1965

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

SURFACE WATER RECORDS
OF
MARYLAND AND DELAWARE

1965

Prepared in cooperation with

Delaware Geological Survey
Delaware State Highway Department
Maryland Geological Survey
Maryland State Roads Commission
Maryland Department of Health
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

CALENDAR FOR WATER YEAR 1965

OCTOBER 1964

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 1964

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 1964

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 1965

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 1965

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

MARCH 1965

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 1965

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 1965

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 1965

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 1965

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 1965

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 1965

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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INTRODUCTION

The surface-water records for the 1965 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 J. W. Wark, district chief, succeeded by W. F. White.

Through September 30, 1960, the records of discharge and stage of streams and contents and stage of lakes or reservoirs were published in an annual series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States." Since 1951 there have been 20 volumes in the series; each volume covered an area whose boundaries coincided with those of certain natural drainage areas. The records in Maryland and Delaware were contained in Parts 1B (North Atlantic Slope basins, New York to York River) and 3A (Ohio River basin except Cumberland and Tennessee River basins) of that series.

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

COOPERATION

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

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

Maryland: Maryland Geological Survey, K. N. Weaver, director; State Roads Commission, David H. Fisher, chief engineer; Maryland Department of Health, Perry F. Prather M.D., Commissioner, succeeded by William J. Peeples, M.D., M.P.H.; city of Baltimore, L. V. Schuerholz, water engineer, succeeded by R. J. Kretzschner, 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 20 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; and the District of Columbia.

The following organizations aided in collecting records:

Maryland: Upper Potomac River Commission; Baltimore County; Washington Suburban Sanitary Commission; Maryland National Capital Park and Planning Commission; 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 to 86,400 cubic feet, 1.983471 acre-feet, or 646,317 gallons, and represents a runoff of 0.0372 inch from 1 square mile.

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

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

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

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

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

DOWNSTREAM ORDER AND STATION NUMBERS

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

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

The complete number for each station, such as 1-6385.00, includes the part number "1" and a six digit station number. In this report, the part number and only the essential digits of the station number are shown. For example, the complete number 1-6385.00 would appear as 1-6385, just to the left of the station name. In this report, the records are listed in downstream order by parts. All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

EXPLANATION OF DATA

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

Rating tables giving the discharge for any stage are prepared from stage-discharge relation curves defined by discharge measurements. If extensions to the rating curves are necessary to define the extremes of discharge, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, or computation of flow over dams or weirs), velocity-area studies, and logarithmic plotting. The application of the daily mean gage height to those rating tables gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is in effect the shifting-control method.

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

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

The data in this report generally comprise a description of the station, a skeleton rating table, 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 1965 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."

Skeleton rating tables are published for all stations except those for which the daily discharge for the greater part of the open-water period was determined by the shifting-control method, the slope method, or other special methods involving an equivalent adjustment to the gage height of more than one-tenth foot. Skeleton rating tables generally are not published for canals, ditches, or springs.

The daily table gives the discharge corresponding to the daily mean gage height unless there are large or rapid changes in discharge during a day. For days having large or rapid changes, discharge for the day is computed by averaging the mean discharges for several parts of a day. For digital recorders, the daily mean discharge is always the average of the discharges at each punched reading. For stations equipped with nonrecording gages, the daily discharge corresponds to once-daily readings of the gage or to the mean of twice-daily readings; but for periods of rapidly changing stage the discharge is determined from a gage-height graph based on gage readings.

In the table of daily discharge, the figures for the maximum day and the minimum day for each month are underlined. If the figure is repeated, it is underlined only on the first day of its occurrence.

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. 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.

Footnotes to the table of daily discharge indicate periods for which discharge was computed or estimated by unusual or special methods because of no gage-height record, ice effect, or other conditions that reduce the degree of accuracy of the records. The footnotes are either reference footnotes, with corresponding symbols used in the table of daily discharge to indicate the days included, or general footnotes, introduced by the word "Note," in which the days included are stated. The methods used in computing data for such footnoted periods 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 states the degree of accuracy of the records. "Excellent" indicates that, in general, the error in the daily records is believed to be less than 5 percent; "good," less than 10 percent; "fair," less than 15 percent; and "poor," probably more than 15 percent. 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, comsumption, 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.

SUPPLEMENTAL DATA

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

Information of a more detailed nature than that published for most of the gaging stations is on file in the district office, such as discharge measurements and recorder charts or nonrecording-gage readings. Most gaging-station records in the States through 1960 have been analyzed with an electronic computer to give: (1) the number of days in each year that the daily discharge was between selected limits (duration tables); (2) the lowest mean discharge for selected numbers of consecutive days in each year; (3) the highest mean discharge for selected numbers of consecutive days in each year; and (4) the lowest daily discharge not exceeded during selected numbers of consecutive days in each year. At many gaging stations water samples are collected from streams for the purpose of making chemical analyses; computing dissolved solids, suspended sediment loads, and particle-size distribution; or measuring water temperatures. For most of these samples the results are published in an annual series of U.S. Geological Survey water-supply papers entitled "Quality of Surface Waters of the United States." Information on the availability of electronic computer analyses, unpublished data, or quality of water records may generally be obtained from the district office.

DELAWARE RIVER BASIN

1-4778. Shellpot Creek at Wilmington, Del.

Location (revised).--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, and 0.2 mile downstream from Matson Run.
Drainage area.--7.46 sq mi.
Records available.--December 1945 to September 1965.
Gage.--Water-stage recorder (digital) and concrete control. Datum of gage is 15.16 ft above mean sea level, datum of 1929, supplementary adjustment of 1959.
Average discharge.--19 years (1946-65), 8.90 cfs.
Extremes.--Maximum discharge during year, 990 cfs July 11 (gage height, 4.24 ft); minimum, 0.4 cfs Aug. 31, Sept. 1, 6, 8, 17-19, 28-30 (gage height, 1.21 ft).
1945-65: Maximum discharge, 4,080 cfs July 9, 1952 (gage height, 7.97 ft in gage well, 8.6 ft from floodmarks), 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; minimum, 0.1 cfs July 4, 1958, Oct. 25, 26, 1959; minimum gage height, 1.13 ft Oct. 25, 26, 1959.
Maximum stage known since at least 1940, that of July 9, 1952. Flood of Aug. 1, 1945, reached a stage of about 8.5 ft, from floodmarks.
Remarks.--Records good except those for periods of ice effect, which are fair.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 8				Feb. 9 to Sept. 30			
1.24	0.4	1.8	29	1.2	0.4	1.8	29
1.3	1.1	2.0	60	1.3	1.8	2.0	60
1.4	4.6	2.3	130	1.4	4.8	2.2	105
1.6	14			1.6	14	2.5	190

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.80	0.60	0.50	1.9	b 1.4	3.5	4.1	2.6	1.3	1.7	2.3	15
2	11	.60	.40	4.2	b 1.3	3.2	14	2.6	7.0	.70	3.8	6.5
3	5.1	.50	.70	4.6	b 1.1	2.9	7.4	2.6	19	.60	1.3	.90
4	.80	.60	16	2.2	b 1.0	2.9	4.5	2.6	2.3	.70	2.3	.60
5	.70	.60	8.7	1.9	b 1.0	54	3.8	2.6	1.5	62	9.6	.50
6	.50	.50	26	1.9	b 1.6	14	3.5	2.3	1.4	4.5	* 1.5	.50
7	.50	.40	2.6	1.3	93	6.1	10	2.9	1.4	1.7	1.3	.70
8	.40	.40	1.3	12	54	4.5	4.8	3.2	1.4	1.5	1.1	.50
9	* .40	.40	1.1	12	11	3.8	8.7	2.3	4.8	1.3	11	.60
10	.50	.40	.80	10	13	3.8	4.5	2.3	2.3	1.3	4.1	.50
11	.40	.40	.80	* 8.7	9.6	3.2	3.5	2.3	1.4	175	1.3	.50
12	.40	.40	58	7.3	12	2.9	3.2	2.1	12	7.8	.90	1.7
13	.40	.50	8.2	5.5	* 7.0	2.9	2.9	2.1	1.4	2.9	2.3	5.2
14	.40	.50	* 3.8	5.1	4.5	2.6	2.6	2.1	1.0	2.1	11	1.9
15	.40	.40	1.9	2.6	4.5	2.9	6.5	2.1	* 1.0	1.9	1.9	.70
16	.40	.50	1.3	b 1.6	3.8	2.9	15	3.8	1.3	1.5	1.3	.60
17	19	.50	1.3	b 1.2	3.5	3.5	4.5	7.0	1.3	1.1	1.3	*.50
18	3.4	.50	1.1	b 1.0	3.2	10	3.5	2.1	1.3	1.9	1.3	.50
19	.80	1.6	.80	b .80	2.9	6.5	19	2.1	1.1	2.9	1.5	.50
20	.60	* 3.4	3.4	b 1.0	2.6	4.5	5.7	1.9	1.1	.90	1.5	.70
21	.60	1.1	2.2	b 2.0	2.6	4.1	4.1	1.5	1.5	.70	.90	.60
22	.60	.50	1.6	b 4.6	2.9	3.8	3.5	1.5	1.3	.70	13	.60
23	.60	.40	1.6	13	2.3	4.1	* 3.5	1.5	1.5	.70	2.6	.60
24	1.1	.40	1.6	29	2.6	5.2	3.2	2.1	11	.90	.90	23
25	.50	27	2.2	31	37	12	2.6	1.9	2.6	.90	.70	4.5
26	.70	14	11	23	9.6	47	6.5	1.7	1.1	.90	1.7	.70
27	.60	1.6	110	15	4.8	10	9.1	9.1	.90	1.3	1.5	.90
28	.60	.80	28	6.4	3.5	5.2	4.1	3.8	.70	1.3	1.9	.60
29	.60	.70	6.4	b 3.8	-	23	3.2	7.8	1.3	.70	1.1	.50
30	.60	.70	3.4	b 2.2	------	* 7.8	2.9	1.9	2.6	47	.60	.50
31	.60	------	2.6	b 1.9	------	4.8	------	1.3	------	4.8	.60	------
TOTAL	54.10	60.90	309.30	218.70	297.3	267.6	174.4	87.7	89.80	333.90	88.10	69.60
MEAN	1.75	2.03	9.98	7.06	10.6	8.63	5.81	2.83	2.99	10.8	2.84	2.32
CFSM	.235	.272	1.34	.946	1.42	1.16	.779	.379	.401	1.45	.381	.311
IN	.27	.30	1.54	1.09	1.48	1.33	.87	.44	.45	1.66	.44	.35

CALENDAR YEAR 1964 MAX 232 MIN .20 MEAN 7.86 CFSM 1.05 INCHES 14.35
WATER YEAR 1964-65 MAX 175 MIN .40 MEAN 5.62 CFSM .753 INCHES 10.23

Peak discharge (base, 550 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7- 5	1630	3.85	795	7-30	1730	3.90	820
7-11	0830	4.24	990				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--Where daily discharge is less than 1.0 cfs the zero in the hundredths column is not significant.

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, and 3.5 miles south of Newark.

Drainage area.--20.5 sq mi.

Records available.--April 1943 to September 1965.

Gage.--Water-stage recorder (digital) 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.

Average discharge.--22 years, 25.4 cfs.

Extremes.--Maximum discharge during year, 1,190 cfs Feb. 8 (gage height, 9.63 ft); minimum daily, 0.4 cfs Aug. 29. 1943-65: Maximum discharge, 2,620 cfs May 1, 1947 (gage height, 12.41 ft); minimum daily, 0.4 cfs July 26, 1944, Aug. 1, 1954, Oct. 6, 1963, Aug. 29, 1965.

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

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

1.8	0.2	2.4	9.8	4.0	107
1.9	.6	2.7	23	5.0	199
2.0	1.3	3.0	38	6.0	325
2.1	2.6	3.5	69	7.0	487
2.2	4.3				

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.6	1.5	2.9	11	10	15	17	10	5.5	4.0	4.3	3.4
2	9.4	4.4	5.1	12	11	14	22	10	6.3	1.0	8.2	8.3
3	7.2	2.1	4.4	14	7.9	14	20	10	7.5	4.7	7.6	5.7
4	2.5	4.1	11	11	8.0	13	17	9.4	9.8	1.2	1.6	2.4
5	5.6	3.0	14	9.3	8.5	265	15	9.0	5.1	2.0	7.6	2.2
6	2.9	1.7	40	9.2	9.0	57	15	9.5	5.0	4.6	3.2	1.9
7	2.6	3.0	11	11	130	25	26	9.6	4.9	2.9	4.3	1.9
8	2.1	1.9	6.4	20	365	20	21	10	6.6	2.3	.80	1.6
9	1.9	6.1	7.1	28	39	17	20	9.7	7.1	2.7	4.3	1.6
10	*2.2	3.9	5.0	*40	37	17	17	9.6	12	2.6	1.6	1.6
11	.60	2.7	6.1	27	33	15	16	9.3	5.0	190	4.8	1.9
12	4.4	2.0	110	21	41	14	15	9.2	4.8	*20	1.6	1.9
13	1.2	3.5	26	18	26	13	13	11	*4.5	7.3	4.6	5.1
14	3.3	2.9	14	16	18	13	12	4.8	3.7	5.3	2.4	3.0
15	3.6	1.0	9.3	11	17	14	16	6.6	3.8	3.5	2.7	*2.3
16	1.5	4.7	6.2	10	16	12	26	6.7	5.0	3.1	3.2	2.0
17	3.9	3.1	7.2	11	16	12	16	12	4.1	4.3	3.2	2.0
18	3.3	4.1	6.4	11	15	24	14	7.9	4.8	2.3	4.1	1.9
19	6.1	2.1	6.1	9.7	14	24	29	6.9	3.5	6.3	2.5	1.9
20	2.5	8.1	7.6	9.5	13	18	21	6.5	2.1	2.8	2.3	1.6
21	4.2	4.1	9.2	9.6	11	17	16	7.5	6.0	4.1	2.6	1.9
22	.90	1.6	7.1	11	15	18	14	5.4	2.3	3.1	2.1	1.9
23	2.2	6.3	7.5	24	9.7	16	13	5.7	3.8	2.3	4.5	2.0
24	4.0	3.7	7.3	134	11	15	12	7.6	6.2	2.6	1.4	8.0
25	.90	11	5.3	97	112	22	12	5.1	6.8	1.0	.50	6.4
26	6.0	32	9.5	58	34	116	16	6.8	4.9	3.4	3.1	3.1
27	4.3	7.4	221	42	17	33	16	8.1	1.1	2.5	3.0	2.5
28	1.9	6.0	211	22	16	21	14	6.8	3.7	7.8	1.8	1.6
29	1.6	*3.4	23	16	-	49	12	8.4	3.2	8.9	.40	1.6
30	4.3	5.9	16	12	------	29	12	6.6	1.6	3.3	3.7	1.9
31	3.4	------	12	11	------	19	------	5.4	------	4.7	.70	------
TOTAL	108.10	147.3	834.7	746.3	1,060.1	971	505	251.1	151.1	316.6	99.10	85.5
MEAN	3.49	4.91	26.9	24.1	37.9	31.3	16.8	8.10	5.04	10.2	3.20	2.85
CFSM	.170	.240	1.31	1.18	1.85	1.53	.820	.395	.246	.498	.156	.139
IN	.20	.27	1.51	1.35	1.92	1.76	.92	.46	.27	.57	.18	.16

CALENDAR YEAR 1964 MAX 552 MIN .60 MEAN 19.9 CFSM .971 INCHES 13.23
WATER YEAR 1964-65 MAX 365 MIN .40 MEAN 14.5 CFSM .707 INCHES 9.57

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-8	0315	9.63	1,190				

* Discharge measurement made on this day.
Note.--Where daily discharge is less than 1.0 cfs the zero in the hundredths column is not significant.

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, and 2.2 miles north of Newark, New Castle County.

Drainage area.--66.7 sq mi.

Records available.--February 1952 to September 1959, July 1962 to September 1965.

Gage.--Water-stage recorder (digital). Datum of gage is 78.6 ft above mean sea level, datum of 1929.

Average discharge.--10 years, 72.4 cfs.

Extremes.--Maximum discharge during year, 2,410 cfs Feb. 7 (gage height, 6.88 ft); minimum, 13 cfs Sept. 11; minimum gage height, 0.98 ft Aug. 18, 29-31, Sept. 1, 11; minimum daily discharge, 13 cfs Sept. 11.
1952-59, 1962-65: Maximum discharge, 4,050 cfs Aug. 18, 1955 (gage height, 9.21 ft), from rating curve extended above 1,800 cfs by logarithmic plotting; minimum, 4.6 cfs Dec. 7, 1954 (gage height, 0.55 ft), result of freezeup; minimum daily, 8.4 cfs Aug. 16, 1963.

Remarks.--Records good except those for periods of ice effect, which are fair. Records do not include a negligible diversion above station by plant of E. I. du Pont de Nemours & Co.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Feb. 6, Aug. 23 to Sept. 15)

0.8	10	1.6	107
.9	16	2.0	212
1.1	31	3.0	555
1.3	54	4.0	920

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	29	25	23	44	b 36	63	64	51	49	28	26	17
2	41	26	25	45	b 34	60	75	50	44	a 21	45	40
3	48	26	25	51	b 32	60	73	50	68	a 19	26	19
4	26	26	44	43	b 31	60	64	49	45	a 18	23	16
5	24	25	59	42	b 31	243	61	48	38	a 18	30	16
6	22	26	114	40	b 35	144	60	*50	37	a 80	23	15
7	20	25	48	37	b 400	81	89	52	36	a 23	22	15
8	20	25	*38	60	663	70	72	53	35	a 20	20	14
9	21	25	32	61	137	66	71	52	46	a 18	26	14
10	*21	26	31	85	130	65	66	50	44	a 17	23	14
11	19	25	34	63	123	60	62	47	39	a 400	19	13
12	20	26	176	b 50	*103	58	61	45	41	*a 150	18	14
13	21	26	90	b 45	87	56	57	44	41	43	17	22
14	21	25	52	b 40	74	57	55	42	36	37	21	22
15	21	24	41	b 38	70	58	59	42	34	34	20	*a 19
16	21	25	36	b 35	69	*54	82	42	35	31	18	a 17
17	51	27	34	b 32	68	52	62	49	34	30	17	a 15
18	43	25	34	b 30	66	65	57	41	*34	29	16	a 15
19	28	27	31	b 29	63	71	79	39	33	29	17	a 16
20	26	34	34	b 29	56	60	68	38	32	26	23	a 14
21	25	31	36	b 32	60	58	61	37	28	25	17	a 15
22	24	26	32	b 38	60	59	59	38	27	25	37	a 14
23	25	24	32	b 50	57	59	57	39	27	27	29	a 14
24	26	25	33	b 69	63	59	56	39	38	27	22	a 19
25	26	49	38	81	152	62	53	39	33	26	19	a 40
26	26	180	39	98	100	142	61	39	27	24	20	a 21
27	26	41	279	103	69	95	63	39	26	24	20	a 15
28	26	32	311	b 60	65	69	59	59	25	29	18	a 14
29	26	29	75	b 45	-	109	55	56	25	25	15	a 14
30	26	27	57	*b 38	------	84	52	57	26	23	14	a 14
31	25	------	50	b 36	------	68	------	53	------	24	14	------
TOTAL	824	983	1,983	1,549	2,934	2,367	1,913	1,429	1,103	1,350	675	527
MEAN	26.6	32.8	64.0	50.0	105	76.4	63.8	46.1	36.8	43.5	21.8	17.6
CFSM	.399	.492	.960	.750	1.57	1.15	.957	.691	.552	.652	.327	.264
IN	.46	.55	1.11	.86	1.64	1.32	1.07	.80	.62	.75	.38	.29

CALENDAR YEAR 1964 MAX 1,250 MIN 13 MEAN 65.7 CFSM .985 INCHES 13.41
WATER YEAR 1964-65 MAX 663 MIN 13 MEAN 48.3 CFSM .724 INCHES 9.83

Peak discharge (base, 1,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-7	2345	6.88	2,410				

* Discharge measurement made on this day.
a No gage-height record.
b Stage-discharge relation affected by ice.

SUPPLEMENTAL DATA

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

Information of a more detailed nature than that published for most of the gaging stations is on file in the district office, such as discharge measurements and recorder charts or nonrecording-gage readings. Most gaging-station records in the States through 1960 have been analyzed with an electronic computer to give: (1) the number of days in each year that the daily discharge was between selected limits (duration tables); (2) the lowest mean discharge for selected numbers of consecutive days in each year; (3) the highest mean discharge for selected numbers of consecutive days in each year; and (4) the lowest daily discharge not exceeded during selected numbers of consecutive days in each year. At many gaging stations water samples are collected from streams for the purpose of making chemical analyses; computing dissolved solids, suspended sediment loads, and particle-size distribution; or measuring water temperatures. For most of these samples the results are published in an annual series of U.S. Geological Survey water-supply papers entitled "Quality of Surface Waters of the United States." Information on the availability of electronic computer analyses, unpublished data, or quality of water records may generally be obtained from the district office.

DELAWARE RIVER BASIN

1-4778. Shellpot Creek at Wilmington, Del.

Location (revised).--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, and 0.2 mile downstream from Matson Run.
Drainage area.--7.46 sq mi.
Records available.--December 1945 to September 1965.
Gage.--Water-stage recorder (digital) and concrete control. Datum of gage is 15.16 ft above mean sea level, datum of 1929, supplementary adjustment of 1959.
Average discharge.--19 years (1946-65), 8.90 cfs.
Extremes.--Maximum discharge during year, 990 cfs July 11 (gage height, 4.24 ft); minimum, 0.4 cfs Aug. 31, Sept. 1, 6, 8, 17-19, 28-30 (gage height, 1.21 ft).
1945-65: Maximum discharge, 4,080 cfs July 9, 1952 (gage height, 7.97 ft in gage well, 8.6 ft from floodmarks), 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; minimum, 0.1 cfs July 4, 1958, Oct. 25, 26, 1959; minimum gage height, 1.13 ft Oct. 25, 26, 1959.
Maximum stage known since at least 1940, that of July 9, 1952. Flood of Aug. 1, 1945, reached a stage of about 8.5 ft, from floodmarks.
Remarks.--Records good except those for periods of ice effect, which are fair.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 8				Feb. 9 to Sept. 30			
1.24	0.4	1.8	29	1.2	0.4	1.8	29
1.3	1.1	2.0	60	1.3	1.8	2.0	60
1.4	4.6	2.3	130	1.4	4.8	2.2	105
1.6	14			1.6	14	2.5	190

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.80	0.60	0.50	1.9	b 1.4	3.5	4.1	2.6	1.3	1.7	2.3	15
2	11	.60	.40	4.2	b 1.3	3.2	14	2.6	7.0	.70	3.8	6.5
3	5.1	.50	.70	4.6	b 1.1	2.9	7.4	2.6	19	.60	1.3	.90
4	.80	.60	16	2.2	b 1.0	2.9	4.5	2.6	2.3	.70	2.3	.60
5	.70	.60	8.7	1.9	b 1.0	54	3.8	2.6	1.5	62	9.6	.50
6	.50	.50	26	1.9	b 1.6	14	3.5	2.3	1.4	4.5	* 1.5	.50
7	.50	.40	2.6	1.3	93	6.1	10	2.9	1.4	1.7	1.3	.70
8	.40	.40	1.3	12	54	4.5	4.8	3.2	1.4	1.5	1.1	.50
9	* .40	.40	1.1	12	11	3.8	8.7	2.3	4.8	1.3	11	.60
10	.50	.40	.80	10	13	3.8	4.5	2.3	2.3	1.3	4.1	.50
11	.40	.40	.80	* 8.7	9.6	3.2	3.5	2.3	1.4	175	1.3	.50
12	.40	.40	58	7.3	12	2.9	3.2	2.1	12	7.8	.90	1.7
13	.40	.50	9.2	5.5	* 7.0	2.9	2.9	2.1	1.4	2.9	2.3	5.2
14	.40	.50	* 3.8	5.1	4.5	2.6	2.6	2.1	1.0	2.1	11	1.9
15	.40	.40	1.9	2.6	4.5	2.9	6.5	2.1	* 1.0	1.9	1.9	.70
16	.40	.50	1.3	b 1.6	3.8	2.9	15	3.8	1.3	1.5	1.3	.60
17	19	.50	1.3	b 1.2	3.5	3.5	4.5	7.0	1.3	1.1	1.3	*.50
18	3.4	.50	1.1	b 1.0	3.2	10	3.5	2.1	1.3	1.9	1.3	.50
19	.80	1.6	.80	b .80	2.9	6.5	19	2.1	1.1	2.9	1.5	.50
20	.60	* 3.4	3.4	b 1.0	2.6	4.5	5.7	1.9	1.1	.90	1.5	.70
21	.60	1.1	2.2	b 2.0	2.6	4.1	4.1	1.5	1.5	.70	.90	.60
22	.60	.50	1.6	b 4.6	2.9	3.8	3.5	1.5	1.3	.70	13	.60
23	.60	.40	1.6	13	2.3	4.1	* 3.5	1.5	1.5	.70	2.6	.60
24	1.1	.40	1.6	29	2.6	5.2	3.2	2.1	11	.90	.90	23
25	.50	27	2.2	31	37	12	2.6	1.9	2.6	.90	.70	4.5
26	.70	14	11	23	9.6	47	6.5	1.7	1.1	.90	1.7	.70
27	.60	1.6	110	15	4.8	10	9.1	9.1	.90	1.3	1.5	.90
28	.60	.80	28	6.4	3.5	5.2	4.1	3.8	.70	1.3	1.9	.60
29	.60	.70	6.4	b 3.8	-	23	3.2	7.8	1.3	.70	1.1	.50
30	.60	.70	3.4	b 2.2	------	* 7.8	2.9	1.9	2.6	47	.60	.50
31	.60	------	2.6	b 1.9	------	4.8	------	1.3	------	4.8	.60	------
TOTAL	54.10	60.90	309.30	218.70	297.3	267.6	174.4	87.7	89.80	333.90	88.10	69.60
MEAN	1.75	2.03	9.98	7.06	10.6	8.63	5.81	2.83	2.99	10.8	2.84	2.32
CFSM	.235	.272	1.34	.946	1.42	1.16	.779	.379	.401	1.45	.381	.311
IN	.27	.30	1.54	1.09	1.48	1.33	.87	.44	.45	1.66	.44	.35

CALENDAR YEAR 1964 MAX 232 MIN .20 MEAN 7.86 CFSM 1.05 INCHES 14.35
WATER YEAR 1964-65 MAX 175 MIN .40 MEAN 5.62 CFSM .753 INCHES 10.23

Peak discharge (base, 550 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7- 5	1630	3.85	795	7-30	1730	3.90	820
7-11	0830	4.24	990				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--Where daily discharge is less than 1.0 cfs the zero in the hundredths column is not significant.

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, and 3.5 miles south of Newark.

Drainage area.--20.5 sq mi.

Records available.--April 1943 to September 1965.

Gage.--Water-stage recorder (digital) 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.

Average discharge.--22 years, 25.4 cfs.

Extremes.--Maximum discharge during year, 1,190 cfs Feb. 8 (gage height, 9.63 ft); minimum daily, 0.4 cfs Aug. 29. 1943-65: Maximum discharge, 2,620 cfs May 1, 1947 (gage height, 12.41 ft); minimum daily, 0.4 cfs July 26, 1944, Aug. 1, 1954, Oct. 6, 1963, Aug. 29, 1965.

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

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

1.8	0.2	2.4	9.8	4.0	107
1.9	.6	2.7	23	5.0	199
2.0	1.3	3.0	38	6.0	325
2.1	2.6	3.5	69	7.0	487
2.2	4.3				

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.6	1.5	2.9	11	10	15	17	10	5.5	4.0	4.3	3.4
2	9.4	4.4	5.1	12	11	14	22	10	6.3	1.0	8.2	8.3
3	7.2	2.1	4.4	14	7.9	14	20	10	7.5	4.7	7.6	5.7
4	2.5	4.1	11	11	8.0	13	17	9.4	9.8	1.2	1.6	2.4
5	5.6	3.0	14	9.3	8.5	265	15	9.0	5.1	2.0	7.6	2.2
6	2.9	1.7	40	9.2	9.0	57	15	9.5	5.0	4.6	3.2	1.9
7	2.6	3.0	11	11	130	25	26	9.6	4.9	2.9	4.3	1.9
8	2.1	1.9	6.4	20	365	20	21	10	6.6	2.3	.80	1.6
9	1.9	6.1	7.1	28	39	17	20	9.7	7.1	2.7	4.3	1.6
10	*2.2	3.9	5.0	*40	37	17	17	9.6	12	2.6	1.6	1.6
11	.60	2.7	6.1	27	33	15	16	9.3	5.0	190	4.8	1.9
12	4.4	2.0	110	21	41	14	15	9.2	4.8	*20	1.6	1.9
13	1.2	3.5	26	18	26	13	13	11	*4.5	7.3	4.6	5.1
14	3.3	2.9	14	16	18	13	12	4.8	3.7	5.3	2.4	3.0
15	3.6	1.0	9.3	11	17	14	16	6.6	3.8	3.5	2.7	*2.3
16	1.5	4.7	6.2	10	16	12	26	6.7	5.0	3.1	3.2	2.0
17	3.9	3.1	7.2	11	16	12	16	12	4.1	4.3	3.2	2.0
18	3.3	4.1	6.4	11	15	24	14	7.9	4.8	2.3	4.1	1.9
19	6.1	2.1	6.1	9.7	14	24	29	6.9	3.5	6.3	2.5	1.9
20	2.5	8.1	7.6	9.5	13	18	21	6.5	2.1	2.8	2.3	1.6
21	4.2	4.1	9.2	9.6	11	17	16	7.5	6.0	4.1	2.6	1.9
22	.90	1.6	7.1	11	15	18	14	5.4	2.3	3.1	2.1	1.9
23	2.2	6.3	7.5	24	9.7	16	13	5.7	3.8	2.3	4.5	2.0
24	4.0	3.7	7.3	134	11	15	12	7.6	6.2	2.6	1.4	8.0
25	.90	11	5.3	97	112	22	12	5.1	6.8	1.0	.50	6.4
26	6.0	32	9.5	58	34	116	16	6.8	4.9	3.4	3.1	3.1
27	4.3	7.4	221	42	17	33	16	8.1	1.1	2.5	3.0	2.5
28	1.9	6.0	211	22	16	21	14	6.8	3.7	7.8	1.8	1.6
29	1.6	*3.4	23	16	-	49	12	8.4	3.2	8.9	.40	1.6
30	4.3	5.9	16	12	------	29	12	6.6	1.6	3.3	3.7	1.9
31	3.4	------	12	11	------	19	------	5.4	------	4.7	.70	------
TOTAL	108.10	147.3	834.7	746.3	1,060.1	971	505	251.1	151.1	316.6	99.10	85.5
MEAN	3.49	4.91	26.9	24.1	37.9	31.3	16.8	8.10	5.04	10.2	3.20	2.85
CFSM	.170	.240	1.31	1.18	1.85	1.53	.820	.395	.246	.498	.156	.139
IN	.20	.27	1.51	1.35	1.92	1.76	.92	.46	.27	.57	.18	.16

CALENDAR YEAR 1964 MAX 552 MIN .60 MEAN 19.9 CFSM .971 INCHES 13.23
WATER YEAR 1964-65 MAX 365 MIN .40 MEAN 14.5 CFSM .707 INCHES 9.57

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-8	0315	9.63	1,190				

* Discharge measurement made on this day.

Note.--Where daily discharge is less than 1.0 cfs the zero in the hundredths column is not significant.

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, and 2.2 miles north of Newark, New Castle County.

Drainage area.--66.7 sq mi.

Records available.--February 1952 to September 1959, July 1962 to September 1965.

Gage.--Water-stage recorder (digital). Datum of gage is 78.6 ft above mean sea level, datum of 1929.

Average discharge.--10 years, 72.4 cfs.

Extremes.--Maximum discharge during year, 2,410 cfs Feb. 7 (gage height, 6.88 ft); minimum, 13 cfs Sept. 11; minimum gage height, 0.98 ft Aug. 18, 29-31, Sept. 1, 11; minimum daily discharge, 13 cfs Sept. 11.
1952-59, 1962-65: Maximum discharge, 4,050 cfs Aug. 18, 1955 (gage height, 9.21 ft), from rating curve extended above 1,800 cfs by logarithmic plotting; minimum, 4.6 cfs Dec. 7, 1954 (gage height, 0.55 ft), result of freezeup; minimum daily, 8.4 cfs Aug. 16, 1963.

Remarks.--Records good except those for periods of ice effect, which are fair. Records do not include a negligible diversion above station by plant of E. I. du Pont de Nemours & Co.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Feb. 6, Aug. 23 to Sept. 15)

0.8	10	1.6	107
.9	16	2.0	212
1.1	31	3.0	555
1.3	54	4.0	920

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	29	25	23	44	b 36	63	64	51	49	28	26	17
2	41	26	25	45	b 34	60	75	50	44	a 21	45	40
3	48	26	25	51	b 32	60	73	50	88	a 19	26	19
4	26	26	44	43	b 31	60	64	49	45	a 18	23	16
5	24	25	59	42	b 31	243	61	48	38	a 18	30	16
6	22	26	114	40	b 35	144	60	*50	37	a 80	23	15
7	20	25	48	37	b 400	81	89	52	36	a 23	22	15
8	20	25	*38	60	663	70	72	53	35	a 20	20	14
9	21	25	32	61	137	66	71	52	46	a 18	26	14
10	*21	26	31	85	130	65	66	50	44	a 17	23	14
11	19	25	34	63	123	60	62	47	39	a 400	19	13
12	20	26	176	b 50	*103	58	61	45	41	*a 150	18	14
13	21	26	90	b 45	87	56	57	44	41	43	17	22
14	21	25	52	b 40	74	57	55	42	36	37	21	22
15	21	24	41	b 38	70	58	59	42	34	34	20	*a 19
16	21	25	36	b 35	69	*54	82	42	35	31	18	a 17
17	51	27	34	b 32	68	52	62	49	34	30	17	a 15
18	43	25	34	b 30	66	65	57	41	*34	29	16	a 15
19	28	27	31	b 29	63	71	79	39	33	29	17	a 16
20	26	34	34	b 29	56	60	68	38	32	26	23	a 14
21	25	31	36	b 32	60	58	61	37	28	25	17	a 15
22	24	26	32	b 38	60	59	59	38	27	25	37	a 14
23	25	24	32	b 50	57	59	57	39	27	27	29	a 14
24	26	25	33	b 69	63	59	56	39	38	27	22	a 19
25	26	49	38	81	152	62	53	39	33	26	19	a 40
26	26	180	39	98	100	142	61	39	27	24	20	a 21
27	26	41	279	103	69	95	63	39	26	24	20	a 15
28	26	32	311	b 60	65	69	59	59	25	29	18	a 14
29	26	29	75	b 45	-	109	55	56	25	25	15	a 14
30	26	27	57	*b 38	------	84	52	57	26	23	14	a 14
31	25	------	50	b .36	------	68	------	53	------	24	14	------
TOTAL	824	983	1,983	1,549	2,934	2,367	1,913	1,429	1,103	1,350	675	527
MEAN	26.6	32.8	64.0	50.0	105	76.4	63.8	46.1	36.8	43.5	21.8	17.6
CFSM	.399	.492	.960	.750	1.57	1.15	.957	.691	.552	.652	.327	.264
IN	.46	.55	1.11	.86	1.64	1.32	1.07	.80	.62	.75	.38	.29

CALENDAR YEAR 1964 MAX 1,250 MIN 13 MEAN 65.7 CFSM .985 INCHES 13.41
WATER YEAR 1964-65 MAX 663 MIN 13 MEAN 48.3 CFSM .724 INCHES 9.83

Peak discharge (base, 1,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-7	2345	6.88	2,410				

* Discharge measurement made on this day.
a No gage-height record.
b Stage-discharge relation affected by ice.

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, and 3.5 miles east of Newark, New Castle County.
Drainage area.--87.8 sq mi.
Records available.--October 1931 to September 1936, June 1943 to September 1957, October 1959 to September 1965. Monthly discharge only for some periods, published in WSP 1302.
Gage.--Water-stage recorder (digital). 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.
Average discharge.--25 years, 105 cfs.
Extremes.--Maximum discharge during year, 2,640 cfs Feb. 8 (gage height, 11.64 ft); minimum, 11 cfs Sept. 20; minimum daily, 14 cfs Aug. 31.
1931-36, 1943-57, 1959-65: Maximum discharge, 6,340 cfs Sept. 12, 1960 (gage height, 16.11 ft); minimum, 8.2 cfs Sept. 3, 1963; minimum gage height, 3.66 ft July 26, 1954; minimum daily discharge, 9.4 cfs Sept. 3, 1963.
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 except those for the period of ice effect, which are fair. 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.

Rating table, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 31 to Dec. 15, Mar. 7 to July 10)

3.9	10	6.0	355
4.1	19	7.0	600
4.3	38	8.0	900
4.5	65	10.0	1,740
5.0	155	12.0	2,890

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	44	28	21	55	b 47	82	85	70	43	32	29	18
2	54	28	20	57	b 45	78	101	69	43	18	53	56
3	77	28	22	64	b 43	77	101	65	95	18	35	24
4	36	30	45	49	b 41	76	85	64	55	19	24	20
5	31	31	69	48	b 40	351	79	62	43	18	40	18
6	29	32	148	47	b 45	219	77	63	39	86	* 27	18
7	26	28	61	43	b 300	117	115	* 64	37	21	24	17
8	24	31	38	72	1,100	99	100	68	36	18	23	16
9	25	24	34	87	209	92	97	65	50	16	27	16
10	* 26	25	28	113	172	89	90	62	46	15	31	16
11	27	25	27	* 82	176	80	82	59	36	* 427	23	15
12	27	25	215	72	* 151	76	82	56	38	136	19	16
13	28	25	144	b 62	124	74	76	55	37	52	18	32
14	35	27	* 66	b 54	103	74	72	53	32	41	22	29
15	37	26	49	b 49	96	75	80	52	* 33	35	22	* 21
16	38	26	* 44	b 45	93	* 70	114	53	39	31	20	19
17	65	27	43	b 41	90	71	84	65	38	29	17	17
18	66	23	43	b 38	85	95	76	54	37	31	17	17
19	36	26	37	b 37	81	104	111	50	35	32	18	18
20	30	35	45	b 36	71	86	100	47	34	24	24	16
21	28	* 30	41	b 40	78	80	84	46	30	22	18	17
22	28	25	40	b 50	79	83	80	47	25	22	37	15
23	29	21	40	b 64	70	81	77	49	24	25	44	15
24	30	22	41	b 90	72	82	76	45	37	26	26	24
25	30	57	46	116	214	89	74	46	38	25	20	50
26	30	222	50	121	147	207	89	47	29	23	26	23
27	29	48	353	138	89	137	94	44	30	22	23	17
28	28	33	467	b 80	86	96	84	60	26	37	18	15
29	28	28	104	b 60	-	153	77	61	27	30	16	16
30	28	24	75	b 50	------	124	72	57	30	23	15	16
31	28	------	65	b 47	------	94	------	47	------	25	14	------
TOTAL	1,077	1,060	2,521	2,007	3,947	3,311	2,614	1,745	1,142	1,379	770	627
MEAN	34.7	35.3	81.3	64.7	141	107	87.1	56.3	38.1	44.5	24.8	20.9
CFSM	.395	.402	.926	.737	1.61	1.22	.992	.641	.434	.507	.283	.238
IN	.46	.45	1.07	.85	1.67	1.40	1.11	.74	.48	.58	.33	.27

CALENDAR YEAR 1964 MAX 1,390 MIN 13 MEAN 78.8 CFSM .898 INCHES 12.22
WATER YEAR 1964-65 MAX 1,100 MIN 14 MEAN 60.8 CFSM .693 INCHES 9.40

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-8	0330	11.64	2,640				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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

Location.--Lat 39°45'22", 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, and 2.3 miles north of Marshallton.

Drainage area.--47.0 sq mi.

Records available.--April 1943 to September 1965.

Gage.--Water-stage recorder (digital) 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.

Average discharge.--22 years, 61.4 cfs.

Extremes.--Maximum discharge during year, 2,070 cfs Feb. 8 (gage height, 5.92 ft); minimum, 9.2 cfs Sept. 4, 5, 11, 12; minimum daily, 10 cfs Sept. 11.
1943-65: 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, 4.5 cfs Sept. 11, 1951, July 31, Aug. 1, 1955; minimum daily, 7.1 cfs Sept. 26, 1964.

Remarks.--Records good except those for periods of ice effect, which are fair. Some diurnal fluctuation at low flow caused by mills above station.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.3	10	3.0	150
2.5	29	4.0	710
2.7	62		

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	22	16	19	34	b 29	49	53	42	27	24	19	14
2	41	16	19	36	b 29	48	71	42	29	22	25	41
3	35	17	20	42	b 27	47	66	42	84	23	18	16
4	20	16	45	32	b 26	46	54	39	37	21	15	14
5	18	17	50	30	b 25	198	51	39	31	59	26	13
6	17	16	117	30	b 26	112	50	40	28	45	18	12
7	16	16	40	28	375	67	71	40	28	19	17	13
8	15	16	30	50	515	59	59	42	26	19	15	12
9	* 16	16	28	51	104	55	68	40	34	17	17	12
10	16	16	25	67	105	54	57	39	30	16	16	12
11	14	16	25	* 49	94	49	52	37	27	256	13	10
12	14	16	178	42	84	47	51	34	33	* 67	13	11
13	15	16	74	39	* 67	46	46	34	26	36	12	22
14	15	15	43	37	56	46	44	30	23	29	29	19
15	15	15	33	30	54	48	48	30	23	26	17	* 16
16	15	16	28	b 28	53	45	74	31	27	24	14	14
17	63	17	28	b 26	53	* 46	51	41	26	22	13	13
18	36	16	28	b 24	51	62	48	32	25	23	12	12
19	22	17	24	b 23	49	64	69	29	25	24	13	12
20	20	* 24	27	b 23	41	54	58	28	24	19	15	12
21	19	21	26	b 25	46	52	51	27	22	18	12	12
22	17	17	27	29	46	53	49	28	21	17	38	11
23	17	17	26	41	41	52	46	27	20	18	23	11
24	17	17	27	56	41	54	* 46	27	28	18	18	12
25	17	65	30	59	126	58	44	28	* 25	18	15	41
26	17	219	31	76	75	139	53	28	20	16	17	15
27	18	35	198	84	52	84	57	34	20	17	16	13
28	17	26	264	52	51	61	51	47	18	16	14	12
29	17	24	59	42	-	98	48	44	19	15	11	12
30	17	22	46	33	------	72	42	32	24	17	11	12
31	16	------	39	b 30	------	57	------	27	------	22	11	------
TOTAL	634	793	1,654	1,248	2,341	2,022	1,628	1,080	830	983	523	451
MEAN	20.5	26.4	53.4	40.3	83.6	65.2	54.3	34.8	27.7	31.7	16.9	15.0
CFSM	.436	.562	1.14	.857	1.78	1.39	1.16	.740	.589	.675	.360	.319
IN	.50	.63	1.31	.99	1.85	1.60	1.29	.85	.66	.78	.41	.36

CALENDAR YEAR 1964 MAX 934 MIN 7.1 MEAN 51.1 CFSM 1.09 INCHES 14.80
WATER YEAR 1964-65 MAX 515 MIN 10 MEAN 38.9 CFSM .828 INCHES 11.23

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-8	0015	5.92	2,070				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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 1965.

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

Extremes.--Maximum discharge during year, 478 cfs July 11 (gage height, 4.85 ft); minimum, 0.9 cfs Aug. 29, 30, 31, Sept. 1; minimum gage height, 1.36 ft Oct. 10, 11.
1963-65: Maximum discharge, 735 cfs Jan. 9, 1964 (gage height, 5.75 ft, from graph based on gage readings); minimum, that of Aug. 29, 30, 31, Sept. 1, 1965; minimum gage height, 1.36 ft Sept. 6, 7, 8, Oct. 10, 11, 1964.

Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	1.6	3.5	4.8	b 5.0	a 5.6	5.6	a 5.6	4.0	3.1	5.0	12
2	11	3.6	3.8	6.8	b 5.2	a 5.6	13	a 5.4	8.4	2.0	4.1	3.6
3	2.6	1.1	4.0	5.2	b 4.8	a 5.6	7.1	a 5.4	19	1.6	3.6	1.4
4	1.5	1.1	14	4.5	b 4.8	a 5.6	5.6	a 5.4	4.8	1.2	3.4	1.2
5	1.4	1.2	9.5	4.5	b 5.0	a 60	5.4	a 5.1	3.8	42	7.7	1.1
6	1.5	1.4	23	4.5	5.2	a 14	5.4	a 5.4	3.1	8.6	3.2	1.2
7	1.4	1.5	4.2	4.5	102	7.1	14	6.2	2.9	4.5	2.5	1.1
8	1.2	1.4	* 4.0	10	50	* 5.9	6.7	6.4	3.1	4.5	1.6	1.2
9	1.1	1.6	3.8	14	10	5.4	9.7	5.9	4.5	4.5	2.3	1.3
10	* 1.2	1.8	3.8	9.1	11	5.1	6.4	6.2	3.1	4.0	2.6	1.3
11	1.1	1.9	3.5	* 9.8	9.1	5.1	5.9	5.6	3.1	*172	2.2	1.3
12	1.5	1.9	63	8.1	11	5.1	7.1	5.6	4.3	11	2.1	1.6
13	1.5	1.8	8.4	7.4	*a 7.4	4.8	6.2	5.9	2.6	6.4	2.1	4.6
14	1.5	1.8	5.8	6.5	a 6.1	4.8	5.4	5.9	2.6	5.5	4.3	2.2
15	1.5	1.7	4.8	b 6.1	a 6.1	5.1	7.4	6.2	2.7	4.6	1.5	1.9
16	1.6	1.9	4.5	b 5.5	a 5.5	5.1	10	5.9	4.0	4.4	1.6	1.6
17	9.2	2.0	4.5	b 5.2	a 5.0	5.6	5.4	9.7	3.1	4.3	1.6	* 2.8
18	1.7	1.9	4.2	b 4.8	a 4.8	11	5.1	5.4	7.4	4.4	1.6	4.6
19	1.6	2.8	3.8	b 4.8	a 4.5	6.4	18	5.4	4.0	4.6	1.6	1.5
20	1.5	3.0	5.5	b 5.2	a 4.5	6.4	6.7	5.4	3.5	4.1	1.4	1.8
21	1.5	2.0	4.2	5.5	a 4.5	5.4	6.2	5.4	3.5	3.9	1.1	2.5
22	1.5	1.6	4.2	7.1	a 5.0	5.4	5.9	5.1	4.0	3.8	6.6	2.8
23	1.6	1.8	4.2	9.5	a 4.5	5.6	6.2	4.8	5.1	4.1	2.8	2.9
24	1.7	1.9	4.2	40	a 5.5	5.6	a 5.1	5.1	19	3.6	1.4	14
25	1.7	44	4.0	22	a 40	12	a 4.3	5.6	* 3.3	3.6	1.4	4.3
26	1.7	15	7.8	15	a 12	43	a 8.2	5.6	2.0	3.6	3.2	1.9
27	1.8	4.2	98	12	a 7.1	8.2	a 13	13	1.8	4.3	1.6	1.8
28	1.7	3.8	28	b 7.7	a 5.9	5.9	a 7.4	5.1	2.4	4.6	2.2	2.3
29	1.8	3.5	7.7	b 6.5	-	25	a 6.4	11	2.9	3.8	1.3	2.3
30	1.8	3.2	6.5	b 5.8	----------	* 8.2	a 5.6	4.3	4.5	18	.9	2.6
31	1.7	----------	5.5	b 5.5	----------	6.2	----------	4.0	----------	4.8	.9	----------
Total	66.1	118.0	355.9	267.9	351.5	309.8	224.4	187.0	142.5	355.4	79.4	86.7
Mean	2.13	3.93	11.5	8.64	12.6	9.99	7.48	6.03	4.75	11.5	2.56	2.89
Cfsm	0.318	0.587	1.72	1.29	1.88	1.49	1.12	0.900	0.709	1.72	0.382	0.431
In.	0.37	0.65	1.98	1.49	1.95	1.72	1.25	1.04	0.79	1.97	0.44	0.48

Calendar year 1964: Max 224 Min 1.0 Mean 8.72 Cfsm 1.30 In. 17.71
Water year 1964-65: Max 172 Min 0.9 Mean 6.97 Cfsm 1.04 In. 14.13

Peak discharge (base, 350 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-11	0945	4.85	478				

* Discharge measurement made on this day.
a No gage-height record.
b Stage-discharge relation affected by ice.

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

Location.--Lat 39°52'10", long 75°35'35", on left bank 27 ft upstream from Pennsylvania 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 1965. Monthly discharge only for some periods, published in WSP 1302.

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

Average discharge.--45 years, 379 cfs.

Extremes.--Maximum discharge during year, 6,470 cfs Feb. 8 (gage height, 9.77 ft); minimum, 83 cfs Nov. 23, 24, Aug. 31, Sept. 1, 22, 23, 24; minimum gage height, 1.02 ft Nov. 23, 24.
1911-53, 1962-65: 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 AVd study; minimum, 4.9 cfs Oct. 2, 1941 (gage height, 0.28 ft); minimum daily, 48 cfs Sept. 18, 1932.

Remarks.--Records good except those for periods of ice effect, which are fair. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1965 are published in Part 2 of this report.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.0	77	3.0	928
1.2	140	5.0	1,960
1.5	254	8.0	4,100
2.0	468		

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a110	95	117	234	190	324	371	266	180	124	104	99
2	a160	95	110	230	*180	303	420	270	184	114	280	383
3	a140	95	114	279	160	299	446	270	537	114	151	165
4	a130	95	195	226	170	295	380	254	*264	147	114	120
5	a110	98	341	222	180	794	358	246	203	415	210	107
6	a100	98	625	214	187	890	358	262	184	319	154	101
7	*95	92	316	195	475	486	460	266	176	147	124	98
8	92	89	187	258	3,810	406	446	270	172	133	114	92
9	89	89	176	312	904	371	423	254	191	120	120	92
10	89	89	151	420	832	350	376	250	180	120	124	92
11	89	*89	117	316	825	329	350	238	180	1,330	114	92
12	89	92	507	274	580	320	337	230	165	609	104	92
13	89	92	590	258	513	312	320	234	154	226	98	151
14	89	89	291	242	424	312	320	214	151	176	183	158
15	89	86	*230	170	384	320	318	246	154	*154	130	124
16	89	89	180	170	376	312	490	214	165	144	117	110
17	348	89	176	200	363	308	384	274	162	133	101	101
18	295	89	176	210	346	*354	337	242	162	140	98	98
19	162	92	140	190	337	393	386	214	165	172	101	98
20	133	124	162	190	283	367	367	199	162	144	98	95
21	114	140	158	180	303	333	320	184	144	120	92	95
22	104	107	158	180	312	312	316	184	140	117	162	89
23	104	86	154	240	258	324	308	187	137	117	*184	86
24	101	86	158	287	274	350	312	191	151	120	162	117
25	101	176	176	258	611	354	295	195	151	117	120	278
26	101	1,020	210	287	646	541	337	191	130	114	117	124
27	101	283	562	312	354	589	358	195	124	104	124	101
28	98	172	1,320	279	333	402	*320	258	124	101	107	92
29	98	147	468	*240	-	546	295	246	124	101	95	92
30	98	144	320	190	------	584	274	226	127	104	86	92
31	98	------	274	180	------	415	------	187	------	110	86	-------
Total	3,705	4,227	8,859	7,443	14,610	12,595	10,782	7,157	5,243	6,206	3,974	3,634
Mean	120	141	286	240	522	406	359	231	175	200	128	121
Cfsm	0.418	0.491	0.997	0.836	1.82	1.41	1.25	0.805	0.610	0.697	0.446	0.422
In.	0.48	0.55	1.15	0.96	1.89	1.63	1.40	0.93	0.68	0.80	0.51	0.47

Calendar year 1964: Max 3,250 Min 58 Mean 328 Cfsm 1.14 In. 15.53
Water year 1964-65: Max 3,810 Min 86 Mean 242 Cfsm 0.843 In. 11.45

Peak discharge (base, 3,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-08	0815	9.77	6,470				

* Discharge measurement made on this day.
a No gage-height record.
Note.--Stage-discharge relation affected by ice Jan. 15-23, Jan. 29 to Feb. 5.

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 1965. Prior to December 1946, monthly discharge only, published in WSP 1302.

Gage.--Water-stage recorder (digital) and concrete control. Datum of gage is 68.23 ft above mean sea level, datum of 1929.

Average discharge.--19 years, 444 cfs.

Extremes.--Maximum discharge during year, 8,740 cfs Feb. 8 (gage height, 8.79 ft); minimum, 80 cfs Aug. 31; minimum daily, 83 cfs Aug. 31.
1946-65: 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 except those for periods of ice effect, which are fair. 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.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.5	78	5.0	2,100
2.7	122	6.0	3,450
3.0	231	7.0	5,100
3.5	595	8.0	7,000
4.0	1,030		

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	136	104	126	262	b 200	377	454	318	191	117	109	93
2	169	105	119	258	b 200	353	509	322	191	108	245	332
3	318	107	125	318	b 190	344	545	323	550	105	176	182
4	145	108	193	254	b 180	340	468	305	311	131	120	118
5	122	108	385	251	b 170	875	423	294	213	414	196	104
6	112	106	663	243	b 200	1,220	405	315	183	404	170	100
7	105	105	395	223	968	606	509	310	173	154	128	97
8	98	106	227	287	5,910	493	552	332	165	136	113	93
9	* 98	107	198	416	1,140	448	517	314	167	127	115	91
10	101	106	173	495	797	415	458	300	173	120	121	91
11	97	106	162	399	940	384	410	278	162	1,760	108	90
12	100	107	527	327	697	359	398	256	162	959	100	89
13	98	106	735	307	610	349	363	248	145	275	95	131
14	99	106	356	290	520	349	339	236	136	194	166	157
15	100	102	255	204	469	361	354	234	136	165	129	126
16	99	104	203	199	447	349	562	229	149	151	107	110
17	294	105	193	b 175	430	334	471	291	153	137	97	101
18	319	104	196	b 170	411	408	391	261	153	138	93	96
19	172	108	163	b 165	395	459	464	225	153	169	94	95
20	138	133	178	b 160	318	436	452	213	151	149	93	95
21	120	156	176	b 180	358	383	385	198	137	122	87	94
22	115	126	173	b 210	365	387	364	198	131	116	141	90
23	111	110	172	288	292	379	347	198	124	116	170	88
24	108	106	174	367	304	408	359	200	141	118	159	93
25	110	163	193	352	608	422	343	207	* 138	119	118	272
26	110	1,190	225	388	845	651	390	204	124	114	* 110	131
27	111	339	846	450	426	733	447	215	116	106	117	105
28	107	195	1,730	350	401	506	389	292	113	* 103	107	* 94
29	108	160	568	311	-	612	358	269	114	100	94	92
30	* 110	* 143	376	b 205	------	* 725	340	263	118	183	85	92
31	105	------	314	b 200	------	514	------	205	------	117	83	------
TOTAL	4,135	4,831	10,519	8,704	18,791	14,979	12,766	8,053	5,093	7,227	3,846	3,542
MEAN	133	161	339	281	671	483	426	260	170	233	124	118
CFSM	.424	.513	1.08	.895	2.14	1.54	1.36	.828	.541	.742	.395	.376
IN	.49	.57	1.25	1.03	2.23	1.77	1.51	.95	.60	.86	.46	.42

CALENDAR YEAR 1964 MAX 4,750 MIN 67 MEAN 398 CFSM 1.27 INCHES 17.25
WATER YEAR 1964-65 MAX 5,910 MIN 83 MEAN 281 CFSM .895 INCHES 12.14

Peak discharge (base, 4,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-8	1300	8.79	8,740				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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, and 5.6 miles northwest of Smyrna.

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 1965.

Gage.--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.

Average discharge.--9 years (1956-65), 4.61 cfs.

Extremes.--Maximum discharge during year, 30 cfs Mar. 5 (gage height, 1.10 ft); minimum, no flow part of each day Sept. 9-12.
1951-65: Maximum discharge, 510 cfs Sept. 12, 1960 (gage height, 4.10 ft).
1956-65: No flow part of each day Sept. 12, 13, 26, 27, 1964, Sept. 9-12, 1965.

Remarks.--Records good except those for period of ice effect, which are fair.

Rating table, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0	0	0.5	5.2
.1	0.2	.6	7.8
.2	.6	.7	11
.3	1.6	.8	15
.4	3.1	1.0	24

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.8	1.5	* 0.8	1.8	2.2	2.8	4.6	2.6	1.4	0.5	0.3	0.2
2	3.7	1.6	.8	1.9	2.4	2.8	5.5	2.6	1.2	.4	.5	.2
3	4.6	1.6	1.0	2.0	1.8	2.8	5.2	2.5	3.5	.4	.3	.2
4	1.4	1.8	2.2	1.6	1.8	2.8	4.4	2.4	1.9	.4	.2	.2
5	1.0	1.8	2.0	1.5	1.8	17	4.2	2.4	1.4	.5	1.0	.1
6	.8	1.8	7.3	1.5	2.2	17	3.9	2.4	1.1	.5	.5	.1
7	.7	1.8	2.8	1.4	3.7	6.0	5.0	2.5	.9	.4	.3	.1
8	.7	1.8	1.6	3.7	15	4.8	4.6	2.8	.8	.4	.2	.1
9	.7	1.8	1.4	3.5	7.0	4.4	5.5	2.6	.9	.3	* .3	.1
10	.7	1.9	1.1	6.5	4.4	4.4	4.6	2.4	.9	.3	1.2	.1
11	.6	1.9	1.1	4.8	3.9	3.9	4.2	1.9	.8	1.0	.4	0
12	.6	1.9	9.8	3.7	5.5	3.7	4.2	1.6	.8	1.1	.2	.1
13	.6	2.0	6.2	* 3.1	4.4	3.5	3.9	1.5	.7	.8	.2	1.1
14	* .6	2.0	2.5	2.8	3.3	3.5	3.5	1.2	.6	.6	.2	* .7
15	.6	1.9	1.8	2.0	3.3	3.5	3.9	1.2	.8	.5	.2	.3
16	.7	2.0	1.4	b 2.0	3.3	3.3	5.0	1.5	1.0	.5	.2	.2
17	2.2	2.2	1.4	b 1.8	3.5	* 3.3	3.7	6.0	1.0	.4	.2	.2
18	2.4	2.0	1.4	b 1.8	3.1	6.8	3.5	2.4	1.0	.5	.1	.2
19	1.2	2.5	1.0	b 1.6	3.0	6.2	4.8	1.8	1.1	.8	.2	.1
20	1.1	2.8	1.8	b 1.8	2.5	4.4	4.8	1.5	1.5	.4	.2	.1
21	1.1	2.0	2.4	b 1.9	2.6	4.4	3.9	1.5	.8	.3	.1	.2
22	1.1	1.5	2.0	b 2.2	2.8	5.0	3.7	1.5	.7	.3	.5	.2
23	1.0	1.4	2.0	b 3.5	2.5	5.2	3.5	1.4	.6	.3	.5	.2
24	1.0	1.4	2.2	16	2.5	4.4	3.5	1.4	.6	.3	.3	.1
25	1.1	2.4	1.9	12	6.8	6.2	3.5	1.5	* .7	.3	.3	.3
26	1.1	7.3	1.8	6.5	4.8	15	4.4	1.4	.5	.2	.4	.2
27	1.1	2.6	3.3	5.2	3.0	12	4.4	2.0	.5	.2	.5	.2
28	1.2	1.4	13	3.3	3.0	5.7	4.2	6.5	.5	.2	.3	.2
29	1.4	1.1	4.6	3.0	-	10	3.5	5.0	.4	.2	.4	.2
30	1.5	1.0	2.5	2.4	---	8.8	* 2.8	2.6	.5	.2	.2	.2
31	1.5	---	2.0	2.4	---	5.0	---	1.6	---	.2	.2	---
Total	44.8	60.7	87.1	109.2	106.1	188.6	126.4	72.2	29.1	13.4	10.6	6.4
Mean	1.45	2.02	2.81	3.52	3.79	6.08	4.21	2.33	0.97	0.43	0.34	0.21
Cfsm	0.377	0.525	0.730	0.914	0.984	1.58	1.09	0.605	0.252	0.112	0.089	0.055
In.	0.43	0.59	0.84	1.05	1.02	1.82	1.22	0.70	0.28	0.13	0.10	0.06

Calendar year 1964: Max 29 Min 0.1 Mean 4.13 Cfsm 1.07 In. 14.59
Water year 1964-65: Max 17 Min '0 Mean 2.34 Cfsm 0.608 In. 8.24

Peak discharge (base, 50 cfs).--No peak above base.

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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 1965.

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

Average discharge.--7 years, 32.1 cfs.

Extremes.--Maximum discharge during year, 107 cfs Mar. 6 (gage height, 3.48 ft); minimum, 0.3 cfs Aug. 13, 14, 15, 16, 17, 18, Sept. 21, 22, 23, 24; minimum daily, 0.3 cfs Aug. 16, 17, Sept. 22, 23.
1958-65: 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 except those for period of no gage-height record, which are fair. Flow affected by Silver Lake.

