	80.06
MEAN	14.0	18.3	81.8	59.0	36.9	91.8	30.9	39.3	36.1	11.0	6.34	2.67
MAX	57	30	175	190	91	352	72	312	142	40	20	6.9
MIN	8.5	11	18	25	22	26	19	12	8.9	2.2	1.8	.96
CFSM	.44	.57	2.56	1.85	1.16	2.88	.97	1.23	1.13	.34	.20	.08
IN.	.50	.64	2.96	2.13	1.25	3.32	1.08	1.42	1.26	.40	.23	.09

CAL YR 1967 TOTAL 13,891.0 MEAN 38.1 MAX 561 MIN 4.9 CFSM 1.19 IN 16.19
WTR YR 1968 TOTAL 13,110.06 MEAN 35.8 MAX 352 MIN .96 CFSM 1.12 IN 15.28

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 1968.

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.--10 years, 16.8 cfs.

Extremes.--Maximum discharge during year, 192 cfs Dec. 4 (gage height, 4.93 ft); minimum, 2.2 cfs Sept. 28.
1931-33, 1951-68: Maximum discharge, 2,090 cfs Aug. 4, 1967 (gage height, 8.83 ft).
1931-33, 1960-68: Minimum discharge, 0.80 cfs Aug. 28, 1966.

Remarks.--Records good.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	14	15	38	23	20	22	14	22	6.5	3.9	2.9
2	20	18	14	29	26	20	21	14	16	9.3	3.2	2.9
3	18	27	74	28	62	20	20	12	14	16	3.2	3.2
4	16	20	148	40	35	17	20	12	13	11	2.9	3.0
5	14	17	68	34	27	19	20	11	12	9.7	3.0	3.2
6	14	16	44	24	25	20	18	10	10	7.7	3.0	12
7	13	15	35	27	24	18	18	10	9.3	7.3	3.0	5.8
8	13	15	31	21	23	17	18	9.7	8.5	6.9	3.0	3.5
9	14	14	27	18	21	17	18	9.3	8.1	6.5	3.2	3.2
10	20	14	26	18	20	17	18	9.3	8.1	6.5	3.0	4.8
11	20	14	106	17	17	16	18	9.3	26	6.5	3.0	5.2
12	16	13	133	15	16	33	18	9.7	32	6.2	3.0	3.5
13	14	13	124	15	16	122	17	9.7	57	5.8	3.2	3.2
14	13	13	65	89	15	70	17	9.7	23	5.5	3.5	2.9
15	13	12	44	117	16	35	18	9.3	13	8.0	3.5	2.8
16	13	12	35	45	16	28	18	9.7	11	18	3.2	2.9
17	13	12	30	26	16	57	18	8.9	30	7.7	3.2	3.0
18	21	13	28	23	15	164	18	8.1	32	6.2	3.0	3.0
19	24	12	27	23	15	96	18	8.1	16	5.5	3.2	2.9
20	16	12	24	22	16	50	17	9.7	15	4.8	3.5	2.9
21	14	12	23	23	15	38	17	8.9	12	4.5	3.2	2.6
22	13	12	29	22	14	32	18	8.5	9.7	4.2	3.0	2.6
23	13	17	79	23	14	46	18	8.5	8.9	4.5	3.0	2.8
24	13	17	58	25	14	71	24	11	8.5	4.2	3.0	2.9
25	18	18	38	22	14	38	62	9.3	8.1	4.2	3.5	2.9
26	29	15	54	18	14	30	26	7.7	7.7	3.9	3.9	2.9
27	19	14	44	18	14	27	20	7.3	9.7	3.2	3.5	2.9
28	16	13	42	18	14	26	18	47	12	3.0	3.2	2.6
29	14	12	131	20	16	24	16	100	8.1	3.0	3.2	2.4
30	14	13	73	22	------	23	15	53	6.5	3.2	3.0	2.6
31	14	------	42	25	------	21	------	38	------	3.5	2.9	------
TOTAL	508	439	1,711	905	573	1,232	604	502.7	467.2	203.0	99.1	104.0
MEAN	16.4	14.6	55.2	29.2	19.8	39.7	20.1	16.2	15.6	6.55	3.20	3.47
MAX	29	27	148	117	62	164	62	100	57	18	3.9	12
MIN	13	12	14	15	14	16	15	7.3	6.5	3.0	2.9	2.4
CFSM	1.21	1.07	4.06	2.15	1.46	2.92	1.48	1.19	1.15	.48	.24	.26
IN.	1.39	1.20	4.68	2.47	1.57	3.37	1.65	1.37	1.28	.56	.27	.28

CAL YR 1967 TOTAL 11,919.0 MEAN 32.7 MAX 1,270 MIN 3.2 CFSM 2.40 IN 32.59
WTR YR 1968 TOTAL 7,348.0 MEAN 20.1 MAX 164 MIN 2.4 CFSM 1.48 IN 20.09

PEAK DISCHARGE (BASE, 130 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12- 4	0200	4.93	192	01-14	2230	4.90	187
12-12	2100	4.91	189	03-13	1130	4.59	138
12-29	1000	4.76	164	03-18	0930	4.86	180

1-4841. Beaverdam Branch at Houston, Del.

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

Drainage area.--2.83 sq mi.

Records available.--May 1958 to September 1968.

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.--10 years, 3.47 cfs.

Extremes.--Maximum discharge during year, 37 cfs Jan. 14 (gage height, 3.28 ft); minimum daily, 0.64 cfs Sept. 29, 30.

1958-68: Maximum discharge, 176 cfs Sept. 12, 1960 (gage height, 5.55 ft); minimum daily, 0.20 cfs Sept. 18, 19, 1966.

Remarks.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	3.8	2.3	7.3	4.6	4.7	4.5	3.9	4.6	2.1	1.8	1.1
2	5.4	4.3	2.3	6.5	7.0	4.6	4.2	3.7	4.1	2.1	1.8	1.0
3	5.1	4.8	17	6.5	14	4.3	4.2	3.6	3.9	2.6	2.0	1.0
4	4.9	4.2	9.4	8.3	8.3	4.1	4.1	3.4	3.5	2.7	1.8	.93
5	4.7	3.9	6.1	6.9	7.4	4.4	3.9	3.3	3.6	2.5	1.7	.93
6	4.5	3.7	5.5	6.1	6.9	4.5	3.7	3.1	3.4	2.4	1.7	1.2
7	4.4	3.7	5.2	6.5	6.8	4.2	3.8	2.9	3.1	2.2	1.7	1.1
8	4.4	3.6	5.0	5.5	6.4	4.2	4.0	2.7	3.0	2.0	1.6	.90
9	4.6	3.6	4.7	5.2	6.2	4.4	3.9	1.7	2.9	1.9	1.6	.89
10	5.0	3.5	5.0	5.0	6.0	4.2	3.9	2.1	2.8	2.0	1.7	1.1
11	4.9	3.3	14	4.7	5.6	3.9	4.1	1.7	2.9	1.9	1.7	1.6
12	4.4	3.5	18	4.4	5.3	11	3.9	2.4	3.4	1.8	1.6	1.3
13	4.3	3.4	10	4.4	5.1	17	4.0	2.0	3.3	1.7	1.5	1.3
14	4.2	3.2	7.8	21	5.0	7.6	4.0	2.1	2.8	1.7	1.6	1.4
15	4.1	3.0	7.2	12	5.1	6.4	4.1	2.8	2.6	4.0	1.5	1.4
16	4.0	3.0	6.8	8.2	4.9	6.0	3.9	2.8	2.5	4.2	1.1	1.5
17	4.0	3.1	6.4	6.7	5.0	13	3.7	2.6	4.4	2.1	.93	1.2
18	4.6	3.1	6.2	6.2	4.7	21	3.6	1.7	4.4	1.8	.68	.89
19	4.3	2.9	6.0	6.2	4.6	10	3.5	1.5	3.2	1.8	.68	.86
20	3.9	2.9	5.2	6.1	4.7	8.2	3.4	2.4	3.5	1.7	.68	.84
21	3.9	2.9	5.1	5.6	4.5	7.3	3.4	2.4	2.9	1.7	.68	.81
22	3.7	3.0	6.0	5.3	4.4	6.7	3.4	2.1	2.7	1.7	.68	.78
23	3.6	3.2	11	5.4	4.2	8.5	3.3	1.2	2.8	1.8	.74	.75
24	3.6	2.8	7.2	5.4	4.2	8.0	4.4	2.4	2.7	1.8	1.0	.73
25	5.0	2.8	6.7	4.9	4.0	6.2	5.2	2.5	2.6	1.7	1.3	.70
26	5.7	2.5	8.7	4.6	3.8	5.7	4.0	2.2	2.5	1.7	1.5	.70
27	4.4	2.5	6.8	4.5	3.8	5.3	4.0	2.6	2.6	1.6	1.2	.69
28	4.1	2.4	9.2	4.5	3.8	5.1	4.1	8.6	2.8	1.6	1.1	.65
29	3.9	2.3	16	4.6	4.2	5.0	4.0	8.5	2.4	1.6	1.1	.64
30	3.8	2.5	8.5	4.9	------	4.6	4.1	6.2	2.2	1.7	1.0	.64
31	3.8	------	7.7	4.9	------	4.5	------	6.4	------	1.7	1.0	------
TOTAL	137.2	97.4	243.0	198.3	160.5	214.6	118.3	97.5	94.1	63.8	40.67	29.53
MEAN	4.43	3.25	7.84	6.40	5.53	6.92	3.94	3.15	3.14	2.06	1.31	.98
MAX	6.0	4.8	18	21	14	21	5.2	8.6	4.6	4.2	2.0	1.6
MIN	3.6	2.3	2.3	4.4	3.8	3.9	3.3	1.2	2.2	1.6	.68	.64
CFSM	1.56	1.15	2.77	2.26	1.96	2.45	1.39	1.11	1.11	.73	.46	.35
IN.	1.80	1.28	3.19	2.61	2.11	2.82	1.55	1.28	1.24	.84	.53	.39

CAL YR 1967 TOTAL 1,557.2 MEAN 4.27 MAX 51 MIN 1.5 CFSM 1.51 IN 20.46
WTR YR 1968 TOTAL 1,494.90 MEAN 4.08 MAX 21 MIN .64 CFSM 1.44 IN 19.64

PEAK DISCHARGE (BASE, 30 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-03	1745	3.20	34	03-12	2300	3.16	33
01-14	1745	3.28	37	03-18	0515	3.14	30

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, 2½ miles north of Milton, Sussex County, and 0.7 mile upstream from mouth.

Drainage area.--7.08 sq mi.

Records available.--October 1956 to September 1968.

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

Average discharge.--12 years, 9.76 cfs.

Extremes.--Maximum discharge during year, 37 cfs Feb. 3 (gage height, 5.24 ft); minimum, 2.0 cfs Sept. 25 (gage height, 3.84 ft).
1956-68: Maximum discharge, 134 cfs Aug. 5, 1967 (gage height, 6.33 ft); minimum, 1.3 cfs Oct. 3, 4, 5, 6, 1957 (gage height, 3.79 ft).

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	7.8	8.6	14	7.2	12	12	9.7	8.8	4.4	3.6	3.2
2	12	8.4	7.8	14	11	12	12	8.8	9.0	4.4	3.6	3.3
3	11	8.4	15	13	34	12	11	8.4	8.8	4.7	4.0	3.4
4	10	8.4	18	16	27	11	11	7.8	7.4	5.4	4.6	3.3
5	9.7	8.2	16	17	16	11	10	7.0	7.4	5.6	4.6	3.3
6	9.0	7.8	12	12	6.2	14	10	7.4	7.8	5.6	4.4	4.3
7	9.0	7.6	11	10	8.0	11	10	7.2	6.2	5.6	4.1	4.1
8	9.0	7.4	9.9	9.4	9.9	10	10	6.2	6.0	5.3	3.9	3.8
9	9.4	7.4	9.4	9.2	12	18	9.9	4.4	6.2	5.4	3.8	3.4
10	10	7.0	9.4	9.2	14	16	9.4	4.1	6.5	5.9	3.9	3.3
11	11	6.8	16	9.2	12	12	7.2	4.4	6.8	5.9	3.9	3.3
12	10	7.0	17	8.6	12	11	4.1	5.3	7.6	5.7	3.9	2.9
13	9.9	7.0	16	8.6	12	16	5.4	5.1	6.8	5.7	3.8	2.7
14	9.2	7.0	14	18	12	18	6.4	5.3	4.8	5.7	3.8	2.5
15	8.8	6.8	12	22	12	17	7.0	7.2	4.6	5.6	3.8	2.4
16	8.4	6.4	11	22	12	15	10	9.0	4.3	5.0	3.6	2.4
17	8.2	6.5	11	18	13	13	13	3.6	5.6	4.3	3.6	2.4
18	9.4	6.5	11	15	12	21	11	3.0	7.8	4.1	3.9	2.4
19	9.2	6.5	11	14	11	25	10	3.4	8.6	4.1	3.6	2.4
20	9.0	6.4	10	12	11	19	9.4	3.9	10	4.3	3.6	2.4
21	8.6	6.5	10	12	11	15	9.0	4.7	8.4	4.0	3.3	2.4
22	8.2	6.7	11	12	11	14	7.8	6.7	6.7	3.9	3.0	2.4
23	8.0	7.4	16	12	11	15	6.0	6.4	4.7	3.9	3.2	2.4
24	7.8	7.6	15	12	10	14	8.2	6.7	5.0	4.0	3.5	2.3
25	8.8	7.8	13	11	10	14	17	6.5	5.0	3.9	3.6	2.2
26	10	7.4	12	11	10	14	20	6.0	4.3	3.9	4.4	2.2
27	10	7.2	12	9.7	10	14	5.0	5.7	3.2	4.0	3.6	2.4
28	9.4	6.8	12	9.2	10	13	4.7	9.7	6.2	4.0	3.5	2.5
29	8.8	6.7	16	9.4	11	12	6.0	24	5.0	3.6	3.3	2.5
30	8.2	8.0	15	8.6	------	12	10	25	4.4	3.5	3.2	2.4
31	8.0	------	14	6.2	------	12	------	9.9	------	3.5	3.2	------
TOTAL	291.0	217.4	392.1	384.3	358.3	443	282.5	232.5	193.9	144.9	115.8	84.9
MEAN	9.39	7.25	12.6	12.4	12.4	14.3	9.42	7.50	6.46	4.67	3.74	2.83
MAX	13	8.4	18	22	34	25	20	25	10	5.9	4.6	4.3
MIN	7.8	6.4	7.8	6.2	6.2	10	4.1	3.0	3.2	3.5	3.0	2.2
CFSM	1.33	1.02	1.78	1.75	1.75	2.02	1.33	1.06	.91	.66	.53	.40
IN.	1.53	1.14	2.06	2.02	1.88	2.33	1.48	1.22	1.02	.76	.61	.45

CAL YR 1967 TOTAL 3,849.0 MEAN 10.5 MAX 95 MIN 3.8 CFSM 1.48 IN 20.22
WTR YR 1968 TOTAL 3,140.6 MEAN 8.58 MAX 34 MIN 2.2 CFSM 1.21 IN 16.50

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 1968.

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.--25 years, 6.95 cfs.

Extremes.--Maximum discharge during year, 65 cfs Jan. 14 (gage height, 3.18 ft); minimum, 0.79 cfs Sept. 28, 29, 30.

1943-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	4.0	3.8	10	9.2	7.3	9.3	6.4	5.7	2.9	1.8	1.2
2	5.8	4.2	3.5	9.3	10	6.9	8.1	6.0	5.4	2.8	1.6	1.3
3	5.8	4.4	15	9.2	13	6.8	8.3	5.9	6.0	2.8	1.9	1.4
4	5.8	4.1	9.5	11	11	6.6	8.6	5.8	5.6	3.2	1.9	1.2
5	5.5	3.9	7.5	10	9.8	6.7	8.5	5.7	5.2	3.0	1.8	1.1
6	5.5	3.8	6.9	9.1	9.5	7.0	8.1	5.4	4.8	3.6	1.8	1.3
7	5.5	3.8	6.6	9.9	9.2	6.8	7.9	4.9	4.7	3.2	1.7	1.2
8	5.5	3.8	6.4	8.7	9.1	6.7	7.9	5.0	4.7	2.7	1.7	1.1
9	5.5	4.0	6.1	8.2	8.9	6.9	7.8	5.0	4.6	2.6	1.6	1.1
10	5.8	4.0	6.4	8.0	8.6	7.1	7.6	5.0	4.4	2.7	1.7	1.2
11	5.2	3.8	12	7.8	8.2	7.6	7.6	4.9	4.4	2.6	2.5	1.2
12	4.8	3.8	14	7.1	7.9	12	7.4	4.9	4.4	2.5	1.6	1.2
13	4.8	3.8	11	7.2	7.6	18	7.2	4.7	4.3	2.5	1.4	1.1
14	4.8	3.8	9.8	34	7.3	12	7.1	4.6	4.1	2.6	1.4	1.1
15	4.6	3.8	9.0	25	7.4	11	7.2	4.6	3.9	2.7	1.4	1.1
16	4.6	3.5	8.7	17	7.3	10	7.1	4.6	3.9	2.5	1.4	1.1
17	4.6	3.5	8.3	13	7.3	15	6.8	4.4	4.6	2.4	1.4	1.0
18	5.8	3.5	7.9	12	7.0	40	6.7	4.2	4.8	2.3	1.4	1.1
19	4.8	3.5	7.9	12	7.0	23	6.7	4.2	3.9	2.3	1.4	1.1
20	4.2	3.5	7.6	11	6.9	18	6.6	4.3	4.2	2.3	1.4	1.1
21	4.1	3.5	7.3	11	6.7	15	6.4	4.0	3.7	2.2	1.3	1.0
22	4.0	3.5	8.4	11	6.5	14	6.5	3.9	3.6	2.2	1.3	.96
23	4.0	3.8	14	11	6.4	15	6.4	3.8	3.5	2.0	1.3	.94
24	4.0	3.5	11	11	6.4	16	8.2	4.0	3.5	2.0	1.3	.92
25	4.9	3.8	10	10	6.4	13	7.7	3.9	3.4	1.9	1.3	.91
26	5.6	3.5	10	9.6	6.2	12	6.9	3.7	3.3	2.1	1.3	.92
27	4.6	3.3	9.6	9.5	6.1	11	6.7	3.7	3.4	2.0	1.3	.92
28	4.3	3.3	10	9.2	6.1	11	6.5	6.8	3.6	2.0	1.3	.84
29	4.0	3.3	15	9.2	6.7	10	6.2	9.2	3.2	1.9	1.3	.83
30	4.0	3.5	11	9.3	------	9.8	6.4	6.8	3.0	2.0	1.2	.83
31	4.0	------	10	9.3	------	9.4	------	6.1	------	1.9	1.2	------
TOTAL	152.5	111.5	284.2	349.6	229.7	371.6	220.4	156.4	127.8	76.4	47.1	32.27
MEAN	4.92	3.72	9.17	11.3	7.92	12.0	7.35	5.05	4.26	2.46	1.52	1.08
MAX	6.1	4.4	15	34	13	40	9.3	9.2	6.0	3.6	2.5	1.4
MIN	4.0	3.3	3.5	7.1	6.1	6.6	6.2	3.7	3.0	1.9	1.2	.83
CFSM	.94	.71	1.75	2.15	1.51	2.29	1.40	.96	.81	.47	.29	.21
IN.	1.08	.79	2.02	2.48	1.63	2.64	1.56	1.11	.91	.54	.33	.23

CAL YR 1967 TOTAL 2,436.2 MEAN 6.67 MAX 89 MIN 2.9 CFSM 1.27 IN 17.29
WTR YR 1968 TOTAL 2,159.47 MEAN 5.90 MAX 40 MIN .83 CFSM 1.13 IN 15.33

PEAK DISCHARGE (BASE, 45 CFS)

DATE	TIME	G.HT.	DISCHARGE
01-14	1545	3.18	65
03-18	0500	3.07	57

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 1968.

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

Average discharge.--18 years, (1950-68), 65.5 cfs.

Extremes.--Maximum discharge during year, 560 cfs Mar. 18 (gage height, 10.09 ft); minimum, 3.1 cfs Sept. 24, 25, 26 (gage height, 2.50 ft).
1949-68: 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 CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	22	24	154	75	43	68	37	41	22	14	5.2
2	31	22	24	130	77	41	63	35	38	20	14	5.4
3	30	24	123	116	171	49	58	33	239	20	14	5.6
4	28	24	230	158	153	56	56	32	162	43	13	5.2
5	27	23	153	177	123	66	54	31	98	45	13	5.0
6	26	21	122	134	103	95	51	29	67	38	13	6.5
7	25	20	101	142	90	107	48	28	53	47	12	7.5
8	25	20	89	115	83	96	47	27	46	38	12	5.6
9	25	19	78	81	75	97	45	26	52	33	11	5.2
10	25	19	75	72	71	96	43	26	41	30	11	5.0
11	24	18	322	67	62	173	42	25	36	29	11	5.0
12	23	18	358	62	55	204	40	25	35	28	10	4.6
13	23	18	311	60	51	405	39	25	35	26	9.4	4.4
14	22	18	226	300	46	307	38	24	32	25	9.4	4.2
15	21	18	180	502	45	219	37	24	29	24	9.4	4.0
16	21	17	146	370	43	182	36	23	27	49	8.5	4.0
17	21	16	116	254	42	214	35	23	29	36	8.5	4.0
18	25	17	100	194	41	532	34	22	54	30	8.2	3.8
19	29	17	93	166	40	525	33	21	44	27	8.0	3.8
20	27	16	81	146	41	414	32	23	40	24	8.0	3.6
21	26	16	73	134	40	305	31	21	36	23	7.5	3.6
22	24	16	75	125	38	226	30	20	31	21	7.0	3.5
23	23	17	281	118	38	195	30	19	29	20	6.8	3.5
24	22	17	278	117	37	219	43	20	27	19	6.8	3.3
25	23	18	209	104	36	170	63	19	27	18	6.5	3.1
26	28	18	202	89	36	137	60	18	25	22	6.2	3.3
27	28	18	179	82	35	119	56	18	23	19	5.7	7.5
28	28	17	165	82	34	101	52	25	28	18	5.6	4.8
29	25	17	264	82	35	91	45	56	27	17	5.6	4.2
30	23	18	210	79	------	81	40	61	24	16	5.4	3.8
31	22	------	166	78	------	71	------	49	------	15	5.2	------
TOTAL	784	559	5,054	4,490	1,816	5,636	1,349	865	1,475	842	285.7	138.2
MEAN	25.3	18.6	163	145	62.6	182	45.0	27.9	49.2	27.2	9.22	4.61
MAX	34	24	358	502	171	532	68	61	239	49	14	7.5
MIN	21	16	24	60	34	41	30	18	23	15	5.2	3.1
CFSM	.42	.31	2.69	2.40	1.03	3.01	.74	.46	.81	.45	.15	.08
IN.	.48	.34	3.11	2.76	1.12	3.46	.83	.53	.91	.52	.18	.08

CAL YR 1967 TOTAL 23,802.3 MEAN 65.2 MAX 582 MIN 4.9 CFSM 1.08 IN 14.63
WTR YR 1968 TOTAL 23,293.9 MEAN 63.6 MAX 532 MIN 3.1 CFSM 1.05 IN 14.32

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-14	2345	9.91	541
3-18	1830	10.09	560

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 1968.

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.--18 years (1950-68), 50.0 cfs.

Extremes.--Maximum discharge during year, 434 cfs Mar. 19 (gage height, 6.42 ft); minimum, 1.7 cfs Sept. 24, 25, 26.
1949-68: 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 CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	11	25	112	58	30	50	27	61	14	6.0	2.0
2	18	12	20	85	57	38	46	24	47	11	5.1	2.0
3	16	14	49	77	72	45	42	22	54	9.5	5.1	2.0
4	14	13	74	81	80	51	39	20	131	34	6.0	2.0
5	13	13	87	87	85	67	37	19	198	81	6.0	2.0
6	12	13	93	87	80	79	35	18	133	123	6.0	4.5
7	12	12	80	92	70	81	32	16	86	118	5.4	10
8	13	11	66	87	64	79	31	15	59	89	4.5	12
9	13	11	58	71	60	73	30	15	48	65	4.0	10
10	12	11	52	61	55	77	29	14	37	55	3.8	6.6
11	12	10	91	55	46	125	27	13	38	49	5.1	5.1
12	12	10	152	49	43	208	26	13	37	44	6.0	4.2
13	11	11	226	45	37	309	24	15	38	40	5.1	3.5
14	11	11	215	98	35	359	23	14	31	34	4.2	3.0
15	10	11	160	254	33	295	22	14	25	28	4.5	2.6
16	10	10	113	345	32	206	22	13	20	24	4.8	2.2
17	9.5	10	89	270	31	167	21	13	25	20	4.5	2.0
18	14	10	75	165	31	291	20	12	39	18	3.8	1.8
19	17	10	67	140	27	419	19	11	43	14	3.2	1.8
20	14	10	62	120	30	401	18	19	49	11	3.1	1.8
21	13	10	57	110	30	303	18	16	43	9.0	2.8	1.8
22	12	10	57	100	26	217	17	13	34	7.0	2.6	1.8
23	11	11	91	94	27	168	17	12	26	6.0	2.2	1.8
24	11	12	137	90	25	161	23	11	22	6.3	2.2	1.7
25	11	14	178	84	25	124	40	12	38	6.0	2.2	1.7
26	15	13	156	80	27	101	38	11	36	9.5	2.0	1.7
27	13	13	126	70	29	86	38	9.5	28	20	1.8	2.0
28	13	15	112	64	33	74	36	16	24	16	1.8	2.4
29	12	20	132	60	27	65	31	50	21	11	1.8	2.2
30	12	23	142	60	------	60	29	57	18	8.2	2.0	2.0
31	12	------	135	60	------	54	------	64	------	6.6	2.0	------
TOTAL	396.5	365	3,177	3,253	1,275	4,813	880	598.5	1,489	987.1	119.6	100.2
MEAN	12.8	12.2	102	105	44.0	155	29.3	19.3	49.6	31.8	3.86	3.34
MAX	18	23	226	345	85	419	50	64	198	123	6.0	12
MIN	9.5	10	20	45	25	30	17	9.5	18	6.0	1.8	1.7
CFSM	.29	.27	2.27	2.34	.98	3.45	.65	.43	1.10	.71	.09	.07
IN.	.33	.30	2.63	2.69	1.06	3.99	.73	.50	1.23	.82	.10	.08

CAL YR 1967 TOTAL 13,955.7 MEAN 38.2 MAX 437 MIN 3.0 CFSM .85 IN 11.56
WTR YR 1968 TOTAL 17,453.9 MEAN 47.7 MAX 419 MIN 1.7 CFSM 1.06 IN 14.46

PEAK DISCHARGE (BASE, 280 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-16	1000	6.10	363	3-19	2000	6.42	434
3-14	1500	6.12	367				

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 1968.

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

Average discharge.--17 years, 3.92 cfs.

Extremes.--Maximum discharge during year, 126 cfs Mar. 18 (gage height, 4.22 ft); minimum daily, 0.11 cfs Sept. 30. 1951-68: 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 CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.95	.89	1.1	6.6	3.0	2.7	3.5	2.0	1.5	.66	1.2	.14
2	.84	1.0	.95	4.9	3.3	2.8	3.4	1.6	1.1	.54	.78	.14
3	.84	1.1	8.2	4.5	10	3.9	3.0	1.3	1.5	6.2	.95	.14
4	.89	1.0	9.8	11	7.4	4.1	2.8	1.2	1.9	44	.78	.14
5	.89	.93	4.5	10	5.6	5.6	2.8	1.1	1.3	15	15	.14
6	.89	.86	3.2	6.5	4.8	9.0	2.8	.95	.95	8.6	14	.80
7	.95	.80	2.8	10	4.2	8.6	2.6	.84	.74	9.2	3.9	5.9
8	.89	.70	2.5	6.8	3.9	6.6	2.5	.74	.66	4.2	2.3	4.6
9	.89	.75	2.2	4.5	3.6	6.1	2.4	.74	.62	2.8	1.8	3.6
10	.95	.74	2.5	3.9	3.3	6.5	2.1	.74	.58	7.2	2.0	2.7
11	.89	.74	27	3.3	2.8	37	2.0	.70	.54	5.2	3.6	1.9
12	.84	.70	35	2.8	2.6	37	1.9	.78	.54	3.6	2.1	1.5
13	.78	.66	21	2.8	2.4	48	1.8	.78	.89	2.9	1.5	1.1
14	.78	.58	12	49	2.2	22	1.8	.70	.62	2.4	1.2	.86
15	.84	.50	8.6	34	2.2	14	1.8	.70	.50	2.0	1.1	.66
16	.84	.42	6.5	18	2.2	10	1.7	.66	.42	2.2	.95	.52
17	.84	.46	5.1	10	2.2	29	1.6	.58	.74	1.8	.89	.42
18	1.0	.46	4.4	7.6	2.1	86	1.5	.46	1.6	1.3	.89	.32
19	.95	.50	3.9	6.6	2.0	36	1.4	.54	1.3	1.2	.95	.26
20	.89	.50	3.4	6.1	2.1	21	1.4	1.3	1.3	1.1	1.0	.22
21	.89	.54	3.1	5.6	2.0	13	1.3	1.0	1.0	.95	.89	.19
22	.95	.66	3.8	5.1	1.8	9.8	1.3	.70	.70	.89	.63	.17
23	.89	.78	28	4.9	1.8	14	1.3	.54	.54	.95	.46	.15
24	1.0	.84	16	4.9	1.8	16	2.0	.58	1.5	.84	.35	.13
25	1.1	.84	11	4.1	1.8	9.4	4.6	.54	3.7	.78	.25	.13
26	1.2	.70	12	3.5	1.7	7.0	2.8	.46	2.0	1.0	.18	.13
27	1.1	.70	9.0	3.3	1.7	6.1	2.1	.46	1.2	.89	.13	.54
28	1.0	.66	9.2	3.4	1.6	5.2	2.0	1.2	2.2	.84	.13	.19
29	.95	.66	19	3.4	1.9	4.5	1.8	4.1	1.5	.74	.13	.13
30	.95	.95	10	3.3	------	3.8	1.8	3.3	.95	.62	.14	.11
31	.95	------	7.8	3.1	------	3.4	------	2.2	------	.70	.14	------
TOTAL	28.61	21.62	293.55	253.5	88.0	488.1	65.8	33.49	34.59	131.30	60.32	27.93
MEAN	.92	.72	9.47	8.18	3.03	15.7	2.19	1.08	1.15	4.24	1.95	.93
MAX	1.2	1.1	35	49	10	86	4.6	4.1	3.7	44	15	5.9
MIN	.78	.42	.95	2.8	1.6	2.7	1.3	.46	.42	.54	.13	.11
CFSM	.16	.12	1.63	1.41	.52	2.71	.38	.19	.20	.73	.34	.16
IN.	.18	.14	1.88	1.63	.56	3.13	.42	.21	.22	.84	.39	.18

CAL YR 1967 TOTAL 994.72 MEAN 2.73 MAX 51 MIN .16 CFSM .47 IN 6.38
WTR YR 1968 TOTAL 1,526.81 MEAN 4.17 MAX 86 MIN .11 CFSM .72 IN 9.79

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-14	1400	3.74	89	7-4	0015	3.62	80
3-12	2200	3.55	78	8-5	1430	3.07	50
3-18	0445	4.22	126				

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 1968. 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.--33 years (1929-32, 1938-68), 23.2 cfs.

Extremes.--Maximum discharge during year, 175 cfs Mar. 19 (gage height, 11.16 ft); minimum daily discharge, 0.70 cfs April 17 (leakage under dam following closing of floodgate).
1929-68: 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 1968 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	10	14	38	24	27	26	19	16	10	11	7.7
2	15	11	11	33	28	24	25	18	15	8.4	11	7.7
3	15	12	30	29	45	24	24	16	56	13	14	8.0
4	14	10	24	35	43	24	23	16	68	102	14	7.4
5	13	10	36	35	44	26	23	16	56	75	13	9.6
6	12	9.6	34	34	40	29	22	15	32	46	12	27
7	14	9.6	26	35	36	31	21	14	18	48	12	36
8	14	9.6	21	31	33	31	74	13	15	28	11	14
9	15	9.2	19	26	31	31	43	13	13	21	9.6	9.2
10	12	9.2	18	24	28	32	23	14	10	34	10	8.4
11	12	9.2	44	23	26	50	23	14	8.8	27	14	7.7
12	12	9.2	62	21	24	56	23	15	8.8	25	10	7.0
13	12	8.8	78	20	23	104	23	15	10	24	8.8	7.0
14	12	9.2	64	66	22	107	22	14	9.2	21	8.8	6.7
15	12	9.2	48	110	21	75	23	14	8.4	22	9.2	6.4
16	11	9.2	34	98	22	54	16	14	8.0	24	8.8	6.4
17	11	9.2	28	68	21	57	.70	13	13	21	8.8	6.4
18	12	9.2	23	46	21	121	.85	12	26	18	8.8	6.4
19	12	8.8	20	37	21	162	.98	13	16	16	9.6	6.4
20	11	8.4	20	35	21	118	5.3	15	11	15	9.6	6.4
21	11	8.4	20	32	20	67	15	13	11	13	8.8	6.4
22	11	8.4	21	31	20	50	18	12	9.6	12	8.0	6.4
23	11	9.6	46	29	18	50	18	12	8.8	12	8.0	6.4
24	10	10	53	29	18	51	22	12	8.8	12	8.4	6.2
25	12	11	54	28	18	50	31	12	14	12	8.0	6.2
26	16	10	50	26	18	44	24	11	10	15	7.4	6.2
27	12	9.2	43	25	18	36	22	11	9.6	13	7.4	7.0
28	11	8.8	42	25	18	31	23	28	24	12	7.4	6.7
29	11	8.8	50	24	20	30	20	34	18	12	7.4	6.2
30	10	11	48	24	------	28	20	17	13	11	7.4	5.9
31	10	------	45	25	------	26	------	18	------	11	7.4	------
TOTAL	382	285.8	1,126	1,142	742	1,646	654.83	473	545.0	733.4	299.6	265.4
MEAN	12.3	9.53	36.3	36.8	25.6	53.1	21.8	15.3	18.2	23.7	9.66	8.85
MAX	16	12	78	110	45	162	74	34	68	102	14	36
MIN	10	8.4	11	20	18	24	.70	11	8.0	8.4	7.4	5.9
CFSM	.63	.49	1.86	1.89	1.31	2.72	1.12	.78	.93	1.22	.50	.45
IN.	.73	.55	2.15	2.18	1.42	3.14	1.25	.90	1.04	1.40	.57	.51

CAL YR 1967 TOTAL 8,094.70 MEAN 22.2 MAX 227 MIN .70 CFSM 1.14 IN 15.40
WTR YR 1968 TOTAL 8,295.03 MEAN 22.7 MAX 162 MIN .70 CFSM 1.16 IN 15.82

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 1968. 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.--25 years, 90.8 cfs.

Extremes.--Maximum discharge during year, 526 cfs Jan. 14 (gage height, 6.29 ft); minimum, 26 cfs Sept. 30 (gage height, 2.83 ft).
1943-68: Maximum discharge, 2,360 cfs Aug. 5, 1967 (gage height, 8.86 ft); minimum observed, 6.3 cfs Sept. 29, 1943.
Maximum stage known, about 11.0 ft in September 1935, from information by local residents.

Remarks.--Records fair. Records of chemical analyses for the water year 1968 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	158	93	73	186	126	100	126	91	118	56	43	33
2	130	98	69	165	132	94	121	87	103	56	42	34
3	117	109	205	157	280	97	118	84	101	63	47	39
4	109	104	300	172	218	93	118	82	96	60	44	36
5	104	95	202	172	180	94	117	79	89	58	42	37
6	101	89	171	152	162	101	112	78	82	58	41	50
7	98	85	157	157	152	99	108	75	79	66	41	46
8	95	83	149	140	144	94	107	74	77	56	39	38
9	95	81	139	129	135	96	106	74	74	53	38	37
10	102	80	132	126	128	97	103	74	73	52	39	39
11	115	79	233	119	116	97	101	73	73	51	44	39
12	108	78	322	110	109	122	100	74	73	50	37	37
13	101	76	336	109	103	391	97	73	73	49	37	37
14	97	73	250	294	98	288	97	72	70	48	37	35
15	93	72	208	396	99	198	96	71	67	57	36	33
16	90	69	182	258	97	168	95	71	65	62	35	32
17	90	70	166	192	96	211	92	70	72	53	36	34
18	98	71	155	167	92	452	91	67	80	51	48	35
19	112	69	149	157	89	360	90	66	70	50	37	33
20	101	66	139	152	90	272	89	69	74	48	36	31
21	95	65	131	148	87	229	86	66	68	46	35	31
22	87	66	137	144	82	200	88	64	64	45	34	31
23	84	70	210	143	80	197	86	64	62	45	34	30
24	84	68	206	151	78	221	90	66	60	45	34	30
25	95	71	178	146	77	186	113	64	59	44	32	30
26	138	66	184	135	74	166	105	62	58	43	32	29
27	125	65	178	128	73	152	99	62	60	43	33	28
28	113	62	172	125	73	146	96	98	64	41	32	27
29	102	61	310	125	80	140	92	145	60	41	33	28
30	96	68	245	127	------	134	92	139	57	39	34	27
31	95	------	200	128	------	126	------	143	------	41	34	------
TOTAL	3,228	2,302	5,888	5,010	3,350	5,421	3,031	2,477	2,221	1,570	1,166	1,026
MEAN	104	76.7	190	162	116	175	101	79.9	74.0	50.6	37.6	34.2
MAX	158	109	336	396	280	452	126	145	118	66	48	50
MIN	84	61	69	109	73	93	86	62	57	39	32	27
CFSM	1.38	1.02	2.52	2.15	1.54	2.32	1.34	1.06	.98	.67	.50	.45
IN.	1.59	1.14	2.90	2.47	1.65	2.67	1.49	1.22	1.10	.77	.58	.51

CAL YR 1967 TOTAL 45,146 MEAN 124 MAX 2,170 MIN 41 CFSM 1.64 IN 22.27
WTR YR 1968 TOTAL 36,690 MEAN 100 MAX 452 MIN 27 CFSM 1.33 IN 18.10

PEAK DISCHARGE (BASE, 360 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12- 3	2230	5.87	381	3-13	1500	6.07	417
12-12	2100	6.00	420	3-18	1300	6.28	486
1-14	2300	6.29	526				

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 1968.

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.--17 years, 16.1 cfs.

Extremes.--Maximum discharge during year, 138 cfs Mar. 18 (gage height, 2.49 ft); minimum, 0.40 cfs Aug. 27, 28, 29.
1951-68: Maximum discharge, 608 cfs Aug. 25, 1967 (gage height, 4.09 ft); 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	8.3	9.9	30	19	20	17	11	14	4.9	2.4	1.7
2	12	9.5	7.9	26	22	17	17	11	13	4.4	2.5	1.7
3	11	10	25	23	42	16	16	10	29	5.0	3.2	1.6
4	11	8.7	44	32	43	18	16	9.7	35	32	2.8	1.5
5	10	8.0	35	38	34	19	15	9.7	26	30	3.0	1.5
6	9.5	7.7	26	30	28	22	14	7.9	18	21	3.0	1.5
7	10	7.5	22	30	25	23	14	8.0	14	20	3.4	1.6
8	9.7	7.4	19	27	23	21	13	8.0	12	15	2.8	1.7
9	10	7.7	18	22	22	20	13	7.6	10	12	2.1	1.6
10	11	7.4	20	20	20	20	12	7.4	9.3	11	2.0	1.6
11	11	7.6	39	19	19	26	11	7.9	8.4	10	3.1	1.5
12	9.2	7.4	65	17	17	39	11	8.2	8.4	8.9	1.7	1.4
13	8.7	6.8	67	16	16	83	11	7.8	7.3	8.4	1.4	1.3
14	8.6	7.4	44	58	15	70	11	7.2	6.9	8.1	1.3	1.4
15	8.4	5.9	33	110	15	45	10	7.1	6.4	8.5	1.3	1.5
16	8.3	7.3	27	72	15	36	10	7.3	6.0	11	1.2	1.5
17	8.1	7.1	24	48	14	45	10	6.3	12	11	1.2	1.4
18	11	6.8	22	37	15	118	9.0	6.9	17	9.4	1.3	1.3
19	11	6.3	21	32	14	103	9.5	7.6	11	7.4	1.4	1.2
20	9.0	6.5	19	30	14	69	8.8	9.0	12	5.7	1.3	1.2
21	8.3	6.7	17	28	13	50	8.6	6.8	8.8	5.1	1.3	1.1
22	7.9	6.5	20	27	13	40	9.3	5.7	7.5	4.5	1.1	.99
23	7.8	7.1	40	26	12	38	8.9	5.8	6.9	4.0	1.2	.91
24	7.8	8.1	48	26	12	43	15	6.2	6.5	3.8	1.2	.86
25	11	8.7	38	24	12	37	21	5.8	6.8	3.7	1.3	.81
26	13	7.6	34	22	12	30	18	5.3	5.3	6.2	1.1	.76
27	11	6.6	33	21	12	25	15	6.0	5.9	4.6	.59	.68
28	8.9	6.1	32	20	12	23	15	17	11	3.5	.51	.60
29	8.6	6.2	48	20	14	21	13	25	7.4	3.1	.56	.58
30	8.3	11	48	20	------	19	12	24	5.7	2.9	1.2	.54
31	8.2	------	35	20	------	18	------	17	------	2.6	1.9	------
TOTAL	301.3	225.9	980.8	971	544	1,174	384.1	290.2	347.5	287.7	54.36	37.53
MEAN	9.72	7.53	31.6	31.3	18.8	37.9	12.8	9.36	11.6	9.28	1.75	1.25
MAX	13	11	67	110	43	118	21	25	35	32	3.4	1.7
MIN	7.8	5.9	7.9	16	12	16	8.6	5.3	5.3	2.6	.51	.54
CFSM	.58	.45	1.89	1.88	1.12	2.27	.77	.56	.69	.56	.11	.07
IN.	.67	.50	2.18	2.16	1.21	2.61	.86	.65	.77	.64	.12	.08

CAL YR 1967 TOTAL 6,624.1 MEAN 18.1 MAX 360 MIN 2.2 CFSM 1.09 IN 14.75
WTR YR 1968 TOTAL 5,598.39 MEAN 15.3 MAX 118 MIN .51 CFSM .92 IN 12.47

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-15	0615	2.37	122
3-18	1600	2.49	138

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 1968.

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.--25 years, 51.4 cfs.

Extremes.--Maximum discharge during year, 452 cfs Dec. 13; maximum gage height, 8.09 ft Mar. 18; minimum discharge, 2.1 cfs Sept. 19.
1943-68: Maximum discharge, 3,060 cfs Aug. 5, 1967 (gage height, 11.98 ft); minimum, 1.0 cfs Sept. 9, 10, 1964, Aug. 20, 1965.
Maximum stage known, 14.5 ft in September 1935, from information by local residents.

Remarks.--Records fair except those for period June 22 to Sept. 30, which are poor.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	130	26	23	117	69	26	42	32	44	10	9.5	3.0
2	71	27	22	92	70	29	37	27	34	13	6.5	3.1
3	51	42	104	76	179	40	36	24	29	21	6.0	3.3
4	41	44	335	85	154	38	35	23	26	20	5.4	3.1
5	36	38	360	102	103	37	34	22	23	17	5.0	3.0
6	32	32	234	72	83	32	31	21	20	14	4.8	3.9
7	29	29	138	67	73	38	28	19	19	13	4.5	7.0
8	27	27	104	60	67	33	26	18	17	12	4.3	4.7
9	26	25	87	49	60	31	27	17	16	11	3.9	3.6
10	28	24	76	43	56	35	26	17	15	11	3.9	3.3
11	36	23	200	40	47	31	25	16	73	11	3.8	3.1
12	34	22	360	36	41	48	24	16	79	11	3.6	3.0
13	30	22	437	33	36	263	22	16	84	10	3.3	2.6
14	28	22	335	136	32	320	21	16	60	9.0	3.3	2.6
15	26	22	193	318	32	223	21	16	34	9.0	3.1	2.4
16	24	20	119	236	30	160	20	15	22	12	3.0	2.4
17	24	20	92	114	30	172	19	14	39	8.8	3.1	2.6
18	29	20	78	81	29	375	19	14	68	8.0	5.2	2.4
19	51	20	72	70	27	385	18	14	40	7.6	4.3	2.4
20	42	19	66	67	27	274	17	14	27	7.4	4.1	2.4
21	34	19	60	65	26	198	16	14	21	9.0	3.8	2.6
22	30	19	60	64	24	163	17	13	17	7.6	3.4	2.6
23	26	22	145	65	24	156	17	12	15	7.2	3.3	2.7
24	25	25	174	77	23	227	21	14	15	6.8	3.3	3.0
25	27	28	124	69	23	183	70	13	14	6.4	3.4	2.8
26	57	29	135	59	22	143	79	12	14	6.2	3.3	2.6
27	52	26	130	53	22	111	56	13	15	6.6	3.3	2.6
28	40	24	108	52	22	88	46	35	16	5.2	3.3	2.7
29	34	22	272	56	23	73	35	81	14	5.0	3.3	3.0
30	30	22	298	63	------	63	131	70	11	5.0	3.1	3.0
31	28	------	172	71	------	51	------	56	------	7.0	3.0	------
TOTAL	1,178	760	5,113	2,588	1,454	4,046	1,016	704	921	307.8	127.1	91.5
MEAN	38.0	25.3	165	83.5	50.1	131	33.9	22.7	30.7	9.93	4.10	3.05
MAX	130	44	437	318	179	385	131	81	84	21	9.5	7.0
MIN	24	19	22	33	22	26	16	12	11	5.0	3.0	2.4
CFSM	.85	.56	3.68	1.86	1.12	2.92	.76	.51	.69	.22	.09	.07
IN.	.98	.63	4.24	2.15	1.21	3.36	.84	.58	.76	.26	.11	.08

CAL YR 1967	TOTAL	29,270.9	MEAN	80.2	MAX	2,710	MIN	7.4	CFSM	1.79	IN	24.30
WTR YR 1968	TOTAL	18,306.4	MEAN	50.0	MAX	437	MIN	2.4	CFSM	1.12	IN	15.20

PEAK DISCHARGE (BASE, 450 CFS)

DATE	TIME	G.HT.	DISCHARGE
12-13	0700	7.94	452

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 1968.

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.--18 years, 8.74 cfs.

Extremes.--Maximum discharge during year, 205 cfs Jan. 14 (gage height, 3.33 ft); no flow part of each day June 13, 14, 17, 18, 22, 23, 25-29 (result of pumpage for irrigation).
1950-68: Maximum discharge, 792 cfs Aug. 25, 1967 (gage height, 5.03 ft), from rating curve extended above 210 cfs on basis of slope-area measurement at gage height 4.10 ft; no flow at times during many years (result of pumpage for irrigation).

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	6.7	5.4	18	10	6.7	9.8	5.7	6.4	1.8	1.2	1.3
2	15	7.4	5.0	15	15	6.6	8.6	5.1	5.8	1.7	2.5	1.3
3	13	8.4	53	14	31	7.3	8.4	4.9	5.9	2.7	4.5	4.1
4	12	7.7	37	21	20	7.2	8.2	4.6	5.4	2.3	1.8	1.4
5	10	7.0	20	18	17	7.9	8.0	4.4	4.7	2.0	1.6	1.1
6	9.6	6.4	17	14	15	8.4	7.2	4.1	4.3	1.8	1.5	6.9
7	8.9	6.3	16	15	14	7.7	6.9	3.9	4.0	1.7	1.3	3.3
8	8.7	5.9	14	11	13	7.5	6.8	3.8	3.8	1.5	1.1	1.6
9	8.7	5.8	13	10	12	8.1	6.5	3.7	3.6	1.5	1.1	1.3
10	11	5.8	13	10	11	8.0	6.2	3.6	3.4	1.5	1.2	1.3
11	10	5.5	40	10	10	7.9	6.0	3.6	3.3	1.4	2.9	1.4
12	8.8	5.6	74	10	9.4	18	5.7	3.8	3.7	1.4	1.4	1.1
13	8.2	5.5	38	10	8.8	45	5.5	3.6	3.4	.92	1.1	1.0
14	7.8	5.5	24	93	8.4	23	5.4	3.4	2.9	2.2	1.1	.94
15	7.3	5.2	20	42	8.6	17	5.5	3.4	2.7	3.9	1.0	.86
16	7.0	4.9	17	18	8.3	15	5.1	3.4	2.7	1.8	.92	.83
17	7.0	5.0	15	13	8.3	28	4.8	3.2	5.8	.29	1.6	.78
18	9.2	5.2	14	11	7.5	68	4.7	3.0	6.4	.51	3.0	.75
19	8.7	4.8	13	11	7.3	30	4.7	3.1	4.0	1.4	1.6	.72
20	7.3	4.7	12	11	7.6	22	4.5	3.4	5.3	1.3	1.4	.74
21	6.9	4.6	11	11	7.2	19	4.4	2.9	3.7	1.2	1.3	.95
22	6.5	4.7	14	10	6.6	17	4.7	2.8	3.3	.86	.94	.93
23	6.2	5.2	30	11	6.8	22	4.3	2.7	3.0	.69	.99	.67
24	6.1	4.9	22	13	6.6	23	7.8	3.2	2.8	1.0	1.3	.66
25	8.4	5.6	18	11	6.4	16	14	2.9	2.8	.60	1.0	.87
26	12	5.0	22	9.9	6.2	14	8.2	2.6	2.4	.36	.87	.93
27	8.9	4.8	18	9.3	6.1	13	7.1	2.8	2.4	.38	.86	.64
28	8.0	4.6	20	9.5	5.9	12	6.7	14	2.5	.17	.88	.64
29	7.3	4.5	44	9.8	6.3	11	6.0	15	2.0	.75	1.3	.69
30	7.0	4.9	23	11	------	10	6.0	9.2	1.9	.80	1.3	.76
31	6.8	------	19	11	------	9.6	------	7.7	------	1.1	1.0	------
TOTAL	281.3	168.1	701.4	491.5	300.3	515.9	197.7	143.5	114.3	41.53	45.56	40.46
MEAN	9.07	5.60	22.6	15.9	10.4	16.6	6.59	4.63	3.81	1.34	1.47	1.35
MAX	19	8.4	74	93	31	68	14	15	6.4	3.9	4.5	6.9
MIN	6.1	4.5	5.0	9.3	5.9	6.6	4.3	2.6	1.9	.17	.86	.64
CFSM	1.28	.79	3.19	2.23	1.46	2.34	.93	.65	.54	.19	.21	.19
IN.	1.47	.88	3.67	2.57	1.57	2.70	1.04	.75	.60	.22	.24	.21

CAL YR 1967 TOTAL 5,216.08 MEAN 14.3 MAX 398 MIN .94 CFSM 2.01 IN 27.32
WTR YR 1968 TOTAL 3,041.55 MEAN 8.31 MAX 93 MIN .17 CFSM 1.17 IN 15.93

PEAK DISCHARGE (BASE, 60 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12- 3	1800	2.82	127	1-14	1500	3.33	205
12-12	1600	2.87	133	3-18	0715	2.56	99
12-29	0600	2.24	64				

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 1968.

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

Average discharge.--17 years, 17.0 cfs.

Extremes.--Maximum discharge during year, 226 cfs Jan. 14 (gage height, 3.58 ft); minimum daily, 4.0 cfs Sept. 30. 1951-68: Maximum discharge, 518 cfs Aug. 25, 1967 (gage height, 4.42 ft); minimum, 0.4 cfs May 23, 1964, June 11, 1965, result of regulation; minimum daily, 0.5 cfs June 11, 1965.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	13	13	27	23	20	26	16	11	7.5	6.0	4.5
2	36	14	12	22	25	19	24	15	11	7.4	6.6	4.7
3	30	16	65	19	55	20	23	14	16	7.3	10	5.7
4	27	15	95	32	43	18	23	14	15	10	7.2	5.2
5	25	14	42	32	34	21	23	13	10	10	6.5	4.8
6	24	13	30	21	31	23	21	12	8.3	8.8	6.5	5.8
7	23	13	24	23	29	21	20	12	7.8	9.2	6.4	6.2
8	23	13	22	20	27	19	20	12	7.5	7.8	5.8	5.1
9	23	13	20	19	25	19	20	12	7.2	7.6	10	4.6
10	25	13	20	18	25	20	19	12	7.0	7.9	13	4.5
11	26	13	57	18	22	29	19	12	6.8	7.6	10	4.8
12	22	13	84	17	20	39	18	12	6.6	7.5	6.0	5.1
13	20	13	80	15	20	127	18	12	6.5	7.3	5.5	4.6
14	20	13	43	98	19	74	18	11	6.4	7.3	5.4	4.4
15	19	13	32	144	19	47	18	11	6.3	9.1	5.3	4.3
16	18	12	25	62	20	40	18	11	6.3	8.1	5.1	4.3
17	18	12	22	40	20	66	17	11	10	7.0	5.4	4.2
18	21	13	20	31	19	133	16	10	16	6.5	6.5	4.2
19	24	12	19	29	18	82	16	11	9.7	6.2	5.8	4.2
20	18	12	18	28	18	56	16	12	16	6.0	6.0	4.3
21	17	11	16	27	18	45	16	10	11	5.9	5.1	4.4
22	16	11	19	27	16	40	16	9.7	9.0	5.8	4.7	4.4
23	15	12	46	27	16	46	16	9.4	8.5	5.8	5.6	4.4
24	15	12	39	31	16	60	22	11	10	5.6	7.9	4.3
25	16	14	28	27	16	44	32	9.2	11	6.0	8.1	4.3
26	21	13	30	24	15	36	21	8.4	9.0	20	5.2	4.3
27	16	12	25	23	15	32	19	9.8	8.6	9.5	4.6	4.3
28	14	11	25	24	15	31	19	26	11	7.5	4.4	4.2
29	14	11	60	24	17	29	16	30	9.0	6.6	4.4	4.1
30	13	12	40	24	------	27	16	18	8.4	6.0	4.4	4.0
31	13	------	29	24	------	25	------	14	------	5.8	4.5	------
TOTAL	660	382	1,100	997	656	1,308	586	400.5	286.9	240.6	197.9	138.2
MEAN	21.3	12.7	35.5	32.2	22.6	42.2	19.5	12.9	9.56	7.76	6.38	4.61
MAX	48	16	95	144	55	133	32	30	16	20	13	6.2
MIN	13	11	12	15	15	18	16	8.4	6.3	5.6	4.4	4.0
CFSM	1.42	.85	2.37	2.15	1.51	2.81	1.30	.86	.64	.52	.43	.31
IN.	1.64	.95	2.73	2.47	1.63	3.24	1.45	.99	.71	.60	.49	.34

CAL YR 1967 TOTAL 7,924.7 MEAN 21.7 MAX 320 MIN 4.7 CFSM 1.45 IN 19.65
WTR YR 1968 TOTAL 6,953.1 MEAN 19.0 MAX 144 MIN 4.0 CFSM 1.27 IN 17.24

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 1968.

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.--20 years, 122 cfs.

Extremes.--Maximum discharge during year, 1,620 cfs Mar. 19 (gage height, 8.01 ft); minimum, 5.8 cfs Aug. 25 (gage height, 1.76 ft); minimum daily, 6.4 cfs Aug. 24.
1948-68: Maximum discharge, 6,970 cfs Aug. 4, 1967 (gage height, 14.47 ft) from rating curve extended above 3,600 cfs by logarithmic plotting; 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 1968 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	209	52	52	336	179	68	130	74	442	38	23	10
2	120	55	55	244	179	80	122	70	315	33	26	9.2
3	85	64	136	200	258	93	112	64	224	42	28	12
4	68	85	435	220	344	96	108	55	158	62	28	16
5	58	87	510	260	285	105	105	47	125	64	26	12
6	52	74	368	200	232	108	100	47	100	52	24	16
7	48	66	278	170	186	110	96	42	82	50	20	24
8	47	62	226	160	162	105	91	40	72	45	14	20
9	45	56	190	130	150	98	91	36	66	39	12	16
10	48	55	170	110	140	96	89	36	60	38	23	14
11	66	52	248	100	120	96	85	36	178	40	24	16
12	66	52	518	90	102	110	82	38	340	39	21	19
13	58	50	1,010	84	96	411	80	40	475	36	17	17
14	52	48	679	300	85	966	74	39	686	34	13	13
15	48	48	403	860	96	531	76	38	382	34	13	13
16	47	45	321	620	108	353	66	38	229	42	12	12
17	44	42	264	340	89	335	53	38	255	56	14	12
18	45	42	219	210	85	900	52	36	322	39	21	10
19	53	42	184	180	78	1,500	55	38	309	32	14	11
20	64	42	168	170	80	874	55	47	215	27	12	11
21	58	40	155	160	80	442	52	40	150	27	12	9.2
22	52	40	150	160	70	356	55	38	110	26	8.8	10
23	47	45	300	150	72	318	55	38	87	23	7.6	11
24	44	55	474	150	70	386	53	40	74	21	6.4	10
25	45	64	404	150	68	395	134	42	64	20	7.6	10
26	70	68	352	150	56	301	259	38	58	20	9.2	10
27	98	68	364	140	56	241	160	33	55	21	11	11
28	91	58	333	140	56	193	110	117	53	19	8.4	11
29	76	55	461	140	58	168	91	594	48	14	8.0	11
30	67	52	682	140	------	155	80	1,020	44	12	8.0	11
31	56	------	432	160	------	142	------	607	------	13	8.0	------
TOTAL	2,027	1,664	10,541	6,624	3,640	10,132	2,771	3,506	5,778	1,058	480.0	387.4
MEAN	65.4	55.5	340	214	126	327	92.4	113	193	34.1	15.5	12.9
MAX	209	87	1,010	860	344	1,500	259	1,020	686	64	28	24
MIN	44	40	52	84	56	68	52	33	44	12	6.4	9.2
CFSM	.58	.49	3.01	1.89	1.12	2.89	.82	1.00	1.71	.30	.14	.11
IN.	.67	.55	3.47	2.18	1.20	3.33	.91	1.15	1.90	.35	.16	.13

CAL YR 1967 TOTAL 69,164 MEAN 189 MAX 6,160 MIN 12 CFSM 1.67 IN 22.76
WTR YR 1968 TOTAL 48,608.4 MEAN 133 MAX 1,500 MIN 6.4 CFSM 1.18 IN 16.00

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-13	1230	6.85	1,070	3-19	0530	8.01	1,620
1-15	Time and discharge unknown			5-30	0530	6.96	1,110
3-14	1000	6.81	1,050				

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 1968.

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.--18 years, 6.56 cfs.

Extremes.--Maximum discharge during year, 269 cfs May 28 (gage height, 4.02 ft); minimum, 0.07 cfs Sept. 25.
1950-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	1.7	2.4	11	8.2	6.2	5.9	2.8	6.6	.68	.39	.38
2	1.8	2.9	2.4	7.5	13	7.8	4.8	2.2	4.4	.81	.37	1.9
3	1.7	4.8	81	7.9	23	7.4	4.4	2.0	5.4	1.5	.47	3.9
4	1.5	2.6	33	23	9.0	5.8	4.6	1.9	5.0	1.5	.37	.45
5	1.5	2.1	9.5	13	7.4	6.6	4.5	1.7	2.8	1.2	.49	.32
6	1.3	1.8	7.5	7.3	6.6	6.6	3.8	1.7	2.2	.97	.53	4.2
7	1.4	1.8	6.4	8.4	6.6	5.4	3.6	1.4	1.8	.95	.45	.86
8	1.5	1.8	5.9	6.5	6.2	4.4	3.8	1.3	1.7	.73	.40	.38
9	1.8	1.8	4.9	7.6	5.4	5.0	3.8	1.3	1.5	.64	.28	.27
10	4.2	1.8	9.0	8.1	4.4	5.4	3.4	1.2	1.4	.63	.92	.32
11	4.0	1.8	39	6.7	3.5	5.0	3.2	1.2	3.6	.61	2.1	.95
12	2.2	1.9	47	5.4	3.8	31	3.0	1.5	6.9	.55	.39	.38
13	1.9	2.1	15	3.8	3.2	74	2.8	1.4	5.0	.53	.31	.27
14	1.8	2.2	8.5	107	3.0	13	2.8	1.3	2.2	.55	.32	.22
15	1.8	2.0	7.2	33	3.8	9.0	2.9	1.3	1.7	3.9	.32	.22
16	1.6	1.7	6.3	12	4.0	7.8	2.8	1.3	1.4	1.4	.27	.22
17	1.6	1.7	5.6	8.7	4.4	58	2.6	1.2	5.9	.72	1.3	.22
18	2.7	1.9	5.5	7.6	3.5	78	2.5	.98	6.4	.58	1.7	.22
19	2.4	1.9	5.4	8.0	3.2	22	2.5	3.4	2.6	.48	.60	.18
20	1.6	1.7	4.7	8.3	4.0	12	2.3	4.7	5.2	.45	.52	.14
21	1.4	1.7	4.5	8.4	3.2	10	2.2	1.5	2.1	.37	.38	.14
22	1.3	1.8	18	8.3	3.0	9.0	3.9	1.3	1.7	.34	.27	.14
23	1.3	4.6	48	10	3.0	16	2.9	1.2	1.5	.34	.27	.14
24	1.3	3.3	13	11	3.2	14	5.8	3.1	1.3	.33	.32	.14
25	6.8	4.3	11	7.4	3.2	8.2	13	2.2	1.2	.31	.32	.18
26	8.0	2.9	20	7.4	3.0	7.0	4.2	1.3	1.0	.42	.27	.22
27	2.8	2.3	10	7.4	3.0	6.6	3.3	1.2	1.4	.38	.27	.14
28	2.1	2.0	28	8.2	4.2	6.5	3.5	122	1.4	.36	.32	.14
29	1.8	1.8	55	8.6	4.6	6.0	2.7	82	.98	.29	.32	.14
30	1.7	2.0	13	9.6	------	5.4	2.8	28	.79	.28	.38	.14
31	1.7	------	10	------	------	4.9	------	25	------	.44	.38	------
TOTAL	70.6	68.7	536.7	397.1	156.6	464.0	114.3	304.58	87.07	23.24	16.00	17.52
MEAN	2.28	2.29	17.3	12.8	5.40	15.0	3.81	9.83	2.90	.75	.52	.58
MAX	8.0	4.8	81	107	23	78	13	122	6.9	3.9	2.1	4.2
MIN	1.3	1.7	2.4	3.8	3.0	4.4	2.2	.98	.79	.28	.27	.14
CFSM	.39	.39	2.96	2.19	.92	2.56	.65	1.68	.50	.13	.09	.10
IN.	.45	.44	3.41	2.52	1.00	2.95	.73	1.94	.55	.15	.10	.11

CAL YR 1967 TOTAL 3,134.91 MEAN 8.59 MAX 257 MIN .35 CFSM 1.47 IN 19.93
WTR YR 1968 TOTAL 2,256.41 MEAN 6.17 MAX 122 MIN .14 CFSM 1.05 IN 14.34

PEAK DISCHARGE (BASE, 120 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12- 3	1730	2.99	143	5-28	2000	4.02	269
1-14	1615	3.38	186				

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 1968.

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.--20 years, 23.0 cfs.

Extremes.--Maximum discharge during year, 266 cfs Mar. 18 (gage height, 4.05 ft); minimum, 3.4 cfs Feb. 11 (gage height, 1.87 ft); minimum daily, 6.8 cfs Sept. 25.
1948-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	11	9.0	38	29	18	26	15	37	11	8.0	8.7
2	11	15	9.0	27	30	18	24	14	28	12	10	9.9
3	11	16	37	25	46	18	23	13	23	53	12	19
4	11	13	82	29	54	18	22	12	20	26	11	11
5	10	12	46	30	39	18	22	12	16	17	9.1	9.6
6	9.5	11	28	23	33	22	20	11	14	14	9.0	13
7	9.6	11	21	21	34	23	19	11	14	13	9.0	12
8	10	10	18	19	35	23	19	10	14	12	8.0	9.8
9	11	11	16	17	34	22	18	10	13	11	7.8	9.1
10	22	11	16	17	33	22	17	9.7	13	11	8.5	11
11	21	11	41	16	29	17	16	9.8	14	11	11	15
12	13	9.8	65	16	30	13	16	12	31	11	9.1	9.9
13	12	11	77	16	16	109	15	11	83	10	8.7	8.8
14	12	9.7	47	39	10	107	16	10	58	10	9.2	8.4
15	12	9.0	34	173	9.3	58	16	10	29	10	9.6	8.3
16	11	9.2	28	79	8.7	44	15	10	22	9.9	9.0	8.6
17	11	11	24	46	9.7	55	14	10	36	9.4	21	8.4
18	12	10	22	28	10	197	13	9.4	44	9.0	12	8.1
19	11	10	22	24	10	191	13	9.3	32	8.9	10	7.9
20	11	9.5	21	23	11	96	13	9.8	24	9.6	10	7.5
21	11	9.5	21	25	13	63	13	8.9	18	9.2	9.2	6.9
22	10	9.5	21	26	14	56	14	9.1	15	8.6	8.8	7.9
23	10	9.5	28	28	17	53	13	9.3	13	8.1	8.5	8.8
24	10	9.5	52	34	19	70	16	13	13	8.2	9.9	7.4
25	14	9.5	37	31	19	57	33	12	12	7.8	14	6.8
26	17	9.7	38	26	18	45	25	9.5	12	8.0	25	7.3
27	13	9.7	41	24	18	38	19	9.6	19	7.8	10	7.4
28	12	9.0	37	24	17	35	17	44	13	7.9	9.6	7.3
29	11	9.0	79	24	17	32	14	190	12	7.7	8.9	7.1
30	11	9.1	71	25	------	30	15	114	11	7.8	8.8	7.0
31	10	------	49	27	------	27	------	57	------	7.6	8.7	------
TOTAL	372.1	315.2	1,137.0	1,000	662.7	1,595	536	695.4	703	367.5	323.4	277.9
MEAN	12.0	10.5	36.7	32.3	22.9	51.5	17.9	22.4	23.4	11.9	10.4	9.26
MAX	22	16	82	173	54	197	33	190	83	53	25	19
MIN	9.5	9.0	9.0	16	8.7	13	13	8.9	11	7.6	7.8	6.8
CFSM	.54	.47	1.64	1.45	1.02	2.31	.80	1.01	1.05	.53	.47	.42
IN.	.62	.53	1.90	1.67	1.11	2.66	.89	1.16	1.17	.61	.54	.46

CAL YR 1967 TOTAL 9,839.1 MEAN 27.0 MAX 463 MIN 7.6 CFSM 1.21 IN 16.41
WTR YR 1968 TOTAL 7,985.2 MEAN 21.8 MAX 197 MIN 6.8 CFSM .98 IN 13.32

PEAK DISCHARGE (BASE, 180 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-15	0330	3.85	212
3-18	1930	4.05	266
5-29	1000	3.82	230

1-4935. Morgan Creek near Kennedyville, Md.

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

Drainage area.--10.5 sq mi.

Records available.--May 1951 to September 1968.

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.--17 years, 9.02 cfs.

Extremes.--Maximum discharge during year, 397 cfs Jan. 14 (gage height, 5.70 ft); minimum, 1.6 cfs July 30 (gage height, 1.28 ft).
1951-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	3.6	3.8	6.5	6.0	8.1	7.4	7.9	5.0	3.2	2.3	2.0
2	2.0	6.1	3.8	4.6	7.7	6.7	6.9	5.2	4.6	5.4	4.2	2.3
3	2.1	7.5	24	5.4	15	5.7	7.3	4.6	4.5	21	3.5	3.3
4	2.1	4.9	31	7.6	9.0	4.6	7.6	4.6	4.2	6.9	2.8	3.0
5	1.9	3.9	12	6.1	5.6	5.1	8.0	4.9	3.8	4.1	2.4	2.3
6	1.8	3.6	6.3	4.1	5.3	5.4	7.3	6.5	3.6	3.7	2.7	3.3
7	1.8	3.8	5.2	5.7	5.2	4.9	6.9	4.5	3.5	3.7	2.9	4.1
8	2.0	3.6	4.9	5.0	5.1	4.6	7.3	4.2	3.4	3.3	2.3	2.5
9	2.5	3.6	4.6	3.8	4.8	5.6	7.3	4.1	3.5	3.1	2.2	2.3
10	4.1	3.8	5.2	3.8	4.4	5.8	6.9	4.1	3.3	3.3	2.5	3.2
11	6.3	3.8	16	4.1	3.7	5.5	6.9	4.1	5.7	3.3	3.2	17
12	3.2	3.8	28	3.8	3.7	11	6.5	7.0	11	3.3	2.2	5.5
13	2.7	3.8	25	3.8	3.9	52	6.5	5.3	9.0	2.8	2.1	3.0
14	2.5	3.8	10	168	4.7	20	6.5	4.6	4.5	2.9	2.8	2.5
15	2.7	3.8	6.5	77	4.3	7.4	6.5	4.6	3.8	3.3	3.0	2.3
16	2.6	3.3	5.7	17	4.7	6.2	6.5	4.6	4.7	3.2	2.3	2.0
17	2.8	3.6	5.3	6.2	4.7	40	6.5	4.7	7.7	2.8	3.6	2.3
18	6.7	3.8	5.4	4.7	4.2	129	6.5	4.1	7.6	2.6	2.5	2.3
19	5.4	4.1	5.0	5.3	3.8	33	6.5	4.0	4.7	2.6	2.3	2.1
20	3.9	3.8	4.6	5.9	4.4	13	6.5	4.7	6.2	2.9	2.5	2.0
21	3.3	3.6	4.6	6.2	4.1	9.9	6.5	4.1	4.1	2.4	2.0	2.0
22	3.1	3.8	8.4	5.9	3.8	9.0	7.6	4.0	3.8	2.3	1.8	2.1
23	3.0	4.1	14	6.3	3.6	10	6.3	4.4	3.5	2.2	1.8	2.0
24	3.2	4.1	7.6	7.0	4.1	10	8.2	8.6	3.4	2.1	2.3	1.9
25	4.6	4.3	5.7	4.6	3.8	8.2	11	6.3	3.4	1.9	4.6	1.9
26	8.0	4.1	8.9	3.8	4.1	7.7	5.7	4.3	3.2	2.0	9.9	1.9
27	5.2	3.8	6.1	4.2	4.1	7.6	5.4	4.1	7.3	1.9	4.1	1.9
28	3.8	3.6	9.4	4.8	4.5	7.5	5.7	20	5.3	1.9	2.3	1.8
29	3.5	3.3	27	5.8	5.3	7.5	5.0	34	3.9	1.7	2.3	1.8
30	3.4	2.8	14	6.6	------	7.2	5.9	11	3.5	1.6	2.0	1.9
31	3.5	------	6.5	7.7	------	7.0	------	6.3	------	1.8	2.0	------
TOTAL	105.9	119.5	324.5	411.3	147.6	465.2	205.6	205.4	145.7	109.2	89.4	88.5
MEAN	3.42	3.98	10.5	13.3	5.09	15.0	6.85	6.63	4.86	3.52	2.88	2.95
MAX	8.0	7.5	31	168	15	129	11	34	11	21	9.9	17
MIN	1.8	2.8	3.8	3.8	3.6	4.6	5.0	4.0	3.2	1.6	1.8	1.8
CFSM	.33	.38	1.00	1.26	.48	1.43	.65	.63	.46	.34	.27	.28
IN.	.38	.42	1.15	1.46	.52	1.65	.73	.73	.52	.39	.32	.31

CAL YR 1967 TOTAL 2,875.7 MEAN 7.88 MAX 339 MIN 1.2 CFSM .75 IN 10.19
WTR YR 1968 TOTAL 2,417.8 MEAN 6.61 MAX 168 MIN 1.6 CFSM .63 IN 8.56

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-14	1515	5.70	397

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 1968. 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.--36 years, 67.0 cfs.

Extremes.--Maximum discharge during year, 1,570 cfs Jan. 14 (gage height, 5.90 ft); minimum, 16 cfs Sept. 29, 30; minimum daily, 17 cfs Sept. 27-30.

1932-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	41	56	71	61	59	71	62	79	32	26	18
2	41	87	40	62	100	48	66	55	67	37	100	21
3	40	153	451	66	158	46	63	51	63	47	36	27
4	39	54	145	68	75	52	63	54	57	38	30	21
5	38	48	70	56	65	44	84	50	52	36	27	19
6	36	43	59	56	60	45	66	53	49	32	27	32
7	35	40	58	60	58	42	62	46	48	31	57	39
8	37	39	56	54	56	41	64	44	45	30	31	23
9	39	39	50	52	54	44	65	43	45	30	26	21
10	52	38	50	56	50	49	59	43	43	30	26	23
11	72	38	206	52	50	52	59	44	41	31	31	131
12	44	38	371	50	46	161	57	58	264	32	25	34
13	40	38	127	70	46	386	56	50	223	30	24	25
14	40	36	84	640	43	113	55	46	62	30	24	22
15	41	36	73	246	46	83	56	45	48	30	24	21
16	40	34	66	88	47	81	56	56	46	30	24	20
17	40	35	62	80	44	465	53	55	88	31	50	21
18	79	39	59	84	40	558	52	45	56	75	28	20
19	96	40	58	82	34	183	52	46	46	41	25	19
20	48	36	56	69	41	122	51	47	45	101	27	19
21	43	35	53	68	30	105	50	43	39	35	24	19
22	40	38	71	67	29	96	52	43	38	29	22	19
23	39	41	87	67	31	98	51	44	50	28	22	19
24	39	39	59	69	38	97	104	89	39	26	24	19
25	65	41	57	61	34	80	239	57	38	38	24	18
26	110	40	66	50	38	77	76	44	52	29	21	18
27	52	36	56	54	44	74	64	41	55	25	19	17
28	46	35	104	51	46	72	58	371	48	25	19	17
29	43	34	356	55	45	71	54	338	39	23	19	17
30	41	39	90	61	------	68	57	127	36	22	18	17
31	41	------	74	71	------	66	------	132	------	21	18	------
TOTAL	1,499	1,330	3,270	2,736	1,509	3,578	2,015	2,322	1,901	1,075	898	756
MEAN	48.4	44.3	105	88.3	52.0	115	67.2	74.9	63.4	34.7	29.0	25.2
MAX	110	153	451	640	158	558	239	371	264	101	100	131
MIN	35	34	40	50	29	41	50	41	36	21	18	17
CFSM	.92	.84	2.01	1.68	.99	2.19	1.28	1.42	1.20	.66	.55	.48
IN.	1.06	.94	2.31	1.93	1.07	2.53	1.42	1.64	1.34	.76	.63	.53

CAL YR 1967 TOTAL 27,099 MEAN 74.2 MAX 1,510 MIN 23 CFSM 1.41 IN 19.16
WTR YR 1968 TOTAL 22,889 MEAN 62.5 MAX 640 MIN 17 CFSM 1.19 IN 16.18

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

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 1968.

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.--20 years, 32.1 cfs.

Extremes.--Maximum discharge during year, 912 cfs Jan. 15 (gage height, 4.07 ft); minimum, 4.2 cfs Aug. 29, 30, 31, Sept. 1; minimum daily, 4.2 cfs Aug. 31, Sept. 1.
1948-68: Maximum discharge, 4,060 cfs Aug. 10, 1967 (gage height, 7.74 ft), on basis of contracted-opening measurement of peak flow; minimum, 1.2 cfs Sept. 8, 9, 10, 11, 12, 13, 14, 1966; minimum daily, 1.2 cfs Sept. 9, 10, 12, 13, 1966.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	13	15	30	33	21	24	29	46	13	7.4	4.2
2	12	70	15	35	54	19	23	23	33	29	22	6.2
3	11	117	310	31	146	19	20	20	30	45	10	6.2
4	11	27	247	29	38	18	20	19	27	18	8.0	5.6
5	10	21	36	26	29	18	31	18	23	15	7.0	4.9
6	9.7	18	28	26	26	19	23	19	21	13	6.7	7.4
7	9.1	16	26	26	25	17	20	17	19	12	7.1	14
8	9.4	15	27	25	23	16	20	15	18	11	6.8	7.3
9	10	15	23	24	22	18	23	15	18	11	6.2	5.8
10	17	15	24	24	21	21	19	15	17	11	9.8	17
11	38	15	200	24	19	23	19	15	16	11	9.6	134
12	15	15	294	27	17	86	18	32	34	11	6.5	15
13	13	15	87	31	16	459	17	36	157	10	5.8	8.4
14	12	14	40	270	13	68	17	20	27	9.7	5.7	7.9
15	12	13	33	473	15	36	17	18	20	10	5.7	6.9
16	12	13	29	54	17	32	17	26	18	11	5.4	6.0
17	11	13	27	42	17	378	16	26	41	9.5	11	6.2
18	31	14	26	29	17	653	15	18	27	8.7	8.4	5.8
19	40	15	27	30	16	125	15	17	20	9.4	6.2	5.7
20	16	14	25	34	16	51	15	17	20	12	6.3	5.4
21	13	13	24	33	16	40	15	15	16	9.9	6.1	5.4
22	12	14	40	34	14	35	16	15	16	8.3	5.3	5.5
23	12	16	60	33	13	38	15	16	18	7.7	5.1	5.4
24	11	16	30	38	11	43	77	41	16	6.8	5.3	5.2
25	21	16	28	26	12	28	231	24	15	6.5	6.2	5.1
26	56	16	35	25	14	26	37	18	16	6.8	5.6	5.0
27	19	14	27	22	17	25	27	15	23	6.5	4.9	4.9
28	15	13	53	22	16	24	24	250	20	6.2	4.5	4.8
29	14	13	350	26	16	24	21	534	16	5.9	4.4	4.8
30	13	13	47	32	------	22	22	190	14	5.7	4.3	4.5
31	13	------	31	44	------	21	------	287	------	5.7	4.2	------
TOTAL	510.2	612	2,264	1,625	709	2,423	874	1,820	802	356.3	217.5	330.5
MEAN	16.5	20.4	73.0	52.4	24.4	78.2	29.1	58.7	26.7	11.5	7.02	11.0
MAX	56	117	350	473	146	653	231	534	157	45	22	134
MIN	9.1	13	15	22	11	16	15	15	14	5.7	4.2	4.2
CFSM	.68	.84	3.01	2.16	1.01	3.22	1.20	2.42	1.10	.47	.29	.45
IN.	.78	.94	3.46	2.49	1.09	3.71	1.34	2.79	1.23	.55	.33	.51

CAL YR 1967 TOTAL 14,818.6 MEAN 40.6 MAX 1,750 MIN 5.1 CFSM 1.67 IN 22.68
WTR YR 1968 TOTAL 12,543.5 MEAN 34.3 MAX 653 MIN 4.2 CFSM 1.41 IN 19.20

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-15	0145	4.07	912
5-29	0600	3.97	852

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 1967 to September 1968.

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

Extremes.--Maximum discharge during year, 634 cfs Jan. 14 (gage height, 5.96 ft); minimum, 1.8 cfs Sept. 1 (gage height, 1.68 ft).
1967-68: Maximum discharge, 4,260 cfs Aug. 9, 1967 (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, that of Sept. 1, 1968.

Remarks.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	6.1	5.3	13	10	8.1	12	9.8	15	4.8	13	1.9
2	6.1	31	5.8	12	24	7.5	10	8.6	12	25	9.1	3.0
3	6.0	14	113	12	21	6.8	10	7.9	11	16	4.1	3.2
4	5.8	7.7	22	12	11	7.3	10	7.8	9.7	7.0	3.6	2.2
5	5.6	6.5	13	11	10	7.0	14	7.8	8.7	5.9	3.4	2.1
6	5.6	5.9	11	11	9.5	7.0	10	7.8	8.1	5.3	3.4	3.6
7	5.6	5.7	12	11	9.2	6.5	9.8	6.7	7.6	5.0	3.5	3.0
8	5.7	5.6	11	12	8.9	6.5	10	6.6	7.4	4.8	3.1	2.4
9	6.0	5.6	9.4	13	8.4	7.1	9.7	6.6	7.2	4.7	3.0	2.2
10	12	5.6	13	11	7.3	7.7	9.0	6.5	6.9	4.6	3.5	54
11	8.4	5.3	61	9.8	7.6	7.8	9.0	6.6	6.9	4.6	4.4	42
12	6.2	5.5	75	11	7.3	53	8.7	10	20	4.6	3.1	3.8
13	6.0	5.3	19	10	6.6	83	8.7	8.6	15	4.3	2.8	2.9
14	6.0	5.1	14	192	6.8	19	8.8	7.1	7.9	4.2	2.8	2.6
15	6.0	5.0	12	27	7.1	14	9.3	6.8	7.1	4.4	2.8	2.4
16	5.8	4.7	11	14	6.8	13	8.8	9.5	8.2	4.3	2.8	2.4
17	5.8	5.3	11	10	7.0	120	8.6	7.8	9.5	4.0	3.4	2.4
18	9.7	5.6	11	9.5	6.8	105	8.7	6.6	8.0	3.8	2.8	2.2
19	9.0	5.3	9.9	10	6.8	28	8.5	6.5	7.1	4.2	2.7	2.1
20	6.2	5.1	9.4	10	6.8	20	8.1	6.5	7.0	4.7	3.0	2.1
21	6.0	5.1	9.4	11	6.8	17	8.0	6.1	6.1	3.8	2.8	2.1
22	5.8	5.5	18	9.9	6.6	16	8.4	5.8	6.0	3.6	2.3	2.1
23	5.8	6.0	14	12	6.6	19	7.9	7.4	6.8	3.5	2.2	2.0
24	5.9	5.5	11	10	6.3	15	40	12	5.8	3.4	2.7	2.0
25	17	6.3	10	8.2	6.3	13	35	7.4	5.6	3.4	3.1	1.9
26	12	5.6	13	8.2	6.3	12	12	6.1	6.1	3.4	2.3	1.9
27	7.1	5.3	9.8	7.9	6.3	12	10	6.0	8.1	3.2	2.0	1.9
28	6.5	5.0	36	8.1	6.3	12	9.2	96	6.3	3.2	2.0	1.9
29	6.1	4.8	64	9.7	7.1	11	8.7	66	5.4	3.0	2.0	1.8
30	6.1	5.6	15	11	------	11	9.9	74	5.0	2.9	2.3	1.8
31	6.1	------	13	13	------	11	------	32	------	2.9	2.2	------
TOTAL	218.2	200.6	662.0	530.3	247.5	683.3	340.8	470.9	251.5	162.5	106.2	161.9
MEAN	7.04	6.69	21.4	17.1	8.53	22.0	11.4	15.2	8.38	5.24	3.43	5.40
MAX	17	31	113	192	24	120	40	96	20	25	13	54
MIN	5.6	4.7	5.3	7.9	6.3	6.5	7.9	5.8	5.0	2.9	2.0	1.8
CFSM	.78	.74	2.36	1.89	.95	2.44	1.26	1.68	.93	.58	.38	.60
IN.	.90	.83	2.73	2.18	1.02	2.81	1.40	1.94	1.04	.67	.44	.67

CAL YR 1967 TOTAL MEAN MAX MIN CFSM IN
WTR YR 1968 TOTAL 4,035.7 MEAN 11.0 MAX 192 MIN 1.8 CFSM 1.22 IN 16.62

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-03	1100	4.80	340	5-30	1845	5.06	392
1-14	1415	5.96	634	9-10	2215	5.47	482
3-12	2230	4.59	302				

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 1968. 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.--42 years, 118 cfs.

Extremes.--Maximum discharge during year, 5,100 cfs Sept. 10 (gage height, 11.59 ft, from high-water mark in well); minimum, 40 cfs Aug. 31, Sept. 1 (gage height, 2.05 ft).
1926-68: 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: 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	68	60	108	120	82	127	90	146	68	57	40
2	70	177	70	104	134	86	114	84	130	77	66	42
3	70	182	292	112	187	82	112	83	120	84	54	49
4	70	104	194	102	136	84	112	83	112	71	51	42
5	67	88	123	92	123	84	112	81	102	67	49	41
6	67	80	106	88	116	84	104	84	95	64	61	66
7	66	77	108	95	112	80	102	77	90	61	110	60
8	67	74	110	74	110	80	104	75	86	60	57	47
9	70	71	95	88	106	84	104	75	86	59	52	44
10	91	71	95	98	96	90	98	75	90	59	51	920
11	100	70	242	86	94	88	96	77	83	59	80	960
12	74	71	207	93	92	148	95	90	110	59	51	150
13	70	71	157	112	84	334	93	80	115	57	48	90
14	68	67	127	976	88	162	93	77	85	67	48	70
15	68	66	114	453	90	155	95	77	80	78	48	62
16	68	64	104	207	92	164	93	83	118	68	54	58
17	67	66	96	160	92	354	88	84	112	59	252	54
18	77	70	93	140	86	404	88	75	93	56	65	52
19	116	68	90	140	88	261	88	75	84	217	57	50
20	74	64	84	146	92	204	86	75	112	271	61	48
21	68	64	83	134	80	182	86	74	81	75	53	46
22	66	70	98	132	78	169	86	74	75	65	49	46
23	66	73	102	123	80	187	86	81	80	62	48	44
24	66	71	84	116	80	179	125	159	74	59	47	44
25	114	70	83	102	80	150	164	100	73	57	48	42
26	141	67	98	102	80	141	102	81	73	58	45	42
27	81	65	84	102	82	134	95	77	90	56	43	42
28	74	64	108	96	81	130	90	535	197	54	42	42
29	71	60	234	114	81	127	86	520	88	51	42	42
30	70	57	127	120	------	120	90	231	75	50	41	42
31	68	------	114	141	------	116	------	179	------	50	41	------
TOTAL	2,376	2,330	3,782	4,756	2,860	4,745	3,014	3,711	2,955	2,298	1,871	3,377
MEAN	76.6	77.7	122	153	98.6	153	100	120	98.5	74.1	60.4	113
MAX	141	182	292	976	187	404	164	535	197	271	252	960
MIN	66	57	60	74	78	80	86	74	73	50	41	40
CFSM	.81	.82	1.29	1.63	1.04	1.62	1.06	1.27	1.04	.79	.64	1.19
IN.	.94	.92	1.49	1.87	1.13	1.87	1.19	1.46	1.16	.91	.74	1.33

CAL YR 1967 TOTAL 40,254 MEAN 110 MAX 1,290 MIN 36 CFSM 1.17 IN 15.86
WTR YR 1968 TOTAL 38,075 MEAN 104 MAX 976 MIN 40 CFSM 1.10 IN 15.00

PEAK DISCHARGE (BASE, 1,900 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-14	1700	6.57	2,050
9-10	2400	11.59	5,100

Note.--No gage-height record Sept. 10-30.

1-5802. Deer Creek near Kalmia, Md.

Location.--Lat 39°37'16", long 76°17'57", on left bank 50 ft upstream from bridge on U.S. Highway 1, 1 mile north of Kalmai, Harford County, 6½ miles northeast of Bel Air, and 12½ miles upstream from mouth.

Drainage area.--125 sq mi.

Records available.--July 1967 to September 1968.

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

Extremes.--1967: Maximum discharge during period July to September, 6,130 cfs Aug. 27 (gage height, 10.45 ft); from rating curve extended above 700 cfs by logarithmic plotting; minimum, 87 cfs July 28, 29.
1968: Maximum discharge during year 5,320 cfs Sept. 11 (gage height, 9.87 ft), from rating table extended as explained above; minimum, 53 cfs Aug. 31, Sept. 1, 5.

Remarks.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, JULY TO SEPTEMBER 1967

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										100	125	175
2										95	88	163
3										700	144	153
4										150	2,020	145
5										120	744	141
6										100	216	135
7										76	162	133
8										76	386	131
9										76	332	129
10										218	1,410	133
11										526	302	131
12										200	222	123
13										150	190	121
14										130	175	119
15										125	158	115
16										120	148	115
17										110	139	115
18										96	137	115
19										86	133	113
20										82	148	113
21										78	202	145
22										78	143	134
23										78	133	117
24										76	146	115
25										78	900	109
26										78	700	105
27										74	2,150	103
28										70	458	105
29					------					70	303	121
30					------					384	220	109
31		------			------		------		------	135	195	------
TOTAL										4,535	12,929	3,781
MEAN										146	417	126
MAX										700	2,150	175
MIN										70	88	103
CFSM										1.17	3.34	1.01
IN.										1.35	3.85	1.12

CAL YEAR: 1967: TOTAL - MEAN - MAX - MIN - CFSM - IN
WTR YEAR: 1968: TOTAL - MEAN - MAX - MIN - CFSM - IN

1-5802. Deer Creek near Kalmia, Md.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	103	98	85	140	154	120	156	122	193	98	110	55
2	100	187	95	135	164	115	146	114	169	94	127	57
3	100	309	439	170	237	115	142	109	162	128	81	66
4	98	139	279	135	174	110	142	109	154	104	73	59
5	96	121	172	116	156	114	149	109	142	96	69	55
6	94	109	150	110	149	112	134	114	132	90	139	79
7	94	105	145	120	142	106	132	102	122	86	187	93
8	96	101	152	100	142	104	132	98	119	84	88	65
9	100	98	133	120	134	112	134	98	116	82	76	64
10	125	98	135	130	125	119	124	100	119	82	74	634
11	150	96	350	120	115	122	124	100	114	82	105	1,710
12	109	96	304	130	120	190	122	116	166	82	75	216
13	101	96	221	170	130	463	119	106	179	78	68	134
14	100	92	175	1,320	134	222	116	104	122	81	67	107
15	100	92	155	629	140	190	119	102	114	137	68	93
16	98	87	143	268	130	207	119	114	195	106	66	86
17	98	91	135	210	125	484	114	114	204	84	265	81
18	107	96	131	170	120	568	114	102	142	78	95	77
19	152	96	127	170	115	357	114	102	122	195	78	73
20	107	89	119	185	125	264	112	104	172	417	83	71
21	101	87	117	169	105	228	109	98	119	112	75	69
22	96	94	133	169	105	210	112	102	109	92	67	68
23	96	101	150	159	105	222	112	104	114	86	66	66
24	96	100	121	154	105	228	178	203	106	82	66	66
25	135	98	117	135	105	185	259	142	104	80	66	64
26	213	94	135	135	110	172	144	114	104	80	62	64
27	119	89	119	135	110	164	129	106	134	76	57	62
28	109	87	168	124	110	159	122	705	238	74	57	60
29	103	82	382	146	110	156	116	754	129	68	55	60
30	100	80	182	154	------	149	119	314	109	66	55	64
31	100	------	152	174	------	144	------	240	------	66	55	------
TOTAL	3,396	3,208	5,421	6,302	3,796	6,211	3,964	5,021	4,224	3,166	2,675	4,518
MEAN	110	107	175	203	131	200	132	162	141	102	86.3	151
MAX	213	309	439	1,320	237	568	259	754	238	417	265	1,710
MIN	94	80	85	100	105	104	109	98	104	66	55	55
CFSM	.88	.86	1.40	1.62	1.05	1.60	1.06	1.30	1.13	.82	.69	1.21
IN	1.01	.95	1.61	1.87	1.13	1.85	1.18	1.49	1.26	.94	.80	1.34

CAL YR 1967: TOTAL - MEAN - MAX - MIN - CFSM - IN -
WTR YR 1968: TOTAL 51,902 MEAN 142 MAX 1,710 MIN 55 CFSM 1.14 IN 15.44

PEAK DISCHARGE (BASE, 2,500 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-14	1600	7.50	2,820
9-11	0400	9.87	5,320

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 1968. 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.--19 years (1944-50, 1955-68), 10.5 cfs.

Extremes.--Maximum discharge during year, 1,020 cfs July 19 (gage height, 5.94 ft) from rating curve extended above 580 cfs on basis of logarithmic plotting; minimum, 1.2 cfs Sept. 29 (gage height, 0.90 ft).
1944-51, 1955-68: 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 CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	4.1	4.6	10	9.3	6.9	7.8	6.0	5.9	3.4	18	1.6
2	3.8	72	4.2	8.7	20	6.8	6.8	5.1	5.0	3.6	7.1	1.8
3	3.8	17	161	8.6	19	6.3	6.7	4.8	6.6	5.7	3.8	1.7
4	3.7	9.3	27	10	10	5.5	7.3	4.8	5.7	3.8	2.5	1.6
5	3.6	6.3	14	8.0	8.5	5.8	11	4.6	4.8	3.6	2.2	1.6
6	3.6	5.4	11	7.2	7.9	5.8	6.9	4.8	4.3	3.2	70	5.6
7	3.5	5.0	12	7.0	7.6	5.2	6.9	4.1	4.1	3.0	19	2.3
8	3.7	4.6	9.7	6.1	7.3	5.2	6.9	3.8	4.1	3.0	5.1	1.8
9	3.9	4.6	7.7	6.2	7.0	6.0	6.3	3.8	3.8	2.8	4.1	1.7
10	17	4.6	29	6.2	6.1	6.9	6.0	4.1	3.8	2.8	3.4	148
11	6.7	4.5	89	5.9	5.3	6.8	6.0	4.3	3.8	2.8	3.8	55
12	4.2	4.4	76	5.0	5.2	53	5.7	4.8	30	2.8	2.5	4.1
13	4.2	4.2	18	5.5	4.8	68	5.7	4.1	21	2.6	2.3	2.7
14	4.0	4.1	12	249	4.8	18	5.7	4.1	5.7	2.6	2.5	2.4
15	4.0	3.9	10	30	5.0	13	6.3	4.1	4.6	2.6	2.3	2.2
16	3.9	3.7	8.7	13	5.0	12	5.7	7.4	25	2.6	2.3	2.0
17	3.9	4.1	7.8	9.1	5.6	142	5.1	4.8	14	2.3	7.1	2.0
18	9.8	4.3	7.7	9.0	5.4	110	5.1	4.1	8.7	2.2	2.5	2.0
19	5.9	3.9	7.3	9.9	5.6	24	5.4	4.3	79	106	2.5	1.9
20	4.2	3.9	6.9	10	5.5	16	5.1	4.1	34	12	2.6	1.9
21	3.9	3.8	6.9	10	5.5	13	5.1	3.8	7.1	3.6	2.2	1.8
22	3.6	4.2	19	9.2	5.0	11	5.1	3.6	5.7	3.0	2.0	1.8
23	3.6	5.3	13	10	5.0	19	5.1	7.1	5.7	2.8	6.9	1.8
24	3.7	4.2	8.3	8.7	5.0	13	45	13	4.6	2.6	4.1	1.7
25	32	5.5	8.4	6.9	5.0	9.5	25	6.3	4.3	2.6	2.5	1.6
26	10	4.2	12	6.8	5.0	8.6	8.3	4.1	4.1	2.6	2.2	1.6
27	5.2	4.0	7.6	6.5	5.0	8.2	6.9	4.8	15	2.5	2.0	1.5
28	4.5	3.7	93	6.8	4.9	7.9	6.0	254	5.7	2.5	1.8	1.5
29	4.3	3.6	90	7.9	5.8	7.7	5.7	63	4.1	2.3	1.7	1.4
30	4.1	3.9	15	9.8	------	7.2	6.3	13	3.8	2.2	1.6	1.4
31	4.1	------	11	12	------	7.1	------	9.0	------	2.0	1.5	------
TOTAL	180.4	216.3	807.8	519.0	201.1	635.4	246.9	473.7	336.0	202.1	194.2	260.0
MEAN	5.82	7.21	26.1	16.7	6.93	20.5	8.23	15.3	11.2	6.52	6.26	8.67
MAX	32	72	161	249	20	142	45	254	79	106	70	148
MIN	3.5	3.6	4.2	5.0	4.8	5.2	5.1	3.6	3.8	2.0	1.6	1.4
CFSM	.68	.85	3.06	1.97	.81	2.41	.97	1.79	1.31	.77	.74	1.02
IN.	.79	.94	3.53	2.27	.88	2.77	1.08	2.07	1.47	.88	.85	1.13

CAL YR 1967 TOTAL 5,733.2 MEAN 15.7 MAX 580 MIN 2.2 CFSM 1.84 IN 25.03
WTR YR 1968 TOTAL 4,272.9 MEAN 11.7 MAX 254 MIN 1.4 CFSM 1.37 IN 18.65

PEAK DISCHARGE (BASE, 440 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12- 3	1045	4.25	462	6-19	2130	5.09	692
12-28	2300	4.80	600	7-19	1730	5.94	1,020
1-14	1215	4.89	627	8- 6	2000	4.48	520
5-28	1800	5.22	737	9-10	2130	4.97	651

1-5817. Winters Run near Benson, Md.

Location.--Lat 39°31'12", long 76°22'24", on left bank 30 ft downstream from bridge on Alt. U. S. Highway 1, 0.1 mile upstream from Heavenly Waters Tributary, 1.2 miles northeast of Benson, Harford County, 1¾ miles southwest of Bel Air, and 10½ miles upstream from mouth.

Drainage area.--34.8 sq mi.

Records available.--August 1967 to September 1968.

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

Extremes.--1967: Maximum discharge during period August to September, 3,350 cfs Aug. 27 (gage height, 8.00 ft); from rating curve extended above 1,500 cfs by logarithmic plotting; minimum, 18 cfs Aug. 3.
1968: Maximum discharge during year about 4,300 Sept. 10 (gage height about 8.9 ft, from highwater mark on outside staff gage) from rating curve extended as explained above; minimum, 14 cfs Sept. 27-30.

Remarks.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, AUGUST TO SEPTEMBER 1967

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1											27	64
2											19	60
3											64	55
4											100	53
5											101	50
6											57	48
7											32	46
8											127	46
9											139	46
10											226	48
11											81	45
12											60	43
13											54	42
14											48	41
15											44	40
16											41	40
17											40	40
18											40	38
19											38	38
20											70	38
21											64	78
22											47	60
23											43	41
24											76	40
25											402	38
26											151	36
27											999	35
28											173	36
29					------						100	40
30					------						78	36
31		------			------		------		------		68	------
TOTAL											3,609	1,361
MEAN											116	45.4
MAX											999	78
MIN											19	35
CFSM											3.33	1.30
IN.											3.86	1.45

CAL YR 1967: TOTAL - MEAN - MAX - MIN - CFSM - IN -
WTR YR 1968: TOTAL - MEAN - Max - MIN - CFSM - IN -

1-5817. Winters Run near Benson, Md.--Continued

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	35	28	45	48	37	43	38	50	31	28	16
2	34	113	32	40	59	35	41	37	45	30	29	16
3	33	85	120	40	65	35	41	35	47	34	24	16
4	32	52	75	40	50	36	41	35	45	32	21	16
5	32	45	50	40	45	34	48	35	39	30	20	16
6	31	39	45	40	40	34	40	35	36	29	120	24
7	31	38	42	40	40	32	40	35	35	28	69	22
8	31	36	42	40	40	33	40	32	34	26	29	18
9	32	36	38	35	40	34	40	32	34	25	26	16
10	51	36	48	35	40	32	39	32	33	25	25	300
11	43	35	85	35	40	37	38	31	32	24	24	200
12	36	35	121	35	40	86	37	32	98	24	22	35
13	35	35	64	35	40	147	36	33	89	23	22	27
14	35	34	49	600	40	68	36	32	42	23	22	23
15	35	33	44	150	40	56	36	32	36	45	22	20
16	35	30	41	60	38	54	36	35	76	32	22	20
17	35	30	38	55	38	185	35	35	62	27	39	19
18	38	30	36	50	38	187	35	31	48	26	24	18
19	42	30	36	50	40	88	35	32	155	109	23	17
20	36	30	35	50	35	69	35	31	134	36	23	17
21	35	30	34	45	35	60	35	30	51	27	22	17
22	35	32	40	45	38	56	35	30	42	25	20	16
23	33	32	42	45	38	65	35	31	39	24	20	16
24	33	30	36	45	35	59	79	60	38	23	20	16
25	76	30	35	40	35	48	98	40	35	23	20	15
26	66	30	41	45	35	46	48	34	35	23	17	15
27	43	30	40	43	35	45	43	32	61	22	16	14
28	39	28	95	41	35	45	40	292	71	22	16	14
29	37	28	110	40	34	46	37	177	39	21	16	14
30	35	28	50	43	------	43	38	75	35	20	16	14
31	35	------	45	53	------	42	------	61	------	20	16	------
TOTAL	1,178	1,135	1,637	2,000	1,176	1,874	1,260	1,532	1,616	909	833	1,007
MEAN	38.0	37.8	52.8	64.5	40.6	60.5	42.0	49.4	53.9	29.3	26.9	33.6
MAX	76	113	121	600	65	187	98	292	155	109	120	300
MIN	31	28	28	35	34	32	35	30	32	20	16	14
CFSM	1.09	1.09	1.52	1.85	1.17	1.74	1.21	1.42	1.55	.84	.77	.97
IN.	1.26	1.21	1.75	2.14	1.26	2.00	1.35	1.64	1.73	.97	.89	1.08

CAL YR 1967: TOTAL - MEAN - MAX - MIN - CFSM - IN -
WTR YR 1968: TOTAL 16,157 MEAN 44.1 MAX 600 MIN 14 CFSM 1.27 IN 17.27

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-14	*1200	*6.00	*1,700	7-19	1700	5.25	1,240
6-19	2200	5.63	1,470	9-10	*2400	*8.9	*4,300

* About.

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 1968.

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.--24 years, 63.2 cfs.

Extremes.--Maximum discharge during year, 3,580 cfs Sept. 10 (gage height, 8.71 ft); minimum, 19 cfs Aug. 15, 16, 23-24, 30-31, Sept. 1 (gage height, 0.56 ft).
1944-68: Maximum discharge, 5,730 cfs Sept. 10, 1950 (gage height, 11.93 ft in gage well, 13.32 ft from floodmark), from rating curve extended above 1,300 cfs on basis of contracted-opening measurement of peak flow; minimum, 1.9 cfs Aug. 29, 1966; minimum daily, 4.5 cfs Sept. 11, 1966.
Flood in August 1933 reached a stage of about 14 ft, from information by Pennsylvania Railroad.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	40	36	55	62	48	64	48	76	40	25	22
2	39	92	45	59	78	48	58	45	69	39	34	26
3	39	79	163	60	91	45	57	44	66	47	27	29
4	39	55	93	56	69	44	58	45	63	41	25	23
5	38	48	68	56	63	45	58	45	56	38	24	23
6	37	45	61	57	60	45	54	45	52	36	27	51
7	38	44	64	51	58	43	54	42	50	35	39	34
8	38	42	62	53	57	43	54	41	48	34	26	27
9	40	42	55	50	56	47	54	41	53	34	24	25
10	59	42	59	52	48	50	53	41	58	34	24	711
11	52	41	131	47	50	52	52	43	49	34	26	242
12	42	42	115	47	50	106	52	50	52	33	22	59
13	40	41	84	47	50	146	50	43	57	32	22	42
14	40	40	71	483	50	82	50	42	48	33	23	35
15	40	39	64	161	50	80	50	43	45	39	22	32
16	40	38	59	85	50	86	48	48	45	36	25	30
17	40	40	56	82	50	163	47	45	50	32	77	29
18	61	42	55	75	50	181	47	42	48	31	28	28
19	54	40	53	70	52	124	47	42	64	75	27	27
20	42	39	50	69	48	98	45	42	86	54	32	27
21	41	39	49	66	43	88	45	41	48	34	25	25
22	39	44	58	63	50	83	48	40	44	32	23	25
23	39	46	54	62	50	95	45	54	43	30	22	24
24	39	42	49	57	50	85	72	90	41	29	23	24
25	74	43	48	52	50	74	74	56	40	30	24	24
26	65	40	55	57	48	69	54	45	41	30	23	23
27	46	39	48	53	48	68	52	47	51	28	22	22
28	43	38	69	50	44	66	48	294	117	27	22	22
29	41	37	108	60	44	64	47	212	49	25	22	22
30	41	36	66	62	------	62	50	112	43	25	21	22
31	40	------	63	69	------	60	------	89	------	25	21	------
TOTAL	1,366	1,335	2,111	2,366	1,569	2,390	1,587	1,957	1,652	1,092	827	1,755
MEAN	44.1	44.5	68.1	76.3	54.1	77.1	52.9	63.1	55.1	35.2	26.7	58.5
MAX	74	92	163	483	91	181	74	294	117	75	77	711
MIN	37	36	36	47	43	43	45	40	40	25	21	22
CFSM	.83	.84	1.29	1.44	1.02	1.46	1.00	1.19	1.04	.67	.50	1.11
IN.	.96	.94	1.48	1.66	1.10	1.68	1.12	1.38	1.16	.77	.58	1.23

CAL YR 1967 TOTAL 21,512 MEAN 58.9 MAX 689 MIN 27 CFSM 1.11 IN 15.12
WTR YR 1968 TOTAL 20,007 MEAN 54.7 MAX 711 MIN 21 CFSM 1.03 IN 14.07

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-14	1400	4.37	1,150
9-10	2130	8.71	3,580

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 1968.

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.--21 years, 2.11 cfs.

Extremes.--Maximum discharge during year, 252 cfs Sept. 10 (gage height, 4.11 ft) from rating curve extended above 30 cfs on basis of slope-area measurement at gage height 3.96 ft; minimum, 0.41 cfs Aug. 13 (gage height, 1.21 ft).

1947-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.85	.94	.90	1.5	1.5	3.6	1.8	1.3	1.4	1.2	.80	.54
2	.85	1.8	.90	1.4	1.9	1.5	1.6	1.2	1.5	1.3	1.0	.62
3	.85	1.3	4.0	1.4	1.9	1.2	1.6	1.2	1.4	1.4	.80	.54
4	.76	1.0	2.0	1.4	1.5	1.2	1.6	1.2	1.4	1.1	.70	.47
5	.76	.94	1.0	1.3	1.5	1.2	1.6	1.2	1.2	1.0	.70	.54
6	.76	.94	.90	1.2	1.5	1.3	1.5	1.2	1.3	1.0	.70	2.9
7	.76	.94	.90	1.3	1.5	1.2	1.5	1.1	1.1	.90	.69	1.5
8	.76	.94	.80	1.2	1.4	1.3	1.6	1.1	1.1	.90	.77	1.1
9	.85	.94	.80	1.2	1.4	1.3	1.5	1.1	3.8	1.1	.66	1.0
10	1.4	.85	1.0	1.0	1.4	1.4	1.5	1.1	1.8	1.0	.73	22
11	1.0	.85	3.0	1.0	1.4	1.3	1.5	1.2	1.3	.71	1.2	3.8
12	.94	.94	2.2	1.1	1.3	3.1	1.4	1.3	11	.90	.63	1.6
13	.85	.85	1.9	1.1	1.3	3.1	1.4	1.2	4.6	.90	.61	1.2
14	.85	.85	1.6	29	1.3	1.9	1.4	1.2	2.4	.90	.62	1.0
15	.85	.85	1.5	3.5	1.2	1.9	1.4	1.2	1.7	1.8	.62	.90
16	.94	.85	1.4	1.9	1.3	2.0	1.3	1.3	1.7	1.3	4.8	.80
17	.94	.85	1.3	1.5	1.3	5.2	1.3	1.2	1.9	1.0	4.8	.80
18	1.2	1.0	1.3	1.5	1.3	4.0	1.3	1.1	1.7	.91	1.6	.80
19	1.0	.90	1.3	1.7	1.1	2.4	1.3	1.2	2.9	.98	2.5	.80
20	.94	.80	1.3	1.5	1.2	1.9	1.3	1.2	2.2	.84	2.3	.70
21	1.1	.90	1.2	1.7	1.3	1.8	1.3	1.1	1.5	.82	1.4	.70
22	.85	1.0	1.5	1.5	1.1	1.8	1.3	1.1	1.4	.72	.80	.70
23	.85	1.1	1.3	1.5	.76	2.5	1.3	1.6	1.3	.71	.70	.70
24	.94	1.0	1.2	1.5	.58	2.0	1.8	1.8	1.3	.73	.60	.70
25	2.0	1.0	1.3	1.4	.67	1.9	1.5	1.3	1.3	.74	.60	.60
26	1.2	.90	1.4	1.4	.67	1.8	1.4	1.2	1.4	.73	.54	.60
27	1.0	.90	1.2	1.3	.67	1.8	1.3	1.4	1.6	.75	.54	.60
28	.94	.80	2.6	1.4	.76	1.7	1.3	11	1.5	.69	.54	.60
29	.94	.80	4.0	1.4	1.2	1.7	1.3	4.2	1.4	.70	.47	.60
30	.94	.90	1.8	1.5	------	1.7	1.4	2.0	1.3	.70	.47	.50
31	.94	------	1.5	1.6	------	1.7	------	1.8	------	.70	.47	------
TOTAL	29.81	28.63	49.00	72.9	35.91	62.4	43.3	52.3	51.4	29.13	34.36	49.91
MEAN	.96	.95	1.58	2.35	1.24	2.01	1.44	1.69	2.05	.94	1.11	1.66
MAX	2.0	1.8	4.0	29	1.9	5.2	1.8	11	11	1.8	4.8	22
MIN	.76	.80	.80	1.0	.58	1.2	1.3	1.1	1.1	.69	.47	.47
CFSM	.46	.46	.76	1.13	.59	.96	.69	.81	.98	.45	.53	.80
IN.	.53	.51	.87	1.30	.64	1.11	.77	.93	1.09	.52	.61	.89

CAL YR 1967 TOTAL 540.60 MEAN 1.48 MAX 27 MIN .49 CFSM .71 IN 9.62
WTR YR 1968 TOTAL 549.05 MEAN 1.50 MAX 29 MIN .47 CFSM .72 IN 9.77

PEAK DISCHARGE (BASE, 90 CFS)

DATE	TIME	G.HT.	DISCHARGE
6-12	1800	4.02	234
9-10	1800	4.11	252

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 1968.

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.--24 years, 62.1 cfs.

Extremes.--Maximum discharge during year, 3,320 cfs Sept. 10 (gage height, 8.46 ft); minimum, 17 cfs Aug. 30, 31, Sept. 1, 4, 5 (gage height 0.83 ft).
1944-68: 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 good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	29	36	54	59	46	59	43	75	37	21	18
2	25	59	42	50	71	45	53	41	65	35	23	19
3	25	70	156	50	96	44	52	40	58	43	22	19
4	24	44	89	49	70	41	52	40	57	38	20	18
5	23	38	58	45	62	43	52	41	52	34	20	18
6	23	35	52	45	60	44	49	40	48	33	21	34
7	23	34	52	45	57	42	49	37	46	31	21	25
8	25	32	51	40	56	41	49	37	44	30	22	20
9	26	32	44	40	54	45	49	37	54	30	19	19
10	39	32	46	40	50	47	47	37	96	30	19	796
11	42	31	137	38	50	47	47	38	50	30	30	407
12	29	31	109	38	50	84	46	43	105	30	19	63
13	27	31	76	38	50	166	46	38	99	28	19	44
14	27	30	61	745	52	82	45	38	58	28	19	37
15	27	30	54	204	48	79	46	38	50	30	19	33
16	27	28	49	97	46	84	44	40	48	40	24	30
17	27	29	45	77	46	158	43	39	59	29	238	29
18	35	31	43	70	43	147	43	36	54	27	36	28
19	47	29	41	72	49	106	43	36	47	30	29	27
20	33	27	39	70	44	90	42	39	59	35	34	26
21	31	28	38	68	44	82	42	36	42	27	26	25
22	29	34	45	66	50	78	42	34	40	25	23	24
23	29	37	44	63	47	91	42	41	38	24	21	24
24	29	34	38	59	47	84	58	76	38	24	21	23
25	60	34	37	54	42	71	67	48	37	24	21	22
26	66	31	43	55	40	67	48	40	38	27	19	22
27	38	30	37	50	40	63	45	40	50	24	19	21
28	33	28	51	51	41	61	44	318	130	23	18	21
29	30	27	152	53	43	59	43	190	48	21	19	20
30	29	27	70	58	------	56	44	106	41	21	18	20
31	29	------	59	69	------	55	------	101	------	21	18	------
TOTAL	982	1,012	1,894	2,553	1,507	2,248	1,431	1,808	1,726	909	898	1,932
MEAN	31.7	33.7	61.1	82.4	52.0	72.5	47.7	58.3	57.5	29.3	29.0	64.4
MAX	66	70	156	745	96	166	67	318	130	43	238	796
MIN	23	27	36	38	40	41	42	34	37	21	18	18
CFSM	.53	.56	1.02	1.38	.87	1.21	.80	.98	.96	.49	.48	1.08
IN.	.61	.63	1.18	1.59	.94	1.40	.89	1.12	1.07	.57	.56	1.20

CAL YR 1967 TOTAL 17,640 MEAN 48.3 MAX 969 MIN 20 CFSM .81 IN 10.97
WTR YR 1968 TOTAL 18,900 MEAN 51.6 MAX 796 MIN 18 CFSM .86 IN 11.75

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-14	1500	5.99	1,700	9-10	2400	8.46	3,320
8-17	0330	5.27	1,340				

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 1968.

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

Extremes.--Maximum discharge during year, 490 cfs Sept. 10 (gage height, 5.43 ft), from rating curve extended above 30 cfs on basis of culvert measurement of peak flow and slope-area measurement made prior to establishment of station, at gage height 2.87 ft; minimum, 0.51 cfs Aug. 31, Sept. 4 (gage height, 1.38 ft).
1964-68: Maximum discharge, that of Sept. 10, 1968; no flow many days in August and September, 1966.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.87	.87	.80	1.5	1.5	1.3	1.7	1.5	2.1	1.1	.74	.58
2	.87	2.1	.78	1.4	2.0	1.3	1.5	1.4	1.9	1.1	.78	.58
3	.87	1.4	4.2	1.4	2.0	1.3	1.6	1.3	1.8	1.4	.74	.55
4	.78	1.2	1.5	1.4	1.6	1.3	1.6	1.4	1.6	1.2	.70	.51
5	.78	.99	1.2	1.2	1.5	1.2	1.7	1.5	1.5	.99	.70	.58
6	.78	1.1	1.2	1.2	1.5	1.3	1.6	1.4	1.5	.95	.74	1.2
7	.74	.91	1.3	1.2	1.5	1.2	1.6	1.3	1.4	.95	.78	.66
8	.78	.87	1.2	1.1	1.4	1.2	1.7	1.3	1.4	.91	.74	.58
9	.78	.87	1.1	1.1	1.4	1.3	1.6	1.2	4.1	.91	.70	.58
10	1.5	.87	1.7	1.1	1.4	1.3	1.6	1.2	2.0	.95	.74	41
11	1.1	.87	2.6	1.1	1.4	1.3	1.6	1.4	1.5	.95	.78	3.0
12	.91	.87	2.4	1.1	1.4	2.9	1.6	1.4	7.5	.95	.62	1.4
13	.87	.78	1.8	1.1	1.3	3.0	1.6	1.3	3.0	.91	.62	1.2
14	.87	.83	1.5	8.0	1.3	2.1	1.6	1.3	2.1	.95	.70	.95
15	.87	.83	1.4	2.8	1.4	2.0	1.7	1.4	1.5	.99	.66	.95
16	.87	.78	1.3	2.0	1.3	2.0	1.6	1.4	1.7	.95	4.6	.95
17	.91	.83	1.2	1.8	1.4	3.9	1.5	1.4	1.9	.91	2.3	.95
18	.99	.80	1.2	1.7	1.3	3.4	1.5	1.2	1.6	.91	.87	.87
19	.95	.80	1.1	1.7	1.4	2.6	1.5	1.2	1.6	1.3	.87	.78
20	.78	.80	1.1	1.7	1.3	2.3	1.4	1.3	1.5	.99	.91	.83
21	.83	.80	1.1	1.7	1.3	2.1	1.4	1.2	1.3	.87	.74	.83
22	.83	.90	1.4	1.6	1.3	2.1	1.4	1.2	1.2	.87	.70	.78
23	.83	1.0	1.2	1.6	1.3	2.4	1.4	1.8	1.2	.83	.66	.74
24	.83	.90	1.1	1.5	1.3	2.0	2.3	2.2	1.1	.83	.66	.74
25	1.7	.90	1.1	1.5	1.3	1.8	2.0	1.6	1.4	.87	.66	.70
26	1.3	.80	1.2	1.5	1.3	1.8	1.6	1.4	.99	.87	.62	.66
27	.99	.80	1.1	1.4	1.3	1.8	1.5	1.3	5.4	.83	.55	.62
28	.95	.80	2.4	1.4	1.3	1.8	1.5	6.5	2.2	.78	.55	.66
29	.91	.80	2.8	1.5	1.2	1.8	1.5	4.5	1.4	.70	.55	.62
30	.87	.80	1.7	1.6	------	1.7	1.5	3.0	1.2	.70	.55	.58
31	.87	------	1.6	1.6	------	1.7	------	2.5	------	.74	.51	------
TOTAL	28.78	27.87	47.28	52.5	40.9	59.2	47.9	54.0	60.59	29.16	27.04	65.63
MEAN	.928	.929	1.53	1.69	1.41	1.91	1.60	1.74	2.02	.941	.872	2.19
MAX	1.7	2.1	4.2	8.0	2.0	3.9	2.3	6.5	7.5	1.4	4.6	41
MIN	.74	.78	.78	1.1	1.2	1.2	1.4	1.2	.99	.70	.51	.51
CFSM	.63	.63	1.04	1.15	.96	1.30	1.09	1.18	1.37	.64	.59	1.49
IN	.73	.71	1.20	1.33	1.03	1.50	1.21	1.37	1.53	.74	.68	1.66

CAL YR 1967: TOTAL 490.03 MEAN 1.34 MAX 25 MIN .50 CFSM .91 IN 12.40
WTR YR 1968: TOTAL 540.85 MEAN 1.48 MAX 41 MIN .51 CFSM 1.01 IN 13.68

PEAK DISCHARGE (BASE, 25 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6- 9	1930	2.67	76	8-16	2000	2.77	90
6-12	1800	3.57	210	9-10	1800	5.43	490
6-27	2200	2.87	106				

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 mouth.

Drainage area.--36.1 sq mi.

Records available.--October 1926 to September 1968. 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.--42 years, 45.1 cfs.

Extremes.--Maximum discharge during year, 2,360 cfs Jan. 14 (gage height, 5.92 ft); minimum, 14 cfs Aug. 31, Sept. 1, 4, 5 (gage height, 0.97 ft).
1926-68: 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 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	32	28	44	45	36	43	37	46	30	22	15
2	33	80	32	40	51	35	39	35	41	29	25	16
3	33	78	164	40	64	35	39	34	47	35	22	16
4	33	45	75	40	47	33	40	33	48	31	21	15
5	32	39	51	37	44	34	42	33	38	29	20	15
6	31	36	46	37	42	35	38	34	35	27	30	24
7	31	35	46	37	41	33	38	31	33	26	40	21
8	32	33	44	33	40	33	39	30	31	26	22	17
9	33	33	39	33	39	35	38	30	31	25	21	16
10	44	33	42	34	36	37	37	29	34	26	20	307
11	47	32	110	33	36	38	36	30	31	26	23	194
12	36	32	84	32	36	71	36	32	111	25	19	34
13	35	32	57	32	34	133	35	30	88	24	18	25
14	34	31	48	811	35	60	35	30	40	24	19	22
15	35	31	44	119	35	53	36	30	34	41	19	20
16	35	30	41	60	35	50	34	32	56	29	23	20
17	36	31	39	53	35	139	33	32	55	25	41	19
18	37	32	38	49	35	148	33	29	43	26	22	19
19	52	30	34	48	40	76	34	29	93	28	21	18
20	37	30	32	48	35	62	33	29	140	30	23	18
21	36	30	32	47	35	55	33	27	43	24	20	17
22	35	33	36	46	36	52	36	27	37	22	18	17
23	35	35	38	46	36	64	33	31	36	22	18	17
24	35	33	32	44	35	56	65	58	33	21	18	17
25	62	34	32	40	35	48	74	38	32	21	18	17
26	64	32	38	41	34	46	42	31	32	22	16	16
27	38	31	32	38	34	45	39	30	54	21	15	16
28	35	30	40	38	32	44	37	250	88	21	15	15
29	33	29	100	41	34	43	36	157	38	19	15	15
30	32	27	50	44	------	41	37	66	33	19	15	15
31	32	------	44	50	------	40	------	54	------	19	15	------
TOTAL	1,157	1,069	1,568	2,135	1,116	1,710	1,170	1,398	1,501	793	654	1,013
MEAN	37.3	35.6	50.6	68.9	38.5	55.2	39.0	45.1	50.0	25.6	21.1	33.8
MAX	64	80	164	811	64	148	74	250	140	41	41	307
MIN	31	27	28	32	32	33	33	27	31	19	15	15
CFSM	1.03	.99	1.40	1.91	1.07	1.53	1.08	1.25	1.39	.71	.58	.94
IN.	1.19	1.10	1.62	2.20	1.15	1.76	1.21	1.44	1.55	.82	.67	1.04

CAL YR 1967 TOTAL 16,692 MEAN 45.7 MAX 1,050 MIN 15 CFSM 1.27 IN 17.20
WTR YR 1968 TOTAL 15,284 MEAN 41.8 MAX 811 MIN 15 CFSM 1.16 IN 15.78

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-14	1330	5.92	2,360
9-10	2345	5.50	1,790

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 1968.

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

Average discharge.--9 years, 8.91 cfs.

Extremes.--Maximum discharge during year, 1,360 cfs Sept. 10 (gage height, 5.62 ft) from rating curve extended as explained below; minimum 0.13 cfs Jan. 23 (gage height, 1.16 ft) result of regulation; minimum daily, 0.47 cfs Aug. 27.
1959-68: Maximum discharge, 1,580 cfs Sept. 12, 1960 (gage height, 6.60 ft) from rating curve extended above 600 cfs on basis of peak flow through culvert study; no flow Mar. 20, 1965, result of regulation caused by construction work above station; minimum daily, 0.10 cfs Sept. 11, 1966.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
	1.6											
1	1.6	2.2	3.5	8.6	5.4	8.2	4.7	4.4	6.5	1.5	1.2	.70
2	1.6	51	3.2	4.7	16	4.7	4.1	3.5	5.0	1.8	7.8	.79
3	1.6	8.3	130	5.4	12	3.8	3.8	3.2	4.4	6.7	4.1	.79
4	1.6	3.8	19	6.5	6.5	3.2	4.1	3.5	3.8	2.4	1.8	.62
5	1.4	3.0	7.7	4.7	5.0	3.2	9.6	3.5	3.2	1.8	1.4	.79
6	1.2	2.6	6.1	3.8	4.4	3.5	4.4	3.5	3.2	1.6	3.4	6.2
7	1.2	2.6	5.8	4.4	4.4	3.0	4.1	2.6	3.0	1.5	4.0	1.6
8	1.6	2.6	4.4	3.8	4.4	2.8	4.4	2.6	2.8	1.5	1.6	.99
9	2.0	2.6	3.8	3.8	3.8	3.2	4.1	2.6	2.8	1.5	1.4	.79
10	8.3	2.6	20	3.8	3.0	3.8	3.8	2.6	2.8	1.6	2.9	149
11	3.8	2.6	70	3.2	3.0	3.1	3.8	2.6	2.8	1.5	4.8	19
12	2.4	2.6	59	2.4	2.8	63	3.5	3.5	8.9	1.5	1.2	3.2
13	2.2	2.4	12	2.8	2.6	83	3.5	2.8	16	1.5	.99	2.2
14	2.0	2.4	7.3	288	2.8	13	3.5	2.6	2.8	1.5	3.4	1.8
15	2.2	2.2	5.8	26	3.2	8.6	4.1	3.2	2.6	35	1.8	1.5
16	2.2	2.0	5.0	12	3.0	7.3	3.5	3.5	7.7	5.4	3.1	1.4
17	2.2	2.2	4.4	6.9	3.0	116	3.2	3.2	18	3.2	4.6	1.5
18	7.7	3.0	4.1	6.1	2.6	97	3.2	2.6	5.0	2.4	1.5	1.4
19	3.6	2.4	4.1	6.9	2.8	18	3.8	3.5	9.1	39	1.2	1.2
20	2.4	2.0	3.8	6.9	3.2	11	3.8	3.8	6.8	6.1	2.0	1.1
21	2.2	2.0	3.8	7.3	2.4	9.1	3.5	2.6	2.8	1.8	1.1	1.1
22	2.0	2.2	9.4	6.5	2.4	8.2	7.8	2.6	2.2	1.6	.89	1.1
23	2.0	4.1	6.5	6.4	2.8	13	3.8	8.9	2.0	1.5	.79	1.1
24	2.0	2.6	4.7	5.8	2.8	8.2	38	16	3.5	1.1	.89	.99
25	27	3.2	4.4	4.1	2.6	6.1	22	4.7	3.2	2.7	.79	.99
26	6.8	2.6	6.5	3.8	2.8	5.4	6.9	3.0	1.8	2.2	.62	.99
27	3.0	2.2	3.8	4.1	2.8	5.4	5.4	5.7	24	1.5	.47	.99
28	2.6	2.0	44	4.1	2.8	5.4	4.4	244	3.8	1.4	.54	.89
29	2.4	2.0	101	4.7	3.8	9.0	3.8	61	2.4	1.2	.54	.89
30	2.2	1.4	11	6.5	------	5.4	4.7	17	1.8	1.2	.54	.79
31	2.2	------	7.7	8.6	------	4.4	------	11	------	1.2	.54	------
TOTAL	107.2	129.4	581.8	472.6	119.1	539.0	183.3	439.8	164.7	136.4	61.90	206.40
MEAN	3.46	4.31	18.8	15.2	4.11	17.4	6.11	14.2	5.49	4.40	2.00	6.88
MAX	27	51	130	288	16	116	38	244	24	39	7.8	149
MIN	1.2	1.4	3.2	2.4	2.4	2.8	3.2	2.6	1.8	1.1	.47	.62
CFSM	.45	.57	2.47	2.00	.54	2.29	.80	1.87	.72	.58	.26	.90
IN	.52	.63	2.84	2.31	.58	2.63	.90	2.15	.80	.67	.30	1.01

CAL YR 1967: TOTAL 4,226.6 MEAN 11.58 MAX 308 MIN 1.1 CFSM 1.52 IN 20.66
WTR YR 1968: TOTAL 3,141.60 MEAN 8.58 MAX 288 MIN .47 CFSM 1.13 IN 15.35

PEAK DISCHARGE (BASE, 390 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-29	0100	3.77	618	5-28	1700	4.39	866
1-14	1200	4.79	1,030	9-10	2200	5.62	1,360
3-12	2330	3.32	438				

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 1968.

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.--9 years (1958-64, 1967-68), 2.22 cfs.

Extremes.--Maximum discharge during year, 1,480 cfs Sept. 10 (gage height, 6.37 ft), from rating curve extended above 90 cfs on basis of slope-area measurement at gage height 6.37 ft; minimum daily, 0.32 cfs Sept. 9. 1957-68: Maximum discharge, 1,540 cfs Aug. 27, 1967 (gage height, 6.46 ft), from rating curve extended as explained above; no flow Aug. 14-24, 1957.

Remarks.--Records fair. Slight diurnal fluctuation (occasionally extensive) caused by ready-mixed concrete plant above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.72	.68	1.6	1.0	1.5	2.4	1.8	1.1	1.4	.88	.45	.54
2	.72	14	1.1	1.0	5.2	1.4	1.0	1.1	1.2	1.9	1.4	.91
3	.88	1.3	28	1.1	1.3	.84	1.0	1.4	1.0	3.8	.88	.86
4	.76	1.4	2.2	2.8	.96	.88	2.9	1.0	1.0	.92	.64	.39
5	.64	.72	1.4	.98	.90	.90	2.4	1.9	.92	.84	.64	.54
6	.68	.68	1.2	.84	.90	.90	1.0	.96	.88	.84	2.5	7.2
7	.60	.68	1.4	.84	.90	.90	1.0	.88	.96	.96	1.2	.51
8	.64	.76	1.2	.97	.90	.90	1.1	.84	.92	.96	.62	.39
9	.68	.64	1.2	.92	.90	.90	1.0	.88	.88	.76	.54	.32
10	5.6	.60	12	1.0	.90	.90	.96	1.0	.80	.80	2.8	68
11	.88	.60	8.5	.88	.90	.90	.96	1.0	.84	.80	.96	2.6
12	.76	.60	6.7	.80	.90	24	.92	1.2	4.4	.72	.39	.88
13	.76	.54	1.7	.84	.92	6.5	.96	1.0	3.8	.72	.39	.60
14	.72	.57	1.3	61	.92	1.7	.96	.97	.96	.72	2.1	.57
15	.72	.60	1.2	3.9	1.0	1.4	1.7	1.6	.92	1.5	.39	.51
16	.68	.54	1.1	2.2	1.0	1.4	.84	1.9	9.5	.96	8.5	.54
17	.72	.60	1.0	1.8	.96	19	.88	.84	5.0	.76	6.8	.51
18	5.6	1.6	.96	2.1	.96	8.2	.84	.88	1.2	.64	.84	.48
19	.92	.54	.92	1.8	.96	2.2	.88	2.7	3.8	2.8	1.6	.48
20	.80	.57	.88	1.4	.96	1.8	.88	.84	1.6	.64	.64	.51
21	.72	.60	.88	1.2	.84	1.6	.97	.80	1.3	.54	.48	.54
22	.68	1.2	4.3	1.2	.88	1.5	.96	.72	1.1	.54	.48	.45
23	.68	2.2	1.3	1.9	.88	4.5	.92	8.8	1.0	.51	.45	.45
24	.76	.73	.92	1.2	.88	1.4	13	4.8	2.0	.48	.57	.45
25	6.6	1.4	1.7	1.1	.84	1.3	2.6	1.2	1.0	5.1	.48	.42
26	1.0	.60	1.2	1.1	.84	1.2	1.5	.84	1.8	.68	.48	.42
27	.80	.57	.88	.96	.88	1.2	1.4	4.4	11	.39	.48	.36
28	.72	.54	20	.84	.84	1.2	1.3	36	2.0	.39	.48	.39
29	.68	.54	4.8	1.1	1.7	1.2	1.2	8.8	1.0	.36	.48	.36
30	.68	.78	1.3	2.7	------	1.2	1.8	3.8	.92	.36	.48	.34
31	.72	------	1.1	1.7	------	1.2	------	2.0	------	.51	.51	------
TOTAL	38.52	37.38	113.94	103.17	32.42	95.52	49.63	96.15	65.10	32.78	39.65	91.52
MEAN	1.24	1.25	3.68	3.33	1.12	3.08	1.65	3.10	2.17	1.06	1.28	3.05
MAX	6.6	14	28	61	5.2	24	13	36	11	5.1	8.5	68
MIN	.60	.54	.88	.80	.84	.84	.84	.72	.80	.36	.39	.32
CFSM	.58	.59	1.73	1.56	.53	1.45	.77	1.46	1.02	.50	.60	1.43
IN	.67	.65	1.99	1.80	.57	1.67	.87	1.68	1.14	.57	.69	1.60

CAL YR 1967: TOTAL 991.84 MEAN 2.72 MAX 97 MIN .54 CFSM 1.28 IN 17.32
WTR YR 1968: TOTAL 795.78 MEAN 2.17 MAX 68 MIN .32 CFSM 1.02 IN 13.89

PEAK DISCHARGE (BASE, 230 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-16	1745	3.83	389	9-10	1830	6.37	1,480
8-16	1930	3.59	328				

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 1968.