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	6.9	11	10	20	20	*46	21	6.5	2.2	0.7	1.8
2	2.3	4.7	11	10	20	18	44	20	6.5	.9	1.4	2.9
3	2.9	4.4	11	10	20	18	40	18	13	1.1	1.2	*a 1.8
4	30	4.4	11	10	18	18	38	18	12	1.6	.7	a 1.8
5	16	5.3	11	10	16	34	32	15	9.5	1.6	6.1	a 1.4
6	9.6	5.3	11	10	*15	78	29	10	7.6	3.2	4.6	a 2.2
7	6.2	2.8	11	10	23	93	31	10	6.5	1.6	3.2	a 30
8	4.7	5.3	11	10	48	57	36	14	5.8	2.0	1.6	a 56
9	4.7	9.6	11	10	72	38	45	15	5.1	1.4	.8	a 56
10	5.0	15	11	11	56	32	51	15	5.4	2.0	.8	a 54
11	3.0	14	11	11	41	27	44	15	4.8	5.8	.8	a 52
12	2.6	14	13	30	37	25	40	12	4.3	7.2	.6	a 50
13	3.7	14	12	27	33	23	33	12	4.8	6.5	.5	a 48
14	3.7	14	12	22	29	22	25	*8.3	*1.6	5.8	.5	46
15	3.5	14	12	16	27	23	25	7.9	1.4	4.6	.5	37
16	3.2	14	12	14	26	22	30	8.3	4.3	4.0	.3	40
17	9.6	12	12	11	25	22	27	11	4.6	4.0	.3	35
18	10	12	11	12	26	31	26	9.5	5.4	4.0	.4	29
19	9.6	13	11	12	26	42	26	7.9	6.1	4.6	.8	20
20	8.0	13	12	12	20	45	26	7.6	6.1	2.6	1.1	8.9
21	6.2	12	12	12	19	37	26	7.2	4.6	1.3	.8	.5
22	5.6	12	12	13	22	32	26	7.6	4.0	.9	2.4	.3
23	*4.7	11	12	16	18	34	25	7.2	3.4	.8	2.4	.3
24	4.2	11	12	48	18	36	22	6.1	3.4	1.3	1.8	2.4
25	4.7	13	12	91	22	36	21	7.2	3.7	1.8	1.2	2.4
26	5.0	11	12	85	26	51	23	7.2	2.4	1.6	11	1.0
27	5.0	11	14	56	24	78	26	6.8	1.8	.9	9.3	3.6
28	5.0	11	12	41	21	68	29	6.8	1.4	1.0	7.3	19
29	5.3	11	12	32	-	60	29	11	2.0	.8	3.6	26
30	4.7	11	11	26	---	67	26	9.0	1.6	.7	2.0	14
31	2.8	---	10	22	---	65	---	7.6	---	.8	1.1	---
Total	191.9	311.7	359	710	768	1,252	947	339.2	149.6	78.6	69.8	643.3
Mean	6.19	10.4	11.6	22.9	27.4	40.4	31.6	10.9	4.99	2.54	2.25	21.4
Cfsm	0.194	0.326	0.364	0.718	0.859	1.27	0.991	0.342	0.156	0.080	0.071	0.671
In.	0.22	0.36	0.42	0.83	0.90	1.46	1.10	0.40	0.17	0.09	0.08	0.75

Calendar year 1964: Max 420 Min 0.4 Mean 32.3 Cfsm 1.01 In. 13.79
Water year 1964-65: Max 93 Min 0.3 Mean 15.9 Cfsm 0.498 In. 6.78

* Discharge measurement made on this day.
a No gage-height record.

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 and 2.2 miles south of Felton, Kent County.

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 1965.

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.--7 years, 16.2 cfs.

Extremes.--Maximum discharge during year, 64 cfs Mar. 5 (gage height, 3.89 ft); minimum, 1.5 cfs Sept. 29, 30.
1931-33, 1951-65: Maximum discharge, 805 cfs Sept. 12, 1960 (gage height, 6.87 ft).
1931-33, 1960-65: Minimum discharge, 1.3 cfs several times in September and October 1932, and Sept. 5, 6, 1964.

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

Rating tables, (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 11 to June 2, June 4 to Sept. 24)

Oct. 1 to Nov. 25		Nov. 26 to Sept. 30			
1.9	2.7	1.9	1.0	2.5	12
2.0	4.0	2.0	2.0	3.0	25
2.2	7.4	2.2	5.0	3.5	42
2.5	14				

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.6	6.5	5.2	7.0	12	12	20	12	5.2	3.8	a 5.6	a 3.7
2	10	7.6	* 4.8	7.2	13	12	24	11	5.2	3.6	a 4.0	a 4.0
3	7.0	8.3	5.8	7.0	11	12	24	11	8.8	3.5	a 3.6	a 3.6
4	5.3	8.1	6.8	* 6.8	10	11	19	10	6.6	3.3	a 3.5	a 3.5
5	5.6	8.3	6.2	6.8	9.8	39	18	9.2	5.2	3.6	a 3.8	a 3.4
6	4.8	8.3	12	6.8	* 11	40	16	9.5	4.8	4.8	a 3.5	a 3.3
7	* 4.0	7.8	7.2	6.2	14	24	23	9.2	4.8	4.0	a 3.3	a 3.3
8	4.0	7.0	6.4	15	30	20	22	9.5	4.7	3.8	a 3.2	a 3.2
9	4.0	7.4	6.2	13	19	18	* 35	9.0	4.8	3.6	a 3.1	a 3.0
10	3.7	8.1	5.8	16	17	16	29	8.8	4.8	3.3	a 3.2	a 2.8
11	3.5	8.1	5.6	16	16	15	22	8.0	4.5	6.8	a 3.1	a 2.6
12	4.0	8.5	12	14	18	14	20	7.4	4.3	5.2	a 3.0	a 2.6
13	4.3	8.5	11	14	16	13	18	7.0	4.2	4.7	a 2.9	a 2.6
14	3.9	8.1	8.2	13	14	13	16	6.8	4.2	4.5	a 3.1	a 3.0
15	4.2	7.2	7.2	11	14	* 13	16	6.4	4.7	12	a 3.0	a 2.9
16	6.3	7.9	6.6	10	15	12	18	6.2	* 6.2	8.5	a 2.9	a 3.5
17	13	8.5	6.4	10	15	13	16	7.2	5.6	4.3	a 2.8	a 20
18	11	7.9	6.6	10	14	27	14	6.6	5.2	4.3	a 2.8	a 15
19	7.0	9.0	5.8	10	14	23	15	6.2	4.8	* 5.2	a 2.7	a 9.0
20	6.9	11	8.8	9.8	12	19	15	6.0	4.7	4.3	a 2.7	a 6.0
21	6.5	9.0	8.8	9.8	12	18	14	6.0	4.3	4.2	2.8	a 4.5
22	6.5	7.4	7.8	10	13	18	13	5.6	4.2	4.0	4.8	* 3.0
23	6.5	7.4	7.2	14	12	21	13	5.4	4.2	3.8	4.3	3.0
24	6.5	7.4	7.2	40	11	18	12	5.6	4.2	3.6	3.8	5.5
25	6.5	11	7.0	33	16	17	12	5.8	4.2	3.3	3.8	7.6
26	6.7	17	7.6	21	15	33	13	5.2	3.8	4.8	12	2.0
27	7.0	8.0	11	18	13	31	15	5.2	3.3	4.2	5.6	1.9
28	6.9	6.0	19	16	12	21	* 18	5.6	3.6	a 3.8	4.0	1.8
29	7.8	6.4	11	15	-	33	15	8.4	3.6	a 3.5	3.8	1.7
30	7.8	5.6	8.4	14	---------	37	14	6.0	4.2	a 3.3	3.8	1.7
31	6.9	----------	7.8	13	---------	25	----------	5.2	----------	a 3.2	a 3.8	----------
Total	195.7	247.3	247.4	413.4	398.8	638	539	231.0	142.9	138.8	118.3	133.7
Mean	6.31	8.24	7.98	13.3	14.2	20.6	18.0	7.45	4.76	4.48	3.82	4.46
Cfsm	0.464	0.606	0.587	0.978	1.04	1.51	1.32	0.548	0.350	0.329	0.281	0.328
In.	0.54	0.68	0.68	1.13	1.09	1.74	1.47	0.63	0.39	0.38	0.32	0.37

Calendar year 1964: Max 207 Min 1.4 Mean 16.3 Cfsm 1.20 In. 16.37
Water year 1964-65: Max 40 Min 1.7 Mean 9.44 Cfsm 0.694 In. 9.42

Peak discharge (base, 130 cfs).--No peak above base.

* Discharge measurement made on this day.
a No gage-height record.

1-4841. Beaverdam Branch at Houston, Del.

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

Drainage area.--2.83 sq mi.

Records available.--May 1958 to September 1965.

Gage.--Water-stage recorder and timber control. Datum of gage is 35.67 ft above mean sea level, datum of 1929, supplementary adjustment of 1956.

Average discharge.--7 years, 3.73 cfs.

Extremes.--Maximum discharge during year, 16 cfs Aug. 26 (gage height, 2.76 ft); minimum daily, 0.4 cfs Aug. 20, 21.

1958-65: Maximum discharge, 176 cfs Sept. 12, 1960 (gage height, 5.55 ft); minimum daily, that of Aug. 20, 21, 1965.

Remarks.--Records fair.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.05	0.4	2.3	3.1
2.1	.7	2.4	5.3
2.2	1.7	2.5	8.2

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	0.6	0.7	1.4	2.7	2.7	4.0	3.1	1.8	1.1	1.1	1.0
2	*1.0	.6	*.7	1.4	2.7	2.7	4.6	3.1	1.8	1.1	1.2	1.1
3	.8	.6	.6	1.4	2.7	2.7	4.4	3.1	2.3	1.1	.8	.9
4	.9	.6	.6	*1.4	2.7	2.5	4.2	3.1	2.1	1.1	.7	.9
5	.8	.7	.7	1.4	2.5	5.6	4.0	3.0	1.8	1.1	.8	.9
6	.7	.7	.9	1.4	*2.5	3.8	4.0	3.0	1.7	1.1	.7	.7
7	.7	.6	.7	1.4	2.8	3.3	4.4	2.8	1.7	1.1	.7	.7
8	.7	.6	.7	2.0	4.4	3.1	4.2	2.8	1.7	1.0	.7	.7
9	.7	.6	.7	1.8	3.0	3.1	*6.2	2.8	1.7	1.0	.6	.7
10	.7	.6	.6	2.5	3.0	3.1	4.6	2.8	1.7	1.0	.6	.6
11	.6	.6	.6	2.4	3.0	3.0	4.4	2.7	1.6	1.2	.6	.6
12	.6	.6	1.0	2.0	3.0	2.8	4.2	2.7	1.7	1.1	.6	.7
13	.6	.6	1.0	2.0	3.0	3.0	4.0	2.5	1.7	1.1	.6	1.1
14	.6	.6	.8	2.0	3.0	3.0	3.8	2.4	1.6	1.1	.6	1.4
15	.7	.6	.8	2.0	3.0	2.8	3.8	2.4	1.6	1.0	.5	1.0
16	.7	.7	.8	2.0	3.0	2.8	4.0	2.4	*1.7	.9	.6	.9
17	1.2	.7	.8	2.0	3.0	3.0	3.8	2.4	1.7	.9	.5	.9
18	1.3	.6	.8	2.0	3.0	4.2	3.8	2.4	1.7	.9	.5	.9
19	.7	.7	.8	1.8	3.0	3.8	3.5	2.4	1.7	*1.1	.5	.8
20	.7	.8	.9	1.8	2.8	3.3	3.8	2.4	1.6	.9	.4	.8
21	.7	.7	1.0	1.8	2.8	3.3	3.5	2.3	1.5	.8	.4	*.8
22	.7	.7	1.0	1.8	2.8	3.3	3.5	2.3	1.4	.8	.7	.9
23	.6	.7	.9	2.1	2.8	*3.8	3.3	2.3	1.3	.8	.7	.9
24	.6	.6	.9	6.5	2.8	3.5	3.1	2.1	1.3	.8	.7	1.0
25	.6	.8	.9	3.8	3.1	3.3	3.1	2.1	1.3	.7	.6	1.0
26	.6	1.1	.9	3.1	3.0	5.3	3.1	2.0	1.2	.9	5.5	.8
27	.6	.7	1.4	3.0	2.7	4.0	3.1	1.8	1.2	.8	1.5	.8
28	.6	.7	2.5	2.8	2.7	3.8	*3.3	1.8	1.2	.7	1.3	.8
29	.6	.7	1.5	2.8	-	4.9	3.3	2.8	1.2	.7	1.2	.7
30	.6	.6	1.5	2.8	---	4.6	3.1	2.3	1.2	.7	1.1	.7
31	.6	---	1.4	2.8	---	4.2	---	2.0	---	.7	1.0	---
Total	22.6	20.0	29.1	69.4	81.5	108.3	116.1	78.1	47.7	29.3	28.0	25.7
Mean	0.73	0.67	0.94	2.24	2.91	3.49	3.87	2.52	1.59	0.95	0.90	0.86
Cfsm	0.258	0.237	0.332	0.792	1.03	1.23	1.37	0.890	0.562	0.336	0.318	0.304
In.	0.30	0.26	0.38	0.91	1.07	1.42	1.53	1.03	0.63	0.39	0.37	0.34

Calendar year 1964: Max 30 Min 0.5 Mean 3.11 Cfsm 1.10 In. 14.98
Water year 1964-65: Max 6.5 Min 0.4 Mean 1.80 Cfsm 0.636 In. 8.63

Peak discharge (base, 30 cfs).--No peak above base.

* Discharge measurement made on this day.

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, and 2½ miles north of Milton, Sussex County.

Drainage area.--7.08 sq mi.

Records available.--October 1956 to September 1965.

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

Average discharge.--9 years, 10.4 cfs.

Extremes.--Maximum discharge during year, 17 cfs Jan. 15 (gage height, 4.79 ft); maximum gage height, 4.82 ft Jan. 15 (backwater from ice); minimum, 2.8 cfs Dec. 21-26, result of regulation.
1956-65: Maximum discharge, 80 cfs Aug. 25, 1958 (gage height, 5.86 ft); minimum, 1.3 cfs Oct. 3, 4, 5, 6, 1957 (gage height, 3.79 ft).

Remarks.--Records good except those for periods of doubtful or no gage-height record, which are poor. Flow regulated by Reynolds Pond.

Rating table, (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 27 to May 3, May 5)

3.9	2.3	4.5	12
4.1	4.9	4.7	16
4.3	8.5		

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.8	4.3	3.5	5.3	a 8.1	8.0	11	7.4	5.8	4.2	5.6	4.6
2	4.9	4.3	* 3.4	5.3	a 8.1	8.0	12	7.2	5.6	4.1	a 11	4.6
3	4.6	4.3	4.1	5.1	a 7.6	8.0	11	6.7	8.0	3.9	a 13	4.5
4	4.9	4.3	3.9	4.8	a 7.4	7.8	11	5.1	7.4	4.1	a 12	4.5
5	* 5.3	4.3	3.9	4.8	a 6.9	9.6	10	6.9	7.1	4.1	11	4.3
6	4.9	4.2	4.1	* 4.8	a 7.2	9.9	9.9	3.9	6.3	4.2	9.6	4.3
7	4.8	4.2	3.8	4.6	a 8.5	9.4	10	3.8	5.8	4.2	8.1	4.3
8	4.6	4.2	3.8	6.0	a 11	8.7	10	7.2	5.6	4.3	7.2	4.2
9	4.6	4.3	3.8	5.4	a 11	8.1	12	12	5.4	4.1	6.5	4.2
10	4.5	4.3	3.6	7.2	a 10	8.1	12	9.9	5.4	3.9	6.2	4.2
11	4.3	4.3	3.6	8.3	a 10	8.0	11	8.7	5.1	4.9	5.6	4.1
12	4.3	4.2	4.5	10	a 9.4	7.8	10	7.6	5.1	5.6	5.4	4.2
13	4.3	4.2	4.1	9.6	a 9.0	7.6	9.6	7.1	6.0	5.3	5.3	4.9
14	4.2	4.1	4.8	9.0	a 8.7	7.6	8.9	6.5	6.0	4.9	5.1	5.3
15	4.2	4.1	7.2	a 10	a 8.5	8.0	9.0	3.9	6.2	* 4.6	5.1	4.9
16	4.5	4.1	8.9	a 13	a 8.3	7.8	9.4	3.8	7.2	4.6	5.1	4.6
17	5.6	3.9	8.7	a 15	a 8.3	* 8.5	9.2	4.2	* 6.9	4.5	5.1	4.9
18	5.3	3.8	6.9	a 13	* 8.3	10	8.9	4.1	6.5	4.5	5.1	4.6
19	4.6	4.5	5.1	a 11	8.3	10	9.2	4.2	6.3	4.8	5.1	4.3
20	4.5	4.3	4.8	a 10	8.0	10	9.2	4.3	5.8	4.6	4.9	4.2
21	4.5	3.8	2.9	a 8.1	8.0	9.9	9.0	3.9	5.4	4.5	4.8	4.1
22	4.3	3.6	2.8	8.1	8.0	9.6	8.7	4.2	5.1	4.3	6.7	* 3.8
23	4.2	3.6	2.8	7.6	7.8	9.6	8.5	4.9	4.8	4.2	6.3	3.8
24	4.2	3.6	2.8	7.8	7.8	9.4	a 8.1	6.7	4.8	4.1	6.2	3.8
25	4.2	4.6	2.8	5.1	8.7	9.6	a 8.1	6.0	4.6	4.3	5.8	3.8
26	4.2	4.8	3.1	5.6	8.5	12	a 8.1	5.4	4.5	5.4	7.6	3.6
27	4.2	3.6	3.8	9.4	8.1	11	a 8.3	5.1	4.3	5.4	7.2	3.6
28	4.2	3.6	5.1	9.0	8.0	11	*a 8.5	4.8	4.2	5.3	6.7	3.5
29	4.2	3.9	5.8	9.0	-	11	8.5	5.8	4.1	4.9	5.6	3.5
30	4.2	3.8	5.8	a 8.7	---------	11	8.0	6.2	4.2	4.8	5.3	3.5
31	4.3	----------	5.6	a 8.5	---------	11	----------	6.0	----------	4.6	4.8	----------
Total	140.4	123.1	139.8	249.1	237.5	286.0	287.1	183.5	169.5	141.2	209.0	126.7
Mean	4.53	4.10	4.51	8.04	8.48	9.23	9.57	5.92	5.65	4.55	6.74	4.22
Cfsm	0.640	0.579	0.637	1.14	1.20	1.30	1.35	0.836	0.798	0.643	0.952	0.596
In.	0.74	0.65	0.73	1.31	1.25	1.50	1.51	0.96	0.89	0.74	1.10	0.67

Calendar year 1964:	Max	24	Min	2.8	Mean	8.65	Cfsm	1.22	In.	16.63
Water year 1964-65:	Max	15	Min	2.8	Mean	6.28	Cfsm	0.887	In.	12.05

* Discharge measurement made on this day.
a No gage-height record.

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 1965.

Gage.--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.

Average discharge.--22 years, 7.22 cfs.

Extremes.--Maximum discharge during year, 38 cfs July 26 (gage height, 2.79 ft); minimum, 1.7 cfs July 21, 22, 25.

1943-65: 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 except those for period of no gage-height record, which are poor.

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

1.8	1.1
1.9	2.6
2.0	5.2
2.5	22

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.8	2.2	2.2	2.8	6.7	5.5	7.6	5.8	2.8	2.2	4.8	2.4
2	3.3	2.2	* 2.2	2.8	6.7	5.5	8.2	5.8	a 2.6	2.0	10	2.6
3	2.6	2.4	2.6	2.8	6.4	5.2	7.9	5.5	a 3.0	2.0	3.8	2.4
4	2.6	2.4	2.8	2.6	5.8	5.2	7.6	5.2	a 3.5	2.0	3.3	2.4
5	* 2.8	2.4	2.8	2.6	5.8	12	7.3	4.8	a 3.0	2.0	3.0	2.4
6	2.6	2.4	3.8	* 2.6	5.8	8.9	7.3	4.8	a 2.6	2.0	3.0	2.4
7	2.4	2.4	2.8	2.6	6.4	7.6	7.6	4.8	a 2.6	1.9	3.0	2.4
8	2.4	2.4	2.6	3.5	9.8	7.3	7.6	4.8	a 3.0	1.9	2.8	2.2
9	2.4	2.4	2.6	3.3	7.6	7.0	13	4.6	a 3.0	1.9	2.8	2.2
10	2.2	2.4	2.6	5.2	7.3	7.0	10	4.6	a 2.6	1.9	2.6	2.2
11	2.2	2.4	2.6	4.8	7.3	6.7	9.2	4.2	a 2.4	2.6	2.4	2.2
12	2.2	2.4	2.8	4.0	7.0	6.4	8.5	4.0	a 2.4	3.0	2.4	2.2
13	2.2	2.4	2.8	4.0	7.0	6.4	7.9	4.0	a 2.4	2.2	2.4	2.6
14	2.2	2.2	2.8	3.8	6.4	6.1	7.3	3.8	a 2.4	2.2	2.4	2.6
15	2.2	2.2	2.6	3.8	6.4	6.1	7.0	3.8	a 2.4	* 2.2	2.2	2.4
16	2.4	2.2	2.6	3.8	6.4	6.1	7.6	3.5	a 2.2	2.0	2.2	2.2
17	3.5	2.4	2.6	3.8	6.7	* 7.0	7.3	3.5	a 2.4	1.9	2.2	2.4
18	3.5	2.4	2.6	3.8	* 6.7	11	7.0	3.5	a 2.4	1.9	2.2	2.2
19	2.4	2.8	2.6	3.8	6.7	8.2	7.0	3.3	a 2.4	2.0	2.2	2.2
20	2.4	2.6	3.0	3.8	6.4	7.9	7.0	3.3	a 2.2	1.9	2.2	2.0
21	2.4	2.4	3.0	3.8	6.4	7.6	6.7	3.3	a 2.4	1.9	2.0	2.0
22	2.4	2.2	3.0	3.8	6.4	7.3	6.4	3.3	a 2.4	1.9	7.9	* 2.0
23	2.4	2.2	2.8	4.2	5.8	7.3	6.1	3.3	* 2.4	1.9	3.8	2.0
24	2.4	2.2	2.8	14	5.8	7.3	6.1	3.3	2.2	1.9	3.0	2.0
25	2.4	2.8	2.8	9.8	6.7	7.3	6.1	3.3	2.4	1.9	2.8	2.2
26	2.4	3.3	2.8	7.9	6.4	11	6.1	3.0	2.2	13	6.1	2.0
27	2.4	2.4	2.8	7.9	5.5	9.2	6.4	3.0	2.2	3.5	3.5	2.0
28	2.2	2.4	3.3	7.3	5.5	8.2	* 6.4	2.8	2.2	3.0	2.8	2.2
29	2.2	2.4	2.8	7.3	-	8.2	6.1	3.0	2.2	2.8	2.6	2.2
30	2.2	2.2	2.8	7.0	---	8.2	6.1	3.0	2.2	2.8	2.6	2.2
31	2.2	---	2.8	7.0	---	7.9	---	2.8	---	2.6	2.6	---
Total	77.9	72.1	85.7	150.2	183.8	232.6	222.4	121.7	75.1	78.9	101.6	67.4
Mean	2.51	2.40	2.76	4.85	6.56	7.50	7.41	3.93	2.50	2.55	3.28	2.25
Cfsm	0.479	0.458	0.527	0.926	1.25	1.43	1.41	0.750	0.477	0.487	0.626	0.429
In.	0.55	0.51	0.61	1.07	1.30	1.65	1.58	0.86	0.53	0.56	0.72	0.48

Calendar year 1964: Max 49 Min 1.2 Mean 6.70 Cfsm 1.28 In. 17.40
Water year 1964-65: Max 14 Min 1.9 Mean 4.03 Cfsm 0.769 In. 10.42

Peak discharge (base, 45 cfs).--No peak above base.

* Discharge measurement made on this day.
a No gage-height record.

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 U. S. Highway 50, at Wicomico-Worcester County line, 0.6 mile upstream from Burnt Mill Branch, 1.3 miles east of Willards, Wicomico County, and 1.3 miles west of Whaleysville.

Drainage area.--60.5 sq mi.

Records available.--December 1949 to September 1965.

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

Average discharge.--15 years, (1950-65), 68.1 cfs.

Extremes.--Maximum discharge during year, 503 cfs Aug. 2 (gage height, 9.53 ft); minimum, 9.7 cfs July 10.
1949-65: 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.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 1, 5-7, Apr. 14 to July 10, July 14, 18, 19)

2.8	9.5	4.5	73
3.0	14	5.0	110
3.5	26	7.0	270
4.0	41	10.0	550

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	12	18	26	40	36	64	48	15	12	32	29
2	19	12	17	26	39	33	74	42	16	12	*474	28
3	17	12	*17	26	36	32	82	37	24	12	407	25
4	15	12	18	24	35	30	73	35	22	11	248	23
5	16	12	19	24	34	61	64	33	20	11	142	22
6	*16	12	29	*23	34	105	60	32	18	12	92	20
7	16	12	30	22	36	87	70	30	17	11	59	19
8	14	12	27	26	108	69	82	30	16	11	41	18
9	14	12	26	30	105	56	114	30	15	10	33	16
10	13	12	24	36	91	48	107	29	15	10	32	16
11	12	12	23	75	88	42	92	28	14	100	29	14
12	12	12	23	59	79	38	82	26	17	250	26	14
13	12	12	24	48	69	36	71	25	16	162	23	14
14	12	11	24	42	58	34	59	24	14	*71	21	15
15	11	11	22	36	58	33	57	24	13	39	20	14
16	12	11	22	36	55	32	63	23	18	31	18	15
17	14	11	21	32	63	32	59	22	22	38	17	104
18	19	11	21	32	69	114	54	22	23	96	16	75
19	19	13	20	33	65	112	52	21	22	65	15	35
20	18	14	21	32	*53	97	52	20	20	44	16	25
21	17	14	23	33	49	94	47	20	18	32	16	21
22	16	12	24	33	48	85	44	19	17	27	107	18
23	15	12	24	37	44	79	41	19	*16	24	235	16
24	15	12	24	114	41	*71	39	18	15	22	149	*18
25	14	13	23	168	47	63	37	18	16	20	92	44
26	14	20	23	123	53	103	36	18	14	19	59	42
27	14	20	25	96	46	129	48	17	14	17	50	35
28	13	18	30	71	39	103	70	16	13	16	42	28
29	13	19	31	59	-	89	67	17	13	16	53	25
30	13	18	30	49	------	82	*55	16	12	15	42	23
31	12	------	28	45	-----	71	-----	16	------	14	32	-------
Total	461	396	731	1,516	1,582	2,096	1,915	775	505	1,230	2,638	811
Mean	14.9	13.2	23.6	48.9	56.5	67.6	63.8	25.0	16.8	39.7	85.1	27.0
Cfsm	0.246	0.218	0.390	0.808	0.934	1.12	1.05	0.413	0.278	0.656	1.41	0.446
In.	0.28	0.24	0.45	0.93	0.97	1.29	1.18	0.48	0.31	0.76	1.62	0.50

Calendar year 1964: Max 751 Min 2.5 Mean 70.8 Cfsm 1.17 In. 15.91
Water year 1964-65: Max 474 Min 10.0 Mean 40.2 Cfsm 0.664 In. 9.01

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8-2	1400	9.53	503				

* Discharge measurement made on this day.

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 1965.

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.--15 years (1950-65), 53.4 cfs.

Extremes.--Maximum discharge during year, 121 cfs Aug. 5 (gage height, 4.11 ft); minimum, 1.4 cfs Oct. 1. 1949-65: Maximum discharge, 988 cfs Aug. 16, 1953 (gage height, 7.82 ft); minimum, 1.4 cfs Aug. 16, 1954, Aug. 6, 7, 1957, Sept. 8-11, Oct. 1, 1964.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 18 to Apr. 13, July 12-15, Aug. 6)

1.4	1.2	2.0	29
1.5	3.0	2.4	55
1.6	5.7	3.0	75
1.7	9.5	4.0	119

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	4.5	8.2	18	24	30	49	40	3.5	4.2	4.2	16
2	4.5	4.5	7.8	17	23	*27	49	33	3.2	4.0	13	16
3	4.8	4.5	*8.2	17	20	27	47	28	12	3.8	36	14
4	4.5	4.2	10	16	19	25	45	25	13	3.8	97	13
5	9.0	4.2	13	*15	18	49	45	21	10	3.5	108	12
6	*8.6	4.2	28	14	18	66	41	*20	7.4	3.8	65	10
7	6.6	4.2	21	14	23	73	52	18	6.0	3.5	37	9.0
8	5.1	4.5	18	22	52	81	55	18	5.1	3.5	22	7.8
9	4.5	4.5	18	23	55	74	62	16	4.8	3.5	16	6.6
10	4.2	4.2	17	26	61	64	69	15	4.5	3.8	12	6.0
11	3.8	4.2	15	32	63	54	70	14	4.0	39	10	5.7
12	3.5	4.2	15	30	57	45	68	13	6.0	89	7.8	5.4
13	3.2	4.5	16	31	50	38	62	12	7.8	87	6.6	5.1
14	3.0	4.5	15	31	43	34	57	10	8.2	*69	5.7	5.4
15	3.2	4.5	14	27	40	31	49	9.5	8.2	52	4.8	5.7
16	3.5	4.5	13	25	38	29	50	8.6	18	33	4.2	5.7
17	22	4.2	13	23	39	31	45	8.2	23	21	3.8	8.6
18	19	4.2	13	20	40	*50	38	7.8	20	15	3.8	13
19	10	8.9	12	19	40	56	35	7.4	18	12	3.8	20
20	7.4	12	14	18	40	64	32	6.6	18	10	10	41
21	6.6	11	17	20	36	69	30	6.3	15	8.2	9.0	a 40
22	5.7	8.6	16	20	35	63	27	6.0	12	6.6	26	a 27
23	5.1	7.4	14	24	33	58	25	5.7	*10	5.7	35	a 20
24	4.8	6.3	14	43	28	55	23	5.4	8.2	5.1	32	*a 14
25	4.8	8.3	13	50	32	54	22	5.1	7.8	4.5	40	21
26	4.8	18	14	57	34	60	22	4.8	6.6	5.4	40	23
27	5.1	13	17	62	32	66	32	4.5	5.7	5.7	37	29
28	4.8	10	21	57	31	70	39	4.0	5.1	5.4	36	45
29	4.5	10	20	46	-	70	39	3.8	4.5	4.8	35	36
30	4.5	9.0	20	37	---	64	43	3.8	4.5	4.8	30	27
31	4.5	---	19	30	---	57	---	3.8	---	4.2	22	---
Total	187.8	200.8	474.2	884	1,024	1,634	1,322	384.3	280.1	524.8	812.7	508.0
Mean	6.06	6.69	15.3	28.5	36.6	52.7	44.1	12.4	9.34	16.9	26.2	16.9
Cfsm	0.135	0.149	0.341	0.635	0.815	1.17	0.982	0.276	0.208	0.376	0.584	0.376
In.	0.16	0.17	0.39	0.73	0.85	1.35	1.09	0.32	0.23	0.43	0.67	0.42

Calendar year 1964: Max 559 Min 1.4 Mean 56.8 Cfsm 1.27 In. 17.21
Water year 1964-65: Max 108 Min 2.2 Mean 22.6 Cfsm 0.503 In. 6.81

Peak discharge (base, 280 cfs).--No peak above base.

* Discharge measurement made on this day.
a No gage-height record.

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 1965.

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

Average discharge.--14 years, 4.21 cfs.

Extremes.--Maximum discharge during year, 38 cfs Aug. 1 (gage height, 2.80 ft); minimum daily, 0.1 cfs Oct. 6-15. 1951-65: 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.

Remarks.--Records fair.

Rating table, (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 22 to Mar. 17)

0.8	0	1.5	4.7
.9	.3	2.0	12
1.0	.7	2.5	27
1.2	1.9		

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.3	0.3	1.3	1.8	3.0	4.2	a 2.8	0.4	0.4	6.2	0.6
2	.2	.3	.3	1.2	1.9	* 2.8	5.1	a 2.3	.5	.4	13	.8
3	.2	.3	.3	1.2	1.7	2.6	4.8	a 2.0	3.5	.4	2.6	.7
4	.2	.3	* .4	1.0	1.5	2.5	4.2	a 1.7	1.5	.4	1.2	.6
5	.2	.3	.6	* 1.0	1.4	18	3.6	a 1.6	1.2	.4	6.5	.6
6	* .1	.4	1.9	1.0	1.5	14	3.2	*a 1.5	1.0	.4	3.6	.6
7	.1	.4	1.5	.9	2.3	8.6	9.1	1.5	.9	.4	1.9	.5
8	.1	.4	1.3	1.6	11	6.7	9.1	1.8	.8	.4	1.3	.5
9	.1	.4	1.2	2.4	6.6	5.5	14	1.7	.8	.4	1.2	.5
10	.1	.4	1.0	3.1	5.3	4.7	9.8	1.6	.8	.4	1.0	.4
11	.1	.4	1.0	5.5	5.4	3.9	7.2	1.3	.7	1.9	.9	.4
12	.1	.4	1.1	3.6	4.8	3.5	6.9	1.2	.6	1.6	.8	.4
13	.1	.4	1.2	3.0	4.3	3.2	5.3	1.1	.6	1.0	.7	.4
14	.1	.4	1.1	2.6	3.5	3.0	4.2	1.0	.6	* .7	.7	.4
15	.1	.4	1.0	2.1	3.6	2.8	3.9	1.0	.6	.6	.6	.4
16	.2	.4	.9	2.2	3.8	2.5	5.3	.9	.8	.6	.6	.5
17	1.4	.4	.9	1.8	5.1	3.1	4.3	.9	.8	.6	.6	1.4
18	1.5	.4	1.0	1.8	5.7	15	3.6	.8	.9	.6	.6	.7
19	.5	.8	.8	1.8	5.1	* 9.4	3.2	.8	.7	.8	.6	.5
20	.4	.9	1.1	1.8	3.7	7.2	3.0	.7	.6	.6	3.0	.5
21	.3	.8	1.2	1.8	3.4	6.3	2.7	.7	.6	.6	1.0	.4
22	.3	.7	1.3	2.1	3.3	6.4	a 2.5	.6	.6	.5	2.5	.4
23	.3	.7	1.3	3.1	2.8	6.3	a 2.3	.6	* .5	.5	3.9	* .4
24	.3	.7	1.3	7.8	2.5	6.0	a 2.2	.6	.5	.5	2.0	.7
25	.3	1.0	1.2	6.9	4.6	6.2	a 2.1	.6	.5	.4	1.3	2.5
26	.3	.7	1.3	4.7	4.9	14	a 2.1	.6	.4	.5	1.0	1.0
27	.3	.4	1.7	3.8	3.6	11	a 4.0	.5	.4	.4	1.0	.8
28	.3	.3	2.5	3.1	3.3	7.5	a 5.8	.4	.4	.4	.8	.7
29	.3	.3	1.9	2.8	-	6.4	a 5.0	.5	.4	.4	.8	.6
30	.3	.3	1.6	2.5	---	5.7	a 3.5	.5	.4	.4	.7	.6
31	.3	---	1.5	2.1	---	4.6	---	.4	---	.4	.6	---
Total	9.3	14.3	35.7	81.6	108.4	202.4	146.2	34.2	23.0	18.0	63.2	19.5
Mean	0.30	0.48	1.15	2.63	3.87	6.53	4.87	1.10	0.77	0.58	2.04	0.65
Cfsm	0.052	0.083	0.198	0.453	0.667	1.13	0.840	0.190	0.133	0.100	0.352	0.112
In.	0.06	0.09	0.23	0.52	0.70	1.30	0.94	0.22	0.15	0.12	0.41	0.13

Calendar year 1964: Max 77 Min 0 Mean 4.18 Cfsm 0.721 In. 9.81
Water year 1964-65: Max 18 Min 0.1 Mean 2.07 Cfsm 0.357 In. 4.87

Peak discharge (base, 50 cfs).--No peak above base.

* Discharge measurement made on this day.
a No gage-height record.

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 1965. 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.--30 years (1929-32, 1938-65), 23.6 cfs.

Extremes.--Maximum discharge during year, 317 cfs Aug. 2; maximum gage height, 11.18 ft Aug. 2; minimum daily discharge, 4.9 cfs Oct. 23-25.
1929-65: 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, 0.4 cfs Dec. 17, 1963 (leakage under dam following closing of floodgate).

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

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	5.4	6.4	8.2	14	16	23	22	8.6	8.2	e 27	12
2	18	5.4	6.4	10	14	*15	25	20	8.6	7.5	e 214	15
3	8.2	5.4	6.9	12	13	14	24	19	20	7.8	e 53	12
4	5.6	5.4	*7.5	9.8	13	14	23	17	13	7.8	36	11
5	5.6	5.4	8.2	8.6	12	35	23	16	11	8.2	24	11
6	5.9	5.6	16	*8.2	12	43	19	*15	9.8	12	16	10
7	*5.6	5.6	15	8.2	14	34	19	14	8.6	9.4	9.0	9.8
8	5.6	5.6	10	13	24	32	22	14	8.2	10	8.2	9.4
9	5.6	5.6	6.6	12	21	28	29	14	8.2	9.0	8.2	9.4
10	5.4	5.6	6.4	14	21	23	29	14	8.2	9.0	9.0	9.0
11	5.4	5.6	6.6	17	21	22	29	12	7.5	30	8.2	9.0
12	5.4	5.6	7.2	15	19	20	28	9.0	22	33	8.2	9.0
13	5.4	5.6	7.8	15	19	19	24	9.8	14	14	7.8	11
14	5.4	5.6	7.2	13	18	18	22	9.8	11	*12	7.8	11
15	5.2	5.6	6.9	13	19	17	22	10	10	12	7.8	9.8
16	6.2	5.6	6.9	13	18	17	23	11	23	10	8.2	10
17	11	5.9	6.9	12	18	18	21	11	24	9.8	8.2	57
18	16	5.6	6.9	12	18	*31	20	10	16	9.0	7.8	42
19	12	9.0	7.2	11	18	28	19	10	10	9.8	8.6	24
20	10	9.8	9.0	10	18	a29	19	9.8	9.8	8.6	12	12
21	9.8	7.8	8.6	10	18	a28	19	9.8	9.0	8.2	9.0	30
22	5.6	6.6	7.8	11	16	a28	18	9.8	8.2	7.8	52	14
23	4.9	6.4	7.5	12	16	a27	17	9.8	8.2	7.5	80	*12
24	4.9	6.4	7.5	21	15	a26	17	9.8	*8.6	7.5	17	15
25	4.9	9.0	7.5	23	18	26	16	9.8	9.4	7.5	12	60
26	5.2	14	8.6	23	17	34	17	9.4	8.2	13	24	41
27	5.2	9.8	11	23	17	35	24	9.0	7.8	11	23	30
28	5.2	7.8	13	22	16	34	26	9.0	7.8	9.4	17	23
29	5.4	7.2	11	19	-	33	25	9.8	7.8	9.0	15	20
30	5.4	6.9	9.4	18	---	29	23	10	8.2	9.0	13	19
31	5.4	---	9.0	16	---	26	---	9.0	---	7.8	12	---
Total	238.4	200.8	262.9	433.0	477	799	665	372.6	334.7	334.8	763.0	567.4
Mean	7.69	6.69	8.48	14.0	17.0	25.8	22.2	12.0	11.2	10.8	24.6	18.9
Cfsm	0.394	0.343	0.435	0.718	0.872	1.32	1.14	0.615	0.574	0.554	1.26	0.969
In.	0.45	0.38	0.50	0.83	0.91	1.52	1.27	0.71	0.64	0.64	1.46	1.08

Calendar year 1964: Max 299 Min 0.5 Mean 25.6 Cfsm 1.31 In. 17.90
Water year 1964-65: Max 214 Min 4.9 Mean 14.9 Cfsm 0.764 In. 10.39

* Discharge measurement made on this day.
a No gage-height record.
e Discharge computed on basis of flow over spillway and/or flow through floodgate and/or leakage under dam.

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, and 2.5 miles southeast of Bridgeville, Sussex County.

Drainage area.--75.4 sq mi.

Records available.--April 1943 to September 1965. 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.--22 years, 91.7 cfs.

Extremes.--Maximum discharge during year, 229 cfs Aug. 25 (gage height, 5.16 ft); minimum, 28 cfs Nov. 23, 24; minimum gage height, 2.73 ft Aug. 21, 22.
1943-65: Maximum discharge, 2,300 cfs Aug. 26, 1958 (gage height, 8.84 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.

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	a37	a29	56	81	74	120	78	48	a39	49	48
2	*42	a37	*a30	56	81	72	129	76	48	a38	95	49
3	38	a37	33	56	78	71	136	74	63	a37	63	46
4	36	a37	36	55	76	71	123	74	55	a38	50	43
5	38	a37	37	54	74	134	113	72	51	a42	51	40
6	35	a37	42	54	74	167	107	70	49	a42	49	38
7	35	a37	38	53	80	128	115	69	49	a39	47	39
8	35	a37	36	*65	131	108	118	69	48	a37	44	41
9	37	a37	36	66	117	98	161	68	47	a39	42	40
10	a38	a37	35	72	103	93	170	67	46	a41	42	*39
11	a37	a37	36	85	101	86	143	65	45	a66	41	39
12	a37	a37	43	74	101	82	130	63	49	a46	40	37
13	a37	a37	49	70	103	80	121	62	46	39	*39	43
14	a37	a36	44	69	94	78	109	60	43	38	38	58
15	a36	a35	41	66	92	77	104	59	45	43	36	46
16	a37	a35	41	67	88	74	111	57	49	*45	36	42
17	a45	a35	41	66	89	76	105	58	51	40	37	44
18	a50	a35	41	65	*89	126	98	56	47	41	35	43
19	a50	a37	39	65	88	124	97	56	47	49	34	41
20	a48	a40	45	65	81	112	103	54	45	43	34	37
21	a43	a40	46	65	81	106	98	53	43	40	33	37
22	a39	a36	45	65	80	102	92	52	43	38	55	36
23	a39	a28	44	67	77	108	89	51	41	37	51	36
24	a39	a28	43	139	75	107	88	51	*41	37	45	37
25	a39	a33	41	167	81	100	84	51	a42	36	44	39
26	a42	a58	41	131	83	*137	84	49	a40	68	152	35
27	a42	a58	47	114	76	159	88	49	a39	49	140	34
28	a40	a42	79	100	76	130	89	49	a38	42	65	34
29	a38	a33	63	94	-	131	87	52	a37	41	51	36
30	a37	a30	60	88	---	154	81	50	a38	41	45	37
31	a37	---	57	85	---	135	---	48	---	40	46	---
Total	1,244	1,120	1,338	2,394	2,450	3,300	3,293	1,862	1,373	1,311	1,629	1,214
Mean	40.1	37.3	43.2	77.2	87.5	106	110	60.1	45.8	42.3	52.5	40.5
Cfsm	0.532	0.495	0.573	1.02	1.16	1.41	1.46	0.797	0.607	0.561	0.696	0.537
In.	0.61	0.55	0.66	1.18	1.21	1.63	1.62	0.92	0.68	0.65	0.80	0.60

Calendar year 1964: Max 502 **Min** 21 **Mean** 92.0 **Cfsm** 1.22 **In.** 16.60
Water year 1964-65: Max 170 **Min** 28 **Mean** 61.7 **Cfsm** 0.818 **In.** 11.11

Peak discharge (base, 360 cfs).--No peak above base.

* Discharge measurement made on this day.
a No gage-height record.

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 1965.

Gage.--Water-stage recorder and concrete control. Datum of gage is 27.57 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Average discharge.--14 years, 16.8 cfs.

Extremes.--Maximum discharge during year, 43 cfs Mar. 17 (gage height, 1.73 ft); minimum, 1.2 cfs July 4. 1951-65: Maximum discharge, 462 cfs Jan. 7, 1962 (gage height, 3.55 ft); no flow Aug. 12-14, Sept. 6, 1957.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)

0.7	1.4	1.1	9.1
.8	2.5	1.4	21
.9	4.1	1.7	40

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.9	2.2	2.4	5.9	13	12	18	16	3.5	2.0	5.9	6.9
2	5.9	2.2	3.3	6.3	13	12	21	14	3.8	1.7	33	7.4
3	3.1	2.2	4.5	5.0	12	12	21	12	13	1.5	21	6.3
4	3.3	2.2	6.3	6.1	12	12	20	11	7.4	1.8	10	5.4
5	4.1	2.1	5.9	6.1	11	23	18	10	4.8	2.3	8.3	5.0
6	3.1	1.8	7.4	5.9	11	29	18	9.8	4.1	2.3	6.9	4.5
7	*2.3	2.2	5.6	5.9	15	25	23	9.8	3.8	2.0	5.2	4.3
8	2.2	2.2	5.0	*11	23	20	24	9.8	3.8	1.8	4.5	4.1
9	2.2	2.2	4.8	10	22	18	34	9.8	4.1	2.0	3.9	3.9
10	1.7	2.2	5.0	15	19	15	34	9.4	3.9	2.1	3.5	3.6
11	1.8	2.2	5.2	17	18	14	28	8.8	3.5	6.7	3.1	3.5
12	2.1	2.2	6.9	14	16	14	22	8.0	3.6	29	3.0	3.3
13	2.1	2.1	7.1	12	14	13	19	6.9	3.3	12	2.8	5.4
14	2.2	2.0	5.4	11	15	13	19	7.1	2.7	6.1	2.8	5.6
15	2.2	2.0	4.8	11	15	12	19	6.6	2.8	4.1	2.5	4.5
16	3.5	2.1	5.2	13	14	12	20	6.6	6.9	3.8	2.4	3.9
17	5.2	1.8	5.4	11	15	16	20	6.3	8.0	3.3	2.4	6.3
18	5.6	1.8	4.3	10	16	27	17	5.6	5.2	3.3	2.4	4.8
19	3.3	4.5	5.2	9.8	14	*29	18	5.9	5.0	4.5	2.3	5.0
20	2.8	5.2	8.0	9.4	15	28	19	5.4	5.0	3.1	2.2	3.9
21	2.5	3.0	7.4	9.8	14	23	18	5.2	3.8	2.5	2.0	3.5
22	2.3	2.2	6.1	9.8	13	22	16	5.2	3.1	2.2	21	*3.1
23	2.2	2.1	6.1	11	12	21	16	6.6	2.7	2.0	27	2.7
24	2.2	2.1	6.1	25	12	20	14	5.6	2.3	2.1	14	3.0
25	2.2	6.5	6.3	30	15	19	14	5.2	2.4	2.3	8.3	5.9
26	2.3	8.0	6.6	24	14	28	14	5.0	2.2	11	16	4.3
27	2.4	4.5	7.4	19	14	32	19	4.8	2.0	5.9	15	3.3
28	2.4	3.8	9.1	17	13	27	* 22	4.1	1.8	3.8	11	3.1
29	2.4	3.1	7.1	15	-	24	20	5.6	1.7	3.1	12	2.7
30	2.2	2.8	6.6	15	---	22	17	4.8	1.8	3.0	9.4	2.8
31	2.2	---	5.6	14	---	19	---	3.8	---	2.5	8.3	---
Total	89.9	85.5	182.1	385.0	410	613	602	234.7	122.0	135.8	272.1	132.0
Mean	2.90	2.85	5.87	12.4	14.6	19.8	20.1	7.57	4.07	4.38	8.78	4.40
Cfsm	0.174	0.171	0.351	0.743	0.874	1.19	1.20	0.453	0.244	0.262	0.526	0.263
In.	0.20	0.19	0.41	0.86	0.91	1.37	1.34	0.52	0.27	0.30	0.61	0.29

Calendar year 1964: Max 218 Min 0.1 Mean 17.2 Cfsm 1.03 In. 14.01
Water year 1964-65: Max 34 Min 1.5 Mean 8.94 Cfsm 0.535 In. 7.27

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

1-4885. Marshy Hope Creek near Adamsville, Del.

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

Drainage area.--44.8 sq mi.

Records available.--April 1943 to September 1965.

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.--22 years, 52.4 cfs.

Extremes.--Maximum discharge during year, 162 cfs Jan. 25 and Mar. 30 (gage height, 6.56 ft); minimum, 1.0 cfs Aug. 20.
1943-65: Maximum discharge, 2,270 cfs Aug. 26, 1958 (gage height, 11.55 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.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 21 to Aug. 25, Aug. 30 to Sept. 13, Sept. 17-25, 27-30)

2.6	1.0	3.5	20
2.7	2.0	4.0	34
2.8	3.4	5.0	68
3.0	7.4	6.0	115
3.2	12	7.0	225

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.0	11	7.0	17	36	28	82	29	9.0	4.1	5.4	5.0
2	4.7	11	6.5	16	35	26	79	26	8.6	3.6	11	5.4
3	4.3	11	6.3	16	32	25	85	25	11	3.3	6.5	4.8
4	3.9	11	*5.9	*14	29	24	73	23	11	3.6	4.7	4.1
5	4.3	12	5.9	14	27	70	62	22	9.5	3.6	4.7	3.6
6	3.8	11	8.3	13	26	151	55	21	8.8	4.5	4.1	3.4
7	*3.3	12	9.9	12	27	113	60	20	8.6	3.8	3.4	3.1
8	3.1	12	8.6	18	80	81	70	20	8.1	3.4	3.0	3.0
9	3.0	12	7.0	25	80	65	100	19	7.9	3.1	2.7	2.7
10	2.8	12	6.1	30	62	56	114	18	8.1	2.7	2.7	2.4
11	2.6	12	5.4	49	56	48	87	*18	7.6	4.1	2.4	2.1
12	2.6	12	7.0	42	55	42	72	16	7.4	5.6	2.3	2.4
13	3.0	12	12	34	56	38	62	16	7.4	5.9	2.0	3.9
14	3.3	12	11	31	47	35	52	14	7.0	5.0	2.1	16
15	3.4	12	9.0	26	42	*33	46	14	7.0	4.7	2.1	15
16	3.4	12	7.6	24	39	31	48	14	8.1	*4.5	1.9	11
17	7.2	11	6.7	22	40	30	45	14	8.6	3.9	1.9	8.8
18	9.2	11	6.5	22	*40	63	41	14	8.1	5.0	1.9	7.6
19	9.5	10	5.6	20	38	79	38	12	8.1	12	1.8	6.5
20	9.2	10	6.5	20	34	73	38	12	7.4	9.7	1.4	5.9
21	8.3	9.7	7.6	19	31	65	36	11	7.0	8.1	1.3	*52
22	8.1	9.0	7.4	19	31	65	33	11	6.1	6.1	2.8	5.0
23	8.1	8.8	7.2	22	29	75	32	11	5.4	5.0	3.6	4.7
24	8.8	8.8	7.2	92	27	70	30	11	*5.4	4.3	3.4	5.0
25	9.2	9.5	7.0	155	32	60	29	10	5.6	3.8	2.7	8.6
26	9.5	20	7.0	111	41	96	28	9.9	5.0	3.6	51	9.7
27	9.2	17	8.8	79	34	140	30	9.5	4.7	3.6	39	8.8
28	9.2	11	36	62	30	101	35	10	4.5	3.4	16	7.4
29	9.9	9.5	31	52	-	102	35	10	4.3	3.4	11	6.3
30	9.7	7.9	22	45	---	153	32	10	4.3	3.1	7.9	5.6
31	9.9	---	19	40	---	111	---	9.5	---	2.8	6.3	---
Total	191.5	340.2	309.0	1,161	1,136	2,149	1,629	479.9	219.6	143.3	213.0	183.0
Mean	6.18	11.3	9.97	37.5	40.6	69.3	54.3	15.5	7.32	4.62	6.87	6.10
Cfsm	0.138	0.252	0.223	0.837	0.906	1.55	1.21	0.346	0.163	0.103	0.153	0.136
In.	0.16	0.28	0.26	0.96	0.94	1.78	1.35	0.40	0.18	0.12	0.18	0.15

Calendar year 1964: Max 576 Min 1.2 Mean 48.2 Cfsm 1.08 In. 14.65
Water year 1964-65: Max 155 Min 1.3 Mean 22.3 Cfsm 0.498 In. 6.76

Peak discharge (base, 450 cfs).--No peak above base.

* Discharge measurement made on this day.

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 1965.

Gage.--Water-stage recorder and concrete control. Datum of gage is 16.70 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Average discharge.--15 years, 8.89 cfs.

Extremes.--Maximum discharge during year, 492 cfs Aug. 1 (gage height, 4.27 ft); no flow all or part of many days in July and August (result of pumpage for irrigation).
1950-65: Maximum discharge 672 cfs Sept. 12, 1960 (gage height, 4.73 ft) from rating curve extended above 210 cfs on basis of slope-area measurement at gage height 4.10 ft; no flow at times in 1954, 1955, 1957, 1959, 1960, 1964, 1965 (result of pumpage for irrigation).

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

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

1.0	0	1.5	9.8
1.1	.5	1.7	21
1.2	1.6	2.0	44
1.3	3.4	2.5	93
1.4	6.1	3.0	150

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	1.0	1.1	4.2	6.1	6.1	11	a 6.1	1.9	0.8	104	3.7
2	*2.0	1.0	1.1	4.2	6.4	5.8	15	a 5.8	1.9	0	50	3.4
3	1.6	1.0	1.2	4.2	5.8	*5.8	13	a 5.5	7.4	1.0	5.5	2.8
4	1.9	1.0	*1.3	3.7	5.8	5.8	12	a 5.2	3.4	1.1	4.0	2.8
5	1.8	1.0	1.3	3.7	5.8	16	11	a 5.0	3.0	.3	4.0	2.6
6	1.4	1.0	2.0	3.7	5.5	15	10	a 5.0	2.4	.6	3.2	2.6
7	1.2	1.0	1.6	3.4	7.4	12	14	a 5.5	2.2	1.1	2.8	2.4
8	1.2	1.1	1.4	*5.5	16	10	13	a 5.0	2.2	1.1	2.4	2.2
9	1.2	1.1	1.4	4.7	11	9.4	21	a 4.4	*2.2	.8	2.2	2.0
10	1.1	1.1	1.3	7.4	9.4	9.0	16	*a 4.4	2.0	.4	2.2	2.0
11	1.1	1.1	1.3	7.4	9.4	7.8	14	4.2	1.9	6.7	2.0	1.9
12	1.1	1.1	2.0	6.4	10	7.4	13	4.2	2.2	2.8	1.9	2.0
13	1.1	1.1	2.0	6.1	9.4	7.1	12	4.0	1.9	*1.9	1.8	4.4
14	1.1	1.1	1.8	5.8	8.6	7.1	9.8	3.4	1.6	1.6	1.8	*9.8
15	1.1	1.1	1.6	5.5	8.2	6.8	10	3.4	1.9	2.6	1.8	4.4
16	1.1	1.1	1.4	5.5	8.2	*6.4	12	3.4	2.6	2.2	1.2	3.4
17	1.9	1.1	1.6	5.0	8.2	7.8	9.8	2.8	2.4	1.6	.9	4.4
18	1.8	1.1	1.4	4.7	8.2	16	9.0	1.9	2.2	1.4	.9	3.7
19	1.3	1.4	1.4	4.7	7.8	12	9.8	2.2	2.4	1.8	1.4	3.2
20	1.2	1.6	2.4	4.7	6.8	11	9.4	2.0	2.4	1.3	1.3	3.0
21	1.2	1.3	2.0	4.7	7.1	10	9.0	1.4	1.8	1.2	1.2	2.8
22	1.1	1.2	1.9	5.0	6.8	10	8.6	1.4	1.6	1.2	13	2.6
23	1.1	1.1	1.9	5.5	6.1	11	8.2	1.9	1.4	1.1	6.1	2.4
24	1.1	1.1	1.9	14	6.1	10	7.4	2.6	1.6	1.1	3.0	3.2
25	1.2	1.9	1.9	12	8.6	9.4	7.1	2.6	1.4	1.1	2.6	4.0
26	1.2	2.6	2.2	9.4	7.1	17	7.4	1.4	1.3	1.3	76	3.0
27	1.2	1.4	3.4	8.6	6.1	15	7.4	1.4	1.3	1.2	15	2.8
28	1.1	1.2	6.4	7.4	6.4	12	8.2	1.9	1.2	1.2	6.8	2.6
29	1.4	1.3	4.7	7.4	-	14	a 7.4	2.4	1.1	1.4	5.0	2.6
30	1.6	1.2	4.7	6.8	------	16	a 6.8	2.2	1.1	.7	4.2	2.6
31	1.4	------	4.4	6.1	------	13	------	2.0	------	.9	4.0	------
Total	42.2	36.4	66.0	187.4	218.3	321.7	322.3	104.6	63.9	43.5	332.2	95.3
Mean	1.36	1.21	2.13	6.05	7.80	10.4	10.7	3.37	2.13	1.40	10.7	3.18
Cfsm	0.192	0.170	0.300	0.852	1.10	1.46	1.51	0.475	0.300	0.197	1.51	0.448
In.	0.22	0.19	0.35	0.98	1.14	1.69	1.69	0.55	0.33	0.23	1.74	0.50

Calendar year 1964: Max 89 Min 0 Mean 6.93 Cfsm 0.976 In. 13.29
Water year 1964-65: Max 104 Min 0 Mean 5.02 Cfsm 0.707 In. 9.61

Peak discharge (base, 60 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8- 1	1945	4.27	492				
8-26	1030	3.21	183				

* Discharge measurement made on this day.
a No gage-height record.

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 1965.

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

Average discharge.--14 years, 17.3 cfs.

Extremes.--Maximum discharge during year, 182 cfs Aug. 2 (gage height, 3.31 ft); minimum, 0.4 cfs June 11, result of regulation; minimum daily, 0.5 cfs June 11.
1951-65: Maximum discharge, 470 cfs Jan. 1, 1961 (gage height, 4.40 ft); minimum, 0.4 cfs May 23, 1964, June 11, 1965, result of regulation; minimum daily, that of June 11, 1965.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 7, 8, 11-15, Nov. 27 to Dec. 27, Dec. 29 to Jan. 7, Aug. 7-22, Sept. 15-30)

Oct. 1 to Mar. 26

0.5	3.4	1.6	20
.7	5.2	1.9	29
1.0	8.8	2.2	43
1.3	14	2.5	65

Mar. 27 to Sept. 30

0	0.4	1.5	21
.1	.9	2.0	36
.2	1.5	2.5	65
.5	3.9	3.0	130
.8	7.5	3.5	220
1.1	12		

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	8.4	6.0	10	15	15	24	16	12	3.5	28	a 5.0
2	13	8.7	5.9	11	15	14	26	15	9.0	3.4	135	a 4.5
3	9.1	9.1	8.2	11	15	* 14	26	14	13	4.2	40	a 4.1
4	7.4	9.6	* 9.1	10	14	14	23	13	11	4.4	22	a 3.8
5	8.1	10	9.1	* 9.8	13	36	22	13	9.3	4.9	22	a 3.6
6	* 6.0	11	12	10	14	47	21	12	7.8	5.2	16	a 3.4
7	4.7	9.7	9.0	9.6	20	31	24	12	7.0	3.9	9.8	a 3.2
8	4.4	9.4	7.4	17	55	24	26	12	* 6.5	4.3	5.2	a 3.0
9	5.1	9.7	7.0	18	37	20	38	12	6.3	3.8	4.6	a 2.9
10	5.2	9.4	6.7	27	27	18	39	12	2.3	4.1	4.1	a 2.8
11	3.6	9.4	6.2	28	26	16	31	11	.5	7.4	3.2	a 2.7
12	3.6	9.6	8.7	19	27	15	29	3.1	4.3	20	2.8	a 2.7
13	4.1	9.8	10	17	25	14	26	3.7	5.5	* 10	2.8	a 14
14	4.1	9.6	8.2	16	21	14	a 22	6.6	4.9	6.6	2.8	*a 15
15	4.0	9.1	7.0	14	21	14	a 20	7.8	5.2	5.2	2.7	5.7
16	5.1	9.4	6.2	15	20	* 13	a 24	8.4	7.5	4.4	2.6	4.6
17	8.5	9.4	6.3	15	21	16	a 22	8.4	7.5	4.1	2.5	9.5
18	13	9.1	7.3	14	21	42	a 21	7.5	7.4	5.2	2.4	4.4
19	9.6	12	6.0	14	19	33	a 20	7.0	7.0	5.1	2.4	3.4
20	7.5	13	10	14	16	26	a 20	7.0	8.6	3.9	2.5	3.2
21	6.8	12	11	14	16	22	a 19	7.0	6.3	3.5	2.0	3.2
22	7.3	9.7	8.5	14	17	22	a 19	7.0	5.5	3.4	27	3.0
23	6.8	9.1	7.7	16	15	24	a 18	6.8	4.8	3.5	32	3.1
24	6.7	9.1	7.7	33	15	23	a 18	6.7	4.7	4.0	15	5.4
25	6.8	13	7.8	38	19	21	a 18	6.7	4.7	4.3	a 11	12
26	6.9	25	10	25	22	43	a 17	6.7	4.1	31	a 9.0	4.0
27	6.9	12	13	22	16	56	a 21	6.0	3.9	13	a 8.0	3.2
28	7.0	7.8	24	18	15	39	*a 22	6.5	3.9	8.2	a 7.0	2.8
29	7.5	7.8	15	17	-	32	19	8.4	3.9	15	a 9.0	2.9
30	8.2	7.0	12	16	---------	30	18	7.0	3.8	9.6	a 7.0	3.0
31	8.2	----------	11	16	----------	26	----------	9.4	----------	6.8	a 6.0	----------
Total	223.2	307.9	284.0	528.4	577	774	693	279.7	188.2	215.9	446.4	144.1
Mean	7.20	10.3	9.16	17.0	20.6	25.0	23.1	9.02	6.27	6.96	14.4	4.80
Cfsm	0.480	0.687	0.611	1.13	1.37	1.67	1.54	0.601	0.418	0.464	0.960	0.320
In.	0.55	0.76	0.70	1.31	1.43	1.92	1.72	0.69	0.47	0.54	1.11	0.36

Calendar year 1964: Max 128 Min 0.6 Mean 15.9 Cfsm 1.06 In. 14.43
Water year 1964-65: Max 135 Min 0.5 Mean 12.8 Cfsm 0.853 In. 11.56

* Discharge measurement made on this day.
a No gage-height record.

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 and 2.0 miles northeast of Greensboro, Caroline County.

Drainage area.--113 sq mi.

Records available.--January 1948 to September 1965.

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.--17 years, 124 cfs.

Extremes.--Maximum discharge during year, 525 cfs Mar. 6 (gage height, 4.59 ft); minimum, 4.0 cfs Aug. 21 (gage height, 1.72 ft); minimum daily, 4.6 cfs Aug. 21.
1948-65: Maximum discharge, 5,040 cfs Sept. 13, 1960 (gage height, 12.45 ft, from high-water mark in well); minimum, that of Aug. 21, 1965.