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.--9 years, 5.93 cfs.

Extremes.--Maximum discharge during year, 1,500 cfs Sept. 10 (gage height, 7.50 ft), from rating curve extended above 500 cfs on basis of contracted-opening measurement at gage height 7.86 ft; minimum daily, 0.25 cfs many days in August and September.
1959-68: 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 except those for periods of no gage-height record, which are fair. Slight regulation at low flow from unknown source above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.74	.74	1.5	3.8	2.4	3.8	2.2	1.9	3.6	1.0	2.2	.30
2	.74	33	1.5	2.9	11	1.9	1.8	1.5	2.7	1.2	6.3	.36
3	.74	2.4	100	2.9	5.4	1.5	1.8	1.5	2.5	5.5	2.3	.36
4	.74	1.5	6.5	6.4	2.9	1.5	4.0	1.7	2.1	1.2	.90	.25
5	.64	1.2	3.3	4.0	2.2	1.5	3.0	1.7	1.9	1.0	.76	.25
6	.74	1.0	2.4	2.4	2.1	1.5	2.0	1.7	1.7	.90	5.5	4.4
7	.74	1.0	2.4	2.4	1.9	1.5	2.0	1.2	1.7	.90	2.6	.64
8	1.0	1.0	1.9	2.1	1.7	1.5	2.0	1.2	1.7	.90	.90	.44
9	1.0	1.0	1.5	2.1	1.7	1.7	1.8	1.2	1.7	.90	.90	.36
10	4.9	1.0	18	1.9	1.3	1.7	1.8	1.2	1.7	.90	6.2	178
11	1.5	1.0	49	1.5	1.5	1.5	1.8	1.2	1.7	.90	2.8	6.6
12	1.0	1.0	31	1.2	1.3	82	1.6	1.4	5.2	.90	.76	2.1
13	.86	.86	4.4	1.5	1.3	37	1.6	1.4	8.1	.76	.64	1.4
14	1.0	.86	2.9	250	1.5	6.5	1.6	1.2	1.7	.76	2.9	1.0
15	1.2	.74	2.2	15	1.5	4.8	2.0	1.4	1.5	78	.90	.90
16	1.2	.74	2.1	5.0	1.5	4.2	1.6	1.5	4.4	3.3	3.6	1.0
17	1.2	.86	1.7	3.3	1.3	87	1.2	1.4	11	1.9	7.1	.90
18	5.1	1.2	1.7	3.1	1.5	54	1.2	1.0	2.3	1.4	1.4	.90
19	1.2	.74	1.5	3.1	1.3	8.1	1.4	3.0	7.9	40	1.0	.76
20	.74	.64	1.3	3.3	1.5	5.1	1.4	1.9	3.8	3.0	1.4	.76
21	.74	.64	1.3	3.3	1.3	4.5	1.8	1.0	1.5	1.5	.90	.76
22	.74	.74	4.7	2.9	1.2	4.0	1.8	1.0	1.4	1.0	.64	.76
23	.74	1.9	3.1	3.8	1.4	6.0	1.6	5.6	1.2	.90	.54	.76
24	.74	.86	1.9	2.9	1.4	4.0	25	8.3	3.5	1.0	.54	.76
25	21	1.5	2.1	2.1	1.3	3.0	8.0	2.1	2.1	5.8	.54	.76
26	2.2	.74	3.0	2.1	1.4	2.5	2.5	1.4	1.4	1.5	.36	.76
27	1.2	.74	1.7	2.1	1.4	2.5	2.2	4.6	18	1.0	.36	.64
28	.86	.64	83	2.1	1.4	2.5	1.8	174	2.1	.90	.25	.64
29	.74	.64	33	2.2	2.3	2.5	1.6	32	1.4	.76	.25	.64
30	.74	.74	5.0	3.4	------	2.5	2.0	9.8	1.0	.64	.25	.64
31	.74	------	4.2	3.8	------	2.0	------	5.4	------	.64	.25	------
TOTAL	57.42	61.62	379.8	348.6	59.9	344.3	86.1	275.4	102.5	160.96	55.94	208.80
MEAN	1.85	2.05	12.3	11.2	2.07	11.1	2.87	8.88	3.42	5.19	1.80	6.96
MAX	21	33	100	250	11	87	25	174	18	78	7.1	178
MIN	.64	.64	1.3	1.2	1.2	1.5	1.2	1.0	1.0	.64	.25	.25
CFSM	.37	.41	2.49	2.27	.42	2.25	.58	1.80	.69	1.05	.36	1.41
IN	.43	.46	2.86	2.62	.45	2.59	.65	2.07	.77	1.21	.42	1.57

CAL YR 1967: TOTAL 2,605.34 MEAN 7.14 MAX 280 MIN .40 CFSM 1.45 IN 19.61
WTR YR 1968: TOTAL 2,141.34 MEAN 5.85 MAX 250 MIN .25 CFSM 1.18 IN 16.12

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-28	2300	5.02	645	7-15	1330	7.09	1,160
1-14	1100	6.15	942	7-19	1730	4.87	541
3-12	2130	4.78	583	9-10	2000	7.50	1,500
5-28	1600	5.23	635				

Note.--No gage-height record Mar. 21 to Apr. 30.

1-5854. Brien Run st 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 1968.

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

Average discharge.--10 years, 2.06 cfs.

Extremes.--Maximum discharge during year, 224 cfs Jan. 14 (gage height, 3.26 ft); minimum 0.31 cfs several days in July, August, and September.
1958-68: 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 during May and June 1964 and June and July 1965.

Remarks.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.37	.43	.58	.95	1.1	1.6	.67	.67	.67	.50	1.5	.31
2	.37	15	.67	.76	5.3	.85	.67	.58	.58	.66	3.3	.31
3	.37	1.9	40	.67	3.5	.67	.67	.58	.58	2.4	1.4	.31
4	.37	.85	4.6	1.8	1.4	.58	.76	.58	.58	.67	.50	.31
5	.43	.58	1.7	.85	.95 .85	.58	1.2	.58	.50	.58	.43	.31
6	.43	.50	1.1	.67	.85	.58	.67	.50	.43	.50	1.5	1.2
7	.37	.50	.85	.67	.85	.58	.67	.50	.43	.50	1.1	.37
8	.37	.50	.85	.60	.85	.58	.67	.50	.43	.50	.50	.37
9	.37	.50	.67	.60	.67	.58	.76	.50	.43	.43	.31	.37
10	2.5	.50	8.1	.60	.67	.67	.67	.50	.43	.43	2.0	25
11	.60	.50	24	.50	.50	.67	.58	.58	.43	.43	1.6	3.5
12	.50	.50	22	.50	.50	25	.58	.67	.58	.43	.50	.58
13	.40	.50	2.8	.50	.50	21	.58	.58	2.4	.43	.43	.43
14	.40	.50	1.1	70	.50	3.0	.58	.58	.50	.43	.99	.43
15	.40	.50	.85	6.2	.43	1.6	.67	.58	.43	9.0	.43	.37
16	.40	.50	.76	1.8	.50	1.2	.58	.58	.56	.85	.54	.37
17	.40	.50	.67	1.2	.58	35	.50	.58	3.0	1.1	1.6	.37
18	2.5	.50	.58	.85	.50	28	.50	.50	.85	.50	.58	.37
19	.50	.50	.58	.85	.50	4.0	.50	1.1	2.1	28	.43	.37
20	.40	.50	.58	.95	.58	1.8	.50	.76	1.7	3.2	.50	.37
21	.40	.50	.50	.95	.50	1.4	1.6	.50	.58	.76	.31	.37
22	.40	.50	2.1	.95	.50	1.1	2.0	.50	.58	.58	.31	.37
23	.40	.67	1.6	1.2	.50	2.3	.76	2.3	.50	.58	.31	.37
24	.40	.58	.76	.95	.50	1.2	9.7	2.7	.50	.43	.31	.37
25	6.0	.76	.76	.76	.58	.85	5.0	.76	.58	2.4	.31	.37
26	.95	.50	.95	.67	.58	.76	1.1	.58	.58	.67	.31	.31
27	.58	.50	.67	.67	.58	.76	1.1	1.6	2.7	.43	.31	.31
28	.50	.50	19	.67	.50	.76	.76	77	.76	.43	.43	.31
29	.43	.50	15	.76	.82	.76	.67	15	.58	.31	.43	.31
30	.43	.50	1.6	1.2	------	.76	.76	2.0	.58	.31	.31	.31
31	.43	------	.95	1.6	------	.67	------	1.2	------	.31	.31	------
TOTAL	23.37	31.77	156.93	101.90	26.29	139.86	36.43	116.14	25.55	58.75	23.79	39.42
MEAN	.75	1.06	5.06	3.29	.91	4.51	1.21	3.75	.85	1.90	.77	1.31
MAX	6.0	15	40	70	5.3	35	9.7	77	3.0	28	3.3	25
MIN	.37	.43	.50	.50	.43	.58	.50	.50	.43	.31	.31	.31
CFSM	.38	.54	2.57	1.67	.46	2.29	.61	1.90	.43	.96	.39	.66
IN	.44	.60	2.96	1.92	.50	2.64	.69	2.19	.48	1.11	.45	.74

CAL YR 1967: TOTAL 1,025.37 MEAN 2.81 MAX 100 MIN .30 CFSM 1.43 IN 19.36
WTR YR 1968: TOTAL 780.20 MEAN 2.13 MAX 77 MIN .31 CFSM 1.08 IN 14.73

PEAK DISCHARGE (BASE, 120 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-14	1030	3.26	224	7-19	1900	3.09	202
5-28	1700	3.19	215	9-10	2100	2.80	166

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 upstream from mouth, and 1.8 miles northeast of Westminster, Carroll County.

Drainage area.--3.29 sq mi.

Records available.--September 1949 to September 1968.

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.--19 years, 3.27 cfs (unadjusted for storage).

Extremes.--Maximum discharge during year, 95 cfs Sept. 10 (gage height, 3.07 ft); minimum daily, 0.73 cfs Nov. 5 (regulated).

1949-68: 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 on basis of logarithmic plotting; 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	2.1	2.1	3.0	3.6	2.1	4.6	2.8	4.0	2.0	2.2	1.4
2	2.1	4.4	2.1	3.0	5.3	3.0	3.5	2.8	3.6	2.1	3.2	1.4
3	2.1	1.4	12	3.0	4.9	2.5	3.4	2.8	3.5	2.5	1.8	1.4
4	2.0	.81	4.9	3.0	4.0	2.5	3.4	2.8	3.4	2.1	1.6	1.4
5	2.0	.73	2.4	2.7	2.2	2.9	3.4	2.7	3.0	2.0	1.6	1.4
6	2.0	1.6	1.3	2.7	1.8	2.8	3.4	2.5	2.8	2.0	1.6	3.0
7	2.0	2.3	2.0	2.7	3.1	2.6	3.4	2.5	2.8	1.9	2.7	1.9
8	2.1	2.2	1.7	2.5	3.0	2.7	3.4	2.5	2.7	1.9	2.1	1.6
9	2.1	2.2	1.4	2.5	3.0	3.1	3.2	2.5	2.7	1.9	1.8	1.5
10	4.1	2.1	3.9	2.5	2.6	3.3	3.2	2.5	2.5	1.9	3.5	27
11	2.6	2.1	7.9	2.4	2.5	3.2	3.2	2.8	2.7	1.9	2.2	3.3
12	2.2	2.3	4.6	2.3	2.5	6.7	3.0	3.0	2.8	1.9	1.8	1.6
13	2.2	2.2	2.4	2.4	2.4	5.3	3.0	2.7	3.0	1.9	1.6	2.2
14	2.1	2.1	1.9	21	2.5	1.8	3.0	2.7	2.7	1.9	1.6	2.0
15	2.1	2.1	1.5	7.7	2.6	2.4	3.0	2.8	2.5	2.4	1.6	1.9
16	2.1	2.0	1.3	4.3	2.6	4.7	2.4	3.0	2.5	2.0	2.4	1.8
17	2.1	2.2	1.2	3.6	2.7	17	2.4	2.8	2.8	1.9	2.5	1.8
18	4.5	2.4	2.4	3.7	2.4	7.9	2.8	2.5	2.7	1.9	1.8	1.8
19	2.8	2.2	2.9	4.2	2.4	4.1	2.2	2.5	2.8	2.1	7.4	1.8
20	2.3	2.0	2.8	3.9	2.5	3.4	2.8	2.5	2.8	2.1	3.2	1.6
21	2.2	2.1	2.8	4.1	2.4	3.8	2.8	2.5	2.4	1.8	1.9	1.6
22	2.1	2.4	3.6	3.7	2.3	4.7	2.2	2.5	2.2	1.6	1.8	1.6
23	2.1	2.6	3.0	3.7	2.3	7.4	2.2	4.1	2.2	2.0	1.6	1.6
24	2.1	2.3	2.6	3.2	2.3	5.0	4.4	3.6	2.1	1.9	1.5	1.6
25	5.6	2.3	2.7	2.8	2.3	4.2	1.9	1.5	2.1	1.6	1.5	1.5
26	1.9	2.1	3.0	2.7	2.3	4.0	1.8	2.7	2.2	1.6	1.4	1.5
27	1.7	2.1	2.6	2.9	2.4	3.8	3.2	3.5	2.8	1.6	1.4	1.5
28	2.3	2.0	4.5	3.0	2.4	3.7	3.0	18	2.7	1.5	1.4	1.5
29	2.1	2.0	5.6	3.3	2.5	3.6	3.0	6.6	2.4	1.6	1.4	1.5
30	2.1	2.1	3.4	3.9	------	3.4	3.0	4.8	2.1	1.5	1.4	1.4
31	2.1	------	3.2	4.0	------	3.4	------	3.9	------	1.6	1.4	------
TOTAL	74.0	63.44	99.7	120.4	79.8	131.0	90.2	107.4	81.5	58.6	64.9	77.1
MEAN	2.39	2.11	3.22	3.88	2.75	4.23	3.01	3.46	2.72	1.89	2.09	2.57
MAX	5.6	4.4	12	21	5.3	17	4.6	18	4.0	2.5	7.4	27
MIN	1.7	.73	1.2	2.3	1.8	1.8	1.8	1.5	2.1	1.5	1.4	1.4

CAL YR 1967 TOTAL 979.36 MEAN 2.68 MAX 40 MIN .40
WTR YR 1968 TOTAL 1,048.04 MEAN 2.86 MAX 27 MIN .73

PEAK DISCHARGE (BASE, 80 CFS)

DATE	TIME	G.HT.	DISCHARGE
9-10	About 1900	3.07	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 1968.

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.--23 years, 58.6 cfs.

Extremes.--Maximum discharge during year, 1,360 cfs Sept. 10 (gage height, 5.72 ft); minimum, 2.8 cfs Sept. 21 (gage height, 1.16 ft), result of filling pond above station; minimum daily, 15 cfs Aug. 31.
1945-68: 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 1.46 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	26	23	47	59	36	76	41	77	27	21	17
2	23	70	26	39	81	40	59	37	67	27	44	18
3	23	58	243	47	92	36	58	37	59	35	22	18
4	22	38	101	48	68	42	58	39	54	29	21	16
5	21	31	61	33	59	45	58	37	48	27	20	15
6	21	29	51	37	54	45	53	34	45	26	18	47
7	22	29	54	41	54	41	53	32	42	25	21	24
8	23	28	51	32	53	41	53	32	39	24	37	19
9	24	28	43	35	51	45	51	32	54	24	20	18
10	47	28	52	38	42	51	50	33	51	23	22	331
11	42	26	239	35	41	50	48	34	42	23	58	156
12	26	28	114	32	41	104	47	41	45	23	21	38
13	24	28	79	34	38	161	47	34	50	22	19	29
14	25	26	62	557	41	77	45	33	39	22	19	26
15	26	25	54	184	44	83	45	34	35	104	19	24
16	25	24	49	86	45	99	44	37	35	34	50	23
17	24	26	47	70	44	252	42	37	41	25	184	22
18	77	30	45	67	39	177	42	33	39	23	28	21
19	66	27	44	67	41	119	41	34	39	25	116	20
20	35	24	41	68	42	97	41	34	47	33	121	20
21	29	25	40	68	37	86	41	32	33	23	30	19
22	25	30	51	65	35	88	39	32	32	21	24	20
23	25	35	49	63	38	123	38	42	30	20	22	19
24	24	31	38	58	38	97	70	88	29	19	24	18
25	75	31	38	48	38	79	63	48	29	21	22	17
26	58	28	46	48	37	74	44	34	32	23	18	17
27	33	26	38	51	38	70	42	39	38	20	18	17
28	30	24	58	50	39	67	41	352	61	20	17	17
29	30	23	142	51	41	65	41	200	35	17	17	16
30	28	20	61	56	------	61	42	125	29	16	16	15
31	26	------	53	70	------	61	------	119	------	16	15	------
TOTAL	1,004	902	2,093	2,225	1,370	2,512	1,472	1,816	1,296	817	1,104	1,077
MEAN	32.4	30.1	67.5	71.8	47.2	81.0	49.1	58.6	43.2	26.4	35.6	35.9
MAX	77	70	243	557	92	252	76	352	77	104	184	331
MIN	21	20	23	32	35	36	38	32	29	16	15	15
CFSM	.57	.53	1.19	1.27	.83	1.43	.87	1.03	.76	.47	.63	.63
IN.	.66	.59	1.38	1.46	.90	1.65	.97	1.19	.85	.54	.73	.71

CAL YR 1967 TOTAL 19,392 MEAN 53.1 MAX 1,050 MIN 15 CFSM .94 IN 12.74
WTR YR 1968 TOTAL 17,688 MEAN 48.3 MAX 557 MIN 15 CFSM .85 IN 11.62

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G. HT.	DISCHARGE	DATE	TIME	G. HT.	DISCHARGE
1-14	1630	5.05	1,360	9-10	2100	5.72	1,360
8-17	0100	5.42	1,240				

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 1968.

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.--20 years, 64.4 cfs.

Extremes.--Maximum discharge during year, 2,210 cfs Sept. 10 (gage height, 6.81 ft); minimum, 14 cfs Sept. 5 (gage height, 1.73 ft).
1948-68: 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. Records of chemical analyses for the water year 1968 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	34	30	70	73	49	85	47	114	34	18	15
2	28	88	31	60	82	53	70	44	87	33	21	16
3	28	77	221	68	97	51	68	43	76	46	21	15
4	27	46	121	70	73	50	68	42	68	36	18	15
5	27	39	73	50	67	49	70	41	59	32	19	15
6	26	36	67	56	66	51	64	40	53	30	20	36
7	25	35	68	59	64	48	62	38	49	29	26	24
8	28	34	68	50	62	47	62	37	47	28	31	17
9	30	34	57	52	60	50	61	37	47	27	19	16
10	40	34	71	54	56	54	57	37	46	27	18	341
11	50	33	286	49	54	55	56	38	43	27	22	272
12	32	34	156	49	50	86	55	43	95	26	17	40
13	30	32	107	50	41	189	54	39	103	25	16	29
14	30	32	85	708	44	93	53	37	53	25	16	26
15	30	32	74	251	46	93	55	39	46	46	17	24
16	30	32	67	125	46	131	53	42	45	40	62	22
17	30	33	62	106	44	373	51	41	86	27	278	22
18	40	36	59	84	44	212	52	36	57	27	29	21
19	60	33	57	73	44	156	54	37	46	43	122	20
20	36	29	53	80	46	123	53	41	53	39	72	19
21	32	30	51	89	40	112	53	36	40	25	29	18
22	30	35	58	87	40	103	53	35	38	25	24	18
23	30	39	61	80	40	134	54	45	36	23	22	17
24	30	36	49	74	44	115	72	92	35	22	21	17
25	45	36	48	66	43	93	76	53	35	22	20	17
26	100	33	56	69	41	87	54	41	35	22	17	16
27	41	32	48	66	39	82	52	47	74	21	15	16
28	37	31	92	61	39	79	50	447	176	21	16	15
29	35	30	260	64	40	77	48	243	46	18	16	15
30	34	30	96	70	------	73	49	333	38	17	15	15
31	34	------	78	90	------	71	------	278	------	18	15	------
TOTAL	1,104	1,115	2,710	2,980	1,525	3,039	1,764	2,449	1,826	881	1,073	1,169
MEAN	35.6	37.2	87.4	96.1	52.6	98.0	58.8	79.0	60.9	28.4	34.6	39.0
MAX	100	88	286	708	97	373	85	447	176	46	278	341
MIN	25	29	30	49	39	47	48	35	35	17	15	15
CFSM	.55	.58	1.36	1.49	.82	1.52	.91	1.23	.95	.44	.54	.61
IN.	.64	.64	1.56	1.72	.88	1.75	1.02	1.41	1.05	.51	.62	.68

CAL YR 1967 TOTAL 24,472 MEAN 67.0 MAX 2,300 MIN 19 CFSM 1.04 IN 14.13
WTR YR 1968 TOTAL 21,635 MEAN 59.1 MAX 708 MIN 15 CFSM .92 IN 12.49

PEAK DISCHARGE (BASE, 950 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-14	1600	5.27	1,560	8-17	0030	5.16	1,510
5-31	0030	4.55	1,240	9-10	2400	6.81	2,210

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 1968.

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, about 3,900 cfs Sept. 11 (gage height, about 5.5 ft); minimum, 31 cfs Sept. 4, 5 (gage height 1.14 ft).
1944-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	63	64	137	131	98	145	90	291	72	35	31
2	54	106	70	108	148	91	130	81	221	66	36	33
3	54	183	369	120	183	95	121	80	185	91	39	33
4	53	93	255	130	137	81	123	79	158	77	35	32
5	51	77	143	100	125	93	135	76	128	68	34	31
6	50	71	129	110	120	93	117	74	106	62	38	61
7	49	70	125	115	116	90	113	71	94	60	39	55
8	53	67	129	96	114	86	114	69	90	58	69	36
9	56	66	110	96	109	92	114	69	114	56	38	33
10	77	66	121	96	102	100	105	69	108	53	35	380
11	109	64	448	90	84	102	105	68	85	53	40	920
12	65	64	282	85	90	179	102	78	99	52	34	96
13	59	63	187	90	96	389	100	72	246	52	31	63
14	57	61	150	1,360	96	185	99	68	128	52	33	52
15	58	62	133	490	100	169	102	71	96	76	34	46
16	58	57	121	180	98	201	99	76	81	92	46	44
17	58	58	112	163	96	617	93	78	149	58	626	44
18	76	64	108	154	90	408	93	66	123	53	68	42
19	135	62	105	158	90	267	94	66	90	53	105	39
20	71	55	98	154	97	210	91	74	96	94	232	38
21	63	57	95	146	86	188	89	66	88	54	68	37
22	59	66	108	140	82	177	89	63	77	46	48	36
23	59	74	118	137	86	217	89	72	72	43	43	36
24	59	72	93	130	84	209	127	164	68	41	40	36
25	97	70	90	112	86	165	161	107	68	39	40	35
26	191	64	106	108	84	154	105	76	66	41	36	35
27	82	60	94	120	84	147	97	80	119	38	33	34
28	71	58	169	108	90	142	94	751	335	38	33	33
29	64	55	516	111	87	139	89	474	103	35	33	32
30	62	54	194	122	------	132	92	322	81	34	32	32
31	63	------	150	156	------	126	------	656	------	34	31	------
TOTAL	2,169	2,102	4,992	5,422	2,991	5,442	3,227	4,306	3,765	1,741	2,084	2,455
MEAN	70.0	70.1	161	175	103	176	108	139	126	56.2	67.2	81.8
MAX	191	183	516	1,360	183	617	161	751	335	94	626	920
MIN	49	54	64	85	82	81	89	63	66	34	31	31
(†)	35,100	34,960	37,460	39,800	40,550	42,620	42,280	43,430	42,850	41,050	40,950	40,480
(‡)	+126	+105	+93	+103	+98	+134	+168	+121	+191	+178	+148	+138

CAL YR 1967 TOTAL 42,711 MEAN 117 MAX 2,640 MIN 36 ‡ +112
WTR YR 1968 TOTAL 40,696 MEAN 111 MAX 1,360 MIN 31 ‡ +134

† Month-end total contents, in millions of gallons, in Liberty Reservoir (contents on Sept. 30, 1967 35,660 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 1968.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 45 ft (from topographic map).

Average discharge.--10 years, 2.86 cfs.

Extremes.--Maximum discharge during year, 872 cfs Sept. 10 (gage height, 4.99 ft); from rating curve extended above 250 cfs on basis of slope-area measurement made prior to establishment of station at gage height 5.7 ft; minimum daily, 0.46 cfs Sept. 1.
1958-68: Maximum discharge, that of Sept. 10, 1968, from rating curve extended as explained above; 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.76	1.0	2.1	2.1	2.0	2.1	2.2	1.7	1.7	.85	1.2	.46
2	1.0	9.8	1.5	1.9	6.4	1.5	1.9	1.7	1.4	2.7	21	.79
3	1.1	1.7	27	2.1	2.8	1.3	1.9	1.7	1.7	3.5	1.8	.79
4	1.1	1.2	3.3	3.3	1.8	1.4	2.5	1.5	1.7	.85	.74	.95
5	1.1	.92	2.1	1.7	1.9	1.5	2.7	1.4	1.7	.80	1.1	1.1
6	1.1	1.2	1.8	1.7	2.0	1.5	1.8	1.4	1.7	.74	1.2	4.2
7	.93	1.3	1.7	1.6	1.9	1.5	1.7	1.5	1.7	.74	3.3	.79
8	.76	1.3	1.6	1.6	1.8	1.5	1.7	1.6	1.4	1.0	1.5	.46
9	.94	1.2	1.4	1.7	1.8	1.4	1.7	1.6	1.4	1.1	1.4	.79
10	5.4	1.2	10	1.7	1.6	1.4	1.8	1.5	1.6	1.1	2.1	92
11	1.2	1.0	12	1.6	1.4	1.4	1.8	1.3	1.7	1.1	.87	5.2
12	1.1	.81	9.0	1.6	1.5	24	1.7	1.5	6.1	1.0	1.3	1.9
13	1.1	1.1	2.9	1.7	1.4	8.7	1.9	1.4	5.3	.80	1.3	1.6
14	.86	1.2	2.3	76	1.7	3.2	1.6	1.5	1.8	.74	2.0	1.3
15	.73	1.2	2.0	7.0	1.7	2.6	2.2	1.6	1.4	2.3	1.2	.95
16	.92	1.2	1.8	3.5	1.7	2.3	2.7	1.6	2.0	1.2	15	1.2
17	1.1	1.3	1.6	2.8	1.5	18	2.1	1.4	4.5	2.0	3.2	1.4
18	4.7	1.4	1.7	2.6	1.3	13	1.7	1.1	1.7	1.3	.74	1.4
19	1.2	.75	1.7	2.6	1.3	4.3	1.7	2.2	2.1	14	3.2	1.3
20	1.0	.99	1.7	2.3	1.4	3.3	1.4	1.3	1.7	1.5	1.4	1.4
21	.82	1.2	1.7	2.1	1.5	2.9	1.2	1.4	1.6	.80	1.1	.95
22	.70	1.5	3.8	2.1	1.5	2.7	1.5	1.3	1.3	.85	1.2	.68
23	.96	2.2	2.2	2.7	1.6	4.8	1.6	5.6	1.0	1.0	1.1	1.2
24	1.0	1.2	1.4	2.1	1.4	2.2	12	3.7	2.0	1.1	.85	1.4
25	7.0	1.6	2.0	2.0	1.2	2.3	2.5	1.3	1.5	1.3	.79	1.2
26	1.3	.83	1.7	1.9	1.5	2.2	1.8	.96	2.7	1.4	1.1	1.3
27	1.2	1.0	1.6	1.8	1.6	2.2	2.2	4.5	7.2	1.1	1.1	1.3
28	.96	1.2	23	1.6	1.6	2.3	1.3	35	2.0	.85	.85	.95
29	.73	1.2	9.0	1.8	1.8	2.1	1.5	8.9	1.1	1.2	.85	.68
30	.94	1.3	2.7	3.5	------	1.9	1.9	3.6	.80	1.3	.85	.95
31	1.0	------	2.3	2.2	------	1.6	------	2.3	------	1.3	.74	------
TOTAL	44.71	45.00	140.6	144.9	52.6	123.1	66.2	99.06	65.50	51.52	76.28	130.59
MEAN	1.44	1.50	4.54	4.67	1.81	3.97	2.21	3.20	2.18	1.66	2.46	4.35
MAX	7.0	9.8	27	76	6.4	24	12	35	7.2	14	21	92
MIN	.70	.75	1.4	1.6	1.2	1.3	1.2	.96	.80	.74	.74	.46
CFSM	.58	.61	1.84	1.89	.73	1.61	.89	1.29	.88	.67	1.00	1.76
IN.	.67	.68	2.12	2.18	.79	1.85	1.00	1.49	.99	.78	1.15	1.97

CAL YR 1967 TOTAL 1,050.09 MEAN 2.88 MAX 56 MIN .60 CFSM 1.16 IN 15.81
WTR YR 1968 TOTAL 1,040.06 MEAN 2.84 MAX 92 MIN .46 CFSM 1.15 IN 15.66

PEAK DISCHARGE (BASE, 260 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-14	0715	3.08	288	8-16	2315	3.37	386
7-19	1745	3.35	380	9-10	1800	4.99	872
8- 2	1945	3.73	494				

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 1968.

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

Average discharge.--10 years, 4.12 cfs.

Extremes.--Maximum discharge during year, 454 cfs Sept. 10 (gage height, 3.21 ft); from rating curve extended above 100 cfs as explained below; minimum daily, 1.3 cfs Aug. 29 to Sept. 5.
1958-1968: Maximum discharge, 1,330 cfs Aug. 27, 1967, from rating curve extended above 100 cfs on basis of contracted-opening measurement of peak flow; minimum daily, 0.5 cfs Sept. 6, 8, 1966.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	2.5	2.5	3.1	3.3	2.9	4.8	2.5	3.8	2.5	1.8	1.3
2	2.0	10	2.5	3.0	7.6	3.3	4.0	2.3	3.3	2.5	1.8	1.3
3	2.0	3.8	26	3.0	5.5	2.5	3.8	2.3	3.3	4.4	1.8	1.3
4	2.0	2.9	5.8	3.3	3.8	2.5	4.3	2.5	2.9	2.7	1.8	1.3
5	2.0	2.5	3.8	3.1	3.3	2.5	4.0	3.0	2.7	2.2	1.8	1.3
6	2.0	2.5	3.6	3.1	3.3	2.5	3.8	2.9	2.5	2.2	1.8	4.2
7	2.0	2.5	3.8	3.1	3.3	2.3	3.8	2.3	2.5	2.2	1.8	1.7
8	2.0	2.5	3.3	2.9	3.3	2.5	3.8	2.3	2.0	2.2	2.2	1.6
9	2.0	2.5	2.9	2.9	3.3	2.7	3.6	2.3	7.3	2.2	2.0	1.6
10	5.6	2.5	9.2	2.9	2.9	2.9	3.6	2.3	3.6	2.2	2.0	92
11	2.9	2.5	13	2.5	2.5	2.9	3.8	2.9	2.3	2.2	2.7	10
12	2.5	2.5	10	2.5	2.5	12	3.8	2.7	17	2.2	1.8	2.9
13	2.5	2.5	4.3	2.5	2.5	13	2.9	2.3	9.2	2.2	1.8	2.5
14	2.5	2.5	3.6	81	2.5	4.7	2.3	2.5	3.6	2.2	1.8	2.3
15	2.5	2.5	3.3	8.6	2.5	4.6	2.5	2.7	3.1	7.1	1.8	2.2
16	2.5	2.3	3.1	5.4	2.5	4.6	2.5	3.1	10	2.9	8.1	2.2
17	2.5	2.3	2.9	4.3	2.5	19	2.5	2.7	8.8	2.0	10	2.0
18	5.5	2.3	2.9	4.3	2.7	13	2.5	2.5	4.3	2.0	2.9	1.8
19	3.1	2.5	2.7	4.3	2.9	6.6	2.5	2.9	15	5.5	7.6	1.8
20	2.9	2.3	2.7	4.3	2.9	5.4	2.5	2.7	8.1	3.3	3.3	1.8
21	2.7	2.3	2.7	4.3	2.5	5.1	2.5	2.5	3.3	2.2	2.2	1.8
22	2.5	2.9	4.2	3.6	2.7	4.8	2.5	2.5	2.9	2.0	1.8	1.8
23	2.5	2.9	3.1	3.6	2.2	9.2	2.3	6.6	2.7	2.0	1.8	1.8
24	2.5	2.5	2.5	3.6	2.2	5.4	7.8	7.8	2.7	2.2	2.3	1.8
25	9.2	2.9	2.7	3.3	2.2	4.6	4.4	3.6	2.7	2.5	1.8	1.8
26	3.8	2.5	3.3	3.3	2.2	4.3	2.9	2.5	2.7	2.2	1.6	1.8
27	2.5	2.5	2.5	2.7	2.2	4.3	2.5	4.8	15	1.8	1.4	1.8
28	2.5	2.5	14	2.7	2.2	4.3	2.5	49	22	1.8	1.4	1.8
29	2.5	2.5	13	2.9	2.5	4.3	2.5	14	3.6	1.8	1.3	1.8
30	2.5	2.5	4.0	3.8	------	4.3	2.9	6.8	2.9	1.8	1.3	1.8
31	2.5	------	3.3	4.3	------	4.0	------	4.8	------	1.8	1.3	------
TOTAL	88.7	84.4	167.2	188.2	86.5	167.0	100.1	156.6	175.8	79.0	78.8	155.1
MEAN	2.86	2.81	5.39	6.07	2.98	5.39	3.34	5.05	5.86	2.55	2.54	5.17
MAX	9.2	10	26	81	7.6	19	7.8	49	22	7.1	10	92
MIN	2.0	2.3	2.5	2.5	2.2	2.3	2.3	2.3	2.0	1.8	1.3	1.3
CFSM	.58	.57	1.10	1.24	.61	1.10	.68	1.03	1.20	.52	.52	1.06
IN	.67	.64	1.27	1.43	.66	1.27	.76	1.19	1.33	.60	.60	1.18

CAL YR 1967: TOTAL 1,608.0 MEAN 4.41 MAX 181 MIN 1.6 CFSM .90 IN 12.20
WTR YR 1968: TOTAL 1,527.4 MEAN 4.17 MAX 92 MIN 1.3 CFSM .85 IN 11.59

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-14	1400	2.53	218	6-28	0100	2.35	166
5-28	1130	2.25	142	8-16	2345	2.14	117
6-12	1900	2.10	109	9-10	2030	3.21	454
6-19	2200	2.13	115				

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 1968.

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.--11 years, 29.4 cfs.

Extremes.--Maximum discharge during year, 2,850 cfs Sept. 10 (gage height, 10.70 ft); minimum, 6.0 cfs Aug. 31 (gage height, 0.66 ft).
1957-68: Maximum discharge, that of Sept. 10, 1968, 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	12	14	23	29	19	29	22	30	14	8.9	6.9
2	12	69	18	22	57	19	24	19	26	14	9.3	6.9
3	11	32	247	21	62	19	23	18	23	29	9.3	6.9
4	11	18	55	22	32	18	29	18	21	14	8.9	6.5
5	11	16	28	21	28	18	33	18	18	12	8.6	6.5
6	11	14	26	20	26	18	24	18	17	12	8.6	34
7	11	14	25	20	25	17	24	16	16	11	8.2	10
8	12	14	23	19	24	17	25	16	15	11	9.6	7.2
9	12	14	19	18	23	18	25	16	51	11	7.6	7.2
10	35	14	57	19	22	20	23	16	39	11	8.9	756
11	20	14	138	18	21	20	23	16	17	10	13	280
12	14	14	104	18	21	106	23	18	51	10	7.2	26
13	12	14	35	17	21	156	22	16	82	10	7.2	18
14	12	14	26	628	21	46	22	16	21	11	9.6	15
15	12	14	23	130	20	42	24	16	17	18	7.9	13
16	12	13	21	36	20	46	22	18	25	18	25	12
17	12	14	19	30	18	193	20	18	54	11	126	12
18	19	16	19	26	19	157	20	15	30	10	13	12
19	21	14	18	25	19	62	20	18	19	21	22	11
20	13	13	17	24	17	45	21	18	45	23	31	11
21	13	14	16	26	16	37	21	15	16	12	11	11
22	12	18	21	24	18	33	21	14	14	11	8.9	11
23	12	21	20	24	19	60	21	33	14	9.6	8.6	11
24	12	16	17	22	16	45	65	59	14	9.3	11	11
25	63	18	18	21	16	31	52	24	14	12	9.6	10
26	30	15	19	20	16	28	25	17	17	11	9.6	10
27	15	15	17	20	16	27	23	31	67	8.6	7.9	9.6
28	13	14	150	20	16	26	21	453	127	8.6	7.2	9.6
29	12	13	130	22	17	25	21	159	21	8.2	7.2	9.3
30	12	12	35	30	------	24	22	54	17	8.2	6.9	9.3
31	12	------	26	41	------	25	------	49	-------	8.6	6.9	------
TOTAL	491	513	1,401	1,427	675	1,417	768	1,254	938	388.1	444.6	1,359.9
MEAN	15.8	17.1	45.2	46.0	23.3	45.7	25.6	40.5	31.3	12.5	14.3	45.3
MAX	63	69	247	628	62	193	65	453	127	29	126	756
MIN	11	12	14	17	16	17	20	14	14	8.2	6.9	6.5
CFSM	.49	.53	1.39	1.42	.72	1.41	.79	1.25	.96	.38	.44	1.39
IN	.56	.59	1.60	1.63	.77	1.62	.88	1.43	1.07	.44	.51	1.56

CAL YR 1967: TOTAL 12,161.7 MEAN 33.3 MAX 972 MIN 6.1 CFSM 1.02 IN 13.92
WTR YR 1968: TOTAL 11,076.6 MEAN 30.3 MAX 756 MIN 6.5 CFSM .93 IN 12.68

PEAK DISCHARGE (BASE, 540 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-14	1700	6.38	1,100	9-10	1900	10.70	2,850
5-28	1430	5.66	888				

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 1968.

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

Average discharge.--9 years, 5.95 cfs.

Extremes.--Maximum discharge during year, 2,750 cfs Sept. 10 (gage height, 10.22 ft from high-water mark in well); minimum, 0.37 cfs Aug. 7 (gage height, 0.67 ft).
1959-68: Maximum discharge, that of Sept. 10, 1968, 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.82	1.5	1.8	2.4	2.8	2.8	3.7	1.2	3.2	1.1	.92	.50
2	.73	35	2.4	2.0	20	1.8	2.1	1.1	2.4	1.9	.92	1.9
3	.73	2.4	116	2.0	8.2	1.1	2.1	1.1	2.4	6.9	.65	.82
4	.82	2.1	8.2	5.0	4.2	1.2	3.0	1.1	1.5	.92	.57	.73
5	.82	1.1	3.7	2.0	3.7	1.1	6.8	1.2	1.8	.73	.57	.73
6	.92	1.1	3.2	1.6	3.7	1.1	2.1	1.1	1.5	.73	.57	17
7	.92	1.1	3.2	1.4	3.2	.92	2.1	.92	1.5	.73	2.9	1.1
8	.92	1.1	2.4	1.2	2.8	.92	2.1	.92	1.5	.73	.73	.82
9	1.1	1.1	1.8	1.2	2.4	1.1	1.8	.92	37	.73	.57	.82
10	16	1.1	38	1.2	1.5	1.2	1.5	.92	4.2	.73	2.0	260
11	1.8	1.1	50	1.2	1.1	1.2	1.5	.92	2.4	.73	.82	20
12	1.1	1.1	36	1.1	1.1	89	1.5	1.2	9.1	.73	.57	2.4
13	1.1	1.1	4.2	1.1	1.1	43	1.5	1.1	16	.73	.50	1.2
14	1.2	1.1	2.8	290	1.1	9.4	1.2	.92	2.1	.73	1.9	1.1
15	1.2	1.1	2.1	7.0	1.1	5.2	2.1	.92	1.5	.82	.57	1.1
16	1.5	1.1	2.1	3.6	1.1	4.7	1.5	1.1	2.2	.82	42	1.1
17	1.5	1.5	1.8	3.2	1.1	73	1.2	1.1	7.8	.73	16	1.1
18	8.4	1.5	1.8	3.7	1.1	51	1.2	.92	2.1	.73	1.1	.92
19	2.1	.92	1.5	3.2	1.2	6.3	1.2	2.4	1.7	14	21	.92
20	1.5	.92	1.2	3.2	1.2	4.7	1.2	1.1	1.5	1.1	1.8	.92
21	1.5	.92	1.2	3.2	1.1	3.7	1.2	1.1	1.1	.73	.92	.92
22	1.2	1.5	6.2	2.8	1.1	3.2	1.5	.92	1.1	.73	.92	.92
23	1.2	2.4	2.4	3.7	1.1	13	1.2	14	1.1	.73	.92	.92
24	1.5	1.1	1.5	2.8	.92	4.2	42	8.4	1.1	.73	.82	.92
25	24	1.8	2.2	2.1	1.1	2.8	5.7	1.5	1.1	.82	.92	.82
26	2.1	.92	2.8	1.8	1.2	2.4	2.4	1.1	5.3	.73	.65	.82
27	1.1	.92	1.5	1.8	1.2	2.4	2.4	11	54	.65	.57	.82
28	1.1	.82	100	1.8	.92	2.4	1.8	173	8.8	.65	.57	.82
29	1.1	.82	33	1.8	1.5	2.4	1.5	31	1.2	.57	.50	.82
30	1.2	.82	3.7	4.8	------	2.4	1.5	9.5	1.1	.65	.57	.82
31	1.5	------	3.2	4.2	------	2.4	------	4.7	------	.65	.50	------
TOTAL	82.68	71.06	441.9	368.1	73.84	342.04	102.6	278.38	179.3	43.96	104.52	323.78
MEAN	2.67	2.37	14.3	11.9	2.55	11.0	3.42	8.98	5.98	1.42	3.37	10.8
MAX	24	35	116	290	20	89	42	173	54	14	42	260
MIN	.73	.82	1.2	1.1	.92	.92	1.2	.92	1.1	.57	.50	.50
CFSM	.48	.43	2.59	2.16	.46	1.99	.62	1.63	1.08	.26	.61	1.96
IN	.56	.48	2.98	2.48	.50	2.30	.69	1.88	1.21	.30	.70	2.18

CAL YR 1967: TOTAL 2,779.34 MEAN 7.61 MAX 247 MIN .60 CFSM 1.38 IN 18.73
WTR YR 1968: TOTAL 2,412.16 MEAN 6.59 MAX 290 MIN .50 CFSM 1.19 IN 16.25

PEAK DISCHARGE (BASE, 550 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-14	0830	5.29	918
9-10	1900	10.22	2,750

Note.--Fragmentary gage-height record Sept. 10-11.

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 1968.

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

Extremes.--Maximum discharge during year, 2,160 cfs Sept. 10 (gage height, 11.30 ft); minimum, 5.6 cfs Aug. 31 (gage height, 1.23 ft).
1966-68: Maximum discharge, that of Sept. 10, 1968; minimum 1.8 cfs Sept. 7, 8, 1966 (gage height, 1.16 ft).

Remarks.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	15	18	24	24	21	26	21	28	16	7.6	7.0
2	14	47	17	24	36	21	23	20	25	14	8.0	7.3
3	14	26	118	24	38	21	23	19	23	20	8.6	6.6
4	14	20	42	26	28	20	23	19	22	17	7.6	6.2
5	13	17	28	22	26	20	28	20	20	16	7.6	6.2
6	13	16	24	22	24	20	23	19	18	15	8.6	15
7	14	16	24	21	24	18	23	18	16	14	8.6	8.6
8	14	16	23	20	24	18	23	17	17	13	9.1	7.3
9	15	16	20	18	23	20	23	17	20	12	7.3	7.0
10	24	16	36	20	22	21	22	16	22	12	8.4	579
11	18	16	72	18	22	21	22	17	18	12	11	204
12	15	16	61	18	21	63	21	19	38	12	7.3	32
13	15	15	33	16	20	72	22	17	46	12	7.0	24
14	15	15	28	344	20	33	22	17	21	12	8.6	20
15	15	15	24	66	21	30	22	17	18	12	9.1	17
16	15	15	24	34	21	30	21	18	25	14	21	16
17	15	16	22	28	21	103	21	18	42	13	46	15
18	20	17	22	26	21	106	21	16	26	12	16	14
19	17	16	22	27	21	49	21	17	23	14	13	12
20	15	16	20	26	21	39	20	18	47	15	14	12
21	15	16	20	28	18	33	21	16	21	12	11	12
22	15	18	26	26	18	31	20	15	18	11	8.0	12
23	14	20	23	26	19	41	20	24	16	10	7.6	10
24	15	18	20	24	18	33	44	33	17	9.6	7.6	10
25	38	19	21	23	19	28	33	21	17	12	8.0	10
26	23	17	22	22	18	27	23	17	15	12	7.6	9.5
27	16	17	20	22	18	26	22	21	38	9.6	7.0	9.5
28	15	16	98	22	19	26	22	246	77	9.1	6.6	9.5
29	15	16	53	23	20	25	21	104	22	8.0	7.0	9.5
30	14	17	31	25	------	24	22	41	18	7.6	6.6	10
31	14	------	28	28	------	24	------	37	------	7.6	5.9	------
TOTAL	504	536	1,040	1,093	645	1,064	698	935	774	385.5	317.3	1,118.2
MEAN	16.3	17.9	33.6	35.3	22.2	34.3	23.3	30.2	25.8	12.4	10.2	37.3
MAX	38	47	118	344	38	106	44	246	77	20	46	579
MIN	13	15	17	16	18	18	20	15	16	7.6	5.9	6.2
CFSM	.65	.71	1.33	1.40	.88	1.36	.92	1.20	1.02	.49	.40	1.48
IN	.74	.79	1.53	1.61	.95	1.57	1.03	1.38	1.14	.57	.47	1.65

CAL YR 1967: TOTAL 9,720 MEAN 26.6 MAX 492 MIN 11 CFSM 1.06 IN 14.34
WTR YR 1968: TOTAL 9,110.0 MEAN 24.9 MAX 579 MIN 5.9 CFSM .99 IN 13.44

PEAK DISCHARGE (BASE, 470 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-14	1145	6.21	722	9-10	2130	11.30	2,160
5-28	1500	5.02	472				

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 1968.

Gage.--Digital water-stage recorder, crest-stage gage, and concrete control. Datum 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.--36 years (1932-68), 10.1 cfs.

Extremes.--Maximum discharge during year, 107 cfs Jan. 14 (gage height, 2.28 ft); minimum, 2.6 cfs Oct. 6 (gage height, 0.94 ft).
1931-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.3	4.6	5.0	9.4	8.4	5.5	9.1	7.2	16	4.8	3.1	3.1
2	3.4	11	5.0	8.8	8.0	6.0	8.8	6.6	11	13	3.4	3.4
3	3.7	7.0	24	8.8	11	6.5	8.4	6.6	11	40	8.7	4.0
4	4.0	6.5	15	10	8.4	6.0	8.4	7.6	9.3	21	4.9	3.4
5	3.4	6.0	11	9.5	7.6	6.0	8.8	7.2	7.7	11	10	3.2
6	2.8	5.5	10	9.0	6.9	5.5	8.0	7.6	6.9	7.7	7.8	6.5
7	3.0	5.5	9.0	9.0	6.9	6.0	7.6	6.2	6.3	6.9	4.9	6.1
8	3.2	5.0	8.0	8.5	6.9	6.2	7.6	5.8	5.9	6.1	4.4	4.0
9	3.2	5.0	7.0	8.5	6.6	6.9	7.6	5.8	5.7	5.5	3.9	3.6
10	3.2	4.8	8.0	8.0	6.5	7.2	7.2	5.8	5.8	5.4	3.9	20
11	3.6	4.8	10	8.0	6.5	7.2	7.2	5.5	5.4	5.4	6.4	46
12	5.0	4.6	28	8.0	6.5	13	7.2	7.6	6.0	5.2	4.1	11
13	4.0	4.6	14	8.5	6.5	50	6.9	6.9	18	5.0	3.6	5.8
14	3.6	4.4	10	60	6.5	21	6.9	5.8	10	4.9	3.7	4.9
15	3.6	4.2	8.5	39	7.0	16	7.2	5.8	6.7	5.9	3.8	4.3
16	3.2	4.0	8.0	18	7.0	11	7.2	6.6	7.5	8.0	3.6	4.0
17	3.2	4.4	7.2	15	7.0	20	6.6	7.2	22	5.6	4.9	4.0
18	3.6	4.6	6.9	12	6.5	59	6.6	5.9	16	4.9	4.7	4.0
19	4.0	4.5	6.9	10	6.5	31	6.6	6.0	9.6	4.5	9.2	3.7
20	4.6	4.3	6.2	10	6.5	18	6.6	8.8	16	4.6	30	3.6
21	3.6	4.6	6.2	9.0	6.0	14	6.6	6.2	11	4.1	7.2	3.6
22	3.0	4.9	8.8	9.0	5.5	12	6.6	5.5	7.5	3.8	4.8	3.6
23	3.0	5.2	13	9.0	5.0	14	6.9	5.8	6.4	3.8	4.2	3.6
24	3.0	4.9	8.5	9.0	5.0	14	9.5	11	6.0	3.6	3.8	3.5
25	11	6.2	7.2	9.0	5.0	11	16	8.5	6.1	3.5	3.6	3.5
26	7.0	5.2	8.5	8.5	5.0	10	9.5	6.2	5.5	3.7	3.3	3.4
27	5.5	4.9	7.2	8.0	5.0	9.9	8.0	6.2	11	3.5	3.1	3.5
28	5.0	4.6	11	8.0	5.0	9.5	8.4	41	9.2	3.5	3.0	3.3
29	4.6	4.3	27	8.0	5.0	9.1	7.2	38	6.5	3.1	3.0	3.2
30	4.6	4.6	13	9.0	------	9.1	7.2	24	5.4	2.9	2.9	3.1
31	4.6	------	9.8	10	------	8.8	------	31	------	3.0	2.9	------
TOTAL	126.5	154.7	327.9	374.5	190.2	429.4	236.4	315.9	277.4	213.9	170.8	182.9
MEAN	4.08	5.16	10.6	12.1	6.56	13.9	7.88	10.2	9.25	6.90	5.51	6.10
MAX	11	11	28	60	11	59	16	41	22	40	30	46
MIN	2.8	4.0	5.0	8.0	5.0	5.5	6.6	5.5	5.4	2.9	2.9	3.1
CFSM	.48	.61	1.24	1.42	.77	1.63	.93	1.20	1.09	.81	.65	.72
IN.	.55	.68	1.43	1.64	.83	1.88	1.03	1.38	1.21	.94	.75	.80

CAL YR 1967: TOTAL 2,500.0 MEAN 6.85 MAX 55 MIN 2.2 CFSM .81 IN 10.94
WAT YR 1968: TOTAL 3,000.5 MEAN 8.20 MAX 60 MIN 2.8 CFSM .96 IN 13.13

PEAK DISCHARGE (BASE, 75 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-14	1500	2.28	107	7- 2	2400	2.01	75
3-18	1200	2.04	78	9-10	2400	2.18	94

Note.--No gage-height record Oct. 9 to Nov. 16

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 1968.

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.--24 years, 34.8 cfs.

Extremes.--Maximum discharge during year, 1,490 cfs Sept. 10 (gage height, 7.01 ft); minimum, 5.7 cfs Aug. 30, 31, Sept. 1, 4, 5 (gage height, 1.92 ft).
1944-68: Maximum discharge, 10,700 cfs July 21, 1956 (gage height, 14.35 ft), from rating curve extended above 870 cfs on basis of slope-area measurement at gage height 13.58 ft; minimum, 0.20 cfs Sept. 10, 11, 12, 1966 (gage height, 1.66 ft).

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	16	19	22	49	41	28	47	27	38	21	10	6.4
2	15	24	20	47	45	28	39	24	34	21	11	7.1
3	14	22	140	46	50	26	37	23	33	29	11	6.8
4	14	19	70	46	41	26	37	23	33	22	10	6.0
5	13	17	50	50	38	27	40	22	27	18	10	6.0
6	12	16	40	49	36	28	35	21	24	17	11	14
7	13	16	36	39	35	26	34	19	22	16	9.7	9.7
8	14	16	36	30	35	25	34	19	21	15	10	7.8
9	14	16	32	28	34	28	33	20	21	15	8.9	7.4
10	24	16	40	26	31	30	32	19	22	15	8.8	298
11	24	16	120	26	32	29	32	19	20	14	12	95
12	16	16	93	24	26	51	30	22	33	14	8.9	18
13	15	15	63	36	20	95	30	20	36	14	8.2	13
14	15	16	53	325	15	51	30	19	24	14	8.5	12
15	15	15	48	130	19	51	30	22	20	33	8.5	11
16	15	14	44	60	26	71	28	22	25	16	8.5	10
17	17	15	41	54	28	208	28	22	37	15	20	10
18	20	16	39	51	28	118	28	18	28	14	9.3	10
19	24	16	37	48	26	80	28	18	70	22	12	9.7
20	22	16	34	49	26	66	27	19	51	25	18	9.3
21	18	16	33	50	24	59	26	18	26	15	10	9.3
22	16	17	40	49	22	55	26	18	22	13	8.5	8.9
23	16	18	39	46	26	71	26	25	19	12	8.2	8.5
24	16	20	32	43	28	60	37	51	34	12	7.8	8.5
25	26	20	32	36	26	51	39	30	26	12	7.8	8.2
26	22	18	36	34	26	47	30	21	33	12	6.8	8.2
27	18	17	30	34	26	45	29	30	162	11	6.4	7.8
28	17	17	60	35	25	44	28	258	80	11	6.4	7.4
29	16	18	157	36	26	43	27	122	33	10	6.4	7.4
30	16	15	62	41	------	40	28	63	25	10	6.0	7.4
31	16	------	52	49	------	39	------	50	------	10	6.0	------
TOTAL	529	512	1,631	1,666	861	1,646	955	1,104	1,079	498	294.6	648.8
MEAN	17.1	17.1	52.6	53.7	29.7	53.1	31.8	35.6	36.0	16.1	9.50	21.6
MAX	26	24	157	325	50	208	47	258	162	33	20	298
MIN	12	14	20	24	15	25	26	18	19	10	6.0	6.0
CFSM	.49	.49	1.51	1.54	.85	1.53	.91	1.02	1.03	.46	.27	.62
IN.	.57	.55	1.74	1.78	.92	1.76	1.02	1.18	1.15	.53	.31	.69

CAL YR 1967: TOTAL 12,915.5 MEAN 35.4 MAX 674 MIN 6.8 CFSM 1.02 IN 13.80
WAT YR 1968: TOTAL 11,424.4 MEAN 31.2 MAX 325 MIN 6.0 CFSM .90 IN 12.21

PEAK DISCHARGE (BASE, 770 CFS)

DATE	TIME	G.HT.	DISCHARGE
6-27	2200	5.63	812
9-10	2130	7.01	1,490

Note.--No gage-height record Oct. 14 to Dec. 11.

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 1968.

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, 1,000 cfs Jan. 14, 15 (gage height, 6.00 ft); minimum daily, 7.5 cfs many days in October and November.
1944-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.5	7.5	9.0	165	42	13	104	14	162	102	14	16
2	8.3	7.5	9.0	165	52	13	67	14	162	103	14	16
3	8.3	7.5	9.0	165	52	13	46	14	114	99	16	16
4	8.3	7.5	9.0	165	52	13	46	14	75	99	16	16
5	8.3	7.5	9.0	158	52	13	46	14	41	85	16	16
6	8.1	7.5	9.0	114	52	13	59	14	18	56	16	16
7	8.1	7.5	9.2	138	52	13	107	14	17	29	16	16
8	8.1	7.5	9.3	165	36	13	107	14	17	13	16	16
9	8.0	7.8	9.2	165	13	13	107	14	17	14	16	15
10	7.8	8.1	9.2	162	13	13	104	13	17	16	16	14
11	7.6	8.1	13	139	13	13	67	13	17	17	16	15
12	8.0	8.1	76	165	13	13	27	13	17	17	16	15
13	7.6	8.1	95	152	13	13	13	13	70	17	16	16
14	7.6	8.1	95	381	13	13	13	13	15	16	16	16
15	7.6	8.1	77	378	13	13	13	13	15	15	17	16
16	7.5	8.1	54	175	13	13	13	13	15	15	17	16
17	7.5	8.1	46	175	13	112	13	13	15	15	17	16
18	7.5	8.1	43	175	13	178	14	13	15	16	16	16
19	7.6	8.1	39	175	13	188	15	13	16	16	16	16
20	7.5	8.1	50	175	13	188	15	13	53	16	16	16
21	7.5	8.1	46	175	13	188	15	13	97	16	16	16
22	7.5	8.1	55	175	13	188	15	13	109	16	16	16
23	7.5	8.6	57	175	13	190	14	13	109	16	16	16
24	7.5	8.8	57	175	13	181	14	13	85	16	16	16
25	7.6	8.8	57	175	13	175	15	13	37	16	16	16
26	7.8	8.8	49	175	13	175	14	13	16	16	16	16
27	7.5	8.8	48	175	13	135	14	13	18	15	16	16
28	7.5	9.0	48	175	13	107	14	145	81	14	16	16
29	7.5	9.0	61	122	13	107	14	286	187	14	16	16
30	7.5	9.0	116	68	------	107	14	162	155	14	16	16
31	7.5	------	162	52	------	107	------	162	------	15	16	------
TOTAL	240.7	243.9	1,434.9	5,294	663	2,534	1,139	1,115	1,782	944	495	475
MEAN	7.76	8.13	46.3	171	22.9	81.7	38.0	36.0	59.4	30.5	16.0	15.8
MAX	8.5	9.0	162	381	52	190	107	286	187	103	17	16
MIN	7.5	7.5	9.0	52	13	13	13	13	15	13	14	14
(†)	11,800	11,720	12,920	12,120	12,030	12,880	12,840	13,140	13,110	11,840	10,600	9,730
(‡)	65.8	64.1	68.9	79.5	84.6	74.9	81.1	85.3	92.9	97.3	88.5	82.7

CAL YR 1967: TOTAL 14,992.2 MEAN 41.1 MAX 1,320 MIN 7.5 ‡ 77.1
WAT YR 1968: TOTAL 16,360.5 MEAN 44.7 MAX 381 MIN 7.5 ‡ 80.4

† Combined month-end total contents, in millions of gallons, in Triadelphia and Rocky Gorge Reservoirs (contents on Sept. 30, 1967: 12,030 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 1968. 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.--36 years, 39.0 cfs.

Extremes.--Maximum discharge during year, 1,410 cfs Jan. 14 (gage height, 9.37 ft); minimum, 5.9 cfs Aug. 14
1932-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	14	18	40	35	24	44	22	32	18	7.4	9.4
2	11	22	16	38	42	24	34	20	28	18	12	9.4
3	12	26	174	36	71	22	32	20	26	40	15	11
4	11	17	79	36	39	22	30	19	26	18	9.4	8.8
5	11	16	40	40	33	23	34	18	24	16	8.8	8.5
6	10	15	32	38	31	23	30	17	22	15	8.3	30
7	11	14	28	30	29	22	30	16	20	14	7.8	15
8	11	14	28	26	28	22	30	16	18	13	19	12
9	12	14	26	24	27	24	28	18	18	13	8.8	11
10	19	14	32	22	25	26	26	16	19	13	8.3	500
11	29	14	143	20	26	26	26	16	17	12	11	150
12	18	14	100	20	20	72	26	20	20	12	7.8	40
13	15	13	50	30	16	234	26	18	55	12	6.9	20
14	14	14	44	706	11	66	28	16	26	12	6.9	14
15	14	13	38	292	15	53	26	18	17	70	8.3	13
16	14	12	36	50	21	51	24	20	20	36	31	12
17	16	13	34	44	23	233	24	20	44	13	407	12
18	18	14	32	40	25	176	24	16	24	11	25	12
19	20	14	30	38	24	79	24	15	90	14	103	11
20	16	14	28	40	22	60	24	17	46	34	349	11
21	15	14	26	39	20	55	24	15	26	13	31	11
22	14	15	32	38	18	46	24	15	20	11	19	11
23	14	16	30	37	22	60	22	17	16	10	15	10
24	15	16	26	36	24	50	36	26	44	10	13	10
25	28	16	26	30	22	46	45	19	22	10	12	9.4
26	29	15	30	28	22	40	26	17	28	10	11	9.4
27	17	14	24	28	22	38	24	20	250	10	10	8.8
28	15	14	60	29	20	36	22	295	100	10	9.4	8.8
29	14	15	300	31	22	36	22	205	30	9.0	9.4	8.8
30	14	11	50	37	------	34	24	90	22	9.0	8.8	8.3
31	14	------	42	45	------	34	------	50	------	9.0	8.3	------
TOTAL	482	447	1,654	1,988	755	1,757	839	1,127	1,150	515.0	1,207.6	1,005.6
MEAN	15.5	14.9	53.4	64.1	26.0	56.7	28.0	36.4	38.3	16.6	39.0	33.5
MAX	29	26	300	706	71	234	45	295	250	70	407	500
MIN	10	11	16	20	11	22	22	15	16	9.0	6.9	8.3
CFSM	.41	.39	1.40	1.69	.69	1.49	.74	.96	1.01	.44	1.03	.88
IN.	.47	.44	1.62	1.95	.74	1.72	.82	1.10	1.13	.50	1.18	.98

CAL YR 1967: TOTAL 12,868 MEAN 35.3 MAX 797 MIN 10 CFSM .93 IN 12.59
WAT YR 1968: TOTAL 12,927.2 MEAN 35.3 MAX 706 MIN 6.9 CFSM .93 IN 12.65

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-14	1730	9.37	1,410	8-20	0100	7.39	821
8-17	0500	8.00	932	9-10	Unknown	Unknown	About 1,000

Note.--No gage-height record Mar. 20 to Apr. 23, June 3 to July 31.

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 1968. 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.--19 years, 28.5 cfs.

Extremes.--Maximum discharge during year, 1,090 cfs Jan. 14 (gage height, 7.18 ft); minimum, 1.6 cfs Oct. 4, 5, 6 (gage height, 1.30 ft).
1949-68: 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 backwater from construction, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.3	5.8	7.6	32	30	16	21	15	33	12	2.6	4.6
2	2.1	26	7.2	24	33	17	19	13	23	23	111	5.0
3	2.0	25	238	22	58	19	19	12	30	190	439	4.8
4	1.9	17	189	30	44	15	19	13	31	353	81	8.0
5	1.8	11	71	26	31	17	21	14	20	91	30	5.5
6	1.8	9.1	38	22	25	16	18	16	14	35	19	9.0
7	1.9	8.0	29	19	22	15	17	12	12	23	17	14
8	2.1	7.3	25	17	21	14	17	11	9.9	17	10	7.5
9	2.2	6.8	21	16	20	14	17	9.8	36	13	8.1	7.0
10	5.2	6.8	48	16	17	15	16	9.2	21	13	13	100
11	6.4	6.4	236	15	16	15	16	9.0	15	11	17	300
12	7.1	6.4	280	15	15	77	15	12	36	9.3	7.0	90
13	5.1	6.3	155	15	13	325	15	11	248	8.3	6.0	40
14	4.4	6.0	59	554	13	154	14	9.7	91	7.8	6.0	20
15	4.3	5.6	34	442	13	69	15	9.5	33	9.2	6.5	10
16	4.1	5.4	25	139	15	44	15	10	20	10	5.5	8.0
17	3.9	6.0	21	64	15	149	14	11	87	9.8	8.0	6.0
18	4.7	6.3	19	39	13	431	13	8.5	101	6.8	7.0	5.0
19	5.4	5.7	17	32	13	274	13	8.8	48	6.6	32	4.8
20	6.3	5.4	15	31	14	100	13	12	45	11	22	4.6
21	5.1	5.4	15	29	11	57	13	10	23	9.2	13	4.0
22	4.1	5.7	39	27	10	42	12	8.3	18	6.1	10	4.0
23	3.7	7.0	51	28	9.8	47	12	8.0	13	5.3	9.0	4.0
24	3.6	7.5	33	30	11	48	27	20	13	4.6	7.5	4.0
25	39	8.6	25	23	11	37	52	20	11	4.1	7.5	3.6
26	27	7.9	25	23	11	30	28	12	8.8	4.2	8.5	4.0
27	16	7.3	21	18	11	27	22	13	86	3.7	7.5	4.0
28	9.9	6.5	124	19	11	24	21	296	82	4.0	6.0	4.0
29	7.7	5.8	302	21	13	23	18	326	31	4.1	5.0	4.0
30	6.7	5.6	140	23	------	21	17	134	18	3.1	4.6	3.4
31	6.1	------	55	33	------	20	------	60	------	2.6	4.4	------
TOTAL	203.9	249.6	2,364.8	1,844	539.8	2,172	549	1,133.8	1,257.7	910.8	930.7	692.8
MEAN	6.58	8.32	76.3	59.5	18.6	70.1	18.3	36.6	41.9	29.4	30.0	23.1
MAX	39	26	302	554	58	431	52	326	248	353	439	300
MIN	1.8	5.4	7.2	15	9.8	14	12	8.0	8.8	2.6	2.6	3.4
CFSM	.22	.28	2.53	1.97	.62	2.32	.61	1.21	1.39	.97	.99	.76
IN.	.25	.31	2.91	2.27	.66	2.67	.68	1.40	1.55	1.12	1.15	.85

CAL YR 1967: TOTAL 10,857.2 MEAN 29.7 MAX 463 MIN 1.5 CFSM .99 IN 13.37
WAT YR 1968: TOTAL 12,848.9 MEAN 35.1 MAX 554 MIN 1.8 CFSM 1.16 IN 15.82

PEAK DISCHARGE (BASE, 340 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12- 3	1130	5.14	538	6-13	0300	4.67	449
12-28	2300	4.90	490	6-27	2030	4.57	431
1-14	1500	7.18	1,090	7- 4	0800	4.54	426
3-13	0130	4.85	481	8- 3	0130	6.69	937
5-28	1400	5.06	522	9-11	0030	a6.70	b650

Note.--Stage-discharge relation affected by backwater from construction Aug. 12 to Sept. 30.

a Backwater from construction.
b About.

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, 2.8 miles southeast of Lower Marlboro, and 3.5 miles upstream from mouth.

Drainage area.--3.85 sq mi.

Records available.--December 1956 to September 1968.

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

Average discharge.--11 years (1957-68), 4.01 cfs.

Extremes.--Maximum discharge during year, 133 cfs Jan. 14 (gage height, 5.30 ft); minimum daily, 0.15 cfs Aug. 31.

1956-68: 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 and period of doubtful or no gage-height record, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.26	.50	1.9	3.2	3.0	3.0	5.5	3.6	2.4	1.3	.43	.18
2	.26	2.5	1.6	2.8	4.7	3.8	5.2	3.4	2.5	3.4	.47	.24
3	.26	2.1	12	2.6	4.8	3.5	5.2	3.3	2.7	6.6	.61	.90
4	.26	1.0	5.2	5.4	4.0	3.7	5.2	3.2	2.2	3.0	.48	.30
5	.30	.81	3.1	3.7	3.8	3.0	5.1	3.1	1.8	2.0	.58	.25
6	.35	.70	2.9	3.4	3.7	2.8	4.7	2.9	1.5	1.7	.56	2.5
7	.60	.70	2.8	3.0	3.4	2.6	4.7	2.8	1.3	1.4	.41	.80
8	.47	.70	2.6	2.6	3.2	2.4	4.7	2.8	1.2	1.6	.41	.48
9	.47	.70	2.2	2.4	3.0	2.6	4.6	2.7	1.1	1.3	.38	.32
10	1.1	.70	3.4	2.8	2.6	2.6	4.5	2.6	1.1	1.1	1.4	6.7
11	.75	.70	7.2	2.4	2.2	3.6	4.4	2.6	1.2	1.0	1.8	4.8
12	.55	.79	6.6	2.0	1.9	10	4.3	2.6	1.4	.96	.55	1.6
13	.47	.81	3.8	3.6	1.8	11	4.3	2.5	2.3	4.0	.40	.90
14	.47	.88	3.1	39	1.8	5.4	4.2	2.4	1.3	15	.35	.70
15	.44	.89	2.7	11	2.0	4.8	4.3	2.5	1.1	13	.32	.60
16	.40	.80	2.5	7.4	2.2	4.6	4.1	2.6	2.3	3.2	.30	.50
17	.40	.75	2.3	6.4	2.4	10	4.0	2.3	5.5	2.0	.45	.45
18	.40	.70	2.3	6.0	2.2	23	4.0	2.1	2.9	1.3	.80	.55
19	.35	.65	2.2	5.8	2.0	11	3.9	2.0	2.9	1.0	4.7	.40
20	.35	.60	2.1	5.5	2.2	9.1	3.8	2.0	8.1	.90	10	.38
21	.40	.65	2.0	5.2	1.8	8.1	3.8	1.8	2.4	.70	1.8	.37
22	.35	.70	5.8	4.8	1.6	7.5	3.8	1.8	2.0	.65	1.0	.36
23	.35	.88	6.8	4.9	1.5	7.7	3.8	2.0	1.8	.60	.60	.35
24	.44	1.1	3.6	4.7	1.7	6.6	5.4	2.8	3.8	.52	.45	.34
25	2.0	1.8	3.3	4.3	2.0	6.1	5.5	2.3	4.0	.52	.35	.30
26	1.8	1.3	3.5	3.6	1.8	6.0	4.1	1.9	2.0	1.0	.50	.45
27	.70	1.2	3.0	3.6	1.8	5.9	4.0	2.7	1.8	.70	.35	.30
28	.55	1.1	7.4	3.8	2.0	5.8	3.9	13	1.6	.65	.28	.25
29	.47	1.0	7.4	3.6	2.4	5.7	3.7	5.1	1.5	.48	.22	.23
30	.47	1.3	4.0	3.4	------	5.4	3.8	3.4	1.4	.45	.18	.20
31	.50	------	3.4	3.2	------	5.4	------	2.8	------	.43	.15	------
TOTAL	16.94	29.01	122.7	166.1	73.5	192.7	132.5	93.6	69.1	72.46	31.28	26.70
MEAN	.55	.97	3.96	5.36	2.53	6.22	4.42	3.02	2.30	2.34	1.01	.89
MAX	2.0	2.5	12	39	4.8	23	5.5	13	8.1	15	10	6.7
MIN	.26	.50	1.6	2.0	1.5	2.4	3.7	1.8	1.1	.43	.15	.18
CFSM	.14	.25	1.03	1.39	.66	1.61	1.15	.78	.60	.61	.26	.23
IN.	.16	.28	1.19	1.60	.71	1.86	1.28	.90	.67	.70	.30	.26

CAL YR 1967: TOTAL 1,028.96 MEAN 2.82 MAX 18 MIN .26 CFSM .73 IN 9.94
WAT YR 1968: TOTAL 1,026.59 MEAN 2.80 MAX 39 MIN .15 CFSM .73 IN 9.92

PEAK DISCHARGE (BASE, 80 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-14	1000	5.30	133

Note.--Doubtful or no gage-height record June 26 to Sept. 30.

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, 1.8 miles south of St. Leonard, Calvert County, and 5.5 miles upstream from mouth.

Drainage area.--6.73 sq mi.

Records available.--December 1956 to September 1968 (discontinued).

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

Average discharge.--11 years (1957-68), 7.32 cfs.

Extremes.--Maximum discharge during year, 111 cfs Jan. 14 (gage height, 4.78 ft); minimum daily, 0.25 cfs Aug. 31.

1956-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.3	1.7	3.5	3.8	4.0	6.0	6.2	4.1	3.9	1.2	.35	.45
2	1.3	2.4	4.1	3.6	4.9	8.0	5.8	3.7	3.1	.96	.60	.80
3	1.2	7.6	23	3.4	7.2	10	5.8	3.5	26	1.7	2.7	2.0
4	1.1	2.9	19	9.0	4.9	9.8	5.8	3.5	17	1.8	1.4	1.0
5	1.0	2.3	6.5	6.0	4.4	7.2	5.8	3.5	7.6	1.7	1.1	.90
6	1.2	2.1	5.2	4.6	4.0	5.5	5.5	3.3	4.6	1.2	1.2	1.5
7	2.0	2.1	4.6	3.8	3.8	4.1	5.2	3.1	3.5	1.7	.46	4.4
8	1.6	2.1	4.1	3.6	3.6	3.9	5.2	2.9	2.9	.88	.52	2.1
9	1.5	2.1	3.7	3.4	3.6	4.1	5.2	2.9	2.7	.65	.45	1.4
10	2.1	2.1	3.9	5.0	3.4	4.4	5.2	2.9	7.0	.96	1.0	2.1
11	2.1	2.1	16	3.6	3.2	6.2	5.2	2.7	5.0	1.1	4.6	21
12	1.7	2.1	13	3.0	3.0	6.5	4.9	3.1	3.1	.58	1.1	3.7
13	1.6	2.1	8.0	8.0	2.8	21	4.9	3.1	4.9	.52	.80	2.3
14	1.5	2.1	4.9	90	2.8	8.0	4.9	2.7	2.7	.50	.50	1.6
15	1.5	2.3	4.4	20	3.0	6.5	4.9	2.7	2.4	.58	.60	1.4
16	1.5	2.0	4.1	13	3.2	6.5	4.9	2.9	2.0	2.9	.40	1.2
17	1.5	2.1	3.9	9.0	4.0	16	4.9	2.6	4.1	1.0	.35	1.1
18	1.8	2.1	3.9	8.0	4.6	40	4.6	2.3	8.4	.72	.45	1.2
19	1.7	2.3	3.7	7.0	3.6	16	4.9	2.6	3.5	.60	.40	1.0
20	1.4	2.0	3.5	6.5	3.2	11	4.9	6.5	6.9	.50	28	.88
21	1.4	2.0	3.3	6.0	3.0	9.3	4.6	3.5	3.3	.45	2.9	.88
22	1.3	2.0	4.9	5.5	2.8	8.4	4.6	2.7	3.1	.45	1.3	.80
23	1.3	2.4	15	5.0	2.6	8.9	4.6	2.4	2.0	.40	.88	.72
24	1.2	2.6	7.2	6.5	3.0	8.4	5.8	3.5	4.1	.40	.88	.46
25	1.7	3.5	5.2	5.5	3.4	6.9	14	4.1	7.6	.50	21	.40
26	6.2	2.6	4.9	5.0	3.0	6.9	5.5	2.9	3.1	6.2	2.9	.34
27	2.6	2.4	4.9	4.4	3.0	6.5	4.6	2.9	3.5	3.1	1.6	.40
28	2.1	2.3	5.8	5.5	4.0	6.5	5.5	23	3.3	1.6	.90	.40
29	1.8	2.3	19	5.0	5.0	6.5	4.6	31	2.0	.58	.50	1.0
30	1.7	1.7	6.9	4.6	------	6.5	4.4	7.2	1.5	.40	.35	.72
31	1.6	------	4.1	4.0	------	6.2	------	5.2	------	.35	.25	------
TOTAL	53.5	72.4	224.2	271.3	107.0	281.7	162.9	153.0	154.8	36.18	80.44	58.15
MEAN	1.73	2.41	7.23	8.75	3.69	9.09	5.43	4.94	5.16	1.17	2.59	1.94
MAX	6.2	7.6	23	90	7.2	40	14	31	26	6.2	28	21
MIN	1.0	1.7	3.3	3.0	2.6	3.9	4.4	2.3	1.5	.35	.25	.34
CFSM	.26	.36	1.07	1.30	.55	1.35	.81	.73	.77	.17	.39	.29
IN.	.30	.40	1.24	1.50	.59	1.56	.90	.85	.86	.20	.44	.32

CAL YR 1967: TOTAL 1,472.10 MEAN 4.03 MAX 24 MIN .20 CFSM .60 IN 8.13
WAT YR 1968: TOTAL 1,655.57 MEAN 4.52 MAX 90 MIN .25 CFSM .67 IN 9.15

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-14	Unknown	4.78	111

Note.--No gage-height record Jan. 1 to Feb. 1.

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 1968.

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.--12 years, 161 cfs.

Extremes.--Maximum discharge during year, 5,280 cfs May 24 (gage height, 8.49 ft); minimum, 5.6 cfs Sept. 30 (gage height, 2.09 ft).
1956-68: 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 CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	44	140	65	600	121	285	60	268	20	17	7.9
2	18	45	135	60	620	130	190	52	264	18	39	8.9
3	15	50	711	80	580	126	160	46	222	16	20	10
4	14	48	429	120	350	117	176	100	170	16	14	8.8
5	14	52	274	95	250	122	183	79	142	14	65	8.4
6	21	47	234	75	220	204	145	65	117	14	40	35
7	25	42	479	70	195	159	131	56	99	18	89	24
8	24	40	479	65	182	174	145	44	83	13	128	15
9	23	38	322	60	158	399	137	41	74	15	68	11
10	26	41	312	62	149	569	114	43	72	12	58	39
11	30	40	565	62	187	551	131	53	99	10	176	40
12	25	36	477	56	203	601	114	169	197	13	66	60
13	23	37	358	45	180	1,030	99	160	125	11	45	37
14	19	38	274	50	213	484	89	152	102	10	41	23
15	15	39	226	56	179	368	89	289	76	11	47	18
16	14	39	185	54	160	556	85	191	62	10	34	14
17	14	61	169	52	158	860	74	151	62	8.8	27	12
18	30	154	151	50	156	550	68	214	62	24	26	12
19	168	118	143	56	161	515	66	247	41	29	22	11
20	121	93	120	60	162	542	64	212	68	24	18	11
21	65	83	112	74	159	579	72	189	46	13	15	11
22	48	102	120	140	172	504	64	157	36	10	14	9.3
23	40	155	130	200	210	619	58	652	33	7.9	14	9.0
24	35	139	110	290	162	399	72	2,840	44	6.9	13	8.6
25	178	420	110	220	131	332	74	1,100	39	13	13	8.6
26	208	287	110	165	120	293	68	547	39	37	10	9.0
27	108	196	80	145	129	237	65	475	38	17	9.5	8.7
28	79	147	80	135	127	196	60	430	30	18	9.2	7.9
29	65	137	90	350	123	180	57	297	28	24	8.9	7.8
30	54	130	80	520	------	160	60	363	23	13	8.6	6.6
31	49	------	70	1,100	------	167	------	382	------	12	8.3	------
TOTAL	1,590	2,898	7,275	4,632	6,396	11,844	3,195	9,856	2,761	478.6	1,163.5	492.5
MEAN	51.3	96.6	235	149	221	382	107	318	92.0	15.4	37.5	16.4
MAX	208	420	711	1,100	620	1,030	285	2,840	268	37	176	60
MIN	14	36	70	45	120	117	57	41	23	6.9	8.3	6.6
CFSM	.70	1.32	3.21	2.05	3.02	5.23	1.46	4.36	1.26	.21	.51	.22
IN.	.81	1.48	3.71	2.36	3.26	6.03	1.63	5.02	1.41	.24	.59	.25

CAL YR 1967 TOTAL 70,290.5 MEAN 193 MAX 3,760 MIN 8.1 CFSM 2.64 IN 35.81
WTR YR 1968 TOTAL 52,581.6 MEAN 144 MAX 2,840 MIN 6.6 CFSM 1.97 IN 26.79

PEAK DISCHARGE (BASE, 2,200 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-31	*	*	*	5-24	0930	8.49	5,280

* Unknown (discharge greater than base).

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 1968.

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.--7 years, 85.9 cfs (unadjusted).

Extremes.--Maximum discharge during year, 1,780 cfs Mar. 23 (gage height, 6.69 ft), from rating curve extended above 1,000 cfs; minimum, 1.8 cfs July 13 (gage height, 1.98 ft).
1961-68: 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, that of July 13, 1968.

Remarks.--Records good except those for winter periods, which are poor. 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. Records of water temperatures for the water year 1968 are published in Part 2 of the West Virginia annual report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	45	82	64	332	30	187	9.7	366	4.2	4.5	10
2	10	44	84	65	360	30	167	8.4	79	3.4	10	9.7
3	11	43	238	65	329	31	151	7.9	84	3.1	10	8.8
4	12	42	185	97	259	32	144	15	86	3.0	11	7.0
5	13	40	163	146	230	33	140	12	86	2.8	19	9.2
6	15	38	163	123	208	34	131	10	146	2.8	19	23
7	19	36	250	108	187	36	118	8.8	225	2.5	21	18
8	21	34	250	90	163	40	110	8.8	182	2.5	27	16
9	22	32	219	70	103	91	99	8.8	153	2.5	23	16
10	24	30	244	55	34	149	88	9.2	115	2.3	23	19
11	25	28	303	40	32	153	86	12	17	2.2	38	15
12	23	26	424	30	31	172	77	28	16	2.2	37	14
13	20	25	451	26	30	391	68	24	14	1.9	35	12
14	17	25	319	24	30	410	62	27	13	21	32	10
15	15	25	146	25	30	342	55	46	11	23	31	7.9
16	13	25	140	24	32	444	49	30	12	7.0	29	6.6
17	12	26	131	22	31	466	44	23	13	3.9	28	5.4
18	19	46	125	22	30	384	39	33	14	3.1	26	4.8
19	38	40	116	24	30	388	36	38	12	3.1	26	5.1
20	31	33	106	24	30	410	34	32	20	3.3	26	4.8
21	26	31	100	29	29	432	34	28	13	2.5	24	3.6
22	23	40	99	36	29	521	31	25	10	2.3	22	3.1
23	24	59	91	51	28	1,270	34	127	8.8	20	21	3.1
24	24	55	84	52	30	800	39	905	8.8	1.9	20	3.3
25	96	119	79	51	30	160	15	780	8.4	2.6	20	3.3
26	81	89	74	47	30	172	13	572	10	9.2	16	4.8
27	64	79	66	45	30	172	11	721	11	3.6	13	4.2
28	56	74	65	56	30	172	10	707	7.9	3.1	12	4.8
29	54	71	65	108	30	175	9.2	555	6.6	2.6	12	5.1
30	51	76	65	219	------	175	10	572	5.1	2.3	11	4.8
31	49	------	65	316	------	170	------	517	------	3.3	11	------
TOTAL	918	1,376	4,992	2,154	2,777	8,285	2,091.2	5,900.6	1,753.6	135.2	657.5	262.4
MEAN	29.6	45.9	161	69.5	95.8	267	69.7	190	58.5	4.36	21.2	8.75
MAX	96	119	451	316	360	1,270	187	905	366	23	38	23
MIN	10	25	65	22	28	30	9.2	7.9	5.1	1.9	4.5	3.1
(†)	1,170	1,184	1,159	1,245	1,154	1,164	1,224	1,844	1,792	1,718	1,122	932

CAL YR 1967: TOTAL 38,275.7 MEAN 105 MAX 1,580 MIN 6.0 CFSM 2.15 IN 29.17
WTR YR 1968: TOTAL 31,302.5 MEAN 85.5 MAX 1,270 MIN 1.9 CFSM 1.75 IN 23.86

† Month-end contents, in millions of gallons, in Stony River Reservoir (contents on Sept. 30, 1967, 1,520 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 1968.

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.--19 years, 424 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 9,640 cfs May 24 (gage height, 8.27 ft); minimum not determined, occurred during period of no gage-height record; minimum daily, 10 cfs Sept. 29, 30.
1949-68: 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 1968 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	104	260	227	1,710	105	764	118	1,270	45	31	21
2	36	102	233	183	1,790	105	662	102	838	44	58	21
3	33	106	1,280	210	1,720	105	566	94	700	36	53	23
4	32	104	944	280	1,140	100	532	168	560	33	38	22
5	31	112	650	280	904	120	572	167	470	31	64	22
6	34	102	572	250	765	135	495	131	420	29	100	45
7	44	92	1,060	220	656	148	435	114	495	31	65	55
8	50	87	1,250	210	572	155	410	98	410	29	226	37
9	50	82	880	200	480	500	392	98	350	28	110	29
10	51	82	824	220	292	1,300	338	108	311	28	100	31
11	59	80	1,500	220	284	1,170	342	123	233	25	203	79
12	55	77	1,510	180	266	1,200	318	360	354	24	116	68
13	49	77	1,420	160	246	2,050	277	384	249	24	84	65
14	45	78	1,050	170	220	1,370	252	304	205	36	72	38
15	40	80	712	188	235	1,070	243	693	162	196	76	28
16	36	66	584	180	225	1,500	227	465	138	53	71	23
17	34	91	510	180	190	2,570	202	362	136	33	59	19
18	37	250	475	170	165	1,820	188	420	140	26	54	17
19	214	220	440	180	175	1,730	180	572	116	55	50	16
20	226	172	371	200	160	1,720	170	455	138	48	45	16
21	116	150	342	223	145	1,750	183	401	108	32	41	16
22	86	172	366	384	145	1,670	165	338	87	24	36	15
23	71	272	388	590	155	2,550	152	1,060	77	21	36	13
24	64	270	311	686	150	2,100	191	5,440	80	19	33	12
25	269	658	303	450	135	1,060	165	2,940	91	20	32	11
26	492	572	307	430	120	1,000	138	1,800	91	72	29	11
27	233	396	243	405	115	845	129	2,200	89	49	26	11
28	175	311	243	396	110	738	123	2,360	77	31	24	11
29	143	256	243	944	105	674	112	1,610	66	35	23	10
30	127	239	266	1,860	------	680	112	1,820	57	28	23	10
31	116	------	243	2,340	------	590	------	1,770	------	24	22	------
TOTAL	3,092	5,460	19,780	12,816	13,375	32,630	9,035	27,075	9,518	1,209	2,000	795
MEAN	99.7	182	638	413	461	1,053	301	873	284	39.0	64.5	26.5
MAX	492	658	1,510	2,340	1,790	2,570	764	5,440	1,270	196	226	79
MIN	31	66	233	160	105	100	112	94	57	19	22	10
(†)	1,170	1,184	1,159	1,245	1,154	1,164	1,224	1,844	1,792	1,718	1,122	932

CAL YR 1967 TOTAL 174,464 MEAN 478 MAX 7,620 MIN 23 CFSM 2.12 IN 28.84
WTR YR 1968 TOTAL 135,785 MEAN 371 MAX 5,440 MIN 10 CFSM 1.65 IN 22.44

PEAK DISCHARGE (BASE, 3,400 CFS)

DATE	TIME	G.HT.	DISCHARGE
3-16	2330	6.67	3,730
5-24	1000	8.27	9,640

† Month-end contents, in millions of gallons, in Stony River Reservoir (contents on Sept. 30, 1967, 1,520 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 1968.

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

Extremes.--Maximum discharge during year, 10,700 cfs May 24 (gage height, 9.30 ft); minimum, 11 cfs Sept. 30 (gage height, 1.72 ft).
1966-68: Maximum discharge, 12,200 cfs Mar. 7, 1967 (gage height, 9.70 ft); minimum, that of Sept. 30, 1968.

Remarks.--Records fair. Regulation at low flow by Stony River Reservoir, 39 miles above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	117	271	267	2,020	110	835	144	1,580	58	27	21
2	44	112	248	208	2,080	110	775	131	1,060	47	50	22
3	38	112	1,160	250	2,090	110	657	121	858	43	66	22
4	35	112	1,090	330	1,400	105	615	176	692	39	44	24
5	34	117	722	330	1,100	139	650	219	570	38	44	27
6	34	112	629	290	918	153	582	164	479	35	112	46
7	41	101	1,020	260	782	158	514	144	563	33	72	68
8	50	92	1,400	250	664	167	474	131	469	34	212	44
9	51	86	995	230	576	434	469	124	407	30	119	33
10	53	84	895	260	378	1,450	412	129	364	30	109	30
11	59	84	1,620	260	320	1,340	407	144	283	28	186	73
12	61	82	1,600	210	300	1,350	382	384	385	27	144	66
13	53	80	1,580	180	280	2,300	333	485	320	26	94	78
14	50	80	1,220	190	250	1,600	308	364	252	24	77	47
15	47	82	828	210	270	1,250	295	782	198	147	77	33
16	41	73	685	200	250	1,600	279	576	164	73	77	27
17	38	84	582	190	220	3,100	252	464	158	41	66	22
18	42	222	538	185	180	2,200	229	476	164	33	56	19
19	188	248	508	200	180	2,100	219	708	144	48	51	18
20	259	191	432	240	200	2,050	208	550	150	51	47	18
21	139	161	397	280	160	2,070	215	490	136	42	42	17
22	101	170	407	460	155	1,920	205	427	107	29	38	16
23	82	259	442	710	170	2,990	185	1,070	94	24	34	15
24	73	303	356	860	165	2,490	219	6,140	94	21	34	14
25	217	627	351	560	150	1,300	212	3,510	107	22	32	13
26	568	622	364	490	130	1,220	176	2,140	112	54	30	12
27	263	422	279	460	125	1,030	158	2,670	107	68	27	12
28	195	342	291	453	120	888	153	2,940	96	39	25	12
29	155	263	248	930	115	805	139	2,010	82	32	24	12
30	139	271	312	1,920	------	805	139	2,350	72	36	23	11
31	124	------	279	2,800	------	700	------	2,250	------	27	22	------
TOTAL	3,329	5,711	21,749	14,663	15,748	38,044	10,696	32,413	10,267	1,279	2,061	872
MEAN	107	190	702	473	543	1,227	357	1,046	342	41.3	66.5	29.1
MAX	568	627	1,620	2,800	2,090	3,100	835	6,140	1,580	147	212	78
MIN	34	73	248	180	115	105	139	121	72	21	22	11

CAL YR TOTAL 197,831 MEAN 542 MAX 8,490 MIN 28 CFSM 2.04 IN 27.66
WTR YR TOTAL 156,832 MEAN 429 MAX 6,140 MIN 11 CFSM 1.61 IN 21.93

PEAK DISCHARGE (BASE, 4,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
3-17	0200	6.80	4,140	5-27	2100	6.79	4,120
5-24	1030	9.30	10,700				

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 1968.

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.--20 years, 70.9 cfs.

Extremes.--Maximum discharge during year, 1,520 cfs May 24 (gage height, 4.12 ft); minimum, 0.84 cfs Sept. 30 (gage height, 1.02 ft).
1948-68: 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 CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	6.9	27	22	289	12	76	27	239	10	3.5	1.4
2	3.2	7.0	26	19	259	13	63	24	328	7.9	4.0	1.9
3	2.8	8.2	180	22	271	12	58	24	308	6.4	3.3	2.6
4	2.6	7.7	100	25	199	11	57	63	204	5.3	3.4	2.2
5	2.6	6.8	77	25	144	11	55	71	144	4.4	4.8	2.6
6	2.6	5.9	63	24	117	13	47	62	105	4.0	4.5	13
7	2.6	5.3	109	23	89	14	43	45	79	3.6	6.0	9.2
8	2.6	6.2	179	23	74	20	41	39	62	3.2	13	4.7
9	2.6	5.4	146	22	62	150	37	35	51	2.9	7.4	3.1
10	3.0	5.7	131	24	36	411	32	32	66	9.5	6.2	3.8
11	3.0	5.1	203	24	38	261	32	35	114	12	13	5.7
12	2.6	5.3	228	22	33	210	29	78	81	6.7	7.3	5.5
13	2.6	5.6	250	19	32	194	27	93	62	5.1	4.8	4.0
14	2.6	5.5	185	20	30	151	25	95	52	6.2	5.9	3.0
15	2.6	5.6	136	21	31	121	25	130	40	31	7.2	2.6
16	2.6	4.5	102	20	29	202	24	152	38	10	4.7	2.2
17	2.6	6.3	78	19	24	502	22	134	35	6.9	6.2	1.9
18	4.0	14	66	18	21	400	21	134	33	5.4	16	1.7
19	18	16	59	20	19	359	20	141	32	5.1	9.7	1.7
20	14	14	48	26	18	335	19	136	31	4.5	7.8	1.9
21	8.9	13	40	41	19	331	19	131	19	3.2	5.6	1.7
22	6.3	14	39	110	17	270	18	114	16	3.0	4.0	1.5
23	5.2	49	34	167	15	428	18	256	18	3.0	3.1	1.4
24	4.6	50	32	146	13	341	30	1,200	15	3.0	3.0	1.2
25	19	48	31	114	13	219	29	741	18	5.4	3.0	1.0
26	34	44	30	110	12	175	26	364	19	11	2.6	1.1
27	19	38	29	92	11	146	25	341	29	6.2	2.2	1.2
28	14	31	27	77	12	121	24	557	24	4.9	1.9	1.1
29	11	26	26	129	12	103	23	386	18	3.6	1.7	1.0
30	8.9	25	28	250	------	96	26	351	13	3.0	1.7	.93
31	7.8	------	26	450	------	80	------	354	------	3.0	1.5	------
TOTAL	222.6	485.0	2,735	2,124	1,939	5,712	991	6,345	2,293	199.4	169.0	86.83
MEAN	7.18	16.2	88.2	68.5	66.9	184	33.0	205	76.4	6.43	5.45	2.89
MAX	34	50	250	450	289	502	76	1,200	328	31	16	13
MIN	2.6	4.5	26	18	11	11	18	24	13	2.9	1.5	.93
CFSM	.15	.33	1.80	1.40	1.36	3.75	.67	4.17	1.56	.13	.11	.06
IN.	.17	.37	2.07	1.61	1.47	4.33	.75	4.81	1.74	.15	.13	.07

CAL YR 1967 TOTAL 24,570.9 MEAN 67.3 MAX 1,350 MIN 1.1 CFSM 1.37 IN 18.61
WTR YR 1968 TOTAL 23,301.83 MEAN 63.7 MAX 1,200 MIN .93 CFSM 1.30 IN 17.65

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-24	1100	4.12	1,520

1-5970. Crabtree Creek near Swanton, Md.

Location.--Lat 39°30'00", long 79°09'35", on left bank, ½ 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 1968.

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.--20 years, 28.1 cfs.

Extremes.--Maximum discharge during year, 542 cfs May 24 (gage height, 2.83 ft); minimum, 1.4 cfs Sept. 28-30 (gage height, 0.68 ft).
1948-68: 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 the winter months, which are poor. Small diversion above station by Baltimore and Ohio Railroad.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	2.6	11	11	147	5.8	44	8.8	68	3.9	3.6	1.7
2	1.7	2.8	9.2	9.3	136	6.0	39	8.1	61	3.9	3.0	1.8
3	1.7	2.8	58	11	140	5.9	36	8.1	56	3.6	2.7	1.9
4	1.6	2.7	61	13	90	5.8	36	12	45	3.5	3.0	1.7
5	1.6	2.6	48	13	60	5.7	35	11	36	3.3	3.8	2.0
6	1.7	2.3	40	12	46	6.4	30	10	30	3.3	3.0	4.1
7	1.7	2.4	69	12	38	7.0	28	9.8	25	3.1	6.3	2.4
8	1.7	2.3	123	11	32	9.3	29	9.8	20	3.0	7.5	2.0
9	1.7	2.3	98	11	28	33	26	10	16	3.0	4.6	1.9
10	1.9	2.3	94	12	17	88	24	10	15	3.3	3.9	2.5
11	1.7	2.3	138	12	18	112	22	12	14	3.1	4.1	3.0
12	1.6	2.4	152	11	16	96	20	33	15	3.0	3.1	2.8
13	1.5	2.7	174	10	15	94	17	46	13	2.9	3.0	2.2
14	1.6	2.5	140	10	14	70	16	47	12	10	3.1	2.0
15	1.6	2.6	100	11	14	57	16	50	10	24	2.9	1.9
16	1.6	2.2	60	11	13	84	15	58	9.4	7.2	2.6	1.8
17	1.7	2.9	40	10	11	250	14	52	9.4	5.1	2.9	1.8
18	3.3	5.6	35	9.8	9.8	210	12	52	8.8	4.6	2.6	1.7
19	7.5	5.4	32	9.8	9.0	190	12	54	8.1	5.1	2.5	1.7
20	3.8	4.9	24	10	8.5	182	11	41	8.1	4.3	3.1	1.7
21	2.7	4.9	20	13	9.0	182	11	45	7.2	3.6	2.2	1.6
22	2.3	5.8	20	21	8.2	152	11	40	6.6	3.1	2.1	1.6
23	2.2	12	17	36	7.9	164	11	79	6.0	3.0	2.0	1.6
24	2.1	12	16	43	6.6	141	13	361	6.9	2.7	2.0	1.5
25	8.0	17	15	36	6.0	108	11	226	6.3	3.9	2.4	1.5
26	6.8	17	15	29	5.8	98	9.8	127	6.9	5.4	1.9	1.6
27	4.5	15	14	24	5.4	83	9.8	106	7.8	3.3	1.9	1.5
28	3.7	12	13	23	5.8	64	8.8	119	5.7	3.1	1.8	1.5
29	3.2	12	13	37	5.8	56	8.4	104	5.1	2.7	1.8	1.4
30	2.9	9.4	14	129	------	51	8.8	87	4.3	2.6	1.7	1.4
31	2.7	------	12	217	------	45	------	79	------	3.3	1.7	------
TOTAL	84.1	175.7	1,675.2	827.9	921.9	2,661.9	584.6	1,915.6	542.6	139.8	92.8	57.6
MEAN	2.71	5.86	54.0	26.7	31.8	85.9	19.5	61.8	18.1	4.51	2.99	1.92
MAX	8.0	17	174	217	147	250	44	361	68	24	7.5	4.1
MIN	1.5	2.2	9.2	9.3	5.4	5.7	8.4	8.1	4.3	2.6	1.7	1.4
CFSM	.16	.35	3.24	1.60	1.90	5.14	1.17	3.70	1.08	.27	.18	.11
IN.	.19	.39	3.73	1.84	2.05	5.93	1.30	4.27	1.21	.31	.21	.13

CAL YR 1967 TOTAL 10,881.1 MEAN 29.8 MAX 531 MIN 1.5 CFSM 1.79 IN 24.23
WTR YR 1968 TOTAL 9,679.7 MEAN 26.4 MAX 361 MIN 1.4 CFSM 1.58 IN 21.56

PEAK DISCHARGE (BASE, 330 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-24	1030	2.83	542

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 1968.

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.--20 years, 158 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 3,720 cfs May 24 (gage height, 6.02 ft); minimum, 2.7 cfs Aug. 15 (gage height, 0.75 ft).
1948-68: Maximum discharge, 6,530 cfs Oct. 16, 1954 (gage height, 7.70 ft); minimum, 0.35 cfs Oct. 27, 1966 (gage height, 0.57 ft); minimum daily, 0.6 cfs July 27-31, Aug. 5, 6, 9, 10, 1951.

Remarks.--Records fair. 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 CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	74	103	97	1,250	25	16	14	522	63	72	76
2	78	74	103	97	802	25	16	14	752	62	73	76
3	78	74	103	97	798	25	16	14	776	82	60	76
4	78	74	456	97	356	26	16	14	504	95	60	76
5	77	74	346	76	359	26	15	14	344	95	56	77
6	77	73	69	43	365	26	15	14	251	84	48	62
7	77	73	221	43	100	32	15	14	189	83	44	54
8	77	73	368	43	279	45	15	14	146	84	37	56
9	77	73	446	43	100	45	14	14	122	84	31	64
10	77	73	351	43	100	606	14	14	111	84	31	68
11	77	73	526	43	100	764	14	14	176	84	23	59
12	76	72	526	43	100	499	14	16	142	84	14	43
13	76	72	679	43	98	610	14	17	115	84	20	52
14	76	72	480	43	97	231	14	18	95	84	35	54
15	76	72	522	42	97	100	14	18	76	58	33	67
16	76	70	279	42	97	375	14	19	64	54	40	72
17	76	70	102	42	97	824	14	19	57	74	34	76
18	76	70	102	42	97	1,220	14	19	53	82	49	80
19	76	70	370	42	50	789	14	20	48	77	52	86
20	76	70	199	42	25	522	14	20	48	72	52	86
21	74	48	80	43	25	829	14	234	38	74	55	86
22	74	32	209	43	26	669	14	263	36	82	61	84
23	74	32	64	78	26	411	14	414	35	84	65	84
24	74	41	42	369	26	846	14	2,680	38	78	65	88
25	74	48	61	349	25	484	14	1,790	57	78	70	97
26	74	48	83	97	39	104	14	926	67	80	73	97
27	74	78	97	97	43	110	14	707	33	50	73	97
28	74	103	97	97	43	110	14	1,180	19	55	74	97
29	74	103	97	224	37	64	14	885	27	68	76	95
30	74	103	97	369	------	79	14	720	38	65	82	95
31	74	------	97	1,040	------	79	------	734	------	63	80	------
TOTAL	2,349	2,082	7,375	3,909	5,657	10,600	432	10,853	4,979	2,346	1,638	2,280
MEAN	75.8	69.4	238	126	195	342	14.4	350	166	75.7	52.8	76.0
MAX	78	103	679	1,040	1,250	1,220	16	2,680	776	95	82	97
MIN	74	32	42	42	25	25	14	14	19	50	14	43
(†)	8,917	6,785	4,527	5,336	4,128	8,840	12,766	20,291	20,039	16,582	14,100	10,165

CAL YR 1967 TOTAL 60,298 MEAN 165 MAX 2,900 MIN 14 CFSM 1.56 IN 21.16
WTR YR 1968 TOTAL 54,500 MEAN 149 MAX 2,680 MIN 14 CFSM 1.41 IN 19.12

† Month-end contents, in acre-ft, in Savage River Reservoir (contents on Sept. 30, 1967, 12,564 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 1968.

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.--25 years (1899-1905, 1949-1968), 680 cfs (adjusted for storage since 1949).

Extremes.--Maximum discharge during year, 13,600 cfs May 24 (gage height, 10.84 ft); maximum gage height, 11.14 ft Jan. 10 (ice jam); minimum, 77 cfs July 28 (gage height, 1.10 ft).
1899-1906, 1949-68: 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. 71) 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 1968 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	186	364	350	3,530	171	888	165	2,640	119	95	96
2	119	182	357	270	3,020	177	819	155	2,180	114	109	96
3	111	184	1,140	340	3,100	169	700	146	1,990	120	123	95
4	109	182	1,560	390	1,910	163	658	182	1,500	131	107	96
5	107	184	1,100	390	1,480	165	685	254	1,100	128	102	103
6	107	182	700	350	1,360	186	622	192	860	119	147	113
7	111	167	1,180	300	952	194	554	167	760	114	120	117
8	122	161	1,810	280	1,010	216	518	153	680	117	227	104
9	123	155	1,520	270	710	390	510	146	560	114	160	98
10	125	153	1,230	300	514	1,980	446	149	500	114	137	96
11	130	153	2,310	300	450	2,170	438	165	470	113	188	120
12	131	151	2,200	250	460	1,910	422	378	440	109	172	106
13	125	149	2,440	220	440	2,860	374	559	480	107	116	125
14	120	149	1,820	230	370	1,980	341	403	360	106	116	107
15	117	149	1,450	270	370	1,440	325	815	310	187	125	102
16	111	142	1,060	260	380	1,890	310	640	280	130	117	99
17	109	146	730	240	350	4,220	278	534	240	117	100	96
18	114	264	676	230	316	3,690	257	510	230	114	107	98
19	228	322	892	250	254	3,140	249	783	220	119	106	102
20	347	267	726	300	249	2,700	234	626	200	123	102	99
21	221	216	498	490	204	3,010	238	730	200	117	99	99
22	173	199	639	800	180	2,760	234	730	160	110	99	98
23	151	284	546	920	190	3,520	214	1,220	140	107	100	96
24	142	351	419	1,200	200	3,620	244	8,830	135	99	100	98
25	204	603	422	1,150	200	2,020	246	6,200	130	102	100	104
26	696	705	462	613	170	1,420	204	3,700	190	120	103	104
27	354	522	388	564	170	1,240	186	3,660	200	130	100	102
28	275	458	400	559	200	1,100	175	4,760	190	95	99	102
29	234	371	370	1,300	192	972	161	3,500	140	98	100	103
30	214	382	419	2,500	------	959	159	3,440	120	102	102	100
31	199	------	385	4,470	------	881	------	3,640	------	94	102	------
TOTAL	5,562	7,719	30,213	20,356	22,931	51,313	11,689	47,532	17,605	3,589	3,680	3,074
MEAN	179	257	975	702	791	1,655	390	1,533	587	116	119	102
MAX	696	705	2,440	4,470	3,530	4,220	888	8,830	2,640	187	227	125
MIN	107	142	357	220	170	163	159	146	120	94	95	95

CAL YR 1967 TOTAL 272,762 MEAN 747 MAX 11,000 MIN 102 CFSM 1.85 IN 25.11
WTR YR 1968 TOTAL 225,263 MEAN 615 MAX 8,830 MIN 94 CFSM 1.52 IN 20.74

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 1968.

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.--39 years, (1929-68), 77.0 cfs.

Extremes.--Maximum discharge during year, 1,380 cfs May 27 (gage height, 6.63 ft); minimum, 3.9 cfs Sept. 27-30 (gage height, 3.02 ft).
1905-6, 1929-68: 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, 1965-68 by the U. S. Geological Survey and in the water years 1958 and 1959 by the Maryland Geological Survey.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	9.1	14	22	332	22	120	37	371	20	11	5.5
2	8.0	9.6	12	19	324	26	110	32	467	18	11	6.3
3	7.5	11	74	21	304	28	100	30	353	17	9.6	6.3
4	7.0	10	65	24	221	31	96	53	268	17	9.6	5.9
5	7.0	9.6	48	24	177	26	94	45	209	16	12	8.5
6	7.0	8.5	46	23	150	27	88	39	165	15	9.6	20
7	7.0	8.5	87	23	130	25	82	35	130	15	11	8.6
8	7.0	8.0	121	22	111	30	78	33	111	15	11	6.7
9	7.5	8.0	94	23	97	70	72	32	96	14	9.1	5.9
10	8.5	8.0	123	25	70	206	68	33	84	14	8.6	9.1
11	8.0	8.0	284	26	66	172	66	42	78	19	10	10
12	7.5	7.5	228	24	66	162	58	92	73	17	8.1	7.2
13	7.5	8.5	218	22	64	215	54	72	62	14	7.2	6.3
14	7.5	8.0	170	24	56	150	50	75	56	13	9.1	5.9
15	7.5	8.0	136	25	50	145	47	128	48	26	9.1	5.5
16	7.5	7.5	107	24	50	232	45	136	50	14	8.1	5.5
17	7.5	8.5	90	23	44	510	42	134	44	12	8.1	4.7
18	9.6	10	80	25	42	440	40	152	42	14	13	4.7
19	19	10	68	25	38	394	38	143	39	15	9.1	5.1
20	12	9.6	56	25	37	340	37	128	39	12	8.1	5.1
21	9.1	9.1	52	25	40	300	37	119	34	11	6.7	5.1
22	8.5	11	50	30	35	264	34	97	30	9.6	6.3	4.7
23	8.0	19	46	68	30	509	34	248	30	9.1	6.3	4.3
24	7.5	20	37	83	26	402	56	874	29	8.6	6.7	4.3
25	42	19	37	61	25	328	50	730	29	14	6.7	4.3
26	37	19	37	57	24	264	42	475	32	21	5.9	4.3
27	17	16	28	55	24	208	38	695	36	12	5.5	4.3
28	12	14	26	58	22	183	35	896	48	12	5.5	4.3
29	11	12	26	113	22	165	33	635	30	9.1	5.5	3.9
30	10	12	27	270	------	157	36	600	25	9.1	5.5	3.9
31	9.6	------	25	402	------	136	------	505	------	11	5.5	------
TOTAL	340.3	327.0	2,512	1,691	2,677	6,167	1,780	7,345	3,108	443.5	258.5	186.2
MEAN	11.0	10.9	81.0	54.5	92.3	199	59.3	237	104	14.3	8.34	6.21
MAX	42	20	284	402	332	510	120	896	467	26	13	20
MIN	7.0	7.5	12	19	22	22	33	30	25	8.6	5.5	3.9
CFSM	.15	.15	1.12	.75	1.27	2.75	.82	3.27	1.44	.20	.12	.09
IN.	.17	.17	1.29	.87	1.38	3.17	.91	3.77	1.60	.23	.13	.10

CAL YR 1967 TOTAL 28,982.0 MEAN 79.4 MAX 1,350 MIN 5.5 CFSM 1.10 IN 14.89
WTR YR 1968 TOTAL 26,835.5 MEAN 73.3 MAX 896 MIN 3.9 CFSM 1.01 IN 13.78

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-24	0830	6.43	1,260	5-27	2100	6.63	1,380

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 1968.

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.--30 year, 857 cfs (unadjusted).

Extremes.--Maximum discharge during year, 16,100 cfs May 24 (gage height, 15.20 ft); minimum, 100 cfs Aug. 23 (gage height, 1.71 ft); minimum daily, 105 cfs July 29, 30.
1938-68: 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 good. Some regulation at low flow by Stony River Reservoir, 66 miles above station (see p. 71), and since December 1950, by Savage River Reservoir (see p. 76).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	164	210	376	400	4,520	218	1,080	228	3,110	150	110	118
2	136	201	396	310	3,690	214	1,130	221	2,570	152	118	115
3	123	204	879	330	3,810	218	946	198	2,390	141	130	112
4	113	204	1,830	450	2,720	191	868	221	1,790	152	130	112
5	109	198	1,510	450	1,840	225	874	315	1,410	158	122	115
6	109	201	838	400	1,850	246	825	276	1,140	152	118	179
7	111	191	1,030	350	1,270	253	729	232	1,030	138	170	144
8	123	179	2,100	320	1,270	257	670	211	916	138	154	144
9	131	173	1,970	310	985	327	653	195	783	141	254	120
10	139	164	1,360	350	789	1,790	576	191	687	130	158	138
11	136	167	3,050	350	570	2,730	540	211	653	138	152	130
12	139	164	2,570	290	592	2,240	540	342	604	141	245	152
13	136	164	2,940	250	565	3,560	485	705	664	130	170	133
14	131	162	2,290	270	475	2,760	442	530	500	128	141	152
15	126	164	1,820	307	475	2,030	416	876	424	148	144	125
16	123	162	1,440	303	485	2,290	402	898	375	221	155	120
17	116	150	936	276	465	6,060	371	779	327	141	138	115
18	121	182	851	268	371	5,250	343	693	319	133	133	115
19	164	360	896	284	347	4,290	327	1,030	303	138	130	115
20	374	304	988	351	307	3,510	315	880	272	144	128	122
21	284	262	575	561	272	3,600	307	892	272	133	115	120
22	204	217	672	907	209	3,460	311	958	221	128	115	115
23	173	248	661	1,050	226	4,680	287	1,060	195	120	110	115
24	156	376	505	1,380	235	5,020	311	9,650	185	112	118	115
25	225	412	455	1,350	232	3,180	355	8,430	182	112	118	110
26	716	864	510	807	195	2,080	299	4,360	257	158	115	120
27	460	570	465	723	195	1,750	268	4,040	272	167	120	115
28	328	500	450	693	235	1,510	246	7,190	268	125	115	112
29	269	409	388	1,150	243	1,340	232	4,680	191	105	112	112
30	241	400	450	2,360	------	1,260	221	3,980	161	105	112	112
31	224	------	427	5,270	------	1,180	------	4,800	------	112	118	------
TOTAL	5104	8162	35,628	22,870	29,438	67,719	15,369	59,272	22,471	4,291	4,268	3,722
MEAN	197	272	1,149	738	1,015	2,184	512	1,912	749	138	138	124
MAX	716	864	3,050	5,270	4,520	6,060	1,130	9,650	3,110	221	254	179
MIN	109	150	376	250	195	191	221	191	161	105	110	110

CAL YR 1967 TOTAL 338,083 MEAN 926 MAX 15,800 MIN 109 CFSM 1.55 IN 21.10
WTR YR 1968 TOTAL 279,314 MEAN 763 MAX 9,650 MIN 105 CFSM 1.28 IN 17.43

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 1968.

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.--39 years (1929-68), 309 cfs.

Extremes.--Maximum discharge during year, 3,920 cfs May 24 (gage height, 6.64 ft); minimum, 14 cfs Sept. 30 (gage height, 1.36 ft).
1905-6, 1929-68: 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 fair. 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. 78). Slight diurnal fluctuation at low flow caused by quarry upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	99	175	140	1,180	88	383	162	1,900	91	37	18
2	83	94	170	140	1,080	93	318	152	1,650	82	37	19
3	70	98	280	135	1,060	83	285	142	1,700	77	37	19
4	60	92	500	130	843	85	272	209	1,300	72	39	18
5	54	83	490	130	656	89	266	201	940	69	44	20
6	50	73	390	130	543	99	236	191	680	65	37	40
7	47	68	420	128	464	95	216	184	520	64	36	41
8	48	65	880	124	401	93	208	174	440	60	37	35
9	47	61	1,060	122	344	136	198	169	360	53	35	25
10	49	59	920	120	256	468	182	169	340	54	40	44
11	46	59	1,700	120	222	521	178	224	300	68	43	43
12	42	59	1,600	115	207	487	167	371	310	66	38	40
13	38	61	1,500	110	184	533	158	580	280	59	36	31
14	39	61	1,300	105	169	403	150	400	270	99	38	30
15	38	58	880	100	150	412	148	493	230	83	34	26
16	35	50	700	96	140	594	141	860	205	56	32	21
17	35	55	520	92	135	1,570	132	760	175	50	38	21
18	42	69	420	90	130	1,420	128	660	170	48	34	20
19	89	85	300	96	130	1,150	124	620	160	44	30	20
20	94	79	360	114	115	968	119	620	123	44	28	18
21	74	80	320	198	105	887	120	490	111	43	27	20
22	65	85	215	278	100	810	113	446	104	39	26	19
23	58	152	210	322	94	1,640	109	706	104	36	25	17
24	53	203	200	319	90	1,490	168	3,000	95	32	25	15
25	254	236	190	260	86	1,060	200	2,960	94	34	25	15
26	443	227	180	236	86	840	171	2,000	116	41	22	15
27	272	210	170	226	84	694	169	2,800	170	42	22	15
28	200	184	160	211	87	588	162	3,700	250	41	20	15
29	154	148	155	293	90	516	150	3,200	145	36	18	16
30	127	151	150	739	------	460	151	2,700	112	34	18	15
31	110	------	145	1,330	------	450	------	2,200	------	34	18	------
TOTAL	2,934	3,104	16,660	6,749	9,231	18,822	5,522	31,540	13,354	1,716	976	711
MEAN	94.6	103	537	218	318	607	184	1,017	445	55.4	31.5	23.7
MAX	443	236	1,700	1,330	1,180	1,640	383	3,700	1,900	99	44	44
MIN	35	59	145	90	84	83	109	142	94	32	18	15
CFSM	.38	.42	2.18	.88	1.29	2.46	.75	4.12	1.80	.22	.13	10
IN.	.44	.47	2.51	1.02	1.39	2.83	.83	4.75	2.01	.26	.15	11

CAL YR 1967 TOTAL 122,456 MEAN 335 MAX 6,420 MIN 18 CFSM 1.36 IN 18.44
WTR YR 1968 TOTAL 111,319 MEAN 304 MAX 3,700 MIN 15 CFSM 1.23 IN 16.76

PEAK DISCHARGE (BASE, 3,500 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-24	about 2200	6.64	3,920	5-28	Unknown	6.63	3,910

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 1968. 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.--39 years, 1,203 cfs (unadjusted).

Extremes.--Maximum discharge during year, 20,000 cfs May 24 (gage height, 16.00 ft); minimum, 119 cfs Sept. 28; minimum daily, 129 cfs Aug. 30.

1929-68: Maximum discharge, 88,200 cfs Mar. 17, 1936 (gage height, 29.1 ft), from rating curve extended above 21,000 cfs on basis of slope-area measurement of peak flow; minimum (river only), 12 cfs Sept. 22, 1932 (gage height, 2.38 ft); minimum daily (including flow in canal), 38 cfs Sept. 24, 1932.

Maximum stage known, 29.2 ft June 1, 1889 (discharge, about 89,000 cfs). Flood of Mar. 29, 1924, reached a stage of 28.4 ft (discharge, about 82,000 cfs).

Remarks.--Records good. Regulation by Stony River Reservoir, about 79 miles above station (see p. 71), and since December 1950, by Savage River Reservoir (see p. 76). 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 1968 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	340	358	552	584	6,200	334	1,430	402	5,310	257	173	138
2	257	346	568	450	5,060	311	1,470	389	4,470	248	173	138
3	229	346	924	478	5,100	311	1,250	364	4,320	233	182	138
4	205	340	2,330	632	4,050	294	1,150	423	3,260	219	233	133
5	187	316	2,000	632	2,540	306	1,140	506	2,420	233	210	147
6	182	316	1,230	544	2,470	334	1,100	499	1,870	229	178	229
7	182	306	1,450	500	1,760	352	977	443	1,580	214	210	210
8	187	289	2,990	460	1,590	358	914	402	1,370	205	214	173
9	196	272	3,030	443	1,400	370	887	382	1,150	205	279	160
10	214	262	2,290	492	1,110	1,880	806	376	1,030	210	248	215
11	210	257	4,780	506	806	3,370	761	396	959	214	219	196
12	201	257	4,170	402	797	2,780	752	640	923	229	257	196
13	201	257	4,490	352	761	4,040	689	995	950	210	243	182
14	196	253	3,630	382	664	3,440	632	932	770	229	210	187
15	191	253	2,700	409	689	2,510	600	1,390	656	295	191	169
16	182	243	2,150	436	680	3,060	576	1,780	584	289	205	155
17	173	238	1,460	402	648	7,740	544	1,560	506	219	210	151
18	182	253	1,280	376	513	7,080	506	1,370	492	201	182	147
19	248	416	1,200	402	478	5,860	492	1,680	464	196	187	147
20	416	430	1,350	478	450	4,710	464	1,510	436	196	178	151
21	416	376	896	726	409	4,560	443	1,390	409	205	160	155
22	311	340	887	1,190	300	4,520	443	1,400	376	191	155	155
23	262	389	968	1,310	310	6,420	416	1,620	328	173	147	151
24	238	576	761	1,630	352	6,980	485	11,000	300	173	151	151
25	509	632	664	1,630	358	4,880	576	13,900	294	178	155	147
26	1,150	1,080	725	1,090	334	3,140	506	7,260	376	214	147	138
27	869	842	664	977	311	2,600	457	5,940	500	224	147	142
28	616	734	640	914	322	2,190	430	12,200	608	219	138	133
29	499	616	592	1,230	340	1,910	402	8,800	376	160	133	138
30	423	584	608	2,900	------	1,710	389	6,780	306	160	129	142
31	389	------	624	6,520	------	1,590	------	7,790	------	169	133	------
TOTAL	10,061	12,177	52,603	29,477	40,802	89,940	21,687	94,519	37,393	6,597	5,777	4,814
MEAN	325	406	1,697	951	1,407	2,901	723	3,049	1,246	213	186	160
MAX	1,150	1,080	4,780	6,520	6,200	7,740	1,470	13,900	5,310	295	279	229
MIN	173	238	552	352	300	294	389	364	294	160	129	133

CAL YR 1967 TOTAL 479,560 MEAN 1,314 MAX 22,400 MIN 155 CFSM 1.50 IN 20.38
WTR YR 1968 TOTAL 405,847 MEAN 1,109 MAX 13,900 MIN 129 CFSM 1.27 IN 17.25

PEAK DISCHARGE (BASE, 10,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-24	2330	16.00	20,000	5-28	0730	12.14	13,300

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 1968. 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.--36 years, 29.6 cfs.

Extremes.--Maximum discharge during year, 596 cfs May 28 (gage height, 3.07 ft); minimum, 1.6 cfs Aug. 30, 31, Sept. 1 (gage height, 0.99 ft).
1932-68: 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 CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	18	16	18	118	15	43	15	127	13	4.2	1.8
2	24	20	16	17	124	15	36	13	152	11	3.9	2.2
3	19	21	63	17	105	16	33	13	107	10	3.2	2.2
4	16	18	52	16	74	15	32	18	85	9.5	3.1	2.1
5	14	15	38	16	62	16	32	14	68	8.6	3.5	2.4
6	12	14	42	16	54	17	28	12	57	8.0	3.2	10
7	11	13	79	16	48	15	26	11	49	7.2	3.1	3.7
8	12	12	74	16	43	14	25	11	42	7.0	3.0	2.5
9	10	12	57	16	39	18	24	11	37	6.8	2.8	2.3
10	12	12	91	15	37	45	22	12	33	6.3	2.9	17
11	9.3	11	190	15	34	34	22	14	30	6.7	3.7	9.4
12	7.5	11	141	15	31	28	21	30	41	6.7	2.8	4.1
13	6.9	11	107	14	28	42	19	19	29	5.6	2.6	3.0
14	7.2	11	91	13	26	34	19	16	25	5.6	2.7	2.6
15	6.9	10	75	13	24	35	19	23	21	9.6	2.5	2.4
16	6.3	9.1	63	13	23	95	18	26	19	6.0	2.4	2.3
17	6.0	9.9	54	12	21	184	17	25	19	5.5	2.4	2.3
18	8.6	12	48	12	20	101	16	28	18	4.9	2.4	2.3
19	15	12	42	13	19	80	16	31	16	4.6	2.5	2.3
20	9.3	10	36	14	18	69	15	26	15	4.4	2.6	2.2
21	7.5	9.8	33	24	17	64	15	26	13	3.9	2.2	2.2
22	6.7	12	33	33	16	62	14	23	12	3.8	2.1	2.1
23	6.4	25	29	39	15	206	14	50	11	3.7	2.0	2.1
24	6.3	17	25	39	14	122	22	173	11	3.8	2.1	2.1
25	96	19	24	30	13	94	20	172	12	4.1	2.0	2.1
26	65	16	23	27	13	77	16	113	19	4.5	1.9	2.1
27	32	15	21	27	13	67	15	211	46	4.1	2.0	2.0
28	28	14	20	26	13	59	13	418	85	4.0	1.9	1.9
29	24	14	20	40	14	53	13	316	23	3.3	1.8	1.9
30	21	13	19	92	------	47	14	251	16	3.0	1.8	1.9
31	20	------	19	132	------	43	------	176	------	3.7	1.7	------
TOTAL	559.9	416.8	1,641	806	1,076	1,782	639	2,297	1,238	188.9	81.0	99.5
MEAN	18.1	13.9	52.9	26.0	37.1	57.5	21.3	74.1	41.3	6.09	2.61	3.32
MAX	96	25	190	132	124	206	43	418	152	13	4.2	17
MIN	6.0	9.1	16	12	13	14	13	11	11	3.0	1.7	1.8
CFSM	.60	.46	1.75	.86	1.23	1.90	.71	2.45	1.37	.20	.09	.11
IN.	.69	.51	2.02	.99	1.33	2.19	.79	2.83	1.52	.23	.10	.12

CAL YR 1967 TOTAL 11,803.8 MEAN 32.3 MAX 635 MIN 1.7 CFSM 1.07 IN 14.54
WTR YR 1968 TOTAL 10,825.1 MEAN 29.6 MAX 418 MIN 1.7 CFSM .98 IN 13.33

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-28	0030	3.07	596

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 1968.

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.--44 years (1899-1901, 1903-5, 1928-68), 1,241 cfs.

Extremes.--Maximum discharge during year, 12,100 cfs Mar. 24 (gage height, 10.64 ft); minimum, 57 cfs July 31 (gage height, 1.14 ft).
1894-96, 1899-1902, 1903-6, 1928-68: Maximum discharge, 143,000 cfs Mar. 18, 1936 (gage height, 34.2 ft), from rating curve extended above 18,000 cfs on basis of measurement made about 10 miles upstream from station, adjusted for storage and inflow and slope-area measurement at gage height 29.84 ft; minimum, 29 cfs Jan. 28, 1956 (result of freezeup), July 30, 1966; minimum gage height, 0.39 ft July 30, 1966..
Maximum stage known prior to 1928, about 34 ft in November 1877, from floodmarks (discharge, 140,000 cfs).

Remarks.--Records good except those for winter periods, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	540	574	469	686	7,990	485	1,570	580	3,690	258	149	64
2	370	508	462	812	6,330	445	1,570	595	2,650	240	146	64
3	284	469	835	1,000	5,280	445	1,460	585	2,100	218	134	66
4	239	436	2,690	1,400	4,680	465	1,370	575	1,750	200	152	66
5	210	406	2,640	1,700	3,350	445	1,340	555	1,490	191	158	66
6	188	370	1,940	1,600	2,680	500	1,540	540	1,220	197	173	70
7	176	340	1,930	1,500	2,260	545	1,480	510	1,000	194	167	78
8	179	320	2,950	1,000	1,980	550	1,380	485	845	182	146	90
9	200	298	3,240	1,000	1,750	560	1,300	460	740	179	132	84
10	239	284	2,710	1,000	1,540	698	1,190	445	704	167	126	98
11	235	267	9,050	950	1,290	1,280	1,100	440	686	158	126	115
12	259	263	8,570	950	1,040	1,510	1,020	455	605	152	146	98
13	325	255	5,770	900	976	5,720	920	470	600	149	152	95
14	288	243	3,980	900	859	7,050	845	465	580	146	152	93
15	259	235	2,860	900	912	4,330	789	480	520	176	149	88
16	243	232	2,200	950	920	4,500	761	722	470	188	126	82
17	228	228	1,780	900	817	9,220	728	984	425	215	120	78
18	243	228	1,500	900	734	8,400	674	888	416	179	126	76
19	302	218	1,310	950	565	5,100	638	866	600	167	118	74
20	482	228	1,210	900	626	3,720	610	859	575	161	107	74
21	693	247	1,050	1,300	560	3,300	595	782	485	149	100	74
22	602	255	976	1,900	555	3,720	595	716	425	140	90	74
23	540	293	1,020	2,800	565	7,230	565	692	384	134	82	74
24	488	547	1,100	3,400	595	10,700	540	2,670	360	120	80	72
25	726	665	1,060	4,290	575	6,140	555	6,020	344	110	74	70
26	2,400	623	1,030	3,260	535	3,940	620	3,410	328	129	74	68
27	1,950	644	949	2,660	495	3,000	610	2,640	300	170	74	68
28	1,350	581	868	2,400	470	2,440	575	9,380	344	173	70	66
29	1,020	514	828	2,580	475	2,110	560	8,390	308	158	66	63
30	804	476	780	5,370	------	1,870	560	5,000	279	137	66	61
31	665	------	708	8,960	------	1,680	------	5,430	------	149	64	------
TOTAL	16,727	11,247	68,465	59,818	52,404	102,098	28,060	57,089	25,223	5,286	3,645	2,309
MEAN	540	375	2,209	1,930	1,807	3,293	935	1,842	841	171	118	77.0
MAX	2,400	665	9,050	8,960	7,990	10,700	1,570	9,380	3,690	258	173	115
MIN	176	218	462	686	470	445	540	440	279	110	64	61
CFSM	.37	.25	1.50	1.31	1.23	2.24	.64	1.25	.57	.12	.08	.05
IN	.42	.28	1.73	1.51	1.32	2.58	.71	1.44	.64	.13	.09	.06

CAL YR 1967: TOTAL 514,802 MEAN 1,410 MAX 28,400 MIN 114 CFSM .96 IN 13.02
WAT YR 1968: TOTAL 432,371 MEAN 1,181 MAX 10,700 MIN 61 CFSM .80 IN 10.93

PEAK DISCHARGE (BASE, 10,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-11	2230	10.17	11,500	3-24	0630	10.64	12,100
3-17	2330	9.83	10,500	5-28	1900	10.57	11,900

1-6090. Town Creek near Oldtown, Md.

Location.--Lat 39°33'12", long 78°33'19", at highway bridge 2 miles upstream from Sawpit Run and 3 miles northeast of Oldtown, Allegany County, and 4 miles upstream from mouth.

Drainage area.--148 sq mi.

Records available.--July 1928 to September 1935, June 1967 to September 1968.

Gage.--Water-stage recorder. Altitude of gage is 550 ft (from topographic map). July 1928, to September 1935, chain gage at present site at datum 0.08 ft lower.

Average discharge.--8 years (1928-35, 1967-68), 125 cfs.