Remarks.--Records good except those for periods of ice effect, which are fair. Slight diurnal fluctuation at low flow caused by mill above station.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.7	4.0	2.5	125
1.8	7.2	3.0	237
1.9	13	4.0	413
2.2	58		

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	19	20	70	b 108	* 85	* 215	82	* 24	13	9.2	* 10
2	* 38	19	19	66	102	82	155	78	23	11	12	8.8
3	50	20	19	60	b 89	80	190	33	33	9.2	12	8.8
4	33	20	20	56	b 80	80	190	* 70	39	10	10	8.4
5	24	17	20	55	b 66	120	150	50	30	9.2	12	8.0
6	21	17	30	48	56	351	112	44	28	16	12	9.2
7	19	17	30	32	72	407	108	42	26	14	11	7.6
8	17	17	24	36	142	271	179	44	24	12	9.2	7.2
9	17	16	23	53	239	172	207	45	23	12	8.4	7.2
10	17	16	21	91	241	135	207	47	23	10	7.6	7.2
11	16	16	21	170	179	170	195	89	20	14	7.6	7.2
12	16	16	27	193	160	184	130	87	20	28	7.2	8.0
13	16	16	38	142	158	130	122	64	19	27	6.4	10
14	16	16	33	105	130	85	142	50	17	20	6.4	32
15	16	16	28	100	105	74	125	44	17	17	6.4	27
16	19	14	27	96	105	72	118	33	21	23	6.1	19
17	21	16	26	b 80	108	96	112	34	26	20	5.8	14
18	32	16	28	b 76	108	155	85	32	20	21	5.5	13
19	28	16	47	b 70	108	170	70	28	20	33	5.2	12
20	23	19	50	b 66	100	179	70	28	26	23	4.9	12
21	20	19	53	b 68	93	182	70	27	19	14	4.6	11
22	19	14	50	72	87	184	68	27	17	13	7.2	10
23	17	12	47	76	74	175	85	24	14	12	12	9.2
24	17	12	45	132	72	175	89	26	12	11	12	12
25	19	14	40	316	82	168	82	27	19	10	9.2	28
26	19	38	27	382	112	177	76	24	16	11	26	17
27	19	* 40	33	246	140	271	80	26	14	8.8	39	13
28	19	27	64	177	100	309	91	24	12	8.8	21	13
29	* 19	23	60	* 128	-	259	93	27	12	* 8.4	13	12
30	19	21	* 78	b 122	---------	300	87	30	* 12	9.2	11	10
31	20	----------	87	b 100	---------	307	----------	27	----------	10	10	----------
Total	694	559	1,135	3,484	3,216	5,605	3,703	1,356	626	458.6	329.9	371.8
Mean	22.4	18.6	36.6	112	115	181	123	43.7	20.9	14.8	10.6	12.4
Cfsm	0.198	0.165	0.324	0.991	1.02	1.60	1.09	0.387	0.185	0.131	0.094	0.110
In.	0.23	0.18	0.37	1.15	1.06	1.84	1.22	0.45	0.21	0.15	0.11	0.12

Calendar year 1964: Max 1,670 Min 6.4 Mean 117 Cfsm 1.04 In. 14.06
Water year 1964-65: Max 407 Min 4.6 Mean 59 Cfsm 0.522 In. 7.09

Peak discharge (base, 1,000 cfs).--No peak above base.

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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 1965.

Gage.--Water-stage recorder and concrete control. Datum of gage is 2.33 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Average discharge.--15 years, 6.71 cfs.

Extremes.--Maximum discharge during year, 545 cfs Aug. 26 (gage height, 5.48 ft); no flow for all or part of each day June 11-14, 22, 23, 27-29, July 2-10, 17, 21-31, Aug. 1, 3, 4, 7-21, 25, Sept. 8-11, 27, 28.
1950-65: 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 1950, 1951, 1957, 1962, 1963, 1964 and 1965.

Remarks.--Records good except for periods of missing record, which are fair.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.0	0	1.5	9.0
1.1	.3	1.6	15
1.2	1.1	2.0	57
1.3	2.4	3.0	147
1.4	5.0	4.0	266

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	a 0.4	0.7	2.4	4.0	4.0	7.4	3.8	0.4	0.1	0	0.3
2	*a 2.3	a .4	.7	2.4	3.8	3.5	10	3.8	.4	0	.1	.4
3	a 4.0	a .4	1.0	2.3	2.8	* 3.5	8.2	3.2	2.8	0	0	.2
4	a 2.1	.4	* 1.0	2.0	2.3	3.5	6.6	2.8	1.4	0	0	.2
5	a 1.3	.4	1.2	2.0	2.3	53	6.2	2.4	.8	0	.3	.1
6	a .8	.5	4.6	2.0	3.0	18	5.8	a 2.3	.2	0	.1	.1
7	a .6	.4	2.0	* 1.7	17	8.6	18	a 2.8	.1	0	0	.1
8	a .5	.4	1.4	7.0	61	7.0	11	a 2.6	* .1	0	0	0
9	a .5	.7	1.1	5.4	9.6	6.6	2.5	a 2.4	.1	0	0	0
10	a .4	.8	1.0	12	8.2	5.8	10	*a 2.3	.1	0	0	0
11	a .4	.9	1.0	9.6	7.8	5.0	8.2	1.8	0	2	0	0
12	a .4	1.0	2.6	6.2	9.0	4.6	7.8	1.4	0	2	0	.1
13	a .4	1.0	3.5	5.4	7.0	4.4	6.2	1.3	0	* .1	0	.7
14	a .4	1.0	2.0	4.6	5.8	4.4	5.0	1.0	0	.1	0	2.4
15	a .4	1.0	1.4	2.8	5.4	4.4	6.2	1.0	.1	.1	0	.8
16	a 1.6	1.2	1.2	2.8	6.2	a 4.0	9.0	1.0	.2	.1	0	.4
17	a 5.0	1.4	1.2	2.8	6.6	a 11	6.2	1.2	.2	0	0	.3
18	a 2.0	1.4	1.1	3.0	5.8	a 30	5.0	1.0	.2	.2	0	.2
19	a 1.0	1.2	1.0	2.6	5.0	a 15	5.0	.6	.1	.4	0	2
20	a .6	1.1	2.3	2.4	3.8	a 11	5.8	.4	.1	.1	0	.1
21	a .5	.9	2.6	2.8	4.0	a 9.2	5.0	.4	.1	0	0	* .1
22	a .5	.5	1.8	3.2	4.4	a 7.8	4.4	.6	0	0	.2	.1
23	a .5	.5	1.6	5.8	3.5	a 7.2	4.0	.4	0	0	.1	.1
24	a .5	.5	1.4	51	3.5	a 6.6	3.8	.4	.1	0	.1	.1
25	a .6	1.4	1.4	14	11	a 6.2	4.0	.6	.2	0	0	.3
26	a .6	6.2	2.6	7.8	6.6	34	4.6	.2	.1	0	189	.1
27	a .6	1.8	9.7	6.2	4.0	12	7.0	.8	0	0	43	0
28	a .5	1.1	30	4.6	4.4	7.8	8.6	1.0	0	0	5.4	0
29	a .6	1.0	5.0	4.4	-	19	5.8	2.3	0	0	4.6	.1
30	a .7	.9	3.5	3.2	------	15	4.4	1.3	.1	0	1.1	.1
31	a .5	------	2.8	3.5	------	8.6	------	.8	------	0	.4	------
Total	31.9	30.8	94.4	187.9	217.8	340.7	224.2	47.9	7.9	1.6	244.4	7.6
Mean	1.03	1.03	3.05	6.06	7.78	11.0	7.47	1.55	0.26	0.05	7.88	0.25
Cfsm	0.176	0.176	0.521	1.04	1.33	1.88	1.28	0.265	0.044	0.009	1.35	0.043
In.	0.20	0.20	0.60	1.19	1.38	2.17	1.43	0.30	0.05	0.01	1.55	0.05

Calendar year 1964: Max 93 Min 0 Mean 5.99 Cfsm 1.02 In. 13.92
Water year 1964-65: Max 189 Min 0 Mean 3.94 Cfsm 0.674 In. 9.13

Peak discharge (base, 120 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8-26	0500	5.48	545				

* Discharge measurement made on this day.
a No gage-height record.

1-4930. Unicorn Branch near Millington, Md.

Location.--Lat 39°15'00", long 75°51'40", on right bank 20 ft (revised) 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 1965.

Gage.--Water-stage recorder and concrete control. Datum of gage is 3.57 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Average discharge.--17 years, 23.9 cfs.

Extremes.--Maximum discharge during year, 106 cfs Mar. 6 (gage height, 3.05 ft); no flow for part of each day June 13, 14, caused by regulation at Unicorn Lake dam.
1948-65: Maximum discharge, 1,060 cfs Sept. 12, 1960 (gage height, 7.17 ft); minimum, that of June 13, 14, 1965.

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

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

1.55	0.1	2.0	14
1.6	0.3	2.2	33
1.7	1.7	2.4	51
1.8	4.4	2.7	71
1.9	8.4	3.0	100

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	6.0	a 8.4	11	12	16	32	14	0.4	6.8	6.4	5.2
2	13	6.4	a 8.4	11	13	15	33	15	.5	6.0	6.8	5.6
3	13	6.4	*a 8.4	11	12	15	31	15	26	6.4	6.0	5.2
4	9.0	6.4	9.5	11	10	14	27	13	28	6.4	6.8	5.6
5	8.0	6.4	9.0	10	11	* 37	25	13	13	6.4	15	5.6
6	7.6	6.8	13	10	12	86	23	13	9.5	6.4	8.4	5.6
7	7.2	6.8	10	* 9.8	* 13	57	28	13	3.6	* 5.6	6.8	5.6
8	6.8	7.2	9.0	11	52	38	29	13	.2	4.8	6.4	5.6
9	6.8	7.2	8.4	12	38	28	34	13	.1	4.8	6.8	5.6
10	6.4	7.2	8.0	18	27	25	37	13	.2	4.8	6.0	5.6
11	6.0	7.2	8.0	20	26	20	28	* 12	.1	6.4	5.2	5.2
12	6.0	7.2	11	16	28	19	26	12	.2	7.2	5.2	5.6
13	6.0	7.2	12	13	27	17	24	11	.1	6.8	5.2	6.4
14	6.0	7.2	10	13	21	16	21	11	.1	6.0	5.2	6.8
15	6.0	7.2	9.0	12	19	* 16	20	11	.2	6.4	4.8	6.0
16	5.8	7.2	8.4	11	19	15	23	11	.3	6.4	5.2	5.6
17	7.2	7.2	8.4	10	20	15	21	13	5.6	5.6	* 5.2	5.2
18	7.6	7.2	8.4	10	18	24	20	12	8.4	5.2	5.6	5.6
19	6.8	7.6	8.0	10	17	31	21	11	8.4	6.8	5.6	5.6
20	6.4	8.0	9.0	10	16	28	21	11	8.0	6.4	5.2	* 5.2
21	6.4	7.6	9.5	10	16	24	20	11	7.2	6.4	5.6	5.2
22	* 5.6	7.6	9.0	11	16	25	18	10	6.8	6.0	8.4	5.2
23	6.0	7.2	9.0	12	14	27	17	10	6.0	6.0	7.2	5.2
24	6.0	7.2	9.0	34	13	24	17	10	6.8	6.0	6.8	5.6
25	6.0	9.0	9.0	52	21	27	16	10	6.8	5.6	6.4	6.0
26	6.4	14	9.0	29	23	53	17	10	6.4	5.6	8.4	5.6
27	6.4	11	11	24	17	75	18	9.5	6.0	* 5.4	7.6	5.6
28	6.0	a 9.5	24	19	17	53	19	12	6.0	5.6	6.8	5.2
29	6.0	a 9.0	15	17	-	47	19	18	6.0	6.4	6.0	5.6
30	6.0	a 8.4	12	15	---	61	13	14	6.8	6.0	5.6	6.0
31	6.0	---	12	13	---	45	---	4.1	---	5.6	5.6	---
Total	219.4	230.5	312.8	475.8	548	993	698	368.6	177.7	186.2	202.2	167.6
Mean	7.08	7.68	10.1	15.3	19.6	32.0	23.3	11.9	5.92	6.01	6.52	5.59
Cfsm	0.317	0.344	0.453	0.686	0.879	1.43	1.04	0.534	0.265	0.270	0.292	0.251
In.	0.37	0.38	0.52	0.79	0.91	1.66	1.16	0.61	0.30	0.31	0.34	0.28

Calendar year 1964: Max 171 Min 5.2 Mean 23.2 Cfsm 1.04 In. 14.17
Water year 1964-65: Max 86 Min 0.1 Mean 12.5 Cfsm 0.561 In. 7.63

Peak discharge (base, 180 cfs).--No peak above base.

* Discharge measurement made on this day.
a No gage-height record.

1-4935. Morgan Creek near Kennedyville, Md.

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

Drainage area.--10.5 sq mi.

Records available.--May 1951 to September 1965.

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

Average discharge.--14 years, 9.66 cfs.

Extremes.--Maximum discharge during year, 86 cfs Dec. 28 (gage height, 3.48 ft); minimum, 1.4 cfs Aug. 8, 9.
1951-65: Maximum discharge, 1,530 cfs Sept. 12, 1960 (gage height, 8.88 ft), from rating curve extended above 440 cfs by logarithmic plotting; minimum, 1.3 cfs Aug. 2, 7, 17, 1957.

Remarks.--Records good except those for periods of ice effect, which are fair.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.2	0.6	1.7	16
1.3	2.0	2.0	24
1.4	4.6	3.0	59
1.5	8.4		

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	4.1	4.6	5.4	b 4.0	5.7	6.1	4.3	4.1	2.3	2.5	2.5
2	11	4.1	4.3	5.4	b 3.9	5.0	6.9	4.3	4.1	2.0	3.0	3.6
3	14	4.1	* 5.0	6.1	b 3.8	5.0	6.1	4.3	9.4	2.0	2.5	2.8
4	5.7	4.1	6.5	4.6	b 3.9	5.0	5.7	4.1	5.4	2.0	2.3	2.5
5	4.3	4.1	6.9	5.0	4.1	* 32	5.4	4.1	4.1	2.0	5.0	2.5
6	3.8	4.1	14	5.0	5.0	29	5.4	4.1	3.8	2.3	2.5	2.5
7	3.8	4.3	6.9	* 4.6	* 12	8.4	9.4	4.3	3.6	2.1	1.8	2.3
8	3.6	4.3	4.3	9.4	45	6.5	6.9	5.4	3.3	2.0	1.6	2.3
9	3.6	4.3	4.3	8.9	16	6.5	7.3	5.0	3.0	2.0	1.6	2.3
10	3.6	4.3	3.8	13	8.9	6.1	6.1	4.6	3.0	1.8	2.0	2.3
11	3.6	4.3	4.1	12	8.4	5.4	5.7	* 4.1	* 3.0	3.3	2.3	2.0
12	3.3	4.3	15	8.0	8.4	5.4	5.4	3.8	2.8	4.1	1.8	2.5
13	3.3	4.3	16	7.3	7.3	5.0	4.6	3.8	2.8	3.0	1.8	6.5
14	3.3	4.3	6.1	6.5	6.1	5.0	4.6	3.6	2.8	2.8	1.8	6.1
15	3.3	4.3	4.6	4.6	6.1	* 5.4	5.0	3.6	2.8	3.8	1.8	3.6
16	3.3	4.3	3.8	4.1	6.5	5.4	6.5	4.3	3.3	3.8	1.8	3.0
17	5.0	4.6	4.1	b 3.8	6.5	5.4	5.4	15	3.6	3.0	* 1.6	2.5
18	5.4	4.6	4.6	b 3.6	6.1	11	5.0	5.0	4.1	3.0	1.8	2.3
19	4.1	5.4	3.6	b 4.1	5.7	8.4	6.1	4.1	3.8	3.3	2.5	2.3
20	3.8	6.9	5.0	4.6	4.1	6.5	6.5	3.8	3.6	2.8	3.3	* 2.0
21	3.8	5.7	6.1	5.4	5.4	6.5	5.7	3.6	3.3	2.5	2.3	1.8
22	* 3.8	4.3	5.4	5.7	5.7	6.9	5.0	3.6	3.0	2.5	6.1	1.8
23	3.8	4.1	5.0	8.4	4.3	6.5	5.0	3.6	2.8	2.5	5.0	1.6
24	3.8	4.3	5.0	33	4.6	6.1	5.0	3.3	2.5	2.5	3.3	2.5
25	3.8	6.9	5.0	25	16	8.9	4.6	3.6	2.8	2.5	3.0	4.6
26	4.1	17	4.6	15	8.0	25	5.0	4.1	2.5	2.3	4.6	2.5
27	4.1	8.0	19	11	4.6	18	5.4	3.6	2.3	* 2.0	3.8	2.0
28	4.1	5.4	54	6.5	5.4	7.3	5.4	8.0	2.3	2.5	2.8	2.0
29	4.1	5.4	15	6.1	-	12	5.0	14	2.3	2.8	2.3	2.0
30	4.1	5.0	6.9	4.3	------	9.9	4.6	6.9	2.3	2.3	2.3	2.0
31	4.1	------	5.7	b 4.2	-----	6.5	-----	4.3	----	2.3	2.3	------
Total	149.4	155.2	259.2	250.6	225.8	285.7	170.8	154.2	102.5	80.1	83.1	81.2
Mean	4.82	5.17	8.36	8.08	8.06	9.22	5.69	4.97	3.42	2.58	2.68	2.71
Cfsm	0.459	0.492	0.796	0.770	0.768	0.878	0.542	0.473	0.326	0.246	0.255	0.258
In.	0.53	0.55	0.92	0.89	0.80	1.01	0.60	0.55	0.36	0.28	0.29	0.29

Calendar year 1964: Max 97 Min 2.3 Mean 8.17 Cfsm 0.778 In. 10.59
Water year 1964-65: Max 54 Min 1.6 Mean 5.47 Cfsm 0.521 In. 7.07

Peak discharge (base, 200 cfs).--No peak above base.

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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 1965. Monthly discharge only for some periods, published in WSP 1302.

Gage.--Water-stage recorder (digital). 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.

Average discharge.--33 years, 68.1 cfs.

Extremes.--Maximum discharge during year, 2,020 cfs Feb. 8 (gage height, 6.43 ft); minimum, 8.6 cfs Dec. 2 (result of freezeup); minimum daily, 9.8 cfs Sept. 23.
1932-65: 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, 6.0 cfs Aug. 12, Sept. 3, 1963; 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 except those for periods of ice effect, which are fair. Slight diurnal fluctuation caused by mills above station.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.3	6.5	3.0	83
2.4	10	3.5	210
2.5	15	4.0	380
2.6	24	5.0	890
2.8	47		

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	25	16	16	35	b 29	42	46	40	25	18	17	13
2	36	16	b 16	37	b 29	40	54	40	26	15	57	34
3	26	16	16	41	b 27	40	54	39	59	15	21	15
4	22	17	29	b 36	b 26	40	46	37	34	15	15	12
5	20	17	48	b 33	b 26	185	44	37	27	62	20	12
6	17	16	101	31	b 40	120	43	* 39	25	100	16	12
7	16	16	37	b 30	244	63	69	39	24	26	15	11
8	15	17	27	47	538	53	58	41	24	22	14	11
9	16	17	23	56	102	49	54	40	38	19	25	11
10	* 16	17	b 22	79	92	48	48	38	28	* 17	19	10
11	15	17	b 22	b 52	96	43	45	35	24	291	14	10
12	16	17	157	*b 38	* 78	42	44	33	22	83	13	11
13	17	17	87	b 33	65	41	41	32	22	30	13	16
14	17	15	42	b 31	52	41	40	30	20	23	13	* 17
15	17	15	33	b 30	48	41	44	30	21	21	13	14
16	17	16	b 26	b 28	47	39	68	31	24	19	13	13
17	27	* 18	b 26	b 26	46	39	49	38	24	17	12	12
18	30	16	b 25	b 25	44	50	44	32	* 23	17	12	12
19	18	18	b 21	b 24	43	59	66	29	23	19	12	11
20	16	23	b 26	b 24	b 35	46	60	28	26	15	17	11
21	15	23	b 24	b 27	b 38	45	49	27	20	14	12	11
22	15	17	25	b 31	b 38	45	46	28	19	14	20	10
23	15	16	b 25	b 45	b 37	45	45	28	18	14	26	9.8
24	16	17	25	b 64	b 36	45	44	27	27	15	16	14
25	16	30	29	b 66	113	47	43	28	24	14	14	32
26	17	164	30	b 80	84	114	49	29	18	13	15	15
27	17	32	232	b 86	47	76	52	27	16	13	15	13
28	* 16	22	245	b 60	44	51	47	35	16	23	13	12
29	16	19	63	b 40	-	* 81	44	38	16	27	12	12
30	17	17	47	b 35	------	67	42	33	16	14	11	12
31	16	------	41	b 31	------	50	------	27	------	14	11	------
TOTAL	605	694	1,586	1,301	2,144	1,787	1,478	1,035	729	1,019	516	408.8
MEAN	19.5	23.1	51.2	42.0	76.6	57.6	49.3	33.4	24.3	32.9	16.6	13.6
CFSM	.371	.439	.973	.799	1.46	1.10	.937	.635	.462	.626	.316	.259
IN	.43	.49	1.12	.92	1.52	1.26	1.04	.73	.52	.72	.36	.29

CALENDAR YEAR 1964 MAX 892 MIN 8.6 MEAN 49.1 CFSM .934 INCHES 12.71
WATER YEAR 1964-65 MAX 538 MIN 9.8 MEAN 36.4 CFSM .692 INCHES 9.41

Peak discharge (base, 1,700 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-8	0115	6.43	2,020				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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 1965.

Gage.--Water-stage recorder (digital) and concrete control. Datum of gage is 115.0 ft above mean sea level, datum of 1929.

Average discharge.--17 years, 32.8 cfs.

Extremes.--Maximum discharge during year, 1,050 cfs Feb. 8 (gage height, 4.28 ft); minimum, 1.8 cfs Aug. 31; minimum daily, 2.1 cfs Aug. 31.
1948-65: Maximum discharge, 3,220 cfs July 27, 1958 (gage height, 6.92 ft), from rating curve extended above 640 cfs on basis of slope-area measurement at gage height 5.06 ft; minimum, 1.4 cfs Mar. 3, 1950, result of freezeup; minimum daily, 1.8 cfs Sept. 6, 1957.

Remarks.--Records good except those for periods of ice effect, which are fair. Slight diurnal fluctuation at low flow caused by powerplant above station.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.4	1.7	2.1	48
1.5	3.3	2.3	87
1.6	6.0	2.5	142
1.7	11	3.0	340
1.9	26	3.5	595

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.8	3.9	5.4	15	b 17	24	23	12	6.2	3.6	4.6	2.6
2	6.6	3.9	b 5.4	15	b 17	22	25	12	6.1	3.4	4.0	2.6
3	14	4.1	5.4	18	b 16	22	28	12	6.4	3.2	6.0	4.3
4	7.0	4.2	10	b 14	b 15	22	22	11	7.9	3.3	3.9	3.2
5	4.8	4.2	21	b 13	b 15	146	21	10	5.9	3.2	4.4	2.9
6	4.2	4.0	40	13	b 30	113	20	*11	5.5	3.4	4.0	2.7
7	3.9	3.9	17	13	b 90	38	28	11	5.3	3.3	3.8	2.7
8	*3.8	3.9	b 10	24	552	30	27	13	6.5	3.1	3.4	2.6
9	3.7	4.1	8.4	31	63	28	24	12	15	3.0	9.2	2.4
10	3.7	4.1	b 8.2	49	51	27	21	12	7.7	2.9	7.0	2.3
11	3.6	4.2	b 7.2	31	55	24	19	10	6.2	*21	5.9	2.3
12	3.5	4.2	b 92	*b 25	*43	22	18	9.1	5.4	20	3.4	2.2
13	3.6	4.2	50	b 23	37	21	16	8.5	5.4	6.8	3.1	3.2
14	3.8	4.2	20	b 21	26	21	15	7.8	4.6	5.2	3.0	*4.3
15	3.8	3.9	14	b 21	25	21	16	7.7	4.5	4.9	2.9	3.8
16	3.9	4.4	11	b 20	25	20	28	8.1	5.1	4.8	2.9	3.2
17	4.7	5.1	10	b 20	25	19	20	12	5.4	4.2	3.1	3.0
18	6.3	4.6	11	b 18	24	27	17	9.3	5.4	5.5	3.0	2.7
19	5.2	4.7	b 10	b 18	23	37	26	7.6	5.6	3.9	3.1	2.7
20	4.3	6.6	b 8.2	b 15	b 18	27	24	7.3	5.9	3.8	3.0	2.5
21	4.0	7.2	b 10	b 15	19	24	18	6.6	4.9	3.3	3.9	2.5
22	3.8	a 5.2	10	b 14	21	26	16	6.8	4.3	3.3	3.0	2.5
23	3.7	a 5.0	11	b 19	b 19	26	15	7.0	4.2	3.3	3.3	2.4
24	3.7	a 5.2	11	b 40	b 18	25	15	6.5	4.6	3.5	3.0	2.5
25	3.7	a 10	13	b 65	65	26	14	6.9	5.4	3.5	3.2	3.0
26	3.9	a 70	13	74	58	98	17	7.7	4.3	3.2	3.0	4.1
27	4.2	a 20	161	65	b 25	49	18	6.7	3.7	3.0	3.1	3.0
28	4.2	a 10	198	30	24	30	16	8.2	3.6	3.5	2.8	2.7
29	4.2	a 7.0	32	b 21	-	*45	14	11	3.6	4.8	2.5	2.8
30	4.2	6.1	22	b 19	------	38	13	10	3.5	3.6	2.2	2.7
31	3.9	------	18	b 18	------	26	------	6.7	------	3.3	2.1	------
TOTAL	146.7	232.1	863.2	797	1,418	1,124	592	287.5	172.1	152.2	123.9	89.3
MEAN	4.73	7.74	27.8	25.7	50.6	36.3	19.7	9.27	5.74	4.91	4.00	2.98
CFSM	.195	.319	1.14	1.06	2.08	1.49	.811	.382	.236	.202	.165	.123
IN	.22	.36	1.32	1.22	2.17	1.72	.91	.44	.26	.23	.19	.14

CALENDAR YEAR 1964 MAX 321 MIN 2.0 MEAN 24.0 CFSM .988 INCHES 13.45
WATER YEAR 1964-65 MAX 552 MIN 2.1 MEAN 16.4 CFSM .675 INCHES 9.18

Peak discharge (base, 800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-8	0745	4.28	1,050				

* Discharge measurement made on this day.
a No gage-height record.
b Stage-discharge relation affected by ice.

1-5800. Deer Creek at Rocks, Md.

Location.--Lat 39°37'49", long 76°24'13", on right bank a quarter of a mile downstream from Maryland & Pennsylvania Railroad bridge, three-quarters of a mile southeast of Rocks, Harford County, 1.2 miles upstream from Stirrup Run, and 7 miles northwest of Bel Air.

Drainage area.--94.4 sq mi.

Records available.--October 1926 to September 1965. Monthly discharge only for November and December 1926, published in WSP 1302.

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

Average discharge.--39 years, 120 cfs.

Extremes.--Maximum discharge during year, 2,470 cfs Feb. 8 (gage height, 7.34 ft); minimum, 24 cfs Oct. 29 (gage height, 1.83 ft).
1926-65: 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, 13 cfs Aug. 2, 1931.
Maximum stage known since at least 1888, that of Aug. 23, 1933.

Remarks.--Records good except those for periods of ice effect, which are fair. Some regulation at low flow by mills above station.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.9	28	3.5	404
2.2	60	4.0	650
2.6	127	4.5	910
3.0	225		

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	* 62	37	42	64	b 65	83	100	74	56	38	62	32
2	53	37	43	65	b 60	80	106	74	58	34	66	62
3	66	37	45	66	b 55	79	99	72	77	35	41	37
4	45	37	59	60	b 50	78	94	70	60	38	37	34
5	42	* 37	76	b 58	b 45	430	91	70	55	90	37	32
6	39	37	122	57	b 50	228	91	72	54	96	36	32
7	38	36	71	* 55	465	160	110	81	52	45	35	31
8	37	37	57	82	680	136	102	90	51	42	34	30
9	38	37	55	83	192	124	99	79	54	40	40	30
10	38	37	50	108	191	116	92	75	52	43	46	29
11	37	37	50	89	173	106	88	70	49	545	35	28
12	37	37	162	78	148	100	88	67	49	133	34	32
13	37	37	118	b 74	129	96	81	65	47	68	32	55
14	37	36	79	b 68	111	95	79	63	45	58	33	47
15	37	35	66	b 60	105	93	86	62	46	* 52	31	37
16	37	37	58	b 64	100	89	108	64	49	49	30	36
17	51	41	59	b 66	97	90	88	83	50	46	29	33
18	51	38	b 52	b 64	92	103	84	* 66	52	44	30	33
19	42	39	b 45	63	88	114	102	62	50	47	72	33
20	43	45	b 52	62	79	110	94	61	48	42	51	31
21	40	42	53	61	84	98	87	59	44	40	33	31
22	39	37	50	63	80	97	83	60	42	39	88	30
23	39	36	49	84	76	99	82	61	41	40	55	29
24	38	38	50	136	77	98	82	61	46	40	42	32
25	38	142	54	122	145	105	81	64	44	38	38	67
26	38	273	59	b110	118	171	87	71	39	36	40	37
27	38	75	144	b 95	b 80	147	86	62	37	36	37	33
28	38	57	196	b 85	86	119	82	63	37	35	35	31
29	37	52	97	b 75	-	124	79	79	37	33	31	32
30	37	47	80	b 70	------	116	75	64	37	33	30	31
31	37	------	71	b 65	------	104	------	58	------	34	30	------
TOTAL	1,286	1,550	2,264	2,352	3,721	3,788	2,706	2,122	1,458	1,989	1,270	1,067
MEAN	41.5	51.7	73.0	75.9	133	122	90.2	68.5	48.6	64.2	41.0	35.6
CFSM	.440	.548	.773	.804	1.41	1.29	.956	.726	.515	.680	.434	.377
IN	.51	.61	.89	.93	1.47	1.49	1.07	.84	.57	.78	.50	.42

CALENDAR YEAR 1964 MAX 950 MIN 27 MEAN 95.2 CFSM 1.01 INCHES 13.72
WATER YEAR 1964-65 MAX 680 MIN 28 MEAN 70.1 CFSM .743 INCHES 10.07

Peak discharge(base, 1,900 cfs)

Date	Time	Gage height	Discharge
2-8	0030	7.34	2,470

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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, and 1.0 mile east of Bel Air, Harford County.

Drainage area.--8.52 sq mi.

Records available.--June 1944 to April 1951, July 1955 to September 1965. October 1950 to September 1955 at site 0.5 mile upstream, published as "near Bel Air"; records not equivalent.

Gage.--Water-stage recorder (digital) and concrete control. Datum of gage is 251.94 ft above mean sea level (Maryland State Roads Commission bench mark).

Average discharge.--16 years (1944-50, 1955-65), 10.5 cfs.

Extremes.--Maximum discharge during year, 1,120 cfs Feb. 7 (gage height, 5.09 ft); minimum, 0.7 cfs many days in Aug. and Sept. (gage height, 0.84 ft).
1944-51, 1955-65: 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; minimum, 0.2 cfs Sept. 5, 1957, Sept. 2, 3, 10-15, 1963.

Remarks.--Records good except those for periods of ice effect, which are fair. 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.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.8	0.4	1.5	28
.9	1.5	1.7	46
1.0	3.3	2.0	93
1.1	6.1	2.5	185
1.2	9.8	3.0	305
1.3	15		

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.0	1.4	2.6	4.8	b4.0	6.7	7.7	5.1	2.7	1.7	7.8	16
2	5.9	1.4	1.8	5.7	b4.0	6.3	10	5.1	3.5	1.5	3.9	4.0
3	2.7	1.4	2.1	5.9	b3.5	6.2	8.4	4.8	6.1	1.5	1.2	1.1
4	1.6	*1.4	6.0	4.9	b3.0	6.1	7.2	4.4	3.0	1.5	1.6	1.0
5	1.5	1.4	7.0	4.1	b2.5	165	6.7	4.3	2.6	6.5	1.9	1.1
6	1.4	1.4	23	b3.9	4.3	23	6.8	4.6	2.5	2.9	1.3	1.0
7	1.4	1.4	4.4	*3.8	254	13	11	7.6	2.4	1.7	1.1	1.0
8	1.2	1.4	3.2	13	101	9.9	8.6	6.6	53	1.6	39	1.0
9	1.4	1.5	2.9	20	20	8.9	8.6	5.4	66	1.5	8.8	1.0
10	1.3	1.4	2.4	17	25	8.2	7.1	4.7	5.7	1.4	1.7	.90
11	1.3	1.5	2.5	12	16	7.2	6.4	4.2	3.5	36	1.3	.90
12	1.3	1.5	98	9.4	13	6.8	6.2	3.8	3.0	3.5	1.2	1.7
13	1.2	1.4	12	b7.0	10	6.5	5.4	3.6	2.6	2.0	1.2	7.8
14	1.3	1.4	6.3	b5.0	8.5	6.8	5.2	3.3	2.4	1.8	1.3	1.8
15	1.3	1.5	4.3	b4.0	b8.0	6.6	9.7	3.3	2.5	1.6	1.2	1.2
16	1.2	1.5	3.5	b4.3	b7.6	6.1	15	6.3	3.0	1.5	1.1	1.1
17	3.8	1.5	3.7	b4.5	b7.0	6.7	7.4	6.7	2.9	1.4	1.1	1.0
18	2.3	1.4	3.3	b4.2	b6.6	14	6.4	*3.6	3.1	1.4	1.2	1.0
19	1.6	1.8	b2.2	b4.1	b6.0	15	13	3.2	2.8	1.3	1.8	1.0
20	1.5	2.7	b3.0	b4.0	b5.0	10	8.6	3.1	2.4	*1.1	1.1	.90
21	1.5	1.8	b3.5	4.6	b6.0	9.0	6.8	3.0	2.1	1.0	.90	.80
22	1.4	1.5	b3.2	6.5	5.9	9.7	6.1	3.1	2.0	1.1	8.4	.80
23	1.4	1.4	b3.0	18	4.9	9.9	5.9	3.0	1.9	1.1	1.7	.80
24	1.4	1.5	b3.3	66	5.1	9.2	5.6	3.0	2.0	1.2	1.3	5.8
25	1.5	59	4.7	39	25	21	5.7	7.9	2.0	1.2	1.1	2.5
26	1.4	22	6.2	26	11	75	7.7	6.1	1.8	1.0	1.6	1.0
27	1.4	3.6	134	18	6.0	17	6.5	3.2	1.7	1.0	1.2	.90
28	1.5	2.7	31	10	6.9	11	6.1	3.0	1.8	1.0	1.0	.80
29	1.5	2.3	9.2	7.4	-	14	5.6	9.7	1.8	.90	.80	.90
30	1.4	2.1	7.0	5.5	------	11	5.1	3.5	1.8	1.0	.70	.90
31	1.4	------	5.6	4.7	------	8.4	------	2.9	------	1.2	.70	------
TOTAL	53.0	128.2	404.9	347.3	579.8	534.2	226.5	142.1	194.6	85.10	100.20	61.70
MEAN	1.71	4.27	13.1	11.2	20.7	17.2	7.55	4.58	6.49	2.75	3.23	2.06
CFSM	.201	.501	1.54	1.31	2.43	2.02	.886	.538	.762	.323	.379	.242
IN	.23	.56	1.77	1.52	2.53	2.33	.99	.62	.85	.37	.44	.27

CALENDAR YEAR 1964 MAX 212 MIN .60 MEAN 9.92 CFSM 1.16 INCHES 15.84
WATER YEAR 1964-65 MAX 254 MIN .70 MEAN 7.83 CFSM .919 INCHES 12.47

Peak discharge (base, 440 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-7	2015	5.09	1,120	6-8	1815	3.78	548
3-5	1115	4.16	694				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--Where daily discharge is less than 1.0 cfs the zero in the hundredths column is not significant.

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 1965.

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

Average discharge.--21 years, 65.6 cfs.

Extremes.--Maximum discharge during year, 2,090 cfs July 11 (gage height, 6.24 ft); minimum, 13 cfs Nov. 23.
1944-65: 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, 6.0 cfs Feb. 20, 1947; minimum daily, 12 cfs Aug. 3, 1955.
Flood in August 1933 reached a stage of about 14 ft, from information by Pennsylvania Railroad.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 25
Aug. 23 to Sept. 30

0.5	14	0.8	38
.6	20	1.0	67

Nov. 26 to Aug. 22

0.5	18	1.5	165
.6	24	2.0	280
.8	40	2.5	430
1.0	67	3.0	600

Note.--Same as following table above 1.0 ft.

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	* 23	21	25	33	32	42	48	38	30	22	60	31
2	40	21	25	34	31	41	52	38	35	20	29	34
3	27	21	27	35	29	40	47	37	46	21	22	18
4	22	21	44	32	26	40	45	36	33	23	21	17
5	21	21	39	31	25	193	45	36	30	126	22	17
6	20	21	67	30	34	108	44	37	30	42	21	17
7	20	21	36	29	354	78	51	52	29	26	21	16
8	20	21	31	45	218	66	47	49	29	25	21	16
9	20	21	30	44	93	60	46	42	30	23	33	16
10	20	21	28	50	99	55	45	40	29	26	26	15
11	19	21	28	45	83	50	44	37	28	503	21	15
12	20	21	88	37	74	48	42	36	28	65	20	20
13	20	21	50	33	62	46	40	36	26	37	19	36
14	20	20	38	31	53	45	40	34	26	33	20	22
15	20	20	* 33	30	50	44	46	34	27	* 29	19	19
16	20	22	30	32	47	44	53	38	28	28	19	19
17	28	22	30	34	45	45	44	47	29	26	18	18
18	25	21	28	32	44	51	42	* 36	30	26	35	18
19	24	23	25	32	42	59	55	34	28	29	* 29	17
20	24	26	30	32	40	54	46	33	28	24	20	17
21	22	22	29	32	41	48	44	33	25	23	19	17
22	22	21	28	34	39	48	42	33	25	23	51	16
23	22	20	28	42	38	48	42	34	24	24	23	16
24	22	22	29	70	41	48	42	33	25	23	19	40
25	22	81	30	65	89	53	42	36	25	22	19	31
26	22	81	32	60	55	91	44	39	23	21	19	19
27	22	34	84	54	40	72	44	36	22	21	18	18
28	22	30	84	45	44	59	42	34	22	21	17	*17
29	22	28	44	40	-	62	40	44	22	20	15	17
30	22	27	40	36	------	56	39	34	22	20	15	17
31	21	------	36	35	------	50	------	32	------	20	15	------
TOTAL	694	793	1,196	1,214	1,868	1,844	1,343	1,158	834	1,392	726	606
MEAN	22.4	26.4	38.6	39.2	66.7	59.5	44.8	37.4	27.8	44.9	23.4	20.2
CFSM	.423	.499	.730	.741	1.26	1.12	.847	.707	.526	.849	.442	.382
IN	.49	.56	.84	.85	1.31	1.30	.94	.81	.59	.98	.51	.43

CALENDAR YEAR	1964	MAX	592	MIN	14	MEAN	50.9	CFSM	.962	INCHES	13.09	
WATER YEAR	1964-65	MAX	503	MIN	15	MEAN	37.4	CFSM	.707	INCHES	9.61	

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-7	2200	5.29	1,600	7-11	1400	6.24	2,090

* Discharge measurement made on this day.

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 1965.

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

Average discharge.--18 years, 2.23 cfs.

Extremes.--Maximum discharge during year, 150 cfs July 11 (gage height, 3.00 ft); minimum, 0.3 cfs Aug. 20 Sept. 8, 10-11 (gage height, 1.18 ft).
1947-65: Maximum discharge, 485 cfs July 21, 1956 (gage height, 4.68 ft), from rating curve extended above 92 cfs by logarithmic plotting; minimum, 0.02 cfs Aug. 18, 1954, caused by regulation from unknown source; minimum daily, 0.2 cfs Aug. 12, Sept. 11-14, 1963.

Remarks.--Records good except those for periods of ice effect or doubtful or no gage-height record, which are fair.

Rating table, except periods of ice effect (gage height in feet, and discharge, in cubic feet per second)

1.2	0.4	1.6	11
1.3	1.4	1.8	23
1.4	3.7		

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.80	0.70	0.80	1.1	a1.3	1.8	2.1	1.7	1.1	0.80	1.2	0.50
2	.90	.70	.80	1.3	a1.2	1.7	2.2	1.9	1.3	.70	.80	.50
3	.80	.70	.90	1.2	a1.1	1.6	2.0	1.4	1.8	.70	.70	.40
4	.70	.80	1.4	1.1	a1.0	1.6	2.0	1.5	1.3	.70	5.9	.40
5	*.70	.70	1.3	1.1	a1.0	20	1.8	1.6	1.2	1.1	2.2	.40
6	.70	.70	2.3	1.0	a1.3	3.8	1.9	1.5	1.1	.80	.70	.40
7	.70	.70	1.2	1.0	b22	2.8	2.1	2.1	1.0	.80	.60	.40
8	.70	.70	1.0	1.7	7.5	2.4	2.0	1.8	2.0	.80	.50	.40
9	.70	.70	1.0	1.9	2.9	2.3	1.9	1.7	1.3	.70	.70	.40
10	.70	.80	.90	2.0	3.1	2.1	1.8	1.6	1.2	.80	.70	.40
11	.80	.70	.90	1.7	2.4	2.0	1.8	1.5	.90	15	.60	.40
12	.90	.70	6.9	1.4	2.4	1.9	1.7	1.4	1.0	1.4	.60	.80
13	.70	.70	1.7	1.4	2.1	1.8	1.6	1.4	.90	1.1	.50	2.3
14	.70	.70	1.3	b1.3	2.0	1.8	1.6	1.3	.90	*.90	.60	.70
15	.70	.70	1.1	b1.2	1.9	1.8	2.0	1.3	1.0	.90	.50	.60
16	.70	.80	1.0	1.1	1.8	1.8	2.2	1.5	1.1	.90	.40	.50
17	1.0	.70	1.0	a1.2	1.8	1.9	1.8	1.6	1.2	.80	*.40	.50
18	.80	.70	.90	a1.2	1.8	2.3	1.8	1.3	1.2	.80	.50	.50
19	.80	.80	1.5	a1.2	1.6	2.5	2.2	*1.3	1.1	.80	.40	.50
20	.70	.90	1.0	a1.2	1.6	2.2	1.9	1.2	1.0	.70	.40	.50
21	.70	.80	.90	b1.3	1.6	2.1	1.8	1.3	.90	.70	.40	.50
22	.70	.70	.90	1.3	1.5	2.1	1.8	1.3	.90	.70	1.0	.50
23	.70	.80	.90	2.7	1.4	2.0	1.8	1.2	.90	.90	.70	.40
24	.70	.80	.90	4.8	1.4	1.9	1.8	1.7	1.1	.80	.60	.80
25	.70	6.4	1.0	2.7	5.0	2.5	1.9	1.4	.90	.70	.60	.60
26	.70	1.9	1.0	2.3	2.2	7.2	2.1	1.2	.90	.60	.70	.50
27	.70	1.0	7.9	2.1	1.9	3.0	1.9	1.2	.80	.60	.60	.50
28	.80	.90	3.0	1.8	1.8	2.5	1.8	1.2	.80	.60	.50	.50
29	.70	.90	1.7	1.6	-	2.7	1.8	1.7	.80	.60	.40	.50
30	.70	.90	1.4	1.4	------	2.3	1.7	1.2	.80	.60	.40	.50
31	.70	------	1.3	a1.4	------	2.2	------	1.2	------	.60	.40	------
TOTAL	23.00	29.70	49.80	49.7	78.6	90.6	56.8	45.2	32.40	38.60	25.20	16.80
MEAN	.74	.99	1.61	1.60	2.81	2.92	1.89	1.46	1.08	1.25	.81	.56
CFSM	.355	.474	.770	.766	1.34	1.40	.904	.699	.517	.598	.389	.268
IN	.41	.53	.89	.88	1.40	1.61	1.01	.80	.58	.69	.45	.30

CALENDAR YEAR 1964 MAX 42 MIN .40 MEAN 1.82 CFSM .871 INCHES 11.85
WATER YEAR 1964-65 MAX 22 MIN .40 MEAN 1.47 CFSM .703 INCHES 9.54

Peak discharge (base, 900 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-7	1830	2.85	130	7-11	1215	3.00	150
3-5	0930	2.51	90	8- 4	2245	2.70	112

* Discharge measurement made on this day.
a No gage-height record.
b Stage-discharge relation affected by ice.
Note.--Where daily discharge is less than 1.0 cfs the zero in the hundredths column is not significant.

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, and 3.2 miles upstream from Beaverdam Run.

Drainage area.--59.8 sq mi.

Records available.--September 1944 to September 1965.

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

Average discharge.--21 years, 65.1 cfs.

Extremes.--Maximum discharge during year, 1,720 cfs Feb. 7 (gage height, 6.03 ft); minimum, 11 cfs Aug. 21, Sept. 11 (gage height, 0.53 ft).
1944-65: 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, 3.4 cfs Jan. 31, Feb. 7, 11, 1962 (gage height, 0.41 ft), result of freezeup.

Remarks.--Records good except those for periods of ice effect, which are fair.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 7				Feb. 8 to Sept. 30			
0.6	16	1.6	141	0.5	9.5	1.6	141
.8	29	1.9	210	.7	20	1.9	210
1.0	49	2.3	330	1.0	44	2.3	330
1.3	88			1.3	86		

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	*24	19	22	32	b35	55	57	42	30	19	44	14
2	29	19	22	33	b32	51	59	42	31	18	24	20
3	29	19	23	34	b30	51	55	41	32	18	18	15
4	22	19	33	30	b28	49	52	39	33	16	17	14
5	21	19	35	29	b27	309	51	39	30	24	35	14
6	20	19	56	29	b35	125	51	40	29	22	20	14
7	20	19	33	28	302	89	56	48	28	19	18	14
8	20	19	27	41	295	76	54	50	31	19	18	13
9	20	*19	27	42	110	69	52	45	32	18	21	13
10	20	19	25	58	108	63	49	42	28	17	19	13
11	19	19	24	48	96	57	48	40	26	116	18	16
12	20	19	84	45	88	55	46	38	25	39	16	16
13	20	19	54	41	76	54	43	37	24	25	15	96
14	20	19	38	36	67	52	43	35	24	*28	15	21
15	20	19	*32	b35	64	51	49	35	24	24	14	17
16	20	20	b25	b30	60	49	60	36	27	32	14	17
17	24	21	28	b35	59	51	49	*46	*28	22	14	16
18	24	20	27	b35	56	59	47	33	29	21	13	16
19	21	20	b22	b30	52	66	57	34	26	21	*14	15
20	22	24	28	b30	45	62	51	33	25	19	13	15
21	21	22	26	b35	49	55	48	32	23	18	16	15
22	20	21	26	40	48	55	46	34	22	16	25	14
23	20	20	26	45	48	55	46	35	21	20	19	14
24	19	20	26	119	48	54	46	37	23	20	16	17
25	20	45	28	73	116	66	48	37	22	18	16	25
26	20	82	29	69	76	133	52	33	20	17	17	15
27	20	29	75	61	59	91	50	32	20	16	17	14
28	20	25	102	49	56	72	47	33	20	16	15	*14
29	20	24	48	45	-	75	45	43	19	16	15	14
30	20	23	40	b40	------	66	43	34	19	16	13	14
31	19	------	36	b35	------	60	------	31	------	16	14	------
TOTAL	654	701	1,127	1,332	2,155	2,275	1,500	1,178	791	725	549	475
MEAN	21.1	23.4	36.4	43.0	77.0	73.4	50.0	38.0	26.4	23.4	17.7	15.8
CFSM	.353	.391	.609	.719	1.29	1.23	.836	.636	.442	.391	.296	.264
IN	.41	.44	.70	.83	1.34	1.41	.93	.73	.49	.45	.34	.30

CALENDAR YEAR 1964 MAX 712 MIN 13 MEAN 49.3 CFSM .824 INCHES 11.22
WATER YEAR 1964-65 MAX 309 MIN 12 MEAN 36.9 CFSM .617 INCHES 8.37

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-7	2330	6.03	1,720	3-5	1300	4.45	1,050

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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 above 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 1965.

Gage.--Water-stage recorder. Altitude of gage is 330 ft (from topographic map).

Extremes.--1964: Maximum discharge during period August to September, 3.6 cfs Sept. 29 (gage height, 1.79 ft); minimum, 0.2 cfs Sept. 5 (gage height, 1.27 ft).
1965: Maximum discharge during year, 70 cfs Aug. 4 (gage height, 2.70 ft), from rating curve extended above 8 cfs on basis of slope-area measurement made prior to establishment of station at gage height 2.87 ft; minimum, 0.2 cfs Sept. 10 (gage height, 1.25 ft).
1964-65: Maximum, that of Aug. 4, 1965; minimum, that of Sept. 5, 1964, Sept. 10, 1965.
Flood of July 3, 1964 reached a stage of 2.87 ft, from flood marks (discharge 111 cfs from rating curve extended as explained above).

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Rating table, Aug. 1, 1964 to Sept. 30, 1965, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)

1.3	0.2	1.7	2.6
1.5	1.0	1.9	5.2

Discharge, in cubic feet per second, water year August 1964 to September 1964

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1											0.9	0.4
2											.9	.4
3											1.2	.4
4											1.0	.4
5											.9	.4
6											.8	.4
7											.9	.4
8											.9	.4
9											.7	.4
10											.8	.4
11											.8	.4
12											.7	.6
13											.7	.6
14											.7	.4
15											.7	.4
16											.7	.4
17											.7	.4
18											.7	.4
19											.7	.5
20											*.7	.7
21											.6	.5
22											.6	.5
23											.6	.5
24											.5	.4
25											.4	.3
26											.4	.4
27											.4	.4
28											*.5	.8
29											.5	1.4
30					------						.5	1.0
31		------			------		------		------		.5	-------
Total											21.6	15.0
Mean											0.70	0.50
Cfsm											.476	.340
In.											.55	.38

* Discharge measurement made on this day.

1-5835.8. Baisman Run at Broadmoore, Md.

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*0.7	0.6	0.8	0.9	0.8	1.1	1.4	1.2	0.9	0.6	1.2	0.5
2	1.0	.6	.8	1.0	.8	1.1	1.5	1.2	1.1	.5	.6	.5
3	.7	.6	.9	.9	.8	1.1	1.5	1.2	1.4	.5	.4	.4
4	.6	.6	1.2	.8	.7	1.1	1.4	1.2	.9	.5	1.6	.4
5	.6	.6	1.2	.8	.7	4.2	1.4	1.2	.9	.9	1.3	.3
6	.6	.6	1.9	.7	.7	*2.2	1.4	1.2	.8	.7	.6	.3
7	.5	.6	1.1	.7	4.5	1.8	1.6	1.6	.7	.5	.5	.3
8	.5	.6	.8	1.3	3.0	1.6	1.5	1.4	1.2	.5	1.0	.2
9	.6	.6	.7	1.3	2.0	1.5	1.4	1.4	1.1	.5	.9	.2
10	.6	.6	.7	1.4	1.6	1.4	1.4	1.2	.8	.4	.6	.2
11	.6	.6	.7	1.1	1.4	1.3	1.4	1.1	.7	1.4	.6	.2
12	.6	.6	2.9	.9	1.2	1.2	1.4	1.1	.7	1.2	.4	.4
13	.6	.6	1.4	.9	1.1	1.2	*1.2	1.0	.7	.8	*.4	.9
14	.6	.6	1.0	.9	1.0	1.2	1.2	1.0	.7	.7	.4	.5
15	.6	.6	.8	.8	*1.0	1.2	1.5	1.0	.7	*1.4 1.0	.4	.4
16	.6	.6	.7	.8	1.0	1.2	1.7	1.4	.8	1.0	.4	.4
17	.9	.6	.6	.8	.9	1.2	1.5	*1.4	*.8	.6	.3	.4
18	.7	.6	.6	.8	.8	1.5	1.4	1.1	.9	.6	.3	.4
19	.7	.7	.5	.8	.8	*1.7	1.8	1.0	.8	.6	.4	.4
20	.6	.7	.6	.8	.7	1.5	1.5	.9	.7	.4	.6	.4
21	.6	.6	.7	.9	.8	1.4	1.4	.9	.7	.4	.3	.4
22	.6	.6	.7	1.0	.9	1.5	1.4	1.0	.7	.4	.6	.4
23	.6	.6	.7	1.2	.9	1.4	1.4	1.0	.7	.5	.5	.3
24	.6	.6	.7	2.8	.8	1.4	1.4	1.1	.7	.5	.4	.6
25	.6	2.6	.7	2.0	2.5	1.9	1.5	1.1	.7	.4	.4	.5
26	.6	1.8	.9	1.6	1.4	*2.9	1.5	.9	.7	.4	.5	.4
27	.6	1.1	3.4	1.3	1.1	2.1	1.4	.8	.6	.4	.4	.4
28	.6	1.0	2.1	1.1	1.1	1.8	1.4	.8	.6	.4	.3	.4
29	.6	.9	1.2	.9	-	2.0	1.3	1.5	.6	.4	.2	.4
30	.6	.9	1.0	.9	------	1.6	1.2	.9	.6	.3	.2	.4
31	.6	------	.9	.8	------	1.5	------	.8	------	.3	.3	------
Total	19.5	22.9	32.9	32.9	35.0	49.8	43.0	34.6	23.9	18.7	17.0	11.9
Mean	.63	.76	1.06	1.06	1.25	1.61	1.43	1.12	.80	.60	.55	.40
Cfsm	.429	.517	.721	.721	.850	1.10	.973	.762	.544	.408	.374	.272
In.	.49	.58	.83	.83	.89	1.26	1.09	.88	.60	.47	.43	.30

Calendar year 1964: Max - Min - Mean - Cfsm - In. -
Water year 1964-65: Max 4.5 Min .2 Mean .94 Cfsm .639 In. 8.65

Peak discharge (base, 15 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-11	Unknown	2.31	20	8-4	2230	2.70	70
7-15	2015	2.38	26				

* Discharge measurement made on this day.
Note.--No gage-height record July 5-15.
Stage-discharge relation affected by ice Dec. 8, 17-18, Jan. 6, Jan. 10 to Feb. 25 (no gage-height record Jan. 12 to Feb. 25).

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, and 5 miles southwest of Bel Air.

Drainage area.--36.1 sq mi.

Records available.--October 1926 to September 1965. Monthly discharge only for some periods. published in WSP 1302.

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

Average discharge.--39 years, 45.9 cfs.

Extremes.--Maximum discharge during year, 1,680 cfs Feb. 7 (gage height, 5.40 ft); minimum, 9.3 cfs Aug. 29, Sept. 10, 11 (gage height, 0.80 ft).
1926-65: 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 3.1 cfs Feb. 15, 1931, Mar. 15, 1932, Feb. 20, 1947, result of freezeup; minimum gage height, 0.59 ft Feb. 20, 1947, Aug. 13, 1963.

Remarks.--Records good except those for periods of ice effect, which are fair.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.8	9.3	2.0	105
1.0	16	2.5	186
1.2	26	3.0	311
1.5	50	3.5	480

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	* 19	14	18	27	25	32	37	30	22	14	28	13
2	27	14	18	28	b 23	31	41	31	22	13	33	17
3	23	14	19	29	22	31	37	30	34	13	14	12
4	17	14	25	26	20	31	36	28	24	13	13	11
5	16	14	27	25	19	179	35	27	21	21	18	11
6	15	14	52	24	23	73	35	28	21	22	13	11
7	15	14	27	* 23	321	51	40	33	20	15	13	10
8	15	14	24	38	203	44	38	39	23	14	13	10
9	15	14	22	41	65	41	38	32	32	14	14	9.9
10	15	14	21	52	65	39	35	30	23	13	13	9.8
11	14	14	20	41	56	36	34	28	20	132	12	9.7
12	15	14	104	39	49	34	34	26	19	33	11	12
13	15	14	47	35	42	34	31	25	18	20	11	22
14	15	14	32	b 30	38	34	31	24	17	18	12	15
15	15	14	27	b 23	37	33	36	24	18	16	11	13
16	14	14	25	26	36	32	49	27	20	15	10	13
17	19	15	24	27	35	33	37	34	21	14	10	12
18	19	14	23	26	34	41	35	* 25	21	14	13	11
19	16	15	b 19	24	32	46	44	24	20	13	16	11
20	16	18	b 22	24	29	41	39	23	18	* 13	12	11
21	15	17	22	24	31	38	36	22	17	12	10	11
22	14	15	22	25	30	38	34	23	16	12	22	11
23	14	15	22	35	29	38	34	24	15	13	16	10
24	14	15	23	76	29	37	33	23	16	13	13	11
25	14	76	25	61	64	48	34	26	16	13	12	15
26	14	105	28	54	43	106	37	49	15	12	13	11
27	14	28	99	49	b 32	58	36	25	14	11	13	11
28	14	23	84	37	33	46	34	23	14	11	12	10
29	15	21	40	32	-	48	33	36	14	11	9.9	11
30	15	19	33	b 29	------	44	31	26	14	11	9.8	11
31	14	------	30	b 27	------	39	------	23	------	11	9.8	------
TOTAL	492	620	1,024	1,057	1,465	1,456	1,084	868	585	570	430.5	356.4
MEAN	15.9	20.7	33.0	34.1	52.3	47.0	36.1	28.0	19.5	18.4	13.9	11.9
CFSM	.440	.573	.914	.945	1.45	1.30	1.00	.776	.540	.510	.385	.330
IN	.51	.64	1.05	1.09	1.51	1.50	1.12	.89	.60	.59	.44	.37

CALENDAR YEAR 1964 MAX 307 MIN 8.5 MEAN 32.7 CFSM .906 INCHES 12.32
WATER YEAR 1964-65 MAX 321 MIN 9.7 MEAN 27.4 CFSM .759 INCHES 10.31

Peak discharge(base,1,000 cfs)

Date	Time	Gage height	Discharge
2-7	2045	5.40	1,680

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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 1¾ miles upstream from Honeygo Run.

Drainage area.--7.61 sq mi.

Records available.--February 1959 to September 1965.

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

Average discharge.--6 years, 8.98 cfs.

Extremes.--Maximum discharge during year, 974 cfs Aug. 5 (gage height, 4.91 ft) from rating curve extended as explained below; minimum, no flow Mar. 20, result of regulation caused by construction work above station; minimum daily, 0.2 cfs Mar. 20.
1959-65: Maximum discharge, 1,580 cfs Sept. 12, 1960 (gage height, 6.60 ft) from rating curve extended above 350 cfs on basis of computation of peak flow over broad-crested weir; minimum, that of Mar. 20, 1965; minimum daily, that of Mar. 20, 1965.

Remarks.--Records good except those above 350 cfs, and those for periods of ice effect, which are fair. Low flow affected by operations of sand and gravel plant in vicinity of gage.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.15	0.1	1.5	5.4	2.2	84
1.2	0.3	1.6	9.6	2.4	124
1.3	1.0	1.8	24	2.6	172
1.4	2.6	2.0	50		

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.7	2.0	2.4	5.4	b2.8	4.7	5.4	3.8	2.2	1.0	21	4.9
2	5.4	2.0	2.8	5.0	b2.8	4.1	6.1	4.1	2.7	.7	17	2.8
3	2.8	1.8	3.5	5.0	b2.8	4.1	5.0	3.5	13	.7	1.5	1.2
4	2.0	1.6	8.2	3.8	b2.6	3.5	4.7	3.2	3.0	.7	29	1.0
5	2.8	2.2	7.5	3.8	2.6	157	4.4	3.2	2.2	4.9	154	1.2
6	1.8	2.2	24	3.8	3.8	26	4.4	3.2	2.0	2.8	5.4	.9
7	1.8	2.0	5.0	3.2	148	11	9.1	6.7	1.8	1.5	2.8	.9
8	1.8	1.6	3.8	15	93	8.6	6.1	5.8	5.0	1.2	5.3	.8
9	2.0	2.4	3.5	23	16	7.7	6.1	4.1	6.7	1.0	18	.8
10	2.2	*2.2	3.8	28	25	6.5	4.7	3.8	2.6	.9	3.0	.7
11	1.4	2.2	4.4	20	14	6.1	4.4	3.2	2.0	24	1.8	.8
12	2.2	2.2	114	12	11	5.4	4.4	2.8	1.8	5.0	1.5	1.2
13	1.8	2.2	14	b9.1	b6.9	4.7	3.8	2.8	1.5	1.8	1.0	19
14	1.8	2.0	6.5	b5.8	b5.0	4.7	3.5	2.2	1.4	1.5	1.0	4.1
15	1.8	2.0	4.4	b4.1	b4.7	4.7	7.1	2.2	1.5	1.4	.9	2.2
16	1.8	2.6	3.0	b3.5	b4.4	4.4	8.2	3.6	2.4	*1.1	.8	1.5
17	7.2	2.2	3.5	b3.8	b3.5	4.4	4.4	8.1	2.2	1.0	.8	1.2
18	2.6	2.2	3.0	b3.8	b3.2	11	4.4	*2.8	2.6	1.1	19	1.2
19	2.6	2.8	b2.2	b3.8	b3.0	5.0	9.1	2.4	2.2	1.5	5.5	1.1
20	2.2	4.4	b4.1	b3.8	b2.8	.2	6.1	2.0	1.8	.9	2.9	1.1
21	2.0	2.6	b3.2	b4.1	b3.5	6.1	4.7	2.0	1.2	.7	1.4	1.1
22	2.0	1.8	b2.6	11	b3.2	7.7	4.4	2.2	1.0	.5	36	1.0
23	2.6	2.2	b2.8	18	b3.0	6.5	3.8	2.6	1.0	.5	4.4	.9
24	1.8	2.4	b3.2	82	3.2	6.1	3.5	3.8	1.2	.5	2.6	4.7
25	1.8	63	4.7	26	32	13	5.0	3.0	1.0	.6	2.0	2.3
26	2.6	48	5.0	14	8.2	66	7.7	2.6	.7	.6	6.3	1.1
27	2.0	6.9	116	10	5.0	14	5.0	2.6	.7	.4	2.4	.9
28	2.0	5.4	45	5.8	4.7	9.1	4.4	2.8	.9	.5	1.6	.9
29	2.0	3.5	9.1	4.4	-	14	4.1	14	1.0	1.8	1.0	.9
30	2.0	2.8	6.9	3.5	------	9.6	4.1	3.2	1.2	1.8	1.1	.9
31	2.0	------	5.0	3.2	------	6.1	------	2.4	------	1.6	1.0	------
Total	75.5	183.4	427.1	347.7	420.7	442.0	158.1	114.7	70.5	64.2	352.0	63.3
Mean	2.44	6.11	13.8	11.2	15.0	14.3	5.27	3.70	2.35	2.07	11.4	2.11
Cfsm	.321	.803	1.81	1.47	1.97	1.88	.692	.486	.309	.272	1.50	.277
In.	.37	.90	2.09	1.70	2.06	2.16	.77	.56	.34	.31	1.72	.31

Calendar year 1964: Max 192 Min .5 Mean 9.36 Cfsm 1.23 In. 16.73
Water year 1964-65: Max 157 Min .2 Mean 7.45 Cfsm 0.979 In. 13.29

Peak discharge (base, 390 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-25	2300	3.30	410	3-5	1130	4.11	694
2- 7	2200	4.50	830	8-5	0100	4.91	974

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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, 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 (discontinued).

Gage.--Water-stage recorder. Concrete control since July 30, 1958. Altitude of gage is 285 ft (from topographic map).

Average discharge.--7 years (1958-1964), 2.16 cfs.

Extremes.--Maximum discharge during period, 222 cfs Feb. 7 (gage height, 3.55 ft); minimum daily 0.4 Nov. 21-24. 1957-65: Maximum discharge, 602 cfs July 6, 1958 (gage height, 5.78 ft), from rating curve extended above 110 cfs on basis of computation of peak flow through culvert; no flow Aug. 14-24, 1957.