Extremes.--1967: Maximum discharge during period July to September, 2,700 cfs Sept. 29 (gage height, 9.45 ft); minimum, 6.4 cfs Sept. 20 (gage height, 1.93 ft).
1968: Maximum discharge during year, 1,830 cfs May 28 (gage height 7.88 ft); maximum gage height, 9.62 ft Jan. 31 (ice jam); minimum, 3.2 cfs Sept. 29 (gage height, 1.87 ft); minimum gage height, 1.86 ft Aug. 31.
1928-35, 1967-68: Maximum discharge 9,700 cfs Oct. 23, 1929 (gage height, 14.08 ft, from graph based on gage readings), from rating curve extended above 1,100 cfs on basis of contracted-opening determination at gage height, 19.08 ft; minimum, 0.9 cfs Aug. 2, 3, 7-14, 1930 (gage height 1.49 ft).
Flood of Mar. 17 or 18, 1936, reached a stage of 19.08 ft, from floodmarks (discharge, 27,000 cfs, from rating curve extended above 1,100 cfs as explained above).

Remarks.--Records fair.

DISCHARGE IN CUBIC FEET PER SECOND, JUNE TO SEPTEMBER 1967

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									100	18	39	16
2									90	18	33	16
3									82	19	100	13
4									74	21	94	12
5									68	53	72	11
6									62	42	67	10
7									57	27	102	9.6
8									56	21	64	9.1
9									53	18	45	9.1
10									54	18	36	9.1
11									46	24	32	10
12									40	61	27	10
13									36	54	22	9.6
14									33	31	20	8.7
15									30	32	18	8.2
16									29	74	15	7.4
17									26	47	14	7.1
18									24	32	13	7.4
19									26	25	14	6.8
20									30	71	18	7.1
21									25	64	17	11
22									27	59	17	30
23									66	63	17	21
24									56	47	16	15
25									34	77	21	11
26									27	56	40	10
27									23	36	35	9.1
28									20	31	30	202
29									18	31	29	1,550
30					------				19	49	24	353
31		------			------		------		------	59	18	------
TOTAL									1,331	1,278	1,109	2,409.3
MEAN									44.4	41.2	35.8	80.3
MAX									100	77	102	1,550
MIN									18	18	13	6.8
CFSM									.30	.28	.24	.54
IN									.33	.32	.28	.61

PEAK DISCHARGE (BASE, 1,500 CFS).

DATE	TIME	G.HT.	DISCHARGE
9-29	0700	9.45	2,700

1-6090. Town Creek near Oldtown, Md.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	190	108	84	62	653	50	157	42	508	55	10	3.8
2	132	102	80	58	547	50	140	44	463	44	16	3.6
3	105	120	380	59	520	52	124	39	379	36	22	4.1
4	86	111	532	56	379	50	116	41	282	32	15	4.1
5	72	96	354	56	287	54	119	49	215	29	12	4.4
6	61	86	287	55	242	55	112	44	176	27	11	7.4
7	54	79	438	54	204	53	99	38	147	25	9.1	11
8	51	74	580	53	184	50	94	35	130	24	9.1	12
9	55	70	444	52	161	59	94	34	115	22	7.8	9.1
10	55	68	402	52	150	73	83	34	108	20	7.8	11
11	55	62	1,510	50	135	132	80	37	98	20	7.8	60
12	47	59	1,070	47	125	119	77	58	98	22	7.8	31
13	40	59	723	46	110	343	72	86	115	26	7.8	16
14	38	55	523	45	105	221	68	61	87	21	7.8	11
15	37	53	379	40	100	228	67	66	74	19	7.8	8.7
16	35	48	303	39	90	362	66	99	64	18	7.1	6.8
17	33	46	248	37	80	1,500	61	111	60	16	6.4	6.1
18	38	48	212	36	74	1,080	57	102	59	16	6.1	5.5
19	112	48	188	40	66	639	55	119	54	20	6.8	5.2
20	104	44	157	46	58	457	54	106	49	16	5.8	4.9
21	80	44	140	68	54	362	53	96	42	14	5.5	4.7
22	67	45	136	92	51	346	50	86	39	11	4.9	4.7
23	57	67	134	110	47	813	48	91	37	11	4.4	4.4
24	51	113	109	110	45	738	51	886	33	10	5.2	4.4
25	294	94	106	90	42	489	64	1,000	31	10	5.5	4.4
26	759	90	100	80	41	351	59	556	35	13	5.5	4.4
27	335	80	90	80	41	279	51	558	57	18	4.9	3.8
28	226	74	86	76	45	232	47	1,630	244	13	4.9	3.6
29	170	72	82	180	46	204	44	1,370	126	11	4.7	3.4
30	139	68	78	623	------	184	41	962	76	10	4.1	3.6
31	120	------	72	1,050	------	159	------	750	------	9.6	3.8	------
TOTAL	3,698	2,183	10,027	3,542	4,682	9,784	2,303	9,230	4,001	638.6	244.4	267.1
MEAN	119	72.8	323	114	161	316	76.8	298	133	20.6	7.88	8.90
MAX	759	120	1,510	1,050	653	1,500	157	1,630	508	55	22	60
MIN	33	44	72	36	41	50	41	34	31	9.6	3.8	3.4
CFSM	.80	.49	2.18	.77	1.09	2.14	.52	2.01	.90	.14	.05	.06
IN	.93	.55	2.52	.89	1.18	2.46	.58	2.32	1.01	.16	.06	.07

CAL YR 1967: TOTAL - MEAN - MAX - MIN - CFSM - IN -
WAT YR 1968: TOTAL 50,600.1 MEAN 138 MAX 1,630 MIN 3.4 CFSM 0.93 IN 12.71

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-11	0700	7.86	1,820	5-28	0800	7.88	1,830
3-17	0900	7.66	1,720				

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 1968.

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.--30 years, 3,061 cfs.

Extremes.--Maximum discharge during year, 31,700 cfs May 25 (gage height, 19.54 ft); minimum, 218 cfs Sept. 29 (gage height, 3.02 ft).
1938-68: 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. 71) and, since December 1950, by Savage River Reservoir (see p. 76).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,440	1,310	1,250	1,700	17,900	1,000	4,250	1,240	12,600	830	395	238
2	1,070	1,180	1,300	1,400	14,500	1,000	4,110	1,270	9,400	720	420	238
3	825	1,160	1,800	1,500	13,600	944	3,780	1,240	8,410	652	400	242
4	694	1,110	5,600	2,000	11,300	930	3,470	1,200	6,810	596	390	242
5	601	1,020	6,000	2,100	7,870	1,000	3,360	1,270	5,430	560	462	246
6	547	944	4,700	1,700	6,510	1,040	3,450	1,320	4,450	560	440	310
7	517	888	4,780	1,600	5,470	1,160	3,350	1,230	3,720	554	415	405
8	487	832	7,280	1,450	4,560	1,200	3,090	1,140	3,270	518	440	380
9	517	790	7,870	1,400	4,170	1,250	2,920	1,070	2,810	500	410	335
10	571	762	6,680	1,500	3,470	1,890	2,750	1,020	2,490	489	489	340
11	601	727	17,600	1,600	2,640	4,790	2,520	996	2,330	472	440	478
12	589	714	17,700	1,300	2,380	5,060	2,360	1,160	2,190	472	395	435
13	595	707	12,900	1,150	2,190	9,710	2,230	1,560	2,200	472	472	365
14	631	688	9,900	1,200	1,890	14,000	2,040	1,780	2,040	445	450	340
15	583	662	7,450	1,350	1,940	9,390	1,930	1,740	1,720	548	435	330
16	547	643	6,000	1,500	2,030	9,820	1,840	2,840	1,530	542	395	300
17	529	631	4,780	1,550	1,930	22,700	1,760	3,210	1,380	590	385	286
18	529	631	3,930	1,450	1,550	22,100	1,630	2,860	1,270	518	380	277
19	688	655	3,490	1,400	1,300	15,000	1,560	2,970	1,320	472	350	259
20	874	839	3,370	1,650	1,300	11,100	1,480	3,080	1,480	445	345	250
21	1,260	797	2,840	2,600	1,200	9,530	1,420	2,740	1,270	430	315	250
22	1,170	790	2,490	5,280	1,000	9,900	1,400	2,650	1,150	415	290	250
23	993	797	2,590	7,310	1,080	15,500	1,360	2,500	1,050	395	264	250
24	895	1,100	2,440	8,700	1,140	22,400	1,320	10,500	942	370	290	250
25	1,510	1,580	2,290	7,360	1,110	15,000	1,430	27,000	898	355	305	250
26	5,100	1,770	2,200	5,420	1,070	9,670	1,520	15,000	898	385	259	250
27	4,240	2,030	2,150	4,230	1,020	7,680	1,480	10,100	980	405	254	242
28	2,930	1,740	1,970	3,720	986	6,390	1,360	26,100	1,970	462	250	238
29	2,190	1,550	1,900	3,830	1,040	5,570	1,290	25,000	1,460	440	246	230
30	1,760	1,410	1,750	8,400	------	4,990	1,280	16,300	1,010	385	242	230
31	1,490	------	1,760	17,800	------	4,450	------	18,000	------	350	238	------
TOTAL	36,973	30,457	158,760	106,150	118,146	246,164	67,740	190,086	88,478	15,347	11,261	8,736
MEAN	1,193	1,015	5,121	3,424	4,074	7,941	2,258	6,132	2,949	4,951	363	291
MAX	5,100	2,030	17,700	17,800	17,900	22,700	4,250	27,000	12,600	830	489	478
MIN	487	631	1,250	1,150	986	930	1,280	996	898	350	238	230

CAL YR 1967 TOTAL 1,252,513 MEAN 3,432 MAX 58,600 MIN 350 CFSM 1.10 IN 14.98
WTR YR 1968 TOTAL 1,078,298 MEAN 2,946 MAX 27,000 MIN 230 CFSM 0.95 IN 12.90

PEAK DISCHARGE (BASE, 20,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-11	1830	16.17	21,800	3-23	2330	17.35	25,100
1-31	1900	15.56	20,200	5-25	0900	19.54	31,700
3-17	1730	17.75	26,300	5-28	1830	19.24	30,700

1-6101.55. Sideling Hill Creek near Bellegrove, Md.

Location.--Lat 39°38'58", long 78°20'40", on left bank at highway bridge on Pearre Road, 4.0 miles south of Bellegrove, Allegany County, and 1.2 miles upstream from mouth.

Drainage area.--102 square miles.

Records available.--July 1967 to September 1968.

Gage.--Water-stage recorder. Altitude of gage is 450 ft (from topographic map).

Extremes.--1967: Maximum discharge during period July to September, 1,760 cfs Sept. 29 (gage height, 4.95 ft); minimum, 0.21 cfs Sept. 20 (gage height, 0.96 ft).
1968: Maximum discharge during year, 1,840 cfs Mar. 17 (gage height, 5.06 ft); no flow many days in August and September.
1967-68: Maximum, that of Mar. 17, 1968, no flow many days in August and September 1968.

Remarks.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, JULY TO SEPTEMBER 1967

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										2.7	41	4.9
2										4.0	89	3.7
3										7.5	102	2.9
4										9.1	95	2.5
5										26	118	2.1
6										17	193	1.7
7										11	97	1.4
8										7.5	60	1.3
9										6.3	41	1.0
10										5.5	34	.81
11										55	27	.72
12										112	18	.72
13										60	14	.54
14										34	11	.46
15										34	9.1	.39
16										87	7.2	.32
17										52	5.9	.28
18										39	4.9	.28
19										28	4.2	.24
20										20	4.0	.41
21										29	3.5	33
22										38	4.6	36
23										38	4.0	16
24										337	4.6	9.1
25										206	9.1	5.9
26										97	18	4.2
27										58	18	2.9
28										41	14	68
29										49	11	720
30					------					72	8.4	174
31		------			------		------		------	57	6.3	------
TOTAL										1,639.6	1,076.8	1,095.77
MEAN										52.9	34.7	36.5
MAX										337	193	720
MIN										2.7	3.5	.24
CFSM										.52	.34	.36
IN										.60	.39	.40

CAL YR 1967: TOTAL - MEAN - MAX - MIN - CFSM - IN -
WTR YR 1968: TOTAL - MEAN - MAX - MIN - CFSM - IN -

PEAK DISCHARGE (BASE, 1,100 CFS)

DATE	TIME	G.HT.	DISCHARGE
9-29	0300	4.95	1,760

1-6101.55. Sideling Hill Creek near Bellegrove, Md.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	62	46	36	370	29	92	16	214	15	07	0
2	54	58	46	33	320	29	80	16	163	9.6	.08	0
3	39	99	329	34	300	30	70	15	134	6.8	.08	0
4	30	87	584	32	220	29	62	15	104	4.9	.08	0
5	22	76	388	32	170	31	66	16	78	3.7	.08	0
6	16	68	288	32	140	32	64	16	60	2.7	08	0
7	14	60	382	31	120	30	52	13	47	2.3	08	0
8	12	57	556	31	110	29	49	12	38	1.9	09	0
9	11	50	388	30	92	34	50	11	32	1.9	08	0
10	15	49	333	30	86	47	46	11	80	1.4	08	2.1
11	19	44	1,030	29	78	80	41	10	58	1.0	.10	16
12	19	39	896	28	72	78	40	13	58	.92	.10	12
13	14	39	604	27	64	242	36	25	99	.62	.07	7.5
14	11	36	400	26	60	194	34	23	64	.46	.04	4.2
15	96	34	283	24	58	210	32	19	47	.39	05	2.3
16	9.1	30	210	23	52	318	32	28	35	.32	.04	1.6
17	9.1	27	163	22	46	1,440	31	36	29	.28	.01	1.0
18	27	27	134	21	43	932	29	38	28	.24	0	.72
19	365	28	115	23	38	556	28	38	24	.24	0	.46
20	188	27	90	27	33	377	27	38	18	.24	0	.39
21	115	26	78	39	31	288	26	31	14	.18	0	.32
22	80	26	76	54	29	270	24	29	11	.15	0	.24
23	58	44	72	62	27	481	23	29	9.1	.13	0	.21
24	46	74	57	62	26	568	22	276	7.5	.12	0	.21
25	202	66	52	52	25	366	24	448	6.3	.12	0	.18
26	692	62	57	46	24	256	26	283	5.9	.15	0	.18
27	298	57	44	46	24	194	23	218	11	.13	0	.18
28	184	52	46	44	26	153	19	1,010	55	.13	0	.18
29	123	47	39	104	27	131	18	1,000	51	.12	0	.15
30	92	41	46	360	------	112	16	568	27	.08	0	.15
31	72	------	42	600	------	99	------	328	------	.07	0	------
TOTAL	2,930.8	1,492	7,874	2,040	2,711	7,665	1,182	4,629	1,607.8	56.29	1.20	50.27
MEAN	94.5	49.7	254	65.8	93.5	247	39.4	149	53.6	1.82	.39	1.68
MAX	692	99	1,030	600	370	1,440	92	1,010	214	15	.10	16
MIN	9.1	26	39	21	24	29	16	10	5.9	.07	0	0
CFSM	.93	.49	2.49	.65	.92	2.42	.39	1.46	.53	.02	0	.02
IN	1.07	.54	2.87	.74	.99	2.79	.43	1.69	.59	.02	0	.02

CAL YR 1967: TOTAL - MEAN - MAX - MIN - CFSM - IN -
WTR YR 1968: TOTAL 32,239.36 MEAN 88.1 MAX 1,440 MIN 0 CFSM .86 IN 11.75

PEAK DISCHARGE (BASE, 1,100 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-26	0100	3.96	1,140	3-17	0700	5.06	1,840
12-11	0800	4.08	1,210	5-28	0800	4.47	1,450

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 1968. 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.--36 years, 3,930 cfs.

Extremes.--Maximum discharge during year, 40,900 cfs May 29 (gage height, 17.97 ft); minimum, 272 cfs Aug. 31, Sept. 1, 2 (gage height, 2.26 ft).
1932-68: 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. 71) and since December 1950 by Savage River Reservoir (see p. 76). Records of water temperatures for the water year 1968 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,560	2,110	1,640	2,350	25,300	1,380	5,440	1,610	18,200	1,220	431	272
2	1,960	1,900	1,560	1,950	20,100	1,350	5,060	1,600	12,800	1,000	462	276
3	1,440	1,830	2,430	2,100	18,200	1,330	4,860	1,620	10,800	857	483	280
4	1,130	1,760	6,790	2,500	16,200	1,240	4,360	1,550	9,090	769	469	285
5	938	1,620	9,420	2,600	11,900	1,370	4,130	1,530	7,300	700	449	289
6	811	1,480	7,720	2,300	9,070	1,460	4,060	1,570	5,900	675	518	369
7	720	1,350	6,420	2,100	7,830	1,660	4,160	1,570	4,810	659	518	352
8	665	1,260	8,650	2,000	6,500	1,820	3,840	1,450	4,090	623	483	427
9	632	1,180	10,900	1,900	5,790	1,860	3,610	1,340	3,630	591	476	416
10	718	1,150	9,670	2,200	5,030	2,170	3,420	1,280	3,250	554	469	510
11	765	1,100	18,100	2,000	4,070	4,220	3,160	1,240	2,960	539	533	534
12	856	1,050	27,900	1,900	3,330	6,560	2,950	1,270	2,770	520	476	526
13	973	1,020	19,200	1,800	3,080	8,950	2,820	1,510	2,680	509	437	520
14	906	975	14,800	3,500	2,750	18,100	2,630	1,960	2,590	504	483	431
15	887	927	11,100	5,120	2,580	13,700	2,440	2,000	2,280	472	497	413
16	805	895	8,690	5,610	2,840	12,400	2,330	2,410	1,990	557	462	389
17	751	878	7,100	5,500	2,640	26,800	2,260	3,300	1,780	589	437	381
18	802	861	5,700	5,330	2,330	35,000	2,160	3,390	1,610	632	413	347
19	1,220	847	4,950	4,850	2,000	22,600	2,020	3,130	1,500	581	413	332
20	1,400	875	4,430	4,650	1,600	15,900	1,930	3,370	1,630	511	407	318
21	1,770	1,060	4,220	5,290	1,500	12,800	1,840	3,180	1,660	483	373	311
22	1,930	1,050	3,440	8,620	1,400	12,300	1,780	2,940	1,450	462	356	312
23	1,620	1,080	3,260	13,800	1,500	15,700	1,780	2,900	1,330	462	335	312
24	1,390	1,180	3,280	15,400	1,600	29,200	1,720	5,290	1,200	443	320	314
25	1,600	1,610	3,020	15,900	1,550	21,600	1,730	26,300	1,090	425	324	317
26	6,840	2,000	2,820	12,000	1,500	14,300	1,980	21,700	1,060	419	357	315
27	8,480	2,240	2,780	8,580	1,400	10,600	2,010	13,100	1,110	437	312	309
28	5,530	2,150	2,650	6,620	1,400	8,690	1,860	25,400	1,470	449	293	298
29	3,910	1,900	2,440	5,820	1,390	7,420	1,720	37,100	2,490	504	286	296
30	3,020	1,750	2,360	8,910	------	6,570	1,650	23,100	1,640	511	284	300
31	2,470	------	2,310	21,700	------	5,890	------	21,800	------	437	279	------
TOTAL	59,499	41,088	219,750	184,900	166,380	324,940	85,710	221,510	116,160	18,094	12,835	10,751
MEAN	1,919	1,370	7,089	5,965	5,737	10,480	2,857	7,145	3,872	584	414	358
MAX	8,480	2,240	27,900	21,700	25,300	35,000	5,440	37,100	18,200	1,220	533	534
MIN	632	847	1,560	1,800	1,390	1,240	1,650	1,240	1,060	419	279	272
CFSM	.47	.34	1.74	1.46	1.41	2.57	.70	1.75	.95	.14	.10	.09
IN.	.54	.38	2.01	1.69	1.52	2.97	.78	2.02	1.06	.17	.12	.10

CAL YR 1967 TOTAL 1,604,103 MEAN 4,395 MAX 81,000 MIN 461 CFSM 1.08 IN 14.65
WTR YR 1968 TOTAL 1,461,617 MEAN 3,993 MAX 37,100 MIN 272 CFSM .98 IN 13.35

PEAK DISCHARGE (BASE, 23,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-12	0300	15.45	31,000	3-24	0715	15.52	31,300
2- 1	0100	14.37	27,000	5-29	0245	17.97	40,900
3-18	0115	17.65	39,600				

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 1968.

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.--40 years, 546 cfs.

Extremes.--Maximum discharge during year, 4,140 cfs Mar. 17 (gage height, 7.34 ft); minimum, 83 cfs Aug. 31, Sept. 2, 3, 5, 30.
1928-68: 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 1968 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	221	355	213	416	1,680	306	835	287	1,610	284	106	88
2	175	396	244	314	1,580	300	762	275	1,300	250	152	86
3	155	1,020	954	403	1,700	280	678	261	1,160	231	145	88
4	142	770	1,960	428	1,420	260	640	256	929	235	129	92
5	131	580	1,370	380	1,200	310	645	255	777	228	119	86
6	125	469	1,150	370	1,070	318	606	247	671	206	115	225
7	117	408	1,270	370	952	307	549	241	591	193	124	374
8	116	361	1,300	360	867	286	525	228	532	185	135	222
9	121	329	1,080	350	785	295	513	218	483	175	121	162
10	144	307	974	340	702	340	474	220	547	168	115	194
11	217	286	2,400	300	616	400	455	224	539	175	157	844
12	186	269	2,680	320	580	426	439	250	657	233	137	513
13	157	260	2,330	668	540	804	419	267	873	169	120	288
14	140	246	1,800	950	500	848	405	236	696	155	112	219
15	134	231	1,460	1,820	480	822	395	226	532	147	109	183
16	130	217	1,250	1,560	469	1,080	386	236	481	156	108	162
17	126	220	1,080	1,180	460	3,580	366	268	653	144	241	148
18	127	237	952	959	420	2,830	354	261	555	143	143	137
19	170	245	842	872	400	1,940	349	236	447	128	147	127
20	278	224	746	920	410	1,540	337	233	396	122	365	121
21	191	202	674	1,000	390	1,310	330	231	364	116	224	115
22	157	208	663	1,150	360	1,310	326	222	331	116	153	108
23	139	282	674	1,100	360	2,090	311	235	312	128	129	104
24	134	364	559	1,000	340	2,840	336	623	295	145	119	104
25	548	337	512	880	310	1,900	457	709	273	134	131	102
26	2,440	310	498	768	300	1,530	398	511	316	130	121	104
27	1,190	283	455	733	290	1,290	338	437	326	133	111	99
28	752	256	438	690	280	1,120	311	1,280	547	125	102	95
29	559	237	429	741	306	1,000	296	3,750	499	116	97	88
30	456	227	425	1,030	------	907	289	3,010	342	111	95	86
31	395	------	460	2,010	------	823	------	2,250	------	103	88	------
TOTAL	10,073	10,136	31,842	24,382	19,767	33,392	13,524	18,183	18,034	5,084	4,270	5,364
MEAN	325	338	1,027	787	682	1,077	451	587	601	164	138	179
MAX	2,440	1,020	2,680	2,010	1,700	3,580	835	3,750	1,610	284	365	844
MIN	116	202	213	300	280	260	289	218	273	103	88	86
CFSM	.66	.68	2.08	1.59	1.38	2.18	.91	1.19	1.22	.33	.28	.36
IN.	.76	.76	2.40	1.84	1.49	2.51	1.02	1.37	1.36	.38	.32	.40

CAL YR 1967 TOTAL 216,988 MEAN 594 MAX 7,440 MIN 85 CFSM 1.20 IN 16.34
WTR YR 1968 TOTAL 194,051 MEAN 530 MAX 3,750 MIN 86 CFSM 1.07 IN 14.61

PEAK DISCHARGE (BASE, 4,300 CFS).--No peak above base.

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 1968.

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.

Average discharge.--5 years, 9.18 cfs.

Extremes.--Maximum discharge during year, 58 cfs Aug. 1 (gage height 1.92 ft); minimum, not determined (occurred during period of ice effect); minimum daily, 4.3 cfs Sept. 30.
1963-68: Maximum discharge, 105 cfs Jan. 9, 1964 (gage height, 2.42 ft); minimum daily, 0.40 cfs Jan. 31, 1966, result of freezeup.

Remarks.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	9.3	7.4	14	21	13	23	13	19	9.8	18	4.8
2	8.6	13	8.8	14	21	14	20	12	17	9.3	11	4.8
3	8.5	13	18	14	20	13	20	12	18	10	7.8	4.9
4	8.1	11	17	14	19	13	20	12	18	9.7	7.1	4.7
5	7.8	10	14	13	18	13	20	12	15	9.0	7.1	4.7
6	7.6	9.7	13	12	18	15	19	12	14	8.8	6.7	7.8
7	7.6	9.6	14	11	18	14	18	12	14	8.7	6.1	5.4
8	7.6	9.2	14	11	18	14	18	11	13	8.5	6.0	5.0
9	7.6	9.0	13	11	17	15	17	11	12	8.2	5.7	4.8
10	9.5	9.0	16	11	16	15	17	12	12	8.7	6.5	13
11	8.8	8.8	37	11	15	15	17	12	12	8.7	7.1	10
12	8.1	8.6	27	12	15	18	17	12	13	8.6	5.8	6.9
13	7.8	8.5	23	13	14	22	16	11	14	8.4	5.5	6.1
14	7.7	8.3	20	23	14	19	16	11	12	8.4	5.7	5.8
15	7.5	8.0	19	23	15	20	15	12	11	8.1	5.6	5.6
16	7.4	7.7	18	19	15	25	14	12	14	8.2	5.3	5.5
17	7.2	8.4	17	17	14	48	14	11	16	7.9	5.2	5.3
18	8.4	8.7	17	16	14	37	14	11	13	7.6	5.0	5.3
19	8.2	8.1	17	16	13	32	14	11	12	6.6	8.1	5.1
20	7.3	7.9	17	17	14	28	13	11	15	6.5	8.4	5.0
21	7.1	7.8	17	20	14	27	14	10	12	6.4	6.2	5.0
22	6.9	8.3	17	23	14	30	13	10	11	6.3	5.8	4.9
23	6.8	8.8	16	22	13	34	13	13	10	6.1	5.6	4.8
24	6.9	8.3	15	20	13	29	17	20	10	6.1	5.7	4.8
25	23	8.4	15	18	13	26	17	13	10	6.2	6.3	4.7
26	20	8.1	15	17	13	25	15	11	12	6.1	5.7	4.7
27	13	7.7	15	17	13	24	14	12	10	6.0	5.5	4.6
28	11	7.3	15	18	13	23	14	28	15	5.8	5.3	4.6
29	10	7.2	15	19	13	23	13	22	11	5.5	5.0	4.5
30	9.8	7.8	14	22	------	22	14	21	10	5.4	5.0	4.3
31	9.7	------	15	24	------	22	------	26	------	5.4	4.8	------
TOTAL	284.3	265.5	516.2	512	448	688	486	419	395	235.0	204.6	167.4
MEAN	9.17	8.85	16.7	16.5	15.4	22.2	16.2	13.5	13.2	7.58	6.60	5.58
MAX	23	13	37	24	21	48	23	28	19	10	18	13
MIN	6.8	7.2	7.4	11	13	13	13	10	10	5.4	4.8	4.3
CFSM	.49	.47	.88	.87	.82	1.17	.86	.72	.70	.40	.35	.30
IN.	.56	.52	1.02	1.01	.88	1.35	.96	.82	.78	.46	.40	.33

CAL YR 1967 TOTAL 4,476.4 MEAN 12.3 MAX 49 MIN 6.8 CFSM .65 IN 8.81
WTR YR 1968 TOTAL 4,621.0 MEAN 12.6 MAX 48 MIN 4.3 CFSM .67 IN 9.09

PEAK DISCHARGE (BASE, 40 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-25	1630	1.89	56	3-23	1530	1.74	42
12-11	0215	1.77	46	5-30	2130	1.76	42
3-17	0545	1.84	52	8- 1	1930	1.92	58

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 1968.

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.--29 years (1928-53, 1964-68), 5,678 cfs.

Extremes.--Maximum discharge during year, 57,000 cfs Mar. 18 (gage height, 15.69 ft); minimum, 376 cfs Sept. 1, (gage height, 1.60 ft); minimum gage height, 1.53 ft Sept. 29, 30.
1928-53, 1964-68: 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. 71), and since December 1950 by Savage River Reservoir (see p. 76).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5,340	3,760	2,500	3,130	34,000	2,390	7,960	2,500	28,300	2,450	873	383
2	3,410	3,350	2,290	2,750	29,400	2,330	7,430	2,450	19,400	1,980	1,020	414
3	2,740	3,590	2,650	2,800	25,300	2,330	6,930	2,400	15,000	1,800	926	515
4	2,100	3,930	8,630	2,710	23,500	2,260	6,500	2,390	13,000	1,560	901	531
5	1,820	3,490	13,800	3,000	18,500	2,320	6,030	2,320	10,600	1,370	846	518
6	1,630	3,130	12,600	2,800	13,700	2,520	5,800	2,280	8,490	1,360	863	635
7	1,360	2,830	10,400	2,800	11,400	2,600	5,660	2,330	7,040	1,300	790	784
8	1,260	2,590	11,500	2,800	9,890	2,730	5,540	2,250	5,930	1,240	975	939
9	1,220	2,420	14,300	2,800	8,490	2,850	5,210	2,160	5,200	1,100	851	861
10	1,250	2,280	14,000	3,100	7,690	3,020	4,930	2,050	4,890	1,070	754	941
11	1,510	2,190	19,500	3,000	6,380	3,540	4,690	1,980	4,460	1,130	805	1,740
12	1,530	2,090	39,200	2,800	5,000	6,740	4,370	1,970	4,460	1,110	868	2,690
13	1,630	1,990	31,700	2,700	4,540	9,250	4,130	2,010	4,670	1,130	871	1,710
14	1,620	2,010	23,500	3,130	4,110	18,800	3,940	2,190	4,520	1,100	761	1,220
15	1,480	1,860	17,800	7,090	3,870	20,700	3,730	2,610	3,950	1,070	760	985
16	1,540	1,730	13,600	9,340	3,940	16,300	3,510	2,680	3,460	1,050	784	902
17	1,320	1,720	11,100	7,280	4,440	28,700	3,390	3,170	3,140	1,000	781	818
18	1,300	1,640	9,250	6,100	3,940	53,400	3,280	4,020	3,030	1,080	781	686
19	1,470	1,700	7,850	5,430	3,370	38,200	3,160	4,020	2,760	1,080	793	723
20	2,040	1,730	6,720	5,180	3,280	25,700	2,990	3,780	2,530	1,110	928	714
21	2,410	1,670	6,340	5,590	3,240	19,200	2,880	3,960	2,470	1,050	931	669
22	2,560	1,770	5,880	8,400	3,160	16,700	2,790	3,730	2,450	960	849	630
23	2,580	1,850	5,210	13,800	2,380	18,500	2,700	3,570	2,220	886	700	635
24	2,260	1,980	4,990	16,200	2,530	35,800	2,730	4,060	2,060	752	651	609
25	2,430	2,210	4,720	15,900	2,770	34,300	2,820	15,300	1,910	846	551	651
26	9,960	2,530	4,420	13,700	2,740	23,400	2,900	31,400	1,830	886	541	653
27	14,900	2,830	4,200	10,800	2,590	16,500	3,030	19,000	1,820	819	569	639
28	10,100	3,030	4,100	9,000	2,470	13,200	2,940	20,300	2,090	778	564	631
29	7,090	2,900	3,960	8,110	2,430	11,100	2,740	50,600	2,870	778	495	547
30	5,400	2,700	3,480	8,800	------	9,710	2,610	40,500	3,350	819	476	625
31	4,320	------	3,280	21,600	------	8,660	------	28,800	------	846	414	------
TOTAL	101,580	73,500	323,470	212,640	249,050	453,750	127,320	272,780	177,900	35,510	23,672	24,998
MEAN	3,277	2,450	10,430	6,859	8,588	14,640	4,244	8,799	5,930	1,145	764	833
MAX	14,900	3,930	39,200	21,600	34,000	53,400	7,960	50,600	28,300	2,450	1,020	2,690
MIN	1,220	1,640	2,290	2,700	2,380	2,260	2,610	1,970	1,820	752	414	383
CFSM	.55	.41	1.76	1.16	1.45	2.47	.71	1.48	1.00	.19	.13	.14
IN.	.64	.46	2.03	1.33	1.56	2.84	.80	1.71	1.11	.22	.15	.16

CAL YR 1967 TOTAL 2,277,245 MEAN 6,239 MAX 98,100 MIN 753 CFSM 1.05 IN 14.27
WTR YR 1968 TOTAL 2,076,170 MEAN 5,673 MAX 53,400 MIN 383 CFSM .96 IN 13.01

PEAK DISCHARGE (BASE, 23,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-12	1145	12.82	41,700	3-24	1800	12.83	41,700
2- 1	1030	11.46	34,900	5-26	0600	11.56	35,400
3-14	2345	8.99	23,700	5-29	1445	15.27	54,700
3-18	0900	15.69	57,000				

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 1968.

Gage.--Digital 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. October 1, 1965 to November 30, 1965, staff gage and December 1, 1965, to October 25, 1967, graphic water-stage recorder at present site and datum.

Average discharge.--6 years (1948-51, 1965-68), 106 cfs.

Extremes.--Maximum discharge during year, 806 cfs Sept. 10 (gage height, 5.30 ft); minimum, 30 cfs Aug. 31, Sept. 1, 29, 30 (gage height 3.16 ft).
1948-51, 1965-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	73	52	84	244	96	186	95	305	76	52	31
2	41	129	46	76	260	92	159	90	288	72	76	34
3	39	141	202	83	270	86	151	89	234	70	45	36
4	38	108	151	82	230	82	150	91	197	68	63	34
5	38	93	123	75	205	84	148	86	172	64	45	35
6	39	83	114	74	196	92	135	85	154	62	43	72
7	37	80	128	72	184	84	129	79	141	60	47	42
8	37	76	127	70	174	82	129	79	130	59	47	34
9	39	71	115	70	160	88	125	78	124	57	42	33
10	51	68	133	69	150	96	119	83	127	56	55	292
11	49	65	253	60	135	94	118	80	118	56	66	170
12	42	63	280	65	135	116	112	85	138	57	44	63
13	39	62	231	114	126	155	108	78	129	54	41	51
14	38	59	201	266	120	112	106	74	109	55	40	46
15	37	58	180	333	124	110	104	77	98	59	40	43
16	37	53	165	184	118	148	106	83	125	53	63	42
17	35	59	151	150	114	500	103	85	160	50	91	40
18	140	66	140	136	110	353	101	76	110	48	45	39
19	171	59	130	133	104	272	101	75	105	47	46	38
20	63	53	118	136	106	234	98	74	114	46	45	37
21	53	51	112	153	96	212	96	74	93	44	40	34
22	48	54	125	165	102	233	93	72	87	43	37	33
23	46	67	113	164	98	285	91	111	84	44	36	34
24	45	58	99	157	96	253	145	224	83	43	37	33
25	222	59	94	143	94	227	139	143	81	44	36	33
26	215	54	94	133	92	212	104	116	91	47	34	34
27	126	52	87	128	92	201	98	129	86	44	34	32
28	101	50	90	129	92	190	94	422	184	42	33	31
29	81	49	100	148	96	182	92	558	96	40	32	30
30	80	51	84	192	------	172	95	466	82	39	32	30
31	76	------	84	274	------	166	------	412	------	39	31	------
TOTAL	2,145	2,064	4,122	4,118	4,123	5,309	3,535	4,369	4,045	1,638	1,418	1,536
MEAN	69.2	68.8	133	133	142	171	118	141	135	52.8	45.7	51.2
MAX	222	141	280	333	270	500	186	558	305	76	91	292
MIN	35	49	46	60	92	82	91	72	81	39	31	30
CFSM	.74	.74	1.42	1.42	1.52	1.83	1.26	1.51	1.44	.57	.49	.55
IN.	.85	.82	1.64	1.64	1.64	2.11	1.41	1.74	1.61	.65	.56	.61

CAL YR 1967 TOTAL 37,848 MEAN 104 MAX 818 MIN 35 CFSM 1.11 IN 15.05
WTR YR 1968 TOTAL 38,422 MEAN 105 MAX 558 MIN 30 CFSM 1.12 IN 15.28

PEAK DISCHARGE (BASE, 850 CFS).--No peaks above base.

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 1968. 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.--45 years (1897-1903, 1904-5, 1930-1968), 257 cfs (adjusted for inflow since 1930).

Extremes.--Maximum discharge during year, 1,290 cfs March 18 (gage height, 4.97 ft); minimum, 97 cfs September 30 (gage height, 2.34 ft); minimum daily, 99 cfs Sept. 30
1928-68: 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 1968, are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	139	197	158	286	605	271	489	256	623	206	157	104
2	131	228	155	240	589	261	473	244	525	193	226	103
3	129	377	285	257	635	252	436	237	515	190	165	114
4	127	285	505	272	575	237	425	237	445	187	137	109
5	124	249	372	248	531	244	423	232	390	176	155	109
6	120	230	338	240	507	246	399	226	353	169	140	160
7	121	217	337	247	485	241	379	217	326	165	134	158
8	120	211	354	220	467	232	370	211	304	161	139	122
9	120	205	343	226	443	234	367	209	290	163	136	110
10	139	198	331	228	418	246	351	213	358	160	135	251
11	149	190	629	226	377	252	351	212	294	158	190	625
12	133	184	685	180	371	278	338	216	308	158	153	219
13	125	182	682	210	358	405	319	211	330	156	133	157
14	121	178	590	490	333	377	311	201	282	152	129	142
15	119	173	536	996	344	330	308	206	258	151	127	132
16	118	168	495	710	336	380	304	206	262	155	124	125
17	119	170	462	529	328	834	299	215	326	148	156	124
18	163	180	433	465	307	1,130	294	203	286	146	159	121
19	316	178	408	441	299	857	288	199	304	145	137	119
20	211	167	383	444	302	723	282	197	282	141	174	115
21	151	164	362	461	290	653	275	191	246	137	134	113
22	137	165	367	515	269	654	267	190	229	134	120	111
23	131	174	371	518	278	678	262	203	218	135	115	109
24	128	179	333	510	274	764	312	408	212	134	115	110
25	367	171	313	476	264	664	394	353	212	135	124	108
26	595	166	310	445	258	618	303	272	240	138	113	108
27	333	161	300	425	256	583	272	259	226	138	110	108
28	261	157	300	413	254	550	261	551	385	131	109	105
29	236	153	323	424	260	530	252	1,050	294	128	108	101
30	211	158	301	467	------	503	253	809	222	126	106	99
31	206	------	284	612	------	481	------	816	------	124	106	------
TOTAL	5,600	5,815	12,045	12,421	11,013	14,708	10,057	9,450	9,545	4,740	4,266	4,291
MEAN	181	194	389	401	380	474	335	305	318	153	138	143
MAX	595	377	685	996	635	1,130	489	1,050	623	206	226	625
MIN	118	153	155	180	254	232	252	190	212	124	106	99
†	-10.0	-8.5	-8.5	-9.5	-9.3	-9.4	-9.2	-9.4	-10.4	-12.7	-13.5	-12.7
MEAN‡	171	186	380	392	371	465	326	296	308	140	124	130
CFSM‡	.61	.66	1.35	1.40	1.32	1.66	1.16	1.05	1.10	.50	.44	.46
IN‡	.70	.74	1.56	1.61	1.42	1.91	1.29	1.21	1.22	.57	.51	.52

CAL YR 1967 TOTAL 100,571 MEAN 276 MAX 1,740 MIN 118 MEAN‡ 267 CFSM‡ 0.95 IN‡ 12.90
WTR YR 1968 TOTAL 103,951 MEAN 284 MAX 1,130 MIN 99 MEAN‡ 274 CFSM‡ 0.98 IN‡ 13.27

PEAK DISCHARGE (BASE, 1,500 CFS).-- No peak above base.

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

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

Location.--Lat 39°16'55", long 77°47'22", 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 1968.

Gage.--Digital water-stage recorder. Datum of gage is 293.00 ft above mean sea level, adjustment of 1912. Apr. 15, 1895, to Mar. 31, 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.--53 years (1895-1908, 1928-68), 2,608 cfs.

Extremes.--Maximum discharge during year, 18,100 cfs Mar. 18 (gage height, 9.27 ft); minimum, 430 cfs Sept. 1, 2 (gage height, 1.29 ft); minimum daily, 459 cfs Sept. 2.
1895-1909, 1928-68: 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 periods of no gage-height record, which are fair. 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,120	1,940	800	1,700	15,000	1,700	3,200	1,490	5,740	1,110	650	469
2	1,890	1,770	900	1,700	12,600	1,600	3,000	1,440	4,350	970	684	459
3	1,480	1,610	1,200	1,600	14,000	1,600	2,790	1,430	3,540	1,100	648	495
4	1,230	1,500	1,900	1,500	11,000	1,600	2,650	1,450	3,090	1,560	740	485
5	1,020	1,400	3,500	1,400	9,000	1,500	2,550	1,400	2,530	1,230	821	487
6	955	1,200	3,700	1,400	7,210	1,600	2,480	1,410	2,110	1,310	883	551
7	894	1,200	3,000	1,400	6,090	1,700	2,380	1,310	2,010	1,310	934	510
8	830	1,100	2,800	1,400	5,310	1,650	2,290	1,330	1,790	1,110	857	541
9	858	1,100	3,100	1,400	4,670	1,660	2,240	1,230	1,650	992	687	521
10	888	1,000	4,000	1,400	4,150	1,680	2,110	1,190	1,470	878	698	1,010
11	953	1,000	7,000	1,400	3,500	1,780	2,080	1,170	1,450	868	791	3,010
12	1,040	950	14,000	1,300	3,200	1,950	2,010	1,230	1,500	842	702	1,120
13	1,200	950	11,000	1,300	3,000	5,000	1,930	1,140	1,390	807	686	1,100
14	1,100	950	8,000	2,500	2,700	12,000	1,900	1,190	1,290	710	662	945
15	1,100	900	6,000	4,700	2,500	10,000	1,880	1,200	1,150	709	913	881
16	1,000	915	5,000	4,500	2,300	7,000	1,730	1,220	1,130	733	756	722
17	1,000	904	4,000	3,800	2,200	10,000	1,760	1,220	1,090	710	781	647
18	1,000	883	3,500	3,200	2,000	15,000	1,600	1,250	1,080	784	736	591
19	1,400	895	3,000	3,000	1,900	12,000	1,750	1,240	1,110	809	695	586
20	1,800	834	2,800	2,900	1,900	10,000	1,460	1,280	1,250	875	762	560
21	1,700	800	2,590	2,800	1,800	9,000	1,660	1,170	1,390	846	867	553
22	1,700	800	2,390	3,100	1,700	7,000	1,560	1,180	1,370	704	683	538
23	1,600	800	2,190	4,000	1,600	6,000	1,510	1,170	1,200	659	812	536
24	1,500	800	2,080	5,000	1,600	5,800	1,530	1,230	1,070	667	733	531
25	1,510	850	2,000	6,500	1,600	6,500	1,560	1,530	970	672	666	523
26	2,640	800	1,900	5,500	1,600	5,800	1,520	1,450	1,060	678	648	506
27	2,860	750	1,900	5,000	1,600	5,200	1,510	1,470	1,080	910	579	481
28	4,110	750	1,900	4,000	1,500	4,500	1,520	3,540	1,340	876	505	482
29	3,450	700	1,900	3,500	1,600	4,000	1,500	11,900	1,300	737	511	492
30	2,740	700	2,000	4,500	------	4,000	1,480	12,000	1,200	693	570	494
31	2,290	------	1,800	10,000	------	3,500	------	7,620	------	620	543	------
TOTAL	49,858	30,751	111,850	97,400	128,830	163,320	59,140	70,080	52,700	27,479	22,203	20,826
MEAN	1,608	1,025	3,608	3,142	4,442	5,268	1,971	2,261	1,757	886	716	694
MAX	4,110	1,940	14,000	10,000	15,000	16,000	3,200	12,000	5,740	1,560	934	3,010
MIN	830	700	800	1,300	1,500	1,500	1,460	1,140	970	620	505	459
CFSM	.53	.34	1.19	1.03	1.46	1.73	.65	.74	.58	.29	.24	.23
IN	.61	.38	1.37	1.19	1.58	2.00	.72	.86	.64	.34	.27	.25

CAL YR 1967: TOTAL 872,490 MEAN 2,390 MAX 40,000 MIN 498 CFSM .79 IN 10.67
WAT YR 1968: TOTAL 834,437 MEAN 2,280 MAX 16,000 MIN 459 CFSM .75 IN 10.21

PEAK DISCHARGE (BASE, 15,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-12	*	- -	Unknown	3-18	1600	9.27	18,100
2- 1	*	- -	Unknown	5-24	1830	8.78	16,300
3-14	*	- -	Unknown				

* Unknown

Note.--No gage-height record Oct. 13-24, Nov. 4-15, Nov. 21 to Dec. 20, Dec. 25 to Feb. 1, Feb. 3-5, Feb. 11 to Mar. 7, Mar. 13 to Apr. 2.

1-6370. Little Catoctin Creek at Harmony, Md.

Location.--Lat 39°28'55", long 77°32'20", on right bank at upstream side of county highway bridge, 0.9 mile southwest of Harmony, Frederick County, 2.6 miles north of Middletown, and 2.8 miles upstream from mouth.

Drainage area.--8.9 sq mi, approximately.

Records available.--July 1947 to October 1958, October 1967 to September 1968.

Gage.--Water-stage recorder, crest-stage gage and concrete control. Altitude of gage is 540 ft (from topographic map).

Average discharge.--12 years (1947-58, 1968), 10.0 cfs.

Extremes.--Maximum discharge during year, 335 cfs Jan. 14 (gage height, 3.74 ft), from rating curve extended above 220 cfs as explained below; minimum, 0.45 cfs Sept. 4, 5.
1947-58, 1968: Maximum discharge, 5,400 cfs Aug. 20, 1952 (gage height, 8.49 ft in gage well, 9.82 ft from floodmark), from rating curve extended above 220 cfs on basis of slope-area measurements at gage heights 3.87, 5.58, and 6.82 ft, and contracted-opening measurement of peak flow; minimum, 0.4 cfs July 28 to Aug. 2, Oct. 12-14, 1954, Aug. 17, 18, 1957.

Remarks.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.6	3.4	4.2	13	18	6.0	14	6.5	18	4.6	3.1	.75
2	1.6	19	4.2	13	19	7.5	13	6.0	17	4.6	2.5	.75
3	1.4	9.7	38	12	19	6.5	12	6.0	17	5.0	1.6	.75
4	1.4	6.5	17	12	17	6.5	12	6.5	16	5.0	1.6	.75
5	1.4	5.5	13	11	17	7.0	12	6.0	14	4.2	1.6	.90
6	1.2	5.0	13	9.0	17	7.5	11	5.5	13	3.4	1.4	5.3
7	1.2	5.0	14	8.5	16	6.5	10	5.0	12	3.1	1.2	1.6
8	1.2	5.0	14	8.5	15	6.5	10	5.0	12	3.1	1.4	1.2
9	1.8	5.5	12	8.5	14	6.5	9.7	5.0	13	3.1	1.2	1.0
10	4.6	5.0	21	9.5	12	7.5	9.1	5.0	13	2.8	2.3	9.9
11	2.8	5.5	31	9.0	12	7.5	8.5	5.5	12	2.8	2.0	5.2
12	2.0	4.6	24	8.5	10	12	8.0	5.5	13	2.8	1.4	2.4
13	1.8	4.6	18	8.5	8.5	17	7.5	4.6	12	2.8	1.4	1.8
14	1.8	4.6	17	141	9.0	13	7.0	4.2	9.7	2.5	1.4	1.5
15	1.8	4.2	15	59	10	13	7.5	4.6	8.0	2.5	1.2	1.2
16	1.8	4.2	14	30	10	22	7.5	5.0	12	2.5	1.0	1.0
17	1.8	5.0	13	21	9.5	55	7.0	4.6	11	2.2	1.0	1.2
18	31	5.0	13	19	8.5	32	7.0	4.2	9.7	2.2	1.0	1.2
19	9.1	4.6	12	19	8.5	25	7.0	3.8	12	2.2	1.4	1.0
20	4.6	4.2	12	20	8.5	22	6.5	3.8	10	1.8	1.6	1.0
21	3.8	4.2	11	22	8.0	20	6.5	3.8	7.5	1.8	.90	1.0
22	3.4	5.0	12	21	7.5	20	6.0	3.8	7.0	1.6	.90	1.0
23	3.1	6.5	11	20	6.0	24	6.0	8.0	6.5	1.6	.90	1.0
24	3.1	5.5	10	19	9.0	19	13	14	6.0	1.6	.90	1.0
25	19	5.0	9.7	17	7.0	18	10	7.5	6.0	1.6	1.0	.90
26	8.5	5.0	9.7	16	7.0	17	8.0	5.5	5.5	1.6	.90	1.0
27	5.5	4.6	8.5	15	7.0	16	7.5	10	7.7	1.6	.90	.90
28	4.6	4.2	30	15	7.0	15	7.0	40	17	1.4	.75	.90
29	4.2	4.2	31	17	7.0	14	6.5	26	7.0	1.4	.75	.90
30	3.8	3.2	19	19	------	13	7.0	24	5.5	1.4	.75	.90
31	3.8	------	16	20	------	13	------	21	------	1.4	.75	------
TOTAL	138.7	163.5	487.3	641.0	324.0	475.5	263.8	265.9	330.1	80.2	40.70	49.90
MEAN	4.47	5.45	15.7	20.7	11.2	15.3	8.79	8.58	11.0	2.59	1.31	1.66
MAX	31	19	38	141	19	55	14	40	18	5.0	3.1	9.9
MIN	1.2	3.2	4.2	8.5	6.0	6.0	6.0	3.8	5.5	1.4	.75	.75
CFSM	.51	.62	1.78	2.34	1.27	1.74	1.00	.97	1.25	.29	.15	.19
IN.	.58	.69	2.05	2.70	1.36	2.00	1.11	1.12	1.39	.34	.17	.21

CAL YR 1967: TOTAL MEAN MAX MIN CFSM IN
WAT YR 1968: TOTAL 3,260.60 MEAN 8.91 MAX 141 MIN .75 CFSM 1.01 IN 13.73

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-14	1300	3.74	335

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 1968.

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.--21 years, 67.8 cfs.

Extremes.--Maximum discharge during year, 1,800 cfs Jan. 14 (gage height, 5.23 ft); minimum discharge, 1.6 cfs Aug. 30 (gage height, 0.85 ft).
1947-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	15	36	34	60	159	32	107	48	172	45	11	2.0
2	13	113	32	40	174	48	87	42	148	39	20	2.4
3	11	130	259	46	192	34	79	40	141	40	12	2.6
4	10	77	174	50	155	70	75	41	117	40	8.6	2.5
5	9.3	65	127	46	140	42	78	39	96	33	25	2.7
6	8.3	56	114	44	132	51	69	38	83	30	14	18
7	8.1	51	121	40	123	42	64	34	73	26	9.9	15
8	8.8	45	115	38	115	41	63	31	66	25	8.8	6.7
9	9.5	42	97	36	105	49	60	30	63	23	8.7	4.5
10	18	40	118	34	93	58	54	32	76	22	7.7	238
11	23	37	287	30	85	58	55	31	59	20	28	89
12	15	36	250	26	80	71	52	36	81	20	13	20
13	12	34	187	28	75	139	47	31	66	19	8.1	13
14	11	31	152	979	80	95	45	27	52	18	7.2	9.6
15	11	30	135	597	95	95	45	32	43	17	7.7	7.7
16	10	27	121	316	71	145	42	35	74	15	7.7	6.6
17	10	29	109	230	65	631	40	37	67	14	6.9	5.9
18	275	36	101	185	60	401	39	29	52	13	7.2	5.4
19	181	34	91	172	60	284	38	27	75	12	15	5.1
20	64	27	83	168	55	224	37	28	58	11	10	4.8
21	47	26	75	181	50	188	36	26	41	10	7.2	4.5
22	37	29	82	185	46	194	35	25	38	9.3	5.0	4.6
23	32	40	78	171	51	235	34	38	34	8.5	3.9	4.1
24	29	37	63	158	48	208	104	164	31	8.2	3.2	4.2
25	177	33	59	144	44	174	110	78	29	8.2	3.3	4.1
26	139	30	57	132	40	154	64	52	78	8.9	2.8	4.2
27	72	27	50	118	34	137	57	67	51	8.6	2.7	4.0
28	57	25	83	114	42	123	52	455	258	7.9	2.4	3.9
29	48	24	148	121	38	113	48	361	73	6.7	2.3	3.5
30	42	24	80	141	------	102	50	264	54	5.5	2.0	3.4
31	38	------	70	187	------	94	------	244	------	5.3	1.9	------
TOTAL	1,441.0	1,271	3,552	4,817	2,507	4,332	1,766	2,462	2,349	569.1	273.2	502.0
MEAN	46.5	42.4	115	155	86.4	140	58.9	79.4	78.3	18.4	8.81	16.7
MAX	275	130	287	979	192	631	110	455	258	45	28	238
MIN	8.1	24	32	26	34	32	34	25	29	5.3	1.9	2.0
CFSM	.69	.63	1.71	2.32	1.29	2.09	.88	1.19	1.17	.27	.13	.25
IN.	.80	.71	1.97	2.68	1.39	2.41	.98	1.37	1.31	.32	.15	.28

CAL YR 1967: TOTAL 25,309.6 MEAN 69.3 MAX 1,120 MIN 4.4 CFSM 1.04 IN 14.07
WAT YR 1968: TOTAL 25,841.3 MEAN 70.6 MAX 979 MIN 1.9 CFSM 1.06 IN 14.37

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-14	1530	5.23	1,800

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 159.5 miles upstream from mouth.

Drainage area.--9,651 sq mi.

Records available.--February 1895 to September 1968.

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.--73 years, 9,105 cfs.

Extremes.--Maximum discharge during year, 76,800 cfs Mar. 18 (gage height, 14.73 ft); minimum, 982 cfs Sept. 2 (gage height, 0.59 ft).

1895-1968: 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. 71) and since December 1950 by Savage River Reservoir (see p. 76). 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 1968 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9,400	6,700	3,820	6,040	40,700	4,870	13,300	4,830	37,500	4,660	1,630	1,150
2	6,830	6,220	3,520	5,100	45,600	4,700	12,300	4,650	28,200	3,730	1,840	1,010
3	5,030	6,220	4,250	4,800	40,000	4,710	11,600	4,580	21,600	3,330	2,020	1,020
4	3,940	6,470	8,480	5,070	38,400	4,620	11,000	4,590	18,700	3,650	2,060	1,090
5	3,350	5,790	16,900	4,950	32,800	4,550	10,400	4,520	15,800	3,230	2,000	1,090
6	2,750	5,290	17,900	4,800	25,900	4,850	9,860	4,330	13,000	2,930	2,040	1,350
7	2,640	4,890	16,000	4,800	20,600	5,040	9,540	4,280	11,000	3,010	2,100	1,350
8	2,380	4,400	15,400	4,800	17,600	5,150	9,420	4,290	9,410	2,800	1,790	1,410
9	2,260	4,020	18,100	5,000	15,400	5,350	9,000	4,110	8,370	2,560	2,060	1,590
10	2,320	3,890	19,300	5,600	13,900	5,590	8,520	3,980	7,700	2,360	1,830	2,470
11	2,380	3,700	23,700	5,400	12,200	5,980	8,150	3,810	7,320	2,240	1,910	4,780
12	2,580	3,570	45,300	5,200	10,400	8,530	7,770	3,710	7,410	2,220	1,860	4,640
13	2,670	3,360	49,200	5,000	9,000	13,400	7,350	3,760	7,810	2,180	1,790	3,600
14	2,940	3,220	38,300	9,770	8,170	25,000	7,090	3,710	7,110	2,090	1,820	2,840
15	2,930	3,160	30,600	14,900	7,950	33,400	6,850	4,160	6,440	2,020	1,920	2,380
16	2,770	2,860	23,600	17,500	7,750	28,200	6,420	4,590	5,810	1,940	1,880	2,060
17	2,700	2,940	18,500	14,800	7,840	36,200	6,190	4,680	5,440	2,000	1,750	1,760
18	3,180	2,870	15,500	11,900	7,800	69,800	6,050	5,800	5,090	1,890	1,800	1,600
19	3,300	2,850	13,300	10,500	6,910	61,200	5,780	6,300	4,940	2,170	1,770	1,400
20	3,290	2,800	11,800	9,960	6,470	42,600	5,560	5,940	4,880	2,110	2,550	1,440
21	4,030	2,800	10,700	10,600	5,990	32,900	5,370	5,980	4,520	2,140	2,040	1,380
22	4,450	2,790	10,100	12,900	5,510	27,200	5,280	5,830	4,580	2,010	2,050	1,320
23	4,430	2,910	9,090	17,800	5,530	25,900	5,100	5,650	4,230	1,760	1,860	1,260
24	4,200	2,960	8,430	21,900	4,960	36,300	5,100	6,330	3,920	1,720	1,880	1,200
25	4,410	3,150	8,130	23,600	5,240	45,000	5,630	10,500	3,570	1,630	1,630	1,150
26	10,000	3,360	7,660	23,100	5,400	35,500	5,360	29,900	3,390	1,660	1,500	1,190
27	18,900	3,840	7,220	19,300	5,090	26,900	5,420	25,400	3,480	1,760	1,390	1,150
28	16,900	4,020	7,060	15,700	4,950	21,200	5,390	22,600	5,530	1,960	1,280	1,140
29	12,900	4,170	7,870	13,900	4,640	17,800	5,220	56,100	4,630	1,770	1,250	1,130
30	9,880	3,970	6,840	14,100	------	15,700	4,940	62,200	5,470	1,620	1,080	1,110
31	7,980	------	6,170	21,300	------	14,200	------	41,900	------	1,650	1,210	------
TOTAL	167,780	119,080	482,740	350,090	422,700	672,340	224,960	363,010	276,850	72,800	55,590	52,060
MEAN	5,412	3,969	15,570	11,290	14,580	21,690	7,499	11,710	9,228	2,348	1,793	1,735
MAX	18,900	6,700	49,200	23,600	45,600	69,800	13,300	62,200	37,500	4,660	2,550	4,780
MIN	2,260	2,790	3,520	4,800	4,640	4,550	4,940	3,710	3,390	1,620	1,080	1,010
CFSM	.56	.41	1.61	1.17	1.51	2.25	.78	1.21	.96	.24	.19	.18
IN.	.65	.46	1.86	1.35	1.63	2.59	.87	1.40	1.07	.28	.21	.20

CAL YR 1967 TOTAL 3,469,870 MEAN 9,506 MAX 132,000 MIN 1,640 CFSM .99 IN 13.37
WTR YR 1968 TOTAL 3,260,000 MEAN 8,907 MAX 69,800 MIN 1,010 CFSM .92 IN 12.56

PEAK DISCHARGE (BASE, 35,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-13	0200	11.44	53,400	3-18	1730	14.73	76,800
2- 2	0230	10.58	48,000	5-29	2300	14.39	74,100

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 1968.

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.--26 years, 187 cfs.

Extremes.--Maximum discharge during year, 7,320 cfs May 28 (gage height, 12.70 ft); minimum, 3.2 cfs Sept. 1, 2 (gage height, 1.81 ft).

1942-68: 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; 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	33	28	90	479	45	128	54	484	65	5.3	3.2
2	14	54	44	75	542	46	118	47	309	49	29	3.4
3	12	641	998	84	806	48	90	40	270	42	33	3.8
4	10	150	1,290	95	319	41	86	37	243	37	16	6.2
5	8.8	95	575	79	237	60	90	39	170	33	12	8.4
6	8.0	67	515	62	208	54	79	37	128	28	9.6	88
7	6.8	57	675	69	185	47	69	33	101	25	9.6	103
8	6.2	53	551	60	170	46	66	28	83	23	8.4	28
9	7.7	46	277	52	148	49	65	27	72	21	10	16
10	12	43	258	47	110	61	60	28	83	21	10	270
11	33	41	3,080	45	66	74	56	31	74	18	10	1,220
12	29	39	1,480	42	60	86	54	42	110	18	17	110
13	19	39	670	40	56	398	50	46	222	18	12	49
14	15	40	416	140	58	344	48	33	101	17	8.4	30
15	13	35	302	1,730	72	337	47	32	65	16	7.1	23
16	12	32	225	824	72	716	47	41	54	22	9.2	19
17	11	30	183	470	66	2,850	45	52	421	21	42	16
18	32	36	168	255	47	1,340	42	44	133	17	39	14
19	234	56	158	216	55	722	41	34	83	16	18	12
20	75	49	135	295	58	394	40	33	281	17	158	11
21	40	38	120	695	43	298	38	31	90	12	41	10
22	28	38	133	1,360	37	466	37	29	61	9.6	20	9.6
23	23	43	173	770	41	842	35	33	57	8.4	13	8.8
24	20	76	103	412	43	575	97	452	50	7.4	8.8	8.8
25	23	57	90	210	40	258	452	228	41	8.4	6.2	7.1
26	429	59	99	175	40	210	125	123	48	9.2	5.0	6.5
27	99	50	75	170	40	180	77	79	57	9.6	5.6	5.9
28	61	43	74	178	42	160	62	2,670	992	10	5.3	5.6
29	47	35	103	261	52	143	54	3,490	180	7.7	4.2	5.3
30	39	35	110	484	———	128	50	1,610	92	6.5	3.6	5.3
31	35	———	101	1,230	———	108	———	1,790	———	6.2	3.4	———
TOTAL	1,422.5	2,110	13,209	10,715	4,192	11,126	2,348	11,293	5,155	619.0	579.7	2,106.9
MEAN	45.9	70.3	426	346	145	359	78.3	364	172	20.0	18.7	70.2
MAX	429	641	3,080	1,730	806	2,850	452	3,490	992	65	158	1,220
MIN	6.2	30	28	40	37	41	35	27	41	6.2	3.4	3.2
CFSM	.27	.41	2.46	2.00	.84	2.07	.45	2.11	.99	.12	.11	.41
IN.	.31	.45	2.84	2.30	.90	2.39	.50	2.43	1.11	.13	.12	.45

CAL YR 1967 TOTAL 69,673.8 MEAN 191 MAX 6,530 MIN 6.2 CFSM 1.10 IN 14.98
WTR YR 1968 TOTAL 64,876.1 MEAN 177 MAX 3,490 MIN 3.2 CFSM 1.02 IN 13.95

PEAK DISCHARGE (BASE, 3,800 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-11	0700	10.77	5,320	5-28	2215	12.70	7,320
3-17	1045	9.72	4,380	5-30	2315	10.66	5,180

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 1968. 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.--21 years, 97.6 cfs.

Extremes.--Maximum discharge during year, 3,810 cfs Sept. 10 (gage height, 8.43 ft); minimum, 12 cfs Aug. 29 (gage height, 0.79 ft).
1947-68: Maximum discharge, 9,500 cfs July 12, 1949 (gage height, 11.92 ft), from rating curve extended above 2,300 cfs on basis of slope-area measurement at gage height 8.38 ft and slope conveyance study; minimum daily, 1.0 cfs Sept. 12, 1966.

Remarks.--Records good. Occasional diversion for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	41	55	80	135	59	129	64	182	46	21	18
2	34	120	50	60	171	65	105	56	142	42	46	20
3	33	168	368	70	198	55	95	55	124	47	29	22
4	33	80	251	80	135	60	95	56	116	59	26	19
5	31	65	155	55	118	65	95	55	95	44	25	17
6	31	56	137	60	112	68	84	58	84	40	24	99
7	31	52	153	65	105	59	82	50	75	36	29	55
8	32	49	135	55	101	58	80	47	68	35	62	29
9	34	47	105	60	93	67	82	46	67	33	28	24
10	52	46	201	65	70	77	74	47	67	32	45	791
11	84	44	648	60	65	80	74	47	62	31	90	653
12	44	45	352	55	65	107	70	64	72	31	31	88
13	38	45	217	60	60	275	68	53	86	29	25	56
14	36	41	171	477	65	151	67	49	64	29	21	46
15	36	41	146	507	70	173	67	50	56	41	25	40
16	35	37	129	191	70	269	65	56	53	47	26	36
17	34	41	116	150	70	722	62	59	72	32	162	34
18	131	49	109	140	65	473	61	50	64	28	38	33
19	135	46	103	140	60	288	61	49	74	37	34	31
20	58	41	92	150	65	217	59	47	93	47	280	29
21	46	40	88	150	60	189	58	45	55	32	46	28
22	41	44	105	140	55	212	58	46	47	25	33	27
23	38	53	103	130	60	283	58	55	46	27	30	27
24	38	55	79	122	60	219	93	157	44	26	26	26
25	65	49	79	90	55	166	133	86	44	23	25	26
26	142	46	86	95	55	151	75	61	58	31	23	25
27	59	44	72	105	55	135	67	55	59	27	21	24
28	49	40	80	90	60	129	64	644	214	24	21	23
29	44	37	196	103	60	120	59	556	65	21	20	22
30	41	36	118	126	———	112	62	545	50	21	19	21
31	41	———	95	173	———	105	———	322	———	19	19	———
TOTAL	1,581	1,598	4,794	3,904	2,413	5,209	2,302	3,630	2,398	1,042	1,350	2,389
MEAN	51.0	53.3	155	126	83.2	168	76.7	117	79.9	33.6	43.5	79.6
MAX	142	168	648	507	198	722	133	644	214	59	280	791
MIN	31	36	50	55	55	55	58	45	44	19	19	17
CFSM	.50	.52	1.52	1.23	.82	1.65	.75	1.15	.78	.33	.43	.78
IN.	.58	.58	1.75	1.42	.88	1.90	.84	1.32	.87	.38	.49	.87

CAL YR 1967 TOTAL 36,133 MEAN 99.0 MAX 2,280 MIN 16 CFSM .97 IN 13.17
WTR YR 1968 TOTAL 32,610 MEAN 89.1 MAX 791 MIN 17 CFSM .87 IN 11.89

PEAK DISCHARGE (BASE, 1,600 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-30-	1830	5.83	2,000
9-10	2300	8.43	3,810

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 1968.

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.--37 years, 8.63 cfs (adjusted for diversion).

Extremes.--Maximum discharge during year, 128 cfs May 30 (gage height, 2.87 ft); minimum, 0.27 cfs Sept. 29, 30 (gage height, 0.98 ft).
1931-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.8	8.0	5.0	7.0	29	6.0	17	7.4	35	3.9	1.7	.60
2	1.6	20	6.0	5.0	37	6.0	13	6.4	29	3.6	2.1	1.1
3	1.5	24	39	6.0	34	5.8	12	6.0	24	3.7	1.3	.90
4	1.4	15	22	7.0	27	6.2	12	6.6	21	3.6	1.0	.60
5	1.3	12	18	8.1	24	6.6	12	6.0	17	3.2	1.1	.70
6	1.6	10	16	6.5	22	6.2	10	5.7	15	2.9	1.0	7.0
7	1.6	9.0	23	6.0	20	6.0	9.8	5.3	13	2.8	1.6	2.0
8	1.8	8.5	21	5.5	18	6.6	9.8	5.1	12	2.7	1.8	1.0
9	1.7	8.0	18	5.0	16	8.1	9.1	5.1	11	2.6	.96	.80
10	3.6	8.0	22	5.5	13	9.1	8.4	5.1	11	2.4	1.6	15
11	2.7	7.5	37	5.0	11	7.7	8.8	5.3	10	2.4	2.2	4.4
12	1.8	7.0	47	4.6	10	8.4	8.1	6.0	11	2.4	.96	1.4
13	1.6	6.5	34	5.0	9.0	14	7.7	4.9	9.4	2.2	.83	.79
14	1.5	6.0	28	58	9.5	12	7.0	4.7	8.2	2.3	.86	.62
15	1.5	6.0	25	36	10	8.4	7.4	4.9	7.0	2.2	.83	.55
16	1.5	5.5	22	28	9.8	18	6.6	5.3	7.0	2.1	1.2	.52
17	1.4	5.0	19	19	8.8	68	6.4	4.9	7.0	1.9	3.0	.50
18	40	6.5	17	17	9.0	44	6.2	4.6	6.4	1.8	1.5	.50
19	30	6.5	16	16	8.4	32	6.0	4.4	5.7	1.7	2.0	.45
20	12	5.5	14	16	6.6	27	6.0	4.6	5.3	1.6	3.0	.45
21	8.0	5.0	13	20	5.7	24	5.7	4.3	4.9	1.5	1.5	.40
22	7.0	5.7	15	20	5.1	27	5.5	3.9	4.6	1.3	.70	.37
23	6.0	8.4	13	20	6.8	31	5.3	13	4.3	1.2	.60	.37
24	5.0	6.2	11	18	6.5	27	18	22	4.3	1.2	.70	.35
25	26	6.2	11	15	6.0	23	12	13	4.3	1.3	.80	.32
26	20	5.5	10	18	5.5	20	8.4	9.1	9.7	1.5	.60	.45
27	12	5.3	8.8	13	5.5	18	7.7	15	9.4	1.3	.50	.37
28	10	4.9	8.4	14	6.4	17	7.0	67	22	1.2	.55	.30
29	9.5	4.7	9.8	20	6.2	16	6.8	54	5.5	.90	.55	.30
30	9.0	4.6	9.0	28	------	15	8.1	61	4.5	.83	.50	.28
31	8.5	------	8.0	33	------	14	------	47	------	.96	.50	------
TOTAL	232.9	241.0	566.0	485.2	385.8	538.1	267.8	417.6	338.5	65.19	38.04	43.39
MEAN	7.51	8.03	18.3	15.7	13.3	17.4	8.93	13.5	11.3	2.10	1.23	1.45
MAX	40	24	47	58	37	68	18	67	35	3.9	3.0	15
MIN	1.3	4.6	5.0	4.6	5.1	5.8	5.3	3.9	4.3	.83	.50	.28
CFSM	1.27	1.35	3.08	2.64	2.24	2.93	1.51	2.27	1.90	.35	.21	.24
IN.	1.46	1.51	3.55	3.04	2.42	3.37	1.68	2.62	2.12	.41	.24	.27

CAL YR 1967: TOTAL 3,815.5 MEAN 10.5 MAX 90 MIN 1.1 CFSM 1.76 IN 23.93
WAT YR 1968: TOTAL 3,619.52 MEAN 9.89 MAX 68 MIN .28 CFSM 1.67 IN 22.70

PEAK DISCHARGE (BASE, 120 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-30	1645	2.87	128

Note.--No gage-height record Oct. 18 to Nov. 21.

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, 2½ 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 1968.

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.--19 years, 22.8 cfs.

Extremes.--Maximum discharge during year, 1,130 cfs May 30 (gage height, 4.86 ft); minimum, 1.0 cfs Aug. 29 (gage height, 1.52 ft).
1949-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	18	14	20	49	11	39	21	104	9.5	2.5	1.6
2	5.1	37	13	18	63	11	31	18	78	8.6	4.4	1.9
3	4.6	53	123	20	65	10	29	17	61	9.0	3.1	2.1
4	4.1	30	63	24	49	12	29	18	56	8.6	2.8	2.0
5	4.1	26	45	21	44	14	30	16	40	7.2	3.6	2.8
6	4.0	23	42	20	41	17	27	16	35	7.0	3.1	13
7	4.1	22	55	18	38	13	26	14	31	6.6	2.8	4.0
8	4.6	20	49	17	35	14	24	13	28	6.4	3.6	2.4
9	4.6	19	41	15	34	18	23	12	28	6.0	2.6	2.2
10	9.5	19	63	15	30	20	22	12	30	5.6	2.7	33
11	8.1	18	123	14	26	19	23	13	26	5.3	4.2	13
12	5.1	17	123	13	24	28	22	17	26	5.5	2.7	3.8
13	4.6	17	78	13	23	47	20	12	24	5.0	2.3	2.8
14	4.6	16	61	90	24	30	20	11	21	4.9	2.5	2.4
15	4.6	15	53	129	26	31	19	14	18	4.9	2.3	2.2
16	5.1	13	45	63	24	49	19	16	21	4.4	2.4	2.3
17	5.1	13	41	44	23	177	17	16	21	4.0	4.5	2.5
18	108	17	38	39	20	102	16	12	18	3.9	2.5	2.5
19	70	17	34	39	22	68	16	11	16	4.5	2.9	2.5
20	28	14	31	45	19	55	16	11	14	4.4	4.4	2.5
21	20	13	29	57	14	47	14	9.5	12	3.5	2.7	2.6
22	17	13	35	55	13	53	13	9.5	11	3.5	2.0	2.5
23	14	21	30	49	15	73	13	34	10	3.0	1.8	2.2
24	13	17	27	44	13	57	49	75	10	3.0	2.0	2.3
25	55	18	26	35	12	46	37	35	10	3.2	1.9	2.0
26	51	14	26	37	12	42	26	24	22	3.5	1.7	2.1
27	30	14	23	32	11	39	23	34	21	3.1	1.5	2.0
28	26	12	26	32	12	38	21	212	62	2.9	1.5	2.2
29	22	12	30	37	12	37	20	159	17	2.6	1.3	2.1
30	20	16	24	44	------	37	21	327	12	2.4	1.4	2.3
31	19	------	22	59	------	31	------	159	------	2.6	1.5	------
TOTAL	580.5	574	1,433	1,158	793	1,246	705	1,368.0	883	154.6	81.7	123.8
MEAN	18.7	19.1	46.2	37.4	27.3	40.2	23.5	44.1	29.4	4.99	2.64	4.13
MAX	108	53	123	129	65	177	49	327	104	9.5	4.5	33
MIN	4.0	12	13	13	11	10	13	9.5	10	2.4	1.3	1.6
CFSM	1.02	1.04	2.51	2.03	1.49	2.18	1.28	2.40	1.60	.27	.14	.22
IN.	1.17	1.16	2.90	2.34	1.60	2.52	1.42	2.76	1.78	.31	.17	.25

CAL YR 1967 TOTAL 9,948.9 MEAN 27.3 MAX 380 MIN 3.2 CFSM 1.48 IN 20.11
WTR YR 1968 TOTAL 9,100.6 MEAN 24.9 MAX 327 MIN 1.3 CFSM 1.35 IN 18.39

PEAK DISCHARGE (BASE, 350 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-18	1900	3.00	355	6-4	2130	2.99	352
5-30	1730	4.86	1,130				

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 1968.

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.--21 years, 10.3 cfs.

Extremes.--Maximum discharge during year, 55 cfs May 28 (gage height, 1.98 ft); minimum daily, 0.80 cfs Aug. 30, 31, Sept. 1.
1947-68: 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 no gage-height record, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	7.0	8.0	9.0	24	8.4	18	10	35	8.6	3.0	.80
2	2.3	12	7.0	8.0	26	8.0	16	10	33	8.1	2.8	1.0
3	2.3	11	25	9.5	26	7.6	15	10	30	8.0	2.7	1.1
4	2.3	10	20	10	24	7.2	15	10	25	7.6	2.5	1.1
5	2.2	10	18	9.5	23	7.4	15	9.8	23	6.8	3.2	1.1
6	2.2	9.5	17	9.0	20	7.6	14	9.3	21	6.5	3.0	2.5
7	2.2	9.5	17	8.5	20	6.8	13	9.0	20	6.1	2.8	2.3
8	2.2	9.0	17	8.0	19	6.6	13	8.8	18	5.9	2.7	2.0
9	2.3	9.0	15	8.0	18	7.0	13	8.8	18	5.7	2.6	1.8
10	3.9	9.0	17	8.5	17	7.0	12	9.0	17	5.5	2.5	12
11	2.7	8.5	30	8.1	16	6.7	12	9.2	16	5.4	3.5	3.8
12	2.2	8.5	30	7.5	15	8.8	12	9.5	16	5.3	3.2	2.2
13	2.2	8.5	28	7.6	14	11	12	8.7	16	4.7	2.9	2.0
14	2.2	8.5	26	28	13	8.2	11	8.5	17	4.5	2.5	1.7
15	2.2	8.0	25	24	13	7.9	11	8.6	15	4.4	2.5	1.6
16	2.2	7.5	24	19	12	11	11	9.1	15	4.0	2.5	1.5
17	2.2	8.0	21	17	12	30	11	8.8	15	3.9	2.4	1.6
18	20	8.0	20	16	11	28	10	8.0	14	3.8	2.3	1.5
19	12	7.5	18	16	11	26	10	7.8	13	3.6	2.5	1.4
20	6.5	7.0	16	16	11	24	10	7.7	13	3.5	2.2	1.4
21	5.5	6.5	16	18	10	23	10	7.4	11	3.3	2.0	1.3
22	5.0	7.5	16	18	9.0	23	9.9	7.1	11	3.2	1.8	1.3
23	5.0	8.5	15	18	9.4	24	9.5	11	10	3.0	1.6	1.2
24	4.6	8.0	13	18	9.0	22	15	16	9.8	2.8	1.5	1.2
25	12	7.5	13	17	9.0	20	12	12	9.8	2.9	1.5	1.1
26	9.5	7.5	12	16	8.5	20	11	11	11	2.9	1.3	1.2
27	8.5	7.0	12	16	8.5	19	10	14	12	2.8	1.1	1.1
28	8.5	7.0	12	16	8.1	18	10	39	19	2.6	.90	1.1
29	8.0	6.5	12	17	8.2	18	10	48	11	2.4	.90	1.1
30	7.5	6.5	11	19	------	17	11	43	9.4	2.3	.80	1.0
31	7.5	------	11	23	------	17	------	39	------	2.2	.80	------
TOTAL	160.4	248.5	542.0	443.2	424.7	456.2	362.4	428.1	504.0	142.3	68.50	56.00
MEAN	5.17	8.28	17.5	14.3	14.6	14.7	12.1	13.8	16.8	4.59	2.21	1.87
MAX	20	12	30	28	26	30	18	48	35	8.6	3.5	12
MIN	2.2	6.5	7.0	7.5	8.1	6.6	9.5	7.1	9.4	2.2	.80	.80
CFSM	.71	1.14	2.40	1.96	2.01	2.02	1.66	1.89	2.30	.63	.30	.26
IN.	.82	1.27	2.77	2.26	2.17	2.33	1.85	2.18	2.57	.73	.35	.29

CAL YR 1967 TOTAL 3,983.7 MEAN 10.9 MAX 42 MIN 1.9 CFSM 1.50 IN 20.32
WTR YR 1968 TOTAL 3,836.30 MEAN 10.5 MAX 48 MIN .80 CFSM 1.44 IN 19.57

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

Note.--No gage-height record July 28 to Sept. 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 1968.

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.--34 years (1934-68), 78.7 cfs.

Extremes.--Maximum discharge during year, 3,200 cfs Jan. 14 (gage height, 9.71 ft); minimum, 11 cfs Sept. 5 (gage height, 1.62 ft).
1931-32, 1934-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	24	30	60	81	44	102	49	135	43	24	12
2	21	59	26	46	88	48	80	46	107	40	45	14
3	20	78	218	50	102	44	75	45	95	52	33	14
4	19	39	130	55	80	46	75	45	84	48	23	12
5	18	32	76	42	74	46	79	43	73	40	22	12
6	18	29	67	46	72	48	69	41	66	38	25	47
7	18	28	70	50	69	44	67	40	61	37	20	25
8	19	27	68	40	67	43	68	39	57	35	24	16
9	20	26	57	44	64	48	67	39	56	34	19	15
10	32	26	117	48	55	52	63	39	55	33	18	210
11	44	25	483	46	50	52	63	40	54	32	29	286
12	25	26	221	40	50	83	60	46	129	32	18	37
13	23	25	132	46	46	199	58	40	123	30	16	27
14	22	24	103	858	50	99	57	39	62	30	16	23
15	22	23	87	332	58	115	57	42	54	48	18	20
16	22	21	76	135	55	192	56	43	84	42	26	19
17	21	24	67	104	56	660	54	43	113	31	107	19
18	64	28	64	95	46	291	54	39	70	30	28	18
19	55	26	61	95	51	199	53	39	61	32	23	17
20	29	23	55	100	54	158	52	43	62	37	44	16
21	26	23	52	100	48	138	52	38	49	28	23	16
22	24	27	60	95	44	131	50	37	48	25	18	16
23	23	32	59	93	44	185	50	46	45	24	17	15
24	22	31	48	84	42	142	67	105	43	22	16	15
25	61	29	48	72	44	117	81	55	42	21	16	15
26	81	27	53	72	42	107	55	43	45	23	14	14
27	34	25	45	74	44	98	53	49	72	20	13	13
28	29	23	57	66	46	93	51	589	199	20	13	13
29	26	21	193	69	46	89	48	334	56	18	13	13
30	25	19	88	79	------	84	50	348	47	17	12	13
31	24	------	70	102	------	80	------	242	------	18	12	------
TOTAL	909	870	2,981	3,238	1,668	3,775	1,866	2,726	2,247	980	745	1,002
MEAN	29.3	29.0	96.2	104	57.5	122	62.2	87.9	74.9	31.6	24.0	33.4
MAX	81	78	483	858	102	660	102	589	199	52	107	286
MIN	18	19	26	40	42	43	48	37	42	17	12	12
CFSM	.36	.35	1.17	1.27	.70	1.48	.76	1.07	.91	.38	.29	.41
IN.	.41	.39	1.35	1.46	.75	1.71	.84	1.23	1.02	.44	.34	.45

CAL YR 1967 TOTAL 25,341 MEAN 69.4 MAX 1,800 MIN 17 CFSM .84 IN 11.45
WTR YR 1968 TOTAL 23,007 MEAN 62.9 MAX 858 MIN 12 CFSM .76 IN 10.40

PEAK DISCHARGE (BASE, 1,400 cfs)

DATE	TIME	G.HT.	DISCHARGE
1-14	1430	9.71	3,200

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 1968. 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.--39 years, 858 cfs.

Extremes.--Maximum discharge during year, 11,400 cfs May 29 (gage height, 12.67 ft); minimum, 77 cfs Sept. 1 (gage height, 1.35 ft).
1929-68: 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 1968 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	254	299	226	600	1,900	320	840	400	3,200	404	110	79
2	196	348	260	500	1,630	360	851	384	2,000	344	158	81
3	172	1,500	660	550	2,320	340	730	352	1,600	332	184	84
4	163	872	3,660	600	1,630	340	686	340	1,300	328	194	86
5	151	555	2,030	500	1,260	340	686	332	1,030	296	158	86
6	142	449	1,610	460	1,090	360	630	320	840	259	155	197
7	133	392	1,570	500	1,010	320	575	310	724	238	137	454
8	139	360	1,980	440	942	320	550	285	640	221	131	284
9	145	336	1,320	420	873	320	540	271	585	214	184	162
10	181	324	1,120	400	790	356	508	268	590	203	140	340
11	264	310	6,410	440	555	400	481	268	555	197	187	4,660
12	271	296	4,840	400	500	463	463	299	691	194	256	834
13	217	292	2,960	380	440	1,260	440	317	930	187	152	376
14	184	278	1,950	1,100	500	1,590	424	292	675	180	128	266
15	172	268	1,580	4,870	600	1,220	416	278	503	197	122	214
16	163	254	1,290	2,990	545	1,710	404	289	494	231	113	184
17	154	247	1,090	1,890	494	5,900	392	317	708	210	670	165
18	280	271	972	1,450	380	5,160	376	310	757	207	494	152
19	1,370	299	906	1,230	416	3,360	364	285	535	200	235	146
20	718	296	807	1,500	440	2,070	352	268	645	203	472	134
21	408	274	730	1,880	380	1,660	344	254	590	203	494	128
22	310	264	735	2,730	360	1,690	332	244	408	158	221	119
23	268	292	878	2,280	360	1,940	328	275	356	143	162	119
24	244	344	702	1,800	320	2,700	396	1,020	324	134	134	113
25	288	368	590	1,180	320	1,560	1,090	1,290	312	128	116	110
26	1,380	332	595	1,010	317	1,260	818	746	352	131	105	105
27	806	313	570	918	336	1,110	508	517	424	134	96	99
28	490	288	545	900	332	1,010	436	1,600	2,090	131	88	96
29	396	268	1,020	924	344	942	400	9,510	1,090	119	84	94
30	340	247	906	1,240	------	900	388	4,600	530	110	84	88
31	316	------	735	2,200	------	829	------	8,290	------	108	81	------
TOTAL	10,715	11,236	45,247	38,282	21,384	42,110	15,748	34,531	25,478	6,344	6,045	10,055
MEAN	346	375	1,460	1,235	737	1,358	525	1,114	849	205	195	335
MAX	1,380	1,500	6,410	4,870	2,320	5,900	1,090	9,510	3,200	404	670	4,660
MIN	133	247	226	380	317	320	328	244	312	108	81	79
CFSM	4.23	4.58	17.9	15.1	9.03	16.6	6.43	13.6	10.4	2.50	2.39	4.10
IN.	4.88	5.11	20.6	17.4	9.73	19.2	7.17	15.7	11.6	2.89	2.75	4.58

CAL YR 1967 TOTAL 311,286 MEAN 853 MAX 15,700 MIN 133 CFSM 10.4 IN 141.70
WTR YR 1968 TOTAL 267,175 MEAN 730 MAX 9,510 MIN 79 CFSM 8.94 IN 121.62

PEAK DISCHARGE (BASE, 8,800 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-29	1200	12.67	11,400

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, Annual maximum, water years 1960-66. August 1966 to September 1968.

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.--12 years (1948-58, 1966-68) 64.2 cfs.

Extremes.--Maximum discharge during year, 1,760 cfs June 19 (gage height, 5.99 ft); maximum gage height, 7.13 ft Jan. 14 (ice jam); minimum, 10 cfs Sept. 5 (gage height, 0.98 ft).
1948-58, 1960-68): Maximum discharge, 3,230 cfs Nov. 21, 1952 (gage height, 10.34 ft in gage well, 10.77 ft from outside gage), from rating curve extended above 1,500 cfs on basis of slope-area measurement at gage height, 8.12 ft; minimum, 0.30 cfs Sept. 8, 1966 (gage height, 0.80 ft)

Remarks.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	22	25	26	55	68	41	83	40	67	38	17	11
2	22	65	27	40	70	40	65	35	56	35	23	12
3	21	58	220	45	74	41	61	35	52	53	21	12
4	21	35	110	56	63	41	61	35	49	38	18	12
5	20	30	67	46	58	40	64	33	41	33	18	10
6	19	27	62	44	57	42	56	31	38	30	20	34
7	19	26	71	41	56	38	54	30	35	29	20	18
8	20	25	70	35	56	37	54	30	33	27	23	14
9	22	25	54	37	53	41	53	29	34	26	18	13
10	36	25	130	40	48	46	49	29	37	27	18	166
11	33	24	414	37	45	43	49	29	32	25	26	94
12	23	25	201	37	45	91	47	32	152	24	17	23
13	22	24	114	46	42	220	45	30	85	23	16	18
14	22	23	87	700	46	105	45	29	44	24	16	16
15	22	22	73	237	47	119	46	31	36	47	17	15
16	22	22	65	121	44	188	43	32	110	25	16	14
17	22	24	57	90	43	580	42	32	88	23	31	14
18	67	26	52	80	40	247	41	29	56	22	17	14
19	46	23	48	84	40	171	41	30	265	48	18	14
20	27	22	45	88	41	136	39	31	319	45	46	13
21	25	22	43	95	40	118	40	27	76	26	18	13
22	23	25	49	90	38	109	38	27	60	24	14	13
23	23	29	44	83	37	166	38	37	48	23	14	12
24	22	27	38	75	36	136	53	81	47	22	15	12
25	68	25	37	65	37	104	59	44	47	22	16	12
26	55	23	40	65	36	93	43	33	37	23	13	11
27	31	22	35	67	40	85	41	53	100	21	12	11
28	27	21	70	57	39	80	40	480	218	21	11	10
29	25	20	275	59	38	77	37	252	63	18	11	10
30	24	20	92	67	------	72	39	123	47	17	10	10
31	24	------	74	84	------	69	------	90	------	18	10	------
TOTAL	875	810	2,790	2,766	1,377	3,416	1,466	1,879	2,372	877	560	651
MEAN	28.2	27.0	90.0	89.2	47.5	110	48.9	60.6	79.1	28.3	18.1	21.7
MAX	68	65	414	700	74	580	83	480	319	53	46	166
MIN	19	20	26	35	36	37	37	27	32	17	10	10
CFSM	.45	.43	1.43	1.42	.76	1.75	.78	.97	1.26	.45	.29	.35
IN.	.52	.48	1.65	1.64	.82	2.02	.87	1.11	1.40	.52	.33	.39

CAL YR 1967: TOTAL 22,477 MEAN 61.6 MAX 1,390 MIN 14 CFSM .98 IN 13.31
WAT YR 1968: TOTAL 19,839 MEAN 54.2 MAX 700 MIN 10 CFSM .86 IN 11.75

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G.HT.	DISCHARGE
6-19	2230	5.99	1,760

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 1968.

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.--38 years, 90.2 cfs.

Extremes.--Maximum discharge during year, 1,640 cfs Jan. 14 (gage height, 6.37 ft) minimum, 16 cfs Aug. 28, 29, 30, 31 Sept. 1 (gage height, 1.78 ft).
1930-68: Maximum discharge, 15,000 cfs July 21, 1956 (gage height, 12.17 ft), from rating curve extended above 2,700 cfs on basis of contracted-opening and flow-over-road measurement at gage height 9.78 ft; minimum observed, 1.7 cfs Sept. 28, 29, 1930 (gage height, 0.56 ft).

Remarks.--Records good. Small diversion at times for irrigation above station. Records of chemical analyses for the water year 1968 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	33	35	40	110	99	65	106	65	82	69	26	17
2	32	112	38	100	104	67	89	58	74	76	28	18
3	30	109	340	113	120	69	87	58	80	134	28	18
4	30	56	214	110	96	60	87	61	76	74	27	17
5	28	47	123	90	89	67	92	57	63	61	28	16
6	28	42	112	80	88	69	82	56	59	56	28	39
7	28	40	117	80	86	65	80	50	54	52	26	29
8	29	39	114	65	84	61	80	50	51	48	43	20
9	30	39	99	65	80	69	78	50	54	48	27	19
10	43	39	188	65	70	76	74	49	56	47	27	381
11	52	37	565	60	65	74	74	48	51	45	37	372
12	35	40	270	55	69	150	71	54	92	43	25	45
13	32	40	163	60	63	332	69	54	134	42	24	32
14	32	39	126	868	61	156	69	49	65	42	24	28
15	32	39	112	482	67	166	71	52	56	41	27	26
16	32	36	99	153	67	214	67	56	153	39	24	24
17	32	39	89	120	65	653	65	54	150	36	40	23
18	78	43	84	110	60	287	65	48	99	35	35	23
19	72	42	80	112	60	198	65	48	82	78	32	22
20	39	39	74	117	65	163	62	52	345	80	48	21
21	36	39	72	114	55	144	63	47	80	40	26	21
22	33	43	89	113	54	131	61	43	67	36	22	21
23	33	48	87	109	59	170	61	54	59	35	21	21
24	32	43	72	104	57	147	80	114	65	32	20	20
25	126	40	69	87	57	120	92	69	78	31	24	20
26	112	39	78	80	56	112	69	52	59	33	19	20
27	48	36	67	90	55	106	66	84	345	30	17	18
28	40	35	206	80	55	106	67	569	672	30	17	18
29	37	33	661	82	60	104	62	270	109	27	17	18
30	36	30	177	94	------	99	64	131	80	26	17	17
31	35	------	134	126	------	96	------	104	------	26	16	------
TOTAL	1,315	1,338	4,759	4,094	2,066	4,396	2,218	2,606	3,490	1,492	820	1,384
MEAN	42.4	44.6	154	132	71.2	142	73.9	84.1	116	48.1	26.5	46.1
MAX	126	112	661	868	120	653	106	569	672	134	48	381
MIN	28	30	38	55	54	60	61	43	51	26	16	16
CFSM	.42	.44	1.52	1.31	.71	1.40	.73	.83	1.15	.48	.26	.46
IN.	.48	.49	1.75	1.51	.76	1.62	.82	.96	1.29	.55	.30	.51

CAL YR 1967: TOTAL 34,261 MEAN 93.9 MAX 1,830 MIN 27 CFSM .93 IN 12.62
WAT YR 1968: TOTAL 29,978 MEAN 81.9 MAX 868 MIN 16 CFSM .81 IN 11.04

PEAK DISCHARGE (BASE, 1,300 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-29	0200	6.13	1,520	9-10	2315	6.13	1,520
1-14	1900	6.37	1,640				

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 1968.

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.--11 years, 3.21 cfs.

Extremes.--Maximum discharge during year, 1,310 cfs Sept. 10 (gage height, 5.65 ft); minimum, 0.35 cfs Aug. 28, 29, 30, 31, Sept. 4, 5, 6 (gage height, 1.16 ft).
1957-68: Maximum discharge, that of Sept. 10, 1968, 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.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.83	1.2	1.4	2.8	2.6	2.0	2.7	1.7	1.9	1.8	.85	.50
2	.87	9.7	1.2	2.2	5.2	2.4	2.1	1.5	1.7	101	.90	.78
3	.89	1.3	38	2.4	3.5	1.6	2.1	2.3	2.5	14	.78	.75
4	.85	1.0	5.0	3.4	2.6	1.6	4.9	4.0	1.7	2.8	.76	.43
5	.81	.93	3.0	2.2	2.4	1.8	4.6	2.7	1.5	2.6	.81	.40
6	.82	.93	2.7	2.0	2.4	1.8	2.0	2.7	1.4	2.0	.79	6.1
7	.92	.93	2.9	2.0	2.2	1.7	2.0	3.4	1.3	1.6	1.8	.63
8	.93	.93	2.4	1.8	2.0	1.7	2.0	2.4	1.3	1.6	.94	.68
9	.97	.93	2.0	1.7	2.0	1.9	1.8	1.5	1.7	1.5	.72	.57
10	5.7	.93	29	1.8	1.8	1.9	1.8	1.4	1.6	1.5	3.0	175
11	1.0	.93	17	1.7	1.7	1.8	1.8	1.4	1.4	1.5	1.2	2.2
12	.87	.93	9.4	1.7	1.5	20	1.6	1.6	15	1.5	.66	1.1
13	.82	.93	3.2	2.0	1.6	15	1.6	1.4	9.8	1.5	.64	.87
14	.82	.93	2.6	89	1.7	4.6	1.6	1.5	5.4	1.3	.86	.79
15	.82	.82	2.3	5.4	1.8	6.0	1.8	1.6	2.8	1.3	.73	.74
16	.88	.86	2.2	3.2	1.8	4.3	1.5	1.8	71	1.3	.97	1.3
17	.83	1.1	2.0	2.6	1.8	29	1.5	1.5	9.3	1.2	1.3	.72
18	4.2	.99	2.0	2.6	1.6	12	1.5	1.4	3.3	1.2	.59	.71
19	1.2	.87	1.9	2.8	1.6	4.6	1.5	2.5	43	3.9	6.4	.72
20	.82	.88	1.8	2.6	1.6	3.7	1.6	1.5	4.8	1.5	1.1	.72
21	.82	.94	1.8	2.8	1.5	3.3	1.6	2.2	2.3	1.2	.65	.73
22	.82	1.4	4.5	2.4	1.6	3.0	1.5	2.2	2.1	1.2	.57	.72
23	.84	1.6	2.2	2.6	1.6	6.9	1.6	5.4	1.9	1.2	.56	.69
24	.93	1.1	1.8	2.2	1.6	3.6	6.4	6.7	4.8	1.1	.86	.69
25	10	1.3	2.1	2.0	1.5	2.9	2.3	2.1	2.0	1.1	.64	.68
26	1.3	.94	2.1	1.8	1.5	2.9	1.8	1.2	4.4	1.1	.50	.66
27	1.1	.93	1.7	1.8	1.5	2.7	2.2	14	108	1.0	.48	.58
28	1.1	.93	40	2.2	1.6	2.5	1.8	44	14	.96	.46	.57
29	1.1	.89	14	2.2	2.0	2.3	1.6	7.7	2.6	.85	.42	.55
30	1.1	1.1	4.0	4.2	------	2.3	1.8	3.0	2.2	.86	.39	.66
31	1.1	------	3.5	3.5	------	2.2	------	2.3	------	.87	.44	------
TOTAL	46.06	39.15	209.7	163.6	57.8	154.0	64.6	130.6	326.7	158.04	31.77	202.24
MEAN	1.49	1.31	6.76	5.28	1.99	4.97	2.15	4.21	10.9	5.10	1.02	6.74
MAX	10	9.7	40	89	5.2	29	6.4	44	108	101	6.4	175
MIN	.81	.82	1.2	1.7	1.5	1.6	1.5	1.2	1.3	.85	.39	.40
CFSM	.40	.35	1.83	1.43	.54	1.34	.58	1.14	2.94	1.38	.28	1.82
IN.	.46	.39	2.11	1.64	.58	1.55	.65	1.31	3.28	1.59	.32	2.03

CAL YR 1967: TOTAL 1,382.34 MEAN 3.79 MAX 117 MIN .62 CFSM 1.02 IN 13.89
WAT YR 1968: TOTAL 1,584.26 MEAN 4.33 MAX 175 MIN .39 CFSM 1.17 IN 15.92

PEAK DISCHARGE (BASE 130 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-28	2200	4.15	206	6-19	2045	5.29	900
1-14	0745	4.39	258	6-27	2230	5.53	1,170
5-28	0915	3.59	144	7- 2	1730	5.53	1,170
6-12	2245	4.14	205	9-10	1645	5.65	1,310
6-16	1800	5.40	1,020				

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, 1.2 miles upstream from Chain Bridge, 1.8 miles east of Langley, Fairfax County, Va., and 117.4 miles upstream from mouth.
Drainage area.--11,560 sq mi.
Records available.--March 1930 to September 1968.
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.--38 years, 10,780 cfs (adjusted for diversions).

Extremes.--Maximum discharge during year, 81,400 cfs Mar. 18 and May 30 (gage height, 8.71 ft); minimum daily, 827 cfs Sept. 5 (does not include diversion of 441 cfs for municipal use).
1930-68: 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. 71) and since December 1950, by Savage River Reservoir (see p. 76). Low flow affected extensively at times by run-of-the-river hydroelectric plants.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7,670	7,500	4,160	7,440	44,100	4,770	14,500	5,520	44,900	5,500	1,390	959
2	8,010	6,830	3,890	6,200	50,900	5,050	13,900	5,310	36,300	5,310	1,360	1,200
3	5,790	6,790	4,760	5,030	44,900	4,840	12,800	5,200	26,600	7,810	1,660	1,100
4	4,440	7,290	9,010	6,370	42,200	4,840	12,000	5,120	21,700	4,900	2,010	870
5	3,650	6,830	16,700	5,960	37,500	4,910	11,400	5,010	18,400	4,140	2,170	827
6	3,150	5,960	20,200	4,690	29,700	5,050	10,800	4,780	15,200	3,730	1,950	1,090
7	2,740	5,330	19,300	5,380	23,600	5,330	10,200	4,650	12,400	3,240	1,970	1,290
8	2,640	4,840	17,400	5,850	20,300	5,260	10,000	4,550	10,600	3,240	2,880	1,530
9	2,390	4,450	18,600	5,000	17,800	5,400	9,780	4,490	9,210	3,000	2,270	1,600
10	2,470	4,210	20,700	5,760	15,500	5,800	9,340	4,290	8,520	2,650	2,000	3,310
11	2,560	3,990	31,500	6,410	13,800	6,040	8,830	4,050	7,760	2,500	2,420	6,120
12	2,630	3,740	48,800	5,510	11,700	7,090	8,490	3,990	7,330	2,320	2,330	9,390
13	2,770	3,530	58,900	4,750	9,950	14,600	7,960	4,070	15,700	2,320	1,980	5,170
14	2,800	3,540	44,400	9,730	8,630	21,400	7,580	3,950	9,580	2,290	1,820	3,840
15	2,950	3,290	34,600	27,100	8,540	38,300	7,270	3,920	7,730	2,150	1,910	3,070
16	3,000	3,330	27,000	25,900	8,440	34,700	7,070	4,270	6,600	2,040	1,820	2,570
17	2,910	3,250	21,600	19,700	8,170	42,300	6,750	4,510	6,720	1,930	1,940	2,240
18	2,910	3,150	18,100	15,700	8,080	69,800	6,590	4,700	6,350	1,960	1,920	1,900
19	3,860	3,080	15,400	13,200	7,540	73,500	6,360	5,690	5,900	1,940	2,430	1,710
20	4,590	3,070	13,500	12,500	6,920	51,900	6,150	5,860	6,520	2,730	3,180	1,460
21	4,130	3,130	12,100	12,700	6,440	38,600	5,920	5,670	5,740	2,470	3,000	1,440
22	4,240	3,120	11,200	14,700	5,480	31,300	5,720	5,580	5,160	2,090	2,520	1,360
23	4,490	2,990	10,600	18,900	5,400	29,000	5,660	5,530	4,890	2,000	2,180	1,240
24	4,290	3,150	9,690	24,500	6,040	35,700	5,780	6,010	4,420	1,700	1,730	1,170
25	4,370	3,290	8,950	26,600	5,330	50,100	6,150	7,600	4,180	1,530	1,810	1,130
26	5,790	3,430	8,530	25,600	5,400	41,400	7,020	25,700	3,720	1,520	1,510	1,010
27	15,600	3,520	8,020	22,300	5,400	31,400	6,530	32,900	3,980	1,500	1,360	1,020
28	19,000	4,020	8,000	18,300	5,260	24,700	6,280	27,600	8,210	1,640	1,290	1,020
29	15,100	3,990	14,100	15,800	5,190	20,700	6,050	50,400	7,890	1,770	1,100	967
30	11,500	4,230	10,800	14,800	------	18,100	5,790	75,400	5,970	1,590	1,020	970
31	9,060	------	8,460	19,100	------	16,000	------	56,700	------	1,380	967	------
TOTAL	171,410	128,880	558,970	411,480	468,210	747,880	248,670	393,020	338,180	84,890	59,897	62,573
MEAN	5,529	4,296	18,030	13,270	16,150	24,130	8,289	12,680	11,270	2,738	1,932	2,086
MAX	19,000	7,500	58,900	27,100	50,900	73,500	14,500	75,400	44,900	7,810	3,180	9,390
MIN	2,390	2,990	3,890	4,690	5,190	4,770	5,660	3,920	3,720	1,380	967	827
(†)	+407	+382	+380	+398	+362	+388	+406	+416	+397	+470	+451	+406
MEAN‡	$,936	4,678	18,410	13,670	16,510	24,520	8,695	13,100	11,670	3,208	2,383	2,492
CFSM‡	.51	.40	1.59	1.18	1.43	2.12	.75	1.13	1.01	.28	.21	.22
IN‡	.59	.45	1.83	1.36	1.54	2.44	.84	1.30	1.13	.32	.24	.24

CAL YR 1967 TOTAL 3,375,430 MEAN 10,890 MAX 139,000 MIN 1,660 MEAN‡ 11,290 CFSM‡ .98 IN‡ 13.30
WTR YR 1968 TOTAL 3,674,060 MEAN 10,040 MAX 75,400 MIN 827 MEAN‡ 10,450 CFSM‡ .90 IN‡ 12.25

Peak discharge (base, 45,000 cfs).--Dec. 13 (0230) 62,700 cfs (7.75 ft); Feb. 2 (0030) 52,400 cfs (7.16 ft); Mar. 18 (2230) 81,400 cfs (8.71 ft); May 30 (0345) 81,400 cfs (8.71 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 1968.

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.--21 years (1945-59, 1963-68), 3.16 cfs.

Extremes.--Maximum discharge during year, 915 cfs Sept. 2 (gage height, 4.03 ft); minimum, 0.13 cfs Sept. 1, 2 (gage height, 1.28 ft).
1944-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.48	.87	3.1	1.6	2.0	2.3	2.0	1.3	1.1	.83	.63	.16
2	.41	20	1.6	1.2	8.0	2.7	1.1	.99	2.2	6.5	2.1	23
3	.41	1.4	44	1.3	2.4	1.4	1.2	5.1	2.7	3.0	1.9	2.2
4	.56	1.1	4.0	7.3	1.8	1.5	1.4	2.4	1.0	1.6	.50	.87
5	.41	.75	2.5	1.6	1.6	1.4	2.1	.96	.89	1.7	1.2	.75
6	.56	.75	1.8	1.5	1.8	1.4	1.0	.96	.85	1.0	.56	14
7	.48	.85	1.4	1.5	1.5	1.3	1.0	2.7	.94	.70	4.2	.60
8	.41	.69	1.2	1.4	1.4	1.7	1.7	3.0	.92	.80	.70	.48
9	.48	.69	1.0	1.3	1.6	1.4	2.0	1.3	3.5	.70	.56	.54
10	10	.69	32	1.6	1.4	1.4	1.0	1.4	1.1	.65	6.4	32
11	.65	.66	17	1.3	1.2	1.4	1.1	1.5	3.7	1.0	.86	1.9
12	.48	.64	6.4	1.3	1.0	31	1.0	2.5	20	.60	.43	.74
13	.48	.75	1.8	1.8	1.1	7.6	.94	1.2	8.2	.60	.46	.64
14	.41	.71	1.4	80	1.2	1.7	1.1	1.3	1.2	.60	.97	.56
15	.56	.70	1.3	3.0	1.4	1.5	1.5	1.8	1.0	.55	.78	.52
16	.65	.66	1.2	2.4	2.2	1.4	.93	2.0	7.3	.55	.50	.55
17	.75	.80	1.1	2.0	1.5	20	.92	1.7	9.4	.55	1.2	.59
18	9.7	.67	1.5	1.8	1.2	14	.95	1.7	1.4	.70	.38	.56
19	.99	.65	1.1	2.0	1.4	2.4	.76	7.6	3.4	8.0	12	.56
20	.75	.73	1.1	1.8	1.6	2.0	.65	1.6	1.2	1.1	.97	.59
21	.75	.75	1.1	2.0	1.2	1.6	.62	1.7	.98	.80	.58	.58
22	.65	1.4	14	1.8	1.3	1.4	.62	.79	.89	.60	2.3	.50
23	.75	2.4	2.0	3.0	1.4	6.7	.66	8.7	.85	.55	.52	.57
24	.75	1.7	1.2	1.6	1.1	1.4	4.8	7.9	2.4	.50	.46	.60
25	11	1.5	1.8	1.4	1.1	1.3	1.2	.93	.91	.50	2.9	.63
26	1.4	.69	1.3	1.3	1.1	1.2	1.1	.79	4.6	.69	1.3	.61
27	.99	.67	1.5	1.2	1.1	1.2	2.6	22	11	.51	.35	.59
28	.87	.64	44	1.5	1.2	1.2	1.1	43	2.4	.43	.30	.53
29	.75	.64	6.1	1.8	1.4	1.2	1.1	5.4	.85	.47	.26	.53
30	.87	1.1	2.0	6.0	———	1.1	1.8	2.3	.77	.48	.21	.60
31	.87	———	2.0	3.0	———	1.1	———	1.3	———	.52	.20	———
TOTAL	49.27	46.25	203.5	142.3	48.2	118.9	39.95	137.82	97.65	37.78	46.68	87.55
MEAN	1.59	1.54	6.56	4.59	1.66	3.84	1.33	4.45	3.26	1.22	1.51	2.92
MAX	11	20	44	80	8.0	31	4.8	43	20	8.0	12	32
MIN	.41	.64	1.0	1.2	1.0	1.1	.62	.79	.77	.43	.20	.16
CFSM	.39	.38	1.60	1.12	.41	.94	.32	1.08	.79	.30	.37	.71
IN.	.45	.42	1.85	1.29	.44	1.08	.36	1.25	.89	.34	.42	.79

CAL YR 1967: TOTAL 1,220.02 MEAN 3.34 MAX 200 MIN .41 CFSM .82 IN 11.07
WAT YR 1968: TOTAL 1,055.85 MEAN 2.88 MAX 80 MIN .16 CFSM .70 IN 9.58

PEAK DISCHARGE (BASE, 450 CFS)

DATE	TIME	G.HT.	DISCHARGE
9-2	2015	4.03	915

Note.--No gage-height record Jan. 5 to Feb. 29.

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 Country Club, 0.2 mile downstream from Cashell Road, 0.5 mile upstream from confluence with North Branch Rock Creek, and 1.8 miles southwest of Olney, Montgomery County.

Drainage area.--2.25 sq mi.

Records available.--October 1966 to September 1968.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 390 ft (from topographic map).

Extremes.--Maximum discharge during year, 118 cfs Jan. 14 (gage height 2.77 ft); minimum, 0.10 cfs Sept. 26 (gage height, 0.98 ft).
1966-68: Maximum discharge, 418 cfs Aug. 25, 1967 (gage height, 4.48 ft); minimum, that of Sept. 26, 1968.

Remarks.--Records good. Records of suspended-sediment loads for the water year 1968 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.53	.69	.78	1.9	1.9	1.2	1.9	1.2	1.4	1.1	.46	.18
2	.49	4.6	.73	1.5	3.2	1.4	1.5	1.1	1.4	3.0	.46	.20
3	.49	1.2	16	1.5	2.7	1.2	1.5	1.1	1.4	3.4	.46	.22
4	.49	.90	3.7	2.5	1.9	1.2	2.1	1.1	1.4	1.2	.43	.16
5	.49	.83	2.3	1.7	1.7	1.4	4.6	1.1	1.2	1.1	.46	.17
6	.49	.78	2.1	1.4	1.5	1.2	1.9	.98	1.1	1.1	.46	1.4
7	.49	.73	2.1	1.4	1.5	1.1	1.7	.98	1.1	.98	.40	.24
8	.57	.78	1.7	1.1	1.5	1.1	1.5	.98	.98	.98	.43	.20
9	.57	.73	1.4	1.1	1.4	1.4	1.5	.98	1.1	.90	.37	.18
10	1.4	.73	12	1.1	1.2	1.4	1.5	.98	1.1	.90	.34	6.2
11	.69	.73	12	1.1	1.1	1.4	1.4	.90	1.1	.90	.37	.57
12	.65	.78	5.9	1.0	1.1	8.2	1.4	1.9	3.2	.83	.28	.34
13	.61	.73	2.3	.98	1.1	11	1.4	1.1	3.2	.83	.26	.28
14	.61	.73	1.9	47	1.1	3.2	1.4	.98	1.1	.83	.28	.28
15	.65	.73	1.7	4.0	1.1	4.0	1.4	1.1	.98	.83	.28	.26
16	.61	.69	1.5	2.1	1.2	3.2	1.2	1.1	2.1	.73	.43	.28
17	.61	.73	1.4	1.7	1.2	17	1.2	.98	3.2	.73	.90	.26
18	.90	.78	1.4	1.7	1.1	8.4	1.2	.98	1.4	.69	.34	.26
19	.73	.73	1.4	1.9	1.1	3.2	1.2	.98	9.1	.78	1.7	.24
20	.61	.69	1.4	1.9	1.1	2.7	1.2	.98	2.7	.73	.49	.24
21	.65	.69	1.4	2.1	1.1	2.5	1.2	.90	1.2	.65	.31	.22
22	.65	.78	2.5	1.9	1.1	2.3	1.1	.83	1.1	.65	.26	.22
23	.64	.90	2.1	2.1	1.1	4.6	1.1	1.9	.98	.61	.26	.22
24	.65	.78	1.7	1.7	1.1	2.5	3.2	2.3	.98	.61	.24	.20
25	3.4	.83	1.7	1.4	1.1	2.1	2.1	1.1	.98	.61	.24	.20
26	1.1	.73	2.1	1.2	1.1	1.9	1.4	.90	2.7	.57	.20	.16
27	.78	.73	1.7	1.2	1.1	1.9	1.4	4.6	12	.57	.18	.16
28	.69	.73	13	1.4	1.1	1.9	1.4	28	5.2	.53	.18	.16
29	.65	.69	12	1.5	1.2	1.7	1.2	5.6	1.4	.46	.18	.15
30	.69	.83	2.5	2.5	------	1.7	1.2	2.3	1.1	.46	.18	.15
31	.69	------	1.9	2.7	------	1.7	------	1.9	------	.49	.16	------
TOTAL	23.27	26.98	116.31	98.28	39.7	99.7	48.0	71.83	67.90	28.75	11.99	14.00
MEAN	.75	.90	3.75	3.17	1.37	3.22	1.60	2.32	2.26	.93	.39	.47
MAX	3.4	4.6	16	47	3.2	17	4.6	28	12	3.4	1.7	6.2
MIN	.49	.69	.73	.98	1.1	1.1	1.1	.83	.98	.46	.16	.15
CFSM	.33	.40	1.67	1.41	.61	1.43	.71	1.03	1.01	.41	.17	.21
IN.	.38	.45	1.92	1.62	.66	1.65	.79	1.19	1.12	.48	.20	.23

CAL YR 1967: TOTAL 737.98 MEAN 2.02 MAX 59 MIN .49 CFSM .90 IN 12.20
WAT YR 1968: TOTAL 646.71 MEAN 1.77 MAX 47 MIN .15 CFSM .79 IN 10.69

PEAK DISCHARGE (BASE, 90 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-14	0930	2.77	118

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, 1.5 miles northwest of Norbeck, Montgomery County, and 2 miles upstream from mouth.

Drainage area.--9.73 sq mi.

Records available.--December 1966 to September 1968.

Gage.--Digital water-stage recorder. Altitude of gage is 320 ft (from topographic map).

Extremes.--Maximum discharge during year, 413 cfs Jan. 14; maximum gage height, 4.01 ft Jan. 14 (backwater from ice); minimum daily, 0.50 cfs Aug. 30, 31.
1966-68: Maximum discharge, 823 cfs Aug. 25, 1967 (gage height, 5.31 ft); minimum daily, that of Aug. 30, 31, 1968.
Flood of Sept. 14, 1966, reached a stage of 5.60 ft, from floodmarks (discharge, 930 cfs).

Remarks.--Records good. Diversion at low flow for irrigation of golf courses above station. Records of suspended-sediment loads for the water year 1968 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.3	3.2	5.1	9.5	9.8	6.6	8.2	5.2	6.8	4.2	1.3	.55
2	2.1	15	4.7	8.0	13	7.1	7.1	5.0	6.0	9.8	1.1	.67
3	2.0	7.1	51	8.5	14	6.0	7.1	4.8	6.0	16	1.3	.76
4	2.2	4.3	17	11	9.4	6.0	7.6	5.0	5.5	6.3	1.2	.63
5	2.1	3.7	9.8	9.0	8.5	6.6	17	4.4	5.0	4.6	1.3	.55
6	2.2	3.5	9.5	7.0	8.2	6.3	8.2	4.2	4.5	4.0	1.4	2.7
7	2.4	3.4	9.7	7.0	7.9	5.8	7.6	4.2	4.0	3.8	1.2	.99
8	2.7	3.4	8.8	6.5	7.6	5.5	7.4	4.0	4.0	3.4	1.2	.59
9	2.8	3.3	7.2	6.0	7.4	6.3	7.1	4.0	4.2	3.4	1.1	.71
10	6.1	3.4	30	6.0	6.5	6.8	6.6	4.0	4.5	3.0	1.1	25
11	3.8	3.4	52	5.5	6.0	6.6	6.6	4.0	4.1	3.2	1.4	4.5
12	2.8	3.4	27	5.0	5.0	25	6.3	6.3	6.0	2.8	1.1	1.6
13	2.7	3.2	12	5.5	5.0	43	6.0	5.5	14	3.2	.84	1.4
14	2.6	3.1	9.1	180	5.5	14	6.0	4.0	4.7	2.8	.80	1.3
15	2.7	3.2	8.2	24	5.5	18	6.0	4.4	4.0	2.8	1.2	1.1
16	2.8	3.7	7.5	12	5.5	16	5.8	4.8	17	2.8	.92	1.1
17	2.9	4.4	7.0	13	5.5	63	5.2	4.6	13	2.2	3.4	.99
18	5.2	4.7	7.0	11	5.0	34	5.0	4.0	7.6	2.5	1.8	.92
19	5.4	4.8	6.8	9.3	5.0	16	5.2	4.2	31	2.7	2.4	.92
20	3.7	4.4	6.4	9.8	5.5	12	5.2	4.2	17	3.8	3.4	1.8
21	3.7	4.4	6.3	10	5.0	11	5.2	3.8	6.0	2.7	1.4	.92
22	3.7	5.1	9.2	9.8	5.0	10	5.0	3.6	4.7	2.1	.92	.84
23	3.6	5.7	8.3	9.8	5.5	18	4.8	6.0	4.2	1.9	.84	.84
24	3.9	5.1	6.6	8.8	5.0	12	11	11	4.2	2.1	.67	.67
25	13	5.3	6.6	7.6	5.0	9.4	9.8	5.5	4.1	1.8	.84	.71
26	4.3	4.7	7.7	7.0	5.0	8.8	6.3	4.2	4.0	1.9	.63	.84
27	3.5	4.5	6.3	7.1	5.0	8.2	6.0	12	36	1.8	.55	.80
28	3.2	4.3	34	7.4	5.0	8.2	6.0	100	48	1.6	.55	.71
29	3.1	4.1	60	7.5	6.0	7.9	5.5	26	7.1	1.6	.55	1.1
30	3.0	5.5	13	10	------	7.6	5.8	11	4.9	1.3	.50	.84
31	3.1	------	10	13	------	7.6	------	8.5	------	1.3	.50	------
TOTAL	109.6	137.3	463.8	451.6	192.3	419.3	206.6	282.4	292.1	107.4	37.41	57.05
MEAN	3.54	4.58	15.0	14.6	6.63	13.5	6.89	9.11	9.74	3.46	1.21	1.90
MAX	13	15	60	180	14	63	17	100	48	16	3.4	25
MIN	2.0	3.1	4.7	5.0	5.0	5.5	4.8	3.6	4.0	1.3	.50	.55
CFSM	.36	.47	1.54	1.50	.68	1.39	.71	.94	1.00	.36	.12	.20
IN.	.42	.52	1.77	1.73	.74	1.60	.79	1.08	1.12	.41	.14	.22

CAL YR 1967: TOTAL 3,276.1 MEAN 8.98 MAX 263 MIN 1.6 CFSM .92 IN 12.52
WAT YR 1968: TOTAL 2,756.86 MEAN 7.53 MAX 180 MIN .50 CFSM .77 IN 10.54

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-14	-	-	413

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, 0.5 mile upstream from mouth, and 1.2 miles west of Norbeck, Montgomery County.

Drainage area.--1.01 sq mi.

Records available.--December 1966 to September 1968.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 330 ft (from topographic map).

Extremes.--Maximum discharge during year, 221 cfs Sept. 10 (gage height, 3.34 ft); minimum daily, 0.17 cfs Sept. 30.
1966-68: Maximum discharge, 471 cfs Aug. 25, 1967 (gage height, 4.28 ft, from high-water mark in well); minimum daily, 0.17 cfs Aug. 17, 1967, and Sept. 30, 1968.

Remarks.--Records fair. Farm pond inlet above station. Records of suspended-sediment loads for the water year 1968 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.22	.31	.34	.86	1.0	1.7	1.0	.60	.74	.67	.32	.21
2	.23	2.6	.34	.79	1.8	.82	.82	.54	.60	4.6	.32	.31
3	.23	.65	7.2	.90	1.3	.67	.82	.60	.74	1.9	.31	.23
4	.23	.34	1.7	1.1	.90	.67	1.0	.60	.60	.74	.34	.22
5	.21	.31	1.2	1.0	.90	.67	1.5	.54	.54	.60	.31	.22
6	.23	.31	1.1	.75	.82	.67	.90	.54	.54	.54	.31	.81
7	.23	.31	1.0	.75	.82	.60	.82	.48	.54	.48	.39	.28
8	.23	.59	.72	.70	.74	.67	.90	.43	.43	.48	.29	.26
9	.25	.31	.58	.70	1.5	.74	.90	.43	.67	.60	.28	.25
10	.73	.31	6.6	.60	.67	.74	.90	.43	.60	.48	.62	9.1
11	.34	.31	4.6	.50	.54	.74	.74	.43	.48	.48	.45	.38
12	.28	.31	2.3	.50	.50	4.2	.67	.48	2.0	.82	.30	.25
13	.28	.31	1.1	.50	.48	4.2	.67	.48	1.2	.54	.25	.23
14	.25	.31	.83	27	.67	1.9	.67	.43	.54	.48	.22	.23
15	.25	.28	.71	2.2	.60	2.0	.67	.48	.43	.54	.22	.22
16	.25	.31	.65	.90	.74	1.8	.67	.54	10	.54	.45	.22
17	.25	.34	.60	.82	.67	9.3	.60	.48	2.9	.60	1.4	.22
18	.44	.31	.59	.90	.60	3.8	.60	.43	1.1	.43	.50	.22
19	.32	.28	.58	1.2	.60	1.7	.60	.54	9.7	.44	.30	.22
20	.28	.28	.52	1.1	.67	1.5	.60	.54	1.4	.37	.25	.21
21	.30	.28	.60	1.2	.54	1.3	.60	.48	.74	.33	.23	.21
22	.31	.34	1.3	.90	.50	1.2	.60	.48	.60	.36	.22	.21
23	.30	.38	.73	1.1	.54	2.3	.60	1.0	.54	.34	.22	.21
24	.26	.34	.58	.82	.54	1.3	2.0	1.1	.74	.33	.22	.20
25	2.5	.38	.65	.67	.54	1.1	1.0	.54	.67	.32	.22	.19
26	.43	.31	.74	.60	.54	1.0	.74	.43	2.7	.32	.23	.19
27	.31	.31	.60	.67	.54	.90	.74	2.7	6.0	.32	.21	.19
28	.28	.31	9.7	.67	.54	.90	.67	14	1.6	.31	.21	.19
29	.28	.31	3.6	.82	.67	.90	.67	2.6	.67	.32	.22	.18
30	.28	.34	1.1	1.4	------	.82	.67	1.0	.54	.32	.21	.17
31	.28	------	.98	1.3	------	.82	------	.82	------	.32	.21	------
TOTAL	11.26	12.38	53.84	53.92	21.47	51.63	24.34	35.17	50.55	19.92	10.23	16.23
MEAN	.36	.41	1.74	1.74	.74	1.67	.81	1.13	1.69	.64	.33	.54
MAX	2.5	2.6	9.7	27	1.8	9.3	2.0	14	10	4.6	1.4	9.1
MIN	.21	.28	.34	.50	.48	.60	.60	.43	.43	.31	.21	.17
CFSM	.36	.41	1.72	1.72	.73	1.65	.80	1.12	1.67	.64	.33	.54
IN.	.41	.46	1.98	1.99	.79	1.90	.90	1.30	1.86	.73	.38	.60

CAL YR 1967: TOTAL 384.51 MEAN 1.05 MAX 42 MIN .17 CFSM 1.04 IN 14.16
WAT YR 1968: TOTAL 360.94 MEAN .99 MAX 27 MIN .17 CFSM .98 IN 13.29

PEAK DISCHARGE (BASE, 100 CFS, REVISED)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-16	1630	2.99	174	9-10	1515	3.34	221
6-19	1930	3.32	218				

1-6477.4. North Branch Rock Creek near Rockville, Md.

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

Drainage area.--12.5 sq mi.

Records available.--August 1967 to September 1968.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 270 ft (from topographic map).

Extremes.--Maximum discharge during period August to September 1967, 182 cfs Aug. 25 (gage height, 3.02 ft); minimum, 2.6 cfs several days during period (gage height, 1.08 ft); minimum daily, 2.6 cfs Aug. 16-18.
Water year 1968: Maximum discharge, 116 cfs May 28 (gage height, 2.53 ft); minimum, 0.01 cfs Sept. 11 (gage height, 0.65 ft), when gates in outlet structure of Bernard Frank Lake were closed; minimum daily, 0.02 cfs Sept. 11.

Remarks.--Records good. Flow completely regulated by dam above station. Diversions at low flow for irrigation of golf courses above station.

DISCHARGE, IN CUBIC FEET PER SECOND, AUGUST TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1											3.3	30
2											3.1	15
3											4.1	5.5
4											31	4.9
5											37	4.7
6											32	4.1
7											20	4.1
8											4.3	4.1
9											3.8	4.1
10											4.4	4.1
11											3.6	4.1
12											3.3	4.0
13											3.0	3.5
14											3.0	3.3
15											2.8	3.3
16											2.6	3.3
17											2.6	3.5
18											2.6	3.6
19											3.5	3.6
20											9.7	3.0
21											8.5	3.0
22											4.3	4.0
23											4.2	3.0
24											14	2.8
25											67	2.8
26											56	2.6
27											52	2.6
28											50	2.7
29					------						48	3.0
30					------						42	2.9
31		------			------		------		------		37	------
TOTAL											562.7	145.2
MEAN											18.2	4.84
MAX											67	30
MIN											2.6	2.6
CFSM											1.45	.39
IN.											1.67	.43

CAL YR 1966: TOTAL - MEAN - MAX - MIN - CFSM - IN -
WAT YR 1967: TOTAL - MEAN - MAX - MIN - CFSM - IN -

1-6477.4. North Branch Rock Creek near Rockville, Md.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.6	3.0	4.3	22	16	2.8	12	9.2	22	11	3.8	3.8
2	2.6	4.2	4.5	22	15	2.8	11	8.8	17	6.7	3.8	3.8
3	2.6	6.1	5.9	22	20	2.9	11	8.4	13	18	3.8	3.8
4	2.6	6.2	8.5	21	14	3.0	11	8.3	12	14	3.8	3.8
5	2.6	6.3	10	21	11	3.0	12	7.9	11	10	3.8	3.8
6	2.6	6.2	10	21	10	3.0	13	7.6	9.5	8.4	3.8	3.8
7	2.6	6.0	10	20	6.2	3.0	13	7.4	8.4	7.5	3.8	3.8
8	2.6	5.6	10	19	1.1	3.0	12	7.2	7.8	6.9	3.8	3.8
9	2.6	5.2	10	17	1.5	3.0	11	7.2	7.2	6.7	3.8	3.8
10	6.3	4.9	10	16	1.7	3.2	11	7.0	7.2	6.3	3.8	3.0
11	5.0	4.5	14	15	1.8	3.5	11	6.7	6.9	6.0	3.8	.02
12	3.3	4.3	16	14	2.0	3.6	10	6.5	6.3	5.5	3.8	.03
13	2.8	4.2	17	14	2.0	4.1	10	6.5	9.9	5.5	3.8	.04
14	2.8	4.1	17	21	2.2	4.1	9.5	6.5	10	5.2	3.8	.04
15	2.8	4.1	17	26	2.2	4.1	9.5	6.5	9.2	5.2	3.8	.05
16	2.8	3.9	16	25	2.2	4.1	9.0	6.5	10	5.0	3.8	.07
17	2.8	3.8	16	25	2.4	11	8.5	6.5	19	5.0	4.1	.09
18	4.4	3.8	16	25	2.5	26	8.3	6.5	19	5.0	4.1	.10
19	5.5	3.8	16	24	2.6	31	8.3	6.5	16	5.0	4.2	.70
20	3.4	4.0	16	24	2.6	25	8.3	6.5	33	5.0	3.8	1.0
21	3.0	4.1	16	24	2.6	21	8.3	6.5	22	5.0	3.5	1.0
22	3.0	4.1	16	24	2.6	19	8.1	6.5	17	5.0	3.5	1.0
23	3.0	4.3	16	45	2.6	17	7.9	6.5	12	5.0	3.5	1.0
24	3.0	4.3	16	86	2.6	18	8.1	8.0	10	5.0	3.5	1.0
25	5.3	4.3	16	61	2.6	18	11	8.6	9.1	5.2	3.5	1.0
26	7.6	4.3	15	24	2.8	16	11	8.6	8.1	5.4	3.5	1.1
27	4.3	4.3	14	11	2.8	15	11	8.9	15	5.5	3.5	1.3
28	3.0	4.3	14	12	2.8	15	10	50	44	5.8	3.5	1.3
29	3.0	4.3	18	13	2.8	13	10	75	28	5.8	3.5	1.5
30	3.0	4.3	19	14	------	12	9.5	45	19	4.3	3.5	1.9
31	3.0	------	21	19	------	12	------	30	------	3.9	3.5	------
TOTAL	106.5	136.8	425.2	747	143.2	322.2	304.3	397.8	438.6	203.8	115.5	51.44
MEAN	3.44	4.56	13.7	24.1	4.94	10.4	10.1	12.8	14.6	6.57	3.73	1.71
MAX	7.6	6.3	21	86	20	31	13	75	44	18	4.2	3.8
MIN	2.6	3.0	4.3	11	1.1	2.8	7.9	6.5	6.3	3.9	3.5	.02
CFSM	.27	.36	1.10	1.93	.40	.83	.81	1.03	1.17	.53	.30	.14
IN.	.32	.41	1.27	2.22	.43	.96	.91	1.18	1.30	.61	.34	.15

CAL YR 1967: TOTAL - MEAN - MAX - MIN - CFSM - IN
WAT YR 1968: TOTAL 3,392.34 MEAN 9.27 MAX 86 MIN .02 CFSM .74 IN 10.09

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 1968.

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.--39 years, 55.4 cfs.

Extremes.--Maximum discharge during year, 1,450 cfs Jan. 14 (gage height, 6.43 ft); minimum, 6.6 cfs Aug. 31 (gage height, 1.19 ft).
1929-68: Maximum discharge, 7,220 cfs July 21, 1956 (gage height, 13.19 ft, from high-water mark in gage house), from rating curve extended above 4,400 cfs on basis of contracted-opening measurement of peak flow; minimum, 0.5 cfs Oct. 1-7, 1930 (gage height, 1.04 ft).