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

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.3	0.4	1.7	6.7
1.4	1.2	1.9	14
1.5	2.6	2.1	28
1.6	4.2	2.3	46

Discharge, in cubic feet per second, water year October 1964 to May 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	d 0.7	0.5	0.8	b1.0	1.4	a1.4	d1.0				
2	2.7	d .7	.5	d1.6	b1.0	1.4	a2.5	d1.0				
3	1.4	.7	1.4	d1.0	b.9	1.2	a1.4	d1.0				
4	1.2	.7	3.0	d.8	b.9	1.7	a1.3	d.9				
5	1.1	.7	5.0	d.8	b.9	19	a1.2	d.9				
6	.8	.7	3.6	*d.6	b1.1	2.6	a1.4	d.9				
7	.7	.7	.7	.6	33	2.1	a2.0	d2.2				
8	.6	.8	.6	4.4	4.2	1.8	a1.3	d1.8				
9	.6	.7	.6	5.8	2.8	1.7	a1.9	d1.1				
10	.6	.7	.6	3.2	4.4	1.7	a1.4	d1.0				
11	.6	.8	.6	3.2	2.2	1.4	a1.3	d.9				
12	.6	.9	20	2.5	2.1	1.4	a1.2	d.8				
13	.6	.8	1.8	1.8	2.0	1.4	a1.1	d.7				
14	.5	.7	1.2	1.4	2.4	1.4	1.0	d.7				
15	.5	.8	.9	b1.2	3.1	1.4	3.9	d.7				
16	.5	1.2	.8	b1.1	2.1	1.1	1.8	d2.0				
17	3.7	.5	.8	b1.2	1.4	a1.3	1.1	*1.0				
18	d.7	.5	.7	b1.2	1.4	a4.2	1.0	.8				
19	d.7	1.4	b.6	b1.0	1.2	a2.5	3.8	.8				
20	d.7	1.8	b2.5	b1.0	1.2	a2.0	1.1	.8				
21	d.7	.4	.8	1.1	1.2	a2.0	1.1	.8				
22	d.7	.4	.7	2.8	1.2	a1.7	1.0	.8				
23	d.7	.4	.6	6.0	1.4	a1.6	1.0	.8				
24	d.7	.4	.7	9.5	1.0	a1.5	1.0	d2.5				
25	d.6	17	.8	2.6	11	a4.0	d2.2	d1.2				
26	d.7	1.9	2.4	1.8	1.7	a8.0	d2.5	d1.2				
27	d.7	.7	14	1.4	1.4	a3.0	d1.1	a1.0				
28	d.7	.6	4.0	1.2	1.5	a2.0	d1.2	a.8				
29	d.7	.5	1.5	1.1	–	4.0	d1.0	a3.0				
30	d.7	.6	1.2	b1.1	---------	1.8	d1.0	a1.3				
31	d.7	----------	1.0	b1.0	---------	1.7	----------	a1.0	----------			----------
Total	27.4	39.4	74.1	64.8	89.7	84.0	46.2	35.4				
Mean	0.88	1.31	2.39	2.09	3.20	2.71	1.53	1.14				
Cfsm	0.413	0.615	1.12	0.981	1.50	1.27	0.718	0.535				
In.	0.48	0.69	1.29	1.13	1.57	1.47	0.80	0.62				

Calendar year 1964: Max 28 Min 0.3 Mean 2.11 Cfsm 0.991 In. 13.47
Water year 1964-65: Max - Min - Mean - Cfsm - In. -

Peak discharge (base, 230 cfs).--No peak above base.

* Discharge measurement made on this day.
a No gage-height record.
b Stage-discharge relation affected by ice.
d Doubtful gage-height record.

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 1 mile northwest of Stemmers Run.

Drainage area.--4.94 sq mi.

Records available.--December 1958 to September 1965.

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

Average discharge.--6 years, 5.92 cfs.

Extremes.--Maximum discharge during year, 1,720 cfs Aug. 4 (gage height, 7.86 ft), from rating curve extended above 500 cfs on basis of contracted-opening measurement at gage height 7.86 ft; minimum daily, 0.3 cfs many days in July and August.
1959-65: Maximum discharge, that of Aug. 4, 1965, from rating curve extended as explained above; minimum daily, 0.1 cfs many days in August and September 1962, 1964.

Remarks.--Records good except those for periods of ice effect, or no gage-height record, which are fair.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.2	0.1	1.8	20
1.3	.7	2.0	38
1.4	2.4	2.5	101
1.5	4.6	3.0	185
1.6	8.2		

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.2	0.50	0.80	1.7	1.2	2.1	2.9	1.7	0.70	0.60	37	4.0
2	4.2	.70	.70	3.8	1.5	1.9	4.9	1.7	4.4	.40	4.2	1.7
3	1.6	.60	1.2	3.3	1.2	1.7	2.9	1.7	12	.30	.80	.60
4	.60	.50	5.7	2.2	1.1	1.7	2.3	1.3	1.9	.30	*109	.60
5	.50	.50	9.2	1.4	1.1	135	3.6	1.4	.80	15	30	.60
6	.50	.50	13	*1.4	1.3	11	3.3	1.4	.70	.90	1.8	.60
7	.50	.50	2.2	1.2	134	4.2	5.3	3.8	.60	.50	1.0	.70
8	.40	.50	1.1	8.7	27	3.3	3.1	2.4	6.1	.70	10	.60
9	.70	.50	1.0	18	6.6	2.9	4.2	1.7	3.3	.70	4.4	.60
10	.90	*.50	.90	16	18	2.7	3.6	1.4	1.7	.50	.90	.70
11	.40	.50	.90	12	7.5	2.2	2.1	1.3	.60	21	.60	.90
12	.50	.50	86	6.2	5.0	2.2	2.0	1.2	.60	2.1	.50	1.7
13	.40	.60	4.5	4.4	3.6	2.1	1.7	1.0	.50	.70	.40	20
14	.50	.50	2.6	3.1	2.9	2.1	1.6	.90	.40	.60	.30	2.1
15	.50	.50	1.9	1.9	3.1	2.1	5.7	1.0	.60	a.60	.40	.90
16	.60	1.2	b1.6	1.6	2.7	1.9	6.1	12	1.1	*a.50	.30	.70
17	6.7	.60	b1.5	1.6	2.4	3.3	3.3	5.3	2.1	a.50	.30	.60
18	2.1	.70	b1.3	1.6	b2.1	14	2.1	*1.2	1.7	a.50	20	.60
19	1.4	1.1	b1.0	1.3	b1.8	6.4	6.8	1.0	.70	a.40	2.2	.60
20	.60	2.2	4.1	1.5	b1.4	5.4	2.7	.90	.60	.30	1.3	.60
21	.50	.70	1.7	1.9	b1.6	6.1	2.1	.80	.40	.30	.40	.60
22	.40	.50	1.5	6.2	b1.5	4.0	2.1	1.1	.40	.30	23	.50
23	.50	.50	1.4	22	b1.4	3.3	1.9	3.1	.40	.40	1.5	.40
24	.50	.50	1.6	60	b1.5	3.6	1.9	4.0	.40	.40	.90	4.9
25	.50	65	1.5	14	23	14	2.9	2.3	1.7	.50	.60	1.2
26	.50	6.1	1.9	6.0	4.3	60	4.3	.90	1.9	.30	5.0	.50
27	.60	1.5	92	3.9	2.2	7.5	2.4	3.3	.50	.30	.90	.50
28	.50	1.1	14	2.5	2.2	3.8	2.2	1.9	.60	3.1	.50	.40
29	.60	.90	3.3	2.0	-	13	1.9	13	.60	.80	.30	.50
30	.60	.80	2.5	1.6	------	5.0	1.6	1.1	.70	.40	.40	.50
31	.50	------	2.0	1.5	------	3.1	------	.80	------	.30	.40	------
TOTAL	31.50	91.30	264.60	214.5	263.2	331.6	93.5	76.60	48.70	54.20	259.30	49.40
MEAN	1.02	3.04	8.54	6.92	9.40	10.7	3.12	2.47	1.62	1.75	8.37	1.65
CFSM	.207	.615	1.73	1.40	1.90	2.17	.632	.500	.328	.354	1.69	.334
IN	.24	.69	1.99	1.61	1.98	2.50	.70	.58	.37	.41	1.95	.37

CALENDAR YEAR	1964	MAX	150	MIN	.10	MEAN	5.92	CFSM	1.20	INCHES	16.30
WATER YEAR	1964-65	MAX	135	MIN	.30	MEAN	4.87	CFSM	.986	INCHES	13.39

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-25	2100	4.60	536	3-5	0900	5.44	754
2-7	2000	5.33	726	8-4	2300	7.86	1,720

* Discharge measurement made on this day.
a No gage-height record.
b Stage-discharge relation affected by ice.
Note.--Where daily discharge is less than 1.0 cfs the zero in the hundredths column is not significant.

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

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

Drainage area.--1.97 sq mi.

Records available.--May 1958 to September 1965.

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

Average discharge.--7 years, 2.01 cfs.

Extremes.--Maximum discharge during year, 248 cfs Aug. 4 (gage height, 3.45 ft); no flow several days in June and July.
1958-65: Maximum discharge, 506 cfs Sept. 12, 1960 (gage height, 5.03 ft), from rating extended above 180 cfs on basis of logarithmic plotting and velocity-area study; no flow at times many years.

Remarks.--Records fair. Occasional diversion for irrigation of truck garden in vicinity of station.

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

0.84	0	1.2	5.6
.9	.1	1.3	10
1.0	.7	1.6	32
1.1	2.2	1.8	51

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	0.4	0.4	0.5	0.7	0.8	1.1	0.8	0.3	0	4.2	0.9
2	1.0	.4	.4	.8	.7	.7	2.2	.8	1.9	0	.7	.6
3	.5	.5	.5	.7	.7	.8	1.1	.8	4.6	0	.2	.4
4	.4	.5	2.7	.5	.6	.8	1.0	.8	.6	0	20	.3
5	.4	.4	2.1	.5	.6	46	1.0	.8	.3	2.6	11	.3
6	.4	.4	5.7	* .5	.7	3.8	1.0	.7	.1	.4	.7	.3
7	.4	.4	.8	.5	38	1.8	2.8	1.6	.1	.1	.3	.3
8	.4	.4	.7	3.0	11	1.6	1.4	1.1	.4	.1	1.1	.3
9	.4	.4	.7	6.4	3.0	1.2	1.6	.8	.4	.1	1.4	.3
10	.4	* .4	.6	6.0	5.6	1.2	1.1	.8	.3	.2	.4	.3
11	.4	.4	.6	5.6	2.8	1.0	1.0	.6	.2	7.0	.3	.3
12	.3	.4	32	3.2	1.4	.8	1.0	.6	.2	.8	.3	.7
13	.3	.4	2.4	2.5	1.4	.8	.8	.6	.2	.3	.2	7.7
14	.3	.4	1.0	1.7	1.1	.8	.8	.4	.2	.3	.3	1.4
15	.4	.4	.7	1.0	1.1	.8	1.6	.4	.2	.3	.3	.5
16	.4	.6	.6	.8	1.2	.8	2.2	6.0	* .3	* .2	* .3	.4
17	1.3	.5	.6	.8	1.1	1.0	1.1	4.4	.3	.2	.3	.4
18	.6	.4	.6	.8	1.0	5.2	1.1	* .8	.3	.3	.9	.3
19	.4	.7	.5	.7	.8	3.0	3.0	.5	.3	.3	1.1	.3
20	.4	1.0	1.8	.8	.7	1.8	1.7	.4	.1	.2	.5	.3
21	.4	.6	.8	.8	.7	1.8	1.4	.4	0	.2	.3	.3
22	.4	.4	.8	2.5	.8	1.6	1.2	.4	0	.2	6.8	.3
23	.4	.4	.7	7.2	.6	1.2	1.1	.5	0	.1	.8	.3
24	.4	.4	.8	26	.7	1.1	1.0	.8	.1	.2	.4	.4
25	.4	24	.8	5.2	4.6	5.5	1.2	.5	0	.3	.4	.4
26	.5	4.2	.7	3.0	1.6	26	2.2	.4	0	.2	1.1	.3
27	.4	.8	16	1.8	.8	3.2	1.4	1.6	0	.2	.4	.3
28	.4	.5	4.6	1.1	.8	1.6	1.1	.8	0	.6	.4	.3
29	.4	.4	1.1	.8	-	4.4	1.0	4.4	0	.3	.3	.3
30	.4	.4	.8	.8	------	2.0	.8	.8	0	.2	.3	.3
31	.4	------	.6	.7	------	1.2	-----	.5	----	.2	.3	-------
Total	14.2	41.5	83.1	87.2	84.8	124.3	41.0	34.8	11.4	16.1	56.0	19.5
Mean	.46	1.38	2.68	2.81	3.03	4.01	1.37	1.12	.38	.52	1.81	.65
Cfsm	.234	.700	1.36	1.43	1.54	2.04	.695	.569	.193	.264	.919	.330
In.	.27	.78	1.57	1.65	1.60	2.35	.77	.66	.22	.30	1.06	.37

Calendar year 1964: Max 50 Min 0 Mean 2.07 Cfsm 1.05 In. 14.30
Water year 1964-65: Max 46 Min 0 Mean 1.68 Cfsm .853 In. 11.60

Peak discharge (base, 120 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-25	2145	2.96	185	3-5	0915	3.11	203
12-12	0930	2.42	120	8-4	2300	3.45	248
2- 7	1930	3.00	190				

* Discharge measurement made on this day.

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, half a 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 1965.

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

Average discharge.--16 years, 3.46 cfs (unadjusted for storage).

Extremes.--Maximum discharge during year, 91 cfs Feb. 7 (gage height, 3.00 ft); minimum daily, 0.6 cfs Oct. 3 (regulated).
1949-65: Maximum discharge, 720 cfs July 4, 1951 (gage height, 5.14 ft, from high-water mark in well), from rating curve extended above 200 cfs; minimum, 0.4 cfs Jan. 20, 1955, Jan. 30, 1962, Feb. 15, 1963 result of freezeup, but may have been less during period of no gage-height record during Jan. to Feb. 1963, and Dec. 16, 1963; minimum daily, 0.4 cfs July 31 to Aug. 2, 1954, and Dec. 15, 1963.
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).

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

1.4	0.4	1.8	6.6
1.5	1.2	1.9	10
1.6	2.5	2.0	14
1.7	4.2	2.2	25

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.2	1.1	1.1	1.7	1.7	1.2	2.9	2.1	1.6	1.1	1.9	3.2
2	*2.2	1.1	1.1	2.1	1.7	.90	2.9	2.1	1.8	1.1	1.1	1.3
3	.60	1.1	1.4	2.1	1.6	.80	2.8	1.7	2.8	1.1	1.1	1.3
4	1.0	*1.1	2.8	1.7	1.4	.80	2.6	1.8	1.8	1.0	1.1	1.6
5	1.1	1.1	1.6	1.6	1.3	17	2.5	1.6	1.6	1.1	1.1	1.1
6	1.1	1.1	2.3	1.6	1.7	5.8	2.1	1.6	1.6	1.0	1.0	1.0
7	1.1	1.1	1.1	1.6	23	3.5	1.0	2.8	1.6	1.1	1.0	1.3
8	1.1	1.1	1.6	2.3	7.8	2.1	.80	1.6	1.6	1.0	1.0	1.5
9	1.1	1.1	1.4	1.4	3.7	1.8	1.6	1.2	1.6	1.0	1.1	1.5
10	1.1	1.1	1.3	2.3	6.0	1.6	2.3	1.6	1.6	1.2	1.1	1.3
11	1.1	1.1	1.3	2.6	3.3	1.7	2.5	2.1	1.4	4.0	1.1	1.3
12	1.1	1.1	5.3	2.5	2.5	2.8	2.3	1.9	1.3	1.1	1.2	1.9
13	1.1	1.1	1.0	*2.2	1.6	2.8	2.2	1.8	1.3	*1.3	1.2	1.4
14	1.1	1.1	1.3	1.9	1.2	2.8	2.2	1.8	1.3	1.2	1.2	1.1
15	1.1	1.1	1.7	1.9	1.2	2.8	2.1	1.7	1.4	1.2	1.1	*1.0
16	1.1	1.1	1.6	1.8	1.0	2.5	1.8	1.9	1.6	1.1	1.3	1.0
17	1.6	1.1	1.6	1.8	.90	2.6	1.1	1.7	1.7	1.1	1.3	1.0
18	1.3	1.1	1.4	1.7	.80	3.7	1.7	1.7	1.7	1.2	1.4	1.1
19	1.6	1.2	1.2	1.6	.80	4.4	3.3	*1.6	1.6	1.2	1.4	1.1
20	1.3	1.4	1.6	1.6	1.0	3.3	2.8	1.7	1.4	1.1	1.6	1.1
21	1.2	1.1	1.6	1.6	1.4	3.1	2.5	1.7	1.2	1.1	1.7	1.4
22	1.2	1.1	1.6	1.8	1.2	3.1	2.2	1.8	1.2	1.1	1.8	1.5
23	1.1	1.1	1.6	3.7	1.0	2.9	2.3	1.8	1.2	1.2	1.1	1.5
24	1.1	1.1	1.7	5.8	1.0	2.8	2.3	2.1	1.2	1.1	1.2	2.9
25	1.1	5.1	1.7	4.4	4.2	3.7	2.5	1.8	1.2	1.1	1.4	1.3
26	1.1	2.8	1.9	2.2	1.2	6.9	2.8	1.7	1.1	1.0	1.3	1.1
27	1.1	1.6	6.9	1.6	1.1	4.0	2.6	2.1	1.1	1.0	1.4	1.1
28	1.1	1.3	2.8	1.0	1.1	3.5	1.9	1.6	1.1	.90	1.8	1.4
29	1.1	1.2	1.4	1.2	-	3.8	1.4	2.1	1.1	.90	1.2	1.4
30	1.1	1.2	2.2	1.9	------	3.3	2.1	1.0	1.1	1.0	1.1	1.4
31	1.1	------	1.9	1.9	------	3.1	------	1.4	------	1.0	1.5	------
TOTAL	36.30	40.0	59.0	65.1	76.40	105.10	66.10	55.1	43.8	36.60	39.8	42.1
MEAN	1.17	1.33	1.90	2.10	2.73	3.39	2.20	1.78	1.46	1.18	1.28	1.40

CALENDAR YEAR 1964 MAX 29 MIN .60 MEAN 2.44
WATER YEAR 1964-65 MAX 23 MIN .60 MEAN 1.82

Peak discharge (base, 80 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-7	1830	3.00	91				

* Discharge measurement made on this day.
Note.--Where daily discharge is less than 1.0 cfs the zero in the hundredths column is not significant.

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, and 8 miles southeast of Westminster.

Drainage area.--56.6 sq mi.

Records available.--September 1945 to September 1965.

Gage.--Water-stage recorder (digital) and concrete control. Altitude of gage is 425 ft (from topographic map).

Average discharge.--20 years, 61.0 cfs.

Extremes.--Maximum discharge during year, 1,890 cfs Feb. 7 (gage height, 6.08 ft); minimum, 3.6 cfs Nov. 1, 14 (gage height 1.16 ft), result of filling pond above station; minimum daily, 9.1 cfs Aug. 21.
1945-65: 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, 2.8 cfs July 17, 1953 (gage height, 1.17 ft), result of filling pond above station; minimum daily, 8.4 cfs Sept. 13, 1963.

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 1.35 cfs diverted above station for municipal supply of Westminster; sewage effluent discharged into Little Pipe Creek.

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

1.2	5.4	1.8	77
1.3	9.9	2.0	125
1.4	17	2.5	290
1.6	40	3.0	480

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	19	14	16	28	29	39	52	34	24	14	37	17
2	43	14	18	31	b 27	36	54	34	29	13	17	32
3	24	14	19	33	25	36	49	32	58	14	13	12
4	17	* 14	51	26	23	35	47	30	29	14	13	11
5	*16	14	38	25	23	356	46	30	25	14	16	11
6	15	14	66	b 24	27	129	46	31	24	14	13	11
7	15	14	29	23	438	89	49	53	23	12	13	10
8	14	14	23	48	221	74	45	45	23	13	12	10
9	15	14	23	41	89	73	43	37	24	12	17	9.9
10	15	14	20	50	100	72	41	34	22	13	14	9.7
11	15	14	21	43	82	63	41	30	21	124	13	9.5
12	15	14	101	39	71	63	40	29	20	30	12	12
13	15	13	51	* 37	59	59	36	28	19	20	12	33
14	15	12	32	30	52	59	38	27	18	* 18	11	16
15	15	12	26	b 24	49	58	43	26	19	16	11	* 13
16	15	14	22	27	45	54	52	28	22	16	9.9	13
17	20	14	25	27	44	58	39	36	24	15	9.9	12
18	21	13	22	27	41	67	38	26	24	15	9.5	12
19	20	14	19	25	38	70	52	* 26	21	19	11	11
20	21	19	24	25	32	59	43	25	21	14	9.5	11
21	15	15	24	26	37	53	39	25	18	13	9.1	11
22	14	14	23	27	36	52	37	26	17	13	24	10
23	15	12	23	43	31	50	37	27	16	18	14	10
24	15	14	24	112	33	50	37	32	19	16	12	17
25	14	50	26	87	89	61	40	28	17	14	12	26
26	14	82	27	73	49	114	44	26	15	13	13	12
27	14	27	109	61	b 35	81	40	36	15	12	13	11
28	14	22	101	46	39	66	38	33	14	12	11	11
29	14	21	42	38		70	35	38	14	11	9.6	11
30	14	19	35	29	------	62	34	28	14	11	9.5	11
31	14	------	31	30	------	55	------	25	------	12	9.5	------
TOTAL	522	555	1,111	1,205	1,864	2,265	1,275	965	649	565	410.5	406.1
MEAN	16.8	18.5	35.8	38.9	66.6	73.1	42.5	31.1	21.6	18.2	13.2	13.5
CFSM	.297	.327	.633	.687	1.18	1.29	.751	.550	.362	.322	.233	.239
IN	.34	.36	.73	.79	1.22	1.49	.84	.63	.43	.37	.27	.27

CALENDAR YEAR 1964 MAX 708 MIN 9.2 MEAN 46.4 CFSM .820 INCHES 11.16
WATER YEAR 1964-65 MAX 438 MIN 9.1 MEAN 32.3 CFSM .571 INCHES 7.75

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-7	2115	6.08	1,890	3-5	1145	4.52	1,090

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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, 2.3 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 1965.

Gage.--Water-stage recorder (digital) and concrete control. Datum of gage is 289.15 ft above mean sea level, datum of 1929.

Average discharge.--17 years, 66.6 cfs.

Extremes.--Maximum discharge during year, 1,480 cfs Mar. 5 (gage height, 5.08 ft); minimum, 9.2 cfs Sept. 11 (gage height, 1.52 ft).
1948-65: 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, 2.8 cfs Aug. 12, 13, 1963.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.5	8.8	2.5	160
1.8	16	3.0	450
2.0	38	3.5	740
2.2	74		

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	20	a14	18	37	a32	51	80	51	29	17	27	12
2	23	a14	17	38	a28	48	85	51	31	15	15	13
3	26	a14	20	38	a26	48	77	50	73	15	12	11
4	15	*a14	38	32	a25	48	73	46	38	15	15	11
5	15	15	40	31	a25	705	71	46	32	15	130	11
6	13	15	71	31	a35	225	71	48	31	15	19	11
7	13	15	36	28	250	151	80	65	28	15	15	10
8	13	15	27	59	304	127	73	65	51	15	14	10
9	13	15	25	61	130	109	75	55	57	15	16	10
10	14	15	22	85	121	95	69	51	34	15	14	9.6
11	13	15	22	65	115	85	67	46	29	73	13	9.4
12	13	15	168	61	95	80	65	43	27	38	12	12
13	13	15	73	55	82	75	59	43	26	*23	12	37
14	14	14	43	46	71	73	57	40	24	21	12	*19
15	13	14	33	37	67	71	67	38	25	18	11	14
16	13	15	28	40	65	65	87	40	28	18	11	14
17	18	15	28	36	63	67	65	48	33	16	11	13
18	16	15	27	34	59	85	61	38	34	15	10	13
19	15	15	22	31	55	109	77	*37	29	15	11	12
20	16	19	27	32	46	92	69	36	26	14	24	12
21	15	17	27	33	51	77	61	34	24	14	12	12
22	15	15	26	36	50	77	59	36	22	14	14	12
23	14	14	26	63	45	71	57	41	21	14	13	12
24	14	15	27	262	46	69	57	37	23	15	12	37
25	15	57	29	124	98	98	65	37	22	15	12	24
26	15	121	31	103	69	196	73	34	19	13	16	13
27	15	32	157	92	57	127	65	33	18	12	24	13
28	15	24	164	69	53	100	61	33	18	12	13	12
29	15	22	65	61	-	118	57	45	17	11	12	12
30	a14	20	50	51	------	100	53	34	17	11	11	12
31	a14	------	41	38	------	85	------	32	------	11	11	------
TOTAL	470	635	1,428	1,809	2,163	3,527	2,036	1,333	886	545	554	423.0
MEAN	15.2	21.2	46.1	58.4	77.3	114	67.9	43.0	29.5	17.6	17.9	14.1
CFSM	.236	.329	.716	.907	1.20	1.77	1.05	.668	.458	.273	.278	.219
IN	.27	.37	.82	1.04	1.25	2.04	1.18	.77	.51	.31	.32	.24

CALENDAR YEAR	1964	MAX	875	MIN	4.5	MEAN	53.8	CFSM	.835	INCHES 11.37
WATER YEAR	1964-65	MAX	705	MIN	9.4	MEAN	43.3	CFSM	.672	INCHES 9.13

Peak discharge (base, 950 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-7	2330	4.41	1,170	3-5	1030	5.08	1,480

* Discharge measurement made on this day.
a Doubtful or no gage-height record.

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, and 3.0 miles north of Ellicott City.

Drainage area.--285 sq mi.

Records available.--May 1944 to September 1965.

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

Extremes.--Maximum discharge during year, 1,920 cfs Mar. 5 (gage height, 4.04 ft); minimum, 20 cfs Aug. 18, 19 and Sept. 10, 11 (gage height, 1.07 ft).
1944-65: 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 except those for periods of ice effect, backwater from leaves, or doubtful gage-height record, which are fair. 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 of Westminster (sewage effluent discharged into Little Pipe Creek) and from Liberty Reservoir beginning Feb. 26, 1953, for municipal supply of Baltimore.

Rating table, except periods of ice effect or backwater from leaves
(gage height, in feet, and discharge, in cubic feet per second)

1.0	15	2.0	216
1.2	31	2.5	457
1.4	59	3.0	830
1.7	127	3.5	1,310

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	51	c28	39	73	b75	95	134	d90	60	34	62	*26
2	44	c28	36	75	b70	87	*140	d90	61	31	46	37
3	57	c28	40	77	b60	86	130	d90	132	30	28	26
4	36	c29	60	64	b55	85	122	d85	86	31	43	23
5	32	c29	88	58	b55	997	118	81	65	37	*250	23
6	30	*c28	141	56	60	413	117	82	59	32	48	23
7	26	c28	80	54	400	236	132	99	57	29	33	23
8	28	c27	54	109	650	190	123	116	57	30	34	23
9	29	c27	53	121	220	168	123	96	120	29	42	22
10	30	c27	46	180	210	152	114	90	69	28	31	21
11	30	c27	44	138	184	136	108	82	57	105	27	20
12	31	c27	316	113	157	127	109	76	52	98	26	28
13	33	c27	167	b100	138	120	98	*73	49	42	24	93
14	34	c26	96	b80	120	117	94	70	45	37	23	55
15	32	c26	72	b60	114	116	103	68	47	38	23	35
16	34	c27	56	b70	112	109	152	70	54	34	22	31
17	c49	c29	58	b70	108	110	116	89	60	31	21	28
18	c41	c28	56	b65	101	136	105	70	68	30	21	28
19	c32	c28	b40	b65	95	171	118	66	56	30	23	28
20	c31	c43	55	65	b70	159	136	64	51	27	43	26
21	c30	c40	52	67	b80	131	120	62	45	24	27	26
22	c28	c33	52	67	b80	131	107	65	42	25	35	25
23	c27	c31	50	120	b65	123	103	77	40	25	35	24
24	c27	c31	54	b390	b70	117	105	71	41	27	29	26
25	c27	c120	53	216	189	162	105	70	42	29	26	83
26	c28	232	67	181	144	392	112	66	37	26	58	31
27	c28	74	253	154	92	214	d120	69	36	22	96	26
28	c28	50	353	117	97	166	d110	68	35	23	36	25
29	c28	45	134	107	-	190	d100	100	34	27	26	25
30	c29	41	102	b75	------	169	d90	77	34	22	23	23
31	c28	------	86	b75	------	144	------	65	------	22	23	------
TOTAL	1,020	1,271	2,858	3,262	3,871	5,749	3,464	2,437	1,691	1,055	1,284	933
MEAN	32.9	42.4	92.2	105	138	185	115	78.6	56.4	34.0	41.4	31.1
(†)	28,330	27,610	28,410	29,320	31,710	35,600	36,500	35,900	33,510	32,180	31,040	29,610
(‡)	+98	+94	+91	+99	+93	+74	+74	+136	+197	+124	+113	+112

CALENDAR YEAR 1964 MAX 1,450 MIN 16 MEAN 96.2 ‡ + 94
WATER YEAR 1964-65 MAX 997 MIN 20 MEAN 79.2 ‡ +109

* Discharge measurement made on this day.
† Month-end total contents, in millions of gallons, in Liberty Reservoir (contents on Sept. 30, 1964, 29,520 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.
b Stage-discharge relation affected by ice.
c Backwater from leaves.
d Doubtful gage-height record.

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, and 2 miles south of Baltimore city limits.

Drainage area.--2.47 sq mi.

Records available.--August 1957 to September 1965.

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

Average discharge.--8 years, 2.94 cfs.

Extremes.--Maximum discharge during year, 348 cfs Nov. 25 (gage height, 3.25 ft); minimum daily, 0.6 cfs many days in October, November, August, September.
1958-1965: Maximum discharge, 824 cfs July 12, 1958 (gage height, 4.83 ft), from rating curve extended above 250 cfs on basis of slope-area measurement made prior to establishment of station at gage height 5.7 ft; minimum daily, 0.4 cfs Aug. 11, 1963, Sept. 6, 7, 27, 1964.
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 except those for periods of ice effect, or doubtful or no gage-height record, which are fair. Slight regulation at low flow from unknown source above station.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.25	0.6	1.7	9.5
1.3	.8	1.8	14
1.4	1.9	1.9	19
1.5	3.7	2.0	27
1.6	6.2	2.2	50

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.3	0.6	0.8	1.1	b1.2	1.7	2.3	1.5	1.2	1.0	1.0	2.3
2	4.9	.7	.8	1.6	b1.2	1.7	3.4	1.3	4.6	1.1	1.5	1.2
3	1.1	.8	2.0	1.0	b1.1	1.7	1.9	1.4	4.7	1.0	1.0	1.1
4	.7	.8	2.7	1.2	b1.2	1.7	1.7	1.5	1.3	.7	8.6	.8
5	.8	1.0	4.3	1.3	1.3	*40	1.9	1.5	1.2	1.0	2.2	.6
6	.8	*.8	3.7	1.3	1.3	4.7	3.0	1.6	1.0	.8	1.3	.6
7	.8	.8	1.1	1.2	3.2	2.8	3.0	a4.4	1.2	1.0	.8	1.0
8	.8	.6	1.0	4.7	6.5	2.6	2.3	a1.8	4.7	.8	2.2	1.1
9	1.1	.7	.8	5.5	3.5	2.4	2.6	1.5	1.6	.8	1.3	1.2
10	.8	.8	.8	5.2	5.6	2.3	1.9	1.7	1.3	1.7	.8	1.2
11	.6	.8	.8	5.2	3.0	1.9	1.6	1.7	1.2	8.8	.8	1.1
12	.7	.8	2.3	*3.2	2.8	1.8	1.6	1.7	1.1	1.2	.8	2.8
13	.8	.8	1.9	2.4	1.9	1.6	1.5	*1.5	.7	1.0	.8	1.2
14	.8	.7	1.5	1.9	b1.7	1.6	1.6	1.5	1.1	1.0	.8	1.9
15	.8	.6	1.3	b1.4	b1.9	1.7	3.9	1.4	1.7	3.6	.6	1.4
16	1.5	.8	1.2	b1.3	1.9	1.6	2.1	4.3	1.6	1.2	.8	1.3
17	3.7	.8	1.2	b1.1	1.9	3.0	1.7	2.1	1.9	.8	1.0	1.2
18	.6	.8	1.1	b1.1	1.9	7.2	1.5	1.3	1.5	3.0	1.1	.8
19	.8	1.6	.8	b1.1	1.8	2.8	3.9	1.3	1.2	1.1	3.4	.6
20	.8	2.2	2.7	b1.3	1.5	3.2	1.7	1.3	.8	*1.0	1.2	.8
21	.8	.7	1.1	1.4	1.5	2.1	1.6	1.3	1.1	1.1	2.5	1.2
22	.8	.6	1.1	1.9	1.5	1.9	1.6	1.2	1.2	1.1	6.8	1.1
23	.8	.7	1.1	7.4	1.6	1.9	1.6	1.2	*1.4	1.1	1.1	1.1
24	.8	.8	.8	1.3	1.6	1.9	1.6	1.5	1.3	1.1	1.2	2.7
25	.6	2.9	.8	3.5	14	6.7	1.9	1.3	1.1	.7	1.2	1.0
26	.7	2.1	1.4	2.4	2.6	18	2.7	1.3	.8	.8	5.3	.6
27	.8	1.2	18	1.9	1.9	3.5	1.6	8.5	.7	1.1	1.2	.8
28	.8	1.0	3.3	1.7	1.7	2.6	1.7	1.8	1.1	1.1	.7	1.2
29	.8	.7	1.7	1.6	-	5.6	1.5	9.8	1.1	1.1	.6	1.2
30	.8	1.0	1.5	1.4	------	2.8	1.6	1.0	1.2	1.0	.8	1.2
31	.7	------	1.4	1.2	------	2.4	------	1.0	------	.8	1.1	------
Total	32.6	55.3	85.7	81.5	101.6	137.4	62.5	66.2	46.6	43.6	63.5	47.1
Mean	1.05	1.84	2.76	2.63	3.63	4.43	2.08	2.14	1.55	1.41	2.05	1.57
Cfsm	.425	.745	1.12	1.06	1.47	1.79	.842	.866	.628	.571	.830	.636
In.	.49	.83	1.29	1.23	1.53	2.07	.94	1.00	.70	.66	.96	.71

Calendar year 1964: Max 40 Min 0.4 Mean 2.38 Cfsm 0.964 In. 13.13
Water year 1964-65: Max 40 Min 0.6 Mean 2.26 Cfsm 0.915 In. 12.41

Peak discharge (base, 260 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-25	1900	3.25	348	3-5	0700	3.20	330
2- 7	1730	3.05	278	8-1	2130	3.10	295

* Discharge measurement made on this day.
a Doubtful or no gage-height record.
b Stage-discharge relation affected by ice.

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, and 1½ miles north of Owings Mills, Baltimore County.

Drainage area.--4.90 sq mi.

Records available.--July 1958 to September 1965.

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

Average discharge.--7 years, 4.30 cfs.

Extremes.--Maximum discharge during year, 202 cfs Aug. 5 (gage height, 2.48 ft); minimum daily, 1.3 cfs July 2-4, 7-9, 29, 30.
1958-1965: Maximum discharge, 240 cfs Jan. 9, 1964 (gage height, 2.60 ft), from rating curve extended above 100 cfs by logarithmic plotting; minimum daily, 1.0 cfs Aug. 5-7, 9-12, and Sept. 11-14, 1963.

Remarks.--Records fair except those for periods of ice effect, or backwater from debris, which are poor. Occasional diversion from gage pool to nearby fire-control reservoir.

Rating table, except periods of ice effect and backwater from debris
(gage height, in feet, and discharge, in cubic feet per second)

1.15	1.1	1.6	34
1.2	2.5	1.8	58
1.3	8.0	2.0	90
1.4	16	2.5	208

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	c1.6	1.8	2.5	b2.2	3.3	3.3	3.3	2.2	1.6	5.0	2.4
2	3.7	c1.6	1.8	3.3	b2.5	3.3	4.3	3.3	3.4	1.3	1.8	1.8
3	c1.8	1.6	2.2	2.9	2.5	3.3	3.8	3.3	8.0	1.3	1.6	1.6
4	c1.8	1.6	5.3	2.2	2.5	3.3	3.3	3.3	2.5	1.3	16	1.6
5	c1.8	c1.6	5.1	2.2	2.5	49	3.3	3.3	2.2	7.8	17	1.6
6	c1.8	*c1.6	9.0	2.2	2.5	7.3	3.8	3.3	2.2	1.8	2.2	1.8
7	c1.6	1.6	2.5	2.2	50	4.8	4.3	5.5	1.8	1.3	1.8	2.2
8	c1.6	1.6	2.2	6.6	17	4.3	3.8	3.8	7.5	1.3	1.8	1.8
9	c1.6	1.6	2.2	7.2	6.0	3.8	3.8	3.3	3.3	1.3	2.2	1.8
10	c1.6	1.6	2.2	6.0	8.0	3.8	3.3	2.9	2.5	1.6	1.6	1.8
11	c1.6	1.6	1.8	4.8	5.4	3.8	3.3	2.9	2.2	29	1.8	2.2
12	c1.6	1.6	24	3.8	4.3	3.8	3.3	2.5	1.8	2.9	1.8	3.3
13	c1.6	1.8	4.3	3.3	3.8	3.3	3.3	2.5	1.8	2.2	1.6	5.6
14	c1.6	1.8	2.9	2.9	3.3	3.3	3.3	2.5	1.8	*2.2	1.8	2.2
15	c1.6	1.8	2.5	b2.2	3.3	3.3	5.3	2.5	2.2	2.2	1.8	1.8
16	c1.8	2.2	2.2	b2.2	3.3	2.9	6.0	4.1	2.5	2.2	1.8	1.8
17	c5.0	2.2	2.2	b2.5	3.3	3.3	3.8	*3.8	2.5	1.8	1.8	1.8
18	c1.8	1.8	2.2	b2.5	3.3	5.4	3.3	2.5	2.2	1.8	1.8	2.2
19	c2.2	2.2	2.2	2.5	2.9	5.4	5.8	2.2	1.8	1.8	2.2	2.2
20	c2.2	2.9	2.2	2.9	2.9	4.3	4.3	2.5	1.8	1.6	2.2	2.2
21	c1.8	1.8	2.2	2.9	2.9	3.8	3.8	2.5	1.8	1.6	2.2	2.5
22	c1.8	1.6	2.2	4.3	2.9	3.3	3.3	2.5	1.8	1.6	3.8	2.5
23	c1.8	1.6	2.2	12	2.9	3.3	3.8	2.5	1.8	2.2	2.2	2.5
24	c1.8	1.6	2.5	17	2.9	3.3	3.8	3.6	2.2	1.8	1.8	5.7
25	c1.6	20	2.5	8.0	18	6.6	4.8	2.5	1.8	1.8	2.2	2.5
26	c1.6	7.1	3.8	6.6	4.3	21	4.8	2.5	1.8	1.6	2.9	1.8
27	c1.6	2.9	25	5.4	3.3	5.4	4.3	2.2	1.6	1.6	2.2	1.8
28	c1.6	2.2	7.8	3.8	3.3	4.3	3.8	2.2	1.6	1.6	1.8	1.8
29	c1.6	2.2	3.8	3.3	-	6.0	3.8	5.0	1.8	1.3	1.8	2.2
30	c1.6	2.2	2.9	2.9	------	4.3	3.3	2.2	1.6	1.3	1.6	2.5
31	c1.6	------	2.5	b2.2	------	3.8	------	2.2	------	1.6	1.6	------
Total	58.9	79.1	138.2	135.3	172.0	190.1	118.2	93.2	74.0	86.3	93.7	69.5
Mean	1.90	2.64	4.46	4.36	6.14	6.13	3.94	3.01	2.47	2.78	3.02	2.32
Cfsm	.388	.539	.910	.890	1.25	1.25	.804	.614	.504	.567	.616	.473
In.	.45	.60	1.05	1.03	1.31	1.44	.90	.71	.56	.65	.71	.53

Calendar year 1964: Max 75 Min 1.3 Mean 4.23 Cfsm .863 In. 11.77
Water year 1964-65: Max 50 Min 1.3 Mean 3.58 Cfsm .731 In. 9.94

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-25	2100	2.13	115	7-11	1330	2.21	132
2- 7	2030	2.41	182	8- 5	0030	2.48	202
3- 5	0930	2.35	166				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
c Backwater from debris.

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, and 1.1 miles west of Baltimore City limits.

Drainage area.--32.5 sq mi.

Records available.--February 1957 to September 1965.

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.--8 years, 30.0 cfs.

Extremes.--Maximum discharge during year, 775 cfs Mar. 5 (gage height, 5.26); minimum, 6.0 cfs July 27, Aug. 30, (gage height, 0.69 ft).
1957-65: Maximum discharge, 1,280 cfs Sept. 12, 1960 (gage height, 7.00 ft); minimum, 3.3 cfs Jan. 19, 1961, result of freezeup. Minimum daily, 3.6 cfs Sept. 18-28, Oct. 7, 1959.
Maximum discharge known, 5,270 cfs July 21, 1956 (gage height, 12.6 ft) by contracted-opening measurement.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Slight diurnal fluctuation at times from unknown source above station. Small diversion for irrigation above station.

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

0.7	6.2	2.0	115
.8	9.6	2.5	186
1.0	19	3.0	271
1.5	57	4.0	470

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	8.2	13	18	a18	24	28	21	13	7.9	47	20
2	28	8.2	13	21	a18	23	31	21	17	6.9	12	18
3	13	8.2	14	21	a17	22	26	21	48	7.6	7.6	7.9
4	9.6	8.2	25	17	a16	21	25	20	18	7.2	60	7.2
5	9.3	8.2	28	16	a16	385	24	19	14	24	173	6.9
6	8.9	*8.2	66	16	a26	75	26	19	13	12	16	6.9
7	8.6	8.2	20	15	242	46	31	29	12	7.9	12	6.9
8	8.2	8.2	16	44	209	38	26	28	18	7.9	12	6.9
9	8.6	8.2	14	54	54	34	28	22	29	7.6	18	6.5
10	8.2	8.2	13	60	66	31	24	20	14	18	10	6.5
11	7.9	7.9	13	40	48	28	23	18	12	133	8.9	6.5
12	7.9	7.9	208	*32	38	26	22	17	11	26	8.2	14
13	8.2	7.9	42	28	32	26	20	*17	10	*13	7.6	60
14	8.9	7.6	24	24	27	25	20	16	9.6	11	7.6	14
15	8.6	7.6	19	a22	26	24	28	16	10	13	7.2	11
16	8.6	8.6	17	a20	25	24	40	23	12	9.6	6.9	9.3
17	29	8.6	15	a20	25	25	25	28	15	8.9	6.5	8.6
18	12	7.9	16	a21	23	43	23	16	15	9.3	*6.5	8.2
19	8.9	8.9	14	a21	21	46	39	16	13	8.9	9.3	7.9
20	9.3	16	19	a19	21	38	28	16	12	7.2	11	7.9
21	8.6	10	16	a18	21	31	24	15	9.6	6.5	8.0	7.9
22	8.2	8.2	14	a18	20	31	23	15	9.6	6.5	21	7.9
23	8.2	8.2	15	a25	20	28	22	14	8.9	7.2	9.6	7.9
24	8.2	8.2	16	a110	19	26	22	20	8.9	7.9	7.9	12
25	8.2	136	16	a90	149	55	29	16	8.9	8.6	7.2	16
26	8.2	93	37	a40	45	*180	40	14	8.2	6.5	24	8.9
27	8.2	20	188	a30	28	52	28	16	7.9	6.2	15	8.6
28	8.2	16	94	a25	25	38	25	14	7.6	21	7.9	8.2
29	8.2	14	30	a22	—	54	23	36	8.6	10	6.2	8.2
30	8.2	14	24	a19	------	38	22	16	9.6	6.5	6.2	7.9
31	8.2	------	20	a19	------	31	------	13	------	6.2	6.2	------
Total	314.3	498.5	1,079	945	1,295	1,568	795	592	403.4	440.0	566.5	334.6
Mean	10.1	16.6	34.8	30.5	46.2	50.6	26.5	19.1	13.4	14.2	18.3	11.2
Cfsm	0.311	0.511	1.07	0.938	1.42	1.56	0.815	0.588	0.412	0.437	0.563	0.345
In.	0.36	0.57	1.23	1.08	1.48	1.79	0.91	0.68	0.46	0.50	0.65	0.38

Calendar year 1964: Max 454 Min 5.0 Mean 28.6 Cfsm 0.880 In. 11.96
Water year 1964-65: Max 385 Min 6.2 Mean 24.2 Cfsm 0.745 In. 10.09

Peak discharge (base, 540 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-25	1900	4.72	640	3-5	0900	5.26	775
2- 7	1800	5.04	720	8-4	2300	5.22	765

* Discharge measurement made on this day.
a No gage-height record.

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 1965.

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

Average discharge.--6 years, 5.92 cfs.

Extremes.--Maximum discharge during year, 1,340 cfs Feb. 7 (gage height 5.44 ft); minimum, 0.3 cfs Sept. 5 (gage height, 0.65 ft).
1959-1965: Maximum discharge, 1,960 cfs Jan. 1, 1961 (gage height 6.16 ft), from rating curve extended above 770 cfs on basis of logarithmic plotting; minimum, 0.2 cfs Aug. 2-3, 18, 29-30, Sept. 16, 1962, Aug. 6, 1963, Sept. 6-7, 1964.

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

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

0.6	0.2	1.0	19
.7	.5	1.2	52
.8	2.1	1.5	105
.9	7.0	2.0	190

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	0.4	0.8	2.4	2.1	2.1	2.1	1.1	1.2	0.5	9.2	1.7
2	6.2	.4	.8	3.7	1.8	1.5	3.7	.9	4.8	.6	1.4	.6
3	1.1	.4	2.1	2.4	1.8	1.5	2.1	.8	11	.6	.6	.4
4	.7	.4	4.7	1.8	1.8	1.5	1.5	.8	1.8	.6	36	.4
5	.7	.5	11	1.8	1.8	*150	1.5	.8	1.2	2.2	4.9	.4
6	.6	*.4	13	1.8	2.4	7.0	2.1	.8	1.2	.9	.8	.4
7	.6	.4	2.1	1.5	188	3.7	3.7	3.4	1.1	1.1	.7	.4
8	.4	.4	1.8	11	18	2.8	2.1	2.1	12	1.1	2.6	.4
9	.5	.5	1.2	19	6.3	2.8	2.8	1.5	4.2	.9	1.2	.4
10	.4	.5	1.1	15	13	2.8	1.8	1.2	1.2	12	.6	.4
11	.4	.5	1.1	13	5.7	1.8	1.2	1.2	.9	56	.6	.6
12	.6	.5	105	*6.3	4.2	2.1	1.2	1.2	.9	1.8	.5	3.6
13	.5	.5	5.7	5.2	2.8	1.8	1.1	*1.1	.7	*.9	.4	26
14	.4	.5	3.2	3.2	2.1	1.5	1.1	.9	.7	.7	.6	1.8
15	.4	.4	2.1	2.4	2.8	1.5	4.5	.9	.9	20	.5	.8
16	.5	.8	1.8	2.1	2.1	1.5	2.8	4.3	1.2	1.1	.5	.7
17	9.4	.6	1.8	2.1	2.1	1.5	1.2	2.8	2.1	.8	.5	.6
18	1.1	.5	1.5	2.4	1.8	13	1.1	1.1	1.1	3.4	.4	.6
19	.9	1.2	1.2	2.4	1.5	9.4	5.0	1.1	.9	.9	9.1	.6
20	.7	2.7	3.8	2.4	1.5	5.2	1.8	1.1	.8	.6	.8	.6
21	.6	.7	2.4	2.8	1.5	4.2	1.2	1.1	.8	.6	3.8	.6
22	.5	.6	2.1	5.7	1.5	3.2	1.1	1.1	.7	.5	11	.5
23	.4	.6	2.1	40	12	2.8	1.2	1.2	6	.6	.8	.5
24	.4	.6	2.8	51	1.2	2.1	1.2	1.5	.6	.6	.6	8.4
25	.4	112	2.4	14	57	19	5.2	.9	.6	2.1	.6	.8
26	.4	5.5	5.7	9.4	5.2	84	12	.9	.6	.6	11	.4
27	.5	1.8	101	5.2	2.4	5.7	3.2	13	.7	.6	1.1	.4
28	.5	1.2	12	3.2	2.1	3.2	2.1	2.1	.6	1.7	.6	.4
29	.5	1.1	4.7	3.2	-	12	1.5	16	.6	.7	.4	.4
30	.6	1.1	3.7	2.4	------	4.2	1.1	1.8	.7	.6	.4	.4
31	.5	------	2.8	1.8	------	2.8	------	1.2	------	.5	.4	------
Total	32.5	137.7	307.5	240.6	335.7	358.2	74.2	69.9	56.4	115.8	102.6	54.2
Mean	1.05	4.59	9.92	7.76	12.0	11.6	2.47	2.25	1.88	3.74	3.31	1.81
Cfsm	0.190	0.832	1.80	1.41	2.17	2.10	0.447	0.408	0.341	0.678	0.600	0.328
In.	0.22	0.93	2.07	1.62	2.26	2.41	0.50	0.47	0.38	0.78	0.69	0.37

Calendar year 1964: Max 209 Min 0.2 Mean 6.27 Cfsm 1.14 In. 15.48
Water year 1964-65: Max 188 Min 0.4 Mean 5.17 Cfsm 0.937 In. 12.70

Peak discharge (base, 550 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-25	2030	4.64	870	3-5	0830	4.77	935
2- 7	1800	5.44	1,340				

* Discharge measurement made on this day.

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 confluence with Bacon Ridge Branch, and 7 miles west of Annapolis, Anne Arundel County.

Drainage area.--8.5 sq mi, approximately.

Records available.--December 1931 to September 1965.

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

Average discharge.--33 years (1932-1965), 10.4 cfs.

Extremes.--Maximum discharge during year, 73 cfs Mar. 5 (gage height, 2.11 ft); minimum, 1.6 cfs Aug. 18 (gage height, 0.96 ft).
1931-65: 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, 1.5 cfs Sept. 1, 2, 4, 1932.

Remarks.--Records good except those for periods of ice effect, which are fair.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 5				Mar. 6 to Sept. 30			
1.0	2.4	1.5	22	0.9	1.0	1.5	22
1.1	4.0	1.8	44	1.0	2.0	1.8	44
1.2	7.1	2.1	72	1.1	3.6	2.1	72
				1.2	7.1		

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10	4.7	6.0	6.3	b5.6	6.9	8.9	7.1	3.8	2.5	3.1	2.5
2	8.8	4.7	5.8	6.9	b5.6	6.5	11	6.7	4.0	2.1	3.8	2.5
3	8.8	5.0	7.4	6.6	b5.2	6.5	9.4	6.7	10	2.2	2.8	2.2
4	5.6	5.0	*8.3	6.0	b4.9	6.3	8.5	6.3	5.9	2.5	2.4	2.2
5	5.3	5.0	7.8	5.8	b4.5	42	8.0	5.9	4.0	2.5	3.1	2.2
6	4.7	5.0	13	6.0	6.5	26	8.5	6.3	3.8	2.6	2.5	2.2
7	4.2	5.0	8.2	5.7	19	15	13	6.7	3.6	2.2	2.4	2.1
8	4.0	5.0	6.5	11	30	12	10	7.6	3.3	2.4	2.1	2.1
9	4.2	5.0	6.4	9.7	15	10	11	6.7	3.3	2.2	2.4	2.0
10	4.5	5.0	5.7	16	12	9.4	8.9	6.3	3.3	2.0	3.1	2.0
11	4.5	5.0	5.9	13	11	8.5	8.0	5.5	3.0	16	2.4	1.9
12	4.5	5.0	16	9.3	10	8.0	8.5	4.7	3.0	15	2.1	2.5
13	4.5	5.3	14	8.4	9.2	7.6	7.1	4.7	2.8	*5.0	2.0	11
14	4.5	5.0	8.9	7.6	8.0	7.6	6.7	*4.3	2.6	3.8	2.0	4.7
15	4.5	4.9	7.0	5.6	7.9	7.6	8.5	4.0	2.8	3.1	1.9	3.3
16	4.8	5.5	6.1	b5.4	8.0	7.1	11	4.7	3.8	3.0	1.9	3.0
17	12	5.5	6.5	b5.5	8.1	7.6	8.0	8.9	4.7	2.8	1.8	2.6
18	8.5	5.3	6.3	b5.2	7.5	16	7.6	4.7	4.0	2.8	*1.9	2.5
19	5.7	6.3	5.0	b5.2	7.0	14	8.9	4.0	3.6	4.3	*2.5	2.5
20	5.0	8.2	7.2	b5.0	5.9	10	8.9	3.8	3.3	2.6	2.2	2.5
21	5.0	6.5	7.4	b5.7	7.0	9.4	7.6	3.8	2.8	2.2	1.9	*2.5
22	5.0	5.1	7.1	6.9	6.6	10	7.6	3.8	2.6	2.2	7.1	2.2
23	4.5	4.8	6.9	8.7	5.7	10	7.1	3.8	2.5	2.2	3.8	2.2
24	4.5	5.1	6.7	20	6.0	8.9	7.1	3.8	2.8	2.2	2.8	2.8
25	4.7	15	6.6	15	14	9.4	8.0	3.8	3.1	2.2	2.5	4.3
26	4.7	32	6.6	12	11	18	8.5	3.8	2.5	2.1	13	2.6
27	4.5	12	9.8	11	7.3	14	8.0	3.6	2.4	6.3	15	2.4
28	*4.7	7.6	19	8.6	7.4	10	8.9	5.5	2.2	3.6	4.0	2.4
29	4.8	6.7	10	8.2	-	13	7.6	17	2.2	2.6	3.1	2.5
30	4.8	6.3	7.9	5.9	------	13	7.1	7.1	2.5	2.5	2.6	2.4
31	4.7	------	7.0	b5.7	------	9.8	------	4.3	------	2.2	2.5	------
TOTAL	170.5	206.5	253.0	257.9	255.9	360.1	257.9	175.9	104.2	111.9	106.7	84.8
MEAN	5.50	6.88	8.16	8.32	9.14	11.6	8.60	5.67	3.47	3.61	3.44	2.83
CFSM	.647	.809	.960	.979	1.08	1.36	1.01	.667	.408	.425	.405	.333
IN	.75	.90	1.11	1.13	1.12	1.58	1.13	.77	.46	.49	.47	.37

CALENDAR YEAR 1964	MAX 56	MIN 2.4	MEAN 8.66	CFSM 1.02	INCHES 13.86
WATER YEAR 1964-65	MAX 42	MIN 1.8	MEAN 6.43	CFSM .757	INCHES 10.26

Peak discharge (base, 75 cfs).--No peak above base.

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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.

Drainage area.--34.8 sq mi.

Records available.--July 1944 to September 1965.

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

Average discharge.--21 years. 35.7 cfs.

Extremes.--Maximum discharge during year, 934 cfs Mar. 5 (gage height 5.93 ft); minimum 3.4 cfs Aug. 18, Sept. 10, 11 (gage height, 1.86 ft).
1944-65: 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 2.1 cfs Aug. 25-28, 1944.

Remarks.--Records good except those for periods of doubtful or no gage-height record, or period of shifting control, which are poor.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 15 to Aug. 5)

Oct. 1 to Mar. 5

1.7	2.3	2.5	52
1.8	4.2	3.0	111
1.9	6.6	3.5	187
2.0	10	4.0	295
2.1	15	4.5	425
2.3	30	5.0	575

Mar. 6 to Sept. 30

1.8	1.9	2.1	14
1.9	4.4	2.3	32
2.0	8.1	2.5	52

Note.-- Same as preceding table above 2.5 ft.

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	7.6	9.0	20	29	30	52	34	18	9.0	14	*5.9
2	14	7.8	8.9	20	26	28	54	34	19	9.0	9.0	7.0
3	12	7.8	10	19	24	28	50	32	42	10	7.0	4.8
4	8.0	7.8	18	17	22	27	47	30	22	10	10	4.4
5	7.8	7.8	18	16	21	*443	45	29	18	9.0	*34	4.4
6	7.7	8.0	38	16	22	130	47	29	17	9.0	7.7	4.2
7	7.6	8.0	18	15	139	88	56	41	16	9.0	6.6	4.1
8	7.4	8.0	14	36	171	72	49	37	22	9.0	6.2	3.9
9	7.3	*7.9	13	35	70	63	49	34	25	9.0	7.4	3.8
10	7.1	7.6	11	50	71	57	44	31	18	9.0	7.0	3.6
11	7.0	8.1	11	38	60	52	42	28	16	23	5.9	3.5
12	7.2	8.1	86	33	54	49	41	26	15	15	5.5	6.0
13	7.3	8.0	40	29	47	46	38	24	15	11	4.8	19
14	7.3	7.5	*23	26	41	45	37	22	14	10	4.5	8.7
15	7.3	7.5	18	24	40	44	45	22	14	*9.0	4.4	7.0
16	7.3	8.1	15	22	38	41	54	22	16	9.0	4.2	6.2
17	15	8.2	15	22	37	43	42	25	19	9.0	4.1	5.5
18	10	7.5	15	25	35	52	40	*21	19	8.0	3.9	5.9
19	8.0	8.3	13	23	32	62	49	20	16	9.0	4.4	5.5
20	8.0	10	15	22	29	55	44	20	14	8.0	5.5	5.5
21	8.0	9.4	15	21	30	48	40	20	13	7.5	4.4	5.5
22	8.0	8.3	14	21	29	46	39	20	12	7.2	6.2	5.1
23	7.8	8.0	14	33	26	44	38	21	11	7.5	5.9	4.8
24	7.6	8.1	15	117	26	42	38	21	11	7.6	5.1	16
25	8.0	23	16	69	55	63	43	20	12	7.5	5.0	9.9
26	8.0	46	16	*61	41	137	49	19	10	7.0	14	6.2
27	8.0	14	104	53	32	78	42	34	10	6.4	11	5.9
28	8.0	11	83	41	31	64	40	23	9.0	6.8	5.9	5.5
29	8.0	10	36	37	-	73	37	34	9.0	6.4	4.4	5.5
30	8.0	9.8	28	34	------	62	35	21	10	5.5	4.3	5.5
31	7.6	------	23	31	------	55	------	19	------	6.0	4.4	------
TOTAL	261.3	307.2	772.9	1,026	1,278	2,167	1,326	813	482.0	278.4	226.7	188.6
MEAN	8.43	10.2	24.9	33.1	45.6	69.9	44.2	26.2	16.1	8.98	7.31	6.29
CFSM	.242	.293	.716	.951	1.31	2.01	1.27	.753	.463	.258	.210	.181
IN	.28	.33	.83	1.10	1.37	2.32	1.42	.87	.52	.30	.24	.20

CALENDAR YEAR 1964 MAX 524 MIN 4.0 MEAN 29.6 CFSM .851 INCHES 11.57
WATER YEAR 1964-65 MAX 443 MIN 3.5 MEAN 25.0 CFSM .718 INCHES 9.75

Peak discharge (base, 770 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	1500	5.93	934				

* Discharge measurement made on this day.
Note.--Doubtful or no gage-height record Oct. 1 to Nov. 6. Shifting-control method used May 15 to Aug. 5.

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, and 1.3 miles northwest of Laurel, Prince Georges County.

Drainage area.--132 sq mi.

Records available.--Oct. 1944 to September 1965.

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, 175 cfs Apr. 1 (gage height, 3.50 ft); minimum daily 6.8 cfs Nov. 7-15.

1944-65: 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).

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.2	6.2	2.5	42
1.3	7.8	3.0	78
1.5	11	3.5	175
2.0	23	4.0	320

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.3	7.8	10	10	14	11	143	10	12	12	12	12
2	8.1	7.8	9.9	11	15	11	146	12	12	12	12	*12
3	9.5	7.8	9.3	9.1	15	11	152	14	*12	12	12	12
4	11	7.6	12	13	15	12	155	13	12	12	12	12
5	11	7.8	14	11	15	15	138	12	12	11	12	12
6	11	*7.3	9.5	10	14	74	141	12	12	12	12	12
7	9.9	6.8	7.8	13	14	53	145	12	12	12	12	12
8	10	6.8	7.3	13	14	37	111	12	12	12	12	12
9	12	6.8	9.3	12	13	35	90	12	12	12	12	12
10	11	6.8	7.0	11	13	35	90	12	11	12	12	12
11	11	6.8	8.2	10	12	37	90	23	10	12	12	12
12	11	6.8	12	10	12	38	94	9.7	10	12	12	12
13	11	6.8	11	11	12	39	97	11	10	11	12	18
14	11	6.8	9.3	9.2	15	39	97	11	10	11	12	12
15	10	6.8	10	8.8	15	39	97	10	12	11	12	12
16	10	7.2	9.8	8.5	15	40	97	10	12	11	12	12
17	12	7.6	11	8.1	15	37	97	14	12	11	12	13
18	11	7.6	10	8.8	14	36	97	15	12	11	12	13
19	7.5	8.6	11	11	10	74	47	11	12	11	12	12
20	8.0	10	13	11	11	79	10	11	12	11	12	12
21	8.5	10	12	13	14	84	9.9	12	12	11	12	12
22	9.6	10	12	14	14	65	9.9	13	12	12	12	12
23	9.7	10	12	14	14	49	11	12	12	12	12	13
24	9.3	10	12	14	13	49	10	12	12	12	12	12
25	9.3	11	12	14	14	49	10	12	12	12	12	12
26	8.6	10	12	15	12	98	10	12	12	12	12	12
27	7.8	9.7	12	15	11	138	11	13	12	12	12	12
28	7.8	12	9.0	15	11	79	11	13	11	12	12	12
29	7.8	9.1	9.0	15	-	111	10	13	11	12	12	12
30	7.8	9.4	11	15	---------	136	9.9	12	11	12	12	12
31	7.8	----------	9.7	15	---------	143	----------	12	----------	12	12	----------
Total	299.3	249.5	324.1	368.5	376	1,753	2,236.7	382.7	348	362	372	369
Mean	9.65	8.32	10.5	11.9	13.4	56.5	74.6	12.3	11.6	11.7	12.0	12.3
†	9,090	8,820	9,480	10,080	11,400	13,170	12,900	12,680	12,020	11,040	10,250	9,350
‡	+52.0	+52.4	+65.8	+79.9	+65.2	+86.4	+88.9	+96.3	+84.7	+72.5	+70.1	+66.9

Calendar year 1964: Max 214 Min 6.8 Mean 40.7 ‡ 71.6
Water year 1964-65: Max 155 Min 6.8 Mean 20.4 ‡ 73.5

* Discharge measurement made on this day.

† Combined month-end total contents, in millions of gallons, in Triadelphia and Rocky Gorge Reservoirs (contents on Sept. 30, 1964, 9,680 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, and 4 miles north of Laurel.

Drainage area.--38.0 sq mi.

Records available.--April 1932 to September 1965. Monthly discharge only for April 1932, published in WSP 1302.

Gage.--Water-stage recorder (digital). 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.

Average discharge.--33 years, 39.7 cfs.

Extremes.--Maximum discharge during year, 877 cfs Mar. 5 (gage height, 7.70 ft); minimum, 5.2 cfs Sept. 11 (gage-height, 2.47 ft).
1932-65: 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 recorded, 2.8 cfs Sept. 6, 1957, Aug. 13, 1963; minimum gage height, 1.38 ft Sept. 29, 1941.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

2.4	2.9	3.2	63
2.5	6.2	4.0	205
2.6	10	5.0	391
2.8	22	6.0	571

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14	9.6	14	25	26	32	44	28	18	11	22	7.9
2	17	9.8	13	26	24	32	46	28	18	9.2	15	9.2
3	15	10	*15	24	22	32	41	27	49	11	8.9	7.5
4	10	10	19	20	22	32	38	25	24	11	9.2	7.5
5	*10	10	20	20	22	552	37	24	19	14	68	7.4
6	9.2	11	51	20	22	190	37	25	18	12	13	7.2
7	9.1	11	22	19	150	76	48	36	17	10	10	7.1
8	8.9	11	20	45	250	68	42	33	16	10	9.2	6.8
9	9.1	11	16	45	77	61	45	29	32	9.1	16	6.5
10	8.9	12	15	60	76	50	38	27	19	11	10	6.1
11	8.7	12	15	50	68	45	36	24	16	43	8.9	6.1
12	8.6	12	223	40	64	41	35	22	15	24	8.5	8.2
13	9.1	12	68	35	53	38	31	22	14	13	8.1	42
14	9.1	11	31	31	47	36	30	*20	13	12	7.7	*15
15	9.1	11	24	28	43	35	36	20	14	*11	7.3	11
16	9.1	12	21	25	41	33	47	22	18	11	7.3	9.6
17	19	12	20	24	39	33	35	30	19	10	6.6	8.8
18	13	12	19	25	38	52	32	21	21	9.2	6.6	8.7
19	10	13	18	22	36	65	45	19	17	11	12	8.4
20	10	17	19	22	32	49	40	18	15	8.5	11	8.3
21	10	14	20	22	35	44	35	18	14	8.1	7.6	8.1
22	10	12	20	24	33	45	32	19	13	7.7	20	7.7
23	9.6	13	19	60	31	41	31	18	12	8.1	11	7.6
24	9.6	14	20	150	30	37	31	18	14	8.5	9.2	9.6
25	10	54	20	80	60	64	35	18	13	7.7	9.0	12
26	10	107	25	65	50	266	42	17	12	7.3	24	8.6
27	9.8	21	113	55	35	81	37	23	11	7.0	13	8.2
28	10	17	118	45	32	66	35	35	11	7.0	9.2	8.0
29	10	16	48	40	-	73	32	45	11	7.3	7.8	8.2
30	9.9	15	39	35	------	60	29	24	11	7.0	7.7	8.1
31	9.6	------	31	30	------	49	------	20	------	6.6	7.5	------
TOTAL	325.4	512.4	1,136	1,212	1,458	2,376	1,122	755	514	343.3	391.3	285.4
MEAN	10.5	17.1	36.6	39.1	52.1	76.7	37.4	24.4	17.1	11.1	12.6	9.51
CFSM	.276	.450	.963	1.03	1.37	2.02	.984	.642	.450	.292	.332	.250
IN	.32	.50	1.11	1.19	1.43	2.33	1.10	.74	.50	.34	.38	.28

CALENDAR YEAR 1964 MAX 581 MIN 4.3 MEAN 36.2 CFSM .953 INCHES 12.96
WATER YEAR 1964-65 MAX 552 MIN 6.1 MEAN 28.6 CFSM .753 INCHES 10.21

Peak discharge (base, 2,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-8	Unknown	†7.13	774	3-5	2000	7.70	877

* Discharge measurement made on this day.
† Gage height obtained from crest-stage gage.
Note.--No gage-height record Jan. 8-18, Jan. 22 to Feb. 8, Feb. 18 to Mar. 3.

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, and 4.8 miles northwest of Upper Marlboro.

Drainage area.--30.2 sq mi.

Records available.--October 1949 to September 1965. Monthly discharge only for some periods, published in WSP 1302.

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

Average discharge.--16 years, 28.8 cfs.

Extremes.--Maximum discharge during year, 632 cfs Mar. 5 (gage height, 5.59 ft); minimum, 1.1 cfs Aug. 17, 18 (gage height, 1.26 ft).
1949-65: Maximum discharge, 1,580 cfs Aug. 13, 1955 (gage height, 8.51 ft, from high-water mark in well); minimum, 0.5 cfs Sept. 12, 13, 1964.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to July 11				July 12 to Sept. 30			
1.2	0.8	1.7	15	1.2	0.6	1.6	9.7
1.3	1.8	1.8	22	1.3	1.6	1.7	15
1.4	3.1	2.0	40	1.4	3.1		
1.5	5.3	3.0	185	1.5	5.6		
1.6	9.5	4.0	340	Note.--Same as preceding table above 1.7 ft.			

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	37	4.2	11	18	b15	23	33	17	8.0	1.6	6.4	5.4
2	27	4.2	9.0	17	b15	20	34	18	8.0	1.4	11	4.6
3	32	4.5	11	15	b13	19	31	16	11	2.0	7.7	3.6
4	21	4.2	*12	13	b11	17	28	14	11	1.6	5.1	3.1
5	15	4.2	13	12	b9.2	337	24	13	8.0	5.6	5.4	2.8
6	*11	4.5	24	12	12	302	24	12	6.3	13	3.9	2.5
7	8.5	4.2	22	11	121	128	33	14	5.3	4.5	3.6	2.4
8	6.7	4.5	16	21	169	62	31	15	a4.5	3.3	3.1	2.1
9	6.0	4.5	13	24	92	42	34	13	a5.5	2.4	4.4	1.9
10	5.0	4.5	11	59	55	35	30	12	a4.5	2.0	3.0	1.6
11	4.5	4.5	10	67	42	28	27	11	a4.2	118	2.8	1.5
12	4.0	4.5	40	48	37	24	25	9.0	a3.8	*110	2.4	2.8
13	3.8	4.5	51	35	31	22	21	8.5	a3.4	47	2.1	20
14	3.6	4.5	31	28	26	21	19	*7.1	a2.9	19	1.8	16
15	3.6	4.2	21	21	24	19	21	7.1	a2.9	11	1.6	9.3
16	3.8	4.5	16	18	23	18	25	7.1	a3.2	8.1	1.4	6.0
17	13	4.7	14	16	22	19	22	11	3.6	6.8	1.2	4.9
18	12	4.7	13	b14	20	44	20	9.0	3.8	28	2.8	4.4
19	9.0	5.6	10	b13	19	60	21	7.6	3.4	62	3.9	3.6
20	7.1	9.0	12	b12	15	52	22	6.3	3.4	19	4.9	3.1
21	6.0	8.5	15	13	16	45	20	5.6	2.7	8.9	3.1	2.8
22	5.6	6.7	14	14	16	41	19	5.6	2.8	6.0	11	*2.5
23	4.7	6.3	13	21	13	35	18	5.0	2.4	4.9	12	2.5
24	4.5	6.0	12	97	13	29	17	5.6	2.2	4.1	7.2	4.6
25	4.5	30	12	98	38	29	19	5.6	2.5	3.4	5.1	9.3
26	4.5	61	11	62	46	100	20	5.3	2.1	2.7	46	5.4
27	4.7	32	36	41	33	97	19	4.7	1.9	14	80	3.9
28	4.7	20	104	29	27	52	21	6.7	1.8	8.1	38	3.1
29	4.7	15	60	24	-	53	19	34	1.6	4.4	19	2.8
30	4.7	12	33	17	------	53	17	21	1.6	3.0	10	2.7
31	4.5	------	23	b16	------	42	------	11	------	2.5	7.2	------
TOTAL	286.7	291.7	693.0	906	973.2	1,868	714	337.8	128.3	528.3	317.1	141.2
MEAN	9.25	9.72	22.4	29.2	34.8	60.3	23.8	10.9	4.28	17.0	10.2	4.71
CFSM	.306	.322	.742	.967	1.15	2.00	.788	.361	.142	.563	.338	.156
IN	.35	.36	.85	1.12	1.20	2.30	.88	.42	.16	.65	.39	.17

CALENDAR YEAR	1964	MAX	294	MIN	.50	MEAN	25.5	CFSM	.844	INCHES 11.51
WATER YEAR	1964-65	MAX	337	MIN	1.2	MEAN	19.7	CFSM	.652	INCHES 8.85

Peak discharge (base, 340 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-7	2030	4.18	369	7-11	1800	4.53	425
3-5	1200	5.59	632				

* Discharge measurement made on this day.
a No gage-height record.
b Stage-discharge relation affected by ice.
Note.--Where daily discharge is less than 1.0 cfs the zero in the hundredths column is not significant.

1-5946. Cocktown Creek near Huntingtown, Md.

Location.--Lat 38°38'27", long 76°38'07", on right bank at downstream side of bridge on State Highway 510, 2 miles northwest of Huntingtown, Calvert County, 2¾ miles southeast of Lower Marlboro, and about 3½ miles upstream from mouth.

Drainage area.--3.85 sq mi.

Records available.--December 1956 to September 1965.

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

Average discharge.--8 years (1957-65), 4.51 cfs.

Extremes.--Maximum discharge during year, 157 cfs Aug. 26 (gage height, 5.56); minimum daily 0.2 cfs Aug. 13-17. 1956-65: 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 periods of ice effect, doubtful or no gage-height record, or shifting control, which are poor.

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	1.1	2.5	2.8	2.9	3.9	6.2	3.9	1.7	0.5	0.4	1.4
2	1.3	1.2	2.5	3.1	2.9	3.9	7.0	3.9	3.9	.4	.4	1.2
3	2.9	1.2	2.8	2.8	2.6	3.9	6.4	3.7	1.0	1.2	.3	.9
4	2.2	1.2	2.8	2.6	2.3	3.9	6.0	3.5	2.9	1.0	.4	.7
5	2.2	1.2	3.2	2.6	2.1	2.5	5.8	3.3	2.3	.9	2.0	.6
6	1.4	1.2	5.2	2.5	2.4	9.5	6.6	3.4	1.9	.9	.6	.6
7	1.1	1.2	3.1	2.3	1.5	7.4	*1.0	3.5	1.5	.8	.4	.5
8	1.0	1.2	2.8	4.1	8.3	6.8	6.6	3.5	1.4	.8	.4	.4
9	.9	1.2	2.8	3.3	6.1	6.5	8.5	3.4	1.3	.7	.3	.3
10	.8	1.2	2.6	8.2	6.3	5.9	6.1	3.1	3.5	.8	.4	.3
11	.7	1.3	2.7	5.6	5.5	5.3	5.9	2.9	3.1	1.6	.3	.8
12	.7	1.2	6.6	4.3	7.9	5.3	5.6	2.8	2.7	1.3	.3	1.3
13	.7	1.2	3.8	4.1	5.3	5.1	5.0	2.7	2.0	.9	.2	2.7
14	.7	1.0	2.8	3.7	5.3	5.1	5.0	2.4	1.6	.8	.2	2.1
15	.6	1.0	2.4	3.1	5.1	4.8	5.8	2.4	2.3	.7	.2	1.2
16	3.2	1.2	2.2	2.8	5.6	4.5	5.8	2.2	3.0	*.6	.2	1.0
17	4.4	1.2	*2.1	2.9	5.6	8.4	5.0	2.2	2.2	.5	.2	1.6
18	2.5	1.1	1.9	2.7	5.3	16	4.8	2.1	1.7	.9	3.9	1.2
19	1.6	2.4	1.8	2.7	5.0	10	5.0	2.0	1.4	1.2	*1.2	1.0
20	1.4	3.1	3.1	*2.6	4.4	7.5	4.8	1.9	1.1	.6	.6	.9
21	1.2	2.6	2.6	2.9	4.7	8.5	4.5	1.9	.9	.5	.5	.8
22	1.1	2.3	2.4	3.4	4.3	8.0	4.5	1.9	*.8	.5	12	*.6
23	1.0	2.3	2.2	4.4	*3.9	7.0	4.4	1.8	.8	.4	2.0	.6
24	1.0	2.3	2.2	11	4.1	6.6	4.4	1.8	1.0	.4	1.3	.9
25	1.0	8.4	2.1	5.8	9.8	8.0	4.7	*1.8	1.5	.3	1.3	1.0
26	1.0	7.1	2.7	4.8	4.8	20	4.8	1.6	.9	.4	41	.6
27	.8	3.3	10	4.1	4.1	10	5.0	1.5	.8	1.8	6.0	.5
28	.9	2.9	8.1	3.9	4.0	8.0	5.9	1.4	.7	.6	3.1	.6
29	*1.1	2.8	4.1	3.7	-	8.2	4.5	2.0	.6	.4	2.2	.6
30	1.1	2.7	3.5	3.3	------	7.5	4.1	1.6	.6	.3	2.0	.5
31	1.0	------	3.0	3.0	------	6.5	------	1.3	------	.3	1.8	-------
Total	55.6	63.3	102.6	119.1	145.6	247.0	168.7	77.4	60.1	23.0	86.1	27.4
Mean	1.79	2.11	3.31	3.84	5.20	7.97	5.62	2.50	2.00	0.74	2.78	0.91
Cfsm	0.465	0.548	0.860	1.00	1.35	2.07	1.46	0.649	0.519	0.192	0.722	0.236
In.	0.54	0.61	0.99	1.15	1.41	2.39	1.63	0.75	0.58	0.22	0.83	0.26

Calendar year 1964: Max 26 Min 0 Mean 3.60 Cfsm 0.935 In. 12.74
Water year 1964-65: Max 41 Min 0.2 Mean 3.22 Cfsm 0.836 In. 11.36

Peak discharge (base, 80 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0830	4.49	81	8-26	0400	5.56	157

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Jan. 15-21, Jan. 30 to Feb. 5, (no gage-height record Jan. 17-19).
Doubtful or no gage-height record Mar. 17 to April 8.
Doubtful or no gage-height record or shifting control May 30 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, 1¾ miles south of St. Leonard, Calvert County.

Drainage area.--6.73 sq mi.

Records available.--December 1956 to September 1965.

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

Average discharge.--8 years (1957-65), 8.51 cfs.

Extremes.--Maximum discharge during year, 70 cfs Nov. 26 (gage height, 4.25 ft); no flow for part of each day Aug. 17, 18.
1956-65: Maximum discharge, 288 cfs July 30, 1960 (gage height, 6.35 ft); no flow for part of many days in August and September 1963, August and September 1964, August 1965.

Remarks.--Records good except those for periods of ice effect and doubtful or no gage-height record which are fair.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.5	0.2	3.0	10
2.6	.9	3.2	20
2.7	1.8	3.5	32
2.8	3.5	4.0	54
2.9	6.2		

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a6.9	2.9	3.9	4.6	b4.2	5.2	8.0	6.9	2.4	2.4	2.9	1.7
2	a9.8	2.9	3.9	4.9	b4.1	b5.0	9.8	7.2	3.9	1.8	3.1	2.0
3	4.6	3.1	4.9	4.6	b4.0	b4.8	8.0	6.9	2.9	3.2	1.6	1.6
4	5.2	3.1	4.6	4.4	b3.7	5.2	7.6	6.2	5.2	4.4	1.5	1.5
5	7.2	3.1	4.6	b4.1	b3.5	2.9	7.6	5.8	3.7	4.2	9.0	1.4
6	3.7	3.1	9.3	4.4	6.2	11	8.4	5.8	3.1	4.4	2.6	1.4
7	2.9	3.1	5.5	b3.9	19	7.6	*16	6.5	2.7	2.7	1.8	1.4
8	2.6	3.1	4.6	9.3	2.5	7.2	9.8	6.5	2.4	a3.3	1.5	1.3
9	2.6	3.1	4.4	7.2	8.0	6.9	12	5.8	2.6	a3.0	1.6	1.2
10	2.3	3.1	b3.7	17	8.0	6.5	8.9	5.8	3.3	a2.6	2.9	1.0
11	2.1	3.3	b3.3	11	7.2	6.2	8.9	5.2	7.7	a4.0	1.5	1.3
12	2.3	3.3	b7.6	6.9	9.3	5.8	8.9	4.6	4.1	a2.5	1.4	2.4
13	2.4	3.3	7.6	6.2	6.9	6.2	7.2	4.4	2.9	a6.0	1.2	3.6
14	2.4	3.1	5.2	5.5	6.2	5.8	6.9	4.1	2.9	a*2.9	1.1	6.7
15	2.4	3.1	4.4	a4.5	6.5	5.5	7.6	4.1	4.8	2.9	1.0	3.1
16	4.1	3.3	4.1	a4.1	6.9	5.5	8.9	4.1	8.9	2.7	1.0	2.4
17	15	3.3	3.9	a4.2	7.2	8.0	7.2	4.1	5.2	2.4	.7	6.8
18	7.2	3.1	3.7	a3.8	6.5	18	7.2	3.7	4.4	2.3	1.2	3.3
19	3.9	8.0	b2.7	a3.4	b5.4	11	8.9	3.5	3.7	3.9	2.7	2.6
20	3.5	6.5	7.5	a4.5	b3.8	8.4	8.9	3.5	3.3	2.3	1.6	2.3
21	3.3	4.4	5.8	5.2	b5.2	9.8	7.6	3.5	2.6	2.0	1.1	2.0
22	3.1	3.7	4.6	5.2	b5.0	9.8	7.6	3.5	2.3	1.7	13	*1.7
23	2.9	3.7	4.1	8.0	b4.8	8.9	7.2	3.3	2.0	1.7	4.6	1.7
24	2.9	3.7	4.1	21	5.8	7.6	7.2	3.3	4.1	1.7	3.1	2.2
25	3.1	11	3.9	11	14	9.3	7.6	*3.1	16	2.1	2.4	6.0
26	3.1	36	4.9	7.2	6.9	24	7.6	2.7	3.5	2.9	5.7	2.4
27	3.1	6.2	10	6.2	6.5	12	11	2.7	2.6	3.9	15	2.1
28	2.9	5.2	28	6.2	5.5	9.8	10	2.6	2.3	2.7	3.5	2.0
29	*2.9	4.6	7.2	5.8	-	9.8	8.0	3.9	2.3	2.0	2.7	2.0
30	2.9	4.1	5.5	5.2	------	8.9	7.2	3.1	2.4	1.8	2.0	2.0
31	2.7	------	4.9	b4.4	------	8.4	------	2.7	------	1.6	1.8	------
Total	126.0	153.5	182.4	203.9	205.3	287.1	257.7	139.1	146.3	110.5	96.8	73.1
Mean	4.06	5.12	5.88	6.58	7.33	9.26	8.59	4.49	4.88	3.56	3.12	2.44
Cfsm	0.603	0.761	0.874	0.978	1.09	1.38	1.28	0.667	0.725	0.529	0.464	0.363
In.	0.70	0.85	1.01	1.13	1.13	1.59	1.42	0.77	0.81	0.61	0.53	0.40

Calendar year 1964: Max 36 Min 0.2 Mean 6.0 Cfsm 0.892 In. 12.13
Water year 1964-65: Max 36 Min 0.7 Mean 5.43 Cfsm 0.807 In. 10.95

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

* Discharge measurement made on this day.
a Doubtful or no gage-height record.
b Stage-discharge relation affected by ice.

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, and 2 miles northeast of Gorman.

Drainage area.--73.0 sq mi.

Records available.--July 1956 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 2,276.01 ft above mean sea level, datum of 1929, Parkersburg-Uniontown supplementary adjustment of 1944.

Average discharge.--9 years, 162 cfs.

Extremes.--Maximum discharge during year, 2,700 cfs Jan. 2 (gage height, 6.46 ft); minimum, 2.9 cfs Sept. 10, (gage height, 2.03 ft).
1956-65: 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, that of Sept. 10, 1965.
Flood of Oct. 15, 1954, reached a stage of 13.0 ft, from floodmarks.

Remarks.--Records fair except those for periods of no gage-height record or ice effect, which are poor.

Rating table, except periods of ice effect (gage-height, in feet, and discharge, in cubic feet per second)

2.04	3.1	2.7	82
2.1	4.5	3.0	161
2.2	10	3.5	355
2.3	19	4.0	610
2.5	45	5.0	1,300

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	20	b 74	184	b 150	269	282	178	19	8.6	14	4.5
2	30	16	87	1,230	b 120	234	430	149	19	5.4	9.3	11
3	24	15	186	1,010	b 100	216	294	127	48	5.8	6.9	7.4
4	19	17	550	465	b 90	205	253	109	32	6.9	5.4	5.4
5	17	14	346	324	b 80	370	208	106	22	6.4	4.5	4.5
6	11	11	246	257	b 80	257	216	104	19	7.4	5.4	4.0
7	10	11	181	208	b 500	208	216	94	22	6.9	9.3	3.7
8	10	11	146	360	1,110	187	178	84	19	10	11	3.5
9	11	11	127	282	a 660	191	315	80	20	6.9	10	3.1
10	11	13	104	261	a 500	171	242	* 70	20	11	17	* 3.1
11	8.6	14	106	223	a 390	158	290	62	26	143	13	3.3
12	8.0	11	367	201	a 330	141	386	59	20	51	7.4	6.2
13	8.6	11	277	184	a 260	132	320	59	14	21	5.4	17
14	9.3	15	219	164	a 200	135	265	52	11	13	4.9	13
15	7.4	13	164	b 140	a 170	138	276	48	10	13	4.2	10
16	6.9	81	b 150	b 120	* 152	132	670	47	* 12	20	4.0	8.0
17	46	272	b 140	b 110	135	155	386	44	13	16	3.7	7.4
18	72	92	261	b 100	122	321	294	44	11	11	3.5	6.4
19	*33	96	b 165	b 94	109	373	333	39	14	8.0	4.2	5.4
20	27	178	168	b 86	b 100	257	273	39	11	6.9	7.4	4.9
21	21	99	141	b 80	b 90	201	219	36	8.6	6.4	5.4	4.5
22	18	b 64	124	b 80	b 110	184	191	34	8.0	5.8	4.9	4.2
23	14	b 62	124	b 400	b 104	303	187	36	8.0	* 5.4	6.4	6.7
24	14	b 50	161	1,010	b 86	803	226	34	8.6	5.8	4.9	36
25	13	104	253	860	b 100	1,070	415	39	14	6.9	4.9	30
26	11	415	320	560	b 80	1,160	909	40	10	6.9	* 4.5	17
27	11	* 223	364	560	b 90	834	516	29	7.4	5.4	6.4	8.6
28	10	144	282	355	b 120	511	351	26	5.8	5.4	4.9	6.9
29	16	114	219	282	—	665	269	26	5.4	6.9	6.4	6.4
30	32	96	223	b 200	------	* 533	212	23	6.9	6.4	4.9	6.4
31	24	------	* 212	b 160	------	355	------	20	------	4.9	4.2	------
Total	603.8	2,293	6,487	10,550	6,138	10,869	9,622	1,937	464.7	444.4	208.3	258.5
Mean	19.5	76.4	209	340	219	351	321	62.5	15.5	14.3	6.72	8.62
Cfsm	0.267	1.05	2.86	4.66	3.00	4.81	4.40	0.856	0.212	0.196	0.092	0.118
In.	0.31	1.17	3.30	5.37	3.13	5.54	4.90	0.99	0.24	0.23	0.11	0.13

Calendar year 1964: Max 3,230 Min 3.7 Mean 155 Cfsm 2.12 In. 28.91
Water year 1964-65: Max 1,230 Min 3.1 Mean 137 Cfsm 1.88 In. 25.42

Peak discharge (base, 2,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1- 2	1900	6.46	2,700	2- 7	about 1900	6.24	2,450

* Discharge measurement made on this day.
a No gage-height record.
b Stage-discharge relation affected by ice.

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 1965.

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.

Extremes.--Maximum discharge during year, 1,640 cfs Mar. 3 (gage height, 6.49 ft); minimum, 2.5 cfs Sept. 19 (gage height, 2.03 ft).
1961-65: Maximum discharge, 3,120 cfs Mar. 19, 1963; maximum gage height, 8.41 ft Mar. 5, 1963 (ice jam); minimum discharge, that of Sept. 19, 1965.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Flow regulated since 1915 by Stony River Reservoir, 14 miles above station (capacity, 1,948,000,000 gal, of which 1,681,000,000 gal is controlled above minimum pool). Month-end contents in Stony River Reservoir, see next page. Since 1963, Virginia Power and Electric Company dam 4 miles upstream from station, for cooling purpose, not intended to regulate flow.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.0	2.0	2.8	59
2.1	3.6	3.2	131
2.2	6.6	3.6	230
2.3	11	4.0	356
2.5	25	5.0	775

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	33	24	38	b42	86	391	160	*10	66	90	4.8
2	30	33	23	136	40	114	302	140	12	70	80	5.1
3	29	33	32	410	40	374	112	120	36	72	70	5.1
4	29	33	97	256	40	97	100	100	23	74	6.5	4.8
5	29	33	74	227	125	* 287	91	70	24	77	60	4.8
6	29	33	55	61	200	391	95	50	26	*79	5.5	4.5
7	30	33	45	44	339	332	99	35	31	74	60	4.5
8	30	33	*37	70	253	* 272	89	25		64	6.5	4.5
9	30	33	30	70	268	242	131	19	38	67	*70	4.8
10	30	33	28	56	303	219	123	24	44	58	7.0	4.5
11	30	33	27	51	466	200	131	31	59	91	66	4.8
12	31	33	75	46	410	182	172	18	70	66	60	6.6
13	31	30	60	43	349	165	182	16	66	59	5.7	7.0
14	31	15	45	36	246	151	*180	14	64	52	5.4	4.5
15	31	15	35	b33	131	140	177	12	60	51	4.8	4.8
16	31	18	b32	b30	120	110	300	12	59	50	4.8	5.1
17	67	36	34	b27	112	77	290	11	58	50	5.1	6.3
18	74	19	44	b25	104	99	253	10	56	50	5.1	3.1
19	43	19	42	b25	30	* 110	250	8.8	55	50	5.7	3.6
20	38	28	39	b25	28	91	230	8.8	52	50	5.7	4.5
21	35	20	32	29	34	88	203	9.7	52	49	5.1	4.5
22	34	17	30	36	40	86	177	10	51	47	6.0	*4.5
23	34	16	29	118	28	138	165	10	50	45	5.1	7.0
24	33	15	38	192	31	271	175	11	51	40	5.1	8.8
25	33	49	55	*140	51	349	236	12	51	35	4.8	7.5
26	33	124	62	327	46	530	339	13	51	30	5.1	5.7
27	*33	55	74	93	42	486	290	11	52	25	5.7	5.1
28	33	36	70	70	84	417	250	13	54	20	5.1	5.1
29	34	31	50	59	-	624	210	13	58	15	4.5	5.1
30	35	27	45	b50	---	593	180	12	62	12	4.5	4.5
31	34	---	45	b45	---	482	---	11	---	10	4.5	---
Total	1,076	966	1,408	2,868	4,002	7,803	5,923	1,010.3	1,410	1,598	178.9	155.5
Mean	34.7	32.2	45.4	92.5	143	252	197	32.6	47.0	51.5	5.77	5.18

Calendar year 1964: Max 715 Min 5.4 Mean 43.5 Cfsm 0.891 In. 12.14
Water year 1964-65: Max 624 Min 3.1 Mean 77.8 Cfsm 1.59 In. 21.65

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Dec. 6, 7, Apr. 27 to May 8, July 23 to Aug. 8.

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, and 1.5 miles downstream from Wolfden Run.

Drainage area.--225 sq mi.

Records available.--October 1949 to September 1965.

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.--16 years, 429 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 4,540 cfs Feb. 7 (gage height, 7.05 ft); minimum, 8.8 cfs Sept. 10, 11 (gage height 1.99 ft).
1949-65: 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 periods of ice effect, 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).

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1-17		Oct. 18 to Mar. 25				Mar. 26 to Sept. 30			
2.5	42	2.4	38	4.0	485	2.0	9.2	3.5	258
2.7	66	2.6	62	4.5	800	2.2	20	4.0	485
3.0	118	2.8	90	5.0	1,250	2.4	36	Note.--Same as	
3.5	258	3.0	127	6.0	2,520	2.7	70	preceding table	
		3.5	275	7.0	4,420	3.0	118	above 4.0 ft.	

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	133	75	168	412	412	772	1,240	672	* 53	81	44	*11
2	90	* 70	166	1,710	378	* 710	1,430	576	52	81	46	14
3	74	67	223	2,580	289	949	904	490	94	86	40	20
4	63	68	1,080	1,320	272	588	751	405	104	87	36	16
5	57	67	786	960	272	1,610	632	340	71	89	35	14
6	52	63	552	652	338	1,340	639	395	66	95	* 20	12
7	47	62	399	518	b 1,300	1,040	672	385	66	94	23	11
8	46	60	334	1,010	2,850	882	552	291	69	84	45	9.7
9	45	59	292	816	1,950	808	872	258	71	81	40	9.2
10	47	59	230	704	1,810	730	737	* 241	71	81	45	9.2
11	45	63	233	594	* 1,520	639	765	212	89	304	36	9.2
12	43	60	603	507	1,580	564	1,130	196	104	193	27	16
13	42	59	665	460	1,260	507	952	171	97	104	* 20	39
14	44	51	480	399	1,020	485	840	150	89	84	17	35
15	43	43	370	318	786	480	779	131	86	74	15	26
16	42	46	272	334	564	435	1,550	120	87	77	* 14	20
17	225	368	314	282	502	435	1,180	113	92	76	13	19
18	326	166	485	286	450	631	928	105	89	71	14	20
19	153	125	310	258	422	1,030	1,000	94	89	66	13	15
20	* 113	310	350	264	278	730	904	89	84	64	18	14
21	97	193	306	258	306	570	737	87	77	* 62	20	15
22	82	b 100	272	272	350	529	646	87	73	60	16	14
23	75	b 96	254	b 720	261	747	606	83	70	60	* 17	13
24	71	b 98	330	b 2,250	278	2,150	658	78	70	57	16	50
25	70	146	475	1,970	366	2,620	1,060	95	73	55	17	64
26	66	1,000	658	1,630	338	* 3,110	2,210	131	73	56	18	45
27	67	534	816	1,540	310	2,580	1,530	86	69	54	20	29
28	62	326	710	952	442	1,880	1,160	71	* 67	46	22	* 21
29	68	258	529	751	—	2,340	952	65	69	* 44	18	18
30	93	216	490	564	------	2,080	786	62	74	41	14	17
31	87	------	* 496	445	------	1,550	------	57	------	39	11	------
Total	2,568	4,908	13,648	25,736	20,904	35,521	28,802	5,336	2,338	2,546	750	625.3
Mean	82.8	164	440	830	747	1,146	960	204	77.9	82.1	24.2	20.8
(†)	595	934	1,266	1,271	1,228	1,492	1,543	1,523	704	0	0	0

Calendar year 1964: Max 6,360 Min 18 Mean 374 Cfsm 1.66 In. 22.63
Water year 1964-65: Max 3,110 Min 9.2 Mean 396 Cfsm 1.76 In. 23.91

Peak discharge (base, 3,400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2- 7	2000	7.05	4,540	3-26	1915	6.75	3,880

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
† Month-end contents, in millions of gallons, in Stony River Reservoir (contents on Sept. 30, 1964, 749 million gallons); furnished by West Virginia Pulp and Paper Co.

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 Poplar Lick Run, and 5.4 miles northwest of Barton, Allegany County.

Drainage area.--49.1 sq mi.

Records available.--September 1948 to September 1965.

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

Average discharge.--17 years, 72.9 cfs.

Extremes.--Maximum discharge during year, 813 cfs Mar. 29 (gage height, 3.36 ft); maximum gage height, 3.79 ft Feb. 7 (ice jam); minimum; 0.6 cfs July 30, 31 (gage height, 1.00 ft).
1948-65: 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, 0.6 cfs Sept. 2, 1953, Sept. 16-18, 1964, July 30, 31, 1965.

Remarks.--Records good except those for periods of ice effect and those below 2.0 cfs, which are fair. City of Frostburg diverts about 0.5 cfs from headwaters of stream for municipal supply.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.0	0.6	1.4	18	2.3	192
1.1	1.6	1.6	36	2.6	311
1.2	5.0	1.8	64	3.0	540
1.3	11	2.0	106	3.5	930

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	15	3.3	22	58	b80	144	213	87	8.5	2.0	9.3	1.6
2	11	3.7	b18	127	b70	145	192	71	8.4	1.6	12	1.8
3	10	3.3	21	346	b60	136	150	58	18	4.1	5.5	1.4
4	8.1	2.9	71	211	b50	*127	132	*48	11	6.4	3.6	1.3
5	6.4	2.9	98	148	b45	508	*115	47	8.4	4.4	2.7	1.4
6	5.4	2.9	76	*116	b60	338	126	57	7.4	4.0	2.6	1.2
7	4.9	2.9	55	93	b240	223	165	96	6.8	3.2	3.3	1.0
8	4.2	2.6	46	237	494	174	159	80	6.6	2.8	4.7	.9
9	4.1	2.6	b35	264	372	159	163	67	6.3	2.6	8.6	1.0
10	3.7	2.6	b30	195	348	148	135	56	5.8	2.6	11	1.0
11	3.7	2.6	b27	143	*289	129	125	49	5.3	11	6.4	1.0
12	3.3	2.6	79	112	234	111	131	42	5.0	6.7	4.2	36
13	3.1	* 2.6	120	94	179	95	130	37	4.7	4.4	3.1	32
14	2.9	2.3	*97	71	140	86	128	32	4.1	*2.9	2.6	17
15	2.9	2.0	70	b66	110	80	135	28	*3.9	2.8	2.0	11
16	2.9	2.9	b45	b60	90	71	152	26	4.1	2.6	1.8	7.6
17	7.7	5.6	b48	b54	77	67	142	25	4.8	2.0	1.6	6.1
18	14	* 4.7	42	b50	67	90	130	22	5.6	2.0	3.6	5.1
19	* 8.8	9.7	b38	b48	60	136	122	20	5.7	2.0	4.1	6.1
20	6.6	28	b35	b45	51	132	102	18	4.7	1.4	2.9	7.1
21	5.5	18	b33	b38	55	108	86	17	3.9	1.3	2.3	9.6
22	5.0	b13	b31	b38	b50	92	78	16	3.7	1.2	7.0	7.7
23	4.5	b11	30	b160	b46	99	72	15	3.5	1.3	5.5	6.0
24	4.3	b10	29	446	b43	213	69	14	3.7	1.3	3.5	12
25	4.1	19	41	417	b70	354	80	17	3.3	1.3	*3.3	19
26	3.7	107	63	293	b66	420	173	17	2.8	1.0	6.9	12
27	3.5	74	119	261	b66	478	230	*14	2.3	1.0	5.0	9.1
28	3.3	51	132	200	b100	338	182	12	2.0	.8	4.5	7.3
29	3.3	38	106	b140	-	642	136	11	2.0	.8	3.0	6.3
30	3.5	30	86	b106	------	552	105	9.9	2.0	.7	2.3	5.8
31	3.3	------	70	76	------	309	------	9.3	-----	.9	1.8	------
TOTAL	172.7	463.7	1,813	4,713	3,612	6,704	4,058	1,118.2	164.3	83.1	140.7	236.4
MEAN	5.57	15.5	58.5	152	129	216	135	36.1	5.48	2.68	4.54	7.88
CFSM	.113	.316	1.19	3.10	2.63	4.40	2.75	.735	.112	.055	.093	.161
IN.	.13	.35	1.37	3.57	2.74	5.08	3.07	.85	.12	.06	.11	.18

CALENDAR YEAR 1964 MAX 1,410 MIN .6 MEAN 67.4 CFSM 1.37 INCHES 18.69
WATER YEAR 1964-65 MAX 642 MIN .7 MEAN 63.8 CFSM 1.30 INCHES 17.63

Peak discharge (base, 800 cfs)

Date	Time	Gage height	Discharge
3-29	2130	3.36	813

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

1-5970. Crabtree Creek near Swanton, Md.

Location.--Lat 39°30'00", long 79°09'35", on left bank 0.9 mile upstream from Middle Fork, 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 1965.

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

Average discharge.--17 years, 28.7 cfs.

Extremes.--Maximum discharge during year, 228 cfs Feb. 8 (gage height, 2.15 ft); minimum, 1.1 cfs Sept. 10, 11 (gage height, 0.69 ft).
1948-65: Maximum discharge, 3,260 cfs July 12, 1949 (gage height, 5.01 ft), from rating curve extended above 210 cfs on basis of slope-area and contracted-opening measurements of peak flow; minimum, 0.1 cfs Dec. 3, 1953 (gage height, 0.56 ft); minimum daily, 0.8 cfs Nov. 6, 1953.

Remarks.--Records good except those for periods of ice effect, which are fair. Small diversion above station by Baltimore & Ohio Railroad.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.69	1.1	1.0	6.2	1.5	42
.7	1.2	1.1	9.2	1.7	83
.8	2.4	1.2	14	2.0	175
.9	4.0	1.3	20	2.5	370

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.3	2.0	8.3	36	b 41	37	75	36	4.6	2.3	4.7	1.6
2	4.1	1.8	b6.6	91	b 29	44	73	33	8.3	2.1	2.3	1.7
3	3.5	1.8	8.9	189	b 24	42	59	28	15	2.4	1.7	1.5
4	3.0	1.8	36	107	b 20	*41	56	*24	8.2	2.5	1.5	1.4
5	2.7	1.7	44	69	b 18	142	*49	22	7.0	2.2	1.5	1.3
6	2.4	1.7	32	*49	b 25	119	47	20	6.1	2.3	1.4	1.3
7	2.2	1.7	24	*37	94	79	42	19	5.7	2.1	3.3	1.2
8	2.1	1.7	19	74	*221	58	39	18	5.3	2.1	3.7	1.2
9	2.1	1.7	15	83	186	50	51	16	5.0	1.9	3.1	1.2
10	2.1	1.6	12	72	147	45	50	15	4.9	2.1	2.7	1.1
11	2.0	1.6	11	53	119	39	57	14	4.7	5.3	2.1	1.1
12	1.8	1.6	24	41	97	35	67	13	4.3	2.8	1.7	3.3
13	1.8	1.7	33	35	74	31	69	13	4.0	2.1	1.6	4.2
14	1.8	1.7	*32	30	56	29	57	12	3.7	*2.4	1.5	2.4
15	1.8	1.5	25	b 27	44	29	52	11	*3.5	3.0	1.4	1.8
16	1.8	2.1	b 17	24	35	27	53	10	3.7	2.1	1.4	1.6
17	4.7	3.0	18	b 22	*30	28	48	9.9	3.9	1.9	1.3	1.5
18	3.9	* 2.1	b 17	b 20	26	39	45	9.3	3.8	1.9	1.3	1.5
19	* 2.7	4.3	b 15	19	24	64	42	8.7	3.7	1.8	1.3	1.4
20	2.4	8.9	b 14	18	b 20	62	38	8.2	3.2	1.6	1.5	1.9
21	2.2	6.0	b 13	15	b 19	48	35	7.9	3.0	1.6	1.3	1.8
22	2.1	4.3	b 12	15	b 18	39	32	7.5	2.8	1.5	2.7	1.4
23	2.1	b 3.7	b 11	55	b 17	46	31	7.0	2.7	1.6	2.0	1.4
24	2.0	b 3.5	b 13	172	21	134	31	6.6	2.9	1.7	*1.4	4.1
25	2.0	8.6	20	165	24	188	36	7.8	2.8	1.6	2.2	3.2
26	1.8	35	32	125	22	195	121	7.0	2.5	1.5	4.6	2.0
27	1.8	25	65	119	22	205	134	6.1	2.3	1.4	5.2	1.7
28	1.8	17	69	88	26	147	83	5.7	2.2	1.3	3.1	1.6
29	2.2	13	53	62	-	183	54	5.4	2.2	1.3	2.0	1.6
30	2.4	10	44	48	------	162	41	5.1	2.4	1.3	1.7	1.5
31	2.1	------	38	b 40	------	113	------	5.0	------	1.9	1.6	------
TOTAL	76.7	172.1	781.8	2,000	1,499	2,500	1,667	411.2	134.4	63.6	68.8	54.5
MEAN	2.47	5.74	25.2	64.5	53.5	80.6	55.6	13.3	4.48	2.05	2.22	1.82
CFSM	.148	.344	1.51	3.86	3.20	4.83	3.33	.796	.268	.123	.133	.109
IN	.17	.38	1.74	4.45	3.34	5.57	3.71	.92	.30	.14	.15	.12

CALENDAR YEAR 1964	MAX 390	MIN 1.0	MEAN 24.9	CFSM 1.49	INCHES 20.26
WATER YEAR 1964-65	MAX 221	MIN 1.1	MEAN 25.8	CFSM 1.54	INCHES 21.00

Peak discharge (base, 330 cfs).--No peak above base.

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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, and 3.2 miles northwest of Bloomington, Garrett County.

Drainage area.--106 sq mi.

Records available.--October 1948 to September 1965.

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.--17 years, 162 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 1,700 cfs Mar. 30 (gage height, 4.60 ft); minimum, 1.5 cfs June 8 (gage height, 0.69 ft); minimum daily, 10 cfs Nov. 19, 23, 24.
1948-65: Maximum discharge, 6,530 cfs Oct. 16, 1954 (gage height, 7.70 ft); minimum, 0.4 cfs Nov. 13, 1958 (gage height 0.58 ft); minimum daily, 0.6 cfs July 27-31, Aug. 5, 6, 9, 10, 1951.

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

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 29

0.9	7.1	2.5	251
1.0	11	3.0	436
1.2	22	3.5	685
1.4	37	4.0	1,070
1.7	71	4.5	1,580
2.0	122	5.0	2,210

Mar. 30 to Sept. 30

1.0	12	1.6	62
1.2	26	1.8	87
1.4	43	2.0	122

Note.--Same as preceding table above 2.0 ft.

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	35	98	226	91	291	1,030	212	44	30	62	82
2	11	35	98	94	91	585	107	179	59	24	62	83
3	13	35	98	98	91	395	107	145	57	22	62	83
4	24	35	98	100	91	94	107	124	30	17	64	83
5	40	35	98	433	91	105	* 92	120	15	14	67	83
6	48	36	98	620	91	761	107	139	26	14	67	90
7	48	40	98	610	94	1,070	50	176	31	14	74	87
8	48	41	98	595	606	866	16	166	26	14	80	86
9	52	41	98	600	1,090	585	17	143	40	18	57	92
10	55	48	98	590	1,070	261	17	124	40	26	47	93
11	56	47	98	585	1,040	91	17	111	35	21	49	93
12	56	44	98	260	793	89	17	97	22	15	58	79
13	56	*44	98	89	565	91	17	90	14	14	72	68
14	56	44	438	89	252	91	17	73	14	13	80	57
15	56	59	620	89	93	93	17	67	14	17	86	62
16	56	66	605	89	93	93	17	61	* 14	25	86	72
17	56	63	272	89	93	93	17	59	14	23	87	74
18	56	31	91	89	94	94	17	51	14	26	87	79
19	* 29	10	91	89	94	96	17	48	14	30	87	80
20	12	11	91	89	94	98	79	43	14	33	86	80
21	12	11	91	89	94	98	114	40	22	* 45	86	80
22	19	11	91	89	94	* 100	114	40	21	50	86	84
23	23	10	91	89	417	101	55	39	24	50	86	90
24	23	10	91	351	331	105	17	35	26	50	84	79
25	23	11	91	631	93	114	18	42	26	50	* 83	44
26	31	11	91	940	94	478	23	43	26	50	67	38
27	36	11	93	1,080	94	706	374	* 36	29	50	66	53
28	36	31	94	881	94	706	472	32	32	50	72	67
29	36	66	417	600	-	1,030	328	28	31	* 58	73	74
30	36	94	405	400	---	1,460	257	23	* 30	62	78	78
31	35	---	546	93	---	1,630	---	31	---	62	80	---
Total	1,149	1,066	5,583	10,766	7,928	12,470	3,654	2,617	804	987	2,281	2,293
Mean	37.1	35.5	180	347	283	402	122	84.4	26.8	31.8	73.6	76.4
(†)	7,940	7,360	4,540	4,320	4,700	9,370	20,140	19,970	19,380	17,900	13,950	10,150

Calendar year 1964: Max 2,320 Min 10 Mean 152 Cfsm 1.43 In. 19.49
Water year 1964-65: Max 1,630 Min 10 Mean 141 Cfsm 1.33 In. 18.10

* Discharge measurement made on this day.
† Month-end contents, in acre-ft, in Savage River Reservoir (contents on Sept. 30, 1964, 9,700 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 and 0.5 mile northwest of Luke, Allegany County.

Drainage area.--404 sq mi.

Records available.--June 1899 to July 1906 (published as "at Piedmont, W.Va."), October 1949 to September 1965.

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.--22 years (1899-1905, 1949-65), 688 cfs (adjusted for storage since 1949).

Extremes.--Maximum discharge during year, 7,600 cfs Feb. 7 (gage height, 8.50 ft); maximum gage height, 10.73 ft Feb. 5 (ice jam); minimum, 84 cfs July 20, Sept. 27 (gage height, 1.15 ft).

1899-1906, 1949-65: Maximum discharge, 39,400 cfs Oct. 15, 1954 (gage height, 17.15 ft); minimum daily, 6 cfs Sept. 4, 1904.

Remarks.--Records good except those for periods of ice effect, which are fair. Flow regulated since 1913 by Stony River Reservoir, 45 miles above station (see p. 66) 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.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.2	90	3.0	595
1.5	133	4.0	1,190
2.0	241	5.0	2,070
2.5	392	7.0	4,760

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	197	117	295	774	b 600	1,120	2,630	1,070	109	104	107	* 95
2	125	110	267	1,510	b 560	1,390	1,790	940	130	104	110	94
3	102	106	287	3,300	b 500	1,480	1,260	789	173	100	106	91
4	100	103	1,030	* 1,690	b 460	843	1,080	680	175	106	100	99
5	104	104	1,080	1,550	b 460	2,130	926	564	107	103	102	98
6	109	100	741	1,480	b 500	2,290	881	640	100	109	111	100
7	102	100	582	1,300	b 1,500	2,340	920	676	106	109	110	100
8	99	102	482	1,750	4,320	2,020	715	582	107	104	120	99
9	100	100	442	1,670	3,500	1,590	994	506	119	98	128	99
10	103	104	364	1,520	3,310	1,200	959	454	119	110	103	103
11	106	106	360	1,380	2,850	894	855	419	123	289	94	103
12	102	104	600	995	2,700	801	1,330	374	131	307	90	104
13	102	* 100	878	695	2,050	720	1,160	331	122	146	94	104
14	102	102	969	640	1,480	705	1,040	289	114	111	99	104
15	104	100	1,080	b 520	1,100	690	946	262	109	100	102	98
16	103	109	907	b 520	813	640	1,580	236	109	102	99	99
17	186	332	668	b 460	730	644	1,350	224	114	103	100	98
18	478	254	577	b 450	672	676	1,110	204	113	102	99	99
19	238	151	b 450	b 440	626	1,340	1,130	184	113	100	99	102
20	* 138	305	b 440	b 440	474	1,040	1,130	165	109	* 98	98	103
21	116	251	b 460	b 440	490	819	1,010	155	106	103	100	100
22	106	147	b 400	b 460	534	771	894	155	99	109	110	99
23	106	116	b 370	1,180	717	888	765	149	98	110	102	104
24	98	117	419	3,220	724	2,540	759	138	99	109	100	102
25	94	138	554	3,020	564	3,360	1,130	147	100	106	109	114
26	99	953	789	2,720	568	* 4,180	2,540	216	99	104	109	94
27	104	668	992	2,940	498	4,180	2,190	* 161	99	102	94	91
28	102	419	940	2,140	568	3,010	1,880	128	100	100	98	95
29	102	368	1,010	1,590	-	3,700	1,520	113	100	* 99	98	96
30	117	341	990	1,160	---	4,040	1,240	104	100	104	98	* 98
31	130	---	1,180	662	---	3,550	---	104	---	104	98	---
Total	3,974	5,227	20,603	42,616	33,868	55,591	37,714	11,159	3,402	3,655	3,187	2,985
Mean	128	208	665	1,375	1,210	1,793	1,257	360	113	118	103	99.5

Calendar year 1964: Max 9,080 Min 94 Mean 628 Cfsm 1.55 In. 21.15
Water year 1964-65: Max 4,320 Min 90 Mean 616 Cfsm 1.52 In. 20.71

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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 1965.

Gage.--Water-stage recorder. Datum of gage is 958.96 ft above mean sea level (West Virginia Pulp & 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, water-stage recorder at site 95 ft downstream at present datum.

Average discharge.--36 years (1929-65), 77.9 cfs.

Extremes.--Maximum discharge during year, 1,300 cfs Mar. 5 (gage height, 6.50 ft); minimum, 3.2 cfs Sept. 11 (gage height, 3.02 ft).

1905-6, 1929-65: 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. Records include drainage from numerous active and abandoned coal mines.

Rating tables, (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 4				Mar. 5 to Sept. 30			
3.09	7.2	3.6	45	3.03	3.6	4.0	106
3.1	7.7	4.0	106	3.1	6.9	4.5	257
3.2	14	4.5	257	3.3	19	5.0	475
3.3	20	5.0	475	3.6	45	6.0	1,000

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*18	7.7	19	45	74	120	306	134	21	8.0	14	5.0
2	14	7.7	17	96	73	*108	306	118	26	6.9	9.6	5.0
3	11	7.7	19	179	56	106	242	104	56	9.0	7.4	4.5
4	10	7.7	69	106	52	106	202	*93	29	9.0	6.4	4.1
5	9.9	8.2	67	89	51	727	176	95	24	8.0	5.9	4.1
6	9.4	8.8	50	82	57	434	185	116	21	8.0	6.6	4.1
7	9.4	8.8	40	73	271	332	238	139	21	6.9	6.9	36
8	9.4	7.7	34	245	412	286	185	108	19	8.0	8.0	36
9	9.4	7.2	32	209	372	249	202	96	18	6.9	27	36
10	8.8	7.2	26	167	421	223	179	89	17	6.9	18	36
11	8.2	7.2	26	137	358	192	170	79	16	44	9.0	36
12	7.7	7.2	53	118	332	164	195	71	15	16	8.0	8.0
13	7.7	7.2	60	102	242	142	173	65	13	9.6	6.9	12
14	7.7	7.2	*46	84	195	129	152	57	12	10	6.4	12
15	7.7	7.2	40	68	170	122	150	51	*12	9.6	5.9	8.5
16	7.2	7.7	34	71	139	113	185	49	14	8.5	5.4	6.9
17	41	8.8	36	63	122	104	150	46	16	8.0	5.4	6.4
18	31	8.2	32	64	111	139	137	44	17	8.5	5.4	5.9
19	18	14	26	60	100	192	147	41	15	8.0	5.4	5.4
20	*14	23	28	58	82	164	147	39	12	6.9	5.9	5.4
21	12	13	25	53	87	134	127	37	11	*8.5	5.0	6.4
22	10	9.4	23	53	84	129	115	37	10	8.0	8.0	5.4
23	9.9	8.8	23	159	66	170	106	35	9.6	5.9	5.9	5.0
24	8.8	*8.2	24	408	67	306	102	32	9.6	5.9	5.4	5.4
25	8.8	32	45	332	159	426	115	38	9.6	5.4	9.8	6.4
26	8.8	111	57	249	120	525	230	35	9.0	5.0	*18	6.9
27	8.2	47	71	257	96	506	250	31	8.5	4.5	9.6	5.9
28	8.2	34	67	195	106	430	210	27	*8.5	4.5	8.0	5.9
29	8.2	28	57	147	—	520	179	26	8.0	4.1	5.9	5.4
30	8.2	24	53	115	------	470	152	24	8.5	4.1	5.4	5.4
31	8.2	------	49	80	-----	380	-----	24	-----	5.9	5.0	------
Total	358.8	491.8	1,248	4,154	4,475	8,148	5,413	1,980	486.3	268.5	259.5	173.4
Mean	11.6	16.4	40.2	134	160	263	180	63.9	16.2	8.66	8.37	5.78
Cfsm	0.160	0.227	0.555	1.85	2.21	3.63	2.49	0.883	0.224	0.120	0.116	0.080
In.	0.18	0.25	0.64	2.13	2.30	4.19	2.78	1.02	0.25	0.14	0.13	0.09

Calendar year 1964: Max 2,730 Min 4.2 Mean 80.4 Cfsm 1.11 In. 15.13
Water year 1964-65: Max 727 Min 3.6 Mean 75.2 Cfsm 1.04 In. 14.10

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge
3- 5	0330	6.50	1,300

* Discharge measurement made on this day.

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.

Drainage area.--596 sq mi.

Records available.--October 1938 to September 1965.

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.--27 years, 867 cfs (unadjusted).

Extremes.--Maximum discharge during year, 7,390 cfs Mar. 27 (gage height, 9.46 ft); minimum, 95 cfs Sept. 6, 7, (gage height, 1.78 ft).
1938-65: 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. 66), and since December 1950, by Savage River Reservoir (see p. 69).

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

1.7	77	4.0	1,160
2.0	150	5.0	1,950
2.5	320	7.0	3,950
3.0	545	9.0	6,700

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	340	153	368	1,040	783	1,220	3,430	1,440	145	116	145	106
2	210	136	316	765	864	1,660	2,320	1,290	150	118	139	99
3	156	128	324	4,210	617	1,650	1,860	1,100	320	118	128	99
4	131	123	832	2,130	545	1,320	1,520	955	262	128	111	99
5	118	123	1,340	1,740	540	3,990	1,310	807	188	121	106	104
6	134	118	922	1,760	622	3,360	1,270	864	147	123	106	99
7	123	116	711	1,510	1,110	3,100	1,420	929	139	128	153	109
8	118	116	580	1,970	4,640	2,700	1,150	844	150	131	118	104
9	118	118	530	2,220	4,480	2,160	1,360	729	145	116	170	101
10	123	116	455	1,900	4,290	1,830	1,390	650	150	109	201	104
11	121	123	404	1,710	3,650	1,330	1,240	585	150	244	121	109
12	121	123	485	1,370	3,500	1,190	1,720	535	156	470	109	131
13	116	123	1,100	948	2,660	1,080	1,600	480	159	234	101	179
14	118	118	929	884	2,130	1,010	1,430	427	145	153	106	139
15	116	116	1,190	661	1,560	968	1,310	388	*134	123	109	118
16	118	123	1,010	672	1,200	896	1,900	348	131	109	109	104
17	167	170	870	595	1,050	877	1,790	328	142	111	106	111
18	535	414	595	580	955	942	1,500	300	150	111	113	111
19	376	224	550	535	877	1,900	1,480	266	145	111	106	111
20	217	248	495	520	723	1,640	1,520	* 258	136	101	104	111
21	* 164	356	520	530	678	1,260	1,360	234	128	101	101	118
22	142	227	450	530	717	1,180	1,210	227	123	111	136	109
23	131	139	432	1,010	717	1,260	1,100	237	113	123	123	109
24	123	* 136	436	4,090	1,010	2,940	1,030	210	113	121	111	145
25	116	153	580	* 3,850	838	4,400	1,330	210	*113	116	118	167
26	113	858	877	3,240	948	5,450	3,040	269	111	116	198	128
27	121	955	1,070	3,530	741	5,910	2,920	266	111	113	131	109
28	123	545	1,170	2,730	795	3,950	2,560	207	111	109	118	104
29	121	436	1,070	2,080	—	4,380	2,070	191	109	106	109	111
30	126	400	1,160	1,680	----------	* 4,890	1,680	150	111	* 106	* 106	* 109
31	150	----------	1,290	1,000	----------	4,170	----------	147	----------	111	104	----------
Total	5,006	7,234	23,061	51,990	43,240	74,613	50,820	15,871	4,387	4,208	3,816	3,457
Mean	161	241	744	1,677	1,544	2,407	1,694	512	146	136	123	115

Calendar year 1964 : Max 13,300 Min 103 Mean 778 Cfsm 1.31 In. 17.76
Water year 1964-65: Max 5,910 Min 99 Mean 788 Cfsm 1.32 In. 17.95

* Discharge measurement made on this day.

1-6010. Wills Creek below Hyndman, Pa.

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

Drainage area.--146 sq mi.

Records available.--June 1951 to September 1965.

Gage.--Water-stage recorder (digital). Datum of gage is 891.37 ft above mean sea level (Pennsylvania Railroad bench mark).

Average discharge.--14 years, 188 cfs.

Extremes.--Maximum discharge during year, 2,340 cfs Mar. 5 (gage height, 5.40 ft); minimum, 0.7 cfs Sept. 10, 11, (gage height, 1.40 ft).
1951-65: Maximum discharge, 11,600 cfs Oct. 15, 1954 (gage height, 11.02 ft), from rating curve extended above 6,000 cfs by logarithmic plotting; minimum, that of Sept. 10, 11, 1965.

Remarks.--Records good except those for periods of ice effect, which are fair.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.4	0.8	1.9	12	2.7	167
1.5	1.7	2.0	17	3.0	288
1.6	3.0	2.1	24	3.5	570
1.7	5.1	2.2	37	4.0	935
1.8	7.9	2.4	84	5.0	1,900

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	21	6.4	35	131	173	310	592	237	27	4.2	3.6	2.0
2	17	6.2	48	227	180	295	507	204	25	3.6	17	1.9
3	15	6.1	37	555	127	289	382	174	35	3.6	9.0	1.6
4	13	6.0	107	426	b120	266	320	150	27	4.0	5.4	1.4
5	11	5.9	171	305	b115	1,750	*282	136	22	4.6	3.8	1.4
6	9.0	5.8	140	*239	147	1,210	293	*133	21	4.0	3.0	1.3
7	7.6	5.9	106	187	b500	742	346	175	20	4.2	3.6	*1.1
8	7.3	5.8	93	544	b960	577	326	161	19	*6.1	3.6	.9
9	7.0	5.9	76	636	892	526	430	157	19	6.1	8.6	.9
10	6.7	5.9	58	490	849	500	429	167	*18	4.9	28	.8
11	6.4	5.9	60	356	755	434	430	154	20	5.1	14	.8
12	6.1	*5.9	166	272	651	364	440	140	17	7.0	8.6	13
13	5.9	5.9	219	221	507	305	380	128	15	6.1	5.9	40
14	5.6	5.8	196	180	396	271	336	113	13	4.4	4.4	20
15	5.6	5.7	148	b120	*319	253	351	101	12	3.6	3.6	12
16	* 5.9	7.1	103	b130	261	220	381	93	13	3.0	3.0	7.9
17	9.1	10	116	b110	224	202	331	* 88	15	2.6	4.0	5.9
18	14	12	91	b110	196	255	331	78	17	2.7	4.9	4.4
19	13	13	b50	b105	177	338	337	70	15	2.7	6.1	4.4
20	11	34	b68	b100	b135	347	286	63	12	2.6	4.9	7.0
21	8.9	25	b60	b105	156	309	263	57	11	2.1	3.8	6.7
22	7.9	14	54	b100	142	272	250	67	9.0	2.0	13	4.4
23	7.6	12	51	b360	b125	292	232	71	8.6	*2.3	14	3.8
24	7.1	11	52	1,270	124	536	221	62	9.8	2.4	8.6	8.3
25	6.9	40	74	1,020	321	713	248	57	9.8	2.3	5.9	14
26	6.7	290	107	752	394	885	327	52	7.9	2.1	4.6	11
27	6.6	160	221	612	351	1,140	381	45	6.4	1.7	4.4	7.3
28	6.5	104	289	472	321	933	391	40	5.9	1.6	4.4	5.6
29	6.7	76	253	383	-	1,300	332	34	5.1	1.3	3.8	4.6
30	6.8	58	205	277	------	1,400	276	31	4.6	1.2	2.9	4.2
31	6.6	------	163	198	------	845	------	30	------	1.3	2.3	------
TOTAL	275.5	955.2	3,617	10,993	9,618	18,079	10,431	3,268	460.1	105.4	212.7	198.6
MEAN	8.89	31.8	117	355	344	583	348	105	15.3	3.40	6.86	6.62
CFSM	.061	.218	.801	2.43	2.36	3.99	2.38	.719	.105	.023	.047	.045
IN	.07	.24	.92	2.80	2.45	4.61	2.66	.83	.12	.03	.05	.05

CALENDAR YEAR 1964 MAX 3,670 MIN 1.1 MEAN 197 CFSM 1.35 INCHES 18.36
WATER YEAR 1964-65 MAX 1,750 MIN .8 MEAN 159 CFSM 1.09 INCHES 14.83

Peak discharge (base, 2,100 cfs)

Date	Time	Gage height	Discharge
3- 5	0600	5.40	2,340

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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 1965.

Gage.--Water-stage recorder (digital). 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, water-stage recorder, and Apr. 1, 1936, to Mar. 19, 1937, tape gage, at site 200 ft upstream at present datum.

Average discharge.--36 years (1929-65), 313 cfs.

Extremes.--Maximum discharge during year, 4,080 cfs Mar. 5 (gage height 6.78 ft); minimum, 9.5 cfs Sept. 10 (gage height, 1.31 ft).
1905-6, 1929-65: Maximum discharge, 38,100 cfs Mar. 17, 1936 (gage height, 20.2 ft, from floodmarks at present site), from rating curve extended above 6,500 cfs on basis of slope-area measurements at gage heights 13.45 and 20.2 ft; minimum, 9 cfs Oct. 14, 1930.