Remarks.--Records good. Flow affected by two reservoirs upstream; Needwood Lake on Rock Creek since Sept. 1966 and Bernard Frank Lake on North Branch Rock Creek since March 1968.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14	16	27	65	48	48	51	35	64	63	16	12
2	13	153	22	60	73	33	41	30	55	191	17	99
3	13	55	461	63	89	28	41	36	107	318	21	62
4	13	24	106	91	53	24	41	36	47	61	15	14
5	13	22	59	55	44	24	69	29	37	47	23	14
6	13	22	52	48	42	24	45	27	33	40	15	105
7	12	22	46	44	39	24	43	26	31	35	22	16
8	12	22	42	38	32	24	42	25	29	33	32	12
9	12	21	39	38	27	24	42	25	45	31	15	11
10	106	21	165	42	24	24	40	25	49	29	30	264
11	38	20	334	38	22	26	39	25	41	27	56	107
12	16	20	176	34	22	191	37	31	120	25	14	22
13	15	20	81	38	22	277	36	25	294	25	14	18
14	14	20	67	760	22	71	36	25	42	25	13	14
15	14	20	61	165	24	59	40	26	35	24	14	13
16	14	20	53	116	26	59	35	27	83	24	12	11
17	14	20	48	96	24	349	34	28	205	24	24	11
18	55	22	48	81	22	241	34	25	80	24	13	11
19	34	24	44	73	20	116	33	59	62	77	38	11
20	18	20	40	67	24	91	32	36	177	46	42	11
21	16	20	39	63	22	79	36	27	71	22	13	18
22	14	32	101	61	20	69	32	24	55	21	12	18
23	14	32	57	65	24	123	31	62	45	21	12	18
24	14	20	40	86	22	72	112	93	51	20	12	16
25	232	28	40	70	24	61	81	33	38	23	85	14
26	55	20	44	55	22	56	39	28	37	26	26	14
27	27	20	36	39	22	52	44	144	147	18	12	14
28	20	20	241	38	22	49	39	589	280	18	11	13
29	18	20	313	38	27	47	34	188	111	16	11	11
30	17	18	89	59	------	45	34	117	82	16	12	12
31	16	------	75	75	------	42	------	83	------	16	12	------
TOTAL	896	814	3,046	2,661	904	2,452	1,293	1,989	2,553	1,386	664	986
MEAN	28.9	27.1	98.3	85.8	31.2	79.1	43.1	64.2	85.1	44.7	21.4	32.9
MAX	232	153	461	760	89	349	112	589	294	318	85	264
MIN	12	16	22	34	20	24	31	24	29	16	11	11
CFSM	.46	.44	1.58	1.38	.50	1.27	.69	1.03	1.37	.72	.34	.53
IN.	.54	.49	1.82	1.59	.54	1.47	.77	1.19	1.53	.83	.40	.59

CAL YR 1967: TOTAL 22,866 MEAN 62.6 MAX 1,520 MIN 12 CFSM 1.01 IN 13.67
WAT YR 1968: TOTAL 19,644 MEAN 53.7 MAX 760 MIN 11 CFSM .86 IN 11.75

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-25	1915	4.49	862	5-28	1300	5.15	1,050
12- 3	1115	4.56	882	6-13	0315	4.49	862
12-10	2400	4.38	832	7- 3	0100	5.36	1,110
12-28	2400	4.68	915	9-10	2145	4.89	974
1-14	1430	6.43	1,450				

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, 1.8 miles downstream from Indian Creek, and 1.8 miles upstream from confluence with Northwest Branch.

Drainage area.--72.8 sq mi.

Records available.--August 1938 to September 1968.

Gage.--Digital water-stage recorder at bridge, 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 att at downstream side of bridge, all at datum 14.00 ft above mean sea level; Mar. 23, 1966 to Apr. 11, 1967 staff gage 600 ft downstream from bridge at datum 9.25 ft above mean sea level (Washington Suburban Sanitary Commission bench mark).

Average discharge.--30 years, 76.0 cfs.

Extremes.--Maximum discharge during year, 2,510 cfs Sept. 10 (gage height, 4.61 ft); minimum daily, 11 cfs Sept. 30.

1938-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	15	21	40	92	66	61	48	37	58	35	18	13
2	14	168	34	80	122	47	44	32	52	291	40	122
3	14	90	745	80	141	40	43	45	64	682	50	116
4	13	38	264	123	83	37	44	50	44	161	30	40
5	13	28	121	100	58	36	54	39	34	65	25	26
6	13	25	94	100	52	37	44	30	31	47	23	113
7	13	23	84	80	49	34	41	28	28	38	22	45
8	13	21	78	60	46	32	41	26	28	31	21	26
9	13	21	71	60	44	34	42	27	76	27	18	20
10	88	23	226	60	43	36	38	27	57	30	27	535
11	45	21	523	55	40	34	40	27	33	29	40	336
12	25	21	460	50	48	297	38	38	121	27	20	71
13	19	21	206	60	41	495	38	29	472	28	15	39
14	18	21	115	1,490	46	181	37	26	82	25	15	33
15	18	20	90	588	36	97	40	28	44	95	15	25
16	17	19	78	140	36	78	36	29	220	127	14	21
17	17	21	70	90	37	549	35	31	291	41	42	18
18	34	24	65	80	36	860	35	26	143	34	26	19
19	26	24	62	67	38	316	33	48	117	230	33	16
20	21	21	57	64	33	129	35	45	312	60	36	16
21	19	21	58	63	30	94	38	29	85	35	23	17
22	18	21	144	58	30	79	33	26	55	25	17	17
23	17	27	127	54	30	134	33	50	43	21	13	15
24	17	25	86	52	31	102	117	110	43	20	14	14
25	161	30	78	50	32	74	127	56	38	20	58	15
26	75	25	80	49	30	62	66	33	39	30	35	14
27	32	22	69	44	32	57	55	101	239	18	15	13
28	23	21	439	44	31	53	49	966	134	16	14	14
29	22	21	494	45	42	52	38	528	60	16	14	12
30	21	21	174	70	------	51	37	188	45	16	13	11
31	21	------	104	93	------	48	------	97	------	15	13	------
TOTAL	875	905	5,336	4,141	1,383	4,236	1,399	2,852	3,088	2,335	759	1,792
MEAN	28.2	30.2	172	134	47.7	137	46.6	92.0	103	75.3	24.5	59.7
MAX	161	168	745	1,490	141	860	127	966	472	682	58	535
MIN	13	19	34	44	30	32	33	26	28	15	13	11
CFSM	.39	.41	2.36	1.83	.66	1.88	.64	1.26	1.41	1.03	.34	.82
IN.	.45	.46	2.73	2.12	.71	2.16	.71	1.46	1.58	1.19	.39	.92

CAL YR 1967: TOTAL 29,382 MEAN 80.5 MAX 2,320 MIN 13 CFSM 1.11 IN 15.01
WAT YR 1968: TOTAL 29,101 MEAN 79.5 MAX 1,490 MIN 11 CFSM 1.09 IN 14.87

PEAK DISCHARGE (BASE, 1,250 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12- 3	0945	3.35	1,500	6-13	0115	3.46	1,590
1-14	1430	4.22	2,200	6-16	1945	3.38	1,520
3-18	0945	3.23	1,400	7- 2	2115	3.73	1,800
5-28	1230	3.68	1,760	9-10	1930	4.61	2,510

Note.--No gage-height record Nov. 27 to Jan. 18.

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 1968.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 360 ft (from topographic map).

Extremes.--Maximum discharge during year, 159 cfs June 19 (gage height, 2.03 ft); minimum daily, 0.11 cfs Sept. 27.
1966-68: Maximum discharge, 349 cfs (revised) Aug. 25, 1967 (gage height, 3.53 ft); minimum daily, that of Sept. 27, 1968.
Flood of Aug. 8, 1953, reached a stage of 5.31 ft, from floodmark.

Revisions.--The maximum discharge for the water year 1967 has been revised to 349 cfs Aug. 25, 1967 (gage height, 3.53 ft), superseding figure published in Water Resources Data for Maryland and Delaware - 1967.

Remarks.--Records good. Records of suspended-sediment loads for the water year 1968 are published in Part 2 of this report.

Revised peak discharge.--1967: Mar. 7 (0545) 267 cfs (3.03 ft); Aug. 4 (2030) 205 cfs (2.53 ft); Aug. 25 (0030) 349 cfs (3.53 ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.31	.57	.76	1.2	1.3	1.0	1.5	1.2	1.3	.85	.42	.18
2	.31	2.9	.72	1.2	2.4	1.0	1.3	1.0	1.2	2.1	.48	.26
3	.31	.93	11	1.1	2.1	.95	1.3	1.0	1.2	3.0	.43	.32
4	.30	.73	2.3	1.2	1.4	1.0	1.5	1.0	1.0	1.1	.38	.20
5	.30	.74	1.5	1.1	1.2	1.2	2.6	1.0	.93	.89	.45	.18
6	.29	.69	1.5	1.0	1.3	1.0	1.5	.95	.84	.82	.45	.67
7	.32	.69	1.6	.95	1.2	.95	1.5	.95	.90	.75	.36	.31
8	.38	.69	1.3	.90	1.2	.95	1.5	.86	.82	.73	.40	.22
9	.39	.69	1.0	.90	1.2	1.0	1.5	.86	.82	.71	.34	.27
10	1.0	.69	7.3	.86	1.0	1.2	1.3	.86	.86	.71	.35	1.6
11	.53	.70	8.6	.79	.95	1.0	1.3	.86	.82	.78	.43	.61
12	.44	.74	4.4	1.3	.95	8.1	1.3	1.3	1.2	.65	.31	.31
13	.43	.71	1.6	2.2	.95	9.5	1.3	1.0	2.0	.64	.25	.28
14	.43	.69	1.2	43	1.0	2.9	1.2	.95	.95	.64	.31	.31
15	.44	.66	1.1	3.5	.95	3.2	1.3	.95	.83	.65	.32	.20
16	.47	.64	.99	1.6	.95	2.6	1.2	.95	1.0	.62	.29	.46
17	.48	.70	.95	1.2	1.0	21	1.2	.95	1.6	.58	.60	.31
18	1.2	.79	.95	1.2	.95	9.2	1.2	.86	1.1	.59	.33	.31
19	.73	.74	.90	1.3	.95	2.9	1.0	.95	11	.70	.66	.34
20	.58	.70	.86	1.3	.95	2.1	1.2	.95	2.7	.65	.50	.35
21	.52	.72	.86	1.4	.95	1.8	1.0	.86	1.2	.56	.32	.30
22	.47	.90	1.4	1.3	.86	1.6	1.0	.86	.94	.54	.26	.17
23	.45	1.0	1.1	1.3	.86	3.8	1.0	1.5	.83	.54	.28	.16
24	.46	.79	.95	1.1	.86	2.4	2.9	1.8	.82	.53	.24	.14
25	2.0	.87	.95	.98	.86	1.6	1.8	1.0	.82	.51	.24	.14
26	.70	.72	1.0	.95	.86	1.5	1.3	.86	.79	.53	.19	.12
27	.56	.70	.87	.94	.95	1.5	1.3	3.0	7.8	.51	.20	.11
28	.56	.70	13	.95	.95	1.5	1.2	31	4.0	.50	.15	.12
29	.56	.69	8.4	.99	1.0	1.5	1.2	5.4	1.2	.44	.17	.13
30	.55	.81	1.7	1.4	------	1.3	1.2	2.1	.97	.42	.14	.12
31	.55	------	1.3	1.5	------	1.3	------	1.5	------	.43	.14	------
TOTAL	17.02	24.29	82.06	80.61	32.05	92.55	41.6	69.28	52.44	23.67	10.39	9.20
MEAN	.55	.81	2.65	2.60	1.11	2.99	1.39	2.23	1.75	.76	.34	.31
MAX	2.0	2.9	13	43	2.4	21	2.9	31	11	3.0	.66	1.6
MIN	.29	.57	.72	.79	.86	.95	1.0	.86	.79	.42	.14	.11
CFSM	.22	.33	1.08	1.06	.45	1.22	.57	.91	.71	.31	.14	.13
IN.	.26	.37	1.25	1.22	.49	1.40	.63	1.05	.80	.36	.16	.14

CAL YR 1967: TOTAL 630.86 MEAN 1.73 MAX 60 MIN .29 CFSM .71 IN 9.58
WAT YR 1968: TOTAL 535.16 MEAN 1.46 MAX 43 MIN .11 CFSM .60 IN 8.12

PEAK DISCHARGE (BASE, 150 CFS, REVISED)

DATE	TIME	G.HT.	DISCHARGE
6-19	2100	a2.03	159

a From floodmark.

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 1968.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 400 ft (from topographic map).

Extremes.--Maximum discharge during year, 48 cfs June 19 (gage height, 2.76 ft); minimum, 0.07 cfs Aug. 30, 31 (gage height, 1.57 ft).
1966-68: Maximum discharge, 120 cfs Aug. 25, 1967 (gage height, 3.46 ft); minimum, that of Aug. 30, 31, 1968.

Remarks.-- Records good. Records of suspended-sediment loads for the water year 1968 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.14	.17	.18	.35	.35	.24	.38	.28	.33	.20	.13	.09
2	.14	.83	.18	.32	.52	.29	.35	.27	.31	.57	.13	.10
3	.14	.32	2.0	.32	.45	.24	.35	.26	.30	.56	.13	.10
4	.14	.24	.55	.43	.36	.23	.37	.27	.26	.29	.13	.09
5	.14	.22	.42	.32	.35	.24	.44	.25	.23	.25	.14	.09
6	.13	.22	.41	.28	.34	.24	.36	.25	.22	.22	.13	.25
7	.13	.19	.41	.28	.31	.22	.35	.24	.21	.20	.12	.11
8	.15	.19	.36	.25	.31	.22	.35	.22	.21	.19	.12	.10
9	.15	.19	.32	.20	.31	.29	.33	.21	.23	.18	.12	.10
10	.38	.19	1.1	.20	.25	.27	.31	.21	.23	.18	.16	.63
11	.21	.19	1.4	.20	.20	.26	.31	.22	.22	.18	.16	.19
12	.17	.19	.88	.19	.20	1.1	.32	.25	.44	.17	.12	.13
13	.15	.19	.46	.18	.20	.95	.31	.22	.54	.17	.12	.11
14	.15	.18	.39	6.5	.20	.48	.31	.22	.26	.17	.12	.11
15	.15	.17	.35	.60	.22	.51	.32	.24	.21	.17	.12	.10
16	.15	.17	.33	.40	.22	.49	.30	.25	.61	.16	.12	.10
17	.15	.17	.31	.34	.20	2.1	.29	.23	.65	.15	.16	.11
18	.39	.18	.31	.31	.20	1.5	.28	.21	.36	.15	.12	.10
19	.24	.17	.30	.33	.20	.59	.28	.22	2.3	.40	.18	.10
20	.19	.17	.28	.33	.20	.50	.28	.22	.57	.23	.15	.10
21	.17	.17	.28	.33	.20	.44	.28	.20	.34	.16	.11	.09
22	.15	.19	.46	.32	.20	.43	.28	.19	.29	.15	.10	.09
23	.15	.23	.35	.33	.19	.65	.28	.39	.25	.14	.10	.09
24	.16	.19	.30	.31	.19	.46	.71	.47	.27	.14	.10	.09
25	.79	.21	.29	.28	.19	.41	.42	.27	.24	.14	.10	.09
26	.29	.19	.33	.26	.19	.39	.33	.21	.31	.14	.09	.09
27	.21	.16	.28	.27	.19	.39	.35	.68	.69	.14	.09	.09
28	.19	.16	2.0	.28	.19	.37	.32	2.6	.43	.13	.09	.09
29	.18	.15	1.2	.28	.22	.35	.28	.77	.27	.13	.09	.09
30	.17	.20	.45	.37	------	.35	.30	.85	.23	.12	.08	.09
31	.17	------	.39	.39	------	.36	------	.44	------	.13	.08	------
TOTAL	6.22	6.39	17.27	15.75	7.35	15.56	10.14	11.81	12.01	6.31	3.71	3.71
MEAN	.20	.21	.56	.51	.25	.50	.34	.38	.40	.20	.12	.12
MAX	.79	.83	2.0	6.5	.52	2.1	.71	2.6	2.3	.57	.18	.63
MIN	.13	.15	.18	.18	.19	.22	.28	.19	.21	.12	.08	.09
CFSM	.57	.61	1.59	1.45	.72	1.43	.97	1.09	1.14	.58	.34	.35
IN.	.66	.68	1.84	1.67	.78	1.65	1.08	1.25	1.28	.67	.39	.39

CAL YR 1967: TOTAL 144.59 MEAN .40 MAX 7.0 MIN .13 CFSM 1.13 IN 15.36
WAT YR 1968: TOTAL 116.23 MEAN .32 MAX 6.5 MIN .08 CFSM .91 IN 12.35

PEAK DISCHARGE (BASE, 30 CFS)

DATE	TIME	G.HT.	DISCHARGE
6-19	2000	2.76	48

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, 0.5 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 confluence with Northwest Branch.
Drainage area.--1.69 sq mi.
Records available.--November 1966 to September 1968.
Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 350 ft (from topographic map).
Extremes.--Maximum discharge during year, 170 cfs June 19 (gage height, 4.31); minimum daily, 0.04 cfs Aug. 25, 26, Sept. 1.
1966-68: Maximum discharge, 475 cfs (revised) Aug. 25, 1967 (gage height, 6.18 ft); minimum daily, that of Aug. 25, 26, and Sept. 1, 1968.
Revisions.--The maximum discharge for the water year 1967 has been revised to 475 cfs Aug. 25, 1967 (gage height, 6.18 ft), superseding figure published in Water Resources Data for Maryland and Delaware - 1967.
Remarks.--Records good. Diversions at low flow for irrigation of golf courses above station. Some regulation at low flow from unknown cause. Records of suspended-sediment loads for the water year 1968 are published in Part 2 of this report.
Revisions.--Revised figures of discharge, in cubic feet per second, for the water year 1967, superseding those published in Water Resources Data for Maryland and Delaware - 1967, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge
Mar. 7	48	June 22	9.3	Aug. 24	41
				25	32

Month	Cfs-days	Mean	Maximum	Minimum	Per square mile	Runoff in inches
March	107.64	3.47	48	.58	2.05	2.37
June	21.39	.71	9.3	.15	.42	.47
August	118.11	3.84	41	.24	2.27	2.62

Revised peak discharge.--1967: Mar. 7 (0530) 192 cfs (4.53 ft); Aug. 4 (2030) 145 cfs (4.03 ft); Aug. 25 (0015) 475 cfs (6.18 ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.23	.29	.52	.75	1.2	.73	1.1	.45	.46	.27	.43	.04
2	.24	8.4	.41	.50	4.3	.67	.51	.40	.40	11	.48	.20
3	.29	.91	27	.60	2.1	.44	.51	.45	.64	5.0	.15	.13
4	.56	.40	3.7	1.0	.81	.40	.90	.50	.43	.70	.08	.21
5	.23	.34	2.0	.82	.61	.50	2.0	.38	.34	.45	.08	.15
6	.23	.33	1.5	.50	.57	.45	.63	.36	.33	.36	.09	2.7
7	.23	.34	1.1	.51	.52	.46	.56	.34	.31	.34	.50	.21
8	.24	.38	.86	.46	.50	.43	.61	.35	.28	.25	.09	.14
9	.26	.32	.63	.38	.44	.48	.53	.34	.80	.37	.10	.11
10	3.0	.33	15	.38	.42	.48	.49	.31	.29	.18	1.5	9.2
11	.37	.31	14	.38	.39	.46	.44	.31	.22	.18	.25	.53
12	.27	.33	6.0	.30	.37	12	.42	.44	4.9	.15	.19	.25
13	.27	.29	1.4	.30	.33	13	.38	.36	3.9	.19	.37	.16
14	.24	.31	.85	45	.39	2.7	.39	.51	.51	.19	.11	.17
15	.32	.29	.70	3.1	.38	2.5	.48	1.1	.37	.19	.17	.19
16	.40	.28	.61	1.0	.39	1.9	.37	.49	10	.18	.73	.18
17	.50	.31	.54	.65	.38	24	.38	.44	7.1	.19	2.5	.15
18	1.4	.34	.51	.88	.35	11	.38	.33	1.5	.14	.38	.12
19	.41	.29	.54	1.3	.36	2.1	.38	.60	12	1.0	.60	.11
20	.29	.28	.83	.97	.38	1.3	.38	.33	4.5	.27	.28	.05
21	.28	.28	.47	1.0	.35	1.0	.43	.30	.64	.20	.20	.06
22	.26	.43	2.5	.80	.30	.88	.36	.28	.46	.19	.23	.05
23	.26	.50	1.1	1.1	.31	4.3	.38	2.1	.36	.21	.10	.13
24	.25	.31	.61	.71	.33	1.3	4.2	1.6	.38	.15	.16	.16
25	11	.46	.58	.52	.38	.80	1.4	.43	.38	.18	.04	.24
26	.98	.30	.73	.42	.35	.69	.59	.32	.40	.22	.04	.20
27	.38	.28	.49	.42	.35	.70	.73	6.8	14	.13	.10	.23
28	.34	.30	19	.44	.30	.63	.52	32	5.5	.08	.08	.23
29	.32	.28	10	.46	.50	.58	.44	4.8	.62	.58	.11	.22
30	.38	.35	1.3	1.9	------	.57	.46	.98	.42	.07	.24	.17
31	.31	------	.84	2.4	------	.52	------	.60	------	.07	.05	------
TOTAL	24.74	18.56	116.32	69.95	18.36	87.97	21.35	59.00	72.44	23.68	10.43	16.69
MEAN	.80	.62	3.75	2.26	.63	2.84	.71	1.90	2.41	.76	.34	.56
MAX	11	8.4	27	45	4.3	24	4.2	32	14	11	2.5	9.2
MIN	.23	.28	.41	.30	.30	.40	.36	.28	.22	.07	.04	.04
CFSM	1.70	1.32	7.98	4.80	1.35	6.04	1.51	4.05	5.14	1.63	.72	1.18
IN.	1.96	1.47	9.20	5.53	1.45	6.96	1.69	4.67	5.73	1.87	.83	1.32

CAL YR 1967: TOTAL 614.45 MEAN 1.68 MAX 48 MIN .15 CFSM 3.58 IN 48.62
WAT YR 1968: TOTAL 539.49 MEAN 1.47 MAX 45 MIN .04 CFSM 3.14 IN 42.69

PEAK DISCHARGE (BASE, 140 CFS, REVISED).--JAN. 14 (0800) 146 CFS (4.04 FT); JUNE 19 (2015) 170 CFS (4.31 FT).

1-6505. Northwest Branch Anacostia River near Colesville, Md.

Location.--39°03'55", long 77°01'48", on right bank 400 ft upstream from bridge on State Highway 183, 1.5 miles southwest of Colesville, Montgomery County, 3 miles upstream from Burnt Mills, 10 miles upstream from Sligo Branch, and 12.5 miles upstream from mouth.

Drainage area.--21.1 sq mi.

Records available.--October 1923 to September 1968. 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.--45 years, 21.4 cfs (unadjusted).

Extremes.--Maximum discharge during year, 935 cfs Jan. 14 (gage height, 7.26 ft); minimum, 1.0 cfs Sept. 30 (gage height, 1.45 ft).
1924-68: 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 1968 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.0	6.2	14	19	18	13	17	12	14	8.7	3.4	2.6
2	3.8	41	7.7	16	28	10	15	11	13	52	4.7	6.1
3	3.9	17	154	15	33	8.6	15	11	13	46	4.1	3.2
4	4.0	8.9	42	21	19	10	15	12	12	15	3.8	2.1
5	3.5	7.5	23	20	16	12	24	11	10	11	3.6	2.1
6	3.4	7.0	21	13	16	12	16	9.9	9.4	9.7	3.3	14
7	3.7	7.0	20	13	15	11	15	9.5	8.7	8.8	3.1	3.7
8	4.1	6.9	17	12	14	11	15	9.5	8.7	8.0	4.1	2.9
9	4.3	6.9	14	12	14	12	15	9.2	10	7.7	2.8	3.0
10	18	6.9	62	12	11	13	14	8.9	10	7.2	5.8	29
11	9.2	7.0	135	11	10	13	13	9.1	8.6	7.0	5.8	11
12	4.9	7.1	65	10	10	59	13	11	22	6.5	2.8	3.9
13	4.8	6.8	24	11	10	116	13	9.9	37	6.8	2.6	3.2
14	4.5	6.6	18	438	10	35	13	8.9	11	6.6	3.0	2.8
15	4.4	7.1	15	50	10	34	13	11	9.3	6.2	3.5	2.6
16	4.7	7.1	14	24	10	32	12	11	36	5.6	3.0	2.3
17	5.0	7.9	13	21	10	182	12	9.9	44	5.3	5.0	2.5
18	12	9.0	13	19	9.5	107	12	8.7	21	5.0	4.0	2.7
19	9.6	8.1	12	18	9.5	38	12	10	87	10	4.7	2.9
20	5.4	7.6	12	17	10	28	12	9.7	87	8.2	5.8	2.8
21	5.2	7.6	11	17	8.6	23	12	8.4	17	5.7	3.4	2.5
22	5.1	8.6	22	17	9.8	21	11	8.0	13	5.2	2.7	2.1
23	5.0	8.6	17	17	9.8	41	11	15	11	4.9	2.3	1.7
24	5.0	7.6	13	16	9.9	27	27	23	11	4.2	2.4	1.7
25	44	8.6	12	13	9.5	20	26	12	9.8	4.5	2.5	1.8
26	13	7.2	14	13	9.5	19	14	9.5	8.5	4.3	1.9	1.8
27	7.5	7.0	11	13	10	18	14	33	44	4.4	1.9	1.7
28	6.5	6.7	90	13	9.5	17	14	219	69	4.4	2.1	1.9
29	6.1	6.0	165	13	11	16	12	58	14	3.8	1.9	1.8
30	6.1	10	40	19	------	16	13	25	11	3.4	2.4	1.5
31	6.4	------	24	24	------	15	------	19	------	3.4	2.7	------
TOTAL	227.1	267.5	1,114.7	947	370.6	989.6	440	633.1	680.0	289.5	105.1	123.9
MEAN	7.33	8.92	36.0	30.5	12.8	31.9	14.7	20.4	22.7	9.34	3.39	4.13
MAX	44	41	165	438	33	182	27	219	87	52	5.8	29
MIN	3.4	6.0	7.7	10	8.6	8.6	11	8.0	8.5	3.4	1.9	1.5
CFSM	.35	.42	1.70	1.45	.61	1.51	.70	.97	1.07	.44	.16	.20
IN.	.40	.47	1.96	1.67	.65	1.74	.78	1.12	1.20	.51	.19	.22

CAL YR 1967: TOTAL 7,015.4 MEAN 19.2 MAX 535 MIN 3.4 CFSM .91 IN 12.37
WAT YR 1968: TOTAL 6,188.1 MEAN 16.9 MAX 438 MIN 1.5 CFSM .80 IN 10.91

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-14	1300	7.26	935

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 1968. 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.--30 years, 39.6 cfs (unadjusted).

Extremes.--Maximum discharge during year, 1,900 cfs Jan. 14 (gage height, 8.38 ft); minimum daily, 4.2 cfs Aug. 31, Sept. 27, 28.
1938-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.0	12	34	52	31	47	34	25	29	18	11	4.8
2	8.0	124	25	36	60	32	27	22	31	110	17	124
3	8.0	40	551	42	52	26	27	34	91	130	22	32
4	8.0	20	121	80	34	22	27	29	27	28	11	11
5	8.0	15	54	38	32	24	42	22	21	22	8.6	11
6	6.6	13	48	40	29	24	29	19	19	20	7.6	80
7	7.3	13	41	32	28	24	26	18	18	19	9.6	15
8	7.6	13	38	32	28	22	26	18	17	19	12	9.1
9	8.6	12	31	26	27	24	26	17	25	18	7.3	8.6
10	84	13	250	26	25	26	24	18	27	18	27	221
11	29	13	407	24	22	26	25	18	32	17	22	36
12	12	13	202	22	20	235	22	27	214	16	8.0	12
13	11	12	64	24	20	220	22	22	205	15	7.0	8.0
14	10	12	45	900	20	70	22	17	24	15	6.6	6.6
15	9.6	11	35	146	20	60	27	20	19	19	6.6	5.6
16	9.6	10	32	66	20	60	22	21	170	15	5.9	5.9
17	9.6	12	29	52	20	335	21	21	160	14	11	5.6
18	37	15	28	45	20	296	21	15	44	14	11	5.6
19	26	15	27	40	20	66	21	47	48	50	20	5.6
20	14	12	24	35	20	47	21	25	170	24	16	5.6
21	11	12	24	30	18	44	25	18	33	13	7.6	4.5
22	10	18	110	28	20	42	19	15	25	12	5.9	4.8
23	9.6	26	50	28	20	93	19	44	22	11	5.9	4.8
24	10	17	28	27	20	54	106	77	25	10	5.2	4.5
25	182	25	28	24	20	39	62	27	21	9.6	61	4.8
26	41	15	34	24	20	34	29	18	27	13	16	4.5
27	19	15	24	24	20	32	33	106	175	8.6	6.2	4.2
28	14	17	359	24	20	32	29	560	95	9.1	5.9	4.2
29	13	11	332	24	28	32	24	156	24	8.0	5.9	4.8
30	12	11	66	40	------	31	24	144	20	7.6	4.8	5.6
31	12	------	56	42	------	29	------	47	------	8.0	4.2	------
TOTAL	655.5	567	3,197	2,073	734	2,148	882	1,667	1,858	710.9	375.8	659.7
MEAN	21.1	18.9	103	66.9	25.3	69.3	29.4	53.8	61.9	22.9	12.1	22.0
MAX	182	124	551	900	60	335	106	560	214	130	61	221
MIN	6.6	10	24	22	18	22	19	15	17	7.6	4.2	4.2
CFSM	.43	.38	2.09	1.35	.51	1.40	.60	1.09	1.25	.46	.25	.45
IN.	.49	.43	2.41	1.56	.55	1.62	.66	1.25	1.40	.54	.28	.50

CAL YR 1967: TOTAL 17,991.7 MEAN 49.3 MAX 1,380 MIN 6.6 CFSM .00 IN 13.54
WAT YR 1968: TOTAL 15,527.9 MEAN 42.4 MAX 900 MIN 4.2 CFSM .86 IN 11.69

PEAK DISCHARGE (BASE, 1,250 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-14	0815	8.38	1,900	6-27	1715	7.43	1,520
6-13	0015	7.34	1,480	9- 2	2100	7.18	1,410
6-16	1915	7.68	1,620	9-10	1800	7.30	1,460

1-6535. Henson Creek at Oxon Hill, Md.

Location.--Lat 38°47'16", 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 1968.

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.--20 years, 18.2 cfs.

Extremes.--Maximum discharge during year, 880 cfs Jan. 14 (gage height, 4.40 ft); minimum, 0.85 cfs Aug. 2 and Sept. 28 (gage height, 0.43 ft).
1948-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.0	3.3	4.0	19	11	4.0	19	9.0	11	4.9	1.5	2.2
2	2.4	39	3.8	16	24	4.0	14	7.2	17	21	12	8.7
3	2.4	15	100	14	23	3.9	12	8.7	22	60	21	14
4	2.0	6.0	40	22	13	3.7	13	9.2	13	19	6.9	2.1
5	1.6	5.5	26	13	11	3.7	18	7.4	7.9	8.3	3.7	2.9
6	1.4	5.0	20	12	11	3.7	13	6.0	6.2	7.7	2.8	25
7	2.0	4.6	15	11	10	4.5	12	5.4	5.9	6.5	2.6	4.8
8	2.6	4.4	12	11	9.7	6.7	12	6.0	6.1	5.1	3.2	2.8
9	3.0	4.2	10	10	9.1	7.2	11	6.5	11	4.5	1.9	2.0
10	4.0	4.4	30	10	8.4	7.0	10	7.7	9.7	8.8	30	202
11	15	4.0	130	9.0	8.0	7.2	11	6.6	7.9	5.0	44	53
12	6.0	4.0	100	9.0	7.5	92	10	8.0	74	5.0	4.5	8.8
13	3.6	3.8	40	10	7.5	210	12	5.3	180	4.9	2.6	5.4
14	2.6	3.8	16	411	7.0	30	11	4.6	17	4.6	2.6	5.2
15	2.0	3.6	14	34	7.5	21	12	5.3	11	13	2.7	4.0
16	2.0	3.7	13	22	7.5	17	9.5	6.0	8.2	7.1	2.0	3.3
17	2.3	4.2	11	19	7.5	81	8.4	5.6	20	3.9	2.4	3.0
18	8.1	5.0	11	16	7.0	222	7.9	5.1	11	3.6	2.4	2.9
19	5.2	4.3	10	14	7.0	43	7.6	12	53	9.7	26	2.7
20	2.7	3.7	9.1	14	6.5	30	7.6	7.4	87	7.4	20	2.2
21	2.8	3.7	9.2	13	5.6	26	8.0	4.3	12	4.0	4.9	2.6
22	2.4	4.8	51	12	4.5	23	6.7	5.1	10	3.0	2.9	2.4
23	2.0	7.0	41	17	4.4	38	6.5	7.9	7.8	2.0	2.3	2.2
24	2.2	4.6	14	15	4.4	24	39	21	9.3	2.3	2.0	2.0
25	26	4.8	11	11	4.4	19	25	7.6	9.4	14	34	1.8
26	13	4.4	17	10	4.2	18	11	5.1	5.8	6.9	22	1.8
27	5.4	4.0	14	9.0	4.0	17	12	21	67	3.6	2.8	1.8
28	5.3	3.6	156	9.0	4.0	16	12	193	21	3.1	2.0	1.1
29	4.5	3.4	89	10	4.0	16	8.2	39	8.9	1.9	2.0	1.4
30	3.6	3.6	26	14	------	14	9.2	35	6.4	1.2	1.8	1.4
31	3.3	------	22	18	------	14	------	19	------	1.5	1.9	------
TOTAL	143.4	175.4	1,065.1	834.0	242.7	1,026.6	368.6	497.0	736.5	253.5	273.4	375.5
MEAN	4.63	5.85	34.4	26.9	8.37	33.1	12.3	16.0	24.6	8.18	8.82	12.5
MAX	26	39	156	411	24	222	39	193	180	60	44	202
MIN	1.4	3.3	3.8	9.0	4.0	3.7	6.5	4.3	5.8	1.2	1.5	1.1
CFSM	.28	.35	2.06	1.61	.50	1.98	.74	.96	1.47	.49	.53	.75
IN.	.32	.39	2.37	1.86	.54	2.29	.82	1.11	1.64	.56	.61	.84

CAL YR 1967: TOTAL 6,015.6 MEAN 16.5 MAX 290 MIN 1.4 CFSM .99 IN 13.40
WAT YR 1968: TOTAL 5,991.7 MEAN 16.4 MAX 411 MIN 1.1 CFSM .98 IN 13.34

PEAK DISCHARGE (BASE 400 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12- 3	Unknown	3.15	494	5-28	0900	2.88	427
12-11	Unknown	3.61	616	6-13	0130	3.95	723
12-28	2030	3.37	550	6-19	2400	3.66	630
1-14	1400	4.40	880	8-25	2230	3.02	461
3-12	2300	3.57	605	9-10-	2030	4.27	834
3-18	0700	2.98	451				

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 1968.

Gage.--Digital water-stage recorder. Prior to October 14, 1967, graphic water-stage recorder. Altitude of gage is 10 ft (from topographic map).

Extremes.--Maximum discharge during year, 938 cfs Jan. 14 (gage height, 6.76 ft); minimum, 0.79 cfs Sept. 29, 30.

1965-68: Maximum discharge that of Jan. 14, 1968; 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 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.5	5.6	8.4	55	44	36	53	24	28	9.7	1.4	1.2
2	1.8	11	9.4	46	49	35	50	21	23	13	1.6	1.6
3	1.8	44	175	40	80	38	47	20	35	118	19	8.8
4	1.7	12	267	80	47	27	46	20	27	47	7.1	2.5
5	1.5	8.5	51	55	40	26	46	19	17	23	7.1	1.2
6	1.2	7.6	36	40	37	25	41	17	14	17	4.3	16
7	1.6	7.1	31	34	36	22	39	15	13	15	3.8	11
8	2.4	6.9	26	28	34	20	39	15	11	11	4.0	3.0
9	2.7	6.7	21	24	33	22	39	14	15	9.7	2.4	2.0
10	3.5	6.8	31	30	29	22	36	13	53	9.3	21	61
11	15	6.6	285	26	27	24	36	13	30	8.8	47	384
12	5.9	6.8	230	20	27	86	34	14	28	7.6	9.3	56
13	4.2	6.6	89	40	24	731	32	13	379	6.7	5.4	20
14	3.6	6.4	52	498	25	270	32	12	67	7.0	4.3	12
15	3.6	6.4	41	608	25	94	33	13	33	11	4.0	8.8
16	3.6	5.6	34	116	25	79	31	14	23	21	3.0	6.7
17	3.4	6.0	29	80	27	175	29	13	35	8.0	2.7	5.6
18	4.6	6.4	27	70	26	563	28	10	51	6.2	2.2	5.4
19	8.2	6.5	26	67	28	354	28	10	33	5.1	9.7	4.3
20	4.5	6.0	23	63	28	129	26	17	317	7.1	62	3.4
21	4.0	5.7	22	58	27	102	24	10	51	3.8	11	3.2
22	3.8	6.2	56	53	24	90	23	9.3	36	3.0	4.8	2.8
23	3.8	7.2	149	58	20	94	24	8.8	34	2.4	3.4	2.5
24	3.6	7.6	63	62	21	85	36	26	20	1.9	2.4	2.1
25	7.8	9.4	47	46	22	67	72	18	34	8.8	6.2	1.9
26	32	8.0	51	43	21	61	34	12	24	13	17	1.4
27	8.7	7.0	39	40	23	59	29	13	19	5.1	4.5	1.5
28	6.6	6.5	81	39	18	58	30	189	24	4.5	2.1	1.2
29	5.9	6.0	439	39	21	55	25	159	15	2.8	1.7	.91
30	5.7	6.5	98	40	------	52	25	55	12	1.8	1.4	.82
31	5.7	------	72	59	------	49	------	55	------	1.4	1.2	------
TOTAL	163.9	249.6	2,608.8	2,557	888	3,550	1,067	862.1	1,501	409.7	277.0	632.83
MEAN	5.29	8.32	84.2	82.5	30.6	115	35.6	27.8	50.0	13.2	8.94	21.1
MAX	32	44	439	608	80	731	72	189	379	118	62	384
MIN	1.2	5.6	8.4	20	18	20	23	8.8	11	1.4	1.2	.82
CFSM	.13	.21	2.13	2.09	.78	2.90	.90	.70	1.27	.33	.23	.53
IN.	.15	.24	2.46	2.41	.84	3.34	1.00	.81	1.41	.39	.26	.60

CAL YR 1967: TOTAL 12,521.66 MEAN 34.3 MAX 439 MIN .34 CFSM .87 IN 11.79
WAT YR 1968: TOTAL 14,766.93 MEAN 40.3 MAX 731 MIN .82 CFSM 1.02 IN 13.90

PEAK DISCHARGE (BASE, 250 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12- 3	2100	5.08	465	3-18	1600	6.00	710
12-11	1000	4.79	392	5-28	2130	4.59	342
12-29	0530	5.61	598	6-20	0830	5.19	492
1-14	1630	6.76	938	9-11	1630	5.77	641
3-13	0800	6.42	836				

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 1968.

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.--18 years (1950-68), 52.0 cfs.

Extremes.--Maximum discharge during year, 840 cfs Jan. 15 (gage height, 4.80 ft); no flow many days in August and September.
1949-68: 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 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.70	5.1	9.4	128	52	40	48	20	34	2.7	0	0
2	.70	9.6	10	65	50	36	44	16	24	2.0	0	0
3	.70	26	65	55	71	44	40	14	25	81	0	0
4	.60	21	146	80	68	32	40	13	24	83	0	0
5	.50	13	136	93	54	30	38	13	17	38	0	0
6	.40	9.3	78	55	46	28	36	13	11	17	0	0
7	.40	7.8	56	46	42	24	34	11	6.9	8.0	0	0
8	.70	7.2	47	36	40	22	34	9.1	4.9	4.6	.10	0
9	.70	7.1	37	34	37	26	34	8.0	12	3.1	.40	0
10	1.0	7.0	43	30	35	26	32	7.1	37	2.5	.40	.20
11	2.9	7.0	188	38	28	30	30	6.3	22	2.2	33	43
12	4.1	7.1	267	28	27	90	28	6.6	22	1.7	17	39
13	2.9	7.2	248	50	29	300	26	6.9	200	1.5	4.1	13
14	2.0	7.1	175	180	29	600	26	5.9	162	1.3	1.7	6.3
15	1.5	6.5	99	402	28	400	24	6.1	73	1.2	.90	3.9
16	1.3	5.8	68	404	28	110	23	7.3	33	1.0	.60	3.0
17	1.1	5.8	54	178	30	200	21	7.1	31	1.1	.50	2.2
18	2.0	6.0	45	91	26	300	20	6.7	62	1.0	.30	1.7
19	6.0	6.2	42	71	28	643	19	5.4	36	.60	.30	1.4
20	3.0	5.8	37	55	32	453	18	6.3	55	1.3	.40	1.0
21	2.4	5.7	33	46	28	207	17	5.0	55	1.0	2.6	.80
22	2.0	6.1	53	39	26	120	17	3.8	29	.50	1.2	.60
23	1.7	7.9	140	39	22	130	16	3.6	17	.40	.60	.30
24	1.6	9.6	155	52	24	110	22	11	11	.30	.40	.10
25	3.7	13	118	46	26	80	62	19	16	.20	.30	0
26	16	13	90	44	24	70	42	13	12	.20	.20	0
27	16	11	77	48	26	60	28	9.1	11	.40	.10	0
28	8.8	8.4	100	46	20	55	29	70	12	.40	0	0
29	6.6	8.0	283	45	22	50	25	120	6.7	.30	0	0
30	5.6	8.2	321	45	------	46	21	80	4.1	.20	0	0
31	5.0	------	237	55	------	42	------	61	------	.10	0	------
TOTAL	102.60	268.5	3,457.4	2,624	998	4,404	894	584.3	1,065.6	258.80	65.10	116.50
MEAN	3.31	8.95	112	84.6	34.4	142	29.8	18.8	35.5	8.35	2.10	3.88
MAX	16	26	321	404	71	643	62	120	200	83	33	43
MIN	.40	5.1	9.4	28	20	22	16	3.6	4.1	.10	0	0
CFSM	.06	.16	1.93	1.47	.60	2.46	.52	.33	.62	.14	.04	.07
IN.	.07	.17	2.23	1.69	.64	2.84	.58	.38	.69	.17	.04	.08

CAL YR 1967: TOTAL 16,428.50 MEAN 45.0 MAX 322 MIN 0 CFSM .78 IN 10.59
WAT YR 1968: TOTAL 14,838.80 MEAN 40.5 MAX 643 MIN 0 CFSM .70 IN 9.56

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-15	2000	4.80	840	3-19	1600	4.77	807
3-14	Unknown	Unknown	About 700				

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 1968.

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.--21 years, 9.74 cfs.

Extremes.--Maximum discharge during year, 385 cfs Jan. 14 (gage height, 5.00 ft); minimum, no flow part or all of each day July 25, 26, Aug. 29 to Sept. 3.
Maximum discharge, 7,800 cfs Sept. 10, 1950 (gage height, 8.56 ft), from rating curve extended above 410 cfs on basis of slope-area measurement of peak flow; no flow at times in 1954, 55, 57, 62-64, 66, 68.

Remarks.--Records good. Occasional small diversion above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.58	1.7	4.5	7.6	6.0	9.0	9.4	6.1	3.5	1.3	.57	0
2	.52	2.5	4.1	7.0	8.1	11	8.3	5.6	7.4	1.1	1.6	0
3	.52	7.0	40	6.0	11	10	8.3	5.4	40	1.9	7.3	3.4
4	.58	3.0	17	17	7.5	9.0	8.7	5.1	8.1	3.2	2.5	.74
5	.52	2.3	9.2	11	6.7	8.3	8.7	5.4	4.8	2.4	4.4	.50
6	.46	2.0	7.6	8.0	6.2	7.7	7.7	5.6	3.4	1.4	1.9	17
7	1.4	1.8	6.5	9.0	6.0	6.4	7.7	4.6	2.7	1.2	1.2	7.6
8	1.3	1.7	5.6	8.0	6.0	6.1	8.0	4.4	2.7	.97	2.1	1.5
9	1.1	1.8	4.8	5.5	5.5	6.4	7.7	4.4	4.4	.88	1.1	1.0
10	1.8	1.9	7.0	6.5	5.0	6.7	7.7	3.8	3.4	1.0	5.7	11
11	3.2	2.0	25	5.5	4.5	11	7.4	3.8	3.8	1.1	2.4	25
12	1.2	2.1	20	4.5	4.0	30	7.1	4.8	3.6	.90	1.1	4.8
13	1.1	2.1	10	7.5	3.8	34	7.1	4.6	20	1.0	.80	2.9
14	1.1	2.1	7.5	165	3.8	13	7.1	3.8	5.6	.96	.69	1.8
15	1.0	1.9	6.2	34	4.3	9.8	7.1	4.4	3.8	1.2	.77	1.3
16	1.0	2.0	5.6	16	4.8	9.0	6.7	4.6	3.5	1.4	.60	1.3
17	1.1	2.3	5.1	15	5.2	36	6.4	3.6	14	.91	.64	1.2
18	1.2	2.5	5.1	14	5.0	158	6.4	3.4	12	.69	.44	1.3
19	1.3	2.3	5.1	12	4.5	31	6.4	3.6	5.5	.53	.42	1.1
20	1.1	2.1	4.6	10	5.0	19	6.1	6.4	14	.45	4.8	1.0
21	1.0	2.3	4.4	9.6	4.5	16	6.1	3.6	4.9	.27	1.0	.91
22	.90	2.5	13	8.9	4.0	14	5.8	3.4	3.7	.18	.56	.91
23	.90	3.8	25	9.5	3.5	15	5.8	3.4	3.0	.14	.40	.91
24	1.0	3.6	10	10	4.0	13	8.3	5.1	2.9	.08	.25	.84
25	2.0	6.4	8.3	8.0	4.5	11	15	4.4	5.2	.01	.19	.64
26	4.0	3.8	9.0	7.0	4.2	10	7.7	3.2	3.0	10	.45	.64
27	2.2	3.1	7.9	7.0	4.2	10	7.1	3.6	6.8	2.3	.26	.84
28	1.8	2.8	17	8.0	4.5	9.9	8.0	25	3.5	1.3	.06	.64
29	1.6	2.5	26	7.0	5.5	9.6	6.4	14	2.3	.82	0	.52
30	1.5	2.9	11	6.5	------	9.3	6.7	6.3	1.6	.55	0	.35
31	1.5	------	8.8	6.0	------	9.0	------	5.3	------	.47	0	------
TOTAL	40.48	80.8	340.9	456.6	151.8	558.2	226.9	170.7	203.1	40.61	44.20	91.64
MEAN	1.31	2.69	11.0	14.7	5.23	18.0	7.56	5.51	6.77	1.31	1.43	3.05
MAX	4.0	7.0	40	165	11	158	15	25	40	10	7.3	25
MIN	.46	1.7	4.1	4.5	3.5	6.1	5.8	3.2	1.6	.01	0	0
CFSM	.12	.25	1.03	1.38	.49	1.68	.71	.51	.63	.12	.13	.29
IN.	.14	.28	1.18	1.59	.53	1.94	.79	.59	.71	.14	.15	.32

CAL YR 1967: TOTAL 2,235.40 MEAN 6.12 MAX 45 MIN .40 CFSM .57 IN 7.77
WAT YR 1968: TOTAL 2,405.93 MEAN 6.57 MAX 165 MIN 0 CFSM .61 IN 8.36

PEAK DISCHARGE (BASE, 160 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-14	1330	5.00	385
3-18	1030	4.89	347

Note.--No gage-height record Oct. 17 to Nov. 17.

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 1968.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 10 ft (from topographic map). Prior to Nov. 13, 1962, graphic water-stage recorder at same site and datum.

Average discharge.--22 years, 22.9 cfs.

Extremes.--Maximum discharge during year, 696 cfs Jan. 14 (gage height, 6.78 ft); minimum, 0.73 cfs Aug. 31 gage height 1.20 ft).
1946-68: 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.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	4.0	14	18	12	13	15	8.9	6.5	1.9	2.1	.91
2	3.0	6.5	8.9	13	13	15	14	8.0	6.5	1.9	2.8	1.0
3	2.8	13	77	13	19	18	13	7.6	27	1.7	13	6.1
4	2.8	7.6	38	29	14	14	14	7.3	10	2.1	6.9	4.0
5	2.8	5.4	16	20	12	16	14	7.3	6.5	2.3	3.6	2.3
6	2.5	4.6	11	15	11	15	13	7.3	5.0	2.3	3.0	15
7	3.3	4.3	8.9	17	11	13	12	6.5	4.0	2.8	2.5	17
8	3.5	4.0	8.0	13	11	11	12	6.1	3.8	2.3	2.6	5.4
9	3.8	4.0	7.3	10	10	11	12	6.1	4.3	2.1	2.5	2.8
10	4.3	4.3	9.5	10	10	14	12	5.7	6.9	2.3	2.1	32
11	7.3	4.3	44	10	7.5	56	11	5.7	8.4	2.1	1.9	22
12	5.0	4.6	59	8.4	7.6	128	11	6.1	6.1	2.1	1.7	7.3
13	4.0	4.6	30	9.5	7.6	260	10	6.9	8.4	2.1	1.5	3.8
14	3.5	4.6	16	397	7.3	83	10	6.1	6.1	2.1	1.4	2.8
15	3.3	4.6	13	167	8.0	43	11	5.7	4.3	8.0	1.4	2.3
16	3.3	4.3	10	60	8.4	29	11	6.5	3.5	7.3	1.2	2.1
17	3.3	4.0	8.9	31	9.5	151	9.5	5.7	14	6.1	1.2	1.9
18	3.5	4.3	8.4	23	8.0	488	9.5	5.4	22	4.0	1.1	2.1
19	3.8	4.0	8.0	20	7.0	144	9.5	6.1	8.9	7.3	1.5	1.9
20	3.5	4.0	7.6	18	8.4	70	8.9	7.6	14	26	6.1	1.9
21	3.0	4.0	7.3	16	7.0	46	8.9	5.7	8.0	7.3	3.5	1.9
22	3.0	4.3	12	15	7.3	32	8.9	5.0	5.4	3.5	2.1	1.7
23	3.3	5.4	55	14	6.5	30	8.4	4.6	4.3	2.5	1.4	1.7
24	3.3	6.1	24	17	7.3	26	12	5.0	4.3	2.1	1.2	1.7
25	5.0	10	16	15	7.5	21	23	7.3	3.8	1.9	1.1	1.7
26	9.5	7.6	17	12	7.6	19	13	5.7	3.3	5.4	1.1	1.5
27	6.1	6.1	15	13	7.0	18	11	4.6	3.0	6.1	1.1	1.4
28	4.6	5.4	27	15	8.0	17	14	62	3.3	4.0	1.1	1.4
29	3.8	5.4	94	14	9.5	17	11	30	2.5	3.0	.91	1.2
30	3.8	8.4	34	13	------	15	11	13	2.3	2.3	.82	1.1
31	3.8	------	21	13	------	14	------	8.4	------	2.1	.82	------
TOTAL	122.5	163.7	725.8	1,058.9	270.0	1,847	353.6	283.9	216.4	129.0	75.65	149.91
MEAN	3.95	5.46	23.4	34.2	9.31	59.6	11.8	9.16	7.21	4.16	2.44	5.00
MAX	9.5	13	94	397	19	488	23	62	27	26	13	32
MIN	2.5	4.0	7.3	8.4	6.5	11	8.4	4.6	2.3	1.7	.82	.91
CFSM	.16	.23	.98	1.42	.39	2.48	.49	.38	.30	.17	.10	.21
IN.	.19	.25	1.12	1.64	.42	2.86	.55	.44	.34	.20	.12	.23

CAL YR 1967 TOTAL 5,353.4 MEAN 14.7 MAX 163 MIN 1.9 CFSM .61 IN 8.30
WTR YR 1968 TOTAL 5,396.36 MEAN 14.7 MAX 488 MIN .82 CFSM .61 IN 8.36

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-14	1800	6.78	696
3-18	1100	6.75	690

3-0755. Youghiogheny River near Oakland, Md.

Location.--Lat 39°25'19", long 79°25'32", on left bank 200 ft downstream from Baltimore & 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 1968.

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.--27 years, 284 cfs.

Extremes.--Maximum discharge during year, 5,530 cfs May 24 (gage height, 8.40 ft); minimum, 12 cfs Sept. 30 (gage height, 1.90 ft).
1941-68: 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 CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	66	218	110	1,340	53	494	73	532	52	42	14
2	32	66	215	90	1,280	55	432	62	582	44	82	14
3	27	76	838	140	1,340	53	366	58	522	40	46	19
4	24	77	899	160	817	51	338	190	406	35	40	18
5	21	86	565	160	573	51	436	163	325	31	134	16
6	21	74	442	140	441	63	374	128	257	29	93	61
7	23	67	701	120	358	65	324	110	207	27	114	68
8	23	64	913	110	306	78	298	97	169	26	315	31
9	23	61	641	96	255	318	281	89	145	69	216	21
10	24	62	535	100	196	1,080	219	94	168	40	188	41
11	27	62	1,030	100	203	1,040	227	119	374	30	295	85
12	25	57	867	90	167	941	195	563	867	27	156	128
13	22	60	682	84	150	1,450	167	602	650	26	104	90
14	20	62	522	80	130	901	151	436	415	23	84	53
15	19	61	421	90	140	649	148	692	282	38	79	39
16	20	54	335	88	130	802	136	529	212	28	61	30
17	19	69	272	84	110	1,560	117	431	185	24	62	26
18	30	315	252	80	100	1,120	108	480	163	26	56	24
19	261	254	228	86	90	987	102	644	130	40	48	21
20	260	198	185	100	95	917	98	583	137	46	57	20
21	139	168	165	133	80	979	98	508	98	33	38	20
22	93	170	180	214	70	991	86	419	80	24	30	18
23	72	323	200	369	68	993	78	768	70	19	30	17
24	60	329	155	472	61	850	94	3,990	71	17	29	16
25	140	753	150	351	59	699	101	2,890	86	20	31	16
26	310	677	150	290	53	688	83	1,130	88	72	27	17
27	174	458	120	250	51	594	77	853	137	44	22	19
28	130	331	120	239	52	484	73	800	101	26	18	17
29	101	241	120	368	52	405	66	604	78	20	18	15
30	84	206	130	1,050	------	458	67	617	63	17	17	13
31	73	------	120	1,950	------	350	------	711	------	23	16	------
TOTAL	2,339	5,547	12,371	7,794	8,767	19,725	5,834	19,433	7,600	1,016	2,548	987
MEAN	75.5	185	399	251	302	636	194	627	253	32.8	82.2	32.9
MAX	310	753	1,030	1,950	1,340	1,560	494	3,990	867	72	315	128
MIN	19	54	120	80	51	51	66	58	63	17	16	13
CFSM	.56	1.38	2.98	1.88	2.26	4.75	1.45	4.68	1.89	.24	.61	.25
IN.	.65	1.54	3.43	2.16	2.43	5.47	1.62	5.39	2.11	.28	.71	.27

CAL YR 1967 TOTAL 115,288 MEAN 316 MAX 6,470 MIN 12 CFSM 2.36 IN 32.00
WTR YR 1968 TOTAL 93,961 MEAN 257 MAX 3,990 MIN 13 CFSM 1.92 IN 26.08

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-30	2215	5.86	2,380	5-24	1830	8.40	5,530

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 1968 (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, 90,700 acre-ft June 5 (elevation, 2,461.40 ft); minimum, 59,800 acre-ft Jan. 19 (elevation, 2,452.60 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 1967 to September 1968

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2,457.00	74,700	-
Oct. 31	2,455.30	68,700	- 6,000
Nov. 30	2,453.30	62,000	- 6,700
Dec. 31	2,453.40	62,400	+ 400
Calendar year 1967			+ 4,200
Jan. 31	2,453.30	62,000	- 400
Feb. 29	2,454.40	65,700	+ 3,700
Mar. 31	2,457.80	77,500	+11,800
Apr. 30	2,458.10	78,600	+ 1,100
May 31	2,461.20	90,000	+11,400
June 30	2,460.00	85,500	- 4,500
July 31	2,458.30	79,300	- 6,200
Aug. 31	2,456.90	74,300	- 5,000
Sept. 30	2,456.50	72,900	- 1,400
Water year 1967-68	-	-	- 1,800

† 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 1968 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.--34 years (1898-1904, 1940-1968), 628 cfs (adjusted for storage since 1940).

Extremes.--Maximum discharge during year, 6,920 cfs May 24 (gage height, 6.58 ft); minimum, 20 cfs Sept. 30 (gage height, 1.73 ft); minimum daily, 31 cfs Sept. 2, 28.

1898-1904, 1940-68: 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 1968 water year are published in part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107	244	606	270	2,610	293	916	242	1,080	249	196	32
2	183	293	344	534	2,280	206	888	227	1,670	233	233	31
3	161	363	1,180	625	2,460	136	735	239	1,550	224	131	134
4	131	187	1,910	664	1,530	286	669	460	1,090	84	86	141
5	131	233	1,270	630	1,120	310	811	452	885	196	282	125
6	210	343	1,030	470	865	290	676	400	734	74	318	172
7	102	356	1,330	350	713	308	569	345	655	58	288	138
8	49	343	1,840	420	620	294	570	295	487	187	599	78
9	153	337	1,120	530	540	400	560	278	413	288	436	51
10	200	337	879	510	350	1,580	466	263	503	266	350	52
11	200	161	1,840	470	370	1,890	454	240	660	229	363	109
12	205	125	1,740	418	400	1,650	420	813	1,360	233	385	161
13	196	306	1,450	190	410	2,360	328	1,230	1,280	86	288	172
14	94	282	1,170	145	410	1,640	278	813	1,110	66	260	107
15	43	356	1,000	310	420	1,140	311	1,150	576	161	255	78
16	150	266	613	340	380	1,180	296	1,020	476	205	249	62
17	191	421	508	341	330	2,610	309	889	511	183	117	53
18	205	460	684	334	280	2,100	276	738	423	200	109	48
19	572	477	682	373	250	1,870	265	1,140	377	229	200	44
20	709	573	609	230	325	1,750	222	1,110	373	107	260	41
21	299	527	560	190	277	1,880	187	966	349	76	293	40
22	191	467	670	440	314	1,880	207	812	160	164	176	39
23	254	647	609	689	378	1,690	227	1,250	133	215	168	37
24	200	905	460	971	242	1,480	308	5,750	269	249	66	34
25	282	1,030	428	687	120	1,250	302	4,810	360	180	56	33
26	688	1,200	677	589	140	1,230	274	2,280	367	249	144	34
27	527	1,070	604	410	277	1,090	233	1,760	392	134	150	34
28	260	843	577	399	323	907	191	2,130	363	82	144	31
29	196	685	508	669	319	775	209	1,360	164	161	138	46
30	363	655	360	1,730	------	789	264	1,300	134	180	144	49
31	288	------	310	3,560	------	638	------	1,500	------	180	45	------
TOTAL	7,540	14,492	27,568	18,488	19,053	35,902	12,421	36,262	18,904	5,428	6,929	2,206
MEAN	243	483	889	596	657	1,158	414	1,170	630	175	224	73.5
MAX	709	1,200	1,910	3,560	2,610	2,610	916	5,750	1,670	288	599	172
MIN	43	125	310	145	120	136	187	227	133	58	45	31
†	-97.8	-112	+6.5	-6.5	+64.5	+192	+18.5	+186	-75.6	-101	-81.2	-23.5
MEAN ‡	145	371	896	590	722	1,350	432	1,356	554	74	143	50.0
CFSM ‡	.49	1.26	3.04	2.00	2.45	4.58	1.46	4.60	1.88	.25	.48	.17
IN. ‡	.57	1.40	3.50	2.31	2.64	5.28	1.63	5.30	2.10	.29	.56	.19

CAL YR 1967 TOTAL 240,409 MEAN 659 MAX 9,070 MIN 29 MEAN‡ 665 CFSM‡ 2.25 IN‡ 30.60
WTR YR 1968 TOTAL 205,193 MEAN 561 MAX 5,750 MIN 31 MEAN‡ 558 CFSM‡ 1.89 IN‡ 25.75

† 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 1968.

Gage.--Graphic water-stage recorder. Altitude of gage is 1,555 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,550 cfs May 24 (gage height, 5.66 ft); minimum, 4.2 cfs Sept. 30 (gage height, 0.65 ft).
1965-68: Maximum discharge, 1,980 cfs Mar. 7, 1967 (gage height, 6.61 ft); minimum, 1.5 cfs Sept. 12, 1966 (gage height, 0.42 ft).

Remarks.--Records poor.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	14	48	40	356	21	160	45	116	19	18	7.2
2	6.0	14	40	37	332	22	130	39	320	18	15	8.3
3	5.4	16	156	44	312	19	110	38	260	16	9.6	8.5
4	4.7	16	158	52	215	19	108	143	160	14	12	7.0
5	4.6	16	128	52	164	21	116	118	130	12	30	7.4
6	4.6	15	107	48	132	29	102	96	100	11	15	24
7	4.6	14	169	45	113	25	94	78	80	10	30	13
8	4.6	13	188	43	96	39	89	68	66	9.0	34	8.7
9	4.6	13	147	42	86	204	79	61	54	13	42	7.2
10	5.0	13	134	45	67	271	68	56	50	12	50	13
11	5.2	13	174	45	60	226	68	61	60	11	71	19
12	5.2	12	169	39	56	200	58	106	130	12	35	23
13	4.8	13	155	34	52	218	53	106	84	11	22	14
14	4.8	14	138	37	47	183	49	113	68	11	23	12
15	5.2	13	111	40	50	153	48	142	50	22	19	10
16	5.6	12	99	34	46	250	44	144	42	11	24	8.9
17	4.6	17	83	31	40	420	40	136	40	9.8	51	7.6
18	7.2	59	76	29	36	340	39	151	38	9.3	46	7.0
19	42	56	75	29	32	310	37	164	33	10	36	6.4
20	30	47	61	29	34	310	34	164	36	10	40	6.4
21	18	43	57	34	29	350	35	160	27	8.5	25	6.0
22	14	41	66	45	24	310	32	149	25	7.4	18	5.8
23	12	113	70	98	21	320	31	280	27	7.4	16	5.6
24	11	109	65	120	20	260	68	1,060	22	7.0	20	5.5
25	44	122	67	108	20	220	55	595	43	11	18	5.1
26	53	115	67	94	19	210	50	346	30	19	12	5.3
27	35	97	56	64	19	180	49	268	58	9.3	11	4.9
28	26	73	50	68	20	160	45	226	45	8.3	9.1	4.6
29	20	60	46	145	20	150	42	190	32	7.2	8.7	4.3
30	17	53	44	460	------	150	46	164	23	6.4	7.8	4.3
31	15	------	45	531	------	130	------	136	------	10	7.4	------
TOTAL	431.3	1,226	3,049	2,562	2,518	5,720	1,979	5,603	2,249	352.6	775.6	270.0
MEAN	13.9	40.9	98.4	82.6	86.8	185	66.0	181	75.0	11.4	25.0	9.0
MAX	53	122	188	531	356	420	160	1,060	320	22	71	24
MIN	4.6	12	40	29	19	19	31	38	22	6.4	7.4	4.3
CFSM	.28	.84	2.01	1.69	1.78	3.78	1.35	3.70	1.53	.23	.51	.18
IN	.33	.93	2.32	1.95	1.92	4.35	1.50	4.26	1.71	.27	.59	.21

CAL YR 1967 TOTAL 30,776.3 MEAN 84.3 MAX 1,800 MIN 2.8 CFSM 1.72 IN 23.41
WTR YR 1968 TOTAL 26,735.5 MEAN 73.0 MAX 1,060 MIN 4.3 CFSM 1.49 IN 20.33

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-30	2100	4.25	757	5-24	0900	5.66	1,550

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 1968.

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.--21 years, 113 cfs.

Extremes.--Maximum discharge during year, 1,960 cfs May 24 (gage height, 4.96 ft); minimum, 2.2 cfs Sept. 30 (gage height, 1.02 ft).
1947-68: 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 1968 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.8	24	74	48	408	24	191	64	195	31	17	3.5
2	7.2	25	66	40	391	25	149	52	566	26	14	4.3
3	6.2	30	311	58	390	24	124	50	451	22	9.6	5.8
4	5.2	31	256	64	247	23	118	242	276	19	9.6	4.6
5	4.8	33	163	64	189	23	133	138	203	16	24	5.5
6	4.8	28	146	60	157	27	113	98	158	14	18	34
7	4.8	26	347	56	134	28	95	81	126	12	42	20
8	4.8	24	359	52	119	35	89	73	103	11	65	9.7
9	4.8	22	228	50	100	319	84	68	87	9.8	31	7.4
10	5.7	24	227	60	73	539	74	66	79	9.0	41	9.7
11	5.7	24	376	60	80	389	74	81	124	9.5	76	15
12	5.7	22	353	50	68	263	68	251	218	9.3	31	28
13	5.2	31	318	40	65	279	62	195	132	8.4	19	16
14	5.2	32	228	46	55	202	58	158	107	32	18	11
15	5.7	30	186	50	60	173	58	283	78	102	23	8.3
16	6.2	27	150	46	55	294	55	265	65	23	13	7.0
17	5.2	41	131	42	48	605	50	231	62	16	34	6.3
18	12	132	121	40	45	479	47	248	60	11	55	5.2
19	107	95	134	42	38	452	45	272	52	9.7	29	4.8
20	68	68	105	44	40	454	42	237	56	9.4	25	4.4
21	35	60	89	50	35	499	42	258	42	7.6	16	4.2
22	22	70	105	86	30	438	39	204	38	6.7	11	3.8
23	17	211	108	201	26	495	38	473	42	11	9.0	3.3
24	13	142	91	216	25	348	97	1,530	35	7.8	8.4	3.1
25	82	175	91	172	25	279	86	862	73	7.7	9.9	2.8
26	117	154	85	156	23	271	65	445	50	24	7.5	2.6
27	56	114	80	133	23	229	59	453	97	13	6.4	2.6
28	39	88	61	141	24	189	54	596	76	9.9	5.6	2.6
29	32	91	56	286	24	164	49	384	52	7.7	5.0	2.6
30	28	63	60	683	------	167	55	292	38	6.1	4.3	2.4
31	26	------	54	745	------	136	------	248	------	7.7	3.8	------
TOTAL	751.0	1,937	5,159	3,881	2,997	7,872	2,313	8,898	3,741	509.3	681.1	240.5
MEAN	24.2	64.6	166	125	103	254	77.1	287	125	16.4	22.0	8.02
MAX	117	211	376	745	408	605	191	1,530	566	102	76	34
MIN	4.8	22	54	40	23	23	38	50	35	6.1	3.8	2.4
CFSM	.39	1.03	2.66	2.00	1.65	4.06	1.23	4.59	2.00	.26	.35	.13
IN.	.45	1.15	3.07	2.31	1.78	4.68	1.38	5.29	2.23	.30	.41	.14

CAL YR 1967 TOTAL 43,802.1 MEAN 120 MAX 2,140 MIN 2.9 CFSM 1.92 IN 26.06
WTR YR 1968 TOTAL 38,979.9 MEAN 107 MAX 1,530 MIN 2.4 CFSM 1.70 IN 23.19

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-31	0700	4.25	1,380	5-24	1115	4.96	1,960
3- 9	1800	4.33	1,440				

3-0785. Big Piney Run near Salisbury, Pa.

Location.—Lat 39°43'32", long 79°02'57", on left bank an eight 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 1952 to September 1968.

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.—36 years, 37.3 cfs (unadjusted).

Extremes.—Maximum discharge during year, 1,220 cfs Jan. 30 (gage height, 4.52 ft); minimum, 0.17 cfs Sept. 28, 29 (gage height, 1.02 ft).
1952-68: 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 CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	6.1	22	14	164	6.4	52	17	117	6.2	1.9	.30
2	1.9	6.3	18	13	159	6.2	39	14	130	3.9	1.2	.36
3	1.5	7.2	70	14	161	6.0	36	13	104	3.0	.94	.50
4	1.3	6.5	64	16	112	5.6	35	49	81	2.6	.94	.40
5	1.1	5.8	45	16	84	6.2	34	38	61	2.3	1.2	.51
6	1.0	5.2	40	14	68	9.1	29	34	46	1.9	1.2	3.9
7	1.1	4.5	130	13	60	8.8	25	29	36	1.8	2.2	1.9
8	1.1	5.0	140	12	45	11	24	25	29	1.7	3.9	1.0
9	1.2	4.2	90	11	37	61	22	22	24	1.6	1.8	.71
10	1.2	3.9	90	9.8	28	159	19	21	26	1.7	2.7	.94
11	1.2	3.7	150	9.0	28	132	20	26	39	1.8	5.7	1.5
12	1.4	3.5	140	8.6	24	106	17	61	32	1.7	2.5	1.5
13	1.5	4.5	130	11	21	102	15	50	24	1.7	1.6	1.2
14	1.3	4.6	90	12	16	87	14	53	20	1.5	1.5	.86
15	1.1	4.3	80	20	18	63	15	75	16	3.9	1.9	.58
16	1.0	4.0	64	15	16	113	13	77	13	2.4	1.0	.45
17	1.0	5.4	50	11	14	227	11	69	12	1.8	2.8	.40
18	1.3	18	50	9.4	12	184	10	77	12	1.5	4.5	.34
19	22	16	54	9.4	11	171	10	75	9.5	1.4	2.4	.34
20	12	13	30	9.0	12	169	9.5	71	13	1.3	2.0	.29
21	6.2	13	25	10	10	183	8.5	64	8.6	1.2	1.3	.29
22	4.2	15	24	16	9.0	154	7.9	53	7.1	1.2	.90	.29
23	3.5	55	23	26	7.8	236	8.3	154	8.2	1.2	.70	.34
24	3.3	40	22	30	7.1	168	24	643	6.5	1.3	.66	.29
25	33	45	22	27	6.5	121	20	385	8.6	.94	.80	.29
26	33	38	20	24	6.0	99	17	179	11	1.4	.60	.21
27	19	34	17	21	6.0	87	16	231	16	1.2	.50	.25
28	15	28	16	22	6.0	72	15	332	14	.94	.45	.21
29	11	25	15	38	6.2	61	14	210	9.0	.79	.40	.25
30	8.5	20	16	249	------	56	15	197	6.2	.64	.35	.25
31	7.1	------	15	403	------	45	------	163	------	1.1	.32	------
TOTAL	201.6	444.7	1,762	1,113.2	1,154.6	2,915.3	595.2	3,507	939.7	57.61	50.86	20.65
MEAN	6.50	14.8	56.8	35.9	39.8	94.0	19.8	113	31.3	1.86	1.64	.69
MAX	33	55	150	403	164	236	52	643	130	6.2	5.7	3.9
MIN	1.0	3.5	15	8.6	6.0	5.6	7.9	13	6.2	.64	.32	.21

CAL YR 1967 TOTAL 14,288.80 MEAN 39.1 MAX 843 MIN .60 CFSM 1.60 IN. 21.69
WTR YR 1968 TOTAL 12,762.42 MEAN 34.9 MAX 643 MIN .21 CFSM 1.42 IN. 19.37

PEAK DISCHARGE (BASE, 450 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-30	2300	4.52	1,220
5-24	1000	4.02	820

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 a low-flow partial-record stations during water year 1968, in North Atlantic Slope basins

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Delaware River basin				
1-4774	South Branch Naaman Creek near Claymont, Del.	Lat 39°49'00", long 75°29'40", at dam 800 ft above bridge on Marsh Road, 2.2 miles west of Claymont, New Castle County.	3.83	1955-66 1968	7-30-68 9-17-68	.51 .28
1-4795	Mill Creek at Stanton, Del.	Lat 39°42'50", long 75°40'00", at highway bridge 1.2 miles west of Stanton, New Castle County.	12.4	1931-34‡ 1955-66 1968	7-30-68 9-16-68	2.84 1.62
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 1962-68	7-25-68 9-10-68	.41 .33
1-4831.5	Wiggins Millpond Outlet at Townsend, Del.	Lat 39°24'12", long 75°42'16", at bridge on State Highway 446, 0.8 mile northwest of Townsend, New Castle County.	3.82	1957-60 1962-66 1968	7-25-68 9-09-68	1.77 1.65
		Smyrna River basin				
1-4833	Providence Creek at Clayton, Del.	Lat 39°18'05", long 75°38'28", at highway bridge, 0.8 mile north of Clayton, Kent County.	11.8	1955-60 1962-63 1966,68	9- 9-68	4.74
1-4833.5	Mill Creek at Smyrna, Del.	Lat 39°17'09", long 75°36'45", at old dam, 500 ft above highway bridge, 1 mile south of Smyrna, Kent County.	4.77	1955-57 1959-60 1962-63 1966,68	9- 9-68	1.28
		St. Jones River basin				
1-4836.5	Fork Branch at Dupont, Del.	Lat 39°11'56", long 75°34'40", at highway bridge, 0.8 mile northwest of Dupont, Kent County.	7.50	1955-57 1959-60 1962-66 1968	7-24-68 9-16-68	..39 .04
1-4836.8	Maidstone Branch at Dupont, Del.	Lat 39°11'18", long 75°34'04", at highway bridge, 0.4 mile southwest of Dupont, Kent County.	17.3	1955-57 1959-60 1962-66 1968	7-24-68 9-16-68	2.03 .94
		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	1955-68	7-23-68 9-17-68	7.62 5.92
*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 1962-68	6-24-68 7-23-68 9-16-68	2.32 1.66 1.14
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 1966-68	7-23-68 9-16-68	2.93 1.42

Discharge measurements made at low-flow partial-record stations during water year 1968, in North Atlantic Slope basins--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Cedar Creek basin				
1-4842	Cedar Creek near Lincoln, Del.	Lat 38°51'03", long 75°25'05", at highway bridge, 1.2 miles south of Lincoln, Sussex County.	7.21	1955-60 1962-63 1966,68	9-17-68	4.81
		Broadkill River basin				
1-4842.4	Pemberton Branch near Milton, Del.	Lat 38°46'26", long 75°20'29", at highway bridge, 1.5 miles west of Milton, Sussex County.	6.68	1955-66 1968	7-23-68 9-17-68	5.42 2.60
*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	1955-68	6-21-68 7-23-68 9-17-68	11.8 7.15 5.44
		Indian River basin				
*1-4845.5	Pepper Creek at Dagsboro, Del.	Lat 38°32'50", long 75°14'40", at bridge on State Highway 26, at Dagsboro, Sussex County.	8.78	1955-68	6-21-68 7-23-68 9-17-68	4.78 1.96 .79
		Nanticoke River basin				
1-4871	Deep Creek at Old Furnace, Del.	Lat 38°40'01", long 75°31'02", at highway bridge, at Old Furnace, 5.6 miles northeast of Seaford, Sussex County.	33.0	1955-60 1962-63 1968	9-18-68	10.2
1-4873	Butler Mill Branch near Woodland, Del.	Lat 38°37'56", long 75°39'35", at highway bridge 2.2 miles north of Woodland, Sussex County.	6.96	1955-63 1966,68	9-17-68	1.85
1-4877	Elliott Pond Branch near Laurel Del. d/	Lat 38°34'39", long 75°31'42" at highway bridge, 2.9 miles northeast of Laurel, Sussex County.	8.55	1955-66 1968	7-23-68 9-18-68	4.49 2.50
		Choptank River basin				
1-4911.8	Watts Creek near Denton, Md.	Lat 38°52'29", long 75°47'38", at bridge on State Highway 474, 1.6 miles southeast of Denton, Caroline County.	a11	1964-68	7-24-68 9-17-68	1.06 1.00
		Chester River basin				
1-4929.8	Cypress Branch at Millington, Md.	Lat 39°15'28", long 75°50'01", at bridge on State Highway 291, 0.04 mile east of Millington, Kent County.	a38	1964-66 1968	7-24-68 9-16-68	3.40 5.47
1-4941	Old Mill Stream Branch at Centreville, Md.	Lat 39°02'23", long 76°04'22", at bridge on U. S. Highway 213, at Centreville, Queen Annes County.	11.2	b1953-54 1964-68	7-24-68 9-16-68	5.21 5.16
		Elk River basin				
1-4955.5	Perch Creek near Elkton, Md.	Lat 39°34'16", long 75°48'53", at bridge on U. S. Highway 213, 2.5 miles south of Elkton, Cecil County.	a6.0	1964-68	7-26-68 9-10-68	1.08 .94
		Northeast River basin				
1-4960.5	Little Northeast Creek at Mechanic Valley, Md.	Lat 39°38'26", long 75°55'49", at highway bridge, 0.8 mile northwest of Mechanic Valley, Cecil County.	a14	1964-68	7-26-68 9-17-68	3.64 2.72
		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	1964-68	4-19-68 7-19-68	5.94 1.58
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	1964-68	4-22-68 7-19-68	.94 .18

Discharge measurements made a low-flow partial-record stations during water year 1968, in north Atlantic Slope basins—Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Potomac River basin—Continued				
1-6191.5	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	1965-68	4-23-68 7- 9-68	21.6 8.66
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 1964-68	7- 9-68	17.0
1-6434	Little Bennett Creek at Hyattstown, Md.	Lat 39°16'46", long 77°18'54", at bridge on State Highway 355 at Hyattstown, Montgomery County, and 3.5 miles above mouth.	12.8	1968	2-23-68 4-22-68 9- 4-68	10.1 7.86 1.38

Discharge measurements made at low-flow partial-record stations during water year 1968, 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	1964-68	4-19-68 7-29-68	14.3 2.52
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	1964-68	4-19-68 7-29-68	2.18 .47

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

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 1968, in North Atlantic Slope basins

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Delaware River basin						
West Branch	Christina River	Lat 39°39'20", long 75°47'00", at bridge on County Road 397, 1.1 miles above mouth, and 2.5 miles southwest of Newark, New Castle County, Del.	4.1	-	9-16-68	.56
Muddy Run	Belltown Run	Lat 39°36'36", long 75°44'48", New Castle County, at bridge on State Highway 896, 0.3 mile north of Glasgow, Del., 3.4 miles above mouth, and 5 miles south of Newark.	5.3	-	9-10-68	.32
Pike Creek	White Clay Creek	Lat 39°42'24", long 75°41'43", New Castle County, at bridge on County Road 322, 0.8 mile above mouth, 1.2 miles northeast of Roseville Park, Del., and 3.2 miles northeast of Newark.	5.90	-	9-16-68	1.89
Drawyer Creek tributary	Drawyer Creek	Lat 39°27'45", long 75°41'17", New Castle County, at bridge on County Road 430, 1.5 miles west of Odessa, Del., and 2.3 miles above mouth.	4.7	-	9- 9-68	1.73
Sawmill Branch	Smyrna River	Lat 39°21'38", long 75°37'19", at culvert on County Road 465, 0.3 mile below unnamed tributary, and 2.2 miles southeast of Blackbird, New Castle County, Del.	3.4	-	9-10-68	.16
Leipsic River basin						
*Leipsic River	Delaware Bay	Lat 39°13'58", long 75°37'57", 75 ft below highway bridge, 1.9 miles east of Kenton and 2.6 miles northwest of Cheswold, Kent County, Del.	9.35	1931-33‡ 1943-57‡	9- 9-68	3.33
St. Jones River basin						
Tidbury Creek	St. Jones River	Lat 39°05'53", long 75°31'43", Kent County, at bridge on County Road 360, 0.7 mile west of Rising Sun, Del., 1.5 miles southeast of Camden and 2.6 miles above mouth.	8.6	-	9-10-68	5.70
Mispillion River basin						
Tantrough Branch	Mispillion River	Lat 38°53'22", long 74°29'27", at culvert on County Road 620, 1.0 mile above Beaverdam Branch, and 3.8 miles southwest of Milford, Kent County, Del.	4.2	-	9-17-68	1.26
Love Creek basin						
Bundicks Branch	Love Creek	Lat 38°43'17", long 75°12'23", Sussex County, at bridge on County Road 285, 1.2 miles above confluence with Gosling Creek, 1.3 miles southwest of Jimtown, Del., and 6.5 miles west of Rehoboth Beach.	5.5	-	9-17-68	1.00
Herring Creek basin						
Unity Branch	Herring Creek	Lat 38°39'45", long 75°13'21", Sussex County, at culvert on State Highway 5 at Fairmount, Del., 1.6 miles above Phillips Branch, and 8 miles north of Dagsboro.	3.3	-	9-17-68	.09
Indian River basin						
Deep Branch	Cow Bridge Branch	Lat 38°39'45", long 75°17'58", Sussex County, at bridge on State Highway 30, 0.1 mile above White Oak Swamp Ditch, 2.0 miles north of Mt. Joy, Del., and 5.1 miles north of Millsboro.	6.4	-	9-17-68	.23

Annual maximum discharge at crest-stage partial-record stations during water year 1968, in Ohio River basin

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Monongahela River basin					
3-0754.5	Little Youghiogheny River tributary near Deer Park, Md.	Lat 39°24'37", long 79°21'00", at culvert on Md. Route 135, 0.7 mile above mouth, and 1.6 miles southwest of Deer Park, Garrett County.	0.57	1965-68	2- 7-65	e4.05	e10
					2-13-66	e4.30	e15
					3- 6-67	4.91	29
					5-24-68	5.05	32
3-0756	Toliver Run tributary near Hoyes Run, Md.	Lat 39°29'39", long 79°25'14", at culvert on Swallow Falls Road, 100 feet above mouth, and 2.4 miles south of Hoyes Run, Garrett County.	0.53	1965-68	2- 7-65	4.65	26
					2-13-66	4.80	29
					3- 6-67	5.30	42
					5-24-68	5.33	43
3-0765.05	Youghiogheny River tributary near Friendsville, Md.	Lat 39°39'48", long 79°25'42", at culvert on Md. Route 42, and 1.3 miles west of Friendsville, Garrett County.	0.22	1965-68	2- 7-65	a3.35	a10
					2-13-66	a3.35	a10
					7-29-67	3.63	16
					5-24-68	3.63	16
3-0777	North Branch Casselman River tributary at Foxtown, Md.	Lat 39°37'58", long 79°14'36", at culvert on Dunghill Road, at Foxtown, Garrett County, and 2.0 miles above mouth.	1.0	1965-68	2- 7-65	4.80	24
					2-13-66	e4.11	e14
					3- 6-67	5.42	32
					5-24-68	4.61	21

* Also a low-flow partial-record station.
† Discharge not determined.
‡ Operated as a continuous-record gaging station.
a Approximately.
b 0.15 sq mi is probably noncontributing.
c Prior to 1956 published as "Shades Branch".
d Peak stage did not reach bottom of gage.
e May have been exceeded.
f Revised.
g Affected by backwater.
h May have been exceeded on 6-19-68.

Annual maximum discharge at crest-stage partial-record stations during water year 1968, 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°14'39", at bridge on State Highway 26, at Dagsboro, Sussex County.	8.78	1960-68	1-14-68	3.80	137
		Wicomico River basin					
1-4861	Andrews Branch near Delmar, Md.	Lat 38°26'15", long 75°31'46", at culvert on Rum Ridge Road, 1.2 miles above Williams Pond, and 2.8 miles southeast of Delmar, Wicomico County.	a4.1	1967-68	8-25-67 3-18-68	7.47 6.07	155 77
		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	1966-68	3-17-68	4.32	(†)
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.	6.4	1966-68	1-14-68	5.01	42
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.	3.9	1967-68	3-18-68	3.81	34
1-4880	Holly Ditch near Laurel, Del.	Lat 38°32'20", long 75°35'55", 10 ft above culvert, 1.5 miles southwest of Laurel, Sussex County.	2.19	1951-56‡ 1959-68	3-18-68	2.90	14
		Choptank River basin					
1-4904.7	Tappahanna Ditch near Hartly, Del.	Lat 39°08'07", long 75°41'30", 100 ft below bridge on State Highway 103, 2.7 miles southeast of Hartly, Kent County.	5.93	1952-68	5-30-68	7.28	(†)
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.	2.3	1966-68	3-18-68	5.86	45
1-4905	Culbreth Marsh Ditch near Chapeltown, Del. c/	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‡ 1957-68	3-18-68	7.09	(†)
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.	8.4	1966-68	5-30-68	2.84	210
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.	1.9	1966-68	12-12-67	5.07	52
1-4910.5	Spring Branch near Greensboro, Md.	Lat 38°56'34", long 75°47'25", at culvert on Knife Box Road, 2.0 miles above mouth, and 2.2 miles southeast of Greensboro, Caroline County.	a3.8	1967-68	8- 4-67 12-12-67	10.95 4.69	965 42
		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‡ 1957-68	5-28-68	4.82	304
		Northeast River basin					
1-4960.8	Northeast River tributary near Charlestown, Md.	Lat 39°35'53", long 75°58'37", at culvert on U. S. Highway 40, 1.3 miles above mouth, and 1.6 miles north of Charlestown, Cecil County.	1.7	1967-68	3- 7-67 1968	3.98 d	110 <70

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 1968, 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.	b4.19	1966-68	1-14-68	4.29	272
1-4799.5	Red Clay Creek tributary near Yorklyn, Del.	Lat 39°47'50", long 75°39'33", 8 ft above culvert, 1.1 miles southeast of Yorklyn, New Castle County.	0.38	1966-68	1-14-68	4.18	24
1-4812	Brandywine Creek tributary near Centerville, Del.	Lat 39°50'08", long 75°35'57", 30 ft above bridge on State Highway 100, 1.4 miles northeast of Centerville, New Castle County.	0.97	1966-68	12- 3-67	3.88	37
1-4814.5	Willow Run at Rockland, Del.	Lat 39°47'32", long 75°33'16", 15 ft above culvert on Country Club Drive, 1.0 mile east of Rockland, New Castle County.	0.37	1966-68	6-12-68	6.12	146
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	1966-68	5-30-68	4.05	83
		Smyrna River basin					
1-4832.9	Paw Paw Branch tributary near Clayton, Del.	Lat 39°18'41", long 75°40'08", New Castle County, 6 ft above culverts on secondary road, 2.4 miles northwest of Clayton.	1.3	1966-68	5-30-68	6.24	131
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.	0.6	1966-68	5-30-68	4.02	about 30
		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# 1958-68	5-28-68	3.58	197
		St. Jones River basin					
1-4837.2	Puncheon Branch at Dover, Del.	Lat 39°08'25" (revised), long 75°32'20", above bridge on New Burton Road, at Dover, Kent County.	2.3	1966-68	1-14-68	2.72	36
		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.	1.0	1966-68	12- 3-67	3.59	10
*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	1966-68	1-14-68	7.76	33
		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	1966-68	1-14-68	4.14	21

Annual maximum discharge at crest-stage partial-record stations during water year 1968, 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)
		Patuxent River basin--Continued					
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‡ 1959-68	5-28-68	5.47	400
		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‡ 1963-68	12-11-67	2.76	195
1-6131.5	Ditch Run near Hancock, Md.	Lat 39°41'32", long 78°07'56", at culvert on U. S. Route 40, 0.3 mile above mouth, 2.1 miles south of the Mason and Dixon Line, and 2.7 miles east of Hancock, Washington County.	4.8	1965-68	3- 5-65 2-13-66 3- 7-67 9-10-68	6.80 5.3 5.90 4.79	310 175 230 140
1-6131.6	Potomac River tributary near Hancock, Md.	Lat 39°41'29", long 78°07'37", at culvert on Md. Route 615, 0.3 mile above mouth 2.1 miles south of the Mason and Dixon Line, and 3.0 mile east of Hancock, Washington County.	1.2	1965-68	3- 5-65 2-13-66 3- 7-67 10-25-67	4.75 4.90 4.85 4.07	90 98 95 56
1-6194.75	Dog Creek tributary near Locust Grove, Md.	Lat 39°27'57", long 77°39'38", at culvert on Md. Route 67, 0.4 mile above mouth, and 1.3 miles north of Locust Grove, Washington County.	0.13	1966-68	8-11-66 8- 7-67 10-25-67	4.56 8.10 5.26	14 111 28
1-6376	Hollow Road Creek near Middletown, Md.	Lat 39°26'07", long 77°31'15", at culvert on Alternate U. S. Route 40, 1.4 miles southeast of Middletown, Frederick County, and 2.0 miles above mouth.	2.3	1965-68	3- 5-65 2-13-66 3- 7-67 1-14-68	5.64 4.12 4.14 4.22	360 115 120 130
1-6390.95	Piney Creek tributary at Taneytown, Md.	Lat 39°39'53", long 77°09'59", at culvert under Pennsylvania Railroad, 0.1 mile above mouth, and 0.6 mile northeast of Taneytown, Carroll County.	0.62	1967-68	8- 9-67 5-28-68	9.85 6.69	200 96
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 1967-68	9-10-68	4.55	422
1-6407	Owens Creek tributary near Rocky Ridge, Md.	Lat 39°37'16", long 77°20'26", at culvert on Appolds Crossing Road, 0.8 mile above mouth, and 1.6 miles northwest of Rocky Ridge, Frederick County.	1.2	1967-68	3- 7-67 5-30-68	6.49 5.81	170 140
1-6444.2	Bucklodge Branch tributary near Barnesville, Md.	Lat 39°12'42", long 77°21'02", at culvert on Barnesville Road, 0.6 mile above mouth, and 1.6 miles southeast of Barnesville, Montgomery County.	0.27	1967-68	3- 7-67 6-27-68	5.30 h7.36	45 h93
1-6609	Wolf Den Branch near Cedarville, Md.	Lat 38°38'29", long 76°49'02", at culvert on Forest Road, 1.5 miles above mouth, 1.6 miles southwest of Cedarville, Prince Georges County, and within Cedarville, State Forest.	2.3	1966-68	2-28-66 7-11-67 9-10-68	e4.50 4.36 4.88	e65 55 93
1-6609.3	Clark Run near Bel Alton, Md.	Lat 38°28'21", long 76°57'22", at bridge on Newtown Road, 1.5 miles northeast of Bel Alton, Charles County, and 1.8 miles above mouth.	10.4	1966-68	2-13-66 10-19-66 1-14-68	5.61 5.77 5.84	160 170 175
1-6614.3	Glebe Branch at Valley Lee, Md.	Lat 38°11'40", long 76°31'13", at culvert on private road, 200 ft downstream from culvert on Md. State Highway 244, 0.2 mile above mouth, and 0.3 mile west of Valley Lee, St. Marys County.	a0.3	1968	9-10-68	4.87	35

Annual maximum discharge at crest-stage partial-record stations during water year 1968, in North Atlantic Slope basins--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Susquehanna River basin					
1-5785	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‡ 1963-68	3-18-68	7.02	2,220
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‡ 1965-68	9-10-68	3.55	450
		Gunpowder River basin					
1-5825.1	Piney Creek near Hereford, Md.	Lat 39°34'38", long 76°40'39", at culvert on Interstate Route 83, 1.1 miles southwest of Hereford, Baltimore County, and 5.3 miles above mouth.	1.5	1966-68	2-13-66 8- 9-67 9-10-68	7.81 11.65 12.62	135 534 690
1-5834.95	Western Run tributary at Western Run, Md.	Lat 39°31'01", long 76°41'04", at culvert on Western Run Road, 0.05 mile above mouth, and 0.3 mile northwest of Western Run, Baltimore County.	0.26	1966-68	2-13-66 8-27-67 9-10-68	e3.04 8.11 6.78	e16 236 168
		Patapsco River basin					
1-5870.5	Hay Meadow Branch tributary at Poplar Springs, Md.	Lat 39°20'55", long 77°06'02", at culvert on U. S. Route 40, 0.4 mile northwest of Poplar Springs, Howard County, and 0.5 mile above mouth.	0.54	1966-68	9-14-66 8-27-67 9-10-68	3.85 5.92 4.98	50 190 120
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‡ 1959-68	9-10-68	3.62	220
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 1967-68	9-10-68	5.39	(†)
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	1958-68	9-10-68	7.35	(†)
1-5894	Jones Falls at Brooklandville, Md.	Lat 39°24'51", long 76°40'04", at bridge on State Highway 25, at Brooklandville, Baltimore County.	19.7	1958-65 1968	9-10-68	5.31	(†)
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‡ 1965-68	9-10-68	3.47	90
		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‡ 1965-68	3- 5-65 2-13-66 8- 4-67 1-14-68	2.83 3.03 3.88 3.48	f85 f110 f280 190
		Patuxent River basin					
1-5933.5	Little Patuxent River tributary at Guilford Downs, Md.	Lat 39°13'39", long 76°50'41", at culvert on U. S. Route 29 at Guilford Downs, Howard County, and 0.3 mile above mouth.	0.95	1966-68	2-13-66 7- 2-67 8-16-68	e4.83 5.24 g8.53	e68 100 (†)
1-5940	Little Patuxent River at Savage, Md.	Lat 39°08'00", long 76°48'58", 200 ft below northbound lane of bridge on U. S. Highway 1, 1/2 mile southeast of Savage, Howard County, and 1 mile below Middle Patuxent River.	98.4	1940-58‡ 1959-66 1968	1-14-68	9.34	(†)

Discharge measurements made at miscellaneous sites during water year 1968, in North Atlantic Slope basin--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
		Indian River basin--Continued				
Shoals Branch	Long Drain Ditch	Lat 38°34'37", long 75°20'38", at bridge on County Road 412, 0.8 mile above mouth, and 3.0 miles west of Millsboro, Sussex County, Del.	7.2	-	9-17-68	.92
Phillips Ditch	Shoals Branch	Lat 38°34'05", long 75°20'24", at bridge on County Road 472, 1.2 miles above mouth, and 3.1 miles southwest of Millsboro, Sussex County, Del.	3.8	-	9-17-68	**.01
Blackwater Creek	Indian River	Lat 38°32'43", long 75°09'49", Sussex County, at bridge on State Highway 54, 1.0 mile west of Clarksville, Del., and 3.1 miles above mouth.	4.5	-	9-17-68	0
Whartons Branch	Indian River	Lat 38°33'42", long 75°16'30", at bridge on U.S. 113, 1.7 miles above mouth and 2.3 miles southeast of Millsboro, Sussex County, Del.	5.9	-	9-17-68	**.01
		Dirickson Creek basin				
Bearhole Ditch	Dirickson Creek	Lat 38°28'17", long 75°09'22", Sussex County, at bridge on County Road 390A, 0.6 mile north of Bunting, Del., 1.6 miles above mouth, and 3.7 miles east of Selbyville.	6.2	-	9-17-68	.21
		St. Martin River basin				
Middle Branch	South Branch	Lat 38°24'02", long 75°12'45", Worcester County, at culvert on U.S. Highway 113 at Showell, Md., and 0.9 mile above mouth.	3.7	-	9-18-68	.04
Birch Branch	Shingle Landing Prong	Lat 38°24'33", long 75°12'48", Worcester County, at culvert on U.S. Highway 113, 0.7 mile north of Showell, Md., and 1.0 mile above mouth.	6.5	-	9-18-68	a.28
		Pocomoke River basin				
North Fork Green Run	Green Run	Lat 38°27'07", long 75°22'41", at culvert on State Highway 54 at Maryland state line, 1.8 miles above confluence with South Fork, and 2.8 miles east of Whitesville, Sussex County, Del.	2.6	-	9-17-68	.13
South Fork Green Run	Green Run	Lat 38°25'50", long 75°22'36", at culvert on Burnt Mill Road, 2.1 miles above confluence with North Fork, and 3.0 miles northwest of Willards, Wicomico County, Md.	5.7	-	9-17-68	.04
Burnt Mill Branch	Pocomoke River	Lat 38°24'55", long 75°24'25", Wicomico County, at bridge on State Highway 353, 1.4 miles north of Pittsville, Md., and 1.7 miles above Aydylotte Branch.	4.2	-	9-17-68	.03
Aydylotte Branch	Burnt Mill Branch	Lat 38°24'02", long 75°24'52", Wicomico County, at bridge on State Highway 353, 0.3 mile north of Pittsville, Md., and 1.9 miles above mouth.	4.1	-	9-17-68	0
Pocomoke River tributary	Pocomoke River	Lat 38°20'53", long 75°18'06", at culvert on Timmonstown Road, 0.5 mile above mouth, and 2.0 miles north of Libertytown, Worcester County, Md.	5	-	9-18-68	0
Libertytown Branch	Timmonstown Branch	Lat 38°19'22", long 75°17'41", Worcester County, at bridge on Berlin-Libertytown Road, 0.3 mile northeast of Libertytown, Md., and 1.2 miles above mouth.	b6	-	9-18-68	0
Givens Branch	Adkins Pond	Lat 38°19'40", long 75° 23'27", Wicomico County, at bridge on State Highway 350, 0.8 mile west of Powellville, Md., and 1.1 miles above mouth.	2.8	-	9-17-68	**.2
Ninepin Branch	Pocomoke River	Lat 38°17'57", long 75°19'43", at bridge on Ninepin Branch Road, 1.9 miles above mouth, and 2.2 miles southwest of Libertytown, Worcester County, Md.	6.4	-	9-18-68	.001

Discharge measurements made at miscellaneous sites during water year 1968, in North Atlantic Slope basin--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Pocomoke River basin--Continued						
Tilghman Race	Pocomoke River	Lat 38°16'55", long 75°22'45", Worcester County, at bridge on State Highway 354, 0.7 mile above mouth, and 3.2 miles south of Powellville, Md.	5.8	-	9-18-68	.12
Pollitts Branch	Dividing Creek	Lat 38°12'53", long 75°35'27", Somerset County, at culvert on county road, 0.4 mile south of West, Md., and 0.9 mile above mouth.	2.3	-	9-18-68	.10
Wagram Swamp Branch	Wagram Creek	Lat 38°01'52", long 75°31'55", at bridge on Brantly Road, 0.1 mile above mouth, and 3.5 miles southeast of Pocomoke City, Worcester County, Md.	3.3	-	9-18-68	.05
Manokin River basin						
Loretto Branch	Manokin River	Lat 38°12'57", long 75°41'28", at culvert under Pennsylvania Railroad, 0.7 mile above confluence with Manokin Branch, and 1.0 mile north of Princess Anne, Somerset County, Md.	4.0	-	9-17-68	.25
Jones Creek	Taylor Branch	Lat 38°10'29", long 75°41'06", at bridge on county road, 1.1 miles above mouth, and 2 miles south of Princess Anne, Somerset County, Md.	3.2	-	9-18-68	.11
Kings Creek	Manokin River	Lat 38°09'25", long 75°40'00", at bridge on Arden Station Road, 0.6 mile below Moore Branch, and 1.2 miles east of Kings Creek, Somerset County, Md.	12	-	9-18-68	.44
Wicomico River basin						
Wood Creek	Leonard Pond Run	Lat 38°25'48", long 75°34'15", on county road 0.7 mile above mouth, and 1.5 miles south of Delmar, Wicomico County, Md.	1.8	-	8- 1-68	0
Connelly Mill Branch	Leonard Pond Run	Lat 38°25'59", long 75°35'41", at culvert on Jersey Road, 1.4 miles above mouth, and 1.5 miles southwest of Delmar, Wicomico County, Md.	3.66	1964,67	9-17-68	.85
North Prong Wicomico River	Wicomico River	Lat 38°24'45", long 75°35'39", 1,260 ft upstream from bridge on Naylor 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	1967	10- 5-67 10-13-67 10-18-67 10-19-67 10-25-67	27.4 c27.5 c30.7 26.0 26.2
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	1964,67	10-26-67	.08
Little Burnt Branch	North Prong Wicomico River	Lat 38°24'49", long 75°36'04", at culvert on Jersey Road, 0.5 mile upstream from Naylors Pond, 2.1 miles northwest of Salisbury, Wicomico County, Md.	3.39	1964,67	10- 5-67 9-17-68	1.83 1.59
Little Burnt Branch	North Prong Wicomico River	Lat 38°24'43", long 75°35'52", 1,000 ft upstream from Naylors Pond, and 2.0 miles northwest of Salisbury, Wicomico County, Md.	3.57	1967	10- 5-67	1.36
Little Burnt Branch	North Prong Wicomico River	Lat 38°24'41", long 75°35'46", 450 ft upstream from Naylors Pond, 2.0 miles northwest of Salisbury, Wicomico County, Md.	3.58	1967	10- 5-67 10-13-67 10-18-67 10-26-67	1.44 c.60 c1.28 3.82
North Prong Wicomico River	Wicomico River	Lat 38°24'32", long 75°35'42", at bridge on Naylor Mill Road, 0.1 mile below confluence of Leonard Pond Run and Little Burnt Branch, and 1.9 miles north of Salisbury, Wicomico County, Md.	24.8	1963-65, 1967	10- 5-67 10-13-67 10-18-67 10-19-67 10-25-67 11- 3-67 9-18-68	35.6 c31.6 c33.3 32.0 27.7 28.3 25.9
Brewington Branch	North Prong Wicomico River	Lat 38°24'04", long 75°33'06", at culvert on private road, 2.7 miles above mouth, and 3 miles northeast of Salisbury, Wicomico County, Md.	1.3	-	8-21-68	0
Middle Neck Branch	North Prong Wicomico River	Lat 38°23'43", long 75°31'56", Wicomico County, at culvert on county road, 1.7 miles northwest of Walston, Md., and 2.4 miles above Peggy Branch.	0.9	-	8-21-68	0

Discharge measurements made at miscellaneous sites during water year 1968, in North Atlantic Slope basin--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Wicomico River basin--Continued						
Middle Neck Branch	North Prong Wicomico River	Lat 38°23'18", long 75°33'01", at culvert on Parker Road, 1.4 miles above Peggy Branch, and 1.7 miles northeast of Salisbury, Wicomico County, Md.	2.1	1964	9-17-68	.71
Peggy Branch	Middle Neck Branch	Lat 38°22'54", long 75°33'16", at culvert on Parker Road, 1.2 miles above mouth, and 1.4 miles east of Salisbury, Wicomico County, Md.	1.4	1964	9-17-68	1.90
Beaverdam Creek	Wicomico River	Lat 38°23'57", long 75°30'01", on county road 0.5 mile above Perdue Creek, and 1.0 mile north of Walston, Wicomico County, Md.	2.1	-	8- 2-68	0
Beaverdam Creek	Wicomico River	Lat 38°23'02", long 75°30'17", Wicomico County, on county road at Walston, Md., and 0.8 mile above Halloway Creek.	3.1	-	8- 2-68	0
Coty Cox Branch	Wicomico River	Lat 38°23'41", long 75°36'15", at culvert on Jersey Road, 2.4 miles above mouth, and 1.1 miles north of city limits of Salisbury, Wicomico County, Md.	1.0	-	8-21-68	0
Tonytank Creek	Wicomico River	Lat 38°19'52", long 75°35'54", at dam, at Fooks Pond Outlet, 1.0 mile northeast of Fruitland, Wicomico County, Md.	4.98	1950-51 1953 1962-64	9-18-68	2.71
Passerdyke Creek	Wicomico Creek	Lat 38°17'47", long 75°40'07", Wicomico County, at bridge on private road, 1.3 miles northeast of Allen, Md., and 1.5 miles above mouth.	7.2	-	9-18-68	.39
Barkley Branch	Passerdyke Creek	Lat 38°16'54", long 75°40'50", at culvert on county road in Somerset County, 0.6 mile above mouth, and 0.6 mile southeast of Allen, Wicomico County, Md.	2.7	-	9-17-68	**.1
Nanticoke River basin						
Nanticoke River	Chesapeake Bay	Lat 38°48'20", long 75°34'53", Sussex County, at bridge on State Highway 16, 0.6 mile east of Greenwood, Del., 1.2 miles above Cart Branch, and 11 miles southwest of Milford.	16	-	9-18-68	5.72
Gum Branch	Nanticoke River	Lat 38°46'07", long 75°30'59", at bridge on County Road 594, 0.6 mile below Parker Branch, and 5 miles northeast of Bridgeville, Sussex County, Del.	7.5	-	9-18-68	3.99
Gum Branch	Nanticoke River	Lat 38°35'53", long 75°37'49", at bridge on County Road 487, 1.6 miles above mouth, and 3.2 miles south of Seaford, Sussex County, Del.	5.8	-	9-17-68	.16
Little Creek	Broad Creek	Lat 38°31'19", long 75°34'45", Sussex County, at culvert on County Road 501, 0.1 mile below confluence of Holly Branch and Meadow Branch, 2.4 miles south of Laurel, Del., and 3.4 miles above mouth.	15	-	9-17-68	1.72
Holly Ditch	Nanticoke River	Lat 38°32'20", long 75°35'55", 10 ft above culvert, 1½ miles southwest of Laurel, Sussex County, Del.	2.19	1951-56‡ 1966	9-17-68	0
Tussocky Branch	Broad Creek	Lat 38°32'30", long 75°38'16", Sussex County, at culvert on County Road 494, 1.4 miles south of Portsville, Del., and 1.8 miles above mouth.	8.7	-	9-17-68	.04
Wright Creek	Nanticoke River	Lat 38°35'06", long 75°41'50", at culvert on County Road 538, 2.0 miles above mouth, and 3.8 miles northwest of Portsville, Sussex County, Del.	3.6	-	9-17-68	.90
Plum Creek	Nanticoke River	Lat 38°31'00", long 75°42'36", Wicomico County, at culvert on San Domingo Road, 1.7 miles south of Sharptown, Md., and 2.6 miles above mouth.	2.8	-	9-18-68	.67
Nanticoke River tributary	Nanticoke River	Lat 38°30'43", long 75°43'59", at culvert on Cooper Mill Road, 1.5 miles above mouth, and 2.0 miles southwest of Sharptown, Wicomico County, Md.	1.4	-	9-18-68	.01

Discharge measurements made at miscellaneous sites during water year 1968, in North Atlantic Slope basin--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Nanticoke River basin--Continued						
Green Branch	Marshyhope Creek	Lat 38°53'24", long 75°40'00", Kent County, at bridge on State Highway 14, 0.7 mile west of Vernon, Del., 3.0 miles above mouth, and 5 miles southwest of Harrington.	3.9	-	9-10-68	.20
Smithville Ditch	Marshyhope Creek	Lat 38°45' 45", long 75°44'14", Caroline County, at bridge on county road 0.3 mile above mouth, 0.8 mile south of Smithville, Md., and 5.5 miles northeast of Federalsburg.	12	-	9-17-68	.81
Brights Branch	Houston Branch	Lat 38°43'34", long 75°42'05", Sussex County, at bridge on County Road 567A, 1.0 mile above mouth, 1.7 miles northwest of Atlanta, Del., and 7 miles northwest of Seaford.	4.6	-	9-18-68	.36
Sullivan Branch	Marshyhope Creek	Lat 38°44'38", long 75°46'45", at bridge on Long Swamp Road 1.5 miles above mouth, and 3.5 miles north of Federalsburg, Caroline County, Md.	7.6	-	9-16-68	.62
Tanyard Branch	Marshyhope Creek	Lat 38°41'44", long 75°44'27", Caroline County, at culvert on State Highway 318, 2.0 miles east of Federalsburg, Md., and 2.2 miles above mouth.	2.8	-	9-17-68	.27
North Branch Davis Millpond Branch	Davis Millpond Branch	Lat 38°39'53", long 75°45'17", at bridge on State Highway 313, 0.2 mile above confluence with South Branch, and 2.3 miles southeast of Federalsburg, Dorchester County, Md.	2.8	-	9-17-68	.75
Skinners Run	Marshyhope Creek	Lat 38°40'30", long 75°49'20", at bridge on State Highway 307, 1.7 miles above mouth, and 3.0 miles southwest of Federalsburg, Dorchester County, Md.	3.2	-	9-17-68	.72
Wrights Branch	Marshyhope Creek	Lat 38°36'46", long 75°49'55", at culvert on Rosedale-Harrison Ferry Road, 0.6 mile above mouth, and 2 miles south-east of Hurlock, Dorchester County, Md.	3.4	-	9-16-68	d3.16
Marshyhope Creek tributary	Marshyhope Creek	Lat 38°36'18", long 75°50'05", at culvert on Rosedale-Harrison Ferry Road, 0.6 mile above mouth, 0.9 mile east of Petersburg, Dorchester County, Md.	3.0	-	9-16-68	.89
Puckum Branch	Marshyhope Creek	Lat 38°36'44", long 75°47'50", at culvert on Puckum Road, 1.8 miles above mouth, and 2.0 miles north of Eldorado, Dorchester County, Md.	2.5	-	9-17-68	.22
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.	2.2	1966-67	9-16-68	.08
Choptank River basin						
Harrington Beaverdam Ditch	Tidy Island Creek	Lat 39°06'38", long 75°44'25", at bridge on State Highway 8, 0.2 mile above confluence with Tappahanna Ditch, and at Marydel, Kent County, Del.	9.8	-	9-16-68	.51
Tappahanna Ditch	Tidy Island Creek	Lat 39°06'36", long 75°43'40", at bridge on County Road 222, 0.9 mile above confluence with Harrington-Beaverdam Ditch, and 1.0 mile east of Marydel, Kent County, Del.	16	-	9-16-68	.62
Cow Marsh Creek	Choptank River	Lat 39°02'55", long 75°41'06", Kent County, at bridge on County Road 212, 1.9 miles west of Petersburg, Del., 3.6 miles above mouth, and 5.5 miles southeast of Marydel.	20	-	9-10-68	1.22
Gravelly Branch	Choptank River	Lat 38°59'27", long 75°45'50", at bridge on Boyce Mill Road 1.6 miles above mouth, and 2.5 miles northeast of Greensboro, Caroline County, Md.	16	-	9-17-68	2.12

Discharge measurements made at miscellaneous sites during water year 1968, in North Atlantic Slope basin--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
		Choptank River basin--Continued				
Forge Branch	Choptank River	Lat 38°58'43", long 75°49'10", Caroline County, at bridge on Marble Head Road 0.8 mile west of Greensboro, Md., and 2.8 miles above mouth.	10	-	9-16-68	1.45
Forge Branch tributary	Forge Branch	Lat 38°57'23", long 75°50'27", at culvert on Holly Road 1.3 miles above mouth, and 2.5 miles east of Ridgely, Caroline County, Md.	2.6	-	9-16-68	.25
Spring Branch	Choptank River	Lat 38°56'37", long 75°48'45", at bridge on State Highway 313, 0.8 mile above mouth, and 2.1 miles south of Greensboro, Caroline County, Md.	5.3	-	9-16-68	1.56
Choptank River tributary	Choptank River	Lat 38°56'05", long 75°51'05", at bridge on Holly Road 1.2 miles above mouth and 1.9 miles southeast of Ridgely, Caroline County, Md.	4.0	-	9-16-68	2.51
Herring Run	Watts Creek	Lat 38°51'00", long 75°47'46", Caroline County, at culvert on county road 0.9 mile southwest of Hobbs, Md., 1.4 miles above mouth, and 3.0 miles southeast of Denton.	4.9	-	9-17-68	.06
Mill Creek	Choptank River	Lat 38°49'12", long 75°49'36", Caroline County, at culvert on county road 1.6 miles southeast of Williston, Md., 2.2 miles above mouth, and 3.5 miles south of Denton.	4.5	-	9-17-68	1.11
Robins Creek	Choptank River	Lat 38°48'42", long 75°51'51", Caroline County, at culvert on State Highway 16, 0.5 mile southwest of Bureau, Md., 1.4 miles above mouth, and 5.3 miles west of Denton.	4.5	-	9-16-68	.26
Fowling Creek	Choptank River	Lat 38°47'02", long 75°52'28", Caroline County, at culvert on State Highway 16, 0.5 mile northeast of Harmony, Md., and 2.8 miles above mouth.	6.1	-	9-16-68	1.72
Beaverdam Ditch	Mason Branch	Lat 39°05'32", long 75°52'37", Queen Annes County, at bridge on State Highway 19 at Ingleside, Md., 3.0 miles above mouth, and 9 miles northwest of Greensboro.	4.5	-	9-16-68	1.37
Mason Branch	Tuckahoe Creek	Lat 39°01'59", long 75°53'00", Caroline County, at bridge on State Highway 405, 0.5 mile west of Bridgetown, Md., and 4.9 miles above confluence with German Branch.	32.5	-	9-17-68	10.7
German Branch	Tuckahoe Creek	Lat 39°03'02", long 75°57'04", Queen Annes County, at bridge on Hope-Roe Road 0.1 mile below Wildcat Branch, 5.0 miles southwest of Ingleside, Md., and 6.2 miles east of Centreville.	11	-	9-16-68	2.09
Blockston Branch	Tuckahoe Creek	Lat 38°58'06", long 75°56'45", at bridge on county road, 0.2 mile above mouth, and 2.5 miles south of Ruthsburg, Queen Annes County, Md.	8.4	-	9-17-68	2.12
Tuckahoe Creek	Choptank River	Lat 38°58'00", long 75°56'35", at highway bridge, 2.6 miles downstream from confluence of German Branch and Mason Branch and 2.6 miles south of Ruthsburg, Queen Annes County, Md.	85.2	1951-56‡ 1966	9-16-68	22.3
Piney Branch	Tuckahoe Creek	Lat 38°57'39", long 75°55'09", at culvert on Crouse Mill Road 1.1 miles above mouth, and 2.2 miles northwest of Ridgely, Caroline County, Md.	4.8	-	9-16-68	1.58
Norwich Creek	Tuckahoe Creek	Lat 38°55'22", long 75°58'25", Queen Annes County, at bridge on State Highway 404, 1.0 mile west of Queen Anne, Md., and 2.0 miles above mouth.	9.7	-	9-17-68	1.04
Knott Millpond	Tuckahoe Creek	Lat 38°52'54", long 75°55'33", at bridge on Tuckahoe Road 0.9 mile above mouth, and 2.5 miles south of Hillsboro, Caroline County, Md.	8.45	1952-53	9-16-68	4.14
Deep Branch	Tuckahoe Creek	Lat 38°51'25", long 75°54'41", at bridge on Tuckahoe Road, 0.7 mile above mouth, and 4.8 miles southwest of Denton, Caroline County, Md.	3.3	-	9-16-68	1.59

Discharge measurements made at miscellaneous sites during water year 1968, in North Atlantic Slope basin--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Choptank River basin--Continued						
Hog Creek	Choptank River	Lat 38°45'52", long 75°54'58", Caroline County, at culvert on State Highway 578, 2.0 miles northeast of Bethlehem, Md., 2.6 miles above mouth, and 9 miles northwest of Federalsburg.	3.64	1952-53	9-16-68	1.12
Wootenaux Creek	Kings Creek	Lat 38°47'48", long 76°01'32", at bridge on State Highway 328, 0.3 mile above Galloway Run, and 3.0 miles northeast of Easton, Talbot County, Md.	4.8	-	9-16-68	.03
Gravel Run	Hunting Creek	Lat 38°40'31", long 75°52'38", Dorchester County, at culvert on Gravel Branch Road, 1.0 mile southeast of Ellwood, Md., and 2.0 miles above mouth.	4.3	-	9-17-68	1.35
Wye River basin						
Wye River	Eastern Bay	Lat 38°59'21", long 76°08'28", at bridge on county road, 0.5 mile above State Highway 404, and 0.9 mile east of Queenstown, Queen Annes County, Md.	3.8	-	9-16-68	.93
Wye East River	Wye River	Lat 38°56'33", long 76°04'53", Talbot County, at bridge on State Highways 404 and 662 at Wye Mills, Md., 1.8 miles above Sallie Harris Creek.	10	-	9-16-68	4.10
*Sallie Harris Creek	Wye River	Lat 38°57'55", long 76°06'30", 50 ft above bridge on U.S. Highway 50, 2.0 miles northeast of Carmichael, 2.2 miles northwest of Wye Mills, Queen Annes County, Md.	8.09	1952-56‡ 1966	9-16-68	2.36
Skipton Creek	Wye East River	Lat 38°58'46", long 76°03'14", Talbot County, at bridge on State Highway 662, 1.1 miles south of Skipton, Md., 1.9 miles above Mill Creek, and 4.5 miles south of Wye Mills.	4.6	-	9-16-68	.48
Mill Creek	Skipton Creek	Lat 38°54'36", long 76°04'26", at bridge on State Highway 662, 1.4 miles northwest of Skipton, Talbot County, Md.	6.4	1964-67	9-16-68	3.56
Chester River basin						
Gravelly Run	Andover Branch	Lat 39°13'07", long 75°45'41", Queen Annes County, at bridge on Stulltown-Blanco Road 0.5 mile downstream from Delaware state line, 0.5 mile above mouth, and 5 miles southeast of Millington, Md.	12	-	9-10-68 9-18-68	.59 .35
Sewell Branch	Andover Branch	Lat 39°15'20", long 75°44'02", Kent County, at bridge on County Road 131, 0.6 mile above Jordon Branch, 2.0 miles southwest of Blackiston, Del., and 6 miles southwest of Clayton.	6.5	-	9- 9-68	.20
Jordan Branch	Sewell Branch	Lat 39°14'04", long 75°43'13", at bridge on County Road 94, 1.3 miles above mouth, and 3 miles west of Kenton, Kent County, Del.	4.5	-	9- 9-68	.10
Cypress Branch	Chester River	Lat 39°19'29", long 75°44'06", at bridge on County Road 477, 300 feet above Black Stallion Ditch, and 0.5 mile southeast of McKays Corners, New Castle County, Del.	3.6	-	8-22-68	0
Mills Branch	Chester River	Lat 39°16'34", long 75°52'10", at bridge on Millington Road, 1.5 miles above mouth, and 2.1 miles northwest of Millington, Kent County, Md.	9.98	1953-54	9-16-68	1.12
Unicorn Branch	Chester River	Lat 39°11'28", long 75°50'03", at bridge on State Highway 300, 1.2 miles above Chapel Branch Ditch, and 1.4 miles of Sudlersville, Queen Annes County, Md.	8.1	-	9-10-68	1.15
Red Lion Branch	Chester River	Lat 39°13'11", long 75°54'01", Queen Annes County, at bridge on Pondtown-Millington Road 0.8 mile northwest of Pondtown, Md., 2.5 miles above mouth, and 9 miles east of Chestertown.	22	-	9-10-68 9-18-68	7.59 6.38

Discharge measurements made at miscellaneous sites during water year 1968, in North Atlantic Slope basin--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Chester River basin-Continued						
Chester River tributary	Chester River	Lat 39°16'28", long 75°56'22", Kent County, at bridge on State Highway 447, 1.3 miles west of Chesterville, Md., and 2.8 miles above mouth.	3.6	-	9- 9-68	1.66
Granny Finley Branch	Island Creek	Lat 39°06'55", long 76°02'28", at bridge on Friel Farm Road, 1.8 miles above mouth, and 2.0 miles northeast of Burrisville, Queen Annes County, Md.	8.5	-	9-10-68	1.10
Three Bridges Branch	Yellow Bank Stream	Lat 39°03'14", long 76°03'17", at bridge on State Highway 213, 0.7 mile above confluence with Gravel Run, and 0.9 miles northeast of Centreville, Queen Annes County, Md.	8.5	-	9-16-68	1.49
East Fork Langford Creek	Langford Creek	Lat 39°11'12", long 76°06'50", at bridge on Langford-Brices Mill Road, 0.1 mile above unnamed tributary, and 3 miles southwest of Chestertown, Kent County, Md.	5.1	-	9- 9-68	2.54
East Fork Langford Creek tributary	East Fork Langford Creek	Lat 39°11'13", long 76°06'56", at bridge on Langford-Brices Mill Road, 400 ft below Mill Pond, 0.1 mile above mouth, and 3 miles southwest of Chestertown, Kent County, Md.	5.4	-	9- 9-68	2.64
Fairlee Creek basin						
Fairlee Creek tributary	Fairlee Creek	Lat 39°14'46", long 76°10'12", at bridge on Fish Hatchery Road, 100 ft below Fairlee Lake, and 1.6 miles north of Fairlee, Kent County, Md.	4.1	-	9-10-68	.18
Worton Creek basin						
Mill Creek	Worton Creek	Lat 39°17'00", long 76°08'06", Kent County, at bridge on St. James-Smithville Road, 0.5 mile north of Hanesville, Md., and 2.6 miles above mouth.	4.5 (revised)	1953-54	9-10-68	.89
Churn Creek basin						
Churn Creek	Chesapeake Bay	Lat 39°18'22", long 76°06'15", Kent County, at culvert on gravel road, 0.6 mile north of Smithville, Md., and 3.5 miles above mouth.	1.7	-	9-10-68	.95
Sassafras River basin						
Duffy Creek	Sassafras River	Lat 39°23'45", long 75°49'31", at bridge on Wards Hill Road, 1.4 miles above mouth, and 2.4 miles east of Cecilton, Cecil County, Md.	1.6	-	9-10-68	.64
Jacobs Creek	Sassafras River	Lat 39°21'50", long 75°49'13", at bridge on State Highway 290, 1.2 miles southwest of Sassafras, Kent County, Md.	5.39	1951-56‡ 1963, 1966	9-16-68	2.78
Swantown Creek	Sassafras River	Lat 39°20'50", long 75°50'31", at culvert on State Highway 290, 1.6 miles above mouth, and 2.0 miles east of Galena, Kent County, Md.	3.6	-	9-16-68	1.74
Mill Creek	Sassafras River	Lat 39°20'32", long 75°52'07", Kent County, at culvert on State Highway 290, 0.6 mile east of Galena, Md., and 1.9 miles above mouth.	1.6	-	9-16-68	.74
Elk River basin						
Little Elk Creek	Big Elk Creek	Lat 39°38'30", long 75°52'00", at bridge on State Highway 545, 0.2 mile southeast of Childs, Cecil County, Md.	26.8	1949-58‡ 1963, 1966	9-16-68	8.50
Mill Creek	Little Elk Creek	Lat 39°36'03", long 75°51'47", at bridge on Elk Neck Road, 0.8 mile above mouth, and 1.7 miles west of Elkton, Cecil County, Md.	4.2	-	9-10-68 9-17-68	.70 .96
Plum Creek	Elk River	Lat 39°34'08", long 75°53'09", at bridge on Elk Neck Road, 1.8 miles above mouth, and 4 miles southwest of Elkton, Cecil County, Md.	4.6	-	9-10-68	.08

Discharge measurements made at miscellaneous sites during water year 1968, in North Atlantic Slope basin--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Elk River basin--Continued						
Long Branch	Back Creek	Lat 39°33'05", long 75°47'33", Cecil County, at culvert on Woods Road, 1.7 miles northeast of Chesapeake City, Md., and 2.7 miles above mouth.	5.2	-	9-10-68	.62
Back Creek	Elk River	Lat 39°30'36", long 75°45'10", New Castle County, at bridge on County Road 435, 1.7 miles upstream from Maryland state line, 2.3 miles west of Mt. Pleasant, Del., and 3.5 miles southeast of Chesapeake City, Md.	4.8	-	9- 9-68	1.34
Sandy Branch	Great Bohemia Creek	Lat 39°27'36", long 75°46'27", at bridge on Sandy Branch Road, 300 ft downstream from Delaware state line, 0.5 above mouth, and 0.4 mile south of Bohemia Mills, Cecil County, Md.	2.8	-	9-10-68	1.80
Susquehanna River basin						
*Basin Run	Susquehanna River	Lat 39°39'30", long 76°06'10", on left bank 100 ft upstream from highway bridge, 0.9 mile east of Liberty Grove, Cecil County, 1.0 mile southwest of Colora, and 3 miles upstream from mouth.	5.31	1949-59‡ 1963, 1966	9-17-68	2.28
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.	-	1958-67	7-19-68	9.98
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.	-	1958-67	7-19-68	1.34

* Also a crest-stage partial-record station.
** Field estimate.
a Includes 0.05 cfs flow from pipe under bridge.
b Approximately.
c 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 ft northeast of intersection of Jersey Road and Naylor Mill Road.
d Includes sewage from Hurlock, Md.

The following table contains annual maximum stages for tidal crest-stage stations. The information is obtained from a crest-stage gage or a water-stage recorder located at each site. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. All stages are elevations above mean sea level, datum of 1929 unless otherwise noted. Only the maximum stage is given. Information on some other high stages may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum stages at tidal crest-stage partial-record stations

Station No.	Station name	Location	Period of Record	Annual maximum	
				Date	Elevation above mean sea level (feet)
1-4833.35	Duck Creek at Smyrna, Del.	Lat 39°18'31", long 75°36'34", at bridge on U.S.Highway 13, on north edge of Smyrna, Kent County, about 1000 ft north of traffic light at junction of Route 300 and U.S.Highway 13; on downstream right wingwall of bridge.	1966-68	1-23-66 9-16-67 5-29-68	4.31 3.93 4.37
1-4840.85	Murderkill River at Bowers, Del.	Lat 39°03'30", long 75°23'51", at Faulkner's Landing in Bowers, Kent County, on left bank, 10 ft southeast of southeast corner of restaurant on Faulkner's Pier.	1966-68	1-23-66 5-24-67 6-10-68	5.72 6.26 5.90
1-4842.35	Cedar Creek near Slaughter Beach, Del.	Lat 38°56'06", long 75°19'26", at bridge No. S-164 on State Highway 36, 1.79 miles northwest of Slaughter Beach, Sussex County and 6 miles from traffic light at junction of state routes 14 and 36 in Milford, Del.	1966-68	1-23-66 2- 7-67 1-14-68	4.04 4.29 4.24
1-4845.95	Indian River at Oak Orchard, Del.	Lat 38°35'45", long 75°10'24", at Hanes Landing, 2.05 miles southeast of junction of state routes 24 and 5, at Oak Orchard, Sussex County.	1966-68	1-23-66 4-27-67 5-29-68	*2.75 *4.22 *2.86

*Gage datum, not to mean sea level datum.

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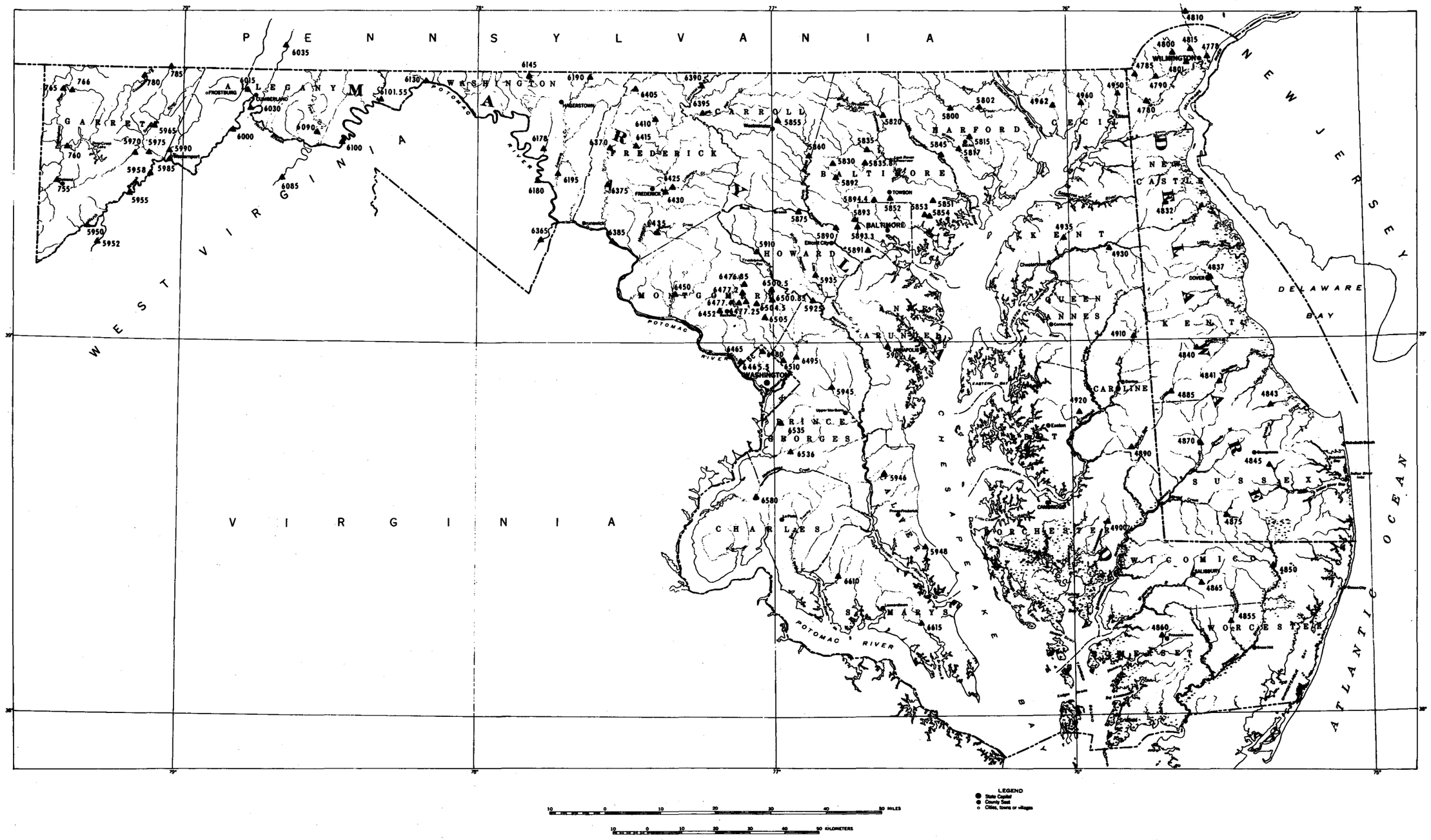

Plate 1. --Map showing location of gaging stations.