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

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

1.3	9.5	2.0	69	4.0	790
1.4	14	2.5	159	4.5	1,150
1.6	26	3.0	307	5.0	1,580
1.8	44	3.5	515	6.0	2,800

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	61	23	68	177	246	470	899	409	78	28	23	15
2	48	20	56	228	266	439	802	367	75	27	29	14
3	42	21	66	676	179	425	626	320	85	28	33	* 14
4	36	21	112	520	177	405	535	283	80	27	26	14
5	30	20	223	393	172	2,770	479	262	69	27	22	11
6	28	21	184	330	211	1,850	488	* 255	66	26	23	12
7	25	21	144	269	820	1,200	570	305	63	28	34	15
8	24	21	119	700	1,420	927	525	299	60	* 28	32	12
9	23	19	110	808	1,290	820	632	277	57	27	28	12
10	22	20	82	654	1,310	754	615	278	* 55	29	36	11
11	23	20	83	497	1,150	659	615	262	56	33	46	12
12	20	* 20	174	393	1,010	565	643	243	56	30	32	72
13	20	20	276	330	796	488	570	227	51	28	25	84
14	20	20	246	269	632	439	511	206	44	27	23	55
15	21	21	195	177	520	409	520	188	44	26	21	36
16	* 21	22	123	208	439	365	595	176	46	25	21	27
17	36	24	159	164	385	345	515	167	49	23	19	22
18	36	25	125	179	341	409	502	152	52	23	19	19
19	32	42	75	159	315	570	530	141	51	23	21	18
20	31	53	88	148	237	565	466	131	46	22	20	23
21	27	55	93	* 157	276	497	425	123	41	21	19	29
22	25	40	83	155	256	461	401	125	39	20	26	21
23	24	28	77	555	192	493	381	141	37	* 22	28	18
24	24	* 28	77	1,800	214	784	373	120	36	21	26	39
25	24	66	99	1,390	511	1,150	413	119	38	18	22	41
26	21	369	135	1,040	575	1,550	575	112	37	22	21	30
27	22	223	246	878	502	1,730	605	104	34	20	20	24
28	22	150	322	670	479	1,420	610	99	31	19	19	21
29	22	112	297	550	-	1,660	540	90	29	18	16	19
30	22	83	250	389	------	* 1,780	466	84	28	18	18	17
31	22	------	211	290	------	1,210	------	82	------	20	17	------
TOTAL	854	1,628	4,598	15,153	14,921	27,609	16,427	6,147	1,533	754	765	757
MEAN	27.5	54.3	148	489	533	891	548	198	51.1	24.3	24.7	25.2
CFSM	.111	.220	.599	1.98	2.16	3.61	2.22	.802	.207	.098	.100	.102
IN	.13	.25	.69	2.28	2.25	4.16	2.47	.93	.23	.11	.12	.11

CALENDAR YEAR 1964 MAX 6,610 MIN 12 MEAN 320 CFSM 1.30 INCHES 17.64
WATER YEAR 1964-65 MAX 2,770 MIN 11 MEAN 250 CFSM 1.01 INCHES 13.72

Peak discharge (base, 3,500 cfs)

Date	Time	Gage height	Discharge
3- 5	0815	6.78	4,080

* Discharge measurement made on this day.

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, and 2.1 miles downstream from Wills Creek.

Drainage area.--875 sq mi.

Records available.--May 1929 to September 1965. Gage-height records collected at various sites about 2 miles upstream from September 1901 to December 1932, and thereafter at present site, are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 585.22 ft above mean sea level (Corps of Engineers bench mark). Prior to June 18, 1929, chain gage at same site and datum.

Average discharge.--36 years, 1,214 cfs (unadjusted).

Extremes.--Maximum discharge during year, 9,550 cfs Mar. 5 (gage height, 9.70 ft); minimum, 115 cfs Sept. 10 (gage height 2.28 ft); minimum daily, 119 cfs Sept. 2-6, 9-11.
1929-65: 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. 66), and since December 1950, by Savage River Reservoir (see p. 69). 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.

Rating table, (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Nov. 7, July 7 to Aug. 12, Aug. 17-21, Sept. 6-11)

2.18	119	4.0	1,580
2.2	129	6.0	4,320
2.6	334	9.0	8,520
3.0	605	12.0	13,100

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	481	190	502	1,320	1,040	1,580	4,980	1,900	* 246	152	180	124
2	300	180	422	968	1,110	2,020	3,370	1,700	252	152	* 180	119
3	215	166	422	4,850	824	2,000	2,770	1,450	390	161	166	119
4	180	157	733	2,880	694	1,840	2,140	1,270	365	161	152	119
5	152	147	1,660	2,040	728	7,230	1,870	1,110	312	161	138	119
6	157	147	1,170	2,110	878	5,900	1,750	1,120	241	157	134	119
7	161	143	932	1,750	1,840	4,810	2,090	1,220	215	166	200	124
8	152	143	770	2,510	5,250	4,030	1,760	1,200	225	* 170	180	* 134
9	147	143	702	3,300	5,420	3,240	1,950	1,050	225	152	215	119
10	143	143	605	2,670	5,210	2,860	2,140	986	215	143	246	119
11	152	143	* 538	2,260	5,380	2,080	1,900	905	215	189	* 200	119
12	152	152	645	1,880	5,010	* 1,810	2,360	842	215	* 454	152	269
13	143	152	1,340	1,300	3,830	1,590	2,250	770	215	289	134	300
14	143	147	1,160	1,180	2,990	1,450	2,000	702	200	195	134	230
15	138	143	1,420	896	2,150	1,390	1,820	637	* 185	161	138	180
16	147	147	1,190	896	1,710	1,280	2,460	582	185	* 143	* 138	147
17	190	161	1,120	833	1,450	1,220	2,460	545	200	143	138	* 138
18	480	415	728	770	1,320	1,330	2,050	516	210	143	138	138
19	486	328	728	762	1,210	2,450	1,990	467	210	143	138	134
20	300	273	598	702	1,010	2,360	2,020	* 422	190	134	129	138
21	* 220	441	661	* 728	968	1,820	1,820	390	180	134	124	152
22	185	323	582	702	977	1,650	1,640	402	161	* 138	161	143
23	157	225	545	1,310	878	1,740	1,480	422	166	152	* 180	134
24	152	* 166	530	5,220	1,250	3,750	1,380	371	161	161	157	201
25	143	236	677	5,930	1,310	5,850	1,640	359	* 157	147	147	241
26	138	1,080	1,000	4,630	1,630	7,260	3,540	384	157	143	225	200
27	138	1,340	1,250	4,800	1,280	8,530	3,930	422	152	138	200	157
28	152	815	1,540	3,760	1,280	6,140	3,540	340	147	134	152	138
29	152	629	1,340	2,790	—	5,310	2,850	312	147	134	129	134
30	152	552	1,480	2,090	---------	* 7,410	2,220	267	143	129	* 129	* 134
31	161	----------	1,430	1,350	---------	6,000	----------	246	----------	143	124	----------
Total	5,169	9,427	28,420	70,087	61,627	108,930	70,170	23,309	5,282	5,122	4,958	4,642
Mean	199	314	917	2,261	2,201	3,514	2,339	752	209	165	160	155

Calendar year 1964: Max 19,400 Min 119 Mean 1,158 Cfsm 1.32 In. 18.02
Water year 1964-65: Max 8,530 Min 119 Mean 1,094 Cfsm 1.25 In. 16.96

Peak discharge (base, 10,000 cfs) No peak above base.

* Discharge measurement made on this day.

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, and 7 miles upstream from Rock Gully Creek.

Drainage area.--30.2 sq mi.

Records available.--September 1932 to September 1965. Prior to October 1952, published as "near Bedford Valley."

Gage.--Water-stage recorder (digital) and concrete control. Datum of gage is 1,027.59 ft above mean sea level (city of Cumberland bench mark).

Average discharge.--33 years, 30.1 cfs.

Extremes.--Maximum discharge during year, 596 cfs Mar. 5 (gage height, 3.07 ft); minimum, 1.4 cfs Sept. 10, 11 (gage height, 0.95 ft).
1932-65: 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, 0.7 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 periods of ice effect or no gage-height record, which are fair.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.0	1.8	1.4	11	2.0	85
1.1	2.9	1.5	16	2.2	137
1.2	4.6	1.6	24	2.5	245
1.3	7.2	1.8	48	2.8	400

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.0	2.3	3.0	7.0	16	28	77	38	9.1	2.7	3.9	1.8
2	2.8	2.3	3.0	15	17	25	79	36	8.8	2.5	3.0	1.8
3	2.7	2.3	3.2	29	11	25	64	32	12	2.5	2.4	1.7
4	2.4	2.3	8.5	14	11	24	55	30	8.8	2.5	2.1	1.7
5	2.3	2.3	9.4	12	11	359	*49	*29	7.7	2.8	2.0	1.7
6	2.2	2.3	6.2	*12	13	139	50	28	7.2	2.6	2.0	1.6
7	2.2	2.3	4.5	10	75	101	52	40	6.7	4.8	2.1	1.6
8	2.2	2.3	4.1	43	90	93	45	32	6.8	4.3	2.2	*1.6
9	2.2	2.4	4.0	28	59	88	67	28	6.5	2.9	*2.3	1.6
10	2.2	2.4	3.6	22	73	75	52	26	*6.3	2.8	2.7	1.6
11	2.2	2.4	3.8	19	65	61	48	25	6.0	5.0	2.4	1.6
12	2.2	*2.5	17	15	65	52	57	*23	5.3	3.2	2.1	10
13	2.2	2.4	14	12	52	46	48	22	4.8	*2.7	2.0	7.7
14	2.2	2.3	8.3	10	43	43	42	20	4.6	*2.4	1.9	3.3
15	2.2	2.3	5.9	7.0	*39	41	48	19	4.5	2.6	1.8	2.4
16	*2.2	2.8	5.3	7.4	34	37	58	20	4.8	2.4	2.5	2.1
17	5.3	2.8	5.4	6.6	32	33	44	19	5.5	2.3	3.6	2.0
18	5.4	2.7	4.5	6.4	30	46	42	17	5.5	2.4	2.1	2.0
19	3.2	3.4	3.8	6.2	28	70	48	15	4.7	2.4	2.0	2.0
20	2.8	4.3	4.1	6.0	23	55	42	14	4.1	2.2	1.9	2.6
21	2.7	3.1	4.1	6.2	25	47	38	14	3.8	2.1	1.9	3.1
22	2.6	2.6	4.1	6.0	22	47	36	21	3.6	2.1	2.5	2.2
23	2.5	2.4	4.1	50	21	55	35	19	3.4	2.2	2.3	2.0
24	2.5	2.4	4.3	117	19	71	36	16	3.5	2.2	2.0	4.8
25	2.5	9.1	6.9	60	46	75	47	15	3.4	2.1	1.9	4.5
26	2.5	23	11	46	39	126	66	14	3.0	2.0	2.0	2.6
27	2.4	7.6	19	44	32	113	50	13	2.9	1.9	2.0	2.3
28	2.4	4.9	15	41	28	91	47	12	2.8	1.9	1.9	2.1
29	2.5	4.0	9.9	37	-	114	45	11	2.8	1.8	1.8	2.1
30	2.4	3.6	8.8	25	------	106	41	10	2.8	1.8	1.7	2.1
31	2.3	------	7.7	19	------	89	------	10	------	2.0	1.7	------
TOTAL	81.4	113.8	216.5	738.8	1,019	2,375	1,508	668	161.7	80.1	68.7	80.2
MEAN	2.63	3.79	6.98	23.8	36.4	76.6	50.3	21.5	5.39	2.58	2.22	2.67
CFSM	.087	.126	.231	.788	1.21	2.54	1.67	.712	.179	.085	.074	.088
IN	.10	.14	.27	.91	1.25	2.92	1.86	.82	.20	.10	.08	.10

CALENDAR YEAR	1964	MAX	436	MIN	1.6	MEAN	28.9	CFSM	.957	INCHES 13.01
WATER YEAR	1964-65	MAX	359	MIN	1.6	MEAN	19.5	CFSM	.646	INCHES 8.75

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge
3- 5	1015	3.07	596

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Jan. 11-23, Jan. 28 to Feb. 7, Feb. 20, 22-24, 27 (no gage-height record Jan. 15-23, Jan. 30 to Feb. 7).

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 1965.

Gage.--Water-stage recorder. Datum of gage is 562.02 ft above mean sea level, datum of 1929. June 1894, to Feb. 1896, wire-weight gage at Baltimore & Ohio Railroad bridge 11¼ 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.--41 years (1899-1901, 1903-5, 1928-65), 1,249 cfs.

Extremes.--Maximum discharge during year, 14,800 cfs Jan. 24 (gage height, 11.90 ft); minimum, 56 cfs Sept. 10, 11 (gage height, 0.64 ft).
1894-96, 1899-1902, 1903-6, 1928-65: Maximum discharge, 143,000 cfs Mar. 18, 1936 (gage height, 34.2 ft), on basis of slope-area measurement of peak flow; minimum, 29 cfs Jan. 28, 1956, (gage height, 0.40 ft), result of freezeup.
Maximum stage known prior to 1928, about 34 ft in November 1877, from floodmarks (discharge, 140,000 cfs).

Remarks.--Records good.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

0.6	50	2.0	600
.8	85	4.0	2,500
1.0	130	8.0	7,750
1.5	290	11.0	13,000

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,360	206	770	1,180	1,510	2,000	2,660	2,440	337	130	85	79
2	1,030	196	640	1,100	1,410	1,870	2,370	2,100	*337	135	81	76
3	664	190	544	4,160	1,220	1,810	2,200	1,800	358	138	79	72
4	506	184	568	4,370	905	*1,930	1,880	1,540	342	125	79	68
5	552	181	1,020	2,860	833	3,010	1,680	1,360	328	125	79	64
6	438	176	1,720	2,150	986	10,200	1,570	1,340	332	128	79	63
7	342	170	1,950	1,720	1,070	5,850	1,630	1,340	299	* 135	77	63
8	304	164	1,620	1,580	5,930	4,020	1,600	1,730	278	170	79	61
9	270	162	* 1,300	1,580	5,950	3,060	1,890	1,900	262	164	100	60
10	243	162	1,090	1,540	5,460	2,500	3,660	1,840	270	153	108	58
11	222	162	914	1,800	5,740	2,100	3,280	1,850	254	252	113	56
12	203	159	869	1,860	4,470	1,800	4,520	1,470	250	632	106	63
13	190	159	1,050	1,800	3,560	1,570	5,070	1,250	232	369	98	83
14	181	156	1,640	1,750	2,800	1,400	3,830	1,120	236	274	89	153
15	176	153	1,480	1,610	2,280	1,310	*3,010	986	232	218	83	176
16	170	153	1,220	1,420	1,930	1,190	2,860	878	215	187	79	184
17	200	153	1,030	1,220	1,670	1,110	2,910	797	212	173	*81	153
18	565	151	932	1,200	1,480	1,160	2,550	734	212	164	76	140
19	995	159	806	1,070	1,330	2,550	2,480	689	212	151	74	323
20	752	181	648	995	1,200	3,080	3,520	616	206	135	93	348
21	568	203	608	995	1,080	2,470	3,430	568	196	123	102	282
22	450	215	608	959	1,050	2,090	2,940	584	184	113	98	232
23	385	226	536	1,370	941	1,940	2,510	576	173	111	91	* 190
24	342	222	499	9,640	815	2,150	2,290	506	167	106	89	173
25	304	222	492	12,900	995	4,450	2,490	680	170	102	89	170
26	278	686	513	*8,700	3,130	8,530	5,040	680	170	96	203	156
27	258	2,630	664	5,610	2,770	9,420	5,100	568	170	91	190	143
28	*243	1,650	1,220	4,150	2,200	5,990	4,810	471	167	87	135	138
29	229	1,180	1,580	3,150	-	4,490	3,720	432	156	83	106	130
30	222	932	1,450	2,430	------	4,060	2,940	402	143	81	91	120
31	209	------	1,290	1,880	------	3,210	------	374	------	79	85	------
Total	12,851	11,543	31,271	88,749	66,715	107,320	91,440	33,621	7,100	5,030	3,017	4,077
Mean	415	385	1,009	2,863	2,383	3,462	3,048	1,085	237	162	97.3	136
Cfsm	0.282	0.262	0.686	1.95	1.62	2.35	2.07	0.738	0.161	0.110	0.066	0.092
In.	0.32	0.29	0.79	2.24	1.69	2.71	2.31	0.85	0.18	0.13	0.08	0.10

Calendar year 1964: Max 19,200 Min 55 Mean 1,137 Cfsm 0.773 In. 10.51
Water year 1964-65: Max 12,900 Min 56 Mean 1,268 Cfsm 0.862 In. 11.69

Peak discharge (base, 10,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-24	2330	11.90	14,800	3-26	2400	9.90	11,000
3- 5	2330	10.97	12,900				

* Discharge measurement made on this day.

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, and 3.3 miles downstream from Little Cacapon River.

Drainage area.--3,109 sq mi.

Records available.--October 1938 to September 1965.

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.--27 years, 3,097 cfs.

Extremes.--Maximum discharge during year, 31,400 cfs Mar. 5 (gage height, 19.45 ft); minimum, 192 cfs Sept. 11 (gage height, 3.06 ft).
1938-65: Maximum discharge, 111,000 cfs Oct. 16, 1942 (gage height, 38.36 ft); minimum, 189 cfs Sept. 28, 29, 1959.
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 except those for July, August, and September, which are fair. Low flow affected by Stony River Reservoir (see p. 66) and, since December 1950, by Savage River Reservoir (see p. 69).

Rating table, (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 5-30)

2.9	175	6.0	2,440
3.1	250	8.0	4,850
3.5	440	10.0	7,870
4.0	735	15.0	18,700
5.0	1,490	20.0	33,100

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,070	456	1,510	3,030	3,430	4,310	9,060	5,540	754	318	282	254
2	1,940	468	1,300	2,590	3,170	4,570	7,390	4,850	728	313	360	246
3	1,300	456	1,140	7,140	2,770	4,580	6,450	4,210	835	313	360	234
4	975	435	1,140	9,010	2,050	4,640	5,210	3,670	947	326	308	222
5	884	425	2,630	6,090	1,920	18,600	4,610	* 3,210	835	308	277	210
6	807	400	3,490	5,190	2,190	23,000	4,220	3,000	754	308	264	206
7	702	395	3,440	4,390	2,710	14,000	5,130	3,110	670	318	308	203
8	628	385	2,960	4,600	11,900	10,300	4,780	3,480	598	360	326	200
9	562	370	2,430	6,280	* 15,900	8,230	4,650	3,630	670	390	313	206
10	517	365	2,070	5,400	15,100	7,040	6,680	3,450	622	370	425	203
11	484	365	1,720	5,100	14,200	5,820	6,540	3,370	592	390	430	192
12	468	365	1,680	4,780	11,600	4,920	5,960	2,930	562	807	375	206
13	440	375	2,710	4,180	9,370	4,310	8,650	2,580	522	1,090	318	451
14	420	370	3,320	3,740	7,390	3,860	7,050	2,320	506	716	286	440
15	415	360	3,290	3,290	5,860	3,570	5,920	2,070	495	544	264	430
16	405	355	2,870	2,840	4,930	3,310	6,030	1,880	484	440	254	405
17	440	360	2,520	2,750	4,210	3,040	5,640	1,720	473	390	277	370
18	744	375	2,190	2,370	3,740	3,110	5,800	1,590	490	365	264	318
19	1,790	658	1,800	2,320	3,380	5,850	5,410	1,490	490	355	264	326
20	1,520	556	1,560	2,130	2,970	7,890	5,260	1,360	478	331	264	517
21	1,110	550	1,450	2,110	2,660	6,270	6,420	1,250	451	304	264	517
22	898	676	1,460	2,030	2,590	5,270	5,700	1,210	430	290	290	462
23	761	580	1,320	2,940	2,340	5,020	5,050	1,290	400	282	308	410
24	670	495	1,260	17,900	2,380	6,330	4,580	1,210	385	295	318	385
25	610	478	1,270	22,300	2,750	10,900	4,670	1,100	* 370	300	290	468
26	562	1,080	1,540	16,400	5,240	19,600	8,120	1,400	365	282	336	451
27	528	4,080	1,990	12,100	5,330	22,900	12,500	1,260	360	268	539	395
28	506	3,230	3,000	9,480	4,480	15,400	10,100	1,100	355	254	440	331
29	484	2,260	3,530	7,250	-	12,200	8,140	961	350	242	336	308
30	* 478	1,790	3,500	5,640	------	13,200	6,620	870	340	234	282	290
31	468	------	3,140	4,390	-----	11,000	------	807	------	230	* 259	------
Total	24,586	23,513	69,230	189,760	156,560	273,040	195,340	71,918	16,311	11,733	9,881	9,856
Mean	793	784	2,233	6,121	5,591	8,808	6,511	2,320	544	378	319	329

Calendar year 1964: Max 43,900 Min 214 Mean 2,859 Cfsm 0.920 In. 12.52
Water year 1964-65: Max 23,000 Min 192 Mean 2,881 Cfsm 0.927 In. 12.58

Peak discharge (base, 20,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-25	0200	17.16	24,600	3-27	0400	17.17	24,600
3- 5	2230	19.45	31,400				

* Discharge measurement made on this day.

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, and 1.1 miles upstream from Tonoloway Creek (formerly called Great or Big Tonoloway Creek).

Drainage area.--4,073 sq mi.

Records available.--October 1932 to September 1965. Gage-height records collected at same site since June 1925 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 383.46 ft above mean sea level, adjustment of 1912. Oct. 1, 1932, to 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, water-stage recorder at present site and datum.

Average discharge.--33 years, 3,969 cfs.

Extremes.--Maximum discharge during year, 43,500 cfs Mar. 6 (gage height, 18.58 ft); minimum, 250 cfs Sept. 9, 10 (gage height 2.26 ft).

1932-65: 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 except those for periods of ice effect, which are fair. Slight regulation at low flow from power plants upstream. Low flow affected slightly by Stony River Reservoir (see p. 66) and since December 1950 by Savage River Reservoir (see p. 69).

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 26		Nov. 27 to Sept. 30			
2.6	455	2.2	245	5.0	3,300
3.0	790	2.5	395	8.0	8,950
4.0	1,830	3.0	790	12.0	19,200
5.0	3,130	4.0	1,920	18.0	41,000

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,720	581	2,020	3,510	4,820	5,670	11,600	7,390	990	419	305	310
2	2,480	573	1,750	3,330	4,210	5,480	9,820	5,370	960	395	356	300
3	2,020	581	1,550	3,200	b 3,800	5,560	8,230	5,650	950	384	437	286
4	1,480	565	1,450	11,200	b 2,900	5,460	6,950	4,880	1,070	390	431	281
5	1,150	541	1,750	8,120	b 2,500	15,900	5,980	4,290	1,170	407	378	272
6	1,060	518	3,750	5,240	b 2,400	37,000	5,400	3,830	1,020	395	351	263
7	950	511	4,090	5,480	b 2,500	21,100	5,770	3,870	920	425	356	258
8	820	497	4,030	4,900	b 10,000	15,000	6,280	4,110	830	462	368	254
9	724	483	3,340	5,530	13,500	11,900	5,770	4,720	830	437	419	250
10	641	476	2,830	6,850	17,400	9,860	6,870	4,570	910	469	511	250
11	589	469	2,410	6,130	18,200	8,310	8,380	4,290	800	476	469	254
12	557	469	2,190	5,820	15,200	6,870	7,740	4,060	762	483	490	276
13	525	469	2,590	5,390	12,700	5,960	9,910	3,470	677	970	449	315
14	504	469	3,740	4,740	9,890	5,240	8,930	3,100	641	1,210	390	413
15	490	469	3,960	4,360	7,930	4,720	7,530	2,820	614	860	362	504
16	462	469	3,770	3,800	6,510	4,410	7,050	2,540	597	641	335	497
17	533	462	3,200	3,670	5,580	4,090	7,700	2,310	597	525	320	483
18	623	462	2,900	3,300	4,880	3,930	7,310	2,140	589	462	325	455
19	2,110	483	2,320	3,090	4,410	5,130	* 5,610	2,000	589	437	320	407
20	2,430	771	2,120	b 2,900	3,930	9,960	6,990	1,850	589	407	320	373
21	1,900	695	1,850	b 2,800	3,480	9,060	8,140	1,680	589	390	305	518
22	1,480	659	1,780	b 2,700	3,240	7,310	7,510	1,560	573	373	356	573
23	* 1,220	820	1,740	b 2,600	3,100	6,590	6,650	1,550	* 525	362	346	525
24	1,040	714	1,600	13,500	2,820	6,850	5,980	1,640	483	362	346	518
25	900	704	1,540	28,700	3,420	10,100	5,750	1,510	455	362	346	483
26	810	960	1,630	*22,500	5,090	20,400	7,390	1,480	449	356	351	490
27	733	2,590	2,040	15,200	7,680	29,100	14,400	1,680	437	340	362	533
28	686	4,740	2,680	13,100	6,200	22,100	13,200	1,560	431	325	632	469
29	659	3,240	3,830	9,930	–	15,800	10,800	1,330	425	310	549	419
30	* 641	2,450	3,980	7,740	------	15,700	8,860	1,180	431	300	413	384
31	605	------	3,900	6,070	------	14,200	------	1,090	------	300	* 356	------
Total	32,542	27,890	82,330	228,400	194,290	348,760	239,500	94,520	20,903	14,434	12,054	11,613
Mean	1,050	930	2,656	7,368	6,939	11,250	7,983	3,049	697	466	389	387

Calendar year 1964: Max 56,400 Min 268 Mean 3,558 Cfsm 0.874 In. 11.89
Water year 1964-65: Max 37,000 Min 250 Mean 3,581 Cfsm 0.879 In. 11.94

Peak discharge (base, 23,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-25	0530	15.37	30,700	3-27	1100	15.27	30,300
3- 6	0530	18.58	43,500				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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, and 6½ miles northwest of Hagerstown.

Drainage area.--494 sq mi.

Records available.--June 1928 to September 1965.

Gage.--Water-stage recorder (digital). 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.

Average discharge.--37 years, 554 cfs.

Extremes.--Maximum discharge during year, 11,100 cfs Mar. 5 (gage height, 12.24 ft); minimum, 46 cfs July 26, 30, Sept. 7, 10.
1928-65: Maximum discharge, 17,100 cfs Nov. 22, 1952 (gage height, 15.16 ft, from high-water mark in well); minimum, 22 cfs Dec. 16, 1930; minimum daily, 25 cfs Nov. 28, 1930.
Maximum stage known, about 16.5 ft (present datum) sometime in 1889, from information by local residents (discharge, about 22,000 cfs).

Remarks.--Records good except those for periods of ice effect, no gage-height record, or backwater from aquatic vegetation, which are poor. Low flow partly regulated by small power plants near Mercersburg, Pa.

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	124	63	102	289	b310	964	1,050	403	175	79	64	59
2	99	63	b 92	262	b340	820	1,010	389	171	71	216	59
3	90	67	98	358	b280	735	921	378	164	74	292	62
4	83	66	115	323	b270	674	827	352	162	68	*144	56
5	76	64	253	287	b260	6,650	762	328	152	71	97	56
6	78	65	298	268	b270	8,120	711	324	139	*70	80	58
7	70	61	*212	243	b700	3,580	700	361	141	75	75	49
8	68	63	164	389	4,020	2,550	669	446	149	121	77	56
9	70	68	152	638	1,730	2,090	635	395	141	108	160	*53
10	67	68	131	587	1,610	1,830	592	357	139	90	137	52
11	67	66	118	524	1,620	1,530	550	331	135	93	98	50
12	64	65	161	466	1,340	1,320	537	305	126	92	80	65
13	65	67	427	418	1,140	1,160	503	292	119	90	75	138
14	65	65	379	377	942	1,050	*467	276	111	83	71	140
15	65	64	270	b280	815	971	460	265	115	78	71	115
16	65	65	190	b250	730	879	573	267	111	73	64	95
17	67	72	194	a280	664	824	531	338	115	68	65	83
18	72	74	b150	a260	616	844	470	310	115	68	69	81
19	104	74	b110	a250	564	969	506	257	120	83	62	76
20	108	82	b110	a250	464	1,100	507	237	111	93	63	74
21	*88	85	b115	b260	460	946	465	228	109	73	62	84
22	76	78	b115	b260	456	881	437	222	105	72	116	81
23	73	b 72	b115	b300	380	880	422	252	96	64	218	72
24	70	b 76	120	b1,000	*374	918	417	292	91	65	138	104
25	69	93	116	b900	1,930	958	436	*263	88	68	106	200
26	68	400	146	*826	2,580	1,220	531	234	86	55	90	155
27	69	377	223	728	1,320	1,300	535	210	85	59	96	126
28	69	199	840	598	1,070	1,300	490	231	81	58	79	109
29	71	145	658	b500	-	1,290	456	211	79	55	73	101
30	67	120	467	b380	------	1,280	424	188	72	52	64	95
31	66	------	364	b330	------	1,140	------	180	------	52	58	------
TOTAL	2,353	2,987	7,005	13,081	27,255	50,773	17,594	9,122	3,603	2,321	3,180	2,602
MEAN	75.9	99.6	226	422	973	1,638	586	294	120	74.9	103	86.7
CFSM	.154	.202	.458	.854	1.97	3.32	1.19	.595	.243	.152	.209	.176
IN	.18	.22	.53	.98	2.05	3.82	1.32	.69	.27	.17	.24	.20

CALENDAR YEAR 1964 MAX 4,730 MIN 53 MEAN 459 CFSM .929 INCHES 12.64
WATER YEAR 1964-65 MAX 8,120 MIN 49 MEAN 389 CFSM .787 INCHES 10.68

Peak discharge (base, 4,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2- 8	0300	8.41	5,320	3- 5	2000	12.24	11,100
2-25	2100	7.59	4,350				

* Discharge measurement made on this day.
a No gage-height record.
b Stage-discharge relation affected by ice.
Note.--Backwater from aquatic vegetation Oct. 1 to Dec. 27, May 27 to Sept. 30.

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 1965.

Gage.--Water-stage recorder. Altitude of gage is 360 ft (from topographic map).

Extremes.--Maximum discharge during year, 70 cfs June 8 (gage height, 2.06 ft); minimum, not determined (occurred during period of ice effect); minimum daily, 2.6 cfs Sept. 20-23.
1963-65: Maximum discharge, 105 cfs Jan. 9, 1964 (gage height, 2.42 ft); minimum daily, 2.4 cfs Oct. 30, 31, Nov. 3-5, 1963.

Remarks.--Records good except those for periods of ice effect, which are fair.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.9	2.1	1.3	15
1.0	4.0	1.4	20
1.1	6.8	1.5	26
1.2	10	1.7	40

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.0	3.8	b 3.4	3.2	b 4.4	90	14	11	7.3	5.8	4.2	3.4
2	4.5	3.8	b 3.2	3.6	b 4.8	86	14	11	7.0	5.8	4.2	3.4
3	4.5	3.8	3.4	3.4	b 4.5	86	13	11	9.4	5.8	4.0	3.4
4	4.2	3.8	5.0	b 3.0	b 4.2	86	13	10	* 7.6	5.6	4.0	3.2
5	4.0	3.8	4.8	3.0	b 4.0	* 39	13	10	7.3	5.6	* 4.0	3.4
6	4.0	3.6	4.5	3.0	b 4.2	33	13	10	7.0	* 5.3	4.2	3.2
7	3.8	3.6	* 3.8	3.2	b 17	26	14	11	7.0	5.3	4.0	3.2
8	3.8	3.6	3.4	4.5	17	22	13	11	17	5.3	4.5	3.2
9	3.8	3.6	3.4	4.0	11	20	14	11	31	5.0	5.3	3.2
10	3.6	3.6	3.2	4.2	13	19	13	10	13	5.3	5.0	* 2.8
11	4.0	3.6	3.2	4.0	12	17	13	9.4	11	6.8	4.8	3.0
12	4.0	3.6	4.8	b 3.8	12	17	12	9.0	9.8	5.8	4.5	3.2
13	3.8	3.6	4.2	b 3.8	11	16	12	9.0	9.0	5.3	4.5	3.4
14	3.8	3.4	3.8	*b 3.5	9.8	16	* 12	8.6	8.4	5.0	4.5	3.2
15	3.8	3.4	3.4	b 3.2	9.0	16	13	8.6	8.4	5.0	4.5	3.0
16	3.6	3.6	b 3.2	b 3.5	8.6	15	14	8.6	8.4	5.0	4.2	3.0
17	3.8	3.2	3.4	b 3.2	8.6	15	12	8.6	8.4	5.0	3.8	3.0
18	3.6	3.2	b 3.2	b 3.1	8.4	17	12	8.6	8.0	5.3	3.8	3.0
19	3.6	3.6	b 3.0	b 3.1	7.6	19	14	8.6	7.6	5.6	3.8	2.8
20	3.8	3.6	b 3.4	b 3.3	b 6.8	17	13	8.6	7.3	5.0	3.8	2.6
21	* 3.6	3.4	3.2	b 3.5	7.6	16	13	8.0	7.3	4.8	3.6	2.6
22	3.6	3.4	3.2	b 3.5	7.3	15	12	8.4	7.0	4.8	4.0	2.6
23	3.6	b 3.4	3.2	b 4.2	b 7.2	15	12	9.4	6.4	4.5	3.8	2.6
24	3.6	3.2	3.2	8.0	7.0	15	12	9.8	7.0	4.8	3.6	3.0
25	3.8	4.8	3.6	6.4	* 14	16	14	* 8.6	6.8	4.5	3.4	3.0
26	3.8	5.3	3.6	6.8	12	18	15	8.4	6.4	4.2	4.2	2.8
27	3.8	3.8	4.2	6.4	b 10	16	13	8.4	6.4	4.2	4.0	2.8
28	3.8	3.6	4.2	b 6.2	9.0	16	13	7.6	6.1	4.2	3.8	2.8
29	3.8	3.6	3.6	b 5.6	—	17	13	7.6	6.1	4.2	3.4	3.0
30	3.8	3.4	3.6	b 5.0	------	15	12	7.3	5.8	4.0	3.4	3.0
31	3.8	------	3.2	b 4.5	-----	14	-----	7.3	-----	4.0	3.6	-------
Total	119.0	109.7	112.5	129.7	252.0	531.8	390.0	284.4	265.2	156.8	126.4	90.8
Mean	3.84	3.66	3.63	4.18	9.00	17.2	13.0	9.17	8.84	5.06	4.08	3.03
Cfsm	0.203	0.194	0.192	0.221	0.476	0.910	0.688	0.485	0.468	0.268	0.216	0.160
In.	0.23	0.22	0.22	0.26	0.50	1.05	0.77	0.56	0.52	0.31	0.25	0.18

Calendar year 1964: Max 48 Min 3.0 Mean 10.0 Cfsm 0.529 In. 7.22
Water year 1964-65: Max 39 Min 2.6 Mean 7.04 Cfsm 0.372 In. 5.07

Peak discharge (base, 40 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0830	1.90	56	6-8	2230	2.06	70

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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, and 3.3 miles upstream from Antietam Creek.

Drainage area.--5,936 sq mi.

Records available.--August 1928 to September 1953, July 1964 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 281.00 ft above mean sea level, adjustment of 1912.

Average discharge.--26 years (1929-53, 1965), 5,770 cfs.

Extremes.--Maximum discharge during year, 71,100 cfs Mar. 6 (gage height, 18.07 ft); minimum, 401 cfs Sept. 7, 8, 9 (gage-height, 1.67 ft); minimum gage height, 1.41 ft June 28.
1928-53, 1964-65: 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, 231 cfs Aug. 17, 19, 1930; minimum daily, 252 cfs Oct. 2, 1932.
Floods in June 1889 and May 1924 reached stages of 39.2 and 29.8 ft, respectively, from floodmarks (discharges, about 290,000 and 168,000 cfs, respectively, from rating curve extended as explained above).

Remarks.--Records good except those for periods of backwater from vegetation and those for periods of ice effect, which are fair. Some regulation at low flow by powerplants above station, Stony River Reservoir (see p. 66), and since December 1950 by Savage River Reservoir (see p. 69).

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1, 2, July 20 to Sept. 30)

1.3	350	4.0	5,700	10.0	28,200
1.5	530	5.0	8,670	12.0	37,600
2.0	1,210	6.0	12,000	14.0	47,800
3.0	3,200	8.0	19,600	17.0	64,600

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,050	846	2,760	4,640	b 5,000	8,670	16,400	9,960	1,620	640	502	574
2	* 2,060	832	2,300	4,260	b 4,800	7,900	14,100	8,670	1,490	629	410	585
3	2,760	752	2,040	4,020	b 4,200	7,590	12,000	7,590	1,520	629	454	585
4	2,470	886	1,920	6,560	b 3,600	7,590	10,600	5,700	* 1,450	607	945	541
5	1,900	778	2,080	11,300	b 3,200	17,800	8,990	5,840	1,430	596	*690	473
6	1,520	690	3,660	8,050	3,200	62,900	8,360	5,300	1,600	* 652	652	473
7	1,210	765	5,030	6,840	3,780	41,600	8,050	5,030	1,490	752	574	410
8	1,210	752	* 5,030	6,120	14,100	25,900	8,670	5,300	1,520	596	511	401
9	1,160	715	4,640	6,550	25,900	20,000	8,670	5,700	3,090	665	1,020	418
10	1,020	702	3,780	8,990	25,500	* 16,400	8,360	5,980	1,980	715	1,160	418
11	832	690	3,320	8,050	25,500	13,800	9,960	5,560	1,520	752	1,080	426
12	765	678	2,980	7,440	22,900	11,300	9,960	5,300	1,490	819	752	444
13	792	640	2,870	7,140	18,800	9,960	10,300	4,770	1,360	832	665	502
14	715	702	4,140	* 6,550	14,900	8,670	11,600	4,260	1,240	873	702	* 665
15	715	678	5,030	5,560	12,000	7,740	* 9,960	3,900	1,070	1,450	530	678
16	715	702	4,770	b 4,500	9,960	7,140	9,310	3,540	832	1,130	715	752
17	728	702	4,390	b 4,000	8,670	6,550	9,310	3,320	990	975	596	806
18	728	690	3,780	b 3,800	7,590	6,260	9,630	3,090	1,020	715	473	765
19	873	728	3,320	b 3,500	6,700	6,550	8,990	2,870	1,040	678	482	740
20	2,420	715	2,720	b 3,400	5,980	10,600	8,360	2,660	915	678	454	678
21	2,980	846	2,510	3,320	b 5,200	13,800	9,310	2,470	930	678	492	640
22	* 2,380	900	2,240	3,320	b 4,800	11,000	9,630	2,320	1,040	629	482	596
23	1,920	860	2,140	3,430	b 4,500	9,630	8,670	2,260	945	585	482	765
24	1,580	1,000	2,080	7,970	4,260	9,310	7,900	2,280	915	552	618	873
25	1,240	1,210	1,940	33,700	4,770	10,600	7,440	2,360	860	541	690	792
26	1,230	2,030	1,900	32,300	11,600	19,300	7,740	2,280	792	541	665	792
27	1,130	3,430	2,020	23,700	11,600	35,600	12,700	2,120	702	541	846	819
28	990	5,300	2,720	18,000	10,300	33,200	17,200	2,220	607	520	873	819
29	945	4,640	4,390	14,100	—	23,300	14,500	2,120	740	502	792	792
30	900	3,780	5,300	10,600	------	20,400	12,000	1,880	652	473	975	728
31	832	------	5,030	8,050	------	19,600	------	1,710	------	492	778	------
Total	41,770	38,639	102,830	279,760	284,310	510,660	308,670	129,360	36,850	21,437	21,060	18,950
Mean	1,347	1,288	3,317	9,025	10,150	16,470	10,290	4,173	1,228	692	679	632
Cfsm	0.227	0.217	0.559	1.52	1.71	2.77	1.73	0.703	0.207	0.117	0.114	0.106
In.	0.26	0.24	0.64	1.75	1.78	3.20	1.93	0.81	0.23	0.13	0.13	0.12

Calendar year : Max — Min — Mean — Cfsm — In. —
Water year 1964-65: Max 62,900 Min 401 Mean 4,916 Cfsm 0.828 In. 11.22

Peak discharge (base, 23,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-25	1500	12.15	38,300	3- 6	1230	18.07	71,100
2- 9	1900	10.36	29,800	3-27	2000	12.24	38,800

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--Backwater from aquatic vegetation Oct. 1-19, June 18 to Sept. 30.

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 1965. Monthly discharge only for some periods, published in WSP 1302.

Gage.--Water-stage recorder (digital). 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 ft higher. Aug. 21, 1928, to July 13, 1933, staff gage at Burnside Bridge at present datum.

Average discharge.--42 years (1897-1903, 1904-5, 1930-65), 261 cfs (adjusted for inflow since 1930).

Extremes.--Maximum discharge during year, 2,650 cfs Mar. 6 (gage height, 7.12 ft); minimum, 52 cfs Jan. 31, result of freezeup.
1928-65: 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, 50 cfs Sept. 29, 1930, Feb. 1, Oct. 4, 1931.

Remarks.--Records good. Some diurnal fluctuation caused by power plant 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.

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

2.1	48	4.0	780
2.3	88	5.0	1,310
2.7	184	6.0	1,870
3.2	380		

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	112	75	75	80	89	253	340	214	143	110	85	72
2	103	75	71	80	95	229	336	209	145	109	86	79
3	106	77	75	82	91	212	322	204	192	106	88	77
4	97	76	92	77	81	203	304	198	153	106	* 80	73
5	90	76	116	76	79	1,240	296	195	141	104	79	69
6	86	76	110	76	82	1,870	290	192	137	* 104	77	66
7	86	74	* 93	74	159	876	290	216	135	104	78	66
8	88	75	86	99	567	708	282	261	150	106	74	69
9	86	73	82	111	345	* 631	286	223	305	118	150	70
10	86	75	77	113	275	571	269	205	164	111	125	* 66
11	82	76	75	107	331	513	253	196	150	136	100	61
12	82	74	94	101	283	471	249	186	142	132	86	66
13	84	74	128	98	256	434	241	181	135	119	82	98
14	84	72	109	* 91	224	399	* 231	175	131	105	82	98
15	84	70	89	82	204	379	235	168	131	102	79	84
16	82	70	81	76	189	358	269	176	134	101	75	75
17	84	73	77	84	181	343	254	213	135	100	77	69
18	88	73	77	76	172	363	230	206	140	97	76	68
19	95	74	72	74	165	392	253	184	136	120	77	65
20	90	80	69	74	152	376	252	180	131	116	77	63
21	* 88	76	74	78	146	347	234	179	126	100	73	66
22	83	73	73	79	149	325	224	177	125	97	89	66
23	79	69	72	86	143	314	219	178	122	96	109	65
24	80	70	73	153	134	318	223	210	123	99	96	68
25	78	85	72	149	273	338	237	* 164	122	100	80	79
26	76	184	78	134	696	396	258	181	119	93	85	72
27	79	157	86	126	342	416	260	157	114	93	110	64
28	80	98	116	119	283	386	238	152	110	89	92	64
29	79	83	109	109	-	394	227	151	111	87	77	65
30	78	77	91	99	------	393	219	146	110	83	69	63
31	75	------	84	91	------	359	------	143	------	86	71	------
TOTAL	2,670	2,460	2,676	2,954	6,186	14,807	7,821	5,820	4,212	3,229	2,684	2,126
MEAN	86.1	82.0	86.3	95.3	221	478	261	188	140	104	86.6	70.9
†	-10.8	-10.7	-9.1	-8.8	-9.1	-9.0	-8.6	-9.2	-9.7	-12.7	-13.5	-12.9
MEAN‡	75.3	71.3	77.2	86.5	212	469	252	179	130	91.3	73.1	58.0
CFSM‡	0.268	0.254	0.275	0.308	0.754	1.67	0.897	0.637	0.463	0.325	0.260	0.206
IN.‡	0.31	0.28	0.32	0.35	0.78	1.92	1.00	0.73	0.52	0.38	0.30	0.23

CALENDAR YEAR 1964	MAX	1,210	MIN	69	MEAN	230	MEAN‡	220	CFSM‡	0.783	IN.‡	10.65
WATER YEAR 1964-65	MAX	1,870	MIN	61	MEAN	158	MEAN‡	148	CFSM‡	0.527	IN.‡	7.13

Peak discharge (base, 1,500 cfs)

Date	Time	Gage height	Discharge
3- 6	0445	7.12	2,650

* Discharge measurement made on this day.
† Pumpage, in cubic feet per second, from Potomac River for municipal supply of Hagerstown, furnished by city of Hagerstown.
‡ Adjusted for pumpage.

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

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

Drainage area.--3,040 sq mi.

Records available.--April 1895 to March 1909, August 1928 to September 1965.

Gage.--Water-stage recorder (digital). Datum of gage is 293.00 ft above mean sea level, adjustment of 1912. April 15, 1895, to Mar. 31, 1909, staff gage at site three-quarters of a mile downstream at datum 0.32 ft higher.

Average discharge.--50 years (1895-1908, 1928-1965), 2,649 cfs.

Extremes.--Maximum discharge during year, 22,100 cfs Feb. 9 (gage height, 10.25 ft); minimum, 204 cfs Sept. 12, (gage height, 0.81 ft); minimum daily, 322 cfs Sept. 6.
1895-1909, 1928-65: Maximum discharge, 230,000 cfs Oct. 16, 1942 (gage height, 32.4 ft, from floodmarks); minimum, about 59 cfs Oct. 4, 1930 (gage height, 0.39 ft); minimum daily, 194 cfs July 24, 1930.
Flood in 1870 reached practically same stage as flood of Mar. 18, 1936, 26.36 ft (discharge, 151,000 cfs).

Remarks.--Records good. Regulation by hydroelectric plants, particularly that of Potomac Light and Power Co., half a mile above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 8

1.3	460	4.0	3,380
1.5	585	6.0	7,600
2.0	940	8.0	13,500
3.0	1,920	10.0	21,000

Feb. 9 to Sept. 30

1.0	285	2.0	920
1.5	565	3.0	1,920

Note.--Same as preceding table above 3.0 ft.

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	682	618	1,570	1,650	3,280	4,850	4,220	3,610	1,020	651	440	499
2	932	585	1,290	1,560	2,800	4,080	3,750	3,220	1,030	598	418	375
3	1,170	604	1,160	1,550	2,300	3,520	3,400	2,880	1,100	539	458	385
4	1,090	592	1,120	1,650	2,100	3,190	3,130	2,630	936	572	458	388
5	916	566	980	1,600	2,000	7,250	2,870	2,400	1,100	604	412	361
6	792	572	1,300	1,580	2,070	16,900	2,700	2,190	944	*624	*458	322
7	792	526	1,430	1,610	2,210	14,700	2,740	2,200	920	693	494	411
8	702	526	1,510	1,530	6,000	9,750	2,530	2,190	898	651	464	346
9	598	552	1,680	1,680	19,700	7,390	2,610	2,880	936	658	532	342
10	546	540	1,660	1,810	12,900	6,060	2,860	3,480	860	591	464	*367
11	585	508	1,540	2,050	9,090	5,140	2,770	3,110	815	785	488	360
12	533	520	1,500	2,130	7,410	4,430	2,940	2,860	822	898	452	367
13	526	520	1,820	2,250	6,230	3,900	3,200	2,630	822	830	476	454
14	514	508	1,950	2,280	5,270	3,520	4,320	2,360	763	539	446	532
15	490	520	2,000	2,190	4,480	3,220	3,970	2,070	944	763	424	659
16	520	514	2,090	2,120	3,930	2,960	3,570	1,960	875	672	434	735
17	611	502	1,820	2,070	3,510	2,770	3,240	1,810	882	637	429	541
18	1,350	533	1,640	1,650	3,210	2,730	3,000	1,680	830	637	368	537
19	1,470	502	1,460	1,710	2,970	2,790	2,810	1,580	808	658	412	524
20	1,170	502	1,320	1,590	2,720	3,530	2,830	1,360	905	598	446	548
21	1,190	514	1,180	1,760	2,450	4,310	2,760	1,410	792	630	418	757
22	932	526	1,150	1,740	2,320	3,940	2,930	1,280	763	546	396	525
23	884	520	1,140	1,730	2,190	3,560	2,790	1,320	763	488	440	511
24	736	472	996	5,580	2,060	3,280	2,620	1,430	700	470	434	410
25	729	592	1,010	13,100	2,500	3,220	2,600	1,410	728	500	402	496
26	689	956	988	15,200	4,280	3,940	2,770	1,290	700	500	693	501
27	708	1,400	980	10,700	7,490	6,080	3,660	1,470	658	476	610	450
28	670	3,070	1,050	7,840	6,200	6,870	4,930	1,490	624	464	476	405
29	604	2,710	1,200	6,160	-	6,410	4,660	1,270	637	446	440	480
30	644	1,980	1,310	4,900	------	5,720	4,120	1,310	644	470	452	474
31	598	------	1,710	4,030	------	4,910	------	1,170	------	470	403	------
TOTAL	24,373	23,550	43,554	109,000	133,670	164,920	97,300	63,950	25,219	18,658	14,137	14,062
MEAN	786	785	1,405	3,516	4,774	5,320	3,243	2,063	841	602	456	469
CFSM	.259	.258	.462	1.16	1.57	1.75	1.07	.679	.277	.198	.150	.154
IN	.30	.29	.53	1.33	1.64	2.02	1.19	.78	.31	.23	.17	.17

CALENDAR YEAR 1964 MAX 20,300 MIN 345 MEAN 2,005 CFSM .660 INCHES 8.98
WATER YEAR 1964-65 MAX 19,700 MIN 322 MEAN 2,007 CFSM .660 INCHES 8.96

Peak discharge (base, 15,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-25	2400	9.08	17,400	3-6	1830	9.82	20,300
2- 9	1045	10.25	22,100				

*Discharge measurement made on this day.

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, and 2¼ miles downstream from Little Catoctin Creek.

Drainage area.--66.9 sq mi.

Records available.--August 1947 to September 1965.

Gage.--Water-stage recorder (digital) and concrete control. Altitude of gage is 385 ft (from topographic map).

Average discharge.--18 years, 69.8 cfs.

Extremes.--Maximum discharge during year, 2,390 cfs Mar. 5 (maximum gage height, 6.37 ft), minimum discharge 0.1 cfs Sept. 11 (gage height, 0.57 ft).
1947-65: 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, 0.1 cfs Sept. 15, 1963 and Sept. 11, 1965.

Remarks.--Records good except those for periods of ice effect and doubtful gage-height record, which are fair.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 5				Mar. 6 to Sept. 30			
1.0	2.8	2.0	200	0.6	0.2	1.1	10
1.1	6.0	2.5	420	.7	.5	1.2	16
1.2	11	3.0	680	.8	1.1	1.3	26
1.3	23	4.0	1,190	.9	2.8	1.4	42
1.5	62	5.0	1,690	1.0	5.5	1.5	62

Note.--Same as preceeding table above 1.5 ft.

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	3.7	6.4	19	35	84	113	65	21	5.7	2.6	1.4
2	13	3.7	6.7	20	30	72	114	61	24	5.1	2.3	1.5
3	8.9	*3.7	7.8	23	26	68	103	58	74	5.1	1.9	1.1
4	5.8	3.7	22	19	24	64	94	53	35	5.0	3.4	.90
5	4.8	4.0	39	17	23	1,260	89	50	24	4.9	4.1	.80
6	3.9	4.0	32	*15	24	595	86	50	20	5.0	2.5	.80
7	3.4	4.0	23	13	324	410	86	67	17	4.6	2.0	.80
8	3.1	4.0	14	35	299	343	*82	81	24	4.9	2.5	.70
9	3.0	4.0	12	30	147	*307	83	58	39	*4.7	2.5	.60
10	2.8	4.0	9.0	26	167	236	74	52	26	4.5	2.5	.40
11	2.4	4.0	10	21	155	188	69	46	21	16	4.0	.30
12	2.4	4.0	19	20	130	162	66	42	19	*14	3.4	2.1
13	2.6	4.0	40	23	107	141	59	40	16	8.7	2.5	4.4
14	2.8	4.0	23	21	88	108	53	36	14	6.1	2.4	3.6
15	3.0	4.0	16	19	77	95	63	34	14	4.9	1.7	4.1
16	3.1	4.0	11	18	64	84	97	38	16	4.6	1.3	3.0
17	5.7	4.0	13	17	54	81	67	45	18	4.0	*1.0	*2.3
18	7.4	4.0	8.3	20	47	86	61	33	19	3.7	1.0	2.0
19	7.4	6.7	7.8	18	40	101	*85	29	17	4.3	1.0	1.4
20	6.2	10	7.4	16	35	99	76	27	15	6.8	.90	1.2
21	5.0	9.5	7.2	15	40	83	68	26	13	4.1	.80	1.1
22	4.2	7.2	8.6	14	37	79	65	35	10	3.3	1.9	1.0
23	3.8	5.7	8.0	37	35	80	63	32	9.0	3.2	2.1	.90
24	3.5	5.2	9.0	229	48	83	64	68	10	3.4	3.1	2.0
25	3.4	26	12	195	292	89	81	36	11	3.4	2.5	2.8
26	3.6	121	15	122	180	*186	99	31	8.5	3.6	2.8	1.6
27	3.7	30	26	92	126	167	83	29	7.5	2.6	2.4	2.2
28	3.7	16	67	104	100	134	76	27	6.5	2.3	2.7	2.1
29	3.8	11	35	91	-	152	71	29	6.5	2.0	2.1	1.8
30	3.9	9.1	26	71	------	123	66	26	*6.0	1.8	1.3	1.6
31	3.7	------	22	50	------	119	------	23	------	1.7	1.0	------
TOTAL	145.0	328.2	563.2	1,430	2,754	5,879	2,356	1,327	561.0	154.0	68.20	50.50
MEAN	4.68	10.9	18.2	46.1	98.4	190	78.5	42.8	18.7	4.97	2.20	1.68
CFSM	.070	.163	.272	.689	1.47	2.84	1.17	.640	.280	.074	.033	.025
IN	.08	.18	.31	.79	1.53	3.27	1.31	.74	.31	.09	.04	.03

CALENDAR YEAR 1964 MAX 772 MIN .80 MEAN 68.5 CFSM 1.02 INCHES 13.93
WATER YEAR 1964-65 MAX 1,260 MIN .30 MEAN 42.8 CFSM .640 INCHES 8.68

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0800	6.37	2,390				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 9-10, Dec. 19-25, Jan. 5-22, Jan 31 to Feb. 6, Feb. 16-23, Feb. 28 to Mar. 4.

Doubtful gage-height record Mar. 6-9, Mar. 31 to Apr. 8.

Where daily discharge is less than 1.0 cfs the zero in the hundredths column is not significant.

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), and 6 miles upstream from Monocacy River.

Drainage area.--9,651 sq mi.

Records available.--February 1895 to September 1965.

Gage.--Water-stage recorder (digital). 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 at present datum.

Average discharge.--70 years, 9,173 cfs.

Extremes.--Maximum discharge during year, 97,800 cfs Mar. 6 (gage height, 17.35 ft); minimum, 650 cfs Sept. 9 (gage height, 0.40 ft).

1895-1965: 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, 540 cfs Sept. 10, 1914 (gage height, 0.38 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. 66) and since December 1950 by Savage River Reservoir (see p. 69).

Rating table (gage height, in feet, and discharge, in cubic feet per second)

0.4	650	1.5	3,020	8.0	32,500
0.5	800	2.0	4,610	12.0	57.000
1.0	1,820	4.0	12,400	16.0	87,000

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,670	1,590	5,620	7,460	11,700	15,900	23,100	15,400	2,960	1,450	1,060	1,310
2	2,390	1,630	4,500	6,770	9,520	13,900	20,000	13,400	2,810	*1,410	969	1,210
3	3,820	1,550	3,870	6,490	8,000	12,700	17,500	11,900	3,070	1,400	915	1,030
4	4,630	1,570	3,500	6,400	7,000	12,200	15,400	10,900	2,800	1,150	969	1,030
5	3,450	1,570	3,550	14,500	6,000	25,900	13,500	9,640	2,720	1,440	1,240	999
6	2,890	1,510	3,950	11,800	6,000	79,900	12,200	8,710	2,770	1,370	1,300	903
7	2,510	1,440	6,500	9,760	7,960	68,100	11,700	8,260	2,600	1,370	1,290	814
8	2,340	1,430	7,450	9,080	16,400	42,000	12,200	8,370	2,640	1,420	1,200	886
9	2,060	1,440	7,440	8,680	36,000	31,700	12,600	9,200	4,120	1,300	1,110	772
10	1,860	1,470	6,690	11,400	42,800	25,800	12,100	10,500	3,780	1,450	1,390	734
11	1,720	1,400	5,760	12,100	36,800	21,600	13,300	9,940	2,870	2,580	1,520	787
12	1,550	1,380	5,370	11,100	33,900	18,400	14,500	9,180	2,580	2,050	1,620	857
13	1,480	1,400	5,210	10,700	28,100	15,800	13,900	8,640	2,460	1,790	1,460	1,020
14	1,460	1,340	6,520	10,300	23,300	14,000	17,000	7,700	2,320	1,810	1,340	1,030
15	1,360	1,360	7,730	9,160	18,900	12,700	15,700	6,930	2,260	1,760	1,230	1,280
16	1,320	1,400	7,920	8,170	15,800	11,600	14,100	6,420	2,180	2,170	984	1,510
17	1,420	1,350	7,340	7,220	13,700	10,900	13,500	6,110	2,000	2,060	1,130	1,500
18	1,820	1,430	6,520	6,360	12,200	10,500	13,800	5,690	2,010	1,810	1,270	1,370
19	2,640	1,450	5,650	6,220	11,100	10,400	13,100	5,130	1,970	1,560	991	1,420
20	2,580	1,420	4,820	6,040	9,880	13,500	12,500	4,690	2,050	1,480	994	1,330
21	4,370	1,410	4,240	5,860	8,960	19,500	13,000	4,460	2,070	1,340	948	1,520
22	4,120	1,460	3,860	5,860	8,320	17,300	14,100	4,110	1,860	1,380	956	1,430
23	3,390	1,570	3,580	5,910	7,750	15,000	13,200	4,000	1,930	1,260	935	1,180
24	2,840	1,570	3,490	10,700	7,250	14,000	12,000	4,220	1,890	1,200	*994	1,380
25	2,390	1,700	3,350	39,000	9,110	14,700	11,400	4,240	1,790	1,160	1,050	1,360
26	2,220	2,520	3,230	46,900	15,800	21,200	11,500	4,060	1,810	1,140	1,660	1,440
27	2,110	3,970	3,330	39,200	20,000	39,100	14,900	4,030	1,650	1,110	1,660	1,360
28	2,040	6,640	3,990	29,500	19,400	43,900	23,000	4,080	1,540	1,050	1,600	1,360
29	1,840	9,800	5,600	23,500		34,200	21,100	3,870	1,400	1,040	1,340	1,320
30	1,670	7,330	7,320	18,300	------	28,200	18,000	3,640	1,460	1,020	1,330	1,390
31	1,670	------	7,630	14,500	------	26,700	------	3,320	------	1,030	1,410	------
TOTAL	73,630	67,100	165,530	418,940	451,650	741,300	443,900	220,740	70,370	45,560	37,865	35,532
MEAN	2,375	2,237	5,340	13,510	16,130	23,910	14,800	7,121	2,346	1,470	1,221	1,184
CFSM	.246	.232	.553	1.40	1.67	2.48	1.53	.738	.243	.152	.127	.123
IN	.28	.26	.64	1.61	1.74	2.86	1.71	.85	.27	.18	.15	.14

CALENDAR YEAR 1964 MAX 83,400 MIN 665 MEAN 8,113 CFSM .841 INCHES 11.44
WATER YEAR 1964-65 MAX 79,900 MIN 734 MEAN 7,595 CFSM .787 INCHES 10.68

Peak discharge (base,35,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-25	about 2000	about 10.9	about 50,000	3- 6	1930	17.35	97,800
2-10	0700	10.30	46,300	3-28	0530	10.26	46,100

*Discharge measurement made on this day.

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, and 4.8 miles downstream from confluence of Rock and Marsh Creeks at Pennsylvania-Maryland State line.

Drainage area.--173 sq mi.

Records available.--May 1942 to September 1965.

Gage.--Water-stage recorder (digital). 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.

Average discharge.--23 years, 190 cfs.

Extremes.--Maximum discharge during year, 10,000 cfs Mar. 5 (gage height, 15.07 ft); minimum, 0.3 cfs Aug. 21 (gage height, 1.59 ft).

1942-65: Maximum discharge, 15,000 cfs May 21, 1943 (gage height, 20.53 ft, former site and datum), from rating curve extended above 6,700 cfs on basis of logarithmic plotting and velocity-area studies; minimum, 0.1 cfs Aug. 27, 28, 1944.

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 except those for periods of ice effect, which are fair. Occasional regulation at low flow from unknown source above station.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.6	0.4	2.3	22	4.0	425
1.7	1.5	2.5	36	5.0	950
1.8	3.0	2.8	70	7.0	2,300
1.9	5.0	3.2	160	9.0	3,800
2.0	8.0	3.6	270	11.0	5,550
2.1	12				

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	19	5.6	18	60	b50	203	165	52	18	4.8	3.0	3.0
2	15	5.0	14	54	b40	175	160	49	18	4.2	5.6	3.0
3	16	5.0	13	92	b30	165	143	48	26	4.2	7.4	2.9
4	19	4.8	22	67	b25	158	120	45	26	4.4	4.4	4.0
5	13	*4.6	58	58	b22	5,410	108	41	19	3.2	3.2	3.6
6	8.0	4.6	61	62	b23	1,970	101	41	15	3.2	3.0	3.4
7	7.7	4.4	57	*48	1,740	908	110	56	14	2.9	2.7	2.7
8	5.6	4.6	30	180	3,600	680	110	133	14	18	2.4	2.4
9	4.2	5.0	28	213	758	368	99	77	15	29	19	2.1
10	3.2	4.8	22	190	1,570	302	86	61	18	15	13	2.1
11	2.9	4.8	20	b130	872	222	75	50	15	16	11	2.0
12	2.3	4.8	36	b140	600	195	74	42	14	21	8.8	2.6
13	2.4	5.0	175	b130	416	173	65	37	12	*16	5.6	19
14	2.6	5.3	74	b105	243	158	56	34	10	11	4.0	44
15	2.6	5.0	49	b62	195	150	57	31	8.8	7.1	3.2	*22
16	3.2	5.9	29	b58	200	128	133	31	8.4	5.3	2.4	6.5
17	4.2	5.9	30	b54	195	115	92	54	9.6	4.0	2.1	7.4
18	5.6	5.6	26	b52	168	140	69	50	14	3.2	1.7	6.5
19	17	5.9	18	b51	138	380	83	34	17	2.6	1.3	5.0
20	19	8.8	20	b48	77	421	*110	30	15	2.9	.90	6.5
21	16	11	20	54	95	210	83	27	13	4.0	.50	5.0
22	14	14	20	52	99	213	69	25	12	3.8	2.3	5.0
23	10	12	18	95	58	213	62	39	10	3.4	46	6.2
24	7.4	8.8	21	b550	62	216	62	44	9.2	10	23	14
25	5.9	9.2	21	b420	1,470	222	61	36	16	16	14	13
26	5.3	195	30	b460	625	1,150	88	32	17	7.7	9.6	8.8
27	6.5	81	67	b350	252	645	101	26	11	4.8	16	6.2
28	6.8	41	398	b230	205	291	77	23	7.4	3.6	18	36
29	7.1	28	143	b150	-	291	65	24	5.9	2.6	8.0	34
30	7.7	22	92	b80	------	281	57	24	4.8	2.0	4.8	23
31	11	------	75	b60	------	193	------	22	------	1.5	3.2	------
TOTAL	270.2	527.4	1,705	4,355	13,828	16,346	2,741	1,318	413.1	237.4	250.10	301.9
MEAN	8.72	17.6	55.0	140	494	527	91.4	42.5	13.8	7.66	8.07	10.1
CFSM	.050	.102	.318	.809	2.86	3.05	.528	.246	.080	.044	.047	.058
IN	.06	.11	.37	.94	2.97	3.51	.59	.28	.09	.05	.05	.06

CALENDAR YEAR 1964 MAX 3,610 MIN 1.1 MEAN 174 CFSM 1.01 INCHES 13.66
WATER YEAR 1964-65 MAX 5,410 MIN .50 MEAN 116 CFSM .671 INCHES 9.09

Peak discharge (base, 3,800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-8	0115	14.27	9,120	3-5	1730	15.07	10,100

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--Where daily discharge is less than 1.0 cfs the zero in the hundredths column is not significant.

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, and 3 Miles upstream from Detour and confluence with Little Pipe Creek.

Drainage area.--102 sq mi.

Records available.--October 1947 to September 1965. Prior to December 1947 monthly discharge only, published in WSP 1302.

Gage.--Water-stage recorder (digital) and concrete control. Altitude of gage is 340 ft (from topographic map).

Average discharge.--18 years, 101 cfs.

Extremes.--Maximum discharge during year, 2,500 cfs Feb. 7 (gage height, 6.67 ft); minimum daily, 9.0 cfs Aug. 30.

1947-65: 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, 2.4 cfs July 28, 1954; minimum daily, 5.4 cfs Sept. 13, 1963.

Remarks.--Records good except those for periods of ice effect, which are fair, or those for periods of shifting control, which are poor. Diurnal fluctuation caused by mills above station.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 14 to Nov. 4, July 9 to Sept. 30)

0.7	7.0	1.5	95
.8	12	2.0	198
1.0	26	3.0	522
1.2	48	5.0	1,500

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	27	19	20	40	45	64	85	43	25	15	48	12
2	33	19	21	42	40	58	86	43	28	14	43	37
3	48	19	23	48	37	58	78	42	67	13	25	20
4	22	19	62	40	34	56	72	40	35	13	18	14
5	21	*19	73	43	29	1,070	68	38	26	13	20	13
6	20	18	76	36	41	388	68	41	26	14	22	13
7	18	20	44	*32	744	221	75	61	24	14	19	11
8	18	20	34	68	636	170	70	65	29	13	17	11
9	18	20	30	83	208	142	67	49	62	18	14	12
10	19	20	31	102	361	124	61	47	31	35	17	10
11	18	20	26	88	241	104	58	42	26	75	20	11
12	17	20	65	90	181	95	58	37	22	51	17	12
13	18	20	85	78	138	86	51	37	22	*22	14	33
14	18	20	46	70	108	83	52	*34	21	17	11	31
15	18	20	35	61	100	81	56	33	20	17	12	*18
16	18	20	26	64	95	73	76	34	24	16	23	*17
17	29	22	27	60	90	72	56	47	25	12	30	14
18	31	21	23	54	80	100	52	35	30	14	26	14
19	24	21	22	50	72	140	67	32	25	24	36	13
20	28	25	24	48	55	108	64	33	24	16	18	13
21	22	28	25	45	65	92	55	30	22	13	11	13
22	21	23	22	41	62	92	51	31	20	13	34	12
23	20	20	24	78	51	85	49	41	18	13	32	11
24	20	21	23	400	56	85	51	38	17	18	19	12
25	20	29	26	182	111	106	52	38	19	14	14	41
26	20	126	32	170	95	244	59	33	17	13	15	23
27	20	38	102	150	65	159	56	30	16	19	16	14
28	20	27	196	113	68	121	52	31	15	28	13	12
29	20	24	73	92	-	130	48	32	15	26	12	14
30	20	23	56	62	------	111	46	33	14	25	9.0	13
31	19	------	48	52	------	92	------	27	------	29	10	------
TOTAL	685	761	1,420	2,582	3,908	4,610	1,839	1,197	765	637	635.0	494
MEAN	22.1	25.4	45.8	83.3	140	149	61.3	38.6	25.5	20.5	20.5	16.5
CFSM	.217	.249	.449	.817	1.37	1.46	.601	.378	.250	.201	.201	.162
IN	.25	.28	.52	.94	1.42	1.68	.67	.44	.28	.23	.23	.18

CALENDAR YEAR 1964 MAX 1,520 MIN 8.0 MEAN 87.8 CFSM .861 INCHES 11.72
WATER YEAR 1964-65 MAX 1,070 MIN 9.0 MEAN 53.5 CFSM .525 INCHES 7.12

Peak discharge (base, 1,600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-7	1915	6.67	2,500	3-5	1045	6.28	2,270

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 16-25, Jan. 16-26, Jan. 31 to Feb. 5. Shifting-control method used Oct. 14 to Nov. 4, July 9 to Sept. 30.

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, and 4½ miles northwest of Thurmont.

Drainage area.--5.93 sq mi.

Records available.--October 1931 to September 1965.

Gage.--Water-stage recorder (digital) and concrete control. Altitude of gage is 965 ft (from topographic map).

Average discharge.--34 years, 8.72 cfs (adjusted for diversion).

Extremes.--Maximum discharge during year, 440 cfs Mar. 5 (gage height, 4.01 ft); minimum, 0.1 cfs Aug. 19, 21, Sept. 10, 11 (gage height, 0.82 ft).
1931-65: 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; minimum, that of Aug. 19, 21, Sept. 10, 11, 1965.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. A small diversion is occasionally made to Victor Cullen State School at Cullen, half a mile above station.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 25

1.0	0.3	1.5	2.7	2.2	31
1.1	.5	1.6	4.1	2.5	67
1.2	.8	1.7	6.2	3.0	152
1.3	1.2	1.8	9.0	3.5	272
1.4	1.8	2.0	17		

Feb. 26 to Sept. 30

0.85	0.1	1.2	0.7
.9	.2	1.3	1.1
1.0	.3	1.4	1.8
1.1	.5		

Note.--Same as preceding table above 1.4 ft.

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.0	0.50	1.7	2.9	b 4.0	18	16	9.2	2.8	1.0	0.80	0.20
2	1.3	.50	1.6	3.3	b 4.5	16	16	8.9	3.3	.80	.60	.30
3	1.1	.50	1.9	3.8	b 4.0	14	14	8.4	5.5	.80	.60	.20
4	.60	*.60	7.6	3.0	3.4	14	13	7.7	3.1	.80	.50	.20
5	.50	.50	4.8	2.7	3.1	158	12	7.6	2.8	.70	.60	.20
6	.40	.60	5.5	2.6	4.0	54	12	7.3	2.6	.70	.40	.20
7	.40	.60	3.1	2.4	45	40	12	14	2.4	.70	.50	.20
8	.40	.60	2.7	*9.3	33	35	11	11	2.9	.80	1.0	.10
9	.40	.60	2.3	5.9	19	32	11	9.0	4.0	.60	1.5	.10
10	.40	.60	2.0	b5.4	27	28	10	8.3	2.8	1.2	1.5	.10
11	.40	.60	2.0	b5.0	21	24	9.7	7.7	2.6	2.5	.70	.10
12	.40	.60	8.6	b4.5	19	21	9.0	7.3	2.2	*1.3	.60	.50
13	.50	.50	5.0	b4.0	15	19	8.4	*6.8	2.0	.80	.60	1.0
14	.40	.50	3.4	b3.5	13	18	7.9	6.3	1.9	.70	.60	.40
15	.40	.60	2.8	b3.0	12	17	10	6.1	2.1	.70	.50	.30
16	.40	.80	b2.5	b4.0	11	15	11	6.7	2.6	.60	.30	*.20
17	4.2	.80	b2.2	b3.8	10	15	8.7	6.8	3.2	.60	.30	.20
18	1.5	.60	b1.9	b3.0	9.7	16	8.5	5.4	2.8	.90	.10	.20
19	1.0	.90	b1.7	3.3	9.7	18	11	5.2	2.3	1.0	.10	.20
20	1.1	1.4	b2.0	3.3	14	16	9.0	5.0	2.0	.60	.20	.20
21	.80	1.0	1.9	3.1	8.0	17	8.1	4.7	1.7	.50	.20	.20
22	.70	.70	1.9	4.2	7.0	14	8.0	4.7	1.5	.50	.80	.10
23	.60	.60	1.9	10	7.0	15	8.3	4.5	1.6	1.2	.40	.10
24	.60	.70	2.1	12	18	16	8.2	4.3	1.9	.70	*.30	.60
25	.60	40	2.4	8.4	107	16	12	4.1	1.5	.60	.40	.50
26	.60	17	2.6	8.2	34	24	14	3.8	1.3	.50	.70	.20
27	.60	4.4	8.6	9.4	29	23	11	3.5	1.2	.40	.50	.20
28	.60	2.7	8.0	b8.0	20	20	11	3.1	1.0	.40	.20	.20
29	.60	2.1	4.3	b7.0	—	22	10	4.1	*1.0	.40	.20	.20
30	.60	1.8	3.8	b6.0	------	19	9.5	3.3	1.1	.40	.20	.20
31	.50	------	3.3	b5.0	------	17	------	3.1	------	.50	.20	------
TOTAL	23.60	83.90	106.1	160.0	511.4	791	320.3	197.9	69.7	23.90	16.10	7.60
MEAN	.76	2.80	3.42	5.16	18.3	25.5	10.7	6.38	2.32	.77	.52	.25
CFSM	.128	.472	.577	.870	3.09	4.30	1.80	1.08	.391	.130	.088	.043
IN	.15	.53	.67	1.00	3.21	4.96	2.01	1.24	.44	.15	.10	.05

CALENDAR YEAR 1964 MAX 94 MIN .20 MEAN 7.81 CFSM 1.32 INCHES 17.92
WATER YEAR 1964-65 MAX 158 MIN .10 MEAN 6.33 CFSM 1.07 INCHES 14.50

Peak discharge (base, 120 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-25	1945	3.16	185	2-7	1900	2.91	135
2-25	0915	3.64	314	3-5	0800	4.01	440

* Discharge measurement made on this day.
b Stage-discharge relationship affected by ice.
Note.--Where daily discharge is less than 1.0 cfs the zero in the hundredths column is not significant.

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, and 2¼ miles upstream from Little Hunting Creek.

Drainage area.--18.4 sq mi.

Records available.--October 1949 to September 1965.

Gage.--Water-stage recorder (digital) and concrete control. Altitude of gage is 355 ft (from topographic map).

Average discharge.--16 years, 23.1 cfs.

Extremes.--Maximum discharge during year, 1,040 cfs Mar. 5 (gage height, 4.69 ft); minimum, 1.0 cfs Sept. 10, 11, 12 (gage height 1.23 ft).
1949-65: Maximum discharge, 1,170 cfs Sept. 1, 1952 (gage height, 4.94 ft), from rating curve extended above 500 cfs by logarithmic plotting; minimum, 1.0 cfs Aug. 1, 2, 1954, Sept. 5, 1957, Aug. 27, 1962, Sept. 17, 1964, Sept. 10, 11, 12, 1965.

Remarks.--Records fair except those for periods of no gage-height record, which are poor. Slight regulation at irregular intervals caused by pumpage at recreation camp near Foxville, and from occasional draining and refilling of pond near Thurmont by Maryland Game and Inland Fish Commission.

Rating table, except periods of ice effect or backwater from debris
(gage height, in feet, and discharge, in cubic feet per second)

1.23	1.0	1.8	52
1.3	2.6	2.0	89
1.4	7.6	2.5	213
1.5	15	3.5	550
1.6	24		

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.5	2.0	3.9	8.1	13	39	37	27	8.0	3.0	2.3	1.1
2	3.2	2.0	3.6	10	15	34	38	25	9.3	2.8	2.1	1.4
3	2.9	2.0	4.4	11	13	32	34	24	23	2.7	1.7	1.1
4	2.0	*2.0	17	8.4	12	31	32	22	9.9	2.7	1.6	1.1
5	1.8	2.0	14	7.7	9.0	516	30	21	8.0	2.6	1.8	1.1
6	1.8	2.0	15	7.6	11	142	29	21	7.4	2.6	2.0	1.1
7	1.6	2.0	8.4	6.8	196	89	30	41	6.9	2.6	1.9	1.1
8	1.6	2.0	6.6	28	107	72	28	35	7.0	2.7	1.9	1.1
9	1.6	2.0	6.0	19	53	63	28	29	10	2.5	3.0	1.1
10	1.6	3.8	5.1	18	69	54	25	26	8.7	2.6	2.0	1.0
11	1.6	2.0	5.0	17	52	47	24	24	9.4	6.6	1.6	1.0
12	1.6	2.0	17	15	45	42	24	22	6.6	*4.4	1.2	1.0
13	1.8	2.0	14	14	37	39	21	*21	5.6	3.0	1.1	4.5
14	1.6	2.0	9.0	12	31	37	21	19	5.2	2.8	1.1	3.5
15	1.6	2.0	7.1	11	28	35	27	18	5.6	2.6	1.1	2.8
16	1.6	2.1	6.0	15	26	32	32	20	7.1	2.5	1.1	*2.8
17	4.5	2.3	6.4	14	25	31	23	22	7.4	2.2	*1.1	2.8
18	3.5	2.5	5.9	17	23	35	22	16	8.0	3.0	1.1	2.0
19	2.8	3.1	4.4	21	21	45	33	15	6.3	3.1	1.3	1.5
20	2.8	4.2	5.4	17	28	38	26	14	5.2	2.3	1.1	1.2
21	2.5	3.4	5.3	12	21	32	24	14	4.7	2.0	1.1	1.2
22	2.3	2.6	5.1	9.0	19	31	23	13	4.3	1.8	3.9	1.2
23	2.1	2.4	5.0	25	20	32	23	13	3.8	5.1	2.4	1.2
24	2.0	2.4	5.3	37	20	34	23	13	4.0	3.5	1.9	3.0
25	2.0	48	6.6	28	240	38	37	12	3.8	2.6	1.7	2.5
26	2.0	42	6.8	24	74	65	44	11	3.5	2.2	2.5	1.5
27	2.0	12	25	25	50	55	35	11	3.2	2.0	2.0	1.2
28	2.0	6.9	25	20	44	46	33	9.3	3.2	1.8	1.5	1.2
29	2.0	5.5	14	17	—	54	30	12	3.2	1.8	1.1	1.2
30	2.0	4.8	11	16	------	45	28	9.3	3.1	1.8	1.1	1.2
31	2.0	------	9.4	12	------	39	------	8.5	------	1.8	1.1	------
TOTAL	66.9	176.0	282.7	502.6	1,302.0	1,924	864	588.1	201.4	85.7	52.4	49.7
MEAN	2.16	5.87	9.12	16.2	46.5	62.1	28.8	19.0	6.71	2.77	1.69	1.66
CFSM	.117	.319	.496	.880	2.53	3.38	1.57	1.03	.365	.151	.092	.090
IN	.14	.36	.57	1.02	2.63	3.89	1.75	1.19	.41	.17	.11	.10

CALENDAR YEAR 1964 MAX 201 MIN 1.2 MEAN 22.3 CFSM 1.21 INCHES 16.49
WATER YEAR 1964-65 MAX 516 MIN 1.0 MEAN 16.7 CFSM .908 INCHES 12.32

Peak discharge (base, 350 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2- 7	2000	3.77	658	3-5	0845	4.69	1040
2-25	1045	3.77	658				

* Discharge measurement made on this day.
Note.--No gage-height record Aug. 17, to Sept. 30.

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, and 2.8 miles (revised) west of Lewistown, Frederick County.

Drainage area.--7.29 sq mi.

Records available.--October 1947 to September 1965.

Gage.--Water-stage recorder (digital) and concrete control. Altitude of gage is 735 ft (from topographic map).

Average discharge.--18 years, 10.6 cfs.

Extremes.--Maximum discharge during year, about 300 cfs Mar. 5 (gage height, about 3.1 ft); minimum, 0.7 cfs Sept. 10, 11, 23 (gage height 1.13 ft).
1947-65: 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, 0.7 cfs Sept. 22, 1959, Sept. 10, 11, 23, 1965.

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

Rating table, (gage height) in feet, and discharge, in cubic feet per second)

1.14	0.8	1.8	31
1.2	1.6	2.0	52
1.3	3.3	2.2	80
1.4	6.1	2.4	116
1.5	10	2.6	158
1.6	16		

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.7	1.1	1.3	1.6	4.5	23	23	16	6.6	3.3	2.2	1.2
2	3.1	1.1	1.3	1.8	4.4	21	23	16	7.5	3.2	1.9	1.2
3	2.0	1.0	1.5	2.1	4.8	19	21	15	13	3.2	1.8	1.0
4	1.6	1.1	3.4	1.7	5.0	19	20	14	7.1	3.1	1.7	1.0
5	1.4	*1.0	2.7	1.5	4.4	150	19	14	6.4	3.0	1.7	1.0
6	1.2	1.1	3.1	1.4	4.0	60	18	14	6.3	2.9	1.6	1.0
7	1.2	1.0	2.1	1.3	23	45	18	17	6.1	2.8	1.6	.90
8	1.2	1.0	1.8	*5.8	33	40	17	15	6.2	3.0	1.6	.90
9	1.2	1.0	1.7	4.6	25	38	17	14	7.1	2.8	2.0	.80
10	1.2	1.0	1.5	4.0	27	35	16	13	5.9	2.7	1.9	.80
11	1.2	1.0	1.4	4.4	26	31	15	13	5.5	5.2	1.6	.80
12	1.2	1.0	2.7	3.3	25	28	14	13	5.2	3.4	1.5	1.7
13	1.2	1.0	2.2	3.3	22	26	13	12	5.0	*2.8	1.4	2.6
14	1.2	1.0	2.0	3.3	20	24	12	11	4.8	2.7	1.4	1.4
15	1.2	.90	1.8	3.9	18	22	15	11	4.9	2.6	1.3	1.1
16	1.2	1.0	2.0	3.1	16	21	15	12	5.1	2.4	1.2	*1.0
17	2.0	1.0	1.6	2.9	16	20	13	12	5.3	2.3	1.0	1.0
18	1.6	1.0	1.4	3.0	15	20	13	10	5.1	2.8	.90	1.0
19	1.6	1.3	1.4	2.7	14	20	*16	9.8	4.7	2.8	1.1	.90
20	1.7	1.6	1.5	2.8	12	19	14	9.4	4.5	2.2	.90	.90
21	1.4	1.1	1.4	2.7	12	17	13	9.0	4.3	2.2	.90	.90
22	1.2	1.1	1.4	2.8	11	16	13	8.8	4.1	2.1	2.7	.80
23	1.2	1.1	1.4	4.5	9.9	17	14	8.9	3.9	2.5	1.3	1.0
24	1.2	1.1	1.5	6.0	9.5	17	14	12	4.2	2.4	1.2	2.0
25	1.4	8.6	1.7	5.3	36	18	17	9.0	3.9	2.2	1.2	1.3
26	1.4	6.3	1.9	5.3	30	24	17	8.5	3.6	2.1	1.7	.90
27	1.4	2.2	3.7	5.3	26	25	17	8.4	3.5	2.0	1.7	.90
28	1.4	1.7	3.5	4.9	24	26	17	7.9	3.4	1.9	1.2	.90
29	1.4	1.5	2.2	4.8	--	28	17	8.4	3.6	1.8	1.0	.90
30	1.4	1.4	2.0	5.7	------	26	17	7.3	3.4	1.8	1.0	.90
31	1.1	------	1.8	8.2	------	24	------	7.0	------	1.8	1.0	------
TOTAL	44.4	47.30	60.9	114.0	477.5	919	488	356.4	160.2	82.0	45.20	32.70
MEAN	1.43	1.58	1.97	3.68	17.1	29.6	16.3	11.5	5.34	2.65	1.46	1.09
CFSM	.196	.217	.270	.505	2.35	4.06	2.24	1.58	.733	.364	.200	.150
IN	.23	.24	.31	.58	2.44	4.69	2.49	1.82	.82	.42	.23	.17

CALENDAR YEAR	1964	MAX	66		MIN	.80		MEAN	9.85	CFSM	1.35	INCHES 18.40
WATER YEAR	1964-65	MAX	150		MIN	.80		MEAN	7.75	CFSM	1.06	INCHES 14.43

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	about 0800	about 3.1	about 300				

* Discharge measurement made on this day.

Note.--Doubtful or no gage-height record Dec. 12-18, Dec. 24 to Jan. 12, Mar. 5-9, June 29 to July 13.

Where daily discharge is less than 1.0 cfs the zero in the hundredths column is not significant.

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 1965.

Gage.--Water-stage recorder (digital). Concrete control since Sept. 23, 1946. Altitude of gage is 270 ft (from topographic map). Nov. 27, 1931, to Mar. 26, 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.

Average discharge.--31 years (1934-65), 80.6 cfs.

Extremes.--Maximum discharge during year 2,220 cfs Mar. 5 (gage height, 7.75 ft); minimum discharge, 8.1 cfs Sept. 11 (gage height, 1.50 ft).
1931-32, 1934-65: 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, 4.8 cfs Sept. 14, 1963 (gage height, 1.30 ft).
Flood of Aug. 23 or 24, 1933, reached a stage of 10.5 ft, from floodmarks (discharge 2,920 cfs).

Remarks.--Records good except those for periods of ice effect, which are fair, or those for periods of no gage-height record, which are poor.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.5	8.1	3.0	125
1.6	11	3.5	232
1.8	17	4.0	365
2.0	26	5.0	726
2.2	36	6.0	1,280
2.5	58		

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	14	16	a35	b61	55	99	56	35	20	36	14
2	63	14	16	a38	b56	51	104	55	49	18	18	24
3	37	14	18	a40	b52	52	92	53	99	18	14	12
4	18	15	81	a34	b48	51	86	50	43	18	26	11
5	16	15	53	a37	b38	1,070	81	49	38	17	172	11
		14										
6	14	14	80	*a32	54	359	83	49	36	18	20	10
7	14	14	37	a30	589	230	90	70	34	16	16	10
8	13	14	27	a77	472	179	83	63	51	17	15	9.7
9	14	14	25	a88	183	154	81	55	64	*16	16	9.4
10	14	14	21	a110	185	133	74	52	39	16	15	8.9
11	13	14	20	a72	148	113	72	48	34	192	13	8.4
12	13	14	110	a80	129	105	70	46	33	48	13	13
13	13	14	66	b64	106	98	63	44	30	28	12	34
14	13	13	41	b56	90	93	61	*42	28	24	12	20
15	13	13	33	b50	85	89	73	41	29	20	11	14
16	13	14	26	b58	80	83	98	43	32	20	11	13
17	20	15	27	b49	76	83	69	*46	35	18	*10	*12
18	20	14	23	b51	72	110	64	40	36	18	9.9	12
19	17	15	22	b47	65	131	80	39	32	18	14	12
20	21	18	23	b44	54	106	72	39	30	16	19	13
21	16	18	24	b40	61	94	65	38	27	15	10	12
22	15	14	22	b37	58	90	62	39	25	15	14	11
23	15	13	27	115	50	85	61	43	25	15	14	9.9
24	15	15	24	345	52	83	62	45	40	16	12	11
25	15	39	27	177	94	122	73	40	28	15	12	24
26	15	116	28	148	70	275	79	39	23	13	14	12
27	15	29	160	129	54	168	69	50	22	12	36	11
28	15	20	a210	92	56	134	64	42	20	12	13	10
29	15	18	a84	79	-	150	60	47	20	11	10	11
30	15	17	a49	61	------	123	56	39	20	11	9.9	10
31	14	------	a40	b65	------	105	------	36	------	12	9.9	------
Total	546	585	1,460	2,380	3,138	4,774	2,246	1,438	1,057	723	627.7	393.3
Mean	17.6	19.5	47.1	76.8	112	154	74.9	46.4	35.2	23.3	20.2	13.1
Cfsm	0.214	0.237	.572	0.933	1.36	1.87	0.910	0.564	0.428	0.283	0.245	0.159
In.	0.25	0.26	.66	1.08	1.42	2.16	1.01	0.65	0.48	0.33	0.28	0.18

Calendar year 1964: Max 1,300 Min 8.7 Mean 73.5 Cfsm .893 In. 12.15
Water year 1964-65: Max 1,070 Min 8.4 Mean 53.1 Cfsm .645 In. 8.76

Peak discharge (base, 1,400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-7	2130	7.50	2,100	3-5	1330	7.75	2,220

* Discharge measurement made on this day.
a Doubtful or no gage-height record.
b Stage-discharge relation affected by ice.

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, and 2 miles east of Frederick, Frederick County.

Drainage area.--817 sq mi.

Records available.--October 1929 to September 1965. 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.--36 years, 873 cfs.

Extremes.--Maximum discharge during year, 19,700 cfs Mar. 6 (gage height, 17.15 ft); minimum daily, 58 cfs Sept. 10.
1929-65: Maximum discharge, 51,000 cfs Aug. 24, 1933 (gage height, 28.1 ft); minimum daily, 34 cfs Sept. 15, 16, 1963. Maximum stage known, 30 ft in June 1889, from floodmarks (discharge, 56,000 cfs).

Remarks.--Records good except those for periods of doubtful or no gage-height record, or backwater from aquatic vegetation, which are fair.

Rating table, except period of backwater from aquatic vegetation
(gage height, in feet, and discharge, in cubic feet per second)

1.3	53	7.0	4,220
1.5	90	10.0	7,650
2.0	230	13.0	11,900
3.0	710	16.0	17,300
5.0	2,190		

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	171	86	152	400	460	920	1,060	515	*212	102	118	*63
2	232	92	138	370	380	820	1,020	490	222	95	*110	63
3	230	95	138	425	320	800	964	470	468	95	115	65
4	186	95	238	400	260	760	850	*435	375	92	103	67
5	132	*90	416	315	250	6,000	792	410	246	90	368	62
6	112	88	530	306	280	15,500	754	395	195	86	78	62
7	100	90	460	290	700	4,000	782	485	174	88	72	60
8	88	86	302	400	10,700	2,800	765	724	194	95	72	60
9	84	90	226	750	3,100	2,100	738	615	395	88	68	62
10	86	90	192	700	2,400	1,600	680	510	292	90	*70	58
11	80	90	171	580	4,000	1,400	625	460	206	548	67	60
12	78	90	310	590	2,500	1,230	600	400	174	465	82	65
13	76	90	600	620	1,800	1,100	550	370	150	206	80	102
14	76	90	572	520	1,200	1,000	510	346	140	140	76	108
15	78	88	365	380	1,100	958	525	328	135	112	70	152
16	80	90	262	400	1,100	868	721	350	142	95	67	125
17	92	95	212	360	1,000	804	700	385	158	88	65	95
18	100	92	195	370	900	900	575	400	168	82	65	80
19	108	102	150	350	800	1,330	610	342	171	82	72	72
20	112	120	177	*340	600	1,800	695	302	158	100	70	72
21	110	120	171	320	640	1,170	625	292	142	88	62	68
22	110	112	174	320	640	1,080	560	274	138	78	60	70
23	95	108	158	450	500	1,010	530	297	130	82	60	67
24	92	102	174	1,300	520	990	535	338	150	100	82	72
25	86	147	171	2,300	800	1,110	575	333	130	92	90	115
26	84	793	186	1,700	4,000	2,570	710	306	120	92	76	165
27	84	754	379	1,400	1,600	3,060	732	284	118	86	94	108
28	88	342	1,600	1,100	1,000	1,730	665	279	112	80	76	88
29	88	226	1,030	820	-	1,570	610	274	110	76	67	78
30	90	180	620	540	------	1,590	550	250	*108	70	65	74
31	88	------	495	500	------	1,230	------	230	------	72	62	------
Total	3,316	4,733	10,964	19,616	43,550	63,800	20,608	11,889	5,633	3,755	2,682	2,458
Mean	107	158	354	633	1,555	2,058	687	384	188	121	86.5	81.9
Cfsm	.131	.193	.433	.775	1.90	2.52	.841	.470	.230	.148	.106	.100
In.	.15	.22	.50	.89	1.98	2.90	.94	.54	.26	.17	.12	.11

Calendar year 1964: Max 11,300 Min 55 Mean 759 Cfsm .929 In. 12.66
Water year 1964-65: Max 15,500 Min 58 Mean 529 Cfsm .647 In. 8.78

Peak discharge (base, 8,800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-8	1600	13.90	13,300	3-6	0700	17.15	19,700

* Discharge measurement made on this day.
Note.--Doubtful or no gage-height record Jan. 7 to Mar. 11. Stage-discharge relation affected by backwater from aquatic vegetation Apr. 28 to Sept. 30.

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, and half a mile east of Dawsonville, Montgomery County.

Drainage area.--101 sq mi.

Records available.--September 1930 to September 1965.

Gage.--Water-stage recorder. Concrete control since Mar. 3, 1934. Datum of gage is 214.15 ft above mean sea level, adjustment of 1912. Sept. 26 to Nov. 9, 1930, chain gage and Nov. 10, 1930, to Apr. 6, 1934, water-stage recorder, at highway bridge 60 ft upstream at same datum.

Average discharge.--35 years, 91.3 cfs.

Extremes.--Maximum discharge during year, 2,640 cfs Aug. 26 (gage height, 7.62 ft); minimum, 12 cfs Aug. 18 (gage height, 1.74 ft).
1930-65: Maximum discharge, 15,000 cfs July 21, 1956 (gage height, 12.17 ft), from rating curve extended above 2,700 cfs on basis of contracted-opening and flow-over-road measurement at gage height 9.78 ft; minimum observed, 1.7 cfs Sept. 28, 29, 1930 (gage height 0.56 ft).

Remarks.--Records good except those for periods of ice effect, which are fair. Small diversion at times for irrigation above station.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.7	11	2.5	166
1.9	29	3.0	372
2.0	43	4.0	770
2.2	82	5.0	1,100

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	21	27	61	*65	74	117	76	*47	27	48	21
2	30	*20	26	63	65	67	126	74	76	25	*25	26
3	33	20	29	59	52	69	112	69	125	31	19	21
4	24	21	48	50	48	69	106	67	61	41	19	19
5	23	21	52	48	47	1,010	101	65	48	42	44	19
6	21	22	96	48	54	336	104	65	45	37	21	22
7	21	22	52	45	334	210	131	74	42	28	18	19
8	23	22	40	103	484	163	109	76	45	28	18	18
9	20	22	37	95	177	140	120	72	68	27	21	18
10	20	22	32	150	177	126	106	67	47	28	19	17
11	19	22	32	117	153	112	99	63	39	104	17	17
12	19	22	315	99	131	104	99	59	37	58	16	26
13	19	22	114	89	114	99	87	59	36	33	16	82
14	20	22	69	80	99	96	82	56	32	32	16	33
15	20	22	54	b75	94	92	96	54	33	29	15	24
16	21	23	43	67	92	87	126	54	39	28	13	23
17	35	24	43	59	89	87	96	57	42	28	12	22
18	27	23	42	61	84	112	89	52	47	25	17	21
19	22	24	b30	57	78	137	106	48	39	42	18	21
20	22	33	42	57	b60	123	101	47	36	24	26	20
21	21	30	43	54	76	101	92	47	32	23	15	20
22	21	24	42	54	74	99	87	48	*30	22	27	19
23	21	22	43	97	b60	94	82	47	29	22	22	19
24	21	23	43	427	65	89	84	66	30	23	19	32
25	21	78	47	188	120	137	96	50	30	21	18	65
26	21	159	45	163	99	461	112	47	28	21	717	23
27	21	*40	397	140	b70	210	101	192	26	21	224	21
28	21	32	321	106	78	153	94	133	26	20	33	21
29	21	29	114	96	-	188	*82	96	26	20	23	21
30	21	28	*84	b85	------	153	74	65	*26	24	21	*21
31	21	------	72	b75	------	*126	------	56	------	26	*21	-------
Total	702	915	2,474	2,968	3,139	5,124	3,017	2,101	1,267	960	1,558	751
Mean	22.6	30.5	79.8	95.7	112	165	101	67.8	42.2	31.0	50.3	25.0
Cfsm	0.224	0.302	0.790	0.948	1.11	1.63	1.00	0.671	0.418	0.307	0.498	0.248
In.	0.26	0.34	0.91	1.09	1.16	1.89	1.11	0.77	0.47	0.35	0.57	0.28

Calendar year 1964: Max 1,290 Min 8.4 Mean 79.9 Cfsm 0.791 In. 10.76
Water year 1964-65: Max 1,010 Min 12 Mean 68.4 Cfsm 0.677 In. 9.20

Peak discharge (base, 1,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0915	6.56	1,750	8-26	1900	7.62	2,640

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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 and 1.3 miles west of post office in Rockville, Montgomery County.

Drainage area.--3.70 sq mi.

Records available.--June 1957 to September 1965.

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

Average discharge.--8 years, 3.19 cfs.

Extremes.--Maximum discharge during year, 932 cfs Aug. 26 (gage height, 5.32 ft); minimum, 0.2 cfs many days in August (gage height, 1.14 ft).
1957-65: Maximum discharge, that of Aug. 26, 1965, from rating curve extended above 660 cfs on basis of velocity-area studies; minimum, 0.1 cfs Aug. 17-19, 23-25, 1957 (gage height, 1.10 ft).

Remarks.--Records good except those for periods of ice effect, which are fair.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.1	0.1	1.7	20
1.2	.7	2.0	41
1.3	2.2	2.5	68
1.4	4.6	3.0	99
1.5	8.4		

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.9	0.8	0.9	1.7	b1.9	2.5	3.0	2.4	1.2	0.7	0.7	1.0
2	3.0	.9	.9	2.1	b1.8	2.4	3.8	2.3	5.0	.7	.4	.8
3	.9	.9	1.7	1.7	b1.6	2.5	2.9	2.3	3.6	1.0	.3	.7
4	.9	.9	2.9	1.6	b1.4	3.2	2.8	2.1	1.5	.7	5.2	.7
5	.9	.9	5.4	1.6	b1.4	*6.7	2.8	2.1	1.3	1.5	1.0	.6
6	.9	.8	5.6	1.6	1.9	7.6	3.7	2.2	1.3	.7	.4	.6
7	.8	.7	1.6	1.6	30	4.7	4.6	2.5	1.2	.7	.4	.6
8	.9	.8	1.3	6.1	b8.4	3.9	3.2	2.2	1.2	.7	.7	.6
9	.9	.8	1.2	6.1	b4.6	3.6	4.8	2.2	3.4	.6	.5	.6
10	.9	.8	1.1	6.5	b6.5	3.2	3.0	2.1	1.3	.8	.4	.6
11	.8	.7	1.1	4.5	4.7	2.9	2.9	2.0	1.2	2.9	.4	.7
12	.9	.7	28	b2.8	4.2	2.8	2.8	1.8	1.2	.8	.3	5.5
13	.9	.8	2.8	b2.2	3.6	2.7	2.5	1.8	1.3	.7	.3	6.4
14	.8	.7	*2.0	b2.0	3.4	2.7	2.4	1.6	1.0	.7	.3	1.0
15	.8	.8	1.7	b1.7	3.6	2.7	4.2	1.6	1.5	*.6	.3	.9
16	1.8	*.8	1.6	b1.7	3.4	2.5	3.4	2.5	1.5	.6	.3	.8
17	3.2	.7	1.6	b1.6	3.3	3.1	2.7	2.1	1.8	.6	.3	.8
18	.9	.7	1.4	b1.5	3.2	5.6	2.5	*1.5	1.5	.6	5.9	.8
19	.9	1.0	1.2	b1.5	2.5	4.9	4.1	1.5	1.5	.5	2.1	.8
20	.9	2.0	2.3	b1.5	b2.0	3.6	2.8	1.5	1.2	.5	.5	*.7
21	.9	.8	1.6	b1.5	b2.2	3.3	2.5	1.5	.9	.4	1.2	.8
22	.8	.7	1.6	2.7	b2.0	3.0	2.5	1.5	.9	.4	2.7	.8
23	.8	.7	1.6	12	2.0	2.8	2.4	1.5	.9	.4	.5	.7
24	.8	.8	1.6	16	2.1	2.7	2.8	2.2	2.3	.4	.4	24
25	.8	16	1.5	4.9	9.6	5.6	3.0	1.5	.9	.4	.5	1.2
26	.9	2.4	2.4	*3.8	2.9	22	3.3	1.5	.9	.4	90	.9
27	.9	1.2	13	3.0	2.5	4.4	2.7	2.8	.8	.4	2.4	.8
28	.9	1.0	4.3	2.5	2.6	3.7	2.7	1.6	.8	.4	1.2	.7
29	.8	1.0	2.5	b2.2	-	5.8	2.5	6.3	.7	.4	.8	.8
30	.8	1.1	2.1	b2.0	------	3.6	2.4	1.5	.8	.4	.8	.7
31	.8	------	1.9	b1.9	------	3.2	------	1.3	------	.4	.7	------
Total	32.1	42.9	100.4	104.1	119.3	194.2	91.7	63.5	44.6	21.0	121.9	56.6
Mean	1.04	1.43	3.24	3.36	4.26	6.26	3.06	2.05	1.49	0.68	3.93	1.89
Cfsm	.281	.387	.876	.908	1.15	1.69	.827	.554	.403	.184	1.06	.511
In.	.32	.43	1.01	1.05	1.20	1.95	.92	.64	.45	.21	1.22	.57

Calendar year 1964: Max 67 Min .4 Mean 3.24 Cfsm .876 In. 11.90
Water year 1964-65: Max 90 Min .3 Mean 2.72 Cfsm .735 In. 9.97

Peak discharge (base, 130 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-25	1900	3.75	159	8-26	1730	5.32	932
3- 5	0615	4.58	322	9-24	1545	4.52	298
8-26	0115	4.55	310				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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, 1¾ miles east of Langley, Fairfax County, Va., 1 mile upstream from District of Columbia boundary line, and 1¼ miles upstream from Chain Bridge.
Drainage area.--11,560 sq mi.
Records available.--March 1930 to September 1965.
Gage.--Water-stage recorder and concrete control. Datum of gage is 37.95 ft above mean sea level, datum of 1929. June 7, 1930 to Sept. 30, 1964, water-stage recorder at site 1 mile upstream on right bank at same datum. Prior to June 7, 1930, staff gage at site 1 mile upstream on right bank at same datum.
Average discharge.--35 years, 10,930 cfs (adjusted for diversion).
Extremes.--Maximum discharge during year, 111,000 cfs Mar. 7 (gage height, 9.98 ft); minimum daily, 598 cfs Sept. 12 (does not include diversion of 379 cfs for water supply).
1930-65: Maximum discharge, 484,000 cfs Mar. 19, 1936 (gage height, 28.1 ft, site then in use); minimum daily, 374 cfs Sept. 18, 1964 (does not include diversion of 437 cfs for water supply); minimum daily (adjusted), 733 cfs Nov. 30, 1930 (includes 171 cfs diverted for water supply).
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; and since April 1964, at Violets Lock, to Chesapeake and Ohio Canal. Low flow affected slightly by Stony River Reservoir (see p. 66) and since December 1950 by Savage River Reservoir (see p. 69).

Rating table (gage height in feet, and discharge in cubic feet per second)

2.5	394	5.0	20,400
2.6	626	6.0	34,300
2.8	1,430	8.0	67,400
3.2	3,470	10.0	111,000
4.0	9,700		

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.820	1.550	6.360	7.930	13.300	20.000	28.600	18.300	3.630	1.200	756	1.110
2	2.020	1.550	4.900	7.560	10.800	16.700	24.500	15.700	3.340	1.110	899	1.200
3	2.370	1.590	4.110	6.960	9.110	14.800	21.500	13.900	3.440	1.330	899	1.160
4	3.710	1.550	3.780	6.600	7.620	13.800	18.600	12.500	3.590	1.370	756	975
5	4.190	1.470	3.690	8.790	6.810	33.000	16.600	11.300	3.340	1.250	723	863
6	3.310	1.470	4.250	13.600	6.460	78.600	14.600	10.200	3.040	1.390	863	863
7	2.880	1.430	4.600	10.900	8.280	92.600	15.100	9.330	3.060	1.300	1.100	827
8	2.520	1.390	6.780	9.940	26.700	55.400	14.100	9.290	2.860	1.160	1.020	723
9	2.270	1.310	7.140	9.730	46.100	40.800	15.000	9.530	2.900	1.130	975	690
10	2.120	1.310	6.840	11.300	52.300	31.600	14.500	10.500	4.380	1.140	899	626
11	1.920	1.310	6.120	13.900	44.800	27.400	14.000	11.000	3.880	1.510	863	600
12	1.770	1.270	6.600	13.000	41.200	23.200	15.800	10.100	3.080	2.920	1.030	598
13	1.720	1.230	6.840	12.100	35.300	19.700	15.500	9.460	2.760	2.680	1.150	1.070
14	1.680	1.230	6.120	11.600	28.800	17.300	16.300	8.690	2.560	2.090	1.220	975
15	1.480	1.230	7.020	10.500	23.400	15.400	18.200	7.720	2.380	1.850	1.060	937
16	1.430	1.160	7.740	9.040	19.400	14.000	16.700	6.900	2.370	1.580	863	937
17	1.530	1.190	7.620	7.740	16.300	12.800	15.100	6.550	2.370	2.080	690	1.210
18	1.530	1.230	6.900	6.960	14.600	12.600	14.800	6.090	2.240	2.170	690	1.340
19	1.720	1.230	5.940	7.020	12.900	12.900	14.900	5.610	2.230	2.250	937	1.270
20	2.570	1.390	5.290	6.960	11.400	13.800	14.300	5.110	2.180	1.880	975	1.110
21	2.620	1.310	4.600	6.900	10.200	19.600	14.000	4.750	2.170	1.480	756	1.110
22	3.760	1.270	4.110	6.420	9.650	21.300	14.700	4.490	2.120	1.230	827	975
23	3.880	1.310	3.820	6.370	8.790	18.300	15.000	4.270	1.880	1.180	756	1.070
24	3.310	1.390	3.640	12.800	8.120	16.500	13.900	4.160	1.950	1.090	690	1.140
25	2.880	1.670	3.550	29.000	8.970	16.200	13.000	4.430	1.930	975	657	1.380
26	2.520	2.500	3.500	57.200	18.000	23.300	12.800	4.350	1.840	899	1.670	1.190
27	2.370	3.370	4.350	47.800	22.900	39.500	13.500	4.140	1.790	791	4.920	1.140
28	2.120	4.350	7.500	35.800	23.200	50.400	22.300	4.370	1.660	863	2.390	1.200
29	2.070	7.170	6.780	28.400	—	43.300	25.000	4.490	1.430	827	1.570	1.150
30	1.770	8.450	7.320	22.100	----------	34.900	21.700	4.160	1.200	723	1.260	1.110
31	1.680	----------	8.000	16.900	----------	31.500	----------	3.940	----------	723	1.070	----------
Total	73.540	59.880	175.810	461.820	545.410	881.200	504.600	245.330	77.600	44.171	34.934	30.549
Mean	2,372	1,996	5,671	14,900	19,480	28,430	16,820	7,914	2,587	1,425	1,127	1,018
(†)	+438	+409	+384	+378	+396	+281	+372	+404	+393	+452	+448	+401
Mean‡	2,810	2,405	6,055	15,280	19,880	28,710	17,190	8,318	2,980	1,877	1,575	1,419
Cfsm‡	.243	.208	.524	1.32	1.72	2.48	1.49	.720	.258	.162	.136	.123
In‡	.28	.23	.60	1.52	1.79	2.86	1.66	.83	.29	.19	.16	.14

Calendar year 1964: Max 91,300 Min 374 Mean 9,411 Mean‡ 9,832 Cfsm‡ .851 In‡ 11.56
Water year 1964-65: Max 92,600 Min 598 Mean 8,589 Mean‡ 8,985 Cfsm‡ .777 In‡ 10.55

Peak discharge (base, 45,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-26	1130	7.56	59,300	3- 7	0300	9.98	111,000
2-10	0700	7.33	55,300	3-28	1300	7.11	51,600

* Dishcharge measurement made on this day.
† Diversion, in cubic feet per second, to Chesapeake and Ohio Canal and for municipal supply of Washington, D. C., Washington Suburban Sanitary District, and City of Rockville; records furnished by Corps of Engineers, Washington Suburban Sanitary Commission, and City of Rockville.
‡ Adjusted for diversion.

1-6465.5 (revised). Little Falls Branch near Bethesda, Md.

Location.--Lat 38°57'27", long 77°06'31", on left bank at downstream side of bridge on Massachusetts Avenue, 0.3 mile downstream from Willett Branch, 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. Occasion low-flow measurements water years 1960-62 (published in "Surface Water Records of Maryland and Delaware" - 1962). December 1961 to September 1965.

Gage.--Water-stage recorder and concrete control. Datum of gage is 169.32 ft above mean sea level (Maryland State Roads Commission bench mark). Oct. 1, 1959, to Nov. 30, 1961, crest-stage gage at same site and datum. Prior to Oct. 1, 1959, water-stage recorder and concrete control at site 50 ft upstream at same datum.

Average discharge.--18 years (1945-59, 1963-65), 3.18 cfs.

Extremes.--Maximum discharge during year, 1,480 cfs July 18 (gage height, 5.05 ft); minimum, 0.1 cfs Sept. 12, 13 (gage height, 1.28 ft).
1944-65: Maximum discharge, 2,340 cfs July 31, 1945 (gage height, 7.50 ft), from rating curve extended above 630 cfs on basis of slope-area measurement at gage height 5.63 ft; no flow at times in 1944, 1954, 1959, minimums not available Oct. 1959 to Nov. 1961.

Remarks.--Records fair except those for periods of ice effect or doubtful or no gage-height record, which are poor. Occasional slight regulation at low flow from unknown source above station.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.3	0.2	1.7	11
1.4	1.0	1.8	19
1.5	2.7	1.9	32
1.6	6.0	2.1	73

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	0.3	0.4	0.6	0.7	1.1	1.9	1.5	0.8	0.6	7.0	0.2
2	16	.3	.5	1.7	2.0	1.1	3.9	1.2	8.0	.6	.5	1.2
3	.6	.4	3.4	.6	.6	1.4	1.5	1.4	1.6	2.7	.4	.4
4	.5	.4	2.7	.6	.6	8.3	1.4	1.4	.6	.6	.6	.3
5	.4	.4	8.6	.6	.6	*59	1.4	1.4	.6	3.6	.5	.3
6	.4	.2	4.0	.6	.6	3.8	7.3	1.4	.6	.6	.3	.3
7	.3	.3	1.1	.6	18	2.2	2.3	4.7	.6	.6	.3	.4
8	.3	.3	.6	8.1	4.8	2.0	1.9	1.2	.6	1.0	3.3	.2
9	.3	.3	.5	6.2	3.0	2.0	4.4	1.2	.8	.6	.5	.2
10	.2	.5	.5	9.2	5.8	1.9	1.5	1.4	.6	2.5	.4	.2
11	.2	.4	.5	7.3	1.7	2.0	1.6	1.4	.6	5.7	.2	.2
12	.2	.4	28	3.4	1.4	1.9	1.4	1.2	.6	1.0	.2	2.1
13	.2	.4	1.2	1.2	1.1	1.2	1.2	1.1	.8	.6	.2	11
14	.2	.3	.8	1.0	1.2	1.1	1.2	1.1	.5	.5	.2	1.5
15	.3	.2	.6	.9	3.1	.9	6.4	1.1	1.8	.4	.2	.6
16	13	*.6	.6	.9	1.2	.9	1.9	4.3	.9	.5	.3	.5
17	2.9	.3	.8	.9	1.1	6.3	1.2	1.5	1.5	.9	.4	.4
18	.4	.2	.5	.9	1.1	9.3	1.4	1.1	.8	28	4.1	.4
19	.5	2.8	.4	.8	1.0	5.0	4.6	1.1	1.1	*1.2	.7	.4
20	.4	3.6	5.4	1.1	.9	4.3	1.5	1.0	.6	.6	.6	*.4
21	.3	.4	.8	1.0	1.1	2.0	1.4	.9	.6	.5	.6	.4
22	.4	.4	.6	2.1	.8	*1.5	1.4	.9	.6	.4	5.2	.4
23	.4	.4	.6	15	.8	1.4	1.4	.9	.6	.4	1.0	.4
24	.4	.3	.6	15	1.0	1.2	3.5	*.8	*1.9	.4	.5	7.0
25	.3	23	.5	2.2	14	4.6	2.0	.8	.8	.4	.5	1.5
26	.4	1.2	1.6	1.5	1.1	17	1.9	.6	.8	.4	28	.7
27	.4	.6	14	1.2	1.1	2.0	1.4	.8	.8	.4	1.1	.5
28	.4	.6	1.5	1.0	1.1	1.7	1.5	1.5	.9	8.4	.7	.4
29	.3	.6	1.0	.9	-	9.7	1.5	1.4	1.7	.6	.4	.4
30	.3	.8	.9	.8	- - - - -	2.0	1.5	.6	.6	.4	.3	.4
31	.3	- - - - -	.8	.7	- - - - -	1.7	- - - - -	.6	- - - - -	.4	.2	- - - - -
Total	41.8	40.9	84.0	88.6	71.5	160.5	67.4	54.1	33.3	65.5	59.4	33.3
Mean	1.35	1.36	2.71	2.86	2.55	5.18	2.25	1.75	1.11	2.11	1.92	1.11
Cfsm	0.329	0.332	0.661	0.698	0.622	1.26	0.549	0.427	0.271	0.515	0.468	0.271
In.	0.38	0.37	0.76	0.80	0.65	1.46	0.61	0.49	0.30	0.59	0.54	0.30

Calendar year 1964: Max 38 Min 0.2 Mean 2.69 Cfsm 0.656 In. 8.95
Water year 1964-65: Max 59 Min 0.2 Mean 2.19 Cfsm 0.534 In. 7.25

Peak discharge (base, 450 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0430	3.78	790	7-18	1930	5.05	1,480

* Discharge measurement made on this day.
Note.--No gage-height record Feb. 5-10, 19-24, June 2, Aug. 18 to Sept. 20 and Sept. 24-30.
Stage discharge relation affected by ice Jan. 14-18, Jan. 31 to Feb. 4.

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 1965.

Gage.--Water-stage recorder and concrete control. Datum of gage is 148.87 ft above mean sea level, datum of 1929.

Average discharge.--36 years, 55.6 cfs.

Extremes.--Maximum discharge during year, 1,800 cfs Mar. 5 (gage height, 7.32 ft); minimum, 5.3 cfs Aug. 1, 14-18 (gage height 1.17 ft).
1929-65: 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 measurment of peak flow; minimum, 0.5 cfs Oct. 1-7, 1930 (gage height, 1.04 ft).

Remarks.--Records good except those for periods of ice effect or doubtful or no gage-height record, which are poor.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.1	2.1	2.0	159
1.2	7.4	3.0	461
1.3	16	4.0	735
1.4	29	5.0	1,005
1.6	63	6.0	1,300

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	28	9.8	15	27	26	37	44	40	22	13	29	12
2	74	9.8	13	33	23	36	62	41	63	12	11	22
3	24	10	26	28	22	36	47	38	105	24	7.4	9.8
4	15	8.9	36	24	20	37	42	36	36	20	5.9	8.9
5	11	8.9	36	23	17	1,200	42	35	25	38	61	8.1
6	9.0	9.8	137	23	15	209	49	35	22	18	13	8.1
7	8.0	9.8	33	23	320	106	106	54	21	11	8.1	8.1
8	8.0	9.8	20	98	258	82	56	43	21	12	24	7.4
9	8.0	10	19	66	106	73	77	36	39	11	30	7.4
10	9.0	10	17	134	116	68	56	36	33	30	8.9	7.4
11	10	10	16	68	88	62	48	35	20	220	7.4	6.6
12	9.0	10	386	45	58	58	50	32	19	36	5.9	29
13	10	11	101	42	51	56	43	30	25	16	5.9	171
14	11	10	39	40	44	54	39	29	18	15	5.9	29
15	12	9.0	28	23	49	54	69	29	20	13	5.9	14
16	26	*13	23	27	44	53	78	36	36	*11	5.3	11
17	80	11	19	30	42	86	50	57	25	11	5.3	9.8
18	21	9.8	18	33	39	145	43	29	28	78	52	8.1
19	11	20	14	27	36	124	71	*26	21	36	38	6.6
20	10	41	44	27	30	91	57	26	20	11	24	*6.6
21	8.9	18	23	28	34	75	46	25	16	8.9	19	12
22	8.1	11	20	30	34	64	43	26	15	8.1	63	12
23	8.1	11	23	71	28	60	41	28	14	8.1	15	8.1
24	8.9	11	22	302	30	58	46	89	43	8.9	8.1	96
25	9.8	159	23	91	127	86	57	29	24	8.9	6.6	46
26	8.9	137	37	66	77	384	57	25	14	8.1	382	19
27	9.8	25	121	56	39	121	50	24	13	7.4	347	12
28	9.8	16	176	43	39	88	48	44	13	8.9	46	9.8
29	10	14	56	37	-	119	43	137	13	8.1	32	8.9
30	9.8	14	37	33	------	68	39	35	13	6.6	19	8.9
31	9.8	------	31	28	------	49	------	25	------	5.9	11	------
TOTAL	495.9	657.6	1,609	1,626	1,812	3,839	1,599	1,210	797	723.9	1,302.6	623.6
MEAN	16.0	21.9	51.9	52.5	64.7	124	53.3	39.0	26.6	23.4	42.0	20.8
CFSM	.257	.352	.834	.844	1.04	1.99	.857	.627	.428	.376	.675	.334
IN	.30	.39	.96	.97	1.08	2.30	.96	.72	.48	.43	.78	.37

CALENDAR YEAR 1964	MAX	652	MIN	3.6	MEAN	51.6	CFSM	.830	INCHES	11.29
WATER YEAR 1964-65	MAX	1,200	MIN	5.3	MEAN	44.6	CFSM	.717	INCHES	9.74

Peak discharge (base, 800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-12	1330	4.29	808	7-11	1745	4.40	837
2- 7	1845	4.72	927	8-27	0330	5.94	1,280
3- 5	1700	7.32	1,800				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 17-22, Jan. 11-16, Jan 28 to Feb. 7.
Doubtful or no gage-height record Oct. 5 to Nov. 15, Mar. 25, 26, Mar. 30 to Apr. 9.

1-6495. Northeast Branch Anacostia River at Riverdale, Md.

Location.--Lat 38°57'37", long 76°55'34", on right bank at downstream side of bridge on Riverdale Road in Riverdale, Prince Georges County, 1¾ miles downstream from Indian Creek, and 1¾ miles upstream from confluence with Northwest Branch.
Drainage area.--72.8 sq mi.
Records available.--August 1938 to September 1965.
Gage.--Water-stage recorder. Datum of gage is 14.00 ft above mean sea level (Washington Suburban Sanitary Commission bench mark). Prior to June 12, 1942, wire-weight gage at same site and datum.
Average discharge.--27 years, 76.8 cfs.
Extremes.--Maximum discharge during year, 2,310 cfs Mar. 5 (gage height 5.42 ft); minimum 5.8 cfs Aug. 17 (gage height, 1.59 ft)..
1938-65: 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 discharge 3.0 cfs Aug. 27, 28, 1962.
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 good except those for periods of ice effect, which are fair. Some regulation at low flow by sand and gravel plants above station.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 5				Mar. 6 to Sept. 30			
1.6	4.8	2.6	100	1.59	5.8	2.6	100
1.7	7.5	3.0	190	1.6	6.0	3.0	190
1.8	11	3.5	390	1.7	9.0	3.5	390
2.0	25	4.0	715	1.8	14	4.0	715
2.3	57	4.5	1,160	2.0	27	4.5	1,160
				2.3	58	5.0	1,750

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	55	16	28	44	b48	47	70	45	21	10	88	14
2	131	15	26	44	b44	43	*90	43	39	*8.4	27	15
3	61	16	44	41	b42	42	73	38	78	10	15	12
4	32	20	*45	33	b39	43	64	35	38	11	*14	14
5	24	20	57	32	b37	1,520	57	32	26	25	26	13
6	*20	23	121	31	b36	863	65	32	23	13	15	12
7	16	21	56	31	332	180	94	46	19	9.9	12	11
8	15	22	42	112	480	106	76	44	19	12	21	11
9	14	18	35	105	172	83	94	38	*20	10	32	11
10	14	18	31	180	123	74	71	34	20	18	13	9.4
11	13	19	30	162	100	65	64	30	16	338	11	11
12	13	20	281	106	84	59	59	26	15	110	9.0	27
13	14	20	125	78	71	55	52	25	15	42	9.4	187
14	14	20	69	66	61	52	48	24	13	26	9.0	50
15	14	20	45	56	60	51	71	23	17	19	8.7	27
16	22	21	36	45	57	50	81	39	20	17	7.5	21
17	85	20	35	b45	55	64	62	45	20	15	7.5	16
18	38	20	34	b45	51	123	55	29	20	99	53	17
19	23	32	30	b42	b43	140	67	24	19	25	26	15
20	19	54	55	b40	b32	121	63	*21	15	14	18	14
21	18	34	45	38	b37	98	55	21	13	10	22	13
22	16	27	40	47	b38	86	48	22	12	10	62	13
23	16	23	40	86	b30	76	46	21	12	10	22	12
24	16	23	36	394	b31	69	50	31	21	11	14	26
25	16	186	36	230	128	80	54	24	19	9.9	12	25
26	16	158	40	127	98	392	54	23	15	7.8	279	14
27	16	69	245	92	67	202	52	19	13	7.8	142	11
28	16	43	233	70	55	106	52	28	11	8.7	37	11
29	15	35	111	61	-	146	46	125	9.4	8.4	19	11
30	16	30	67	50	------	119	43	45	11	7.8	14	10
31	14	------	51	b50	------	87	------	26	------	8.4	13	------
Total	812	1,063	2,169	2,583	2,451	5,242	1,876	1,058	609.4	932.1	1,058.1	653.4
Mean	26.2	35.4	70.0	83.3	87.5	169	62.5	34.1	20.3	30.1	34.1	21.8
Cfsm	.360	.486	.962	1.14	1.20	2.32	.859	.468	.279	.413	.468	.299
In.	.41	.54	1.11	1.32	1.25	2.68	.96	.54	.31	.48	.54	.33

Calendar year 1964: Max 852 Min 4.8 Mean 69.5 Cfsm .955 In. 13.00
Water year 1964-65: Max 1,520 Min 7.5 Mean 56.2 Cfsm .772 In. 10.47

Peak discharge (base, 1,250 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3- 5	2030	5.42	2310	8-26	1930	4.82	1520
7-11	1445	5.10	1880				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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

Location.--Lat 39°03'55", long 77°01'48", on right bank 400 ft upstream from bridge on State Highway 183, 1½ miles southwest of Colesville, Montgomery County, 3 miles upstream from Burnt Mills, and 10 miles upstream from Sligo Branch.

Drainage area.--21.1 sq mi (revised).

Records available.--October 1923 to September 1965. Monthly discharge only for some periods, published in WSP 1302.

Gage.--Water-stage recorder (digital) and concrete control. Datum of gage is 264.85 ft above mean sea level, adjustment of 1912. Prior to April 22, 1932, staff gages in same general vicinity at different datums. April 22, 1932, to April 11, 1934, staff gage at present site and datum.

Average discharge.--42 years, 21.8 cfs (unadjusted).

Extremes.--Maximum discharge during year, 1,210 cfs Mar. 5 (gage height, 8.14 ft); minimum, 0.9 cfs Aug. 18 (gage height, 1.44 ft).
1924-65: 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, 0.3 cfs Sept. 17-18, 1964.

Remarks.--Records good except those for periods of ice effect or doubtful or no gage height record, which are fair. 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.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.4	0.7	2.5	85
1.5	1.5	3.0	180
1.6	3.4	4.0	338
1.7	6.4	5.0	492
1.9	16	6.0	662
2.1	32		

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.2	4.1	5.1	10	b10	13	18	14	7.0	3.7	3.3	3.7
2	9.3	4.0	5.2	11	10	12	21	13	12	3.4	2.8	4.2
3	5.6	3.9	6.5	9.7	8.9	12	18	13	22	3.8	1.9	3.1
4	4.3	3.8	8.5	8.9	8.4	13	17	12	9.6	3.8	6.1	2.9
5	3.8	3.8	a12	8.6	8.5	*533	16	12	7.7	3.3	24	2.9
6	3.3	3.8	a31	8.4	9.9	59	17	12	7.1	3.5	3.7	2.9
7	3.1	3.8	10	8.0	152	31	24	15	6.6	3.1	2.7	2.8
8	3.1	3.8	7.6	27	74	24	19	13	6.3	2.9	2.8	2.7
9	3.1	*3.8	6.9	24	27	21	24	13	7.2	2.6	6.8	2.6
10	2.9	3.8	6.4	40	34	19	18	11	6.5	5.2	3.0	2.5
11	2.9	4.0	6.1	26	27	16	17	11	5.5	50	2.4	2.3
12	3.0	3.9	*119	20	20	15	16	10	5.6	9.4	2.3	6.8
13	3.2	3.8	25	17	17	15	14	9.5	7.2	5.5	1.9	29
14	3.2	3.7	*14	b14	15	15	13	9.2	5.4	4.8	1.9	7.5
15	3.1	a4.2	10	b10	15	14	19	8.9	6.0	*4.2	2.5	5.0
16	3.9	a5.7	9.0	a11	15	14	24	9.7	7.6	3.8	1.8	4.1
17	13	a6.8	9.1	a11	15	15	17	13	7.6	3.4	1.3	3.6
18	5.4	4.2	8.3	a11	14	24	15	*9.2	8.1	3.2	1.3	3.6
19	4.4	4.7	b7.2	a11	12	33	22	8.6	6.8	3.7	2.0	3.4
20	4.4	7.1	10	12	b9.5	23	19	8.1	6.0	2.7	2.1	3.4
21	4.1	5.1	10	10	12	21	16	7.9	5.4	2.5	2.4	*3.2
22	3.8	4.2	9.2	14	11	21	15	8.3	4.7	2.5	9.4	3.0
23	3.7	4.2	9.1	a35	b10	18	15	7.8	4.7	2.3	3.8	2.8
24	3.9	4.3	9.2	a120	b9.5	16	15	11	6.4	2.2	2.8	12
25	3.8	37	9.0	38	30	27	17	8.4	5.4	2.2	2.7	5.4
26	4.3	26	13	27	18	*140	19	7.8	4.4	2.0	208	3.8
27	4.0	8.5	54	20	b14	33	17	7.4	4.4	1.9	*26	3.6
28	3.9	6.5	41	b14	13	23	16	8.2	4.1	1.8	6.2	3.4
29	4.4	5.8	17	b12	–	33	15	20	3.7	1.7	4.0	3.4
30	4.3	5.6	14	b11	------	24	14	8.7	3.7	1.7	3.6	3.4
31	4.4	------	11	b10	------	20	------	7.7	------	1.5	3.5	------
TOTAL	134.8	193.9	513.4	609.6	619.7	1,297	527	328.4	204.7	148.3	349.0	143.0
MEAN	4.35	6.46	16.6	19.7	22.1	41.8	17.6	10.6	6.82	4.78	11.3	4.77
CFSM	.204	.303	.779	.925	1.04	1.96	.826	.498	.320	.224	.531	.224
IN	.24	.34	.90	1.06	1.08	2.26	.92	.57	.36	.26	.61	.25

CALENDAR YEAR 1964 MAX 299 MIN .80 MEAN 17.3 CFSM .812 INCHES 11.03
WATER YEAR 1964-65 MAX 533 MIN 1.3 MEAN 13.9 CFSM .653 INCHES 8.85

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	1145	8.14	1,210	8-26	1915	6.68	796

* Discharge measurement made on this day.
a Doubtful or no gage-height record.
b Stage-discharge relation affected by ice.

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 (Stage Highway 500), 0.8 mile downstream from Sligo Branch and 1 mile west of Hyattsville, Prince Georges County.

Drainage area.--49.4 sq mi.

Records available.--July 1938 to September 1965. Monthly discharge only for July 1938 published in WSP 1302.

Gage.--Water-stage recorder (digital). 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, water-stage recorder, Sept. 17, 1951, to Aug. 29, 1952, staff gage and crest-stage gage, at same site and datum.

Average discharge.--27 years, 39.4 cfs (unadjusted).

Extremes.--Maximum discharge during year, 2,390 cfs Mar. 5 (gage height, 9.82 ft); minimum, 2.4 cfs Aug. 15, 17 (gage height, 2.85 ft).
1938-65: Maximum discharge, 4,170 cfs Aug. 8, 1959 (gage height, 12.12 ft); minimum, 0.8 cfs Oct. 3, 7, 1941, Aug. 26, 1943.
Maximum stage known, about 13.5 ft Aug. 24, 1933.

Remarks.--Records fair except those for periods of ice effect or doubtful or no gage-height record or those below 5.0 cfs, which are 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.

Rating tables, except periods of ice effect (gage height, in feet, and dicharge, in cubic feet per second)

Oct. 1 to July 25				July 26 to Sept. 30			
2.8	4.8	4.0	140	2.8	1.4	3.7	78
3.0	10	5.0	400	2.9	3.4	4.0	140
3.2	23	6.0	710	3.0	5.4	5.0	400
3.4	43	7.0	1,060	3.2	16	6.0	710
3.7	84			3.4	36	7.0	1,060

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	18	7.8	11	15	13	19	*37	26	16	7.4	64	7.5
2	93	7.8	9.7	20	13	18	54	26	68	*7.1	6.8	8.5
3	18	7.8	27	15	12	19	36	23	*71	13	4.4	6.0
4	11	7.8	24	13	12	24	34	22	19	9.0	*6.1	7.5
5	9.7	7.4	36	13	11	1,150	33	*22	14	41	33	7.0
6	8.7	7.4	84	13	11	165	44	22	13	11	6.5	6.5
7	8.1	7.4	20	12	433	74	55	42	13	7.8	4.6	*6.0
8	8.1	8.1	14	77	158	*54	38	29	12	9.0	51	5.4
9	7.8	8.1	13	55	47	48	58	27	*13	7.8	23	5.2
10	7.1	8.4	11	95	53	44	36	26	13	26	5.4	5.0
11	7.1	8.4	11	71	42	38	34	24	11	280	4.2	5.0
12	7.1	8.4	287	38	33	36	33	22	10	42	4.0	40
13	7.4	8.7	43	29	27	35	28	21	11	16	3.6	168
14	7.8	8.4	22	23	24	34	26	20	10	14	3.2	*18
15	7.8	8.1	16	18	23	34	54	19	14	12	3.0	8.6
16	34	11	13	19	23	32	48	41	19	11	3.0	6.5
17	56	*9.0	13	19	22	45	33	35	16	10	2.8	5.4
18	13	8.4	12	18	22	83	30	19	15	140	21	5.2
19	9.4	24	10	17	19	81	50	17	13	27	12	5.0
20	8.7	36	38	16	16	63	37	16	12	12	9.0	4.8
21	8.1	13	16	17	17	59	30	16	9.7	10	21	4.8
22	7.4	9.0	13	20	16	54	28	17	9.0	9.0	49	4.6
23	7.1	8.7	13	72	15	43	27	16	8.7	8.0	9.0	4.2
24	7.4	8.7	13	245	16	39	34	65	26	7.0	4.6	68
25	7.4	200	13	59	*78	58	36	19	13	6.0	4.4	21
26	7.8	72	20	40	32	330	34	16	8.7	5.0	*333	6.1
27	8.1	19	183	30	21	80	31	14	7.8	*4.5	115	5.0
28	7.8	13	93	23	20	47	31	24	7.8	5.5	23	4.6
29	8.1	12	28	17	-	95	26	134	7.4	4.0	11	4.6
30	7.4	12	21	14	------	50	24	23	7.4	3.5	7.0	5.0
31	7.4	------	17	14	------	38	------	17	------	*4.0	6.5	------
TOTAL	431.8	575.8	1,144.7	1,147	1,229	2,989	1,099	860	488.5	769.6	854.1	459.0
MEAN	13.9	19.2	36.9	37.0	43.9	96.4	36.6	27.7	16.3	24.8	27.6	15.3
CFSM	.281	.389	.747	.749	.889	1.95	.741	.561	.330	.502	.559	.310
IN	.33	.43	.86	.86	.93	2.25	.83	.65	.37	.58	.64	.35

CALENDAR YEAR 1964 MAX 628 MIN 1.3 MEAN 40.1 CFSM .812 INCHES 11.05
WATER YEAR 1964-65 MAX 1,150 MIN 3.5 MEAN 33.0 CFSM .668 INCHES 9.07

Peak discharge (base, 1,250 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2- 7	1715	7.82	1,380	7-18	1945	8.90	1,850
3- 5	0730	9.82	2,390	8-26	1900	8.82	1,810
7-11	1415	9.69	2,310				

* Discharge measurement made on this day.
Note.--Doubtful or no gage-height record July 10-31, Aug. 26 to Sept. 7.
Stage-discharge relationship affected by ice Jan. 18-20, Jan. 29 to Feb. 6, Feb. 15, Feb. 20-23.

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

Location.--Lat 38°47'05", long 76°58'50", on left bank 100 ft downstream from bridge on Tucker Road, 1.0 mile south of Oxon Hill, Prince Georges County, and 1.4 miles upstream from Carey Branch.

Drainage area.--16.7 sq mi.

Records available.--June 1948 to September 1965.

Gage.--Water-stage recorder (digital) and concrete control. Altitude of gage is 62 ft (from topographic map).

Average discharge.--17 years, 18.8 cfs.

Extremes.--Maximum discharge during year, 834 cfs Mar. 5 (gage height, 4.27 ft); minimum, 0.4 cfs July 3 (gage height, 0.39 ft).

1948-65: 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 July, August, September, and October 1954, July 1955, August 1957, Sept. 1962, Aug. 1963 and August and September 1964.

Remarks.--Records good except those for period of backwater from debris, which are fair, and those for periods of ice effect or doubtful or no gage-height record, which are poor. Small diversion above station for irrigation of truck farm. Some regulation at low flow by sand and gravel plant above station.

Rating table, except periods of ice effect or backwater from debris
(gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to July 18				July 19 to Sept. 30			
0.3	0	1.0	30	0.39	.4	1.0	27.5
.4	.5	1.2	55	.5	1.7	1.2	54
.5	1.9	1.5	113	.6	3.5	1.5	113
.6	4.3	2.0	218	.7	6.2	2.0	218
.7	8.0	3.0	456	.8	11.4	3.0	456
.8	14						

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	3.7	5.4	10	b 8.0	9.8	16	11	2.3	1.7	6.2	3.5
2	32	3.0	5.0	12	b 8.0	9.4	20	9.8	35	.9	8.6	5.2
3	13	2.6	8.1	10	b 6.0	9.7	16	8.7	7.0	22	5.0	2.8
4	6.7	2.7	9.0	7.8	b 5.6	9.8	14	7.7	4.0	8.6	3.7	2.5
5	4.9	3.2	11	6.6	b 5.2	355	13	7.3	3.0	16	6.7	2.4
6	3.7	4.5	39	6.0	b 8.0	47	*22	7.4	2.5	7.2	6.7	2.3
7	3.2	4.7	10	5.6	107	28	35	9.6	2.2	2.7	6.3	1.7
8	3.4	5.1	7.4	32	52	28	21	9.4	2.0	2.7	5.8	1.3
9	3.0	4.7	6.7	31	25	20	34	8.2	4.5	1.5	6.4	2.3
10	3.0	2.7	6.1	35	27	19	20	6.7	15	6.9	6.2	1.0
11	2.7	2.6	5.8	20	20	16	19	5.9	5.8	81	5.8	1.8
12	2.3	2.8	70	14	21	14	16	5.3	3.0	*16	5.4	19
13	1.8	2.4	23	10	16	14	14	5.6	2.0	6.5	5.2	56
14	1.8	2.8	12	9.0	14	13	13	4.9	1.5	4.7	5.0	11
15	1.8	3.8	8.1	8.0	16	12	20	5.8	12	3.2	4.8	6.5
16	9.1	3.5	*7.0	7.5	15	11	17	6.7	8.0	3.0	4.7	3.8
17	43	2.6	7.4	7.0	13	22	13	7.0	10	2.8	4.4	3.7
18	12	2.5	6.5	6.8	13	52	13	4.0	8.0	74	4.2	4.2
19	5.6	5.3	5.6	6.7	11	39	15	*3.5	5.0	50	4.0	3.8
20	c 4.4	17	16	6.6	9.6	29	13	3.0	3.5	6.8	3.8	2.6
21	c 4.4	6.3	11	9.0	11	29	11	3.0	2.9	4.3	3.2	3.4
22	c 3.4	3.9	8.1	13	10	25	11	4.4	2.5	3.0	5.4	1.8
23	c 2.7	3.0	7.6	28	9.3	22	11	4.7	4.0	2.4	5.8	1.5
24	c 3.7	3.0	7.4	68	9.2	20	12	4.7	12	2.8	4.7	*16
25	c 3.4	58	7.1	29	39	30	14	3.5	6.7	2.0	4.0	8.8
26	c 2.7	34	7.2	20	16	81	14	3.2	2.4	1.4	d 58	3.5
27	c 2.1	9.5	12	16	11	26	13	2.6	2.8	27	d 23	2.1
28	*c 2.4	7.4	50	13	11	20	19	8.2	1.5	14	d 34	1.4
29	3.0	6.3	30	b 10	—	33	11	54	1.0	7.5	13	1.6
30	3.6	5.3	18	b 9.0	------	22	10	7.0	2.1	4.5	5.2	1.8
31	3.6	------	14	b 10	------	17	------	4.0	------	3.6	3.7	-------
Total	208.4	218.9	441.5	476.6	516.9	1,082.7	490	236.8	174.2	390.7	268.9	179.3
Mean	6.72	7.30	14.2	15.4	18.5	34.9	16.3	7.64	5.81	12.6	8.67	5.98
Cfsm	.402	.437	.850	.922	1.11	2.09	.976	.457	.348	.754	.519	.358
In.	.46	.49	.98	1.06	1.15	2.41	1.09	.53	.39	.87	.60	.40

Calendar year 1964: Max 230 Min 0 Mean 13.9 Cfsm .832 In. 11.37
Water year 1964-65: Max 355 Min .9 Mean 12.8 Cfsm .766 In. 10.43

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	1030	4.27	834	7-18	2200	3.26	522

* Discharge measurement made on this day.
b Stage-dicharge relation affected by ice.
c Backwater from debris.
d Doubtful gage-height record.
Note.--No gage-height record Dec. 25 to Jan. 21, May 30 to June 24.

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, and 1.2 miles southeast of Pomonkey, Charles County.

Drainage area.--57.7 sq mi.

Records available.--November 1949 to September 1965.

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

Average discharge.--15 years (1950-65), 55.2

Extremes.--Maximum discharge during year, 763 cfs Mar. 6 (gage height, 4.73 ft); no flow many days in October, June, July, August, and September.
1949-65: 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 good except those for periods of ice effect or doubtful or no gage-height record, which are fair.

Rating tables, except periods of ice effect, (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 26

1.12	0	1.5	5.2
1.2	.4	1.6	9.8
1.3	1.4	1.8	32
1.4	2.8	2.0	56

Nov. 27 to Sept. 30

0.9	0	2.0	56
1.0	.2	2.5	97
1.1	.5	3.0	144
1.2	1.0	3.5	204
1.3	2.0	4.0	294
1.4	3.8	4.5	530
1.5	7.8	5.0	1,140
1.6	16		

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.0	1.4	14	53	b35	44	75	45	5.4	0.30	0.30	3.8
2	17	1.3	11	47	b30	39	82	45	12	0	1.0	2.3
3	40	1.3	12	41	b25	36	78	40	186	2.0	2.4	1.3
4	16	1.4	15	34	b25	35	65	35	139	8.4	1.5	1.0
5	5.0	1.4	15	28	b25	344	57	30	38	13	30	.50
6	4.0	1.4	28	26	b30	684	*66	30	22	41	16	.30
7	3.3	1.4	31	25	109	514	258	30	16	20	5.8	.30
8	2.4	1.4	23	25	290	223	258	35	10	11	2.7	.20
9	1.4	1.4	19	35	344	123	207	35	8.4	5.8	2.3	.10
10	.70	1.4	16	70	224	96	150	26	9.0	3.1	1.1	0
11	.20	1.5	14	120	143	75	100	22	15	16	.50	0
12	0	1.7	13	140	118	63	90	18	12	*60	.10	.20
13	0	1.7	50	95	102	56	80	16	7.2	31	0	8.4
14	0	1.4	40	70	79	51	65	13	4.1	19	.50	12
15	0	1.3	30	55	70	48	70	12	4.4	12	0	9.7
16	.20	1.4	*25	45	71	43	80	11	13	7.8	0	5.0
17	5.2	1.4	23	45	72	47	65	9.7	19	6.2	0	3.1
18	14	2.1	21	41	65	116	58	8.4	17	5.0	0	2.3
19	8.4	3.0	18	41	d56	133	70	6.7	13	33	*0	1.5
20	5.2	4.2	22	41	d44	114	85	5.8	8.4	22	0	1.0
21	4.0	6.1	36	40	43	95	68	*5.0	*4.7	10	0	.50
22	3.0	4.7	32	d40	42	95	58	4.7	2.9	5.4	1.2	.10
23	2.5	3.8	27	d62	36	91	55	4.1	2.0	3.4	.50	.10
24	2.1	3.3	25	145	33	79	55	3.6	1.3	2.1	.20	0
25	2.0	6.6	23	198	71	79	68	3.4	1.3	1.1	.10	.50
26	1.8	56	22	168	91	191	65	3.4	.80	.60	11	.20
27	1.8	44	46	112	63	252	80	2.7	.50	.50	56	.10
28	*1.7	25	160	79	d50	198	90	2.1	.30	0	33	.10
29	1.7	19	200	64	-	125	70	8.4	0	2.3	23	.10
30	1.5	16	128	d48	------	112	55	16	0	1.1	12	0
31	1.5	------	76	b40	------	91	------	9.0	------	.50	6.2	------
TOTAL	149.60	218.0	1,215	2,073	2,386	4,292	2,723	536.0	572.70	343.60	207.40	54.70
MEAN	4.83	7.27	39.2	66.9	85.2	138	90.8	17.3	19.1	11.1	6.69	1.82
CFSM	.084	.126	.679	1.16	1.48	2.39	1.57	.300	.331	.192	.116	.032
IN	.10	.14	.78	1.34	1.54	2.77	1.76	.35	.37	.22	.13	.04

CALENDAR YEAR 1964 MAX 535 MIN 0 MEAN 43.6 CFSM .756 INCHES 10.28
WATER YEAR 1964-65 MAX 684 MIN 0 MEAN 40.5 CFSM .702 INCHES 9.52

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	2000	4.73	763				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
d Doubtful gage-height record.
Note.--No gage-height record Oct. 1-16, Dec. 11-16, Jan. 5-20, Apr. 10 to May 10.
Where daily discharge is less than 1.0 cfs the zero in the hundredths column is not significant.

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 1965.

Gage.--Water-stage recorder. Concrete control prior to Oct. 25, 1961. Altitude of gage is 15 ft (from topographic map).

Average discharge.--18 years, 10.4 cfs.

Extremes.--Maximum discharge during year, 255 cfs Dec. 28 (gage height, 4.58 ft); minimum 0.3 cfs Aug. 18 (gage-height, 1.26 ft).
1947-65: Maximum discharge, 7,800 cfs Sept. 10, 1950 (gage height, 8.56 ft), from rating curve extended above 410 cfs on basis of slope-area measurement of peak flow; no flow at times in 1954, 1955, 1957, 1962, 1963, and 1964.

Remarks.--Records good except those for periods of ice effect or backwater from leaves, which are fair or those for periods of no gage-height record, which are poor. Occasional small diversion above station for irrigation.

Rating table, except periods of ice effect or backwater from debris
(gage height, in feet, and discharge, in cubic feet per second)

1.23	0	2.0	23
1.3	.6	2.5	41
1.4	2.7	3.0	57
1.5	5.2	3.5	76
1.7	12	4.0	128

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.3	2.8	3.7	7.5	4.6	7.6	12	9.4	3.8	3.2	3.8	1.9
2	6.6	3.0	3.5	7.4	4.6	7.3	15	9.4	5.6	2.0	4.7	1.9
3	4.2	3.0	4.9	6.8	4.5	7.3	12	9.0	25	4.8	2.8	1.6
4	4.8	3.1	5.3	5.8	4.3	7.3	11	8.0	6.9	8.5	2.2	1.4
5	7.4	3.2	4.5	6.0	4.1	93	11	7.4	5.1	26	6.1	1.2
6	3.2	3.1	17	5.4	13	23	*16	7.2	4.4	17	3.2	1.2
7	2.4	3.0	5.7	5.1	39	15	38	7.2	3.8	5.7	2.4	2.0
8	2.0	3.1	4.6	15	42	12	18	7.8	3.6	5.6	1.9	1.0
9	2.1	3.4	4.8	9.0	14	11	23	7.8	3.4	4.1	1.8	.6
10	2.1	3.6	4.1	37	14	10	16	7.6	4.1	3.5	2.6	.5
11	1.8	2.8	3.8	22	12	9.4	15	7.0	3.6	16	1.7	.6
12	2.0	3.1	11	12	22	9.1	14	6.4	4.8	9.1	1.4	1.5
13	2.2	3.4	8.0	9.5	15	8.7	13	6.0	3.6	5.6	1.2	7.0
14	2.1	2.7	5.2	7.9	10	8.7	12	5.8	2.7	*4.6	1.0	9.0
15	2.1	2.6	4.3	7.5	11	8.3	15	5.8	6.7	3.9	.90	3.5
16	3.0	3.0	*3.9	7.2	11	7.9	16	6.0	11	4.2	.90	6.0
17	8.4	3.5	4.1	6.8	11	14	13	6.0	7.2	4.0	.60	15
18	5.4	3.0	3.9	7.2	9.4	28	12	5.6	6.1	3.3	.60	9.0
19	3.1	9.8	3.3	6.6	8.4	18	15	5.2	5.1	13	2.5	4.5
20	2.7	6.5	9.8	6.0	7.7	13	15	5.2	6.5	4.1	1.6	3.5
21	2.7	4.3	7.6	6.6	8.1	12	12	5.2	3.8	3.2	.60	2.5
22	2.7	3.1	5.4	8.0	7.7	14	12	5.6	3.2	2.7	8.9	1.8
23	2.7	3.0	4.8	12	7.2	13	12	5.8	2.8	2.5	4.0	*1.5
24	2.9	3.0	4.5	35	7.5	11	11	* 5.4	2.7	2.4	2.8	2.0
25	3.2	21	4.4	21	22	17	13	5.2	3.1	12	2.6	5.0
26	3.2	26	8.9	11	11	67	13	4.8	2.3	6.0	16	3.0
27	3.2	6.3	49	8.8	8.6	22	15	4.3	2.1	7.9	33	2.0
28	*2.9	4.7	74	7.0	8.2	16	16	3.9	2.0	4.7	4.2	1.8
29	2.6	4.3	14	6.2	-	15	12	6.1	2.5	3.2	3.0	1.7
30	3.0	4.0	9.0	6.0	------	15	11	4.7	3.2	3.0	2.2	1.6
31	2.9	------	7.6	5.4	------	12	------	4.1	------	2.5	2.0	----
TOTAL	106.9	151.4	304.6	324.7	341.9	532.6	439	194.9	150.7	198.3	123.2	95.8
MEAN	3.45	5.05	9.83	10.5	12.2	17.2	14.6	6.29	5.02	6.40	3.97	3.19
CFSM	.322	.472	.919	.981	1.14	1.61	1.36	.588	.469	.598	.371	.298
IN	.37	.53	1.06	1.13	1.19	1.85	1.53	.68	.52	.69	.43	.33

CALENDAR YEAR 1964 MAX 90 MIN 0 MEAN 7.58 CFSM .708 INCHES 9.64
WATER YEAR 1964-65 MAX 93 MIN .60 MEAN 8.12 CFSM .762 INCHES 10.30

Peak discharge (base, 160 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-28	0030	4.58	255	3-5	1245	4.49	232

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by backwater from leaves Oct. 3-28. No gage-height record Jan. 15-21, Jan. 29 to Feb. 5, Apr. 30 to May 24, Sept. 2-30.
Where daily discharge is less than 1.0 cfs the zero in the hundredths column is not significant.

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.

Drainage area.--24.0 sq mi.

Records available.--June 1946 to September 1965.

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

Average discharge.--19 years, 24.3 cfs.

Extremes.--Maximum discharge during year, 341 cfs Mar. 5 (gage height, 4.98 ft); minimum, 2.0 cfs Sept. 10-11 (gage height, 1.29 ft).
1946-1965: 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 1.2 cfs Aug. 2, 1954, July 24, Aug. 7, 1955, Sept. 12, 1963.

Remarks.--Records good.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.29	2.0	1.9	38
1.3	2.1	2.2	74
1.4	4.6	2.5	106
1.5	8.4	3.0	151
1.7	20	4.0	241

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	55	5.9	8.8	16	b14	19	22	18	5.6	6.3	38	3.5
2	42	6.3	8.4	16	b15	18	27	16	5.6	4.0	22	3.3
3	16	5.9	11	16	b11	16	23	16	26	8.8	7.9	3.0
4	11	5.9	12	13	b12	16	22	14	13	30	4.9	2.8
5	19	6.3	11	12	12	223	19	13	7.9	36	22	2.8
6	10	6.3	26	12	14	111	*25	13	6.3	30	9.8	2.8
7	7.1	5.9	16	11	66	55	76	13	5.2	9.3	5.6	3.5
8	5.9	5.9	12	33	134	36	54	14	4.6	14	4.3	2.5
9	5.6	5.9	10	28	55	28	75	14	4.6	7.9	4.0	2.3
10	5.6	5.9	8.8	102	38	25	50	13	5.9	5.6	4.0	2.1
11	4.9	5.9	8.8	101	30	22	35	11	11	12	3.5	2.3
12	5.2	6.3	19	43	37	19	30	9.8	6.7	61	3.3	3.0
13	5.2	6.3	24	28	31	18	24	8.8	5.6	19	3.0	7.1
14	4.9	5.9	16	22	24	18	21	7.9	4.3	*10	2.8	8.4
15	5.2	5.9	12	18	24	18	23	7.9	7.1	13	2.8	5.6
16	11	5.9	9.8	17	25	16	26	7.9	28	11	2.5	10
17	35	6.7	10	b16	28	27	21	7.9	16	7.1	2.5	30
18	34	6.3	9.8	16	26	95	19	7.1	12	6.3	2.5	9.8
19	13	18	8.4	16	22	52	22	6.7	8.4	18	3.0	6.3
20	9.3	16	22	16	18	37	28	6.7	9.3	8.4	3.8	4.6
21	7.9	11	19	16	18	31	22	7.1	5.6	5.6	3.0	4.0
22	7.1	7.9	15	16	18	31	19	7.1	4.6	4.6	7.1	3.5
23	6.3	7.1	13	29	16	31	18	6.7	4.9	4.3	6.7	*3.3
24	6.3	7.1	12	134	16	26	18	*5.9	4.3	4.0	4.9	3.8
25	6.3	32	11	89	51	34	22	5.9	4.0	4.0	4.3	6.7
26	6.3	68	16	45	42	147	21	5.9	3.5	5.2	7.5	4.9
27	5.9	20	42	30	26	87	26	5.6	3.0	4.6	16	4.0
28	5.9	13	133	22	22	49	29	5.9	3.0	4.6	7.5	3.8
29	*5.9	11	44	20	-	36	22	7.9	3.0	4.0	5.9	3.8
30	6.3	9.8	26	b18	------	30	19	8.8	4.6	4.0	4.3	3.5
31	5.9	------	19	b16	------	24	------	6.7	------	3.5	4.0	------
TOTAL	375.0	330.3	613.8	987	845	1,395	858	299.2	233.6	366.1	223.4	157.0
MEAN	12.1	11.0	19.8	31.8	30.2	45.0	28.6	9.65	7.79	11.8	7.21	5.23
CFSM	.504	.458	.825	1.33	1.26	1.88	1.19	.402	.325	.492	.300	.218
IN	.58	.51	.95	1.53	1.31	2.16	1.33	.46	.36	.57	.35	.24

CALENDAR YEAR 1964 MAX 354 MIN 2.1 MEAN 20.1 CFSM .838 INCHES 11.39
WATER YEAR 1964-65 MAX 223 MIN 2.1 MEAN 18.3 CFSM .763 INCHES 10.36

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	1500	4.98	341				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

3-755. 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 1965.

Gage.--Water-stage recorder (digital) 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.

Average discharge.--24 years, 287 cfs.

Extremes.--Maximum discharge during year, 2,990 cfs Jan. 3 (gage height, 6.44 ft); minimum, 3.2 cfs July 31, Sept. 10, 11 (gage height, 1.76 ft).
1941-65: 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 except those for periods of ice effect, which are fair. The town of Oakland diverts an average of 0.4 cfs for water supply. The diversion is returned above station as sewage.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.77	3.6	2.2	55	3.5	580
1.8	4.9	2.4	99	4.0	900
1.9	11	2.7	192	5.0	1,620
2.0	21	3.0	310	6.0	2,520

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	93	21	155	390	b 280	428	528	284	28	17	44	5.4
2	57	18	136	1,190	b 220	387	784	237	30	15	37	7.0
3	51	17	263	2,300	b 190	355	623	196	87	17	18	9.7
4	42	15	1,120	* 998	b 160	331	521	164	63	15	11	8.2
5	29	15	898	644	146	642	426	161	36	16	9.3	6.4
6	24	14	598	480	148	540	401	195	28	15	6.9	5.9
7	20	13	410	366	b 600	424	395	220	27	15	36	4.9
8	17	14	313	570	1,950	358	317	197	25	14	22	4.9
9	17	13	258	516	1,210	370	534	264	23	14	10	* 5.4
10	16	13	204	491	919	326	444	194	23	27	10	3.6
11	14	13	179	426	715	282	466	163	22	104	10	3.8
12	13	12	633	369	613	249	798	*143	23	66	10	8.4
13	14	12	722	319	467	230	687	129	19	27	8.9	17
14	13	13	525	b 270	361	236	547	111	15	16	7.0	20
15	12	13	373	b 250	302	247	494	97	14	15	5.9	18
16	13	31	b 270	b 220	* 253	226	887	87	*13	15	4.9	14
17	16	249	274	b 200	220	256	655	82	13	11	4.9	9.6
18	27	115	477	b 180	195	467	495	75	15	10	4.4	7.4
19	* 25	134	b 320	b 170	177	859	503	66	17	9.7	4.9	6.4
20	21	515	336	155	b 150	588	421	62	17	8.9	7.0	6.5
21	25	267	295	142	162	428	339	60	16	7.6	12	6.4
22	18	149	252	147	b 200	355	293	57	15	7.0	15	6.3
23	14	110	233	387	b 190	419	276	52	15	7.0	15	6.7
24	14	* 106	310	1,860	b 155	1,150	305	49	18	7.6	9.7	9.9
25	13	107	440	2,040	b 180	1,490	457	49	30	7.6	7.6	20
26	13	788	583	1,160	b 140	1,580	1,120	65	24	8.9	5.9	20
27	16	597	740	1,080	b 190	1,490	917	47	18	* 8.2	12	16
28	16	349	662	716	233	940	635	40	16	5.6	24	12
29	17	257	508	b 540	-	986	462	35	15	* 4.8	12	9.8
30	30	197	465	b 430	------	958	352	32	16	3.7	7.6	9.2
31	30	------	483	b 290	------	685	------	29	------	6.4	5.4	------
TOTAL	740	4,187	13,435	19,296	10,726	18,282	16,082	3,642	721	522.0	398.3	288.8
MEAN	23.9	140	433	622	383	590	536	117	24.0	16.8	12.8	9.63
CFSM	.178	1.04	3.23	4.64	2.86	4.40	4.00	.873	.179	.125	.096	.072
IN	.21	1.16	3.73	5.36	2.98	5.07	4.46	1.01	.20	.14	.11	.08

CALENDAR YEAR 1964 MAX 5,570 MIN 3.0 MEAN 270 CFSM 2.01 INCHES 27.38
WATER YEAR 1964-65 MAX 2,300 MIN 3.6 MEAN 242 CFSM 1.81 INCHES 24.51

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1- 3	0400	6.44	2,990	2- 8	0845	5.66	2,180
1-25	0445	5.87	2,390				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Reservoirs in Monongahela River Basin

3-760.--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 1965 (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, 90,400 acre-ft Apr. 30 (elevation, 2,461.30 ft); minimum, 60,100 acre-ft Dec. 11 (elevation, 2,452.70 ft). Maximum contents since storage began, 93,258 acre-ft July 24, 25, 1949 (elevation, 2,462.075 ft); minimum observed, 11,763 acre-ft Sept. 30, 1925 (elevation, 2,433.45 ft).

Reservoir is formed by an earthfill dam completed January 1925. Usable capacity, 92,975 acre-ft between elevations 2,425 ft (top of intake to outlet tunnel) and 2,462 ft (crest of spillway). Dead storage, 13,085 acre-ft. Figures given herein represent usable contents. Reservoir is used for hydroelectric power. Records furnished by Pennsylvania Electric Co.

Month-end elevation and contents, water year October 1964 to September 1965

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2,455.40	69,100	-
Oct. 31	2,453.80	63,700	- 5,400
Nov. 30	2,453.00	61,100	- 2,600
Dec. 31	2,452.90	60,700	- 400
Calendar year 1964	-	-	+ 3,500
Jan. 31	2,455.90	70,800	+10,100
Feb. 28	2,457.10	75,000	+ 4,200
Mar. 31	2,459.90	85,200	+10,200
Apr. 30	2,461.30	90,400	+ 5,200
May 31	2,460.50	87,400	- 3,000
June 30	2,459.40	83,300	- 4,100
July 31	2,458.50	80,000	- 3,300
Aug. 31	2,457.60	76,800	- 3,200
Sept. 30	2,456.90	74,300	- 2,500
Water year 1964-65	-	-	+ 5,200

† Elevation at 2400.

3-765. 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 1965 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.--Water-stage recorder (digital). 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 0.6 mile downstream at datum 16.24 ft and 16.29 ft lower, respectively.

Average discharge.--31 years (1898-1904, 1940-1965), 637 cfs (adjusted for storage since 1940).

Extremes.--Maximum discharge during year, 4,200 cfs Jan. 3 (gage height, 5.41 ft); minimum, 8.1 cfs Aug. 16 (gage height, 1.61 ft); minimum daily, 13 cfs Sept. 6.

1898-1904, 1940-1965: 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, 10 cfs Sept. 8, 1957.

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 except those for periods of ice effect or doubtful gage-height record, which are fair. Low and medium flow regulated since 1925 by Deep Creek Reservoir (see preceding page).

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.7	13	2.4	111	3.5	870
1.8	20	2.6	183	4.0	1,570
2.0	39	2.8	279	5.0	3,310
2.2	66	3.0	405	6.0	5,550

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	254	45	398	710	d620	804	1,200	680	175	90	16	85
2	175	111	377	1,590	d600	771	1,670	523	188	95	121	57
3	83	148	461	3,610	d370	690	1,280	548	351	35	114	86
4	69	144	1,920	2,030	d450	690	1,030	557	297	27	93	32
5	137	144	1,650	1,310	b330	1,090	978	523	118	23	85	18
6	81	144	1,060	1,000	279	942	930	565	81	79	81	*13
7	95	69	892	804	497	730	954	622	192	90	30	79
8	118	30	706	1,090	3,190	710	793	413	183	88	21	79
9	98	95	610	990	2,370	740	1,060	480	179	95	99	60
10	81	141	532	918	1,790	690	1,000	557	179	38	87	63
11	33	124	492	859	1,440	613	882	531	179	46	86	48
12	88	160	938	730	1,200	548	1,520	443	63	192	86	47
13	148	134	1,340	651	894	443	1,340	*392	52	114	86	95
14	144	69	*1,090	575	660	413	1,130	351	148	83	32	95
15	141	29	845	514	670	497	1,000	219	156	85	14	77
16	148	134	674	b430	622	497	1,520	201	148	77	71	41
17	88	338	666	b310	*557	540	1,130	326	*146	38	134	85
18	29	326	950	365	523	632	859	291	148	28	123	60
19	111	309	632	309	497	1,460	966	274	54	52	84	68
20	*152	859	612	291	b330	978	930	259	40	64	73	66
21	160	497	702	351	332	710	771	248	141	31	27	48
22	152	285	604	405	531	700	750	134	156	68	20	66
23	152	b 280	571	622	489	771	700	121	152	60	79	58
24	83	274	648	2,760	480	1,970	594	224	152	32	87	111
25	32	291	690	3,460	497	2,600	720	259	148	16	83	54
26	93	1,120	966	2,320	435	2,850	1,710	248	49	97	89	40
27	141	1,230	1,250	2,070	450	2,780	1,780	243	40	79	111	93
28	144	622	1,340	1,440	385	1,870	1,340	219	93	79	74	75
29	152	450	1,060	1,160	-	2,080	1,000	98	88	79	44	90
30	156	458	930	d760	------	2,120	870	81	90	77	80	134
31	79	------	1,020	d520	------	1,540	------	73	-----	31	86	------
TOTAL	3,617	9,060	26,626	34,954	21,488	34,469	32,407	10,703	4,186	2,088	2,316	2,023
MEAN	117	302	859	1,128	767	1,112	1,080	345	140	67.4	74.7	67.4
(†)	-87.8	-43.7	-6.5	+164	+75.6	+166	+87.4	-48.8	-68.9	-53.7	-52.0	-42.0
MEAN‡	29.2	258	852	1,292	843	1,278	1,167	296	71.1	13.7	22.7	25.4
CFSM‡	0.099	0.875	2.89	4.38	2.86	4.33	3.96	1.00	0.241	0.046	0.077	0.086
IN. ‡	0.11	0.98	3.33	5.05	2.98	4.99	4.42	1.16	0.27	0.05	0.09	0.10

CALENDAR YEAR 1964	MAX	7,370	MIN	13	MEAN	554	MEAN‡	559	CFSM‡	1.89	IN.‡	25.79
WATER YEAR 1964-65	MAX	3,610	MIN	13	MEAN	504	MEAN‡	511	CFSM‡	1.73	IN.‡	23.53

* Discharge measurement made on this day.
† Change in contents, equivalent in cubic feet per second, in Deep Creek Reservoir, furnished by Pennsylvania Electric Co.
‡ Adjusted for change in contents.
b Stage-discharge relation affected by ice.
d Doubtful gage-height record.

3-780. 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 1965.

Gage.--Water-stage recorder (digital) and concrete control. Altitude of gage is 2,090 ft (from topographic map).

Average discharge.--18 years, 115 cfs.

Extremes.--Maximum discharge during year, 1,160 cfs Mar. 29 (gage height, 3.97 ft); maximum gage height, 4.01 ft Feb. 7 (ice jam); minimum discharge, 0.7 cfs July 31 (gage height, 0.95 ft).
1947-65: 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 the periods of ice effect or no gage-height record, which are fair.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.94	0.8	1.7	69
1.0	2.0	2.0	134
1.1	5.7	2.5	300
1.2	11	3.0	550
1.3	18	4.0	1,180
1.5	38		

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	23	5.9	26	112	169	234	295	107	14	3.2	4.4	3.3
2	15	5.5	28	407	b160	198	374	99	17	2.8	5.7	4.3
3	13	4.9	40	620	b130	178	287	86	41	12	3.2	4.1
4	11	4.9	a160	276	b 80	*168	250	76	27	14	2.0	3.2
5	8.9	4.8	a160	201	b 70	480	209	70	16	6.2	1.5	2.4
6	7.2	4.4	a130	168	b 74	300	243	71	13	4.8	1.2	2.2
7	5.9	4.4	a100	139	371	225	302	79	11	4.4	1.2	1.9
8	5.6	4.3	a 90	349	791	199	227	79	9.4	3.6	1.2	1.6
9	5.8	4.2	a 70	276	498	201	255	71	9.5	3.2	1.5	1.4
10	5.4	*4.0	a 50	214	457	184	206	59	*8.5	3.2	*5.3	1.2
11	5.3	3.6	a 60	177	334	157	183	55	8.2	14	3.6	1.1
12	4.8	3.6	a220	152	281	138	259	*50	7.9	15	2.6	70
13	4.0	3.8	a220	136	218	124	258	46	7.1	*8.1	2.0	65
14	4.1	3.5	a180	119	170	118	215	41	6.4	5.3	1.5	32
15	4.2	3.2	a140	b110	145	110	206	37	6.3	4.0	1.5	*17
16	4.0	6.3	*a110	b100	124	103	273	35	7.2	3.6	1.1	11
17	8.9	25	a 90	87	113	96	205	40	7.8	2.9	1.1	7.5
18	12	14	a 80	b 80	103	158	172	34	8.9	2.6	1.1	6.1
19	8.4	29	a 58	b 70	95	229	193	31	9.5	2.6	2.3	5.2
20	*7.6	110	a 54	b 64	b 78	165	170	26	8.1	2.3	2.9	4.4
21	6.7	45	a 50	b 60	b 88	135	138	24	7.0	1.7	2.3	3.7
22	11	20	a 50	b 80	b 88	126	122	26	6.4	1.7	3.6	3.2
23	14	17	a 50	328	b 72	173	116	28	6.1	1.7	6.7	3.1
24	15	15	a 60	710	b 70	460	125	23	6.9	2.0	4.4	12
25	12	23	a 90	681	129	589	163	28	7.8	2.0	3.2	21
26	11	225	165	384	114	591	293	46	6.2	1.5	11	12
27	10	113	273	395	b100	608	229	29	4.8	1.2	10	8.4
28	9.5	61	325	*257	154	447	175	24	4.1	1.2	11	6.4
29	9.8	44	183	203	-	903	145	20	3.8	.9	6.5	5.5
30	9.3	34	152	171	------	703	122	17	3.6	.8	4.6	5.0
31	7.3	------	137	169	------	404	------	16	------	.9	3.5	------
TOTAL	279.7	846.3	3,601	7,295	5,276	8,904	6,410	1,473	300.5	133.4	113.7	325.2
MEAN	9.02	28.2	116	235	188	287	214	47.5	10.0	4.30	3.67	10.8
CFSM	.144	.451	1.86	3.76	3.01	4.59	3.42	.760	.160	.069	.059	.173
IN	.17	.50	2.14	4.34	3.14	5.30	3.81	.88	.18	.08	.07	.19

CALENDAR YEAR	1964	MAX	2,240	MIN	1.1	MEAN	115	CFSM	1.84	INCHES 24.95
WATER YEAR	1964-65	MAX	903	MIN	.8	MEAN	95.8	CFSM	1.53	INCHES 20.80

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1- 2	2315	3.91	1,120	3-29	1445	3.97	1,160

* Discharge measurement made on this day.
a No gage-height record.
b Stage-discharge relation affected by ice.

3-785. Big Piney Run near Salisbury, Pa.

Location.--Lat 39°43'32", long 79°02'57", on left bank an eighth of a mile upstream from Little Piney Run, a quarter of a mile north of Maryland-Pennsylvania State line, and 2½ miles southeast of Salisbury, Somerset County.

Drainage area.--24.5 sq mi.

Records available.--June 1932 to September 1965.

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

Average discharge.--33 years, 37.6 cfs (unadjusted).

Extremes.--Maximum discharge during year, 376 cfs Feb. 7 (gage height, 3.39 ft); maximum gage height, 3.70 ft Feb. 7 (ice jam); minimum, 0.07 cfs July 30, 31, Sept. 10, 11 (gage height, 0.97 ft).
1932-65: 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, that of July 30, 31, Sept. 10, 11, 1965.

Remarks.--Records good except those for periods of ice effect, 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, Pa.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 7				Feb. 8 to Sept. 30			
1.0	0.1	1.7	16	1.0	0.1	1.7	16
1.1	0.6	2.0	40	1.1	0.6	2.0	37
1.2	1.4	2.3	73	1.2	1.4	2.3	70
1.3	2.7	2.6	125	1.3	2.7	2.6	125
1.4	4.6	3.0	231	1.4	4.6	3.0	231
1.5	7.4			1.5	7.4	3.5	425

Discharge, in cubic feet per second, water year October 1964 to September 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.5	0.8	b 11	35	b 52	69	110	37	2.7	0.5	2.0	0.2
2	4.0	.9	11	96	b 49	69	102	31	2.7	.5	2.9	.2
3	3.2	.9	13	167	b 39	65	75	26	5.4	.6	.7	.1
4	2.8	.7	50	106	b 26	* 60	64	23	3.4	1.0	.4	.1
5	1.9	.8	51	78	21	267	* 55	20	2.4	.8	.3	7.1
6	1.3	.7	40	63	23	171	62	20	2.4	.7	.3	.7
7	1.2	.6	32	49	b 135	117	76	28	2.2	.6	.5	.2
8	1.1	.6	29	116	b 250	90	66	25	2.2	.7	.9	.1
9	1.0	.7	22	107	198	78	75	24	1.9	.5	1.2	.1
10	.9	* .7	b 16	91	173	70	61	21	* 1.5	.5	* 1.9	.1
11	.8	.6	18	72	139	60	55	19	1.2	1.1	1.1	.1
12	.8	.5	68	58	117	52	61	* 18	1.1	1.4	.6	13
13	.8	.5	70	49	86	b 45	* 58	16	1.0	* .7	.5	9.5
14	.7	.6	56	b 40	65	41	56	14	1.1	.4	.2	4.8
15	.7	.5	b 42	b 37	54	39	60	12	1.1	.4	.3	* 2.7
16	.7	1.2	*b 35	31	b 43	35	69	12	1.0	.4	.4	1.6
17	2.4	2.4	b 29	28	38	31	60	11	1.1	.3	.3	1.1
18	4.8	1.7	b 25	b 25	34	44	56	9.0	1.1	.2	.6	1.2
19	3.1	5.2	b 18	b 22	31	57	57	7.4	1.1	.2	.8	1.4
20	* 2.3	20	b 17	b 20	b 26	52	47	6.5	1.6	.2	.5	2.1
21	1.8	8.7	b 16	19	28	b 46	41	5.9	1.1	.1	.4	1.4
22	1.4	4.5	16	23	b 28	b 40	37	5.9	.9	.1	.5	1.1
23	1.2	3.1	16	b 88	b 24	49	34	6.5	.8	.2	.6	1.0
24	1.0	3.0	19	210	22	100	35	5.4	.9	.2	.5	3.7
25	1.0	22	29	230	49	137	41	5.4	.8	.2	.3	4.1
26	1.0	68	44	157	47	181	70	5.9	.7	.1	.3	2.9
27	.9	40	73	138	45	216	73	4.8	.6	.1	.3	2.4
28	.7	28	74	* 99	57	179	69	4.1	.6	.1	.3	1.5
29	.8	21	61	b 80	-	338	56	3.4	.7	.1	.2	1.3
30	.9	17	52	b 62	------	277	45	3.2	.6	.1	.5	1.5
31	.9	------	43	b 52	------	158	------	2.7	------	.1	.2	------
TOTAL	51.6	255.9	1,096	2,448	1,899	3,233	1,826	433.1	45.9	13.1	20.5	67.3
MEAN	1.67	8.53	35.4	79.0	67.8	104	60.9	14.0	1.53	.42	.66	2.24

CALENDAR YEAR 1964	MAX 879	MIN .1	MEAN 38.5	CFSM 1.57	IN. 21.40
WATER YEAR 1964-65	MAX 338	MIN .1	MEAN 31.2	CFSM 1.27	IN. 17.29

Peak discharge (base, 450 cfs).--No peak above base.

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations and the second is a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low-flow and high flow are given in a third table.

Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. These measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of the stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site.

Discharge measurements made at low-flow partial-record stations during water year 1965, in North Atlantic Slope basins

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Delaware River basin				
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	1955-65	9- 1-65	**0.1
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‡ 1955-65	9- 1-65	**1.00
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 1962-65	9- 1-65	0
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 1962-65	8- 9-65	1.43
		St. Jones River basin				
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 1962-65	8- 9-65	**.01
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 1962-65	8- 9-65	1.71
		Murderkill River basin				
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	1955-65	8-10-65	5.26
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 1962-65	8-10-65	.62
		Broadkill River basin				
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	1955-65	7-24-65	4.07
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	1955-65	7-24-65	8.86
		Indian River basin				
*4845.5	Pepper Creek at Dagsboro, Del.	Lat 38°32'50", long 75°14'40", at bridge on State Highway 26, at Dagsboro, Sussex County.	8.78	1955-65	3- 4-65 7-24-65	4.08 1.73
		Nanticoke River basin				
†4877	Chipman Pond Branch near Laurel, Del.	Lat 38°34'39", long 75°31'42", at highway bridge, 2.9 miles northeast of Laurel, Sussex County.	8.55	1955-65	8-10-65	6.36

* Also a crest-stage partial-record station.
** Field estimate.
† Prior to 1958 published as "Elliot Pond Branch".
‡ Operated as a continuous-record gaging station.

Discharge measurements made at low-flow partial-record stations during water year 1965 in North Atlantic Slope basins--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Choptank River basin				
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	1964-65	9- 1-65 9-29-65	1.16 1.03
		Chester River basin				
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	1964-65	8-31-65 9-29-65	1.73 1.30
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 1964-65	9- 1-65 9-29-65	2.37 2.93
		Elk River basin				
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	1964-65	8-31-65 9-29-65	.34 .47
		Northeast River basin				
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	1964-65	8-31-65 9-29-65	1.03 1.30
		Patapsco River basin				
5890.9	Stony Run at Elkridge, Md.	Lat 39°12'43", long 76°41'46", at highway bridge on Elkridge-Patapsco Road, 0.9 mile east of Elkridge, Howard County.	a9.4	b1935,55 1964-65	8-18-65	1.26
		Severn River basin				
5898	Severn River at Benfield, Md.	Lat 39°04'51", long 76°37'36", at bridge on Maryland State Highway 3, 0.5 mile south of Benfield, Anne Arundel County.	a24	b1955, 1961-62 1964-65	9-29-65	11.2
		Patuxent River basin				
5945.25	Collington Branch at Upper Marlboro, Md.	Lat 38°49'16", long 76°44'40", at railroad bridge, 0.1 mile above mouth at Upper Marlboro, Prince Georges County.	22.9	1964-65	9-28-65	9.43
5945.35	Mataponi Creek near Naylor, Md.	Lat 38°43'47", long 76°45'18", at bridge on State Highway 382, 1.3 miles northwest of Naylor, Prince Georges County.	a14	1964-65	9-28-65	1.28
5945.45	Lyons Creek at Lyons Creek, Md.	Lat 38°45'53", long 76°39'27", at bridge on State Highway 4, 0.1 mile east of Lyons Creek, Anne Arundel County.	a15	1964-65	9-28-65	.29
		Potomac River basin				
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	1964-65	11-12-64 6-16-65 9- 8-65	.65 2.36 .04
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	1964-65	11-12-64 6-15-65 9- 8-65	.22 .16 .08
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	10-30-64 6-24-65 9- 9-65	1.71 5.16 1.21
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, 1964-65	6-24-65 9-10-65	d9.72 d4.13
6420.5	Israel Creek near Walkersville, Md.	Lat 39°28'27", long 77°20'26", at bridge on Crum Road, 1.1 miles southeast of Walkersville, Frederick County.	a29	1964-65	8-17-65 9-30-65	.65 1.19
6431	Bush Creek at Ijamsville, Md.	Lat 39°21'32", long 77°19'27", at bridge on Mussetter Road, at Ijamsville, Frederick County.	a17.5	1964-65	8-17-65 9-30-65	3.27 2.91

a Approximately.
b Miscellaneous measurements during this period.
c Miscellaneous flood measurement during this period.
d Includes small diversion from spring upstream.

Discharge measurements made at low-flow partial-record stations during water year 1965, 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				
6583	Reeder Run at Chicamuxen, Md.	Lat 38°31'58", long 77°13'39", at bridge on State Highway 224, 0.8 mile west of Chicamuxen, Charles County.	a5.6	1964-65	9-28-65	.70
6609.5	Gilbert Swamp Run near Olivers Shop, Md.	Lat 38°27'18", long 76°52'23", at bridge on State Highway 232, 1.8 miles south of Olivers Shop, Charles County.	a32	1964-65	9-28-65	6.22
6613	McIntosh Run at Tintop Hill, Md.	Lat 38°20'02", long 76°37'57", at bridge on McIntosh Road, 1.0 mile northwest of Tintop Hill, St. Marys County.	12.1	1964-65	9-27-65	.19

Discharge measurements made at low-flow partial-record stations during water year 1965, in Ohio River basin

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Monongahela River basin				
3-754	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	1964-65	6-28-65 7-29-65 9- 9-65	1.48 .48 .86
3-765.8	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.	a6.0	1964-65	6-28-65 9-10-65	.48 .16

a Approximately.

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 1965, 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)
		Leipsic River basin					
4835	Leipsic River near Cheswold, Del.	Lat 39°13'58", long 75°37'57", at bridge, 1.9 miles east of Kenton and 2.6 miles northwest of Cheswold, Kent County.	9.35	1931-33‡ 1943-57‡ 1958-65	1965	2.10	(†)
		Indian River basin					
*4845.5	Pepper Creek at Dagsboro, Del.	See previous table.	8.78	1960-65	8- 2-65	4.32	(†)
		Nanticoke River basin					
4880	Holly ditch near Laurel, Del.	Lat 38°32'20", long 75°35'55", 10 ft above culvert, 1½ miles southwest of Laurel, Sussex County.	2.19	1951-56‡ 1959-65	1965	1.56	(†)
		Choptank River basin					
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	1952-65	1965	4.15	(†)
4905	Culbreth Marsh ditch near Chapeltown, Del. a/	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‡ 1957-65	1965	2.66	(†)
		Wye River basin					
4925	Sallie Harris Creek near Carmichael, Md.	Lat 38°57'55", long 76°06'30", 50 ft above 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‡ 1957-65	3- 5-65	2.68	51
		Chester River basin					
4940	Southeast Creek at Church Hill, Md.	Lat 39°07'57", long 75°58'51", at bridge on private road, 0.7 mile south of Church Hill, Queen Annes County.	12.5	1952-56‡ 1957-65	3- 5-65	4.94	218
		Susquehanna River basin					
5785	Octoraro Creek near Rising Sun, Md.	Lat 39°41'27", long 76°07'38", at Porter Bridge, 3½ miles west of Rising Sun, Cecil County.	193	1932-58‡ 1963-65	7-12-65	5.32	568
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	2- 7-65	3.57	460
		Patapsco River basin					
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‡ 1959-65	b1-9-64 2- 7-65	b 5.43 4.15	b 730 280
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	1965	c<3.98	(†)
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	1958-65	8- 5-65	d6.9	(†)

* Also a low-flow partial-record station.
† Discharge not determined.
‡ Operated as a continuous-record gaging station.
a Prior to 1956 published as "Shades Branch".
b Corrected.
c Peak stage did not reach bottom of gage.
d Approximately.

Annual maximum discharge at crest-stage partial-record stations during water year 1965, in North Atlantic Slope basins--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Patapsco River basin--Continued					
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	1965	c<2.11	(†)
5894.4	Jones Falls at Sorrento, Md.	Lat 39°23'30", long 76°39'42", 50 ft east of State Highway 25, 0.4 mile below Slaughterhouse Branch and Sorrento, Baltimore County.	25.2	1958-65	1- 9-64 2- 7-65 8- 5-65	b d10.6 10.7 10.7	(†)
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 ½ mile northwest of Glen Burnie, Anne Arundel County.	a 5.1	1944-52‡ 1965	8-18-65	3.50	92
		South River basin					
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	3- 5-65	2.83	125
		Patuxent River basin					
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, ½ mile southeast of Savage, Howard County, and 1 mile below Middle Patuxent River.	98.4	1940-58‡ 1959-65	3- 5-65	7.9	(†)
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‡ 1959-65	3- 5-65	5.1	330
		Potomac River basin					
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‡ 1965	3- 5-65	3.02	180
6370	Little Catoctin Creek at Harmony, Md.	Lat 39°28'54", long 77°32'17" (revised), at county highway bridge, 0.9 mile southwest of Harmony, Frederick County, and 2.8 miles above mouth.	8.83	1947-58‡ 1959-65	3- 5-65	4.25	520
6400	Little Pipe Creek at Avondale, Md.	Lat 39°33'40", long 77°02'38", at private bridge, 0.1 mile below Copps Branch, ½ mile northwest of Avondale, Carroll County, and 3 miles southwest	8.10	1948-56‡ 1959-65	3- 5-65	Unknown	
6435	Bennett Creek at Park Mills, Md.	Lat 39°17'40", long 77°24'30", 75 ft below highway bridge, 0.2 mile south of Park Mills, Frederick County, 1.8 miles above mouth, and 3.7 miles southwest of Urbana.	62.8	1948-58‡ 1960-65	2- 7-65	d7.0	d2,100

† Discharge not determined.
‡ Operated as a continuous-record gaging station.
b Corrected
c Peak stage did not reach bottom of gage.
d Approximately.

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 1965, in North Atlantic Slope basins

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Wicomico River basin						
Leonard Pond Run	North Prong Wicomico River	Lat 38°25'24", long 75°33'56", at Leonard Pond, 0.6 mile above Wood Creek, 2.4 miles southeast of Delmar, Wicomico County, Md.	13.4	1950-51 1962-64	12- 1-64	1.85
North Prong Wicomico River	Wicomico River	Lat 38°24'32", long 75°35'42", at bridge on Nailers Mill Road, 0.14 mile below confluence of Leonard Pond Run and Little Burnt Branch, and 1.9 miles north of Salisbury, Wicomico County, Md.	24.8	1963-64	12- 1-64	17.0
Nanticoke River basin						
Gales Creek	Nanticoke River	Lat 38°34'01", long 75°42'49", at outlet to Galestown Millpond on State Highway 531 at Galestown, Dorchester County, Md.	-	1964	11- 2-64 12-11-64 5-19-65 7-23-65	1.50 3.52 4.79 4.20
Skinners Run	Marshy Hope Creek	Lat 38°39'46", long 75°48'38", at bridge on unimproved road, 0.6 mile upstream from mouth, 1.0 mile northeast of Williamsburg, Dorchester County, Md.	-	1964	10-19-64 12-11-64 4-15-65 5-19-65 7-23-65 8-31-65	1.96 2.08 6.74 3.18 1.93 5.16
Choptank River basin						
Kings Creek	Choptank River	Lat 38°47'20", long 76°00'35", at bridge on county road 0.8 mile downstream from confluence of Wootenaux Creek and Galloway Run and 3.5 miles east of Easton, Talbot County, Md.	8.67	1951-53	5-19-65 6- 8-65 7-23-65 8-31-65	1.86 .90 .34 1.16
Miles Creek	Choptank River	Lat 38°40'15", long 76°01'45", at bridge on county road 3.5 miles upstream from mouth, and 1.8 miles northeast of Trappe, Talbot County, Md.	5.70	1951-53	5-19-65 6- 8-65 7-23-65 8-31-65	3.21 2.74 1.79 1.95
Gravel Run	Hunting Creek	Lat 38°40'56", long 75°53'57", at culvert on State Route 16, at Beulah, Dorchester County, Md.	a8.4	1964	10-19-64 11- 2-64 12-11-64 4-15-65 5-20-65 7-23-65 8-31-65	4.75 4.34 4.90 10.9 6.33 4.42 5.16
Wye River basin						
Mill Creek	Skipton Creek	Lat 38°54'36", long 76°04'26", at bridge on State Route 662, 1.4 miles northwest of Skipton, Talbot County, Md.	-	1964	10-19-64 12-11-64 4-15-65 5-19-65 6- 8-65 7-23-65 8-31-65	3.86 4.06 6.03 5.02 3.45 3.33 2.82
Elk River basin						
Big Elk Creek	Elk River	Lat 39°43'48", long 75"50'55", at bridge on Lewisville Road, 1.6 miles downstream from Hodgson Run, 1.4 miles east of Lewisville, Chester County, Pa.	39.2	-	10-28-64 11-17-64	13.7 13.8
Big Elk Creek	Elk River	Lat 39°42'26", long 75°50'17", at farm bridge, 0.9 mile upstream from State Highway 273, 1.7 miles east of Fair Hill, Cecil County, Md.	43.4	-	10-28-64 11-17-64	14.7 15.7
Big Elk Creek	Elk River	Lat 39°37'18", long 75°49'45", at bridge on State Highway 279, 4 miles above Little Elk Creek, at Elkton, Cecil County, Md.	56.3	-	10-28-64 11-17-64	16.8 17.2
Patapsco River basin						
North Branch Jones Falls Tributary	North Branch Jones Falls	Lat 39°26'15", long 76°44'18", at bridge on secondary road, 1,100 ft upstream from Caves Road, 2.6 miles northeast of Owings Mills, Baltimore County, Md.	a3.4	-	11-10-64	.596

a Approximately.

Discharge measurements made at miscellaneous sites during water year 1965, in North Atlantic Slope basins--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Potomac River basin						
Hoffman Drainage Tunnel	Braddock Run	Lat 39°38', long 78°54', on State Highway 55, 0.5 mile southwest of Claryville, and 2.1 miles southeast of Frostburg, Allegany County, Md.	-	-	5- 4-65 6-16-65	33.0 22.0
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.	-	1958-64	6-29-65	8.25
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.	-	1958-64	6-29-65	.756

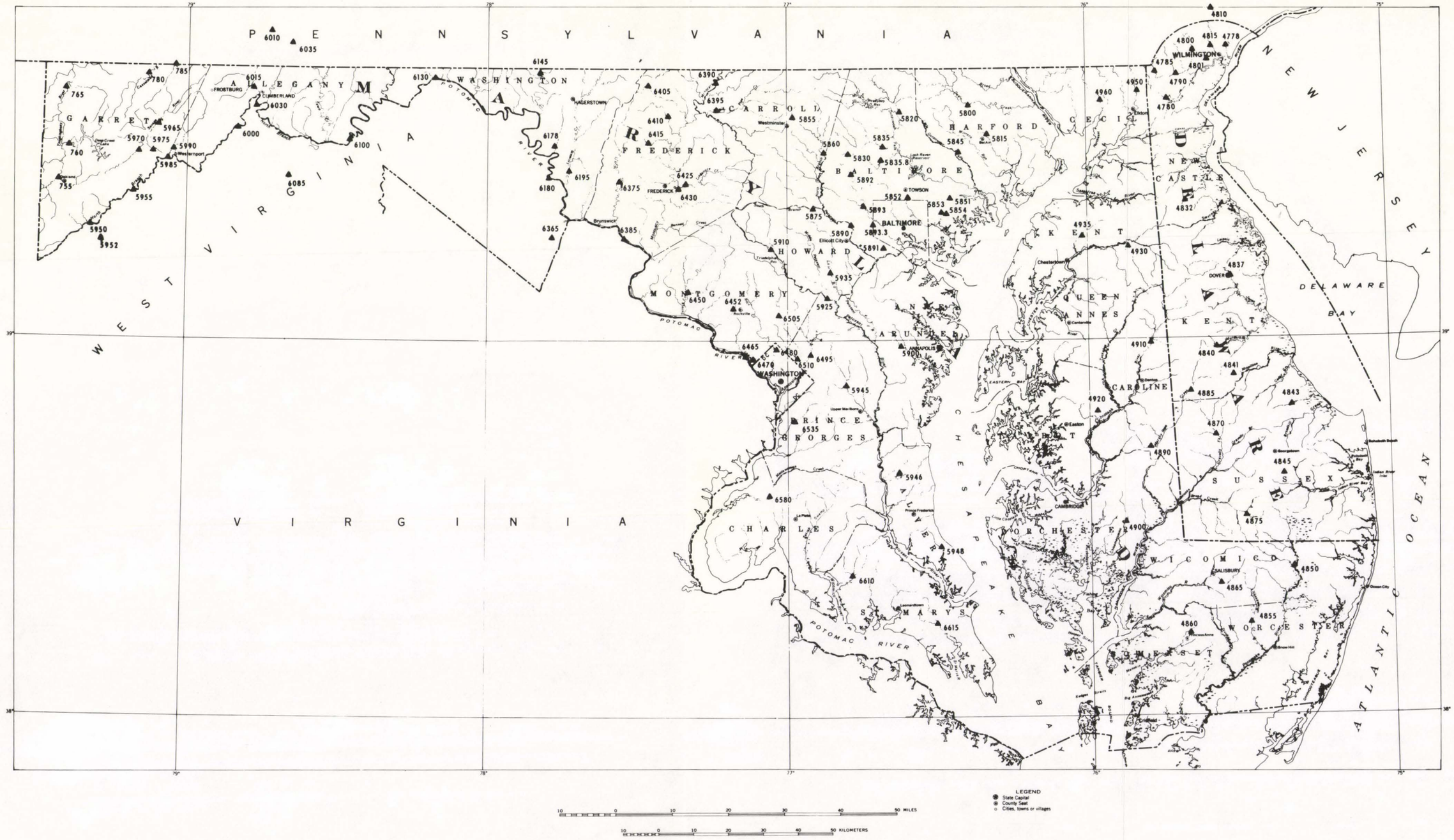

Plate 1.--Map showing location of gaging stations.

GPO 925-